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COMPANY PLAN DEFINITION

COMPANY EMERGENCY RESPONSE PLAN

CORE PLAN

DOT/PHMSA Sequence Number 210

THIS CORE PLAN COMBINED WITH THE APPLICABLE STATE APPENDIX ESTABLISHES EMERGENCY REPONSE PLANNING CRITERIA FOR:

CHEVRON PIPE LINE COMPANY
CHEVRON MIDSTREAM PIPELINES, LLC (FORMERLY TEXACO PIPELINES LLC)
BRIDGELINE HOLDINGS, L.P. (BHLP)
NECHES GAS DISTRIBUTION COMPANY (NGDC)
SABINE PIPE LINE (SPLLLC)
TEXACO EXPLORATION AND PRODUCING INC. (TEPI)
CHEVRON PETROCHEMICAL PIPELINE, LLC
CHEVRON CORPORATION
(HEREIN REFERRED TO AS "COMPANY")

Prepared by:
Chevron Pipe Line Company
4800 Fournace Place
Bellaire, TX 77401
(800) 762-3404 or (877) 596-2800

CERTIFICATIONS

CERTIFICATIONS

Qualified Individual

Chevron Pipe Line Company (Company) is authorizing all of its employees who are trained in Incident Command and who are functioning as the Incident Commander (IC) to be the Qualified Individual (QI). This financial authority is unique to spills and emergency releases and is not a part of the Company's routine delegation of authority guidelines.

In the event of an oil spill or emergency release, Company employees who will be responding as Incident Commanders (IC/QIs) have the authority to:

1. Activate the Emergency Response Plan.
2. Activate and engage in contracting with oil spill removal organizations. Commit resources from within the Company, through the Corporate Oil Spill Coordinator/Staff, outside contractors, MSRC, cooperatives, and as directed by the Federal or State On-Scene Coordinator.
3. Act as liaison with Federal or State On-Scene Coordinator and other Federal and State officials.
4. Obligate funds required to carry out all necessary or directed response activities.

The response organization is critical to the management of an emergency response because of the large geographic areas covered by the Company. Immediate response in remote areas is managed by local personnel who may be replaced by additional personnel if the magnitude of the spill warrants. The response of the additional personnel may take some time due to geography. It is impossible to name the specific individual who will be IC in advance. It will depend on the location of the spill, the size of the spill, and whether it is the initial response or a later phase in the clean up process.

Various federal and state agencies have recognized the need for owners/operators who use a tiered response to allow for the transfer of authority upward as the extent of a spill is assessed. Agencies also acknowledge that response efforts often involve 24- hour efforts, and authorities must be transferred in this "shift" works situation.

National Contingency Plan / Area Contingency Plan Consistency

Company (Operator) certifies that it has reviewed the National Contingency Plan (NCP) and each applicable Area Contingency Plan, and that this Emergency Response Plan is consistent with the existing NCP and each existing applicable ACP.

Per applicable geographical areas, the following Area Contingency Plans have been reviewed for consistency with Company's Emergency Response Plan:

- US EPA Region 6 Integrated ACP (Facilities in Texas and New Mexico)
- South Louisiana/Acadia Region ACP (Morgan City)
- New Orleans/Baton Rouge ACP
- US EPA Region 8 ACP (Facilities in Utah and Colorado)
- US EPA Region 9 Regional Contingency Plan (Facilities in California)
- US EPA Region 10 ACP (Facilities in Idaho, Oregon and Washington)
- San Francisco Oil Spill Contingency Plan (N. California Bay Area Facility)
- Los Angeles/Long Beach ACP (S. California Los Angeles Facility)

CERTIFICATION OF RESOURCES

The Company hereby certifies to the Pipeline Hazardous Materials Safety Administration (PHMSA) of the Department of Transportation that we have identified and ensured by contract or other means to be approved by the PHMSA, the availability of private personnel and equipment to respond, to the maximum extent practicable, up to and including a worst case discharge or a substantial threat of such a discharge.

STATEMENT OF SIGNIFICANT AND SUBSTANTIAL HARM

The Company hereby submits to the Pipeline Hazardous Materials Safety Administration of the Department of Transportation that we have identified, as required by 49 CFR, Part 194.107 and Part 194.103, the pipeline sections in each Response Zone that can be expected to cause significant and substantial harm to the environment in the event of a discharge of oil or products into or on navigable waters, adjoining shorelines, public drinking water intakes, or other environmentally sensitive areas. Each pipeline segment meeting the significant harm definition is identified, as required, in the applicable State Appendices.

Signature: Lonnie Evans Date: 15 Mar 2010

Printed Name and Title: Lonnie Evans, CEM, Emergency Response Specialist
4800 Fournace Place, Rm. E320B, Bellaire, TX 77401-2324
Tel 713-432-3406, LonnieJEvans@chevron.com

CERTIFICATION OF SIGNIFICANT AND SUBSTANTIAL HARM

CERTIFICATION OF SIGNIFICANT AND SUBSTANTIAL HARM

STATEMENT OF SIGNIFICANT AND SUBSTANTIAL HARM

The Company hereby submits to the Pipeline Hazardous Materials Safety Administration of the Department of Transportation that we have identified, as required by 49 CFR, Part 194.107 and Part 194.103, the pipeline sections in each Response Zone that can be expected to cause significant and substantial harm to the environment in the event of a discharge of oil or products into or on navigable waters, adjoining shorelines, public drinking water intakes, or other environmentally sensitive areas. Each pipeline segment meeting the significant harm definition is identified, as required, in the applicable State Appendices.

Signature: Lonnie Evans **Date:** 15 Mar 2010

Printed Name Lonnie Evans, CEM
Title: Emergency Response Specialist
Address 4800 Fournace Place, Rm. E320B
Bellaire, TX 77401-2324
Phone Tel 713-432-3406
Email LonnieJEvans@chevron.com

REGULATORY COMPLIANCE

This Company Core Plan combined with the applicable State Appendix in addition to implementing Company policy, addresses the following State and Federal requirements:

- State of Washington Chapter 173-182 WAC, Oil Spill Contingency Planning.
- Oil Pollution Act of 1990: 49 CFR 194 Response Plans for Onshore Oil Pipelines (Department of Transportation).
- Oil Pollution Act of 1990: Bureau of Safety and Environmental Enforcement - Spill Response Plans for Offshore Facilities including State Submerged Lands and Pipelines.
- Oil Pollution Act of 1990: 33 CFR Parts 150 and 154 Response Plans for Marine Transportation Related Facilities (USCG).
- Oil Pollution Act of 1990: 40 CFR Parts 9 and 112 Oil Pollution Prevention; Non-Transportation Related Onshore Facilities (USEPA).
- Bureau of Safety and Environmental Enforcement – Notice to Leases (NTL) 92-04.
- A cross-reference between the format of this Plan and applicable regulations is provided in the State Appendix Plan.

DOT APPROVAL LETTER

U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

400 Seventh Street, S.W.
Washington, D.C. 20590

May 10, 2005

Certified Mail –7003 3110 0003 2602 9832-Return Receipt Requested

Mr. Tracy Long
ChevronTexaco Pipeline Company
2811 Hayes Road
Houston, TX 77082

Re: OPS Plan Sequence Numbers

210 Core Plan
189 Louisiana Response Zone
206 California Response Zone
211 Northwest Response Zone
217 Texas Response Zone

Dear Mr. Long,

Your Facility Response Plan (FRP) is approved in accordance with 49 CFR Part 194, *Response Plans for Onshore Transportation-Related Oil Pipelines.* The Pipeline and Hazardous Materials Safety Administration (PHMSA) commends you for developing a plan that reflects the characteristics of your company, the facility it operates, and the environment it strives to protect. In approving your plan, we have determined that your January and March 2005 revisions have adequately addressed the findings in our letter dated 25 January 2005. On the basis of the information we reviewed, your response plan now satisfies the minimum response planning standards established by 49 CFR Part 194.

We accept as true all information in the plan but reserve the right to verify its validity and accuracy. We will advise you of any deficiencies discovered during our ongoing quality control activities and you will have the opportunity to correct such deficiencies.

Response planning is an ongoing process. The preparation, submission, review, and approval of a response plan are only the first steps in the process of developing an effective national response planning program. We will continue to help you refine and improve your plan. We trust that you will continue to improve your plan as you gain new knowledge and discover better practices, whether through responses to actual spills or through evaluations of drills and exercises.

Note that this approval will expire on May 10, 2010, which is five years from the date of this letter. Although we have approved the plan, we expect you to maintain your plan's compliance with 49 CFR 194, including making and submitting any required revisions to the plan as specified in 49 CFR 194.121(a) and (b).

Ext. # 9301 File # 2355, 2406 Act. # 9068

Please refer to the "OPS Plan Sequence Numbers" listed above in all plan-related correspondence, including e-mails. E-mail is the preferred method for submitting inquiries, questions and comments to me at le.herrick@dot.gov. You can also telephone me at (202) 366-5523 or fax me at (202) 366-4566. Thank you for your cooperation.

Sincerely,

L. E. Herrick
Response Plans Officer

Enclosure

cc: EPA IV, EPA VI, EPA VIII, EPA IX, EPA X, MSO Morgan City, MSO New Orleans, MSO Port Arthur, MSO Galveston/Houston and MSO LA/LB.

Ext. # 9301 File # 2355, 2406 Act. # 9068

ARCHIVE CORE PLAN REVISION LOG

Company Emergency Response Plan

Date	Revision No.	Revision
06/02		Initial Publication **Refer to the Update/Revision Notices**

UPDATE NOTICE

UPDATE NOTICE
COMPANY EMERGENCY RESPONSE PLAN
CORE PLAN
VOLUME I

To All Holders of the Company ERPs:

Revision Number: New Publication of Core Plan, Volume I
Date: June 2002

VOLUME 1	REMOVE PAGES	REPLACEMENT PAGES
Section Title	**Volume 1**	**Volume 1**
Enclosed is a new ERP Core Plan		

Insert this Update Notice in the front of your ERP Volume 1 Core Plan Volume I with previous historical Update Notices.

Sign the enclosed acknowledgment letter and mail to PTS, Inc. in the enclosed self addressed envelope to acknowledge receipt of the new ERP Core Plan Volume I.

UPDATE NOTICE

Revision # 0001

To All Holders of the Core Plan

Revision Date: February 2003

This sheet contains instructions for switching out pages in your Core Company Emergency Response Plan (Core Plan). Please follow the attached flowchart. This process must be completed within 14 working days of receipt of this document. Notify the Emergency Response Coordinator Tracy Long via e-mail when you have completed updating your ERP.

Remove Existing Pages	Replace With New Print Out Pages
Front of Book • No pages are to be removed.	**Front of Book** • Insert new signed Certifications page at the end of Front of Book.
Master Table of Contents • Remove existing Table of Contents page for Sections 14/15 and Sections 15/16 (back to back).	**Master Table of Contents** Print and replace with new Table of Contents for Sections 14/15 and Sections 15/16 (back to back). (This is the first set of Table of Contents in the date file).
Section 2, Immediate Notifications • Remove entire existing Section.	**Section 2, Immediate Notifications** Print new and replace existing with entire new Section.
Section 3, Spill Detection / Mitigation • Remove pages 15/16.	**Section 3, Spill Detection / Mitigation** • Print new and replace existing with new pages 15/16.
Section 15, Documentation • Remove the Table of Contents and pages 45-49, located just behind the ICS forms.	**Section 15, Documentation** • Print new and replace existing with new Table of Contents and pages 45-50. (This is the second set of Table of Contents in the date file).
	Front of Book Once your switchout process is complete, add this update notice to your Core Plan Front of Book.

UPDATE/REVISION NOTICE

Revision # 0002

To All Holders of the Core Plan

Revision Date: July 2003

Important – please read before you begin this update process:

- Please have your hard copy of the Core Plan available for reference to assist you in processing this update.
- All pages for your update are included in this file.
- This sheet contains instructions for switching out pages in your Core Plan Emergency Response Plan. Please follow the attached flowchart. This process must be completed within 14 working days of receipt of this document. Notify the Emergency Response Coordinator Tracy Long via e-mail when you have completed updating your ERP.
- If you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail at ptsdoug@hazassist.com.

Remove Existing Pages	Replace With New Print Out Pages
Core Plan CD • Destroy or delete all previous electronic versions of this Core Plan	**Core Plan CD** • Replace with new electronic version of the Core Plan provided
Binder Cover • Remover front cover	**Binder Cover** • Insert new cover provided
Front of Book • Remove entire section	**Front of Book** • Print entire section single sided
Table of Contents Remove table of contents pages as follows: • Page with Section 1 Table of Contents with back page Section 2 Table of Contents • Page with Section 3 Table of Contents with back page Section 4 Table of Contents • Page with Section 20 Table of Contents page that begins with 62 and ends with 82, back of page begins with 82 and ends with 92	**Table of Contents** Replace table of contents pages as follows: • Print Table of Contents page Section 1 Information Summary and Section 2 Immediate Notifications print double sided (back to back) • Print Table of Contents Section 3 Spill Detection / Mitigation with back page Section 4 Oil Spill Removal Organizations print double sided (back to back) • Print Table of Contents Section 20 Gas Pipelines & Facilities N. American EOP page that begins with 62 and ends with 82, back of page begins with 82 and ends with 95
Section 1, Information Summary • Remove Table of Contents • Remove pages 1 through 4	**Section 1, Information Summary** • Print Table of Contents single sided • Print pages 1 through 4 double sided (back to back)

UPDATE/REVISION NOTICE

Revision # 0002

To All Holders of the Core Plan

Revision Date: July 2003

Remove Existing Pages	Replace With New Print Out Pages
Section 2, Immediate Notifications • Remove pages 1 and 2 • Remove page 5 • Remove pages 6 and 7	**Section 2, Immediate Notifications** • Print pages 1 and 2 double sided (back to back) • Print page 5 single sided • Print pages 6 and 7 double sided (back to back)
Section 4, OSRO Information • Remove Table of Contents page • Remove pages 5 and 6 • New to add	**Section 4, OSRO Information** • Print Table of Contents page single sided • Print pages 5 and 6 double sided (back to back) • Print pages 7 and 8 double sided (back to back)
Section 7, Job Site Safety Plan • Remove entire section	**Section 7, Job Site Safety Plan** • Print title page single sided • Print Table of Contents page single sided • Print pages 1 through 10 double sided (back to back) • Print page 11 single sided
Section 19, Functional & WW Team Response • Remove pages 17 through 22	**Section 19, Functional & WW Team Response** • Print pages 17 through 22 double sided (back to back)
Section 20 Gas Pipelines & Facilities N. American EOP • Remove Table of Contents page that begins with 62 and ends with 82, back of page begins with 82 and ends with 92 • New to add	**Section 20 Gas Pipelines & Facilities N. American EOP** • Print Table of Contents page that begins with 62 and ends with 82, back of page begins with 82 and ends with 95 • Print pages 93 and 94 double sided (back to back) • Print page 95 single sided
Front of Book Once your switch-out process is complete, print this update notice double sided and insert it in your Core Plan Front of Book behind previous Update/Revision Notices	
Notify the Emergency Response Coordinator Tracy Long via e-mail when you have completed updating your ERP.	

UPDATE/REVISION NOTICE

Revision # 0003

To All Holders of the Core Plan

Revision Date: February 2004

Important – please read before you begin this update process:

- Please have your hard copy of the Core Plan available for reference to assist you in processing this update.
- All pages for your update are included in this file.
- This sheet contains instructions for updating your Core Emergency Response Plan. Please follow the attached flowchart. This process must be completed within 14 working days of receipt of this document. Notify the Emergency Response Coordinator, Tracy Long, via e-mail when you have completed updating your ERP.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: ptsdoug@hazassist.com.

Remove Existing Pages	Replace With New Print Out Pages
Core Plan CD • Destroy or delete all previous electronic versions of this Core Plan	**New Core Plan CD** • Replace with new electronic versions of this Core Plan provided
Table of Contents • Section 3/4 Table of Contents (double sided) • Section 12/13 Table of Contents (double sided)	**Table of Contents** • Print Section 3/4 Table of Contents (double sided) • Print Section 12/13 Table of Contents (double sided)
Section 1, Information Summary • Remove page 1/2 (double sided) • Remove page 3/4 (double sided)	**Section 1, Information Summary** • Print page 1/2 double sided • Print page 3/4 single sided
Section 2, Notifications • Remove page 1/2 (double sided)	**Section 2, Notifications** • Print page 1/2 double sided
Section 3, Spill Detection / Mitigation • Remove page 1/2 (double sided) • Remove page 3/4 (double sided) • Remove all 11 X 17 color Emergency Response Guide First Responder foldout pages (pages 18 through 33)	**Section 3, Spill Detection / Mitigation** • Print page 1/2 double sided • Print page 3/4 double sided • Replace with new, enclosed 11 X 17 color Emergency Response Guide First Responder foldout pages (pages 18 through 33)
Section 4, Oil Spill Removal Organizations • Remove Table of Contents (single sided) • Remove page 3/4 (double sided) • Remove page 5/6 (double sided)	**Section 4, Oil Spill Removal Organizations** • Print Table of Contents single sided • Print page 3/4 double sided • Print page 5/6 double sided

Revision # 0003

To All Holders of the Core Plan

Revision Date: February 2004

Section 13, Plan Review & Updates • Remove Table of Contents (single sided) • Remove page 1 (single sided)	**Section 13, Plan Review & Updates** • Print Table of Contents single sided • Print page 1 single sided
Section 18, ER Spill Exercises (HES 706) • Remove entire section	**Section 18, ER Spill Exercises (HES 706)** • Print title page single sided • Print first two pages of table of contents double sided • Print third page of table of contents single sided • Print page 1 though 16 double sided • Print page 17 through 23 single sided • Print page 24 through 33 double sided • Print page 34 through 41 (end) single sided
Section 19, Chevron Functional & WW Team Resources • Remove page 41/42 (double sided)	**Section 19, Chevron Functional & WW Team Resources** • Print page 41/42 double sided

Front of Book

Once your update process is completed, print this Update/Revision Notice single sided and add this update notice to your Core Plan Front of Book following any previous update notices.

Notify the Emergency Response Coordinator, Tracy Long, via e-mail when you have completed updating your ERP.

UPDATE/REVISION NOTICE

Revision # 0004

To All Holders of the Core Plan

Revision Date: May 2004

Important – please read before you begin this update process:

- Please have your hard copy of the Core Plan available for reference to assist you in processing this update.
- All pages for your update are included in this file for printing.
- This sheet contains instructions for updating your Core Emergency Response Plan. This process must be completed within 14 working days of receipt of this document. Notify the Emergency Response Coordinator, Tracy Long, via e-mail when you have completed updating your ERP.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: doug.flaherty@ptseps.com.

Remove Existing Pages	Replace with New Pages
Core Plan CD • Destroy or delete all previous electronic versions of this Core Plan	**New Core Plan CD** • Replace with new electronic versions of this Core Plan provided
Section 1, Information Summary • Pages 1 through 4	**Section 1, Information Summary** • Pages 1 through 4

Front of Book

Once your update process is completed, insert this Update/Revision Notice in your Core Plan Front of Book following any previous update notices.

Notify the Emergency Response Coordinator, Tracy Long, via e-mail when you have completed updating your ERP.

UPDATE/REVISION NOTICE

Revision # 0005

To All Holders of the Core Plan

Revision Date: September 2004

Important – please read before you begin this update process:

- Please have your hard copy of the Core Plan available for reference to assist you in processing this update.
- All pages for your update are included in this file for printing.
- This sheet contains instructions for updating your Core Emergency Response Plan. This process must be completed within 14 working days of receipt of this document. Notify the Emergency Response Coordinator, Tracy Long, via e-mail when you have completed updating your ERP.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: doug.flaherty@ptseps.com.

Remove Existing Pages	Replace with New Pages
Core Plan CD • Destroy or delete all previous electronic versions of this Core Plan	**New Core Plan CD** • Replace with new electronic versions of this Core Plan provided
Table of Contents • Sections 3 and 4 Table of Contents double sided • Sections 7 and 8 Table of Contents double sided • Section 19 Table of Contents double sided	**Table of Contents** • Print Sections 3 and 4 Table of Contents double sided • Print Section 7 and first page of Section 8 Table of Contents double sided • Print Section 19 Table of Contents double sided
Section 1, Information Summary • Remove page 1/2 double sided	**Section 1, Information Summary** • Print page 1/2 double sided
Section 3, Spill Detection/Mitigation • Remove Table of Contents single sided • Remove page 11/12 double sided	**Section 3, Spill Detection/Mitigation** • Print Table of Contents single sided • Print page 11/12 double sided
Section 7, Job Site Safety Plan • Remove entire section contents	**Section 7, Job Site Safety Plan (Complete new section)** • Print the title page single sided • Print Table of Contents single sided • Print pages 1 through 12 double sided
Section 11, Communications • Remove page 9	**Section 11, Communications** • Print page 9 single sided
Section 12, Training & Drills • Remove pages 5/6	**Section 12, Training & Drills** • Print pages 5/6 double sided

Revision # 0005

To All Holders of the Core Plan

Revision Date: September 2004

Section 19, Functional & Worldwide Team Resources • Remove entire section contents	**Section 19, Functional & Worldwide Team Resources** **(Complete new section)** • Print the title page single sided • Print the table of contents double sided • Print pages 1 through 46 double sided • Print page 47 single sided
Front of Book Once your update process is completed, print this Update/Revision Notice single sided and insert in your Core Plan Front of Book following any previous update notices.	
Notify the Emergency Response Coordinator, Tracy Long, via e-mail when you have completed updating your ERP.	

UPDATE/REVISION NOTICE

Revision # 0006

To All Holders of the ChevronTexaco Pipeline Company Core Plan

RSPA Plan Sequence #210

Revision Date: March 2005

Important – please read before you begin this update process:

- Please have your hard copy of the Core Plan available for reference to assist you in processing this update.
- All pages for your update are included in this file for printing.
- This sheet contains instructions for updating your Core Emergency Response Plan. This process must be completed within 14 working days of receipt of this document. Notify the Emergency Response Coordinator, Tracy Long, via e-mail when you have completed updating your ERP.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: doug.flaherty@ptseps.com.

Remove Existing Pages	Replace With New Pages
Core Plan CD • Destroy or delete all previous electronic versions of this Core Plan	**New Core Plan CD** • Replace with new electronic versions of this Core Plan provided
Table of Contents • Remove entire table of contents	**Table of Contents** • Print entire table of contents double sided
Section 2, Immediate Notifications • Remove page 4 • Remove page 5	**Section 2, Immediate Notifications** • Print page 4 single sided • Print page 5 single sided
Section 4, Oil Spill Removal Information • Remove Table of Contents single sided	**Section 4, Oil Spill Removal Information** • Print Table of Contents single sided • New page to add print page 9 single sided
Section 5, Response Activities • Remove entire section contents	**Section 5, Response Activities** • Print title page single sided • Print Table of Contents single sided • Print pages 1 through 8 double sided
Section 6, Incident Command System • Remove entire section contents	**Section 6, Incident Command System** • Print title page single sided • Print Table of Contents single sided • Print pages 1/2 double sided • Print page 3 single sided
Section 13, Plan Review, Revisions and Update Program • Remove page 1	**Section 13, Plan Review, Revisions and Update Program** • Print page 1 single sided

Revision # 0006

To All Holders of the ChevronTexaco Pipeline Company Core Plan

RSPA Plan Sequence #210

Revision Date: March 2005

Section 15, Documentation • Remove entire section contents	**Section 15, Documentation** • Print title page single sided • Print Table of Contents single sided • Print pages 1 through the end of the section double sided
Section 18, Emergency Response Exercises (HES 706) • Remove entire section contents and index tab	**Section 18, Emergency Response Exercises (HES 706)** • New index tab titled "Release Exercises-HES 706" provided • Print title page single sided • Print Table of Contents double sided • Print pages 1 through 32 double sided
Section 19, Chevron Functional & Worldwide Team Resources • Remove entire section contents	**Section 19, Chevron Functional & Worldwide Team Resources** • Print title page single sided • Print Table of Contents double sided • Print pages 1 through 46 double sided • Print page 47 single sided
Front of Book Once your update process is completed, print this Update/Revision Notice single sided and insert in your Core Plan Front of Book following any previous update notices.	
Notify the Emergency Response Coordinator, Tracy Long, via e-mail when you have completed updating your ERP.	

UPDATE/REVISION NOTICE

Revision # 0007

To All Holders of the Chevron Pipe Line Company Core Plan

RSPA Plan Sequence #210

Revision Date: August 2005

Important – please read before you begin this update process:

- Please have your hard copy of the Core Plan available for reference to assist you in processing this update.
- All pages for your update are included in this file for printing.
- This sheet contains instructions for updating your Core Emergency Response Plan. This process must be completed within 14 working days of receipt of this document. Per Tracy Long, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

NOTE: This is an electronic update only; no CD will be issued at this time.

Remove Existing Pages	Replace With New Pages
Section 2, Immediate Notifications • Remove pages 1/2 • Remove page 5	**Section 2, Immediate Notifications** • Print pages 1/2 double sided • Print page 5 single sided

Front of Book

Once your update process is completed, print this Update/Revision Notice single sided and insert in your Core Plan Front of Book following any previous update notices.

Per Tracy Long, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.

UPDATE/REVISION NOTICE

Revision # 0008

To All Holders of the Chevron Pipe Line Company Core Plan

OPS Plan Sequence #210

Revision Date: September 2005

Important – please read before you begin this update process:

- Please have your hard copy of the Core Plan available for reference to assist you in processing this update.
- All pages for your update are included in this file for printing.
- This sheet contains instructions for updating your Core Emergency Response Plan. This process must be completed within 14 working days of receipt of this document. Per Tracy Long, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Existing Pages	Replace With New Pages
Core Plan Electronic Data Files • Destroy or delete all previous electronic versions of this Core Plan	**New Core Plan Electronic Data Files** • Replace with new electronic version of this Core Plan provided on the State Appendix CD
Front of Book • Remove laminated title page • New to add	**Front of Book** • Print title page in color single sided and laminate it • Print DOT Approval Letter (2 pages) dated May 10, 2005 single sided and insert as first pages behind the Front of Book index tab
Table of Contents Index Tab • Remove Section 1 and 2 table of contents (1 page) • Remove Section 5 and 6 table of contents (1 page)	**Table of Contents Index Tab** • Print Section 1 and 2 table of contents (1 page) double sided • Print Section 5 and 6 table of contents (1 page) double sided
Section 1, Information Summary • Remove Table of Contents • Remove pages 1 through 5	**Section 1, Information Summary** • Print Table of Contents single sided • Print pages 1 through 6 double sided
Section 4, OSRO Information • Remove pages 3 through 6	**Section 4, OSRO Information** • Print pages 3 through 6 double

Revision # 0008

To All Holders of the Chevron Pipe Line Company Core Plan

OPS Plan Sequence #210

Revision Date: September 2005

Section 6, Incident Command System • Remove Table of Contents • Remove pages 1 through 3	**Section 6, Incident Command System** • Print Table of Contents single sided • Print pages 1/2 double sided • Print page 3 single sided
Section 18, Emergency Response Release Exercise (HES 706) • Remove pages 7 through 10 • Remove pages 15 through 18	• **Section 18, Emergency Response** • Print pages 7 through 10 double sided • Print pages 15 through 18 double sided
Front of Book Once your update process is completed, print this Update/Revision Notice single sided and insert in your Core Plan Front of Book following any previous update notices.	
Per Tracy Long, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.	

UPDATE/REVISION NOTICE

Revision # 0009

To All Holders of the Chevron Pipeline Company Core Plan

DOT/PHMSA Plan Sequence #210

Revision Date: January 2006

Important – please read before you begin this update process:

- Please have your hard copy of the Core Plan available for reference to assist you in processing this update.
- All pages for your update are included in this file for printing.
- **This sheet contains instructions for updating your Core Emergency Response Plan. This process must be completed within 14 working days of receipt of this document. Per Tracy Long, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.**
- **Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.**

Remove Existing Pages	Replace With New Pages
Core Plan Electronic Data Files • Destroy or delete all previous electronic versions of this Core Plan	**New Core Plan Electronic Data Files** • Replace with new electronic version of this Core Plan provided on the State Appendix CD
Manual Cover and Spine • Remove current manual cover and spine	**Manual Cover and Spine** • Insert new current manual cover and spine provided
Front of Book • Remove laminated title page	**Front of Book** • Print title page in color single sided and laminate it

Front of Book

Once your update process is completed, print this Update/Revision Notice single sided and insert in your Texas State Appendix Front of Book following any previous update notices.

Per Tracy Long, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.

UPDATE/REVISION NOTICE

Revision # 0009A

To All Holders of the Chevron Pipeline Company Core Plan

DOT/PHMSA Plan Sequence #210

Revision Date: January 2006

Important – please read before you begin this update process:

- Please have your hard copy of the Core Plan available for reference to assist you in processing this update.
- All pages for your update are included in this file for printing.
- **This sheet contains instructions for updating your Core Emergency Response Plan. This process must be completed within 14 working days of receipt of this document. Per Barry Staskywicz, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.**
- **Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.**

Remove Existing Pages	Replace With New Pages
Core Plan Electronic Data Files • Destroy or delete all previous electronic versions of this Core Plan	**New Core Plan Electronic Data Files** • Replace with new electronic version of this Core Plan provided on the State Appendix CD
Manual Cover and Spine • Remove current manual cover and spine	**Manual Cover and Spine** • Insert new current manual cover and spine provided
Front of Book • Remove laminated title page	**Front of Book** • Print title page in color single sided and laminate it

Front of Book

Once your update process is completed, print this Update/Revision Notice single sided and insert in your Core State Appendix Front of Book following any previous update notices.

Per Barry Staskywicz, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.

UPDATE/REVISION NOTICE

Revision # 0010

To All Holders of the Chevron Pipeline Company Core Plan

OPS Plan Sequence #210

Revision Date: February 2006

Important – please read before you begin this update process:

- Please have your hard copy of the Core Plan available for reference to assist you in processing this update.
- All pages for your update are included in this file for printing.
- This sheet contains instructions for updating your Core Emergency Response Plan.
- **This process must be completed within 14 working days of receipt of this document.**
- **Per Tracy Long, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.**
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Existing Pages	Replace With New Pages
Core Plan Electronic Data Files • Destroy or delete all previous electronic versions of this Core Plan	**New Core Plan Electronic Data Files** • Replace with new electronic version of this Core Plan provided on the State Appendix CD
Front of Book • Entire contents	**Front of Book** • Print entire contents single sided
Table of Contents Index Tab • The entire contents behind the Table of Contents index tab	**Table of Contents Index Tab** • Print Sections 1 through Section 20 table of contents double sided (14 double sided pages)
Section 1, Information Summary • Entire contents	**Section 1, Information Summary** • Print the title page single sided • Print table of contents single sided • Print pages 1 through 6 double sided
Section 2, Immediate Notifications • Entire contents	**Section 2, Immediate Notifications** • Print the title page single sided • Print table of contents single sided • Print pages 1 through 4 double sided • Print page 5 single sided • Print page 6 11X17 single sided • Print page 7 single sided
Section 3, Spill Detection / Mitigation • Remove all 11 X 17 blue Response Guides located after page 17	**Section 3, Spill Detection / Mitigation** • Insert new 11 X 17 blue Response Guides provided (16 pages)

Revision # 0010

To All Holders of the Chevron Pipeline Company Core Plan

OPS Plan Sequence #210

Revision Date: February 2006

Section 4, OSRO Information • Entire contents	**Section 4, OSRO Information** • Print the title page single sided • Print table of contents single sided • Print pages 1 through 8 double sided • Print page 9 single sided
Section 5, Response Activities • Table of contents • Pages 1/2	**Section 5, Response Activities** • Print table of contents single sided • Print pages 1/2 double sided
Section 7, Job Site Safety Plan • Entire contents	**Section 7, Job Site Safety Plan** **(Complete new section)** • Print the title page single sided • Print table of contents single sided • Print page A single sided • Print pages 1 through 10 double sided • Print page 11 single sided
Section 11, Communications • Pages 3/4	**Section 11, Communications** • Print pages 3/4 double sided
Section 18, Emergency Response Release Exercise (HES 706) • Entire contents	**Section 18, Emergency Response** • Print the title page single sided • Print table of contents double sided • Print pages 1 through 32 double sided
Section 19, Functional & Worldwide Team Resources • Entire contents	**Section 19, Functional & Worldwide Team Resources** **(Complete new section)** • Print the title page single sided • Print the table of contents double sided • Print pages 1 through 46 double sided
Front of Book **Once your update process is completed, print this Update/Revision Notice single sided and insert in your Core Plan Front of Book following any previous update notices.**	
Per Tracy Long, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.	

UPDATE/REVISION NOTICE

Revision # 0011

To All Holders of the Chevron Pipe Line Company Core Plan

PHMSA Plan Sequence #210

Revision Date: July 2006

Important – please read before you begin this update process:

- **This process must be completed within 14 working days of receipt of this document.**
- This sheet contains instructions for updating your State Appendix Emergency Response Plan.
- Please have your hard copy of the State Appendix available for reference to assist you in processing this update. All pages for your update are included in this file for printing.
- **Per Barry Staskywicz, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.**
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Existing Pages	Replace With New Pages
Core Plan Electronic Data Files • Destroy or delete all previous electronic versions of this Core Plan	**New Core Plan Electronic Data Files** • Replace with new electronic version of this Core Plan provided on the State Appendix CD
Section 1, Information Summary • Remove pages 1 through 4	**Section 1, Information Summary** • Print pages 1 through 4 double sided
Section 2, Immediate Notifications • Remove pages 1/2 • Remove page 5	**Section 2, Immediate Notifications** • Print pages 1/2 double sided • Print page 5 single sided
Section 4, OSRO Information • Remove pages 3/4	**Section 4, OSRO Information** • Print pages 3/4 double sided
Section 5, Response Activities • Remove pages 1/2	**Section 5, Response Activities** • Print pages 1/2 double sided
Section 6, Incident Command System • Remove pages 1/2	**Section 6, Incident Command System** • Print pages 1/2 double sided
Section 7, Job Site Safety Plan • Remove pages 5/6	**Section 7, Job Site Safety Plan** • Print pages 5/6 double sided
Section 12, Training & Drills • Remove page 9	**Section 12, Training & Drills** • Print page 9 single sided
Section 13, Plan Review & Updates • Remove page 1	**Section 13, Plan Review & Updates** • Print page 1 single sided

Revision # 0011

To All Holders of the Chevron Pipe Line Company Core Plan

PHMSA Plan Sequence #210

Revision Date: July 2006

Section 18, Emergency Response Release Exercises (HES 706)	**Section 18, Emergency Response Release Exercises (HES 706)**
• Remove pages 1/2	• Print pages 1/2 double sided
• Remove pages 7/8	• Print pages 7/8 double sided
• Remove pages 13/14	• Print pages 13/14 double sided
• Remove pages 25/26	• Print pages 25/26 double sided
• Remove pages 31/32	• Print pages 31/32 double sided

Front of Book
Once your update process is completed, print this Update/Revision Notice single sided and insert in your Core Plan Front of Book following any previous update notices.

Per Barry Staskywicz, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.

UPDATE/REVISION NOTICE

Revision # 0012

To All Holders of the Chevron Pipe Line Company Core Plan

PHMSA Plan Sequence #210

Revision Date: September 2006

Important – please read before you begin this update process:

- **This process must be completed within 14 working days of receipt of this document.**
- This sheet contains instructions for updating your State Appendix Emergency Response Plan.
- **Per Barry Staskywicz, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.**
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Pages	Insert Pages
Core Plan Electronic Data Files • Destroy or delete all previous dated CDs or electronic versions of this State Appendix	**New Core Plan Electronic Data Files** • Replace with new electronic version of this Core Plan provided on the State Appendix CD
Table of Contents Index Tab • Entire contents	**Table of Contents Index Tab** • Entire contents
Section 2, Immediate Notifications • Entire section	**Section 2, Immediate Notifications** • Entire section

Front of Book

Once your update process is completed, print this Update/Revision Notice single sided and insert in your Core Plan Front of Book following any previous update notices.

Notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.

This update must be completed within 14 working days of receipt of this document.

UPDATE/REVISION NOTICE

Revision # 0013

To All Holders of the Chevron Pipe Line Company Core Plan

PHMSA Plan Sequence #210

Revision Date: November 2006

Important – please read before you begin this update process:

- **This process must be completed within 14 working days of receipt of this document.**
- This sheet contains instructions for updating your State Appendix Emergency Response Plan.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Pages	Replacement Pages
Core Plan Electronic Data Files • Destroy or delete all previous dated CDs or electronic versions of this State Appendix	**New Core Plan Electronic Data Files** • Replace with new electronic version of this Core Plan provided on the State Appendix CD
Table of Contents Index Tab • Sections 1 and 2 table of contents (1 double sided page)	**Table of Contents Index Tab** • Sections 1 and 2 table of contents (1 double sided page)
Section 2, Immediate Notifications • Table of Contents page • Page 7	**Section 2, Immediate Notifications** • Table of Contents page • No replacement page

Front of Book

Once your update process is completed, insert this Update/Revision Notice in your Core Plan Front of Book following any previous update notices.

This update must be completed within 14 working days of receipt of this document.

UPDATE/REVISION NOTICE

Revision # 0014

Chevron Pipe Line Company Core Plan

PHMSA Plan Sequence #210

Revision Date: April 2007

Important – please read before you begin this update process:

- **This process must be completed within 14 working days of receipt of this document.**
- This sheet contains instructions for updating your Company Core Emergency Response Plan.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Pages	Replacement Pages
Core Plan Electronic Data Files • Destroy or delete all previous dated CDs or electronic versions of this State Appendix	**New Core Plan Electronic Data Files** • Replace with new electronic version of this Core Plan provided on the State Appendix CD
Front of Book • Regulatory Compliance page	**Front of Book** • Regulatory Compliance page
Table of Contents Index Tab • Entire section	**Table of Contents Index Tab** • New contents
Section 12, Training & Drills • Table of Contents • Pages 3/4	**Section 12, Training & Drills** • Table of Contents • Pages 3/4
Section 13, Plan Review & Updates • Entire section	**Section 13, Plan Review & Updates** • New contents
Section 18, ER Spill Exercises (HES 706) • Entire section	**Section 18, ER Spill Exercises (HES 706)** • New contents

Front of Book

Once your update process is completed, insert this Update/Revision Notice in your Core Plan Front of Book following any previous update notices.

This update must be completed within 14 working days of receipt of this document.

UPDATE/REVISION NOTICE

Revision # 0015

Chevron Pipe Line Company Core Plan

PHMSA Plan Sequence #210

Revision Date: June 2007

Important – please read before you begin this update process:

- **This process must be completed within 14 working days of receipt of this document.**
- This sheet contains instructions for updating your Company Core Emergency Response Plan.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Pages	Replacement Pages
Core Plan Electronic Data Files • Destroy or delete all previous dated CDs or electronic versions of this State Appendix	**New Core Plan Electronic Data Files** • Replace with new electronic version of this Core Plan provided on the State Appendix CD
Front of Book • Laminated title page • Certifications page	**Front of Book** • Laminated title page • Certifications page
Table of Contents Index Tab • Sections 5 and 6 table of contents (1 double sided page)	**Table of Contents Index Tab** • Sections 5 and 6 table of contents (1 double sided page)
Section 2, Immediate Notifications • Pages 1 through 4	**Section 2, Immediate Notifications** • Pages 1 through 4
Section 4, OSRO Information • Remove pages 1/2	**Section 4, OSRO Information** • Pages 1/2
Section 5, Response Activities • Pages 1/2	**Section 5, Response Activities** • Pages 1/2
Section 6, Incident Command System • Entire contents	**Section 6, Incident Command System** • New contents

Front of Book

Once your update process is completed, insert this Update/Revision Notice in your Core Plan Front of Book following any previous update notices.

This update must be completed within 14 working days of receipt of this document.

UPDATE/REVISION NOTICE

Revision # 0016

Chevron Pipe Line Company Core Plan

PHMSA Plan Sequence #210

Revision Date: January 2008

Important – please read before you begin this update process:

- **This process must be completed within 14 working days of receipt of this document.**
- This sheet contains instructions for updating your Company Core Emergency Response Plan.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Pages	Replacement Pages
Core Plan Electronic Data Files • Destroy or delete all previous dated CDs or electronic versions of this State Appendix	**New Core Plan Electronic Data Files** • Replace with new electronic version of this Core Plan provided on the State Appendix CD
Front of Book • Laminated title page	**Front of Book** • Laminated title page
Table of Contents Index Tab • Sections 1 and 2 table of contents (1 double sided page)	**Table of Contents Index Tab** • Sections 1 and 2 table of contents (1 double sided page)
Section 1, Information Summary • Entire contents	**Section 1, Information Summary** • New Contents
Section 2, Immediate Notifications • Entire contents	**Section 2, Immediate Notifications** • New Contents
Section 6, Incident Command System • Pages 1/2	**Section 6, Incident Command System** • Pages 1/2

Front of Book

Once your update process is completed, insert this Update/Revision Notice in your Core Plan Front of Book following any previous update notices.

This update must be completed within 14 working days of receipt of this document.

UPDATE/REVISION NOTICE

Revision # 0017

Chevron Pipe Line Company Core Plan

PHMSA Plan Sequence #210

Revision Date: March 2008

Important – please read before you begin this update process:

- **This process must be completed within 14 working days of receipt of this document.**
- This sheet contains instructions for updating your Company Core Emergency Response Plan.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Pages	Replacement Pages
Core Plan Electronic Data Files • Destroy or delete all previous dated CDs or electronic versions of this State Appendix	**New Core Plan Electronic Data Files** • Replace with new electronic version of this Core Plan provided on the State Appendix CD
Section 3, Spill Detection / Mitigation • Pages 11/12	**Section 3, Spill Detection / Mitigation** • Pages 11/12
Section 7, Job Site Safety Plan • Page A (single sided page)	**Section 7, Job Site Safety Plan** • Page A (single sided page)
Section 18, ER Spill Exercises (HES 706) • Pages 7/8	**Section 18, ER Spill Exercises (HES 706)** • Pages 7/8

Front of Book

Once your update process is completed, insert this Update/Revision Notice in your Core Plan Front of Book following any previous update notices.

This update must be completed within 14 working days of receipt of this document.

UPDATE/REVISION NOTICE

Revision # 0018

Chevron Pipe Line Company Core Plan

PHMSA Plan Sequence #210

Revision Date: July 2008

Important – please read before you begin this update process:

- **This process must be completed within 14 working days of receipt of this document.**
- This sheet contains instructions for updating your Company Core Emergency Response Plan.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Pages	Replacement Pages
Core Plan Electronic Data Files • Destroy or delete all previous dated CDs or electronic versions of the Core Plan	**New Core Plan Electronic Data Files** • Replace with new electronic version of this Core Plan provided on the State Appendix CD
Table of Contents Index Tab • Entire section	**Table of Contents Index Tab** • New contents
Section 2, Immediate Notifications • Pages 1/2	**Section 2, Immediate Notifications** • Pages 1/2
Section 3, Spill Detection / Mitigation • Title Page, Table of Contents & Pages 1 through 16	**Section 3, Spill Detection / Mitigation** Title Page, Table of Contents & Pages 1 through 16
Section 4, OSRO Information • Pages 5/6	**Section 4, OSRO Information** • Pages 5/6
Section 5, Response Activities • Entire contents	**Section 5, Response Activities** • New Contents
Section 11, Communications • Page 1 • Pages 3/4	**Section 11, Communications** • Page 1 • Pages 3/4
Section 15, Documentation • Index Tab and entire contents	**Section 15, Documentation / ICS Forms** • New Index tab and contents
Section 16, Material Safety Date Sheets • Page 1	**Section 16, Material Safety Date Sheets** • Page 1
Section 18, Emergency Response Release Exercise (HES 706) • Pages 11/12	**Section 18, Emergency Response Release Exercise (HES 706)** • Pages 11/12
ICS Forms **Index Tab and Contents**	**No replacement**

Front of Book

Once your update process is completed, insert this Update/Revision Notice in your Core Plan Front of Book index tab following previous update notices.

This update must be completed within 14 working days of receipt of this document.

UPDATE/REVISION NOTICE

Revision # 0019

Chevron Pipe Line Company Core Plan

PHMSA Plan Sequence #210

Revision Date: July 2009

Important – please read before you begin this update process:

- **This process must be completed within 14 working days of receipt of this document.**
- This sheet contains instructions for updating your Company Core Emergency Response Plan.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Pages	Replacement Pages
Core Plan Electronic Data Files • Destroy or delete all previous dated CDs or electronic versions of the Core Plan	**New Core Plan Electronic Data Files** • Refer to your State Appendix CD to replace with new electronic version of this Core Plan on the State Appendix CD
Section 1, Information Summary Index Tab • Entire contents	**Section 1, Information Summary Index Tab** • New Contents
Section 2, Notifications Index Tab • Page 3 • Page 6	**Section 2, Notifications Index Tab** • Page 3 • Page 6

Front of Book Index Tab

Once the update process is completed, insert this Update/Revision Notice in the Core Plan Front of Book index tab following previous update notices.

This update must be completed within 14 working days of receipt of this document.

UPDATE/REVISION NOTICE

Chevron Pipe Line Company Core Plan

Revision # 0020

Revision Date: May 2010

PHMSA Plan Sequence #210

Important – please read before you begin this update process:

- **This process must be completed within 14 working days of receipt of this document.**
- This sheet contains instructions for updating your Company Core Emergency Response Plan.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Pages	Replacement Pages
Core Plan Electronic Data Files • Destroy or delete all previous dated CDs or electronic versions of the Core Plan	**New Core Plan Electronic Data Files** • Refer to your State Appendix CD to replace with new electronic version of this Core Plan on the State Appendix CD
Front of Book Index Tab • Certifications (1 page) • New page to add behind the above Certifications page • Regulatory Compliance (1 page)	**Front of Book Index Tab** • Certifications (1 page) • Certifications of Significant and Substantial Harm • Regulatory Compliance (1 page)
Table of Contents Index Tab • Entire section	**Table of Contents Index Tab** • New contents
Section 1, Information Summary Index Tab • Entire contents	**Section 1, Information Summary Index Tab** • New contents
Section 2, Notifications Index Tab • Entire contents	**Section 2, Notifications Index Tab** • New contents
Section 4, OSRO Information Index Tab • Entire contents	**Section 4, OSRO Information Index Tab** • New contents
Section 7, Job Site Safety Plan Index Tab • Entire contents	**Section 7, Job Site Safety Plan Index Tab** • New contents
Section 14, Public Relations Index Tab • Entire contents	**Section 14, Public Relations Index Tab** • New Contents
Section 19, Chevron Functional & WW Team Resources Index Tab • Entire contents	**Section 19, Chevron Functional & WW Team Resources Index Tab** • New contents
Section 20 Gas Pipelines & Facilities N. American EOP Index Tab • Entire contents	**Section 20 Gas Pipelines & Facilities N. American EOP Index Tab** • New contents

Front of Book Index Tab
Once the update process is completed, insert this Update/Revision Notice in the Core Plan Front of Book index tab following previous update notices.

This update must be completed within 14 working days of receipt of this document.

UPDATE/REVISION NOTICE

Chevron Pipe Line Company Core Plan

Revision # 0021

Revision Date: May 2011

PHMSA Plan Sequence #210

Important – please read before you begin this update process:

- **This process must be completed within 14 working days of receipt of this document.**
- This sheet contains instructions for updating your Company Core Emergency Response Plan.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Pages	Replacement Pages
Core Plan Electronic Data Files • Destroy or delete all previous dated CDs or electronic versions of the Core Plan that contain the Company Core Plan	**New Core Plan Electronic Data Files** • Refer to your State Appendix CD to replace with new electronic version of this Core Plan on the State Appendix CD
Section 1, Information Summary Index Tab • Entire contents	**Section 1, Information Summary Index Tab** • New contents
Section 2, Notifications Index Tab • Entire contents	**Section 2, Notifications Index Tab** • New contents
Section 3 Spill Detection/Mitigation Index Tab • Spill Response Guides pages 18 thru 33 (11 X 17 blue sheets)	**Section 3 Spill Detection/Mitigation Index Tab** • Spill Response Guides pages 18 thru 33 (11 X 17 blue sheets)
Section 4, OSRO Information Index Tab • Entire contents	**Section 4, OSRO Information Index Tab** • New contents

Front of Book Index Tab

Once the update process is completed, insert this Update/Revision Notice in the Core Plan Front of Book index tab following previous update notices.

This update must be completed within 14 working days of receipt of this document.

UPDATE/REVISION NOTICE

Chevron Pipe Line Company Core Plan

Revision # 22

Revision Date: October 2011

PHMSA Plan Sequence #210

Important – please read before you begin this update process:

- **This process must be completed within 14 working days of receipt of this document.**
- This sheet contains instructions for updating your Company Core Emergency Response Plan.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Pages	Replacement Pages
Core Plan Electronic Data Files • Destroy or delete all previous dated CDs or electronic versions of the Core Plan that contain the Company Core Plan	**New Core Plan Electronic Data Files** • Refer to your State Appendix CD to replace with new electronic version of this Core Plan on the State Appendix CD
Front Of Book Index Tab • Laminated title page • Regulatory Compliance page	**Front Of Book Index Tab** • Laminated title page • Regulatory Compliance page
Table of Contents Index Tab • Entire contents	**Table of Contents Index Tab** • New contents
Section 18, ER Spill Exercises (HES 706) Index Tab • Entire contents	**Section 18, ER Spill Exercises (HES 706) Index Tab** • New contents

Front of Book Index Tab

Once the update process is completed, insert this Update/Revision Notice in the Core Plan Front of Book index tab following previous update notices.

This update must be completed within 14 working days of receipt of this document.

UPDATE/REVISION NOTICE

Chevron Pipe Line Company Core Plan

Revision # 23

Revision Date: December 2011

PHMSA Plan Sequence #210

Important – please read before you begin this update process:

- **This process must be completed within 14 working days of receipt of this document.**
- This sheet contains instructions for updating your Company Core Emergency Response Plan.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Pages	Replacement Pages
Core Plan Electronic Data Files • Destroy or delete all previous dated CDs or electronic versions of the Core Plan that contain the Company Core Plan	**New Core Plan Electronic Data Files** • Refer to your State Appendix CD to replace with new electronic version of this Core Plan on the State Appendix CD
Section 3 Spill Detection/Mitigation Index Tab • Pages 1 thru 4	**Section 3 Spill Detection/Mitigation Index Tab** • Pages 1 thru 4

Front of Book Index Tab

Once the update process is completed, insert this Update/Revision Notice in the Core Plan Front of Book index tab following previous update notices.

This update must be completed within 14 working days of receipt of this document.

Chevron Pipe Line Company Core Plan

Revision # 22 & 23 Combined Update

Revision Date: April 2012

PHMSA Plan Sequence #210

Important – please read before you begin this update process:

- **This process must be completed within 14 working days of receipt of this document.**
- This sheet contains instructions for updating your Company Core Emergency Response Plan.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Pages	Replacement Pages
Core Plan Electronic Data Files • Destroy or delete all previous dated CDs or electronic versions of the Core Plan	**New Core Plan Electronic Data Files** • Refer to your State Appendix CD which contains the new electronic version of this Core Plan on the State Appendix CD
Front Of Book Index Tab • Laminated title page • Regulatory Compliance page	**Front Of Book Index Tab** • Laminated title page • Regulatory Compliance page
Table of Contents Index Tab • Entire contents	**Table of Contents Index Tab** • New contents
Section 3 Spill Detection/Mitigation Index Tab • Pages 1 thru 4	**Section 3 Spill Detection/Mitigation Index Tab** • Pages 1 thru 4
Section 18, ER Spill Exercises (HES 706) Index Tab • Entire contents	**Section 18, ER Spill Exercises (HES 706) Index Tab** • New contents
Front of Book Index Tab • No pages to remove	**Front of Book Index Tab** • Insert the Update/Revision Notices #22 & 23 in the Core Plan Front of Book index tab following previous update notices.

Once the update process is completed, insert this Update/Revision Notice in the Core Plan Front of Book index tab following previous update notices.

This update must be completed within 14 working days of receipt of this document.

UPDATE/REVISION NOTICE

Chevron Pipe Line Company Core Plan

Revision #24

Revision Date: May 2012

PHMSA Plan Sequence #210

Important – please read before you begin this update process:

- **This process must be completed within 14 working days of receipt of this document.**
- This sheet contains instructions for updating your Company Core Emergency Response Plan.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Pages	Replacement Pages
Core Plan Electronic Data Files • Destroy or delete all previous dated CDs or electronic versions of the Core Plan	**New Core Plan Electronic Data Files** • Refer to your State Appendix CD which contains the new electronic version of this Core Plan on the State Appendix CD
Table of Contents Index Tab • Entire contents	**Table of Contents Index Tab** • New contents
Section 1, Information Summary Index Tab • Entire contents	**Section 1, Information Summary Index Tab** • New contents
Section 4, OSRO Information Index Tab • Entire contents	**Section 4, OSRO Information Index Tab** • New contents
Section 5, Response Activities Index Tab • Entire contents	**Section 5, Response Activities Index Tab** • New Contents
Section 8, Cleanup Procedures Index Tab • Entire contents	**Section 8, Cleanup Procedures Index Tab** • New Contents
Section 12, Training & Drills Index Tab • Entire contents	**Section 12, Training & Drills Index Tab** • New Contents
Front of Book Index Tab • No pages to remove	**Front of Book Index Tab** • Once the update process is completed, insert this Update/Revision Notice in the Core Plan Front of Book index tab following previous update notices.

This update must be completed within 14 working days of receipt of this document.

UPDATE/REVISION NOTICE

Chevron Pipe Line Company Core Plan

Revision #25

Revision Date: June 2014

PHMSA Plan Sequence #210

Important – please read before you begin this update process:

- **This process must be completed within 14 working days of receipt of this document.**
- This sheet contains instructions for updating your Company Core Emergency Response Plan.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

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Section 1, Information Summary Index Tab • Entire contents	**Section 1, Information Summary Index Tab** • New contents
Section 2, Notifications Index Tab • Entire contents	**Section 2, Notifications Index Tab** • New contents
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INFORMATION SUMMARY

SECTION 1 INFORMATION SUMMARY

OWNER OPERATOR INFORMATION **1**

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Louisiana 2

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California 5

OWNER OPERATOR INFORMATION

Chevron Pipe Line Company
4800 Fournace Place
Bellaire, TX 77401-2324
Control Center: 800-762-3404

RESPONSE ZONES

The Company Emergency Response Plan includes 4 Response Zones. This Core Plan along with the applicable State Appendix makes up the Company Emergency Response Plan for a particular Response Zone. The Response Zones are as follows:

Response Zone *1	Core	State Appendix Plan *2
Louisiana Response Zone	Core Plan	1. Louisiana 2. Mississippi 3. Alabama*****
Texas Response Zone	Core Plan	1. Texas 2. New Mexico*****
California Response Zone	Core Plan	1. California
Northwest Response Zone	Core Plan	1. Utah 2. Colorado 3. Wyoming*****

*** Note 1:** The Aitken Creek Gas Storage, ULC, located in Fort St. John, British Columbia, Canada, is a complete stand alone plan. The Plan is not regulatory connected with the Company Core Plan.

***Note 2:** Alabama, New Mexico and Wyoming State Appendices are Response Plans for Facilities which are not subject to DOT Part 194 oil spill regulations.

OWNER/OPERATOR RESPONSE ZONE DESCRIPTION

Louisiana Response Zone

Louisiana	
Parish	
Acadia	Plaquemines
Ascension	Pointe Coupee
Assumption	St. Bernard
Calcasieu	St. Charles
Cameron	St. James
East Baton Rouge	St. John the Baptist
Iberia	St. Landry
Iberville	St. Martin
Jefferson	St. Mary
Jefferson Davis	Terrebone
Lafayette	Vermilion
Lafourche	West Baton Rouge
Orleans	

Alabama
County
Mobile

Mississippi
County
Harrison
Jackson

Texas Response Zone

Texas	
County	
Anderson	Kent
Andrews	Liberty
Angelina	Martin
Brazoria	Midland
Callahan	Mitchell
Chambers	Nacogdoches
Cherokee	Navarro
Coke	Nolan
Crane	Orange
Crockett	Palo Pinto
Eastland	Parker
Ector	Pecos
Ellis	Polk
Erath	Reagan
Freestone	Rusk
Gaines	Scurry
Galveston	Shackelford
Glasscock	Smith
Gregg	Stephens
Hardin	Sterling
Harris	Taylor
Henderson	Tyler
Hill	Upshur
Hood	Upton
Houston	Van Zandt
Howard	Ward
Jack	Winkler
Jefferson	Wise
Johnson	

New Mexico
County
Eddy
Lea
Roosevelt

Northwest Response Zone

Utah	
County	
Box Elder	Summit
Dagget	Uintah
Davis	Wasatch
Duchesne	Weber
Salt Lake	

Wyoming
County
Sweetwater

Colorado
County
Rio Blanco

California Response Zone

California	
County	
Alameda	Sacramento
Contra Costa	San Joaquin
Fresno	San Louis Obispo
Kern	Santa Barbara
King	Santa Clara
Los Angeles	Solano
Merced	Stanislaus
Monterey	Ventura
Orange	Yolo

IMMEDIATE NOTIFICATIONS

SECTION 2 IMMEDIATE NOTIFICATIONS

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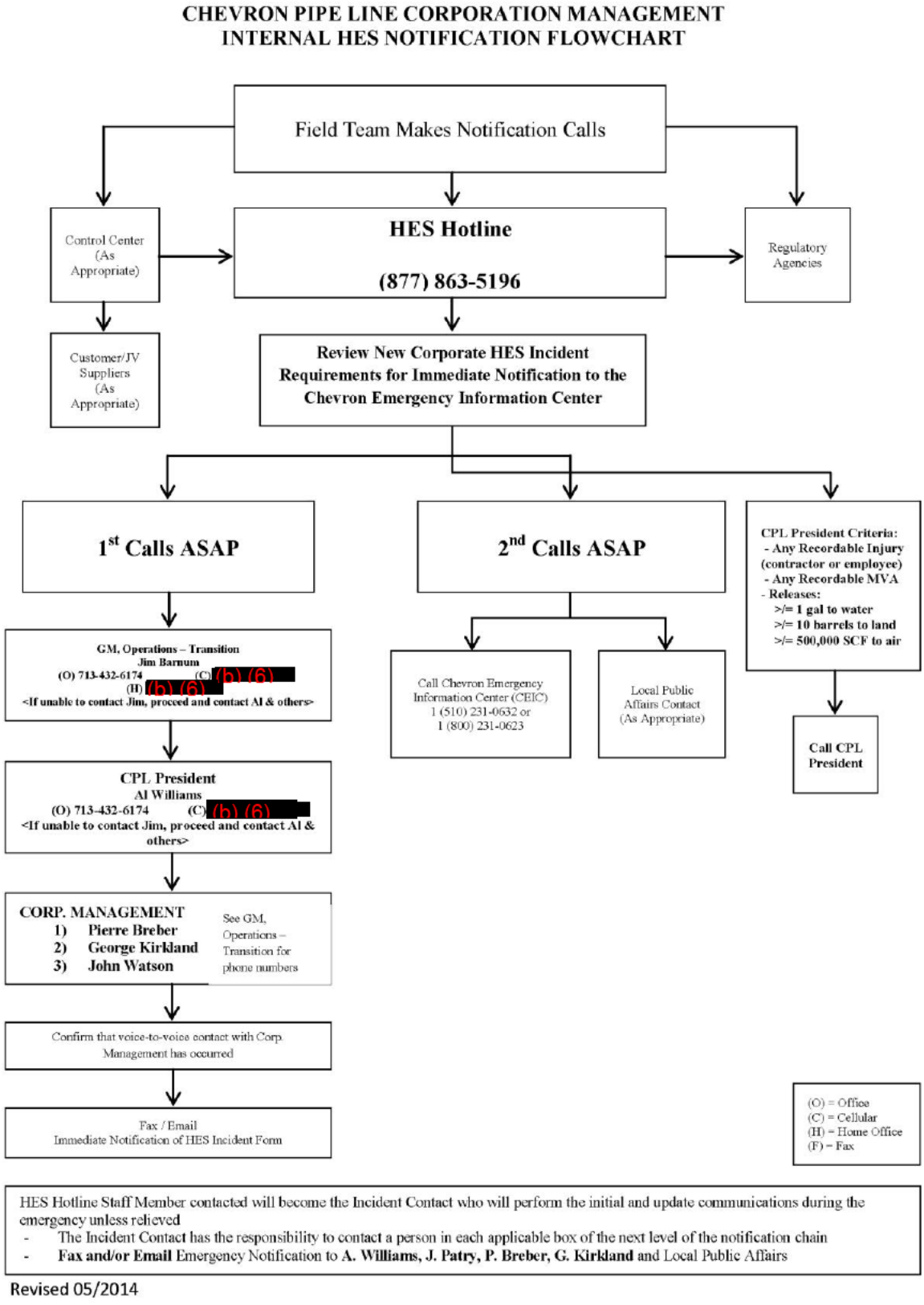
IMMEDIATE NOTIFICATIONS

Control Center	800-762-3404
Ambulance, Police or Fire Department	911
Security Issues	Emergency Response Notification Procedures as needed. Also contact: Juan Calderon 281-682-9564
HES Corporate Notifications	Pages 2 through 5 this Section
National Response Center Telephonic Requirements	Pages 6

Note: State and Local notification telephone numbers can be located in the "Notifications" Section of each State Appendix Plan.

INTERNAL HES NOTIFICATION FLOWCHART



Revised 05/2014

INCIDENTS REQUIRING IMMEDIATE INTERNAL CORPORATE MANAGEMENT NOTIFICATION

Note: Internal Corporate Notification information only, not synonymous with Federal or State spill reporting Notifications Criteria located elsewhere in this Plan.

Incidents Requiring Immediate Notification to Corporate Management

Highlighted Fields Incidicate Reporting Requirementss of a More Stringent Nature Within and Through the Chevron Gas & Midstream Organization

Incident Type	CG&M SBU* President or VP	CG&M President	Corp Emergency Response Staff and VP, HES	Reporting Officer and Chairman
Work-related fatality of employee, contractor, or third party	M	M	M	M
Work-related recordable injuries of employee, contractor, or third party	M	M		
Incidents resulting in multiple employee, contractor, or third party overnight hospitalization; (except for observation only)	M	M	M	M
Petroleum or petroleum product spills equal to or greater than 1 gallon and less than 1 barrels to water	M			
Petroleum or petroleum product spills equal to or greater than 1 barrels and less than 50 barrels to water	M	M		
Petroleum or petroleum product spills greater than 50 barrels to water	M	M	M	M
Petroleum or petroleum product spills greater than 10 barrels and less than 500 barrels to land	M	M		
Petroleum or petroleum product spills greater than 500 barrels to land	M	M	M	M
Any incident that attracts international or broad USA media coverage	M	M	M	M
Any incident that attracts significant local media coverage	M	M	M	R
Natural disaster, political unrest, civil disturbance, or other situations that threatens safely, health, or welfare of employees or contractors	M	M	M	R
Incidents resulting in the need for employees or public to shelter-in-place or evacuate	M	M	M	R
Release of Produced Gas, Natural Gas, or LPG greater than 500.000 SCF and less than 10 MMSCF or that presents fire/explosion hazard to populated area	M			
Release of Produced Gas. Natural Gas, or LPG greater than 10 MMSCF or that presents fire, explosion hazard to populated area	M	M	M	R
Any release of LNG that is reported to government agencies, or attracts, or is expected to attract media attention, or: involves a vessel incident.	M	M	R	R
Chemical release to land, water, or air greater than 8000 Kg or that threatens human safety or health or adverse impact to environment.	M	M	M	R
Fire, explosion, well blowout or other incident damaging Company and/or third party assets with costs likely to exceed $500,000 for physical damage, loss of product or production, and incident response	M	M	M	R
Note: kidnapping and ransom	See CVX Corporate Security Guidelines			

Note:
M = Mandatory (Phone call via operating chain preferred for initial notification. Details can follow via email or fax)
R = Recommended

*SBUs may have requirements that differ for what is reportable to their management

20110530Upward Notification Require doc

IMMEDIATE NOTIFICATION OF HES INCIDENT FORM

To be used when Upward Notification by telephonic and e-mail communication methods are either unable to be performed or prove unsuccessful.

Business Unit:	Location:	
Person Making Notification:	Local Date and Time of Notification:	Contact Number:
Type of Incident: ☐ Fatality ☐ Spill/Release ☐ Injuries ☐ National/Significant Local News Coverage ☐ Other Significant HES Incident _____		
Local Date and Time of Incident:		
Description of Incident/Name of Oil Involved/Estimated Volume of Oil Spilled:		
Injuries:		
Actions Taken or Planned:		
Assistance Required:		
Media Attention:		
Other Information, Including Weather Conditions:		
Corp ERS Team Member Taking Report:		

Fax: 1-510-242-3787
E-mail: ceichl@chevron.com

EMERGENCY NOTIFICATION TO MANAGEMENT FAX

EMERGENCY NOTIFICATION TO MANAGEMENT FAX

From:
Chevron Pipe Line Company
4800 Fournace Place
Bellaire, TX 77401
Phone: ( ) -
Fax: (713) 432-3477
Date:

Pages 2

Chevron

Mr. Al Williams (CPL President) At: (AWilliams@Chevron.com)
Mr. George Kirkland (Vice Chairman) (GLKirkland@Chevron.com)
Mr. Pierre Breber (Chevron President) (PBreber@Chevron.com)

CEICHL (800) 231-0623 (CEICHL)

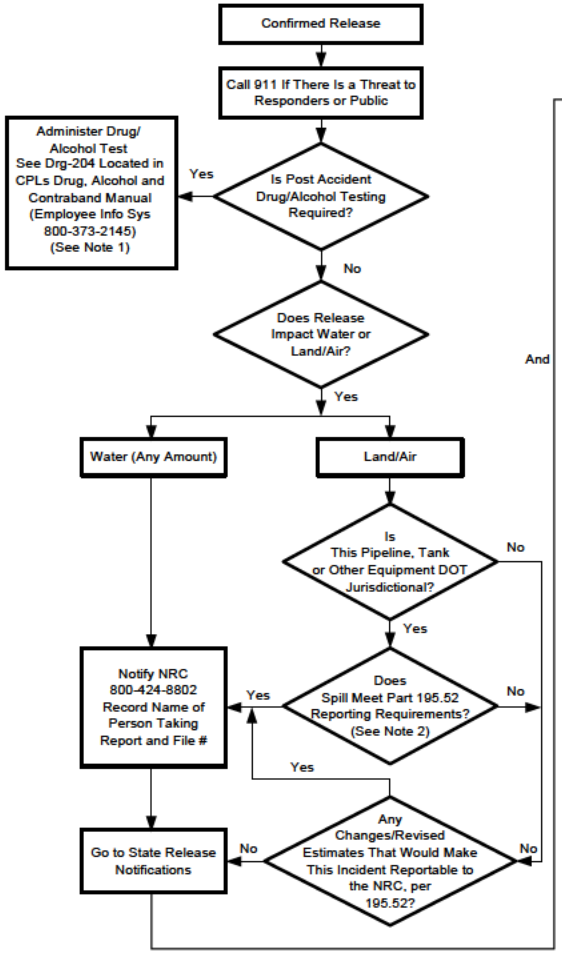
Remarks: ☐ Urgent ☐ Please Confirm Receipt ☐ Reply ASAP

CPL Emergency Incident Contact is: _____
Phone Number: _____

Revised: 06/01/14

AGENCY NOTIFICATION CHART

Agency Notification Chart



Note 1:
D&A Post Accident Testing
As Soon As Possible, But No Later Than 3 Hours After An Accident, An Operator Shall Perform An Alcohol Test, and No Later Than 32 Hours Perform Drug Testing of Each Employee Whose Performance Contributed to the Incident or Cannot Be Completely Discounted As a Contributing Factor to the Accident.

Note 2:
Dot Telephonic Reporting Requirements Part 195.52

1. Caused a Death or Personal Injury Requiring Hospitalization.
2. Resulted in a Fire or Explosion Not Intentionally Set By the Operator.
3. Caused Estimated Property Damage Including Cost of Clean-Up and Recovery, Value of Lost Product, and Damage to the Property of the Operator or Others, or Both Exceeding $50,000;
4. Resulted in Pollution of Any Stream, River, Lake Reservoir or Other Similar Body of Water That Violated Applicable Water Quality Standards or Caused a Discoloration of the Surface of the Water or Upon Adjoining Shorelines; or
5. Was Otherwise Significant in the Operators Judgment Even Though It Did Not Meet the Criteria of Any Other Part of 195. (* See CPL Comment Below.)

Telephonic Report Must Include the Following Information:
(1) Name and Address of the Operator
(2) Name and Telephone Number of the Reporter
(3) The Location of the Failure
(4) The Time of the Failure
(5) The Fatalities and Personal Injuries, If Any
(6) All Other Significant Facts Known By the Operator That Are Relevant to the Cause of the Failure or Extent of the Damages

* CPL Comment: An Otherwise Significant Event in the Operators Judgment is Defined as:
- If the news media reports the incident
- Major evacuation (a school, hospital or health care facility, multiple dwellings, ect.)
- Rerouting of traffic or closing a highway by public emergency responders

Note 3:
Additional Responder/Agency Telephone Numbers Can Be Found Under Site Specific Tabs and In the Front Pocket Information.

Note 4:
DOT Written Reporting Requirements §195.50

An Accident Report Is Required For Each Failure In a Pipeline System Subject to This Part In Which There Is a Release of the Hazardous Liquid or Carbon Dioxide Transported Resulting In Any of the Following:

(a) Explosion or Fire Not Intentionally Set By Operator
(b) Release of 5 gallons (19 liters) or More of Hazardous Liquid or Carbon Dioxide, Except That No Report is Required for a Release of Less Than 5 barrels (0.8 cubic meters) Resulting From a Pipeline

Maintenance Activity if the Release is:
(1) Not Otherwise Reportable Under This Section
(2) Not One Described in Sec 195.52(a)(4) (Pollution to Water)
(3) Confined to Company Property or ROW, and
(4) Cleaned Up Promptly
(c) Death of Any Person
(d) Personal Injury Necessitating In-Patient Hospitalization
(e) Estimated Property Damage, Including Cost of Cleanup and Recovery Value of Lost Product, and Damage to the Property of the Operator or Others, or Both, Exceeding $50,000

Send Information Regarding the Incident to the Appropriate DOT Specialist Who Will Submit the Written Report DOT 7000-1.

Note 5:
195.54 Accident Reports
(b) Whenever An Operator Receives Any Changes In the Information Reported or Additions to the Original Report on DOT Form 7000-1, It Shall File a Supplemental Report Within 30 Days

Note 6:
For Spills 5 Gals to 5 BBLs Not Otherwise Reportable Under 195.50 (Note 4) Nor Resulting In Water Pollution. Complete Only Page 1 of DOT 7000-1.

For All Other Reportable Spills 5 Gals or 5 or More BBLs or Reportable By Other Criteria Under 195.50 (Note 4), Complete As Much As Possible of the Long Form Within the 30 day Filing Period.

2009-01-20 AgencyNot fication

SPILL DETECTION / MITIGATION

SECTION 3 SPILL DETECTION / MITIGATION

SPILL DETECTION AND ON-SCENE SPILL MITIGATION PROCEDURES 1

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Abnormal Operations That Pose a Threat of a Worst Case Discharge 1

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SPILL DETECTION AND ON-SCENE SPILL MITIGATION PROCEDURES

The following methods would be used to initially detect an incident or substantial threat of an incident:

Methods of Initial Discovery
Description
As a result of analyzing remote communication link information at the Control Center.
Reports or inspections from company personnel; Company personnel routinely monitor pipeline gauges and/or pipeline pressure indicators to insure proper operating pressure is being maintained on the pipeline.
Reports from the public or public officials.
Periodic inspections of pipeline right-of-ways via air, water and land transportation.
Reports from field personnel or a report from the Control Center.
As a result of previous experience in dealing with a given condition.

Abnormal Operations That Pose a Threat of a Worst Case Discharge	
Operation	**Procedures To Mitigate Or Eliminate Threat**
Unauthorized Dredging or Construction in the Pipeline Right-of-Way	All pipelines will be marked along the right-of-way to inform people working in the area of the existence of the pipeline. All dredging and construction operations will be properly surveyed and identified by COMPANY personnel to ensure any dredging or construction operations do not threaten the pipeline's integrity. Additionally, all pipelines operated by COMPANY are included in the various One Call Programs nationwide.
Catastrophic Weather Event	COMPANY monitors regional weather forecast in order to be prepared for any predictable weather related event. When severe weather, such as a major storm or hurricane, is predicted, COMPANY personnel will monitor the event and determine the appropriate response in accordance with the provisions of COMPANY procedures.
Vandalism of Valve Sites	Valve sites that are considered easily accessible to the public are protected, to help restrict access to the site. In remote areas, manual valves are locked in place to reduce the threat of vandalism.
Vessel Mooring in Pipeline Right-of-Way	All pipelines will be marked along the right-of-way to inform people working in the area of the existence of the pipeline. Furthermore, navigational aides are maintained by COMPANY in areas where large vessels frequent.

DOT EMERGENCY RESPONSE PLAN ACTIONS

DOT Emergency Condition Procedure Cross Reference

This Emergency Response Plan provides procedures for safety when emergency conditions occur. The safety sections are cross referenced below:

DOT Safety	ERP Reference
(1) Receiving, identifying and classifying notices of events which need immediate response by the operator or notice to fire, police, or other appropriate public officials and communicating this information to appropriate operator personnel for corrective action.	• Core Plan, Section 2, Immediate Notification • Core Plan, Section 3, Spill Detection & Mitigation • Core Plan, Section 5, Response Activities • Core Plan, Section 6, ICS
(2) Prompt and effective response to a notice of each type emergency, including fire or explosion occurring near or directly involving a pipeline facility, accidental release of hazardous liquid or carbon dioxide from a pipeline facility, operational failure causing a hazardous condition and natural disaster affecting pipeline facilities.	• Core Plan, Section 2, Immediate Notification • Core Plan, Section 3, Spill Detection & Mitigation • Core Plan, Section 5, Response Activities • Core Plan, Section 6, ICS
(3) Having personnel, equipment, instruments, tools and material available as needed at the scene of an emergency.	• Core Plan, Section 2, Immediate Notification • Core Plan, Section 3, Spill Detection & Mitigation • Core Plan, Section 5, Response Activities • Core Plan, Section 6, ICS • Core Plan, Section 4, OSRO's • State Appendix Plan OSRO/Contractors Information
(4) Taking necessary action, such as emergency shutdown or pressure reduction, to minimize the volume of hazardous liquid or carbon dioxide that is released from any section of a pipeline system in the event of a failure.	• Core Plan, Section 2, Immediate Notification • Core Plan, Section 3, Spill Detection & Mitigation • Core Plan, Section 5, Response Activities
(5) Control of released hazardous liquid or carbon dioxide at an accident scene to minimize the hazards, including possible intentional ignition in the cases of flammable highly volatile liquid.	• Core Plan, Section 2, Immediate Notification • Core Plan, Section 3, Spill Detection & Mitigation • Core Plan, Section 5, Response Activities • Core Plan, Section 6, ICS
(6) Minimization of public exposure to injury and probability of accidental ignition by assisting with evacuation of residents and assisting with halting traffic on roads and railroads in the affected area, or taking other appropriate action.	• Core Plan, Section 2, Immediate Notification • Core Plan, Section 3, Spill Detection & Mitigation • Core Plan, Section 5, Response Activities • Core Plan, Section 6, ICS

DOT Safety	ERP Reference
(7) Notifying fire, police and other appropriate public officials of hazardous liquid or carbon dioxide pipeline emergencies and coordinating with them preplanned and actual responses during an emergency, including additional precautions necessary for an emergency involving a pipeline system transporting a highly volatile liquid.	• Core Plan, Section 2, Immediate Notification • Core Plan, Section 3, Spill Detection & Mitigation • Core Plan, Section 5, Response Activities • Core Plan, Section 6, ICS
(8) In the case of failure of a pipeline system transporting a highly volatile liquid, use of appropriate instruments to assess the extent and coverage of the vapor cloud and determine the hazardous areas.	• Core Plan, Section 2, Immediate Notification • Core Plan, Section 3, Spill Detection & Mitigation • Core Plan, Section 5, Response Activities • Core Plan, Section 6, ICS
(9) Providing for a post accident review of employee activities to determine whether the procedures were effective in each emergency and taking corrective action where deficiencies are found.	• Core Plan, Section 5, Response Activities • Core Plan, Section 12, Training & Drill
(10) Actions required to be taken by a controller during an emergency in accordance with 49 CFR 195.446 Control Room Management.	• Core Plan, Section 2, Immediate Notification • Core Plan, Section 3, Spill Detection & Mitigation • Core Plan, Section 5, Response Activities • Core Plan, Section 6, ICS • Control Room Management Plan (CRMP) Program Manual • CRM – 101 Roles and Responsibilities • CRM – 114 Emergency Call Procedures
Safety-related condition reports. The manual required by paragraph (a) of this section must include instructions enabling personnel who perform operation and maintenance activities to recognize conditions that potentially may be safety-related conditions that are subject to the reporting requirements of Sec. 195.55.	• Core Plan, Section 3, Spill Detection & Mitigation • Core Plan, Section 15, Documentation

DOT Gas Safety Cross Reference

DOT 192 Safety	ERP Reference
Receiving, identifying and classifying notices of events which require immediate response by the operator.	• Core Plan, Section 2, Immediate Notification • State Appendix Plan, Section 2, Notifications • State Appendix-Specific Gas Plant or Gas Pipeline Emergency Plan
Prompt and effective response to a notice of each type of emergency, including the following:	• Core Plan, Section 2, Immediate Notification • State Appendix Plan, Section 2, Notifications • State Appendix-Specific Gas Plant or Gas Pipeline Emergency Plan
Gas detected inside or near a building.	• Core Plan, Section 3, Emergency Response Guides • State Appendix-Specific Gas Plant or Gas Pipeline Emergency Plan
Fire located near or directly involving a pipeline facility.	• Core Plan, Section 3, Emergency Response Guides • State Appendix-Specific Gas Plant or Gas Pipeline Emergency Plan
Explosion occurring near or directly involving a pipeline facility.	• Core Plan, Section 3, Emergency Response Guides • State Appendix-Specific Gas Plant or Gas Pipeline Emergency Plan
Natural disaster.	• Core Plan, Section 3, Emergency Response Guides • State Appendix-Specific Gas Plant or Gas Pipeline Emergency Plan
The availability of personnel, equipment, tools, and materials, as needed at the scene of an emergency.	• Core Plan, Section 5, Response Activities • State Appendix Plan, Front Pocket Information • State Appendix-Specific Gas Plant or Gas Pipeline Emergency Plan
Actions directed toward protecting people first and then property.	• Core Plan, Section 3, Emergency Response Guides • Core Plan, Section 7, JSSP • State Appendix-Specific Gas Plant or Gas Pipeline Emergency Plan
Notifying appropriate fire, police, and other public officials of gas pipeline emergencies and coordinating with them both planned responses and actual responses during an emergency.	• Core Plan, Section 2, Immediate Notification • State Appendix Plan, Section 2, Notifications • State Appendix-Specific Gas Plant or Gas Pipeline Emergency Plan
Actions required to be taken by a controller during an emergency in accordance with 49 CFR 192.631 Control Room Management	• Core Plan, Section 2, Immediate Notification • State Appendix Plan, Section 2, Notifications • State Appendix-Specific Gas Plant or Gas Pipeline Emergency Plan • Control Room Management Plan (CRMP) Program Manual • CRM – 101 Roles and Responsibilities • CRM – 114 Emergency Call Procedures

INITIAL RESPONSE ACTIVITIES

Initial response actions are those taken by local personnel immediately upon becoming aware of a hazardous incident, before the arrival of the Immediate Response Team.

It is important to note that these actions are intended only as guidelines. The appropriate response to a particular incident may vary depending on the nature and severity of the incident and on other factors that are not readily addressed.

COMPANY has also provided First Responder Guides by emergency type in this Section. The First Responders Guides are also intended to be utilized only as guidelines.

The first COMPANY person on the scene of the incident will act as Incident Commander. That person will continues to act as Incident Commander until relieved by higher supervision or until the formal Immediate Response Team is established.

The person acting as Incident Commander during the initial response period has the authority to take the steps necessary to control the situation.

Initial response steps that should be considered at the incident site to help ensure safety, control the spill, protect the public and property and minimize the severity of the incident include:

- Notification of Supervisor.
- Take appropriate personal protective measures.
- Verify the sounding of internal alarm systems at facilities and notification of the occupants of the facility regarding the hazard.
- Evacuate the immediate area.
- Restrict access to the spill and the adjacent area as the situation demands.
- Safely eliminate the source of the spill to the greatest extent possible (for example, notify Control Center).
- Safely isolate the source (for example, close block valves).
- Safely eliminate possible sources of ignition in the vicinity of the release.
- Provide Safe Recon to verify the character, source, amount and extent of release.
- Initiate steps to notify response personnel and resources (for example, notify Field Team Leader).
- Provide internal and external notifications.
- Assess possible hazards to human health and the environment.
- Verify the type of product and estimate the quantity released.
- Coordinate rescue and response actions as previously arranged with response personnel.
- Use appropriate testing and sampling equipment to determine potential safety hazards.
- Maintain control of the site until relieved by formal Immediate Response Team personnel.
- Direct initial containment procedures if feasible and safe to do so.

Continuing spill response actions beyond the above-described initial response will depend on the severity of the incident and expected duration of the response. If the incident cannot be contained and controlled with this initial response, ramping up of the various levels of response will need to proceed.

Regulations require that Company must be able to activate response resources to arrive on-scene within the times shown after the discovery of a worst case discharge or to mitigate the substantial threat of such a discharge.

	Tier 1	Tier 2	Tier 3
High volume area	6 hrs	30 hrs	54 hrs
All other areas	12 hrs	36 hrs	60 hrs

Refer to the Response Zone State Appendix for a list and emergency telephone numbers of contracted OSROs.

EMERGENCY RESPONSE INFORMATION

MSDS & Guide Information

Pipelines transport petroleum that includes crude oil, gasoline (unleaded, middle unleaded and super unleaded), diesel fuel, jet fuel, natural gasoline, natural gas, LPG and chemicals.

Material Safety Data Sheets (MSDS's) and the Department of Transportation (DOT's) emergency response Guidebook contain emergency response information for the above listed petroleum products.

MSDS and DOT ERG information includes the name of the material, a description of the material, its physical and chemical characteristics, the health and safety hazards, suggested evacuation distances and initial spill-handling and firefighting methods. Some of the more common MSDSs pertinent to COMPANY's operations are listed in the MSDS Section 15 of this Core Plan. MSDS's can be accessed on the COMPANY website.

INITIAL SPILL DETECTION/MITIGATION ACTIVITIES

Employee Receiving Report
Record Spill Report Take down all information regarding the reported spill using the Pipeline Incident Information Summary form found in Section 2 of this Core Plan.
Record Reporting Party's Contact Information Determine how you can reach the reporting party later.
Determine Spill Location
Determine Ownership of Spill Determine if COMPANY has (a) line(s) located on the map. If there are no COMPANY lines on that map, are there lines on adjacent maps that could cause oil or product to drain to that spill area?
Notify Pipeline Controller Notify the Control Center, as appropriate.
Report Possible Spill If the reported spill location indicates that it could be from a COMPANY pipeline, contact the Field Team Leader.
If not COMPANY, Advise Reporting Party If the location is not in an area where the spill could come from a COMPANY line, contact the reporting party and advise them. Report the contact and your actions to the Field Team Leader or the System Team Leader.
Enter Actions on Event Log Record all calls and other actions on the Incident Event Log.

Incident Commander
Dispatch Investigators For Safe Reconnaissance Upon receipt of reported spill, assign first available employee(s) to the position of RECON and dispatch them to the site of the reported spill. If the reported site is remote from the pipeline route, dispatch a second employee to investigate along right of way. If the spill could be from more than one pipeline, dispatch additional Recon Persons**.**
Call Pipeline Control Center as Appropriate Call the Pipeline Control Center and alert them to the potential spill and suspected lines. Instruct the Pipeline Controller to shutdown the affected systems and notify all involved third parties to shut down, close valves and take appropriate action including the installation of lockout devices, locks and tags.
Contact Logistics Call the assigned Logistics person and advise him/her of the potential spill. Have Logistics contact a Team Member and designate him/her to be Safety Officer. If he/she is not at the Area Office, have him/her proceed there and begin preliminary contacts with the Immediate Response Team.
Proceed to Area Office If at another location, proceed to the Area Office, maintaining contact with investigators by radio.
Receive RECON's Reports Based on the Recon Reports, attempt to assess the following: • Magnitude of spill • Probability of a COMPANY line • Impacted area • Hazard to public • Need for traffic diversion • Need for evacuations
Close Block Valves Leave one Recon on the spill site. Dispatch other Recon(s) to close manually operated block valves on shutdown pipelines.
Determine Location of the Incident Command Post (ICP) Based on location, magnitude and other data, determine an assembly point for the Immediate Response Team. This can be at the Area Office or at a safe location near the spill site.
Authorize Mobilization of Spill Equipment Trailer Authorize Logistics to mobilize the Mobile ICP and/or Spill Equipment Trailer and have them transported to the ICP location by responders.
Authorize Mobilization of Immediate Response Team Authorize Logistics or the Pipeline Controller to notify the Immediate Response Team and direct them to report to the ICP (or to the Area Office) as required. Specify number of Team Members to mobilize.
Assess Agency Assistance Needs Authorize Logistics to contact applicable agencies and request assistance. Advise agencies of ICP location.
Proceed to ICP Travel to ICP location. Keep in communication by radio.

Assign ICS Positions to Responding Team Members
Brief responders and assign Incident Command System positions to the responding Immediate Response Team Members as they arrive at the ICP. Assign the vacant positions to make up the Immediate Response Team:

- LOGISTICS
- SAFETY
- DEPUTY INCIDENT COMMANDER
- OPERATIONS
- EVACUATION GROUP LEADER
- [Assign additional positions as required.]

Direct Deputy Incident Commander to Determine Drainage Routes
Direct the Deputy Incident Commander to study drainage maps and, if necessary, enlist the aid of Flood Control District to determine the route of the drainage, possible interceptor points and the eventual destination of the drainage route into an open channel, as well as recommend locations to attempt interdiction of the flow.

Notify Management
Call the Field Team Leader or his on-call duty Manager. Report the following:

- Describe the incident
- Estimate the magnitude of the spill
- Describe the impact to the public
- Inform if traffic has been diverted
- Inform of evacuation plans, if any
- Recommend Sustained Response
- Inform of team mobilization if applicable

Authorize Sustained Response Team Mobilization
Authorize Logistics to initiate procedures to notify and mobilize the Sustained Response Team, if the situation warrants.

Authorize Agency Notification
Authorize Logistics to notify those agencies required by regulation. Authorize courtesy notifications.

Review ICS Team Assignments
Determine that all positions have been filled and all members have been briefed and are carrying out their assignments. Consider reassignment for specialties.

Review Status
Confirm all required measures are in progress. Review resources employed and determine adequacy to properly handle:

- Traffic Diversion
- Evacuation
- Containment
- Diversion
- Spill Stoppage
- Permanent Repair
- Team Health and Safety
- Agency Coordination
- Public Relations
- Media Involvement
- Environmental Concerns
- Sensitive Resource Concerns
- Prevention of Escalation
- Other specific concerns

Authorize Additional Resources Determine if additional resources can be effectively used to reduce impacts or hazards or duration of critical phases of the incident.
Review Planning Functions Contact Logistics and review planning for: • Contractor deployment • Resource development • Equipment and Material needs • Personnel duty hours and relief • Specialized or expert assistance • Deployment of Mobile Command trailer • Food, beverage service
Manage the Incident
Enter Actions on Event Log Record all calls and other actions on the Incident Event Log.

Deputy Incident Commander
Access Drainage Drawings Locate the spill and also locate the point it enters the drain. Plot its probable course. Locate manholes to begin damming and collecting the oil. Obtain assistance from the Flood Control District. Report these locations to the Incident Commander.
Determine Destination From the drawings (and with assistance from the Flood Control District) determine the course and the point the oil will exit into open drainage canals. Report this location to the Incident Commander.
Determine Possible Containment Points Taking into account the accessibility, determine possible locations for containment and collection. Report these locations to the Incident Commander.
Determine Secondary Boom Locations Determine possible secondary containment locations to use if oil or product gets past the primary containment location. Report these locations to the Incident Commander.
Determine Strategic Boom Locations Determine the route of flow or drainage. Determine locations where containment booms can be deployed to prevent the oil from reaching sensitive areas or the sea. Report these locations to the Incident Commander.

Safety
Appointed by and reports to the Incident Commander.
Ensure all safety procedures are adhered to at the emergency site.
Report all observations of importance to the Incident Commander
The Safety person is the primary safety eyes and ears of the Incident Commander.
Liaison with public agency Safety Officer upon his/her arrival and transmit all pertinent information.
Ensure that individuals directly involved with the leak repair, including the backhoe operator, are wearing Nomex or equivalent fire resistant clothing.
Ensure appropriate personal protective equipment and clothing, such as fresh air breathing apparatus, half mask respirators, welding hoods, etc., are on site and available as needed.
Ensure that the site-specific safety and health plan is administered on site.
Ensure first aid and burn kits are readily available.
Establish a general Hazard Zone around the area of the leak using a gas detection instrument (any location exceeding 10% LFL).
Install portable windsocks or streamers to assist in monitoring for possible changes in wind direction.
Ensure that an adequate number of fire extinguishers are available at the emergency site.
Ensure proper trenching and shoring safety procedures are adhered to during excavation operations.
Ensure that all motorized and other equipment used for leak repair is placed upwind out of the hazard zone.

ENTERING AN AREA WHERE LEL IS = OR > 10% OF LEL

To enter an atmosphere that is => 10 % LEL, you must address:

- Safety of yourself and of others.
- Complete a detailed site Hazard Analysis utilizing the JSSP.
- Determine the right equipment and PPE to mitigate the risk to the employees or contractors entering the area.
- Write out the plan and discuss in detail.
- Gain approval from the Team Leader, HES Safety Specialist and the Profit Center Manager prior to entry (verbal is permissible) and document this approval.
- Execute the written plan.

For all Emergency Response situations, the Field Team must implement the ICS (Incident Command System) and review the Emergency Response Guide First Responder under Section 3 of the Core Plan for the applicable situation.

Recon
Travel to the Reported Leak Site Upon notification, travel to the reported leak site by company vehicle equipped with radio.
Reconnoiter the Situation Upon arrival at the site, confirm the leak is on a right-of-way route with a COMPANY pipeline, or could have come from a COMPANY line. Identify the type of material spilled. Confirm that the material could be from a COMPANY pipeline.
Gather Information Determine the following: • Material spilled • Magnitude of the spill • Probability of being from a COMPANY pipeline • Impacted area • Hazard to the Public • Need for traffic diversion • Need evacuation
Report to Incident Commander Report the information gathered to the Incident Commander by radio or telephone.
Remain on the Scene Remain on the scene until relieved. Divert traffic from the spill location until police or fire department take over. Warn residents or businesses to evacuate if required.
Update Status Provide periodic updates to the Incident Commander, advising him/her of any change in reported information. Answer all inquiries.
Standby for IRT Arrival Remain at the incident scene until the IRT arrives. Direct members to location by radio if required.

Logistics
Assign Safety Position If not already assigned, contact and assign the position of Safety to an IRT member.
Proceed to ICP Travel to the ICP and assume duties.
Alert Team Members Upon arrival, advise the Incident Commander that you are at the ICP. Contact the Pipeline Controller to ensure he/she has been contacting IRT members and determine status. Tell him/her you are assuming that responsibility. Continue calling or contacting the members of the Immediate Response Team. Inform them of a possible need to respond.
Mobilize the Immediate Response Team Upon authorization, cease the alerting activities and start the Immediate Response Team notification procedures. Provide the following information: • Description of the incident • Magnitude of the incident • Where to report • Name of the Incident Commander • Cautions to be observed • Any special routing required
Keep Mobilization Status Obtain from each Team Member: • Ability to respond • Estimated reporting time • Confirmation of arrival • Log all attempts to notify Team Members
Report Progress Periodically report to the Incident Commander: • Number of contacts attempted • Number of contacts made • Number of Team Members who have reported for duty and if asked: • Names of responders • Names of no contact • Names of Team Members unable to respond
Continued Attempts Report the list of completed notifications and the status of responding Team Members. Repeat notification attempts for non-contacted Team Members, if needed.
Notify Responding Agencies Notify local agencies (police, fire, etc.) that will respond to provide active assistance.
Notify Sustained Response Team Upon authorization, call the Sustained Response Team Communicator and direct the activation of the Sustained Response Team.

Notify Agencies (Mandatory) Notify the applicable agencies listed in Section 2 of the State Appendix. Log all attempts at notification.
Maintaining Communications Continuously monitor radio networks and telephones. Relay inquiries and directions from Team Members. Provide telephone numbers as requested. Receive and forward messages and reports.
Enter Actions on Event Log Record all calls and other actions.

Pipeline Controller
Shutdown Pipeline Carry out Shutdown Procedures on lines suspected as leak source. Close valves as directed by procedures.
Carry Out Notification Procedure Follow procedures for notification located in Section 2 of this Core Plan and the State Appendix. Complete "Immediate Notification of HES Incident" Form.
Alert Immediate Response Team Contact the Immediate Response Team Members and advise them that an emergency may be in progress. Locate these telephone numbers in the Front Pocket Section of the State Appendix.
Mobilize Immediate Response Team Upon authorization, cease alerting activities and begin notifying the Team Members to report to the ICP or Area Offices. Locate these telephone numbers in the Front Pocket Section of the State Appendix.
Turn Mobilization Over to Incident Commander Turn mobilization duties over to the Incident Commander or person designated by the Incident Commander when he/she arrives at the ICP. Give him/her a detailed status report: • Number of contacts attempted • Number of contacts made • Number of contacts responding • Names of responders • Names of no contact • Names of those unable to respond
Maintain Communications Monitor radio and telephone to provide assistance to the Incident Commander as required.
Enter Actions on Event Log Record all actions on the Incident Event Log.

EMERGENCY RESPONSE GUIDES - FIRST RESPONDERS

The following Emergency Response Guide Guides are contained in this section:

- Piping Rupture
- Oil Spill
- Tank Failure
- Tank Overflow
- Unidentified Oil Spill
- Leak Involving Shoreline Considerations
- Leak Involving Drains/Waterways
- Gas Leak
- Fire or Explosion
- Evacuation
- Storm or Flood
- Wildfire
- Earthquake
- Vessel or Barge Spill
- Non-Loading Spill Vessel/Barge
- Gas Leak in or Near a Building

Emergency Response Guide First Responder

Piping Rupture

SAFETY
1
- Your safety first and then the safety of others
- Start a JSSP as soon as possible
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask police & fire resources to help deny entry into immediate area

NOTIFICATIONS
- Contact your Supervisor
- Contact Customer Service Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact local OSRO
- Follow the Notifications Flowchart found in this Plan

COMMAND MANAGEMENT
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- Assume role of Incident Commander/utilize USCG IMH
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IDENTIFICATION AND ASSESSMENT
- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on water, air, soil, plant life & wildlife

ACTION PLANNING
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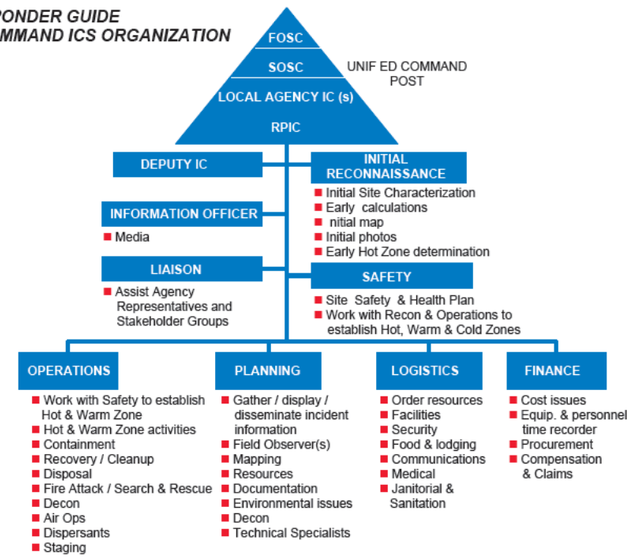
- Create a Unified "Next" period Incident Action Plan

FIRST RESPONDER GUIDE UNIFIED COMMAND ICS ORGANIZATION



PROTECTIVE EQUIPMENT
3
- Ensure proper levels of PPE
- Ensure PPE is in line with Job Site Safety Plan

CONTAINMENT & CONTROL
- Containment & control strategies should be developed within the Unified Command process
- Operations Section Chief oversees containment & control tactical deployment
- OSRO's work under the Operations Section and should not freelance

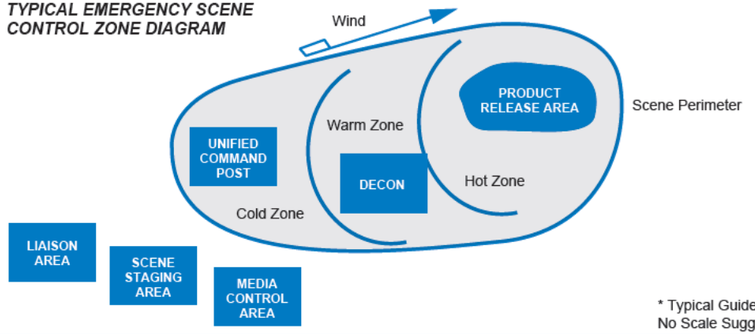
PROTECTIVE ACTIONS
- Ensure safe Recon to assess impact on water intakes, adjoining properties, public recreation sites & sensitive sites
- Protective action tactical deployment should be part of the Unified Incident Action Plan

DECONTAMINATION / CLEANUP
4
- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team
- Clean up strategies should be part of the Unified IAP
- Decon runoff needs to be contained and properly disposed of

DISPOSAL
- Ensure early notification of HES Waste SME's
- Consult Waste Management Section of this Core Plan
- Consult State Appendix Plan for specific State requirements

DOCUMENTATION
- Ensure early completion of ICS Form 201 & JSSP
- Ensure proper retention of all incident related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE CONTROL ZONE DIAGRAM



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Sec 7 JSSP
Sec 8 Cleanup Procedures
Sec 9 Estimating Spill Volumes
Sec 10 Waste Management
Sec 11 Communications
Sec 12 Training & Drills
Sec 13 Plan Review & Updates
Sec 14 Public Relations
Sec 15 Documentation
Sec 16 MSDS
Sec 17 Glossary
Sec 18 ER Spill EX-HES 706
Sec 19 Functional & WW Teams
Sec 20 Gas Pipelines & Facilities

GENERAL PROTECTION STRATEGIES

- Shut down and isolate flow
- Eliminate sources of ignition
- Contain ahead of spill by booming or damming
- Protect storm drains or water intake areas ahead of spill
- Cleanup procedures Section 8 of this Core Plan
- All equipment used when handling product must be grounded
- Site sensitive strategies in State Appendix Plan

INITIAL ICS FORMS THAT MAY BE UTILIZED

- ICS Form 201 (Incident Briefing)
- ICS Form 202 (Response Objectives)
- ICS Form 214 (Unit Log)
- Job Site Safety Plan
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

Product	Guide #
Gasoline	128
Natural Gasoline	128
Diesel	128
LPG	115
Natural Gas	115
Crude Oil	128
Ethylene	116P

Chevron

Chevron Pipe Line Company

05/11

Emergency Response Guide First Responder

Oil Spill

1

SAFETY
- Your safety first and then the safety of others
- Start a JSSP as soon as possible
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask police & fire resources to help deny entry into immediate area

NOTIFICATIONS
- Contact your Supervisor
- Contact Customer Service Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact local OSRO
- Follow the Notifications Flowchart found in this Plan

2

COMMAND MANAGEMENT
- Assume role of Incident Commander/utilize USCG IMH
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IDENTIFICATION AND ASSESSMENT
- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on water, air, soil, plant life & wildlife

ACTION PLANNING
- Create an ICS 201 to serve as the de facto Incident Action Plan for initial period
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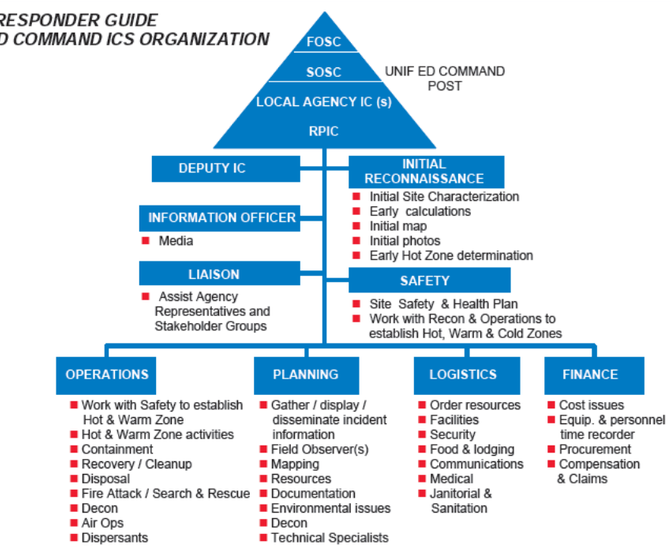
FIRST RESPONDER GUIDE UNIFIED COMMAND ICS ORGANIZATION



3

PROTECTIVE EQUIPMENT
- Ensure proper levels of PPE
- Ensure PPE is in line with Job Site Safety Plan

CONTAINMENT & CONTROL
- Containment & control strategies should be developed within the Unified Command process
- Operations Section Chief oversees containment & control tactical deployment
- OSRO's work under the Operations Section and should not freelance

PROTECTIVE ACTIONS
- Ensure safe Recon to assess impact on water intakes, adjoining properties, public recreation sites & sensitive sites
- Protective action tactical deployment should be part of the Unified Incident Action Plan

4

DECONTAMINATION / CLEANUP
- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team
- Clean up strategies should be part of the Unified IAP
- Decon runoff needs to be contained and properly disposed of

DISPOSAL
- Ensure early notification of HES Waste SME's
- Consult Waste Management Section of this Core Plan
- Consult State Appendix Plan for specific State requirements

DOCUMENTATION
- Ensure early completion of ICS Form 201 & JSSP
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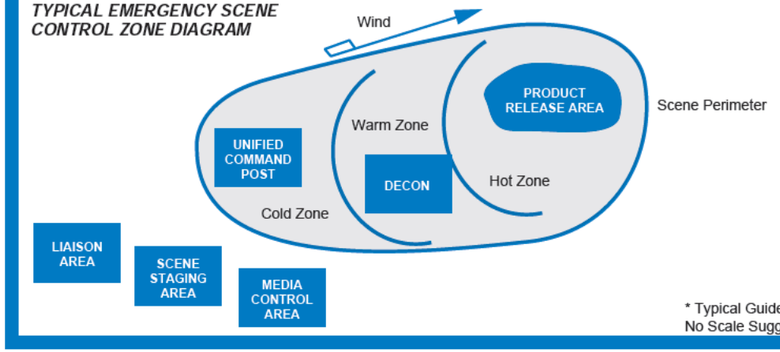
TYPICAL EMERGENCY SCENE CONTROL ZONE DIAGRAM



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Chevron

Chevron Pipe Line Company

05/11

Emergency Response Guide First Responder

Tank Failure

SAFETY
1
- Your safety first and then the safety of others
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- Stay out of the hazard area
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- Determine the immediate hot zone

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
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NOTIFICATIONS
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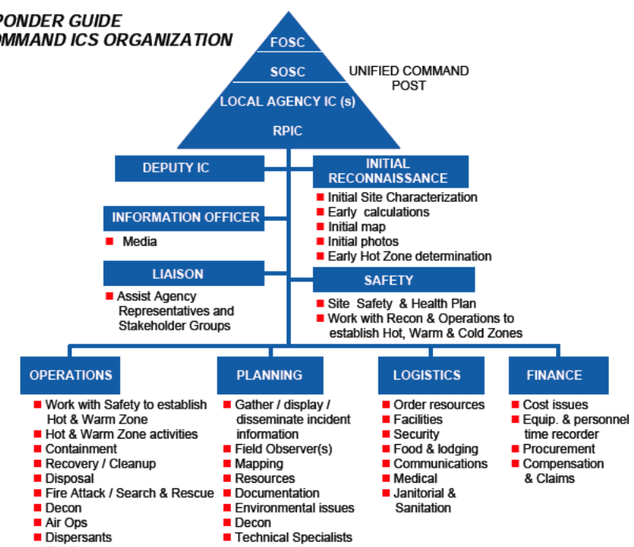

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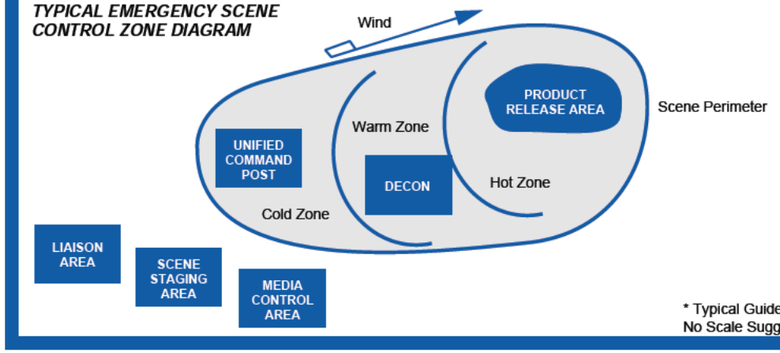

* Typical Guide
No Scale Suggested

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05/11

Emergency Response Guide First Responder

Tank Overflow

1

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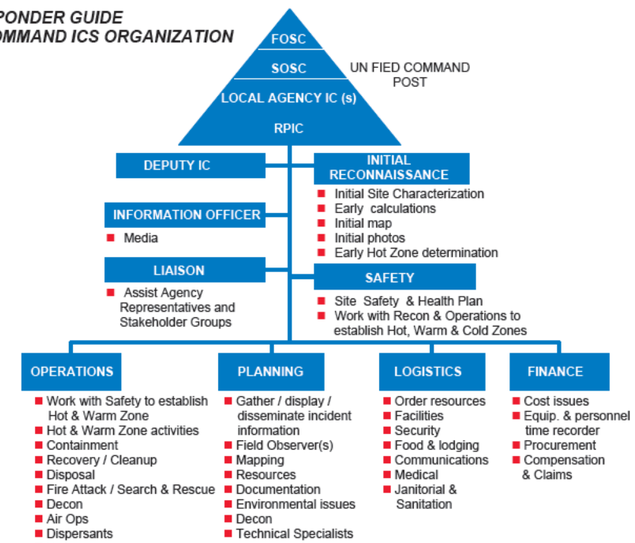

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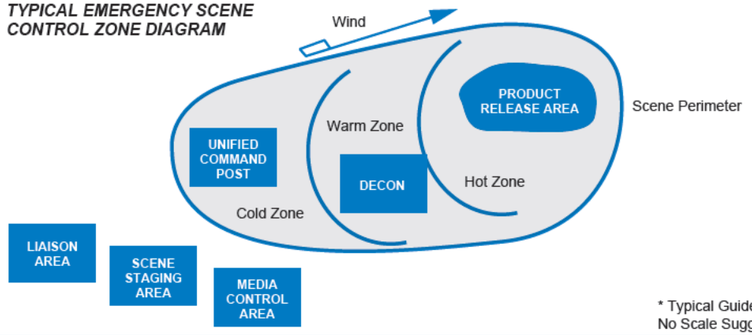
TYPICAL EMERGENCY SCENE
CONTROL ZONE DIAGRAM



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Sec 4	OSRO Information	Sec 14	Public Relations
Sec 5	Response Activities	Sec 15	Documentation
Sec 6	ICS	Sec 16	MSDS
Sec 7	JSSP	Sec 17	Glossary
Sec 8	Cleanup Procedures	Sec 18	ER Spill EX-HES 706
Sec 9	Estimating Spill Volumes	Sec 19	Functional & WW Teams
Sec 10	Waste Management	Sec 20	Gas Pipelines & Facilities

GENERAL PROTECTION STRATEGIES
- Shut down and isolate flow
- Eliminate sources of ignition
- Contain ahead of spill by booming or damming
- Protect storm drains or water intake areas ahead of spill
- Cleanup procedures Section 8 of this Core Plan
- All equipment used when handling product must be grounded
- Vapor suppressing foam may reduce vapors

INITIAL ICS FORMS THAT MAY BE UTILIZED
- ICS Form 201 (Incident Briefing)
- ICS Form 202 (Response Objectives)
- ICS Form 214 (Unit Log)
- Job Site Safety Plan
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

Product	Guide #
Gasoline	128
Natural Gasoline	128
Diesel	128
LPG	115
Natural Gas	115
Crude Oil	128
Ethylene	116P

Chevron

Chevron Pipe Line Company

05/11

Emergency Response Guide First Responder

Unidentified Spill

SAFETY
1

- Your safety first and then the safety of others
- Start a JSSP as soon as possible
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY

- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask police & fire resources to help deny entry into immediate area

NOTIFICATIONS

- Contact your Supervisor
- Contact Customer Service Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact local OSRO
- Follow the Notifications Flowchart found in this Plan

COMMAND MANAGEMENT
2

- Assume role of Incident Commander/utilize USCG IMH
- Make an announcement to all on the scene that you have assumed Command
- Establish a Unified Command Post up wind, up hill and up stream of the incident in the cold zone
- Establish a Unified Staging Area up wind, up hill and up stream of the incident in the cold zone
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Unified Command Post
- Ensure Safety Officer begins and completes a Job Site Safety Plan

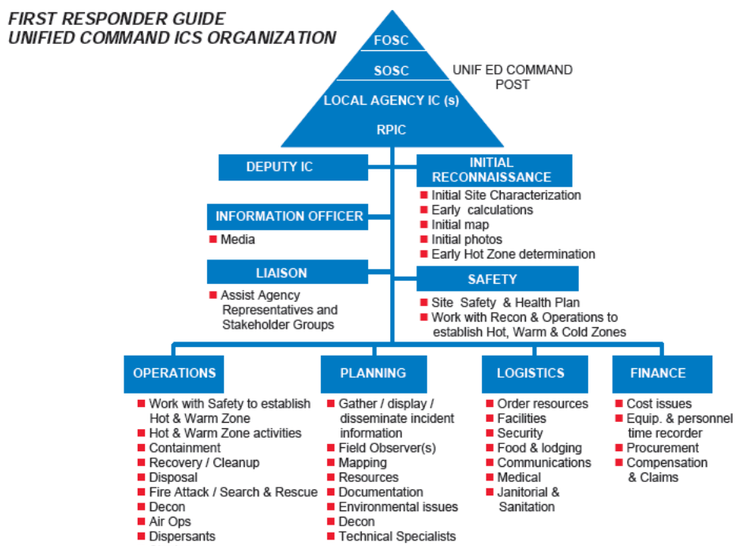
IDENTIFICATION AND ASSESSMENT

- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on water, air, soil, plant life & wildlife

ACTION PLANNING

- Create an ICS 201 to serve as the de facto Incident Action Plan for initial period
- Create a Unified "Next" period Incident Action Plan

FIRST RESPONDER GUIDE
UNIFIED COMMAND ICS ORGANIZATION



PROTECTIVE EQUIPMENT
3

- Ensure proper levels of PPE
- Ensure PPE is in line with Job Site Safety Plan

CONTAINMENT & CONTROL

- Containment & control strategies should be developed within the Unified Command process
- Operations Section Chief oversees containment & control tactical deployment
- OSRO's work under the Operations Section and should not freelance

PROTECTIVE ACTIONS

- Ensure safe Recon to assess impact on water intakes, adjoining properties, public recreation sites & sensitive sites
- Protective action tactical deployment should be part of the Unified Incident Action Plan

DECONTAMINATION / CLEANUP
4

- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team
- Clean up strategies should be part of the Unified IAP
- Decon runoff needs to be contained and properly disposed of

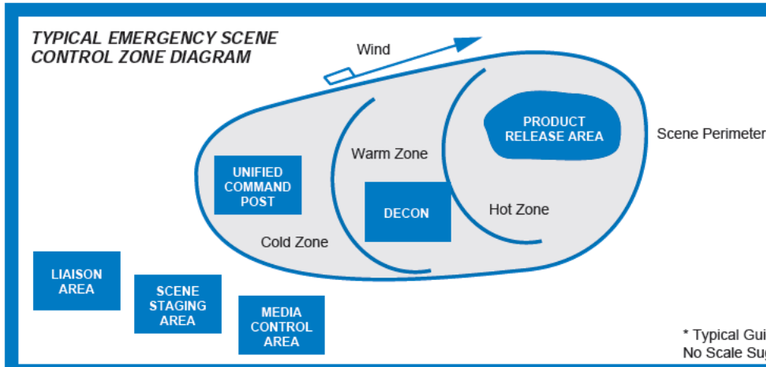
DISPOSAL

- Ensure early notification of HES Waste SME's
- Consult Waste Management Section of this Core Plan
- Consult State Appendix Plan for specific State requirements

DOCUMENTATION

- Ensure early completion of ICS Form 201 & JSSP
- Ensure proper retention of all incident related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE CONTROL ZONE DIAGRAM



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Sec 13 Plan Review & Updates
Sec 14 Public Relations
Sec 15 Documentation
Sec 16 MSDS
Sec 17 Glossary
Sec 18 ER Spill EX-HES 706
Sec 19 Functional & WW Teams
Sec 20 Gas Pipelines & Facilities

GENERAL PROTECTION STRATEGIES

- Contact other pipelines or other possible sources in the area until spill can be idenitified
- Eliminate sources of ignition
- Contain ahead of spill by booming or damming
- Protect storm drains or water intake areas ahead of spill
- Cleanup procedures Section 8 of this Core Plan
- All equipment used when handling product must be grounded
- Site sensitive strategies in State Appendix Plan

INITIAL ICS FORMS THAT MAY BE UTILIZED

- ICS Form 201 (Incident Briefing)
- ICS Form 202 (Response Objectives)
- ICS Form 214 (Unit Log)
- Job Site Safety Plan
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

Product	Guide #
Gasoline	128
Natural Gasoline	128
Diesel	128
LPG	115
Natural Gas	115
Crude Oil	128
Ethylene	116P

Chevron

Chevron Pipe Line Company

05/11

Emergency Response Guide First Responder

Leak Involving Shoreline Considerations

1

SAFETY
- Your safety first and then the safety of others
- Start a JSSP as soon as possible
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask police & fire resources to help deny entry into immediate area

NOTIFICATIONS
- Contact your Supervisor
- Contact Customer Service Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact local OSRO
- Follow the Notifications Flowchart found in this Plan

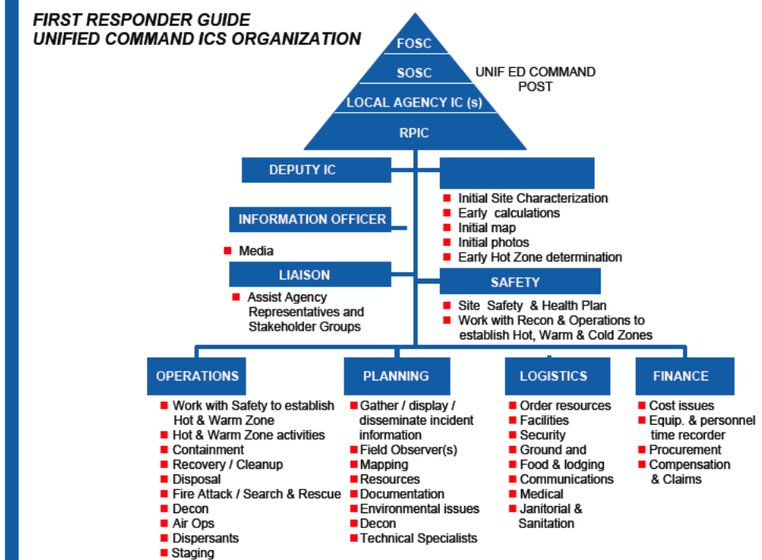
2

COMMAND MANAGEMENT
- Assume role of Incident Commander/utilize USCG IMH
- Make an announcement to all on the scene that you have assumed Command
- Establish a Unified Command Post up wind, up hill and up stream of the incident in the cold zone
- Establish a Unified Staging Area up wind, up hill and up stream of the incident in the cold zone
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Unified Command Post
- Ensure Safety Officer begins and completes a Job Site Safety Plan

IDENTIFICATION AND ASSESSMENT
- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on water, air, soil, plant life & wildlife

ACTION PLANNING
- Create an ICS 201 to serve as the de facto Incident Action Plan for initial period
- Create a Unified "Next" period Incident Action Plan

FIRST RESPONDER GUIDE UNIFIED COMMAND ICS ORGANIZATION



3

PROTECTIVE EQUIPMENT
- Ensure proper levels of PPE
- Ensure PPE is in line with Job Site Safety Plan

CONTAINMENT & CONTROL
- Containment & control strategies should be developed within the Unified Command process
- Operations Section Chief oversees containment & control tactical deployment
- OSRO's work under the Operations Section and should not freelance

PROTECTIVE ACTIONS
- Ensure safe Recon to assess impact on water intakes, adjoining properties, public recreation sites & sensitive sites
- Protective action tactical deployment should be part of the Unified Incident Action Plan

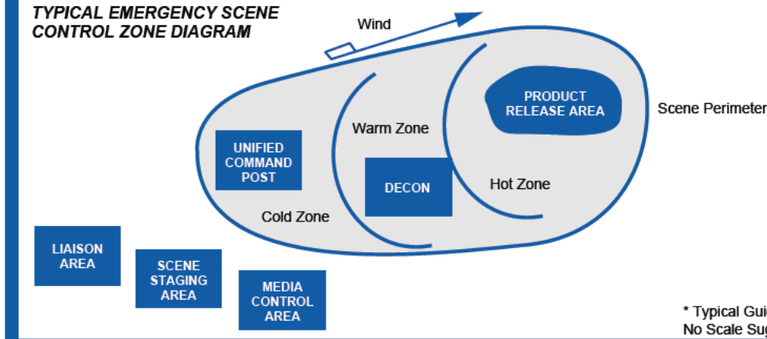
4

DECONTAMINATION / CLEANUP
- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team
- Clean up strategies should be part of the Unified IAP
- Decon runoff needs to be contained and properly disposed of

DISPOSAL
- Ensure early notification of HES Waste SME's
- Consult Waste Management Section of this Core Plan
- Consult State Appendix Plan for specific State requirements

DOCUMENTATION
- Ensure early completion of ICS Form 201 & JSSP
- Ensure proper retention of all incident related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE CONTROL ZONE DIAGRAM



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Sec 16 MSDS
Sec 17 Glossary
Sec 18 ER Spill EX-HES 706
Sec 19 Functional & WW Teams
Sec 20 Gas Pipelines & Facilities

GENERAL PROTECTION STRATEGIES
- Deploy containment or diversion boom as needed
- Eliminate sources of ignition
- All equipment used when handling product must be grounded
- Site sensitive strategies in State Appendix Plan

INITIAL ICS FORMS THAT MAY BE UTILIZED
- ICS Form 201 (Incident Briefing)
- ICS Form 202 (Response Objectives)
- ICS Form 214 (Unit Log)
- Job Site Safety Plan
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

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Natural Gas	115
Crude Oil	128
Ethylene	116P

Chevron

Chevron Pipe Line Company

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Emergency Response Guide First Responder

Leak Involving Drains / Waterways

1

SAFETY
- Your safety first and then the safety of others
- Start a JSSP as soon as possible
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask police & fire resources to help deny entry into immediate area

NOTIFICATIONS
- Contact your Supervisor
- Contact Customer Service Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact local OSRO
- Follow the Notifications Flowchart found in this Plan

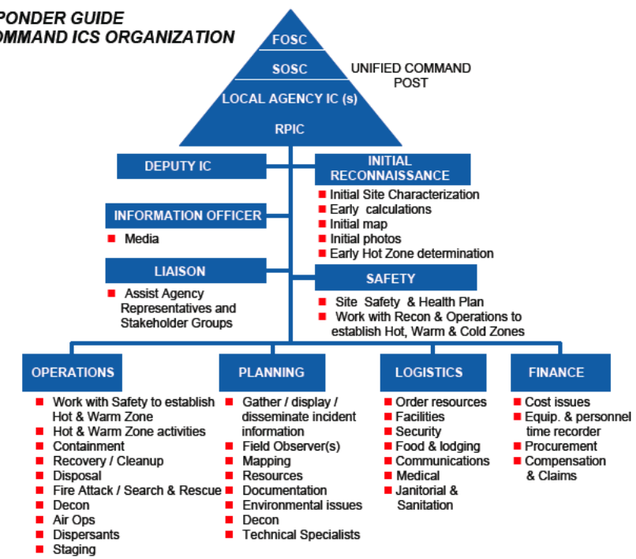
2

COMMAND MANAGEMENT
- Assume role of Incident Commander/utilize USCG IMH
- Make an announcement to all on the scene that you have assumed Command
- Establish a Unified Command Post up wind, up hill and up stream of the incident in the cold zone
- Establish a Unified Staging Area up wind, up hill and up stream of the incident in the cold zone
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Unified Command Post
- Ensure Safety Officer begins and completes a Job Site Safety Plan

IDENTIFICATION AND ASSESSMENT
- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on water, air, soil, plant life & wildlife

ACTION PLANNING
- Create an ICS 201 to serve as the de facto Incident Action Plan for initial period
- Create a Unified "Next" period Incident Action Plan

FIRST RESPONDER GUIDE
UNIFIED COMMAND ICS ORGANIZATION



3

PROTECTIVE EQUIPMENT
- Ensure proper levels of PPE
- Ensure PPE is in line with Job Site Safety Plan

CONTAINMENT & CONTROL
- Containment & control strategies should be developed within the Unified Command process
- Operations Section Chief oversees containment & control tactical deployment
- OSRO's work under the Operations Section and should not freelance

PROTECTIVE ACTIONS
- Ensure safe Recon to assess impact on water intakes, adjoining properties, public recreation sites & sensitive sites
- Protective action tactical deployment should be part of the Unified Incident Action Plan

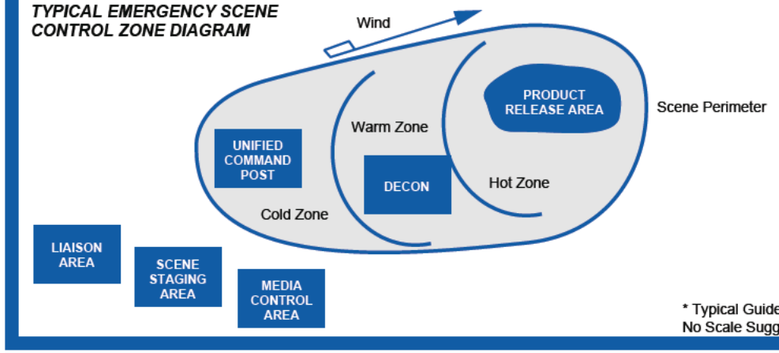
4

DECONTAMINATION / CLEANUP
- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team
- Clean up strategies should be part of the Unified IAP
- Decon runoff needs to be contained and properly disposed of

DISPOSAL
- Ensure early notification of HES Waste SME's
- Consult Waste Management Section of this Core Plan
- Consult State Appendix Plan for specific State requirements

DOCUMENTATION
- Ensure early completion of ICS Form 201 & JSSP
- Ensure proper retention of all incident related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE CONTROL ZONE DIAGRAM



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Sec 16 MSDS
Sec 17 Glossary
Sec 18 ER Spill EX-HES 706
Sec 19 Functional & WW Teams
Sec 20 Gas Pipelines & Facilities

GENERAL PROTECTION STRATEGIES
- Shut down and isolate flow
- Eliminate sources of ignition
- Contact local puclic works officials to assist with local storm drain maps
- Contain ahead of spill by booming or damming
- Protect storm drains or water intake areas ahead of spill
- Cleanup procedures Section 8 of this Core Plan
- All equipment used when handling product must be grounded
- Site sensitive strategies in State Appendix Plan

INITIAL ICS FORMS THAT MAY BE UTILIZED
- ICS Form 201 (Incident Briefing)
- ICS Form 202 (Response Objectives)
- ICS Form 214 (Unit Log)
- Job Site Safety Plan
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

Product	Guide #
Gasoline	128
Natural Gasoline	128
Diesel	128
LPG	115
Natural Gas	115
Crude Oil	128
Ethylene	116P

Chevron Pipe Line Company

05/11

Emergency Response Guide First Responder

Gas Leak

SAFETY
1
- Your safety first and then the safety of others
- Start a JSSP as soon as possible
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask police & fire resources to help deny entry into immediate area

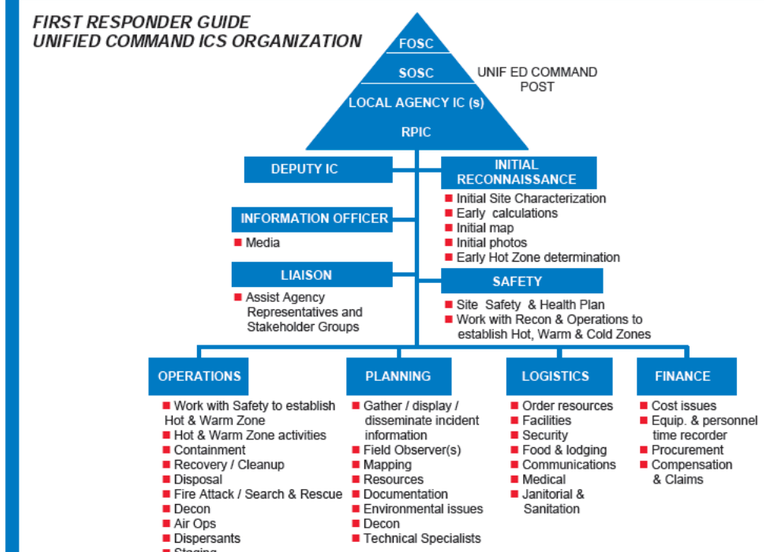
NOTIFICATIONS
- Contact your Supervisor
- Contact Customer Service Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact local OSRO
- Follow the Notifications Flowchart found in this Plan

COMMAND MANAGEMENT
2
- Assume role of Incident Commander/utilize USCG IMH
- Make an announcement to all on the scene that you have assumed Command
- Establish a Unified Command Post up wind, up hill and up stream of the incident in the cold zone
- Establish a Unified Staging Area up wind, up hill and up stream of the incident in the cold zone
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Unified Command Post
- Ensure Safety Officer begins and completes a Job Site Safety Plan

IDENTIFICATION AND ASSESSMENT
- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on water, air, soil, plant life & wildlife

ACTION PLANNING
- Create an ICS 201 to serve as the de facto Incident Action Plan for initial period
- Create a Unified "Next" period Incident Action Plan

FIRST RESPONDER GUIDE UNIFIED COMMAND ICS ORGANIZATION



PROTECTIVE EQUIPMENT
3
- Ensure proper levels of PPE
- Ensure PPE is in line with Job Site Safety Plan

CONTAINMENT & CONTROL
- Containment & control strategies should be developed within the Unified Command process
- Operations Section Chief oversees containment & control tactical deployment
- OSRO's work under the Operations Section and should not freelance

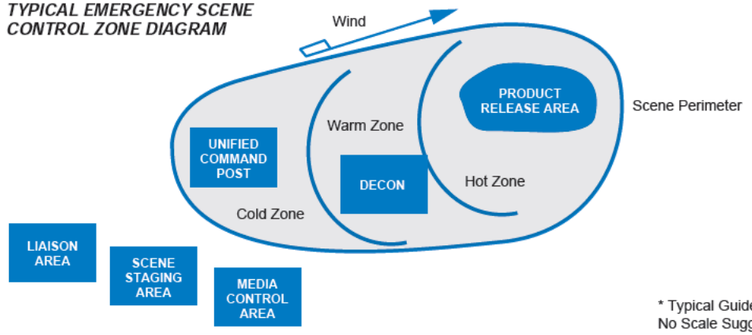
PROTECTIVE ACTIONS
- Ensure safe Recon to assess impact on water intakes, adjoining properties, public recreation sites & sensitive sites
- Protective action tactical deployment should be part of the Unified Incident Action Plan

DECONTAMINATION / CLEANUP
4
- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team

DISPOSAL
- Minimum disposal issues

DOCUMENTATION
- Ensure early completion of ICS Form 201 & JSSP
- Ensure proper retention of all incident related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE CONTROL ZONE DIAGRAM



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Sec 16 MSDS
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Sec 18 ER Spill EX-HES 706
Sec 19 Functional & WW Teams
Sec 20 Gas Pipelines & Facilities

GENERAL PROTECTION STRATEGIES

- Shut down and isolate flow
- Evacuate the area
- Eliminate sources of ignition
- All equipment used when handling product must be grounded
- Water spray may reduce vapors or divert vapor cloud
- If exposed make sure exposed clothing is removed and decon occurs

INITIAL ICS FORMS THAT MAY BE UTILIZED

- ICS Form 201 (Incident Briefing)
- ICS Form 202 (Response Objectives)
- ICS Form 214 (Unit Log)
- Job Site Safety Plan
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

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Crude Oil	128
Ethylene	116P

Chevron

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05/11

Emergency Response Guide First Responder

Fire or Explosion

SAFETY
1
- Your safety first and then the safety of others
- Start a JSSP as soon as possible
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask police & fire resources to help deny entry into immediate area

NOTIFICATIONS
- Contact your Supervisor
- Contact Customer Service Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact local OSRO
- Follow the Notifications Flowchart found in this Plan

COMMAND MANAGEMENT
2
- Assume role of Incident Commander/utilize USCG IMH
- Make an announcement to all on the scene that you have assumed Command
- Establish a Unified Command Post up wind, up hill and up stream of the incident in the cold zone
- Establish a Unified Staging Area up wind, up hill and up stream of the incident in the cold zone
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Unified Command Post
- Ensure Safety Officer begins and completes a Job Site Safety Plan

IDENTIFICATION AND ASSESSMENT
- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on water, air, soil, plant life & wildlife

ACTION PLANNING
- Create an ICS 201 to serve as the de facto Incident Action Plan for initial period
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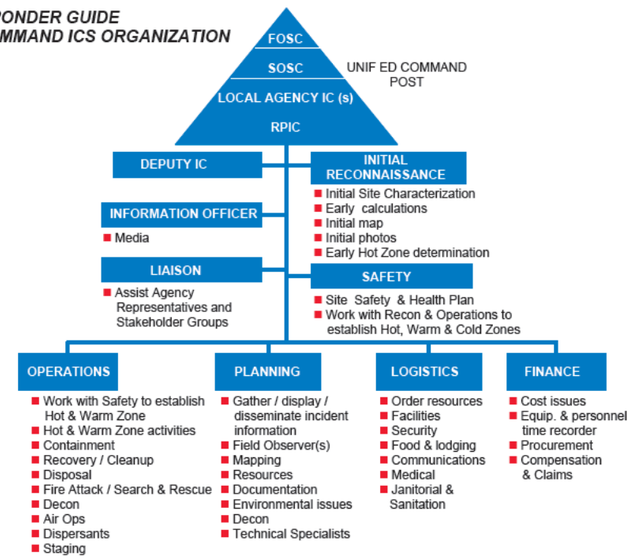
FIRST RESPONDER GUIDE
UNIFIED COMMAND ICS ORGANIZATION



PROTECTIVE EQUIPMENT
3
- Ensure proper levels of PPE
- Ensure PPE is in line with Job Site Safety Plan

CONTAINMENT & CONTROL
- Containment & control strategies should be developed within the Unified Command process
- Operations Section Chief oversees containment & control tactical deployment
- OSRO's work under the Operations Section and should not freelance

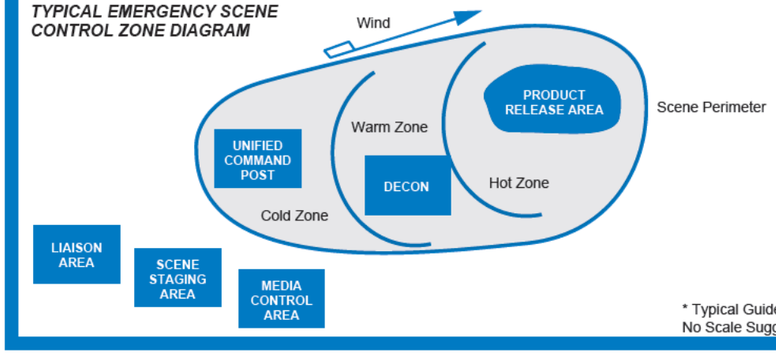
PROTECTIVE ACTIONS
- Ensure safe Recon to assess impact on water intakes, adjoining properties, public recreation sites & sensitive sites
- Protective action tactical deployment should be part of the Unified Incident Action Plan

DECONTAMINATION / CLEANUP
4
- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team
- Clean up strategies should be part of the Unified IAP
- Decon runoff needs to be contained and properly disposed of

DISPOSAL
- Ensure early notification of HES Waste SME's
- Consult Waste Management Section of this Core Plan
- Consult State Appendix Plan for specific State requirements

DOCUMENTATION
- Ensure early completion of ICS Form 201 & JSSP
- Ensure proper retention of all incident related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE CONTROL ZONE DIAGRAM



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Sec 15 Documentation
Sec 16 MSDS
Sec 17 Glossary
Sec 18 ER Spill EX-HES 706
Sec 19 Functional & WW Teams
Sec 20 Gas Pipelines & Facilities

GENERAL PROTECTION STRATEGIES

- Shut down and isolate fuel source if safe to do so
- Stay in cold zone
- Perform safe recon to determine extent of damage or injuries
- If spill or leak occurs as a result of fire or explosion follow initial response guides in this section

INITIAL ICS FORMS THAT MAY BE UTILIZED

- ICS Form 201 (Incident Briefing)
- ICS Form 202 (Response Objectives)
- ICS Form 214 (Unit Log)
- Job Site Safety Plan
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

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Natural Gas	115
Crude Oil	128
Ethylene	116P

Chevron

Chevron Pipe Line Company

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Emergency Response Guide First Responder

Evacuation

1

SAFETY
- Your safety first and then the safety of others
- Start a JSSP as soon as possible
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask police & fire resources to help deny entry into immediate area

NOTIFICATIONS
- Contact your Supervisor
- Contact Customer Service Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact local OSRO
- Follow the Notifications Flowchart found in this Plan

2

COMMAND MANAGEMENT
- Assume role of Incident Commander/utilize USCG IMH
- Make an announcement to all on the scene that you have assumed Command
- Establish a Unified Command Post up wind, up hill and up stream of the incident in the cold zone
- Establish a Unified Staging Area up wind, up hill and up stream of the incident in the cold zone
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Unified Command Post
- Ensure Safety Officer begins and completes a Job Site Safety Plan

IDENTIFICATION AND ASSESSMENT
- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on water, air, soil, plant life & wildlife

ACTION PLANNING
- Create an ICS 201 to serve as the de facto Incident Action Plan for initial period
- Create a Unified "Next" period Incident Action Plan

FIRST RESPONDER GUIDE
UNIFIED COMMAND ICS ORGANIZATION

3

PROTECTIVE EQUIPMENT
- Ensure proper levels of PPE

CONTAINMENT & CONTROL
- Containment & control strategies should be developed as soon as possible within the Unified Command process
- Operations Section Chief oversees evacuation, containment & control

PROTECTIVE ACTIONS
- Ensure safe Recon to assess impact on the area

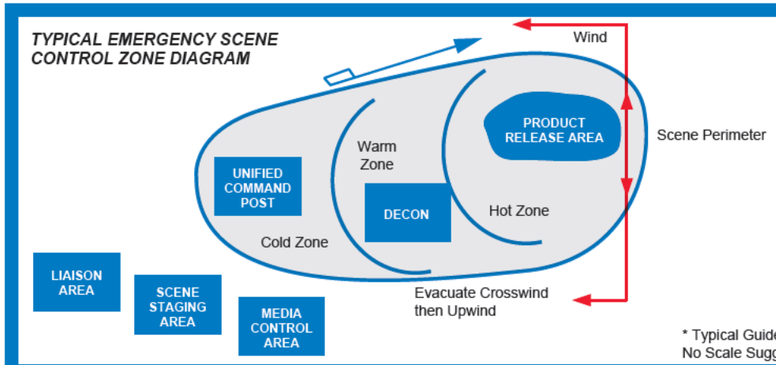
4

DECONTAMINATION / CLEANUP
- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team
- Clean up strategies should be part of the Unified IAP
- Decon runoff needs to be contained and properly disposed of

DISPOSAL
- Ensure early notification of HES Waste SME's
- Consult Waste Management Section of this Core Plan
- Consult State Appendix Plan for specific State requirements

DOCUMENTATION
- Ensure early completion of ICS Form 201 & JSSP
- Ensure proper retention of all incident related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE CONTROL ZONE DIAGRAM



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Sec 16 MSDS
Sec 17 Glossary
Sec 18 ER Spill EX-HES 706
Sec 19 Functional & WW Teams
Sec 20 Gas Pipelines & Facilities

GENERAL PROTECTION STRATEGIES
- If in vapor area evacuate crosswind and then upwind
- Assign Liaison and Logistics to assist evacuees as soon as possible
- Eliminate sources of ignition

INITIAL ICS FORMS THAT MAY BE UTILIZED
- ICS Form 201 (Incident Briefing)
- ICS Form 202 (Response Objectives)
- ICS Form 214 (Unit Log)
- Job Site Safety Plan
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

Product	Guide #
Gasoline	128
Natural Gasoline	128
Diesel	128
LPG	115
Natural Gas	115
Crude Oil	128
Ethylene	116P

Chevron

Chevron Pipe Line Company

05/11

Emergency Response Guide First Responder

Storm or Flood

SAFETY
1
- Your safety first and then the safety of others
- Start a JSSP as soon as possible
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask police & fire resources to help deny entry into immediate area

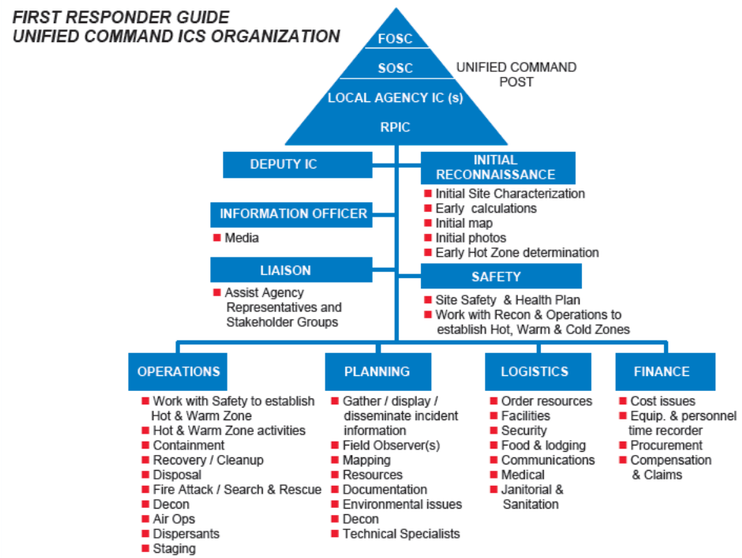
NOTIFICATIONS
- Contact your Supervisor
- Contact Customer Service Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact local OSRO
- Follow the Notifications Flowchart found in this Plan

COMMAND MANAGEMENT
2
- Assume role of Incident Commander/utilize USCG IMH
- Make an announcement to all on the scene that you have assumed Command
- Establish a Command Post in a safe location
- Establish a Staging Area in a safe location
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Command Post
- Ensure Safety Officer begins and completes a Job Site Safety Plan

IDENTIFICATION AND ASSESSMENT
- Continue to evaluate the potential impact and hazard area and adjust accordingly
- Continue to monitor evacuation activities

ACTION PLANNING
- Create an ICS 201 to serve as the de facto Incident Action Plan for initial period
- Create a Unified "Next" period Incident Action Plan

FIRST RESPONDER GUIDE UNIFIED COMMAND ICS ORGANIZATION



PROTECTIVE EQUIPMENT
3
- Ensure proper levels of PPE
- Ensure PPE is in line with Job Site Safety Plan

CONTAINMENT & CONTROL
- Containment & control strategies should be developed within the Unified Command process
- Operations Section Chief oversees containment & control tactical deployment

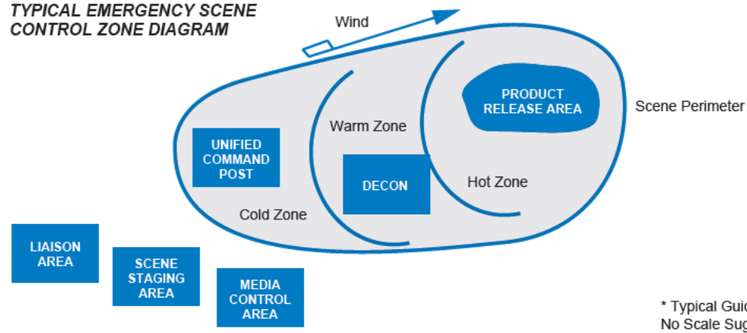
PROTECTIVE ACTIONS
- Ensure safe Recon to assess impact on area
- Protective action tactical deployment should be part of the Unified Incident Action Plan

DECONTAMINATION / CLEANUP
4
- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team
- Clean up strategies should be part of the Unified IAP
- Decon runoff needs to be contained and properly disposed of

DISPOSAL
- Ensure early notification of HES Waste SME's
- Consult Waste Management Section of this Core Plan
- Consult State Appendix Plan for specific State requirements

DOCUMENTATION
- Ensure early completion of ICS Form 201 & JSSP
- Ensure proper retention of all incident related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE CONTROL ZONE DIAGRAM



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Sec 16 MSDS
Sec 17 Glossary
Sec 18 ER Spill EX-HES 706
Sec 19 Functional & WW Teams
Sec 20 Gas Pipelines & Facilities

GENERAL PROTECTION STRATEGIES

- Implement special regional hurricane or storm Plan
- See response zone State Appendix for Hurricane Plan
- Evacuate immediate and potential unsafe areas
- Consult emergency response guides in this section should leaks, spills, or fires occur

INITIAL ICS FORMS THAT MAY BE UTILIZED

- ICS Form 201 (Incident Briefing)
- ICS Form 202 (Response Objectives)
- ICS Form 214 (Unit Log)
- Job Site Safety Plan
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

Product	Guide #
Gasoline	128
Natural Gasoline	128
Diesel	128
LPG	115
Natural Gas	115
Crude Oil	128
Ethylene	116P

Chevron

Chevron Pipe Line Company

05/11

Emergency Response Guide First Responder

Wildfire

SAFETY
1

- Your safety first and then the safety of others
- Start a JSSP as soon as possible
- Stay out of the hazard area
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY

- Evacuate the potential hazard area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask police & fire resources to help deny entry into immediate area

NOTIFICATIONS

- Contact your Supervisor
- Contact Customer Service Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Follow the Notifications Flowchart found in this Plan

COMMAND MANAGEMENT
2

- Assume the role of Incident Commander for shut down and evacuation purposes if necessary
- Make an announcement to all on the scene that you have assumed Command
- Establish Command Post in the cold zone as necessary
- Establish a Staging Area in the cold zone as necessary
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Command Post
- Ensure Safety Officer begins and completes a Job Site Safety Plan for Chevron activities

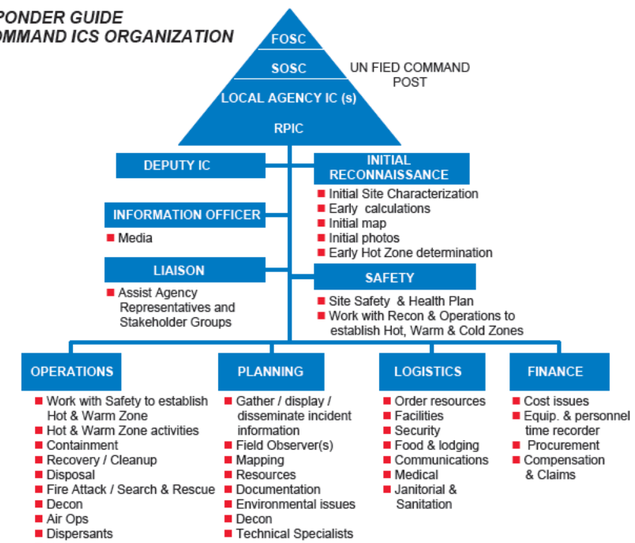
IDENTIFICATION AND ASSESSMENT

- Continue to evaluate the hazard area
- Continue to monitor evacuation activities
- Safely determine extent of impact on Company resources

ACTION PLANNING

- Create an ICS 201 to serve as the de facto Incident Action Plan for initial period
- Create a Unified "Next" period Incident Action Plan

FIRST RESPONDER GUIDE
UNIFIED COMMAND ICS ORGANIZATION



PROTECTIVE EQUIPMENT
3

NA

CONTAINMENT & CONTROL

- Assist public agencies with information as necessary regarding Company properties

PROTECTIVE ACTIONS

- Perform emergency shut down procedures if necessary

DECONTAMINATION / CLEANUP
4

NA

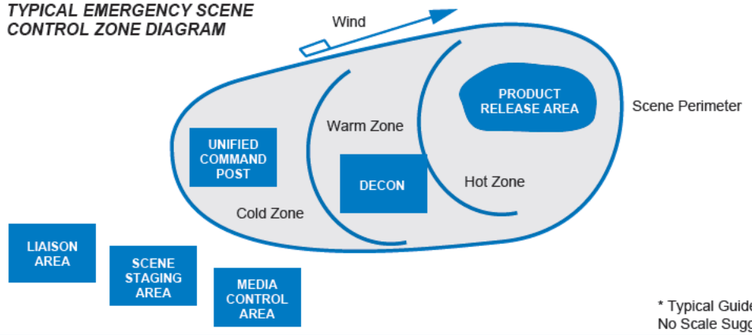
DISPOSAL

NA

DOCUMENTATION

- Ensure early completion of ICS Form 201 & JSSP
- Ensure proper retention of all incident related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE CONTROL ZONE DIAGRAM



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Sec 16 MSDS
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Sec 18 ER Spill EX-HES 706
Sec 19 Functional & WW Teams
Sec 20 Gas Pipelines & Facilities

GENERAL PROTECTION STRATEGIES

- Evacuate the area if potential hazard exists
- Monitor situation
- Perform emergency shut down procedures as necessary
- If spill or leak occurs as a result of fire follow initial response guides in this Section as applicable

INITIAL ICS FORMS THAT MAY BE UTILIZED

- ICS Form 201 (Incident Briefing)
- ICS Form 202 (Response Objectives)
- ICS Form 214 (Unit Log)
- Job Site Safety Plan
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

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Natural Gasoline	128
Diesel	128
LPG	115
Natural Gas	115
Crude Oil	128
Ethylene	116P

Chevron

Chevron Pipe Line Company

05/11

Emergency Response Guide First Responder

Earthquake

SAFETY
1

- Your safety first and then the safety of others
- Start a JSSP as soon as possible
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY

- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask police & fire resources to help deny entry into immediate area

NOTIFICATIONS

- Contact your Supervisor
- Contact Customer Service Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact local OSRO
- Follow the Notifications Flowchart found in this Plan

COMMAND MANAGEMENT
2

- Assume role of Incident Commander/utilize USCG IMH
- Make an announcement to all on the scene that you have assumed Command
- Establish a Unified Command Post away from the potential hazard area
- Establish a Unified Staging Area away from the potential hazard area
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Unified Command Post
- Ensure Safety Officer begins and completes a Job Site Safety Plan

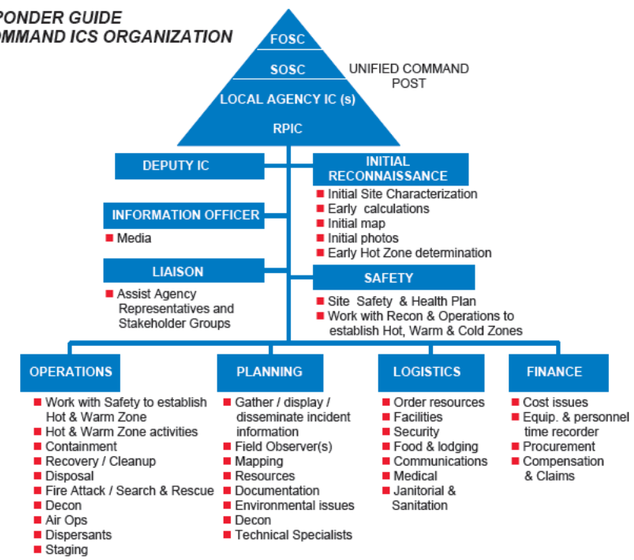
IDENTIFICATION AND ASSESSMENT

- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on area

ACTION PLANNING

- Create an ICS 201 to serve as the de facto Incident Action Plan for initial period
- Create a Unified "Next" period Incident Action Plan

FIRST RESPONDER GUIDE
UNIFIED COMMAND ICS ORGANIZATION



PROTECTIVE EQUIPMENT
3

- Ensure proper levels of PPE
- Ensure PPE is in line with Job Site Safety Plan

CONTAINMENT & CONTROL

- Containment & control strategies should be developed within the Unified Command process
- Operations Section Chief oversees containment & control tactical deployment
- OSRO's work under the Operations Section and should not freelance

PROTECTIVE ACTIONS

- Ensure safe Recon to assess impact on water intakes, adjoining properties, public recreation sites & sensitive sites
- Protective action tactical deployment should be part of the Unified Incident Action Plan

DECONTAMINATION / CLEANUP
4

- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team
- Clean up strategies should be part of the Unified IAP
- Decon runoff needs to be contained and properly disposed of

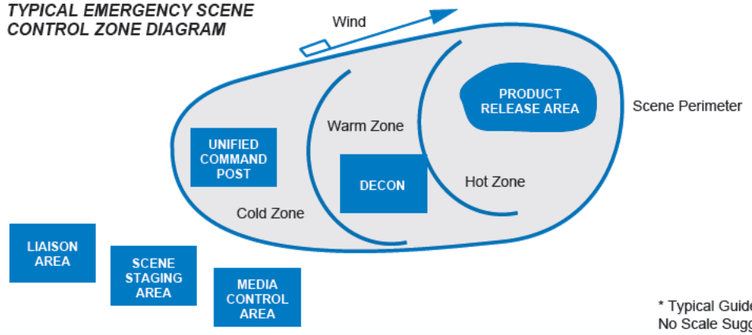
DISPOSAL

- Ensure early notification of HES Waste SME's
- Consult Waste Management Section of this Core Plan
- Consult State Appendix Plan for specific State requirements

DOCUMENTATION

- Ensure early completion of ICS Form 201 & JSSP
- Ensure proper retention of all incident related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE CONTROL ZONE DIAGRAM



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Sec 19 Functional & WW Teams
Sec 20 Gas Pipelines & Facilities

GENERAL PROTECTION STRATEGIES

- Follow emergency guides in this Section if spill, leak, fire or other emergency occurs as a result of quake
- Stay away from potential safety hazards
- Eliminate sources of ignition
- Provide initial and ongoing damage assessment information

INITIAL ICS FORMS THAT MAY BE UTILIZED

- ICS Form 201 (Incident Briefing)
- ICS Form 202 (Response Objectives)
- ICS Form 214 (Unit Log)
- Job Site Safety Plan
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

Product	Guide #
Gasoline	128
Natural Gasoline	128
Diesel	128
LPG	115
Natural Gas	115
Crude Oil	128
Ethylene	116P

Chevron

Chevron Pipe Line Company

05/11

Emergency Response Guide First Responder

Vessel or Barge Spill

1

SAFETY
- Your safety first and then the safety of others
- Start a JSSP as soon as possible
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask police & fire resources to help deny entry into immediate area

NOTIFICATIONS
- Contact your Supervisor
- Contact Customer Service Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact the local Coast Guard
- Contact local OSRO
- Follow the Notifications Flowchart found in this Plan

2

COMMAND MANAGEMENT
- Assume role of Incident Commander/utilize USCG IMH
- Make an announcement to all on the scene that you have assumed Command
- Establish a Unified Command Post up wind, up hill and up stream of the incident in the cold zone
- Establish a Unified Staging Area up wind, up hill and up stream of the incident in the cold zone
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Unified Command Post
- Ensure Safety Officer begins and completes a Job Site Safety Plan

IDENTIFICATION AND ASSESSMENT
- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on water, air, soil, plant life & wildlife

ACTION PLANNING
- Create an ICS 201 to serve as the de facto Incident Action Plan for initial period
- Create a Unified "Next" period Incident Action Plan

FIRST RESPONDER GUIDE
UNIFIED COMMAND ICS ORGANIZATION

3

PROTECTIVE EQUIPMENT
- Ensure proper levels of PPE
- Ensure PPE is in line with Job Site Safety Plan

CONTAINMENT & CONTROL
- Containment & control strategies should be developed within the Unified Command process
- Operations Section Chief oversees containment & control tactical deployment
- OSRO's work under the Operations Section and should not freelance

PROTECTIVE ACTIONS
- Ensure safe Recon to assess impact on water intakes, adjoining properties, public recreation sites & sensitive sites
- Protective action tactical deployment should be part of the Unified Incident Action Plan

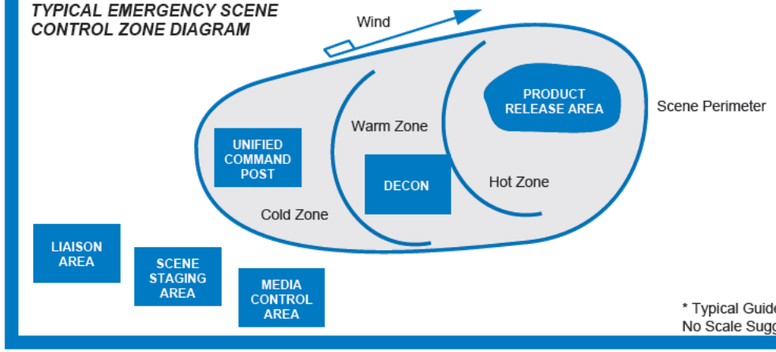
4

DECONTAMINATION / CLEANUP
- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team
- Clean up strategies should be part of the Unified IAP
- Decon runoff needs to be contained and properly disposed of

DISPOSAL
- Ensure early notification of HES Waste SME's
- Consult Waste Management Section of this Core Plan
- Consult State Appendix Plan for specific State requirements

DOCUMENTATION
- Ensure early completion of ICS Form 201 & JSSP
- Ensure proper retention of all incident related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE
CONTROL ZONE DIAGRAM



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Sec 18 ER Spill EX-HES 706
Sec 19 Functional & WW Teams
Sec 20 Gas Pipelines & Facilities

GENERAL PROTECTION STRATEGIES
- Deploy containment boom
- Cleanup procedures Section 8 of this Core Plan
- Eliminate sources of ignition
- All equipment used when handling product must be grounded
- Site sensitive strategies in State Appendix Plan

INITIAL ICS FORMS THAT MAY BE UTILIZED
- ICS Form 201 (Incident Briefing)
- ICS Form 202 (Response Objectives)
- ICS Form 214 (Unit Log)
- Job Site Safety Plan
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

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Natural Gas	115
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Ethylene	116P

Chevron Pipe Line Company

05/11

Emergency Response Guide First Responder

Non Loading Spill Vessel / Barge

SAFETY
1

- Your safety first and then the safety of others
- Start a JSSP as soon as possible
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask police & fire resources to help deny entry into immediate area

NOTIFICATIONS
- Contact your Supervisor
- Contact Customer Service Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact local OSRO
- Follow the Notifications Flowchart found in this Plan

COMMAND MANAGEMENT
2

- Assume role of Incident Commander/utilize USCG IMH
- Make an announcement to all on the scene that you have assumed Command
- Establish a Unified Command Post up wind, up hill and up stream of the incident in the cold zone
- Establish a Unified Staging Area up wind, up hill and up stream of the incident in the cold zone
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Unified Command Post
- Ensure Safety Officer begins and completes a Job Site Safety Plan

IDENTIFICATION AND ASSESSMENT
- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on water, air, soil, plant life & wildlife

ACTION PLANNING
- Create an ICS 201 to serve as the de facto Incident Action Plan for initial period
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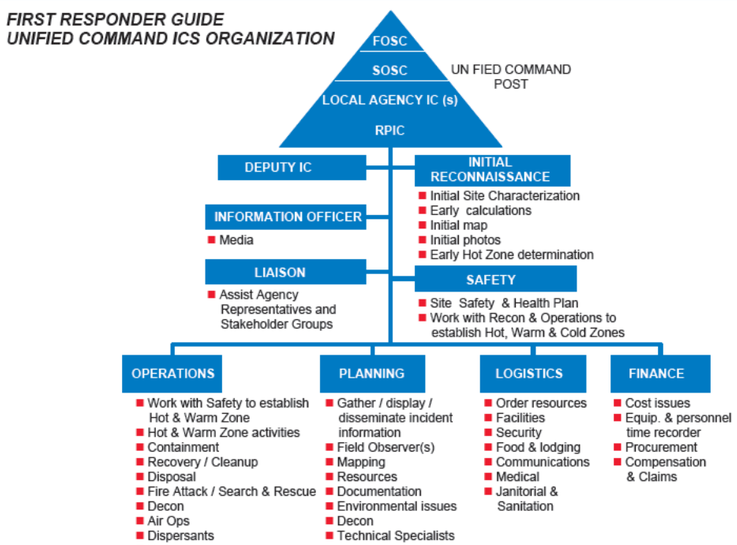
FIRST RESPONDER GUIDE UNIFIED COMMAND ICS ORGANIZATION



PROTECTIVE EQUIPMENT
3

- Ensure proper levels of PPE
- Ensure PPE is in line with Job Site Safety Plan

CONTAINMENT & CONTROL
- Containment & control strategies should be developed within the Unified Command process
- Operations Section Chief oversees containment & control tactical deployment
- OSRO's work under the Operations Section and should not freelance

PROTECTIVE ACTIONS
- Ensure safe Recon to assess impact on water intakes, adjoining properties, public recreation sites & sensitive sites
- Protective action tactical deployment should be part of the Unified Incident Action Plan

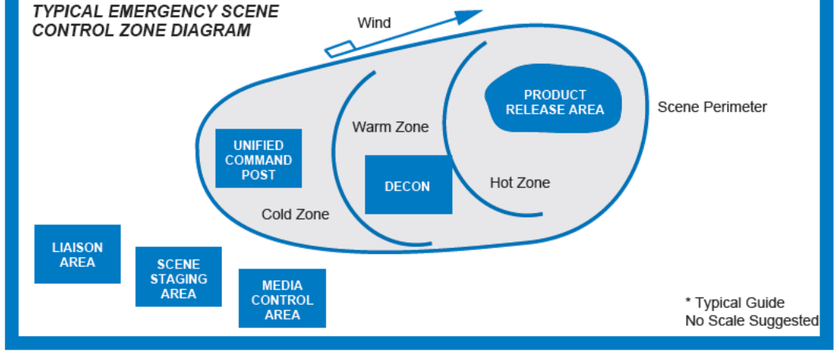
DECONTAMINATION / CLEANUP
4

- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team
- Clean up strategies should be part of the Unified IAP
- Decon runoff needs to be contained and properly disposed of

DISPOSAL
- Ensure early notification of HES Waste SME's
- Consult Waste Management Section of this Core Plan
- Consult State Appendix Plan for specific State requirements

DOCUMENTATION
- Ensure early completion of ICS Form 201 & JSSP
- Ensure proper retention of all incident related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE CONTROL ZONE DIAGRAM



* Typical Guide
No Scale Suggested

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Sec 19 Functional & WW Teams
Sec 20 Gas Pipelines & Facilities

GENERAL PROTECTION STRATEGIES

- Deploy containment boom
- Eliminate sources of ignition
- Cleanup procedures Section 8 of this Core Plan
- All equipment used when handling product must be grounded
- Site sensitive strategies in State Appendix Plan

INITIAL ICS FORMS THAT MAY BE UTILIZED

- ICS Form 201 (Incident Briefing)
- ICS Form 202 (Response Objectives)
- ICS Form 214 (Unit Log)
- Job Site Safety Plan
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

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Ethylene	116P

Chevron

Chevron Pipe Line Company

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Emergency Response Guide First Responder

Gas Leak In Or Near A Building

SAFETY
1

- Your safety first and then the safety of others
- Start a JSSP as soon as possible
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY

- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask police & fire resources to help deny entry into immediate area

NOTIFICATIONS

- Contact your Supervisor
- Contact Customer Service Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact local OSRO
- Follow the Notifications Flowchart found in this Plan

COMMAND MANAGEMENT
2

- Assume role of Incident Commander/utilize USCG IMH
- Make an announcement to all on the scene that you have assumed Command
- Establish a Unified Command Post up wind, up hill and up stream of the incident in the cold zone
- Establish a Unified Staging Area up wind, up hill and up stream of the incident in the cold zone
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Unified Command Post
- Ensure Safety Officer begins and completes a Job Site Safety Plan

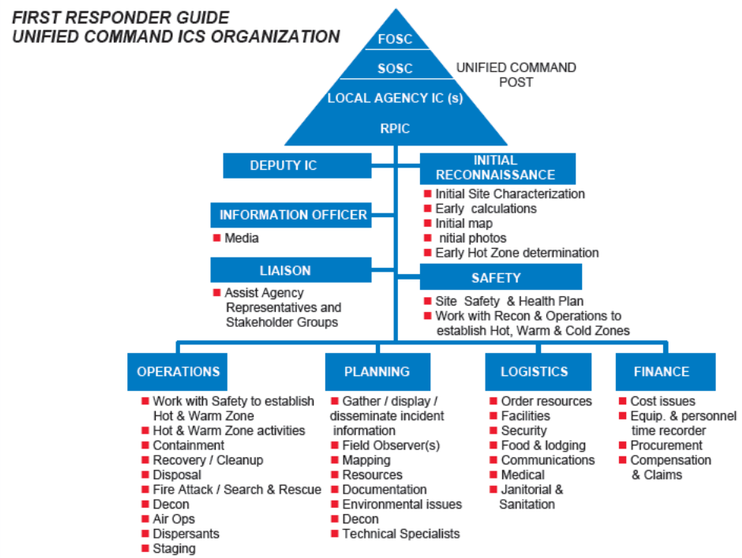
IDENTIFICATION AND ASSESSMENT

- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of potential impact on the area

ACTION PLANNING

- Create an ICS 201 to serve as the de facto Incident Action Plan for initial period
- Create a Unified "Next" period Incident Action Plan

FIRST RESPONDER GUIDE
UNIFIED COMMAND ICS ORGANIZATION



PROTECTIVE EQUIPMENT
3

- Ensure proper levels of PPE
- Ensure PPE is in line with Job Site Safety Plan

CONTAINMENT & CONTROL

- Containment & control strategies should be developed within the Unified Command process
- Operations Section Chief oversees containment & control tactical deployment
- OSRO's work under the Operations Section and should not freelance

PROTECTIVE ACTIONS

- Ensure safe Recon to assess impact on water intakes, adjoining properties, public recreation sites & sensitive sites
- Protective action tactical deployment should be part of the Unified Incident Action Plan

DECONTAMINATION / CLEANUP
4

- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team

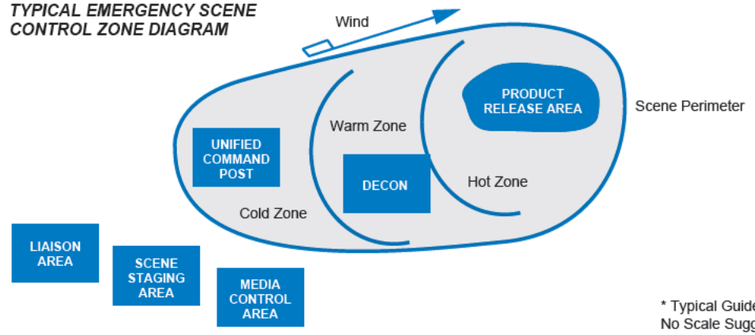
DISPOSAL

- Minimum disposal issues

DOCUMENTATION

- Ensure early completion of ICS Form 201 & JSSP
- Ensure proper retention of all incident related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE CONTROL ZONE DIAGRAM



GENERAL PROCEDURES

- Protect public first then facilities
- Safely evacuate building if gas is detected inside building
- Always look and listen for any signs of escaped gas
- Do not open a building door if escaped gas is detected
- All open flames are to be extinguished
- Determine leak severity
- Do not enter building with audible leaking gas
- Test the environment to determine safe entry
- Evacuate people from adjacent buildings

GENERAL PROCEDURES (CONTINUED)

- Shut off electrical power to building
- Eliminate all other potential sources of ignition
- Isolate the building from gas sources if possible
- Close necessary inlet and outlet block valves and open blowdown valves
- After gas sources are shut off utilize portable combustible gas indicator/detector to determine safe environment

INITIAL ICS FORMS THAT MAY BE UTILIZED

- ICS Form 201 (Incident Briefing)
- ICS Form 202 (Response Objectives)
- ICS Form 214 (Unit Log)
- Job Site Safety Plan
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

Product	Guide #
Gasoline	128
Natural Gasoline	128
Diesel	128
LPG	115
Natural Gas	115
Crude Oil	128
Ethylene	116P

Chevron

Chevron Pipe Line Company

05/11

OIL SPILL REMOVAL ORGANIZATIONS

SECTION 4 OIL SPILL REMOVAL ORGANIZATIONS

OIL SPILL REMOVAL ORGANIZATIONS 1

Local Area Response Equipment 1

Equipment Inspection/Testing 1

Other Company Resources 1

Contract Resources 1

Cooperative Resources 1

Marine Spill Response Corporation (MSRC) 1

Experts and Consultants 2

Internal Emergency Response Resources 2

Advisory & Resource Team 2

Worldwide Spill Response Team 2

Functional Teams 2

Communications Functions Team 3

Environmental and Technical Consultants 3

PRIMARY OIL SPILL RESPONSE ORGANIZATIONS (OSRO'S) 4

OSRO CONTRACTS 6

MARINE SPILL RESPONSE CORPORATION SERVICE AGREEMENT 7

OSRO ADDRESSES 9

OIL SPILL REMOVAL ORGANIZATIONS

Local Area Response Equipment

Company locations have response equipment stored at their facilities. Detailed equipment lists for each Response Zone can be located in the applicable Response Zone Appendix in each State Manual. Company will maintain company owned equipment.

Equipment Inspection/Testing

Each Field Team Leader is responsible for testing, inspection and deployment of any facility owned equipment in accordance with PREP guidelines. Specifically, the equipment will be inspected monthly and deployed twice per year. A record will be made of each inspection, test, or deployment. The record must be signed and dated by the person performing the inspection test and/or deployment. Records will be maintained at the facility locations and available for agency inspection upon request.

Other Company Resources

Additional Company operating oil spill response equipment and personnel resources may be available to supplement the response operation. These company resources are described in the applicable Response Zone Appendix in each State Manual and in the Resources Section of the State Plan.

Contract Resources

In the event of a discharge beyond the capability of locally available Company resources, the response team may request activation of other Company resources, private contractors, cooperatives, Marine Spill Response Corporation (MSRC) and other experts and consultants. Additional specific contract resources are described in the applicable Response Zone Appendix in each State Manual. Contract resources are responsible to maintain their equipment.

Cooperative Resources

Company is a member to numerous oil spill clean up cooperatives. Assistance may range from advice on prevention, containment and clean-up procedures to providing equipment and direction for major spill clean-up operations. However, the company responsible for or in charge of the spill clean-up operation will direct and coordinate the clean-up effort.

A listing of various nationwide Oil Spill Removal Organizations (OSRO) are listed below. Copies of contracts for these and other OSRO’s can be located in each State Appendix Manual.

Marine Spill Response Corporation (MSRC)

In the event of a discharge incident, which exceeds local company and private response capability, Company can request assistance from the Marine Spill Response Corporation (MSRC).

MSRC is an independent, not-for-profit corporation dedicated to providing a "best-effort" response to help clean up large oil spills in the United States offshore and tidal waters, including bays, harbors and the mouths of rivers. MSRC also responds to spills further up river as directed. It is expected that the U.S. Coast Guard will direct MSRC to respond to a spill if the spill exceeds the capabilities of local response organizations.

Experts and Consultants

Internal Emergency Response Resources

A variety of additional company-wide resource teams are organized to assist the Company in any emergency. When activated, team members will report to and work directly for the operating company managing the incident.

Advisory & Resource Team

The Advisory & Resource Team is an assessment and support team comprised of a management representative from the impacted operating company plus a professional in each of the following areas: public affairs, ecology, emergency response, safety and law. The team's role is to provide advice during the initial stages of the incident and to assist the field in marshaling additional resources as needed. Once notified, the team will be in route to the incident site within a few hours. To activate the team, contact the HES Staff.

Worldwide Spill Response Team

The Worldwide Spill Response Team is a select group of experienced and highly trained individuals from the spill response organizations of the various operating companies. Team members are on call to fill and provide backup for key spill response and cleanup management positions. To activate team members, contact the HES Staff.

Functional Teams

Functional Teams provide specialized services to support an emergency response operation. Team members are experts who generally perform the same or similar functions in their regular jobs within the Company. Each team has prepared a response plan with materials they need for rapid response. The functional teams are:

- Communications
- Comptrollers
- Environmental
- Facilities
- Human Resources
- Insurance/Claims
- Legal
- Medical
- Public Affairs
- Purchasing
- Safety, Fire & Health
- Security
- Transportation

To mobilize the Functional Teams, contact the HES Staff.

Communications Functions Team

The Communications Functions Team (San Ramon, California) maintains a cache of specially designated communications equipment for emergency response. Equipment and support personnel are available by contacting the Communications Functional Team. Operating companies are encouraged to use the equipment during drills and actual response. This helps Company responders become more familiar with the Communications Functional Team operations.

Communications Functional Team equipment includes a 40' mobile communications vehicle that can also be utilized as a Command Post. Equipment also includes a large supply of radios, phone systems and satellite terminals. Half of the equipment is mounted in the vehicle, which may be driven or flown (on C-130 aircraft) to an incident site. The other half is packaged for air shipment.

Environmental and Technical Consultants

The Company maintains a relationship with various environmental and technical consultants that can provide support in the event of an incident. These consultants can provide expertise and support in areas including emergency response management, environmental services, site assessment, permitting, waste treatment, recycling, de-watering, hazardous waste disposal and remediation. Contact should be made through the HES Staff.

PRIMARY OIL SPILL RESPONSE ORGANIZATIONS (OSRO'S)

Additional specific information regarding OSRO's, copies of agreements and other contract resources as well as their 24-hour emergency telephone numbers are listed in each Response Zone State Appendix.

Louisiana
Marine Spill Response Corporation (MSRC) and its STARS contractors
Philip Services Corp.
Garner Environmental Services
ES&H
AMPOL

Mississippi
Marine Spill Response Corporation (MSRC) and its STARS contractors
Philip Services Corp.
Oil Mop, Inc.
Garner Environmental Services
AMPOL
ES&H

Texas
Garner Environmental Services
Marine Spill Response Corporation (MSRC) and its STARS contractors
Oil Mop, Inc.
AMPOL
ES&H

Colorado
Marine Spill Response Corporation (MSRC) and its STARS contractors

Utah
Marine Spill Response Corporation (MSRC) and its STARS contractors

Idaho
Marine Spill Response Corporation (MSRC) and its STARS contractors

Oregon
Marine Spill Response Corporation (MSRC) and its STARS contractors

Washington
Marine Spill Response Corporation (MSRC) and its STARS contractors

New Mexico
AMPOL

California
Marine Spill Response Corporation (MSRC) and its STARS contractors

Alabama
Marine Spill Response Corporation (MSRC) and its STARS contractors
Philip Services Corp.
Garner Environmental Services
ES&H

OSRO CONTRACTS

Chevron

Global Gas

May 15, 2012]

RE: USCG Approved OSRO's

Dear Sir or Madam:

This letter certifies that we have current procurement contracts in place with the following Emergency Response contractors. Below is a table that identifies the pertinent information. All contracts are on file at our Corporate Office in Bellaire, Texas.

Contractor's Name	Agreement Number
AMPOL	Contract # 99015262 / C16174 Ariba # C965995
ES&H	Contract # C25524 Ariba # C700484
Enviro Care, Inc.	Contract # C688391 Ariba # C808977
Marine Spill Response Corporation (MSRC) and its STARS contractors	Contract # 6CHUSA01 / CW778784 Ariba # C782016
Oil Mop, Inc.	Contract # C952067 Ariba # C956670
Patriot Environmental Services	Contract # 99014187 Ariba # C16298
PSC Industrial Outsourcing	Contract # 99002233 Ariba # C17031
U.S. Environmental Services	Contract # C25863 Ariba # C948989

Should you have any questions, please feel free to contact me at 713-432-6926

Sincerely,

Terry Basham

Terry Basham

Emergency Response Specialist
Chevron Pipe Line Company
4800 Fournace Place, Room E320A
Bellaire, TX 77401-2324
Tel 713 432-432-6926
Fax 713-432-3477
tgbasham@chevron.com

MARINE SPILL RESPONSE CORPORATION SERVICE AGREEMENT

MARINE SPILL RESPONSE CORPORATION
SERVICE AGREEMENT

EXECUTION INSTRUMENT

The **MSRC SERVICE AGREEMENT** attached hereto (together with this execution instrument, the "Agreement"), a standard form of agreement for MPA members (or their affiliates) dated as of December 1, 1994, is hereby entered into by and between

Chevron U.S.A. Inc.
[Name of COMPANY]

a **Pennsylvania Corporation**
[Type of entity and place of organization]

with its principal offices located at **575 Market Street, San Francisco, California 94105**

(the "**COMPANY**"), and **MARINE SPILL RESPONSE CORPORATION**, a nonprofit corporation organized under the laws of Tennessee ("**MSRC**"), and shall be identified as

SERVICE AGREEMENT No. **6CHUSA01** [This is to be provided by MSRC.]

IN WITNESS WHEREOF, the parties hereto each have caused this Agreement to be duly executed and effective as of the 31st day of December, 1994.

Chevron U.S.A. Inc. [COMPANY]

By: TRMoore [signature]

T. R. Moore [print name]

Title: **Attorney in Fact**

c/o Chevron Shipping Company

Address: **555 Market Street**

San Francisco, CA 94105

Telephone: **415/894-3232** Fax: **415/894-4463**

MARINE SPILL RESPONSE CORPORATION:

By: JW McGrath

John W McGrath
Director, Marketing & Client Relations
1350 I St. N.W. Suite 300
Washington, D.C. 20005

202/408-7486; Fax: 202/371-0401

(2) The first sentence of the text of Section 8 is revised to read as follows:

"Section 8. Termination and Expiration of this Call Agreement. Subject to the provisions of Section 9(b) of this Call Agreement, this Call Agreement and the other Call Agreements shall terminate and expire upon the later to occur of (i) the date on which the Company's Standard Agreement (or any successor agreement to the Company's Standard Agreement) terminates or (ii) the satisfaction and payment of all Indemnified Amounts owing with respect to Events occurring on or before the date on which the Company's Standard Agreement (or any successor agreement to the Company's Standard Agreement) terminates."

Except as set forth in the preceding paragraphs, this Amendment shall not be deemed in any way to modify or amend the provisions of the Call Agreement, all of which provisions remain in full force and effect. The effective date of this Amendment shall be as of the date hereof.

IN WITNESS WHEREOF, the undersigned have hereby executed this Amendment as of the 31st day of December, 1994.

MARINE PRESERVATION ASSOCIATION

By: _____
Name: Robert Aldag
Title: President and CEO

NAME OF MPA MEMBER:

Chevron U.S.A. Inc.
a Pennsylvania Corporation

[Corporation/partnership/other]:
c/o Chevron Shipping Company
555 Market Street
San Francisco, CA 94105

By: _____
Name: T. R. Moore
Title: Attorney in Fact

OSRO ADDRESSES

Ampol
5619 Port Road,
New Iberia, LA 70364

ES&H
1730 Coteau Road
Houma, LA 70364

Garner Environmental
1717 W. 13th Street
Deer Park, TX 77536

Marine Spill Response Corp.
455 Spring Park Place, Suite 200
Herndon, VA 20170

Oil Mop, Inc. 800-645-6671
131 Keating Drive
Belle Chasse, LA 70037

PSC Industrial Outsourcing
543 Renaud Road
Lafayette, LA 70507

US Environmental Services
2809 E. Judge Perez Drive
Merauz, LA 70075

RESPONSE ACTIVITIES

SECTION 5 RESPONSE ACTIVITIES

INCIDENT COMMAND SYSTEM **1**

UNIFIED COMMAND **1**

RESPONSE TEAM ORGANIZATION **1**

Tier 1 - Immediate Response Team 1

Tier 2 - Sustained Response Team 1

Tier 3 - Major Incident Response Team 1

CHEVRON INCIDENT RESPONSE MATRIX **2**

Immediate Response Team 2

Sustained Response Team 3

Major Sustained Incident Response Team 3

HAZWOPER TRAINING LEVELS **3**

CONTRACTOR TRAINING **4**

CASUAL HIRE TRAINING **4**

COMMAND ORGANIZATION LOGISTICS **4**

Incident Command Post Location 4

JOB SITE SAFETY PLAN DEVELOPMENT **5**

OPERATIONAL PERIOD PLANNING CYCLES **5**

HUMANITARIAN ASSISTANCE **5**

INSPECTION AND MAINTENANCE OF OIL SPILL EQUIPMENT **5**

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NIC/RIC GUIDELINES **7**

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INCIDENT COMMAND SYSTEM

Company utilizes the US Coast Guard Incident Command System (ICS) 2006 Incident Management Handbook (IMH) to manage incident response activities. ICS is readily expandable to help manage small incidents as well as larger more complex incidents. ICS is an effective safety and incident management tool and should be implemented for all emergency incidents that may cause potential harm to responders, the public, the environment or property. Staffing and resources needed to meet specific incident needs will be based on the size, complexity and severity of the incident. At minimum, HAZWOPER regulations require the ICS positions of Incident Commander and Safety Officer to be implemented during a response to a hazardous or potentially hazardous substance.

Refer to Section 6 of this Core Plan for the ICS organization and references to the US Coast Guard 2006 Incident Management Handbook (IMH).

UNIFIED COMMAND

Many incidents will require unified participation of agency and Company response personnel. Depending on the location of the incident, the most senior Federal, State or possibly Local agency person on scene, will serve as that organizations On-Scene Coordinator (OSC) or Incident Commander (IC). The agency OSC or IC will work alongside the Company Incident Commander. External organizations, such as resources from other Operating Companies, OSRO's, Co-Ops and contractors may also be integrated into the Unified ICS organizational structure.

RESPONSE TEAM ORGANIZATION

Company utilizes a three-tier incident response approach.

Tier 1 - Immediate Response Team

The Immediate Response Team is made up of the local field team members from the system where the incident occurs and will be the initial responders to the incident.

Tier 2 - Sustained Response Team

The Sustained Response Team is made up of Immediate Response Team members from other Teams and specifically trained employees from throughout Company. This Team will be activated to help supplement the local Field Team when the magnitude of the spill incident indicates the need for additional resources, or where it is anticipated that the response effort will be sustained.

Tier 3 - Major Incident Response Team

The Major Sustained Response Team draws on specialists and specifically trained employees from throughout Company's Worldwide Organization.

CHEVRON INCIDENT RESPONSE MATRIX

Company Incident Response		
Level of Incident	**Response by (all or part of)**	**Augmentative Resources**
Immediate (Tier 1)	• IMMEDIATE RESPONSE TEAM	• SUSTAINED RESPONSE TEAM • RELEASE CONTROL SPECIALISTS
Sustained (Tier 2)	• IMMEDIATE RESPONSE TEAM • SUSTAINED RESPONSE TEAM	• RELEASE CONTROL SPECIALISTS • MUTUAL AID TEAMS • WORLDWIDE FUNCTIONAL TEAMS • MUTUAL AID POOL
Major (Tier 3)	• IMMEDIATE RESPONSE TEAM • SUSTAINED RESPONSE TEAM • RELEASE CONTROL SPECIALISTS • MUTUAL AID TEAMS • WORLDWIDE FUNCTIONAL TEAMS • MUTUAL AID POOL • WORLDWIDE SPILL RESPONSE TEAM	**Depending on the level and Nature of the incident, response can be by entire teams or selected members. Any response effort can be augmented as necessary by activating selected teams or personnel from other organizations.**

Immediate Response Team

The first Company employee on scene will implement the Incident Command System (ICS) and initially assume the role of Incident Commander (IC). Transfer of command may take place as more senior supervisors respond to the incident. The IC role will usually be filled by the Team Leader if available.

The number of positions needed to staff this minimum organization will depend on the size and complexity of the spill.

Sustained Response Team

This second level of response is utilized when the magnitude of the incident indicates the need for additional personnel and equipment, or where it is anticipated that the response effort will be sustained.

ICS positions under a sustained response may be transferred to others at anytime or at the end of the "Current" operating period. Establishing Operational Periods are often beneficial to help provide for adequate planning, safety and continuity of response activities.

Some ICS positions may require Deputies or Assistants (i.e. Deputy Incident Commander) to help manage span of control issues.

During sustained and major sustained incidents, functional operations and geographic areas of the incident may need to be divided into Branches, Divisions or Groups as the incident expands.

Branches are usually functional (i.e. Support Branch under the Logistics Section).

Divisions are usually geographic (i.e. a Division under the Operations Section may be utilized to denote a geographic area, like the Northwest Shoreline of an island undergoing cleanup operations).

Groups are usually functional (i.e. Containment or Cleanup Groups functioning under the Operations Section).

Major Sustained Incident Response Team

This Major Sustained Response Team is organized to manage larger complex incidents with widespread impact. A major event is an event that would require additional personnel and resources from the Corporation and elsewhere.

When implemented, this team would augment the Sustained Response Team, supplying additional resources and expertise in functional areas of the organization as necessary. This would help to increase the strength of the organization by utilizing the best specialists and professionals available.

HAZWOPER TRAINING LEVELS

The HAZWOPER regulations prescribe minimum training requirements for various incident responder levels. There are initial and refresher training requirements that must be met. The Team Leader is responsible for insuring that all employees that may be called on to participate in incident response have met these training requirements. Refer to Section 12 of this Core Plan for HAZWOPER training guidelines.

CONTRACTOR TRAINING

Contract employees who will be utilized in incident mitigation and cleanup activities are also required to meet minimum HAZWOPER training requirements. The Team Leader is responsible for insuring that contractors which Company may utilize in the response, recognize HAZWOPER requirements and provide the training needed.

CASUAL HIRE TRAINING

During post-incident responses it may become necessary to hire additional personnel for site clean up and rehabilitation. Whenever temporary personnel (casual hires) are involved, Company shall review the following items to ensure that post-emergency response personnel are properly trained:

- Job Site Safety Plan
- Chemical hazards at the site
- Appropriate personal protective equipment
- Specific role in the clean up
- Names and contacts for the incident's Incident Command System

Upon completing this review, temporary personnel will sign a roster sheet indicating that they have received training regarding the items covered. The roster sheet will then be forwarded to the Incident Commander for inclusion in the incident documentation.

COMMAND ORGANIZATION LOGISTICS

Effective spill response requires an efficient deployment of field, supervision and support staff. Careful consideration should be given to help determine the physical location of Command, Staging and other elements of the organization like Branches, Divisions or Groups.

Incident Command Post Location

The location of the Incident Command Post (ICP) depends on the location, severity and duration of the incident. Other influencing factors may include agency ICP location preference and whether or not agencies have formulated a location for the ICP before Company resources arrive.

Since each incident is different (i.e. location, type of product, weather, geography, time of day, agreements with mutual aid resources, agency resources and so forth) the Incident Commander should choose the location of the Incident Command Post carefully.

As an example, the Incident Command Post for an incident occurring offshore, may be established quite a distance from the event at a shorebase, regional company offices or a hotel with conference center capabilities.

On the other hand, should a release occur in a municipal area that may effect storm drains, drainage channels, streets, businesses and public areas, the local fire and police agencies may wish the Incident Command Post be located closer to the event in an open safe area.

Again, it is up to the Incident Commander, working with Local, State and/or Federal Agencies to determine the location of the Incident Command Post.

As the incident grows it may be necessary to establish physical "Branch" or "Division" locations away from the Incident Command Post. It may also be necessary to establish additional Staging areas depending on the size and complexity of the incident.

JOB SITE SAFETY PLAN DEVELOPMENT

The Incident Commander will be responsible for ensuring that the Job Site Safety Plan is completed. This task is usually assigned to the Safety Officer in the ICS organization. See Section 7 of this Core Plan for a complete Job Site Safety Plan and instructions for completion.

OPERATIONAL PERIOD PLANNING CYCLES

The use of organized operational period planning cycles is an important tool to help achieve increased organizational effectiveness and communications during an incident. An example of the accepted agency methodology concerning operational planning is located on page 3 of Section 6.

HUMANITARIAN ASSISTANCE

The Incident Commander will determine if Company humanitarian assistance is needed during an emergency event, cleanup or disaster. Humanitarian assistance may include providing food, water and lodging to displaced persons. Humanitarian assistance may also include assisting Local and State Agencies with specific humanitarian assistance support. In such instances the Incident Commander will utilize the various Incident Command Sections to assist with this effort.

Initially, any food, water or lodging needs will generally be coordinated by the Logistics Section Chief within the Incident Command System.

INSPECTION AND MAINTENANCE OF OIL SPILL EQUIPMENT

Company has a program to inspect and maintain the oil spill equipment stored at its facilities.

Monthly Visual Inspections

A monthly visual inspection will be made of all oil spill equipment and materials. The objective is to determine the following:

- Designated equipment and materials are present
- Designated equipment and materials appear in good condition

- Designated equipment and materials are properly stored and protected and are readily loaded or deployed
- Stocks have not been depleted or disturbed

The inspector will log his inspection on the Oil Spill Equipment Monthly Inspection Forms and make distribution as indicated. One copy will be maintained at the location.

After Deployment

An additional inspection will be made of all equipment and supplies following deployment for spills or drills. Any deficiencies, missing parts or maintenance needs noted during the deployment will be rectified as soon as possible. Any equipment requiring work in the shop will be expeditiously transported and an equivalent replacement provided if practical. This inspection will also be logged on the Oil Spill Equipment Inspection Form and distributed.

Annual Detailed Inspection

At least once annually, all equipment will be inspected to determine if any replacement or repair needs noted. This inspection can be made in conjunction with a drill; however, if a particular piece of equipment has not been deployed during drills, it may be separately deployed, inspected and tested for proper operation. Recommended repairs and replacements will be made promptly.

SAFETY / FIRE PROTECTION

Fire Fighting Equipment

Adequate firefighting equipment shall be maintained at all pump and breakout tank areas. The equipment will be:

- Inspected monthly to ensure that it is in proper operating conditions at all times
- Plainly marked (painted red), so that it is easily identifiable as fire fighting equipment
- Located so that it is easily accessible in case of a fire
- All personnel will be thoroughly trained in the use of each piece of equipment

Leak Repair Procedures

Additional Safety/Fire Protection guidelines can be found in Company's Maintenance and Inspection Procedures Manual.

Smoking / Open Flames

Smoking will be confined to designated smoking areas. Discarding matches, cigarettes or cigars from any vehicle is prohibited.

Hot work permits will be required before any welding/cutting operations commence or other operations that would introduce a source of ignition in a restricted area. A restricted area is any area within 150 feet of hydrocarbon service or storage facilities.

NATIONAL CONTINGENCY PLAN

National/Regional Incident Command Responsibilities

Company's ICS/Unified Command organization is in alignment with the National Incident Management System (NIMS) ICS response organization utilized under the National Contingency Plan.

The National Contingency Plan (NCP) describes the responsibilities of the Federal government when responding to a Spill of National Significance (SONS.) These responsibilities include providing strategic coordination in the coastal and inland zones either for, or as, the Federal on Scene Coordinator (FOSC). Based on the need for overall Federal coordination, a National or Regional Incident Command (NIC/RIC) organization may be activated at the discretion of the controlling Federal authority.

This model is based on the "Area Command" organizational model that is used for major/multiple incident management within (NIMS) ICS. The NIC/RIC organization's responsibilities will include the following:

- Brief the Commandant (and Area Commander if applicable) or Administrator of the EPA and obtain feedback regarding agency expectations, concerns and constraints.
- If operating as a Unified Command, develop a working agreement with all participants to employ (NIMS) ICS as the response management system.
- Assess incident potential and ensure the NIC/RIC infrastructure is capable of meeting response objectives.
- Set the stage for accomplishment of the best possible response, providing clear understanding of agency expectations, intentions and constraints. Provide overall direction and management of the incident(s), including setting overall objectives.
- Ensure that the response is addressing the priorities and direction set by the NIC/RIC.
- Establish priorities for assignment & demobilization of critical resources.
- Assign and approve demobilization of critical resources
- Establish/approve policy for release of information to the news media, the public, etc.
- Serve as public spokesperson for the overall incident response.
- Manage staff to ensure Incident Management Teams (IMTs) are supported, monitored.

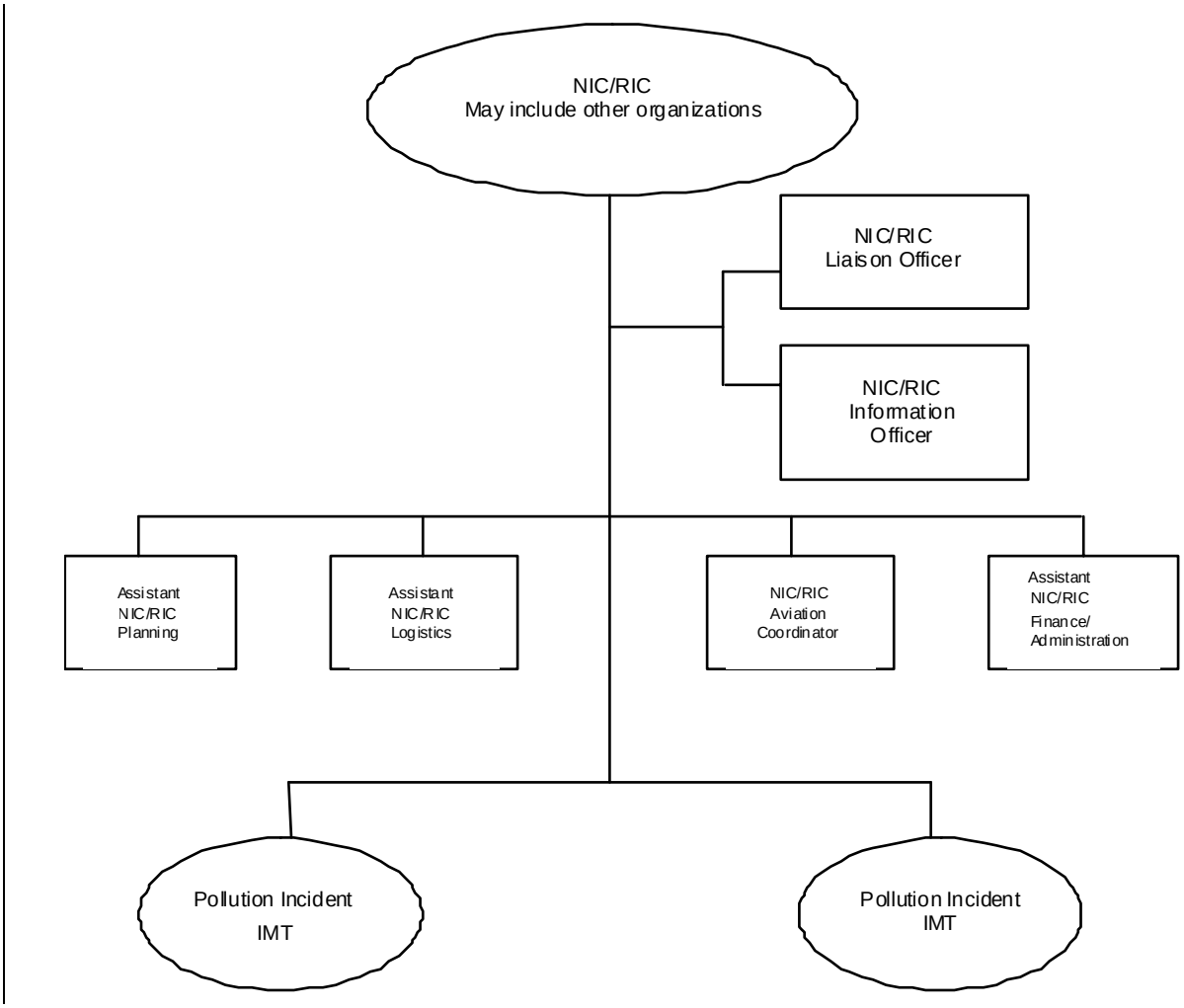
NIC/RIC GUIDELINES

- Fundamental to the (NIMS) ICS organizational philosophy is that the organization be shaped to match the specific requirements of the incident. The division of responsibilities specified here should be considered the beginning framework. Shaping the interface between National Incident Commander (NIC)/Regional Incident Commander (RIC) and the Incident

Commander (IC) or Unified Command (UC) and their IMTs and establishing the best division of labor will be especially challenging.

- Avoid locating the National/Regional Incident Command with an Incident Command Post.
- The NIC/RIC role is to ensure support of, and coordination between a single or multiple IMTs, is enhanced if the NIC/RIC can be located with, or near, the expanded supply network. This facilitates NIC/RIC Logistics' ability to directly support the IMT(s) and positively influence critical resource issues.
- Implement additional positions as necessary for an effective and efficient response. Specific agency guidance on NIC/RIC, as specifics may change from time to time. Keep in mind, however, that the Responsible Party and other agencies may use different organizational structures (e.g., not based upon the (NIMS) Area Command Model) to conduct incident management activities. In such instances, the NIC/RIC will work with the RP and other agencies to agree on an organizational structure that best ensures effective strategic coordination.

NIC/RIC ORGANIZATION



Refer to (NIMS) ICS "Area Command" documentation and/or agency guidance for position-specific descriptions.

INCIDENT COMMAND SYSTEM

SECTION 6 INCIDENT COMMAND SYSTEM

NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS)/INCIDENT COMMAND SYSTEM (ICS) **1**

USCG Incident Management Handbook (IMH) 1

ICS JOB DESCRIPTION **1**

NIMS ICS FIVE MAJOR FUNCTIONAL AREAS **2**

USCG IMH OPERATIONAL PERIOD PLANNING CYCLE GUIDE **3**

NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS)/INCIDENT COMMAND SYSTEM (ICS)

The National Incident Management System (NIMS) is a nationwide standardized approach to incident management and response. NIMS utilizes the Incident Command System (ICS).

The Incident Command System is used to manage incident response activities. ICS is readily expandable to help manage small incidents as well as larger more complex incidents. ICS is an effective safety and incident management tool and should be implemented for all emergency incidents that may cause potential harm to responders, the public, the environment or property. Staffing and resources needed to meet specific incident needs will be based on the size, complexity and severity of the incident. At minimum, HAZWOPER regulations require the ICS positions of Incident Commander and Safety Officer to be implemented during a response to a hazardous or potentially hazardous substance.

This Section contains an example of the basic NIMS ICS Organization (five functional areas) and the Operational Period Planning Cycle.

USCG Incident Management Handbook (IMH)

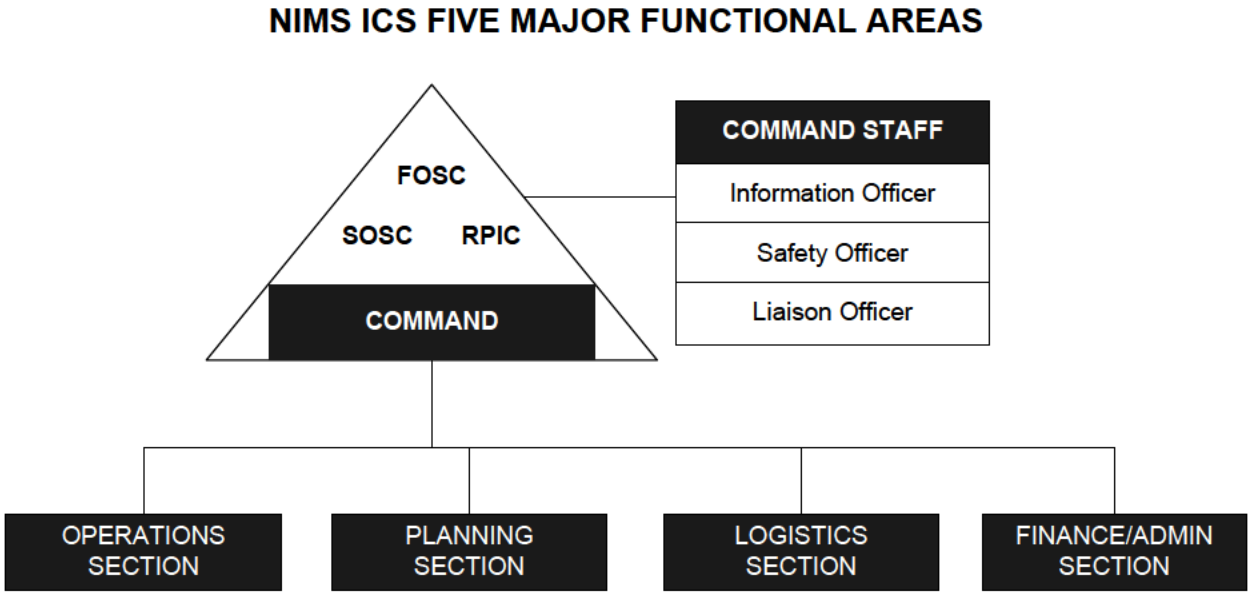
Company will utilize the U.S. Coast Guard 2006 Incident Management Handbook (IMH) as the primary guide for incident response.

Access to complete versions of the latest U.S. Coast Guard Incident Management Handbook (IMH) can be located on the U.S. Coast Guard web site at www.uscg.mil.

ICS JOB DESCRIPTION

ICS job descriptions listed in the 2006 USCG IMH are consistent with the Northwest Area Contingency Plan.

NIMS ICS FIVE MAJOR FUNCTIONAL AREAS

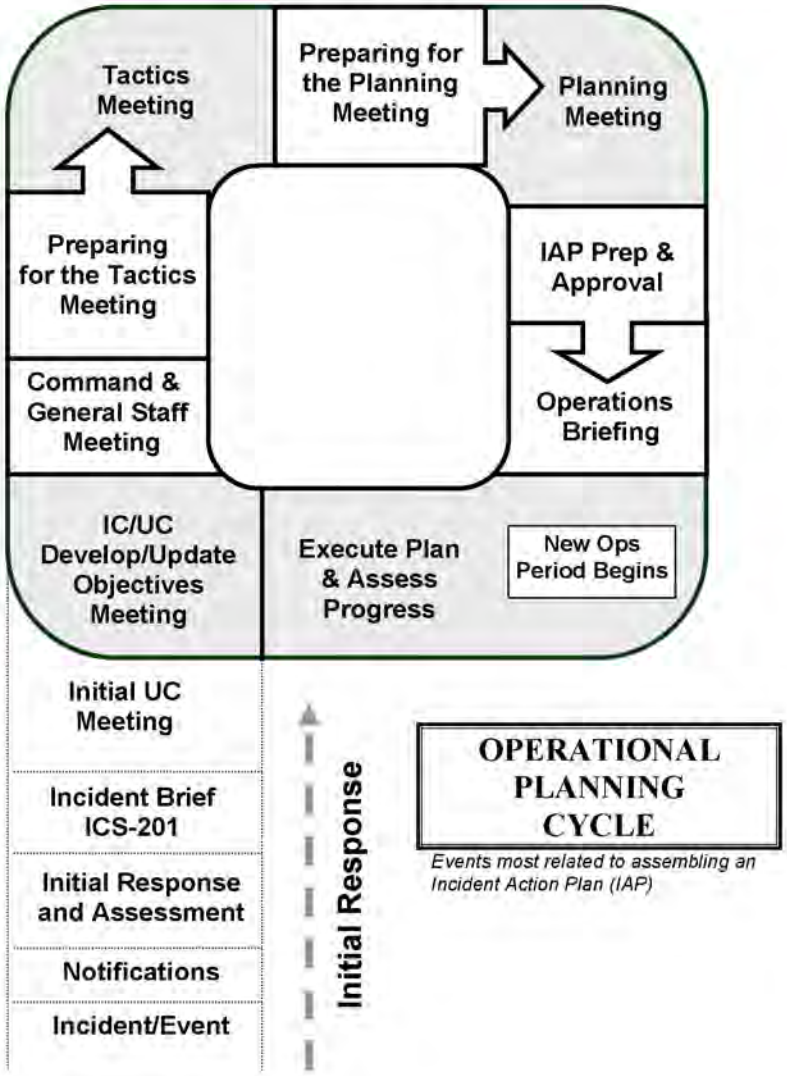


USCG IMH OPERATIONAL PERIOD PLANNING CYCLE GUIDE

AUGUST 2006

CHAPTER 3

OPERATIONAL PLANNING CYCLE, MEETINGS, BRIEFINGS, AND THE ACTION PLANNING PROCESS



JOB SITE SAFETY PLAN

SECTION 7 JOB SITE SAFETY PLAN

ENTERING AN AREA WHERE LEL IS = OR > 10% OF LEL ..... A

JOB SITE SAFETY PLANS (JSSP) 1

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ENTERING AN AREA WHERE LEL IS = OR > 10% OF LEL

To enter an atmosphere that is => 10 % LEL, you must address:

- Safety of yourself and of others.
- Complete a detailed site Hazard Analysis utilizing the JSSP.
- Determine the right equipment and PPE to mitigate the risk to the employees or contractors entering the area.
- Write out the plan and discuss in detail.
- Gain approval from the Team Leader, HES Safety Specialist and the Profit Center Manager prior to entry (verbal is permissible) and document this approval.
- Execute the written plan.

For all Emergency Response situations, the Field Team must implement the ICS (Incident Command System) and review the Emergency Response Guide First Responder under Section 3 of the Core Plan for the applicable situation.

JOB SITE SAFETY PLANS (JSSP)

For Emergency Response Operations
The JSSP is not a substitute for the Safe Work Permitting Process

PURPOSE:

This Site Safety Plan must be completed to:

- Comply with OSHA requirements for Hazardous Waste Operations and Emergency Response (HAZWOPER) 29 CFR 1910.120; NOTE: All personnel reporting to the site, must have Level 3 Technician training.
- Comply with Chevron Pipe Line Company's Incident Reduction Program requirements.

This plan, which must remain on site, shall address all safety and health hazards and include the requirements for employee protection.

SCOPE:

This plan applies to all **Emergency Response operations** and the personnel, company and contractor, working in or on Chevron Pipe Line Company owned or operated facilities.

Note: The JSSP can be used as tool for planning work activities. The JSSP does not replace any CPL required permits for normal work activities.

INSTRUCTIONS:

Complete Section I, **Hazards Analysis** for all jobs listed above. A hazards analysis shall be performed by a qualified employee in order to aid in the selection of appropriate personal protective methods prior to commencing work activities.

Complete Section II, **Job Specific Activity Planning** for only those jobs listed above that involve confined space entry; excavation; lockout/tagout; or hot work. Complete only those sections that apply to the job.

Complete Section III, **Specific Requirements for Hazardous Waste Operations and Emergency Response** for those jobs involving activities covered by HAZWOPER (29 CFR 1910.120).

I. HAZARDS ANALYSIS

All suspected conditions that might pose safety and health hazards shall be identified and evaluated. Identify specific safety and health hazards and determine the appropriate safety and health control procedures needed to protect personnel from the identified hazards.

DATE(s):	

LOCATION:	

SITE DESCRIPTION:

Describe the work site and the surrounding terrain. Attach a map to this plan, if available.

WORKPLAN:

Brief description of the work (project/clean-up operation) and related work activities and tasks, approximate work force, tools to be used, expected duration of project/clean-up operation, and any special equipment to be used.

SAFETY AND HEALTH HAZARDS:

Describe safety and health hazards which may be associated with the work plan described above. Potential hazards may include: (check all that apply)

- ☐ inhalation of hazardous substance (list below)
- ☐ skin contact with hazardous substance (list below)
- ☐ flammable or toxic substances (list below)
- ☐ heat stress and/or exhaustion
- ☐ cold stress
- ☐ noise
- ☐ water hazards
- ☐ other hazards / concerns (list)
- ☐ hazards to eyes
- ☐ cuts and abrasions
- ☐ vehicular / pedestrian traffic
- ☐ confined space entry
- ☐ excavation
- ☐ lockout/tagout
- ☐ hot work

Comments:

MATERIAL CHARACTERIZATION:

Provide data for known materials, if any.

MATERIAL	PEL / IDLH	HEALTH HAZARDS	ROUTE(S) OF EXPOSURE

ATTACHED MSDS(s):

A MSDS's must be available on site for all chemicals used on the project or during the clean-up operations. Attach all MSDS's and list all MSDS's that are attached below.

INITIAL ASSESSMENT:

PROVIDE INITIAL AIR MONITORING DATA. AIR MONITORING CONDUCTED AFTER THE INITIAL ASSESSMENT SHOULD BE ENTERED ONTO THE MONITORING LOG SHEET ON PAGE

MATERIAL	DATE & TIME	LOCATION	RESULTS	SAMPLED BY

PERSONAL PROTECTIVE EQUIPMENT REQUIRED:

(Check all that apply)

	Boots		Air Purifying Respirators (check appropriate type)
	Slicker Suit		Half-mask cartridge (refer to HES-502 for guidance)
	Tyvek Suit (may include hoods/ booties)		Full mask cartridge (refer to HES-502 for guidance)
	Nomex Clothing		Specific cartridge type for activity: (refer to HES-502 for cartridge selection)
	Gloves		Self-Contained Breathing Apparatus
	Goggles		Supplied Air Line Unit
	Safety Glasses		
	Hard Hat		
	Other (specify)		

SAFETY EQUIPMENT:

First aid supplies	location(s):	
Eye wash/Shower	location(s)	

EMERGENCY EVACUATION:

If an emergency occurs at this site, how will workers be alerted and where should personnel evacuate to? Review with all personnel.

EMERGENCY INFORMATION:

List phone numbers of local emergency services.

NOTE: Best Practice- List direct dial numbers for local First Responders (Law Enforcement, Fire, etc). Avoid using 911.

FIRE:	
DOCTOR:	
AMBULANCE:	
HOSPITAL:	
SHERIFF:	

Pre-Start Up Briefing:

The Incident Commander or Safety Officer will ensure that pre-start up briefings are conducted before commencing any work to ensure employees and contractors are aware of this entire work plan. Briefly outline this process below.

II. JOB SPECIFIC ACTIVITY PLANNING:

Check and complete all sections that apply to this project or clean-up operations.

	Safe Work: (HES-204)

Utilize the Safe Work Permit to initiate the Safe Work Permitting process.

	CONFINED SPACE: (HES-201)

Briefly describe the work activity involving confined spaces and complete the Confined Space Entry Permit (App.B) and the Emergency Action Plan (App.B)

	EXCAVATION: (HES-202)

Briefly describe the work activity involving excavation and complete the Excavation Permit (CPL-687).

	LOCKOUT/TAGOUT: (HES-203)

Briefly describe the work activity involving lockout/tagout and complete the Equipment Specific Procedure Sheet (CPL-679)

	HOT WORK: (HES-205)

Briefly describe the work activity involving hot work and complete the Hot Work Permit (App B)

III. SPECIFIC REQUIREMENTS FOR EMERGENCY RESPONSE AND CLEAN-UP OPERATIONS

Complete this section for those jobs involving emergency response activities covered by HAZWOPER.

NOTE: All personnel responding to the onsite release; that will be working in the Hot Zone or cleaning up the release must present their current Hazwoper Training card upon check-in to the site. NO ONE can enter the site prior to this verification.

ORGANIZATION STRUCTURE:

List by name the following personnel in the ICS.

Incident Commander:

Safety Representative:

Public Affairs Representative:

Contractor's Project Manager:

TRAINING PROGRAM:

All personnel working in response operations and clean-up activities must be trained per OSHA's HAZWOPER requirements. Describe the process to ensure all personnel are HAZWOPER trained to their job responsibilities. If any safety, fire and health training must be conducted, attach the written training program and a list of the program's attendees.

EFFECTIVENESS OF SITE SAFETY PLAN:

Inspections shall be conducted by the Safety Representative to determine the effectiveness of this site safety plan. Any deficiencies in the effectiveness of the site safety plan shall be corrected. Describe this process below

SITE CONTROL:
Briefly describe the process and methods to control access to and egress from the various emergency response and clean-up operations. Describe the process to allow personnel into the various zones (i.e., hot zone). Explain how the various zones are going to be marked.

ENGINEERING CONTROLS:
Engineering controls, work practices, and personal protective equipment, or a combination of these shall be used to protect employees from exposure to the hazardous substances listed above. Examples of engineering controls are: the use of pressurized cabs or control booths, and/or the use of remotely operated material handling equipment. Describe below the engineering controls in use during the emergency response and clean-up operations.

WORK PRACTICES:
Describe below the work practices in use during the emergency response and clean-up operations. Some examples of work practices are: removing all non-essential personnel from potential exposure during opening of drums, wetting down dusty operations, and locating personnel upwind of possible hazards.

MEDICAL SURVEILLANCE REQUIRED:
Personnel who may have developed signs or symptoms which may have resulted from exposure to hazardous substances resulting for emergency response or clean-up operations, or exposed during emergency response or clean-up operations to hazardous substances above the permissible exposure limits without the necessary personal protective equipment shall receive a medical examination as soon as possible following the incident or development of signs or symptoms. Describe below how this will be handled.

MONITORING PROGRAM:
Air monitoring shall be used to identify and quantify airborne levels of hazardous substances in order to continually determine the appropriate level of personal protective equipment that is required. Describe below what monitoring will be done and how the monitoring will be conducted. A monitoring log sheet is attached to this plan.

NOTE: Attach Monitoring Log Sheet to plan.

DECONTAMINATION:
A decontamination procedure shall be developed, communicated to all employees and implemented before any employees or equipment may enter areas on site where potential for exposure to hazardous substances exist. Describe these decontamination procedures below.

DISPOSAL METHODS:
Describe the various methods available to properly dispose of the listed material and/or equipment. If you have any questions contact your Waste Specialist.

Hazardous Material:	
Personal Protective Equipment:	
Recovered Debris:	

PREPARED BY: _____ Date: _____

REVIEWED/APPROVED BY: _____ Date: _____

PERSONNEL LIST

**** VERIFY HAZWOPER TRAINING CERTIFICATION
TO LEVEL 3 OF ALL PERSONNEL ONSITE PRIOR TO AUTHORIZING WORK!!!**

Location: ____ Date: ____________________

NAME		COMPANY	HAZWOPER LEVEL

MONITORING LOG SHEET

Monitoring results must be recorded and consistent with the JSSP plan.

Project/Task _____ Sheet _____ of _____

Date	Time	Location	Initials	H_2S	O_2	LEL	Additional Comments

NOTE: Verify monitoring equipment prior to use

WORKPLACE EXPOSURE MONITORING RECORD

Workplace Exposure Monitoring Record

(See Chevron Guidance for Occupational Hygiene Exposure Assessment, Prevention and Control for instructions on completing this form)

Sampling Information

Sample/Serial Number
Sample Date (MM/DD/YYYY)
Master Sample
Sample Type (P/A/BLNK)
Limit Type (TWA/STEL/CE)
Operation Status
Sampled By (CAI/Name)
Survey Number
Sampling Strategy
Lab Name
Substance Group(for chemicals only)
Noise Type (Steady/Intermittent/Impulse)
Approve ☐ Void ☐ Void Reason
Jurisdiction

Employee Information (Personal Samples Only)

Employee Name (Last, First, Middle Initial)
CVX Employee? ☐ Yes ☐ No If No, Contractor Company Name
Contractor's Birthday (MM/DD)
Job Position
PPE 1
Similar Exposure Group
PPE 2
Shift (24 hrs. HH:MM) to Shift Length
PPE 3
Supervisor
PPE 4

Sample Location

Operating Company
Organization
Department
Building / Zone
Division
Floor Area
Geographic Location
Location Comments

Sampling Equipment

☐ Direct Reading
Sampling Equipment
Collection Media
Equipment's Serial Number
Collector/Lot Number
Calibrator and Calibrator's Serial Number
Description

Sample Time/Volume (24 Hours 00:00-24:00)

Start Time	Stop Time	Run Time (min)

Exposure Time (min)

Flow Rate (L/min) and Air Volume (L)

Initial
Final
Average (L/min)
Air Volume (L)

Environmental Conditions

Temperature (F/C)
Pressure (MM/NKPA)
Humidity %
Wind Direction
Wind Speed (MPH/KMH/KNOTS)

Notes

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Workplace Exposure Monitoring Record

Noise Sampling Parameters/Methodology

Response Rate _____ (SLOW/FAST)

Exchange Rate _____ (3, 4, 5) Criterion Level _____ (90/85)

dB Lower Limit _____ dB Upper Limit _____

Exposed during non-sampled period ☐ Yes ☐ No

Noise Results

For Monitoring Time Period _____ dBA Dose (D), % _____ %ADD

Maximum _____ dBA Reference Duration (T) _____

Impulse/Min _____ Sound level (Lavg), dBA _____

Impulse Count _____ TWA (8 hr. equivalent) _____

Substance/Agent Sampled/Results

Substance	> <	Concentration	Units	TWA/STEL	Non-Sampled Concentration

Controls _____

Tasks _____

Some Common Codes This does not include all codes. **(See Chevron Guidance for Occupational Hygiene Exposure Assessment, Prevention and Control)**, or Medgate Industrial Hygiene database for all codes.

Sample Type	***T/S/C/E***	**Operation Status**	**Sampling Strategy**	**PPE**
Personal	TWA	C = Construction	AC = Aggressive Clearance	39 = Safety Glasses
Area	TW10	EM = Equipment Malfunction	CC = Concern – Community	18 = Face Shield
Source	TW12	EU = Emergency Upset	CE = Concern – Employee	20 = Goggles
Blank	STEL	I = Idle or Standby	CN = Concern – Other	56 = Welding Mask
Spike	CEIL	N = Normal	CO = Compliance	49 = No Eye Protection Worn
Bulk	EXCR	Q = Shutdown-planned	EP = Engr Control/Process or Work Practice	12 = Ear Caps
Wipe	BULK	S = Start-up	MC = Sampling Method Comparison	13 = Ear Muffs
Duplicate		TI = Turnaround/Inspection	NC = Non-Aggressive Clearance	14 = Ear Plugs
Media Blank		U = Unknown	P = Planned Special Exposure	15 = Ear Plugs and Muffs
			PE = Periodic Sample	31 = No Ear Protection Worn
			RS = Reg. Side-by-Side Sample	01 = Resp. Air Purifying Full Face
			SD = Shutdown Work Sample	02 = Resp. Air Purifying Half Face
			TSCA = TSCA Allegation	
			W = Worst Case Sample	
Equipment		**Collection Media**	**Substance Groups** (Medgate)	05 = Resp. Supplied Air Full Face – Demand
38 = Sound Level Meter		2 = Charcoal Tube	Asphalt Fumes (ASPH FUME)	37 = Resp. SCBA w/ Escape Bottle
40 = Noise Dosimeter		4 = Silica Tube	Benzene, Toluene, Ethylbenzene and Xylene (BTEX)	41 = Resp. SCBA – Pressure Demand (Pos. Pres)
56 = High Flow Pump		6 = Other Tube	Hydrocracker Catalyst Dust (CAT-HYDRO)	42 = Resp. Single Use Dust Mask
64 = Low Flow Pump		16 = Glass Fiber filter	Crude Oil	50 = Gloves – Chemically Resistant
69 = Passive Sampler OV		22 = MCE filter	Gasoline	51 = Gloves – Abrasion Resistant
		24 = MCE + cowl (asbestos)	Welding Fumes Scan	52 = No Gloves Worn
		26 = PVC filter	Inorganic Acids	54 = Slicker Suit
		28 = PTFE filter		55 = Disposable Tyvek
		20 = Other filter		
		18 = Glass Fiber + IOM sampler		
		8 = PVC filter + Cyclone		

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CLEANUP PROCEDURES

SECTION 8 CLEANUP PROCEDURES

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CLEANUP PROCEDURES

Before Beginning the Cleanup

Federal and State OSC's must be advised of cleanup plans prior to the start of any shoreline cleanup operation.

During the cleanup and restoration of oiled beaches it is the duty of the Incident Commander to ensure that all cleanup personnel adhere to the following Company safety policies:

- Personnel must be instructed adequately regarding their duties and about the associated potential health and safety risks (complete and review Job Site Safety Plan)
- Personnel must have the required HAZWOPER certification
- Personnel must be suitably protected from hazards by personal protective equipment and gear
- Hazardous materials must be properly labeled
- Personnel must be suitably clothed for protection from adverse weather conditions
- Heavy equipment must be operated by experienced contractors
- Cleanup personnel must avoid any affected wildlife and must contact the Environmental Specialist and the Wildlife Care Liaison to deal with the wildlife

NOTE: It is generally against the law to disturb or even touch many wildlife or birds. To avoid complications and insure a smooth cleanup operation, it is important that all contact with wildlife must be coordinated through the Environmental Specialist and the Wildlife Care Liaison**.**

CLEANUP PROCEDURES FOR SAND BEACHES

Timing is a main factor influencing efficient cleanup of sand beaches. Oil soaked sand must be picked up during a receding high tide. Solid oil usually can be picked up without beach sand adhering to it if temperatures stay below 75°F. At mid-day, when temperatures normally reach this range, the solids will melt; the result is a 50 percent oil, 50 percent beach sand mixture when the oil is either raked or shoveled.

The entire beach area impacted by the spill should be inspected to determine which areas need cleaning. Select two adjacent areas approximately 1,500 feet long. 1,500 foot sections are necessary to permit motorized equipment maneuverability and to allow the most efficient use of equipment.

City officials, police and lifeguards in the area should be notified. Their assistance should be requested to close areas of the beach and parking lots. Request permission from officials to use parking lots as transfer stations where necessary.

Determine the scope of the cleanup work and develop a cleanup plan. Determine proper cleaning methods, including the best use of motorized equipment and manual labor crews. If the oil spill is small and discing-in seems appropriate, solicit the review and approval of the appropriate government officials before any discing-in operation. If the discing-in method is not appropriate

or is not approved, the oily sand will have to be removed and transported for recovery, recycling, treatment and/or disposal.

Small Spills/Final Cleanup

Discing-In Cleanup Method

For small spills of very light oil or for a "discing-in" of the oil, the oil is not removed, but buried into the top layer of sediments and left to degrade naturally. The oil is disced into the sand using a tracked loader or a tractor towing a discer.

Medium Size Spills

Manual Labor Beach Cleanup

Equipment and Personnel for Two Crews:

2 980-sized front-end loaders with operators (one for each crew)

8 Laborers with shovels and brooms (4 for ea. crew)

1 Foreman (supervises both crews)

1 5-cubic-yard dump truck (supports both crews)

Each crew of four laborers should break into two teams of two persons. Two teams are then assigned to each loader. The teams should start working about 10 feet apart, in front of the loader. Each team should work toward the other, raking, shoveling and sweeping oil solids into the loader bucket. When the loader buckets are full, they will unload into the dump truck.

Charts should be kept on quantity of oil, location, crew size, equipment, crew work period, wind, high/low tide times and temperature on a daily basis. This information can be used by persons in charge of cleanup to forecast an increase or decrease in oil recovery activities. The quantity of oil recovered each day should decrease until small solids can be raked and mixed with the sand.

Large Spills

Heavy Equipment Beach Cleanup

If oil contamination is extensive, the use of heavy earth moving equipment is far more efficient than manual labor. Beach restoration may include one or more of the following types of operations**:**

- Earth moving equipment for sandy beaches, such as graders, elevating scrapers, front-endloaders, unloading ramps and conveyors, hauling trucks to remove oil-contaminated sand and/or other contaminated debris

- Application of free sorbents into the oil-contaminated material and subsequent recovery of the sorbent mixture. Sorbents can be used on both land and water areas (However, sorbents may interfere with mechanical cleaning equipment)
- Vacuum trucks to remove pools of oil and contaminated water
- Use of high pressure flushing (hydroblasting) or steam and hot water cleaning to remove oil from contaminated surfaces such as retaining walls, rocks, structures, etc

Each option mentioned above is described below in detail.

Motorized Graders

Motorized graders can be used on firmly packed beaches, between the high and low tide zones. They are primarily used on sand and gravel beaches where oil penetration is less than one inch and trafficability of the beach is good. They are used to scrape a thin layer of contaminated sand from a swath as wide as the blade, diverting it into a windrow for easy pickup.

Motorized Elevating Scrapers

Motorized elevating scrapers are used to pick up and haul material short distances, then dump and spread. They are equipped with self-loading elevators that pick up the cut material and dump it into a hopper. Alone, they are used primarily on sand beaches where oil penetration exceeds one inch. When it is part of a larger detail, the motorized elevating scraper is used to pick up windrows left by a motorized grader.

Front-End Loaders

Front-end loaders are designed for digging, loading and limited transport of material. The front loader (bucket) may carry by any type tractor, crawler tractor and four wheel-drive or two-wheel-drive rubber-tired tractors. Crawler tractors and four-wheel-drive tractors are used for heavy service and two wheel-drive models for lighter work. Front-end loaders can be used on mud, sand, or gravel beaches where trafficability is poor and oil penetration is light to moderate.

Front-end loaders should be used only for loading trucks with material from stockpiles or from windrows formed by motorized graders. Their operations on oil-contaminated beach areas should be kept to a minimum, especially in the case of crawler-tractor-mounted front-end loaders.

Front-end loaders equipped with slot buckets can be used for removing large quantities of oil-contaminated debris, such as kelp and driftwood. Slot buckets also allow loose sand to fall away through the slots.

Unloading Ramp and Conveyors

An unloading ramp and conveyor system is a method of transferring beach material picked up by motorized elevating scrapers directly into trucks. The system also includes a screen to separate oil-soaked debris from the oil-sand mixture.

The unloading ramp and conveyor system can be used in large beach restoration operations.

There are two basic types of unloading ramps and conveyor systems: pit-type systems and the berm-type systems.

The *pit-type system*, as its name implies, consists of a pit dug in the sand or earth. The input end of the conveyor is located at the bottom of the pit and the hopper is suspended above it. Railroad ties are used to stabilize the rim of the pit. Railroad rails are welded to bearing plates and laid across the pit to bridge the gap. Ties are spiked down with timber spikes and the rails are bolted to the ties.

The *berm-type system* is very similar to the pit-type system, except that, instead of a hole dug into the ground, earthen berms are constructed in a rectangle, so that a pit is formed in the center of the rectangle. This requires moving approximately 100 cubic yards of material, which may be found on site or brought in. As in the pit-type system, the tops of the berms are reinforced with railroad ties.

It is essential that the entire bridging system be strong enough to support all anticipated loads, with an adequate safety factor. The bridging system includes railroad rails, bearing plates, welds, supporting railroad ties, timber spikes and the earthworks underneath. DO NOT GUESS! It is the responsibility of the on-site supervisor to insure that good engineering practices, including proper welding techniques, are followed in the construction of the bridging system in order to avoid accidents and injuries.

Hauling Trucks

All trucks are to be lined with pre-cut polyethylene sheets (minimum thickness 6 mil) before sand loading, to prevent oil from leaking onto the streets. Use new liners for each load. Tarpaulin covers can be used to minimize blowing or spilling of loads. Decontamination of the truck tires with pressure hoses may be required before trucks leave the transfer locations to avoid tracking heavy oil onto streets and roads.

Loose Sorbents

Sorbents are a class of chemicals which immobilize oil residues into a solid or semisolid mass to allow for improved pickup and handling. Their use is limited to specially trained crews. Sorbents may either be loose, i.e., spread as powders or liquids, or bound, i.e., incorporated into blankets or sheets and applied during deployment of the sheets. Permits and specialized training are generally required for the use of either type of sorbent.

Vacuum Trucks

Vacuum trucks can only perform simple vacuum lifting of oil/water admixtures; they cannot filter or separate the components and must discharge directly into a liquid waste transfer station when full.

High Pressure Flushing (Hydroblasting)

Hydroblasting is the most efficient method of removing oil from contaminated surfaces such as retaining walls, rocks and structures. Proper steps should be taken to contain the run-off water and oil in areas protected by booms. Hydroblasting uses a high pressure water jet that removes oil from almost any surface. Hydroblasting is a non-heated process.

Steam and Hot Water Cleaning

A variation on hydroblasting, in which the water is heated, is known as Steam and Hot Water Cleaning. Steam and Hot Water Cleaning is another efficient method of removing oil from almost any surface. The steam raises the temperature of the adhered oil, lowering its viscosity and allowing it to flow off a surface. Specially trained personnel are required for the use of Steam and Hot Water Cleaning methods.

State Parks and Wildlife Department and/or U.S. Department of Fish and Game approval is required prior to the use of steam or hot water. Prior to the use of steam or hot water cleaning, qualified personnel should inspect contaminated surfaces for biological activity. In many instances, cleaning these surfaces will remove attached plant and animal life. Several years may be required to re-colonize the area with these forms, so trade-offs may need to be made.

Water Flooding

Water flooding is a cleanup and restoration technique that should be considered for use on shoreline areas that have limited access for heavy equipment. High volume, low pressure water has been successfully used to move oil stranded on beaches back into the water (behind containment booms) or into collection trenches where it can be contained, concentrated and removed. Typically, this technique works most effectively on fine grained sediment shorelines where the oil has not penetrated to appreciable depths. Where penetration has occurred, significant amounts of oil can still be recovered, although the process will not be as complete and residual material will remain. Heating of the flood water has been successful in increasing the recovery effectiveness in some cases.

Water is pumped with a portable pump through a flexible, perforated discharge hose located above the oil. The oil-water mixture is washed down the beach and can be recovered from collection trenches or from the water surface using booms and skimmers and vacuum equipment.

For coarse-grained beaches, the flooding system can be supplemented with low to moderate volume agitation hoses to enhance removal. The agitation hoses are used by cleanup crew members, who spray them back and forth to keep the oil moving.

Bioremediation

Bioremediation is a technique for beach treatment which uses biologically active agents, such as genetically-engineered microorganisms, to accelerate the degradation of the oil. Formal application to various agencies must be obtained for their use and specially trained crews will be required to do the work.

Manual Labor

Site-specific and incident-specific conditions will determine the best use of motorized equipment during beach cleanup and restoration. Manual labor should generally be used to supplement motorized cleanup and restoration activities, although in some cases it may be the only method of cleanup. Tasks to be performed by manual labor crews include:

- Sorbent application
- Removal of oiled materials
- Collection of oil using hand tools
- Sorbent and bagged waste collection
- Temporary storage area maintenance
- Cleaning of hauling vehicles
- High pressure flushing, steam cleaning and water flooding operations

Timing

Timing is the key element to efficient sand shoreline cleanup. The plan's schedule will be controlled by the times of receding tides. Maximum advantage should be taken of receding tide time to remove oil-contaminated soil from the shore line and move the recovered material to nearby transfer locations. Operating on a rising tide can cause new contamination to be deposited onto cleaned areas, resulting in extra work. In addition, there may be safety concerns associated with rising tides.

The distance the tides rise and recede can vary from day to day and even from one tide to the next. Tidal elevations are changing constantly, but the change is so slow near high and low tide that they will generally appear to be constant. However, it is extremely important to check tide tables very carefully. During some months tides can rise and fall as much as 9 feet in a single tidal cycle.

To take advantage of receding tides, beach cleanup may be continued at night. In populated areas, measures must be taken to reduce machinery and other noise, especially between the hours of 10 PM and 6 AM. Every reasonable effort should be employed to minimize adverse effects on the areas residents in implementing the cleanup operations, while holding the total cleanup time to a minimum.

Oil-contaminated soil will be deposited in piles at transfer locations and loaded onto waiting trucks by rubber-tired front-end loaders. At each transfer location, a loader and at least two dump trucks, or the equivalent, will be needed to handle the contaminated soil removal. Additional trucks may be required depending on the weather and traffic conditions.

A suitable combination of waste recovery, recycling, treatment and/or disposal will be chosen by the Waste Disposal Leader upon completion of cleanup operations. Oil and water mixtures removed by skimming or by vacuum trucks will be loaded for potential processing in the refinery separator system, including recovery, recycling, treatment and/or disposal.

Removal of contaminated soil from the transfer locations must be handled quickly and safely, but in such a manner as not to interfere with oil removal from the beach during receding tide periods. Cleanup operations may span several tide cycles. During cleanup, shortage of waste storage room at transfer sites may occur. If so, extra attention must be paid to coordinating the movements of the vehicles depositing and removing material at the transfer stations, in order to minimize backups and bottlenecks.

Security and Traffic Control

(b) (7)(F), (b) (3)

[redacted]

Wildlife Protection and Rehabilitation

Environmentally sensitive areas and strategies are identified in the State Appendix Plan.

PERSONNEL AND EQUIPMENT REQUIREMENTS FOR SHORELINE CLEANUP OPERATIONS

Type of Cleanup Operation	Number & Type of Equipment Required per Mile of Beach	Personnel Required	Other Support
Heavy Equipment: Sandy Beach	1 - Motor Grader 1 - Tracked Front-End Loader 2 - 20 cu yd Elevating Scrapers	1 Operator for each piece of equipment & 1 Supervisor	1 temporary dump site needed for every 2 miles of beach.
Heavy Equipment: Gravel/Cobble Beach - Trafficable for Rubber-Tired Equipment	1 - Motor Grader 3 - Rubber-Tired Front-End Loaders 1 - Tracked Front-End Loader	1 Operator for each piece of equipment & 1 Supervisor	1 temporary dump site needed for every 2 miles of beach.
Heavy Equipment: Gravel/Cobble Beach - Poor - Trafficability	1 - Angle-Blade Bulldozer 4 - Tracked Front-End Loaders	1 Operator for each piece of equipment & 1 Supervisor	1 temporary dump site needed for every 2 miles of beach.
Light Equipment: Boulder & Rock Beaches	Equipment per cleaning site 1 - Hydroblaster 1 - Skid-Mounted Vacuum System & 100 ft of boom	2 people 1 person	Fresh water supply for hydroblaster. Storage for collected oil.
Light Equipment: Human-made Structures & Sea Walls	1 - Steam Cleaner + 100 ft of Boom 1 - Vacuum Truck	2 people 1 person	Fresh water supply for steam cleaner.
Hand Cleanup: Shoreline & Marsh	Rakes, shovels, absorbents, machetes	2 to 10 people per 100 ft of shoreline	Debris boxes or empty barrels.
*** Requirements based on a 100-ft wide strip of beach that is 25 to 50 per cent contaminated with oil.**			

PROCEDURES

Cleanup Techniques

Cleanup Techniques			
Cleanup Technique	**Description**	**Primary Use of Cleanup Technique**	**Technique Requirements**
Mechanical Removal			
A) Motor Grader/Elevating Scraper	Motor grader forms windrows for pickup by elevating scraper.	Used primarily on sand and gravel beaches where oil penetration is O to 1 inch and trafficability of beach is good. Can also be used on mudflats.	Good trafficability. Heavy equipment access.
B) Elevating Scraper	Elevating scraper picks up contaminated materials directly off beach.	Used on sand and gravel beaches where oil penetration is O to 1 inch. Can also be used on mudflats. Can be used to remove tar balls or flat patties from the surface of a beach.	Fair to good trafficability. Heavy equipment access.
C) Motor Grader/Front-End Loader	Motor grader forms windrows for pickup by front-end loader.	Used on gravel and sand beaches where oil penetration is less than 0.5 to 1 inch. This method is slower than using a motor grader and elevating scraper but can be used when elevating scrapers are not available. Can be used on mudflats.	Good trafficability. Heavy equipment access.
D) Bulldozer/ Rubber-Tired Front-End Loader	Bulldozer pushes contaminated substrate into piles for pickup by front-end loader.	Used on coarse sand, gravel, or beaches where oil penetration is deep, oil contamination is extensive and beach trafficability is poor. Can also be used to remove heavily oil-contaminated vegetation.	Heavy equipment access. Fair to good trafficability for front-end loader.
E) Backhoe	Operates from top of a bank or beach to remove contaminated sediments and loads debris into trucks.	Used to remove oil-contaminated sediment (primarily mud or silt) on steep banks.	Heavy equipment access. Stable substrate at top of bank.
F) Front- End Loader: Rubber-Tired or Tracked	Front-end loader picks up material directly off beach & hauls it to unloading area.	Used on mud, sand, or gravel beaches when oil penetration is moderate and oil contamination is light to moderate. Rubber-tired front-end loaders are preferred because they are faster and minimize the disturbance to the surface. Front-end loaders are the preferred choice for removing cobble sediments. If rubber-tired loader cannot operate, tracked loaders are the next choice. Can also be used to remove extensively oil-contaminated vegetation.	Fair to good trafficability for rubber-tired loader. Heavy equipment access.
G) Dragline or Clamshell	Operates from top of contaminated area to remove oiled sediments.	Used on sand, gravel, or cobble beaches where trafficability is very poor (tracked equipment cannot operate) & oil contamination is extensive.	Heavy equipment access. Equipment reach covers contaminated areas.

Cleanup Techniques			
Cleanup Technique	**Description**	**Primary Use of Cleanup Technique**	**Technique Requirements**
H) Beach Cleaner	Picks up debris & small objects from surface of substrate.	Used to remove tar balls or flat patties from surface of beach. Can also remove small quantities of contaminated debris.	Light vehicular access. Fair to good trafficability.
Hydroblasting, Steam Cleaning, & Sand Blasting			
A) High Pressure Flushing (Hydroblasting)	High pressure water streams remove oil from substrate where it is channeled to the recovery area.	Used to remove oil coatings from boulders, rock and human-made structures. Preferred method of removing oil from these surfaces.	Light vehicular access. Recovery equipment. Wildlife agency approval.
B) Steam Cleaning	Steam Removes oil from substrate where it is channeled to the recovery area.	Used to remove oil coatings from boulders, rock and human-made structures.	Light vehicular access Recovery equipment. Fresh water supply. Wildlife agency approval.
C). Sandblasting	Sand moving at high velocity removes oil from substrate.	Used to remove thin accumulations of oil residue from human-made structures.	Light vehicular access. Oil must be semi-solid. Need supply of clean sand.
Manual Removal	Oiled sediments & debris are removed by hand with shovels, rakes, wheelbarrows, etc.	Used on mud, sand, gravel and cooble beaches when oil contamination is light or sporadic with slight oil penetration or on beaches which are inaccessible to heavy equipment.	Foot or light vehicular access.
Low-Pressure Flushing	Low pressure water spray flushes oil from substrate where it is channeled to recovery points.	Used to flush light oils that are not sticky from lightly contaminated mud subtrates, cobbles, boulders rock and human-made structures, & vegetation.	Light vehicular access Recovery equipment.
Sorbent Recovery	Sorbents manually to contaminated areas to soak up oil.	Used to remove pools of light, nonsticky oil from mud, boulders, rock and human-made structures.	Foot or boat access. Disposal containers for sorbents.
Vegetation Cutting and Removal	Oiled vegetation is cut by hand, collected, & stuffed into bags or containers for disposal.	Used on oil contaminated vegetation.	Foot or boat access. Cutting tools. Disposal containers.
On-Site Burning	Upwind end of contaminated area is ignited & allowed to burn to the down-wind end.	Used on any substrate or vegetation where sufficient oil has collected to sustain ignition. Used only if oil is a type that supports ignition and air pollution regulations allow it.	Light vehicular or boat access. Fire control equipment. Approval of air pollution agency.

Cleanup Techniques			
Cleanup Technique	**Description**	**Primary Use of Cleanup Technique**	**Technique Requirements**
Vacuum Trucks, Vacuum Pump, or Portable Skimmer	Oil collects in sump or behind booms as it moves down the beach & is removed by pump, vacuum truck, or portable skimmers.	Used on firm sand or mud beaches in the event of continuing oil contamination where sufficient longshore currents exist. Also used on streams & rivers in conjunction with diversion booming.	Heavy equipment access. Presence/absence of longshore current.
Oil Mop	Various size units to be used onshore or with boats in water with little or no currents.	Used to recover oil from natural or artificial containment.	Boat or light vehicle access. Little or no current.
Assisted Natural Recovery			
A) Push Contaminated Substrate into Surf	Pavement Bulldozer pushes contaminated substrate into surf zone to accelerate oil dispersion.	Used on contaminated cobble & lightly contaminated gravel beaches where removal of sediments may cause erosion of the beach or backshore area.	Heavy equipment access. High energy shoreline.
B) Disc into Substrate	Tractor pulls discing equipment along contaminated area.	Used on non-recreational sand or gravel beaches that are lightly contaminated.	Heavy equipment access. Fair to good trafficability. High energy environment.
C) Breaking up	Tractor fitted with a ripper is operated up and down the beach.	Used on l) low amenity cobble, gravel, or sand beaches, 2) beaches where substrate removal will cause erosion or 3) where thick layers of oil have created a pavement on the beach surface.	Heavy equipment access. High energy environment.
Substrate & Groundwater Contamination Description			
A) Removal by Excavation	Contaminated soil is excavated and replaced with clean soil.	Used on contaminated soils when drinking water wells are threatened & contamination does not exceed 20 to 30 feet.	Heavy excavation equipment access. Clean soil.
B) Recovery of Oil from Groundwater	Contaminated oil is pumped out.	Used on contaminated groundwater via recovery wells or by trenching.	Heavy equipment access.
C) In-Situ Treatment	Contaminated substrate is tilled into the ground or inorganic fertilizers are applied.	Used on contaminated soils where groundwater is not threatened or has been cleaned.	Heavy equipment access.
Natural Recovery	No action is taken. Oil is left to degrade naturally.	Used for oil contamination on high energy beaches (primarily cobble, boulder, & rock) where wave action will remove most oil contamination in a short period of time.	Exposed high-energy environment.

Cleanup Techniques			
Cleanup Technique	**Description**	**Primary Use of Cleanup Technique**	**Technique Requirements**
Bioremediation	Nutrients and/or micro-organisms are applied to accelerate the degradion of the oil.	May be used on rocky or sandy beaches, in marsh-lands, or on pooled oils.	Formal application for use must be obtained.

Marsh Cleaning Techniques

Marsh Cleaning Techniques	Situations for Use of Techniques	Equipment Required	Environmental Impact of Technique
Low-Pressure Water Flushing	Preferred method: Use in small channels around clumps of plants & trees and on vegetation along channel banks & the shoreline.	Small boat Small gasoline-driven pump Intake & discharge hoses Small floater skimmer Portable storage tanks Light curtain boom	Minimal impact if flushing is done from land, some marsh vegetation may be crushed.
Sorbents: Loose Sorbents, Pads or Rolls	Loose Sorbents: Use in small channels or pools with low currents. Pads or Rolls: Use in shallow pools and on shorelines without debris accumulations	Empty barrels for storing recovered sorbent. Industrial vacuum cleaner or nets for picking up loose sorbent. Can also be herded with water spray.	Loose sorbents are difficult to retrieve. Retrieval can crush marsh grasses.
Oil Mop	Preferred method: Use in open channels or pools with free-floating oil. Use upstream from containment boom and along marsh shorelines.	Oil Mop System Portable storage tanks for recovered oil. Pulleys.	Minimal Impact
Vegetation Cutting and Removal (Note: Use only when flushing fails to remove oil from plants)	Hand cutting of vegetation in small channels. Mechanical cutting along banks of channels or shoreline.	Hand cutting: Shears, power brush cutters or sickles. Mechanical cutting: Weed harvester.	Damages marsh surface. Foot traffic damages plants.
On-Site Burning For use on spartina-type (grass-like) marshes only.	Use in large contaminated areas. Can use if oil will burn. Probably suitable when marsh is in die-back stage.	Portable propane flame throwers or weed burners.	Produces considerable air pollution. Requires local approval by government agencies. Marsh areas not contaminated by oil are subject to damage by fire.

CASCADING BOOM CONTAINMENT

A large oil slick may be contained by using cascading boom deflection to concentrate the oil into a collection point. This method of containment will require two boats on each open segment of boom deployed, as the booms must be constantly maneuvered to ensure that the oil slick stays within the containment area.

RIVER CONTAINMENT BOOM

Containment booming of a narrow or shallow river channel can be accomplished without a boat. The boom can be positioned by hand or by using a motor vehicle (if the shoreline allows) to position the boom. Light duty boom or absorbent boom would be required for this procedure.

DOUBLE BOOMING OF NARROW CHANNELS

Protection of a narrow inlet or channel can be accomplished by utilizing a double string of boom across the entire width of the channel. The first string of boom will contain most of the oil slick and the second string of boom should contain any oil escaping the first boom. This booming technique is best accomplished by using an absorbent boom as the second boom. This booming technique is most effective in channels having weak currents.

An emergency sorbent boom can be quickly constructed from readily available materials purchased at the local farm supply.

Hay or straw bales, placed end to end and secured with a roll of chicken mesh will make an effective (although cumbersome) sorbent boom for still or slowly running waters. This type of sorbent is cost effective and will absorb approximately five times it's own weight. This boom must be constructed close to the water's edge, so that it can be fed into the water as it is assembled. Do not place over three bales in the mesh before feeding the boom into the water. The bales will provide flotation for a few days until they gradually absorb water and oil and eventually will sink if not recovered. As the bales sink, they expose fresh material at the surface capable of absorbing more oil. It is important to monitor the boom and remove it before it gets too wet (and heavy) in order to be able to recover it without special equipment.

Recovery is accomplished by reversing the launch/construct procedure, pulling the boom ashore, a few bales at a time and disassembling that portion before pulling more ashore. This should be done on a double layer of 6 mil polyethylene to avoid contamination of the shore. The contaminated bales should be handled as oily waste material and its disposal procedures handled like spent absorbent material.

CAUTION! While the bales are an effective absorbent, small amounts of oil can be released as the boom is pulled ashore. A secondary boom should be in place during recovery.

Clean new bales can be placed in the mesh to renew the assembly, if required.

Other types of sorbents include: foamed plastic, cotton waste, talc and dried volcanic rock. When sorbents are used, plan on using a lot of manual labor to recover the sorbent.

Sorbents may also be used with brooms, however, if the current or wind is high, oil sorbent will go over the top of the boom or may sweep under if the current is greater than 1 fps. The effects of the current can be countered by angling the boom to divert spillage to a quieter area. The angle becomes sharper as the current increases.

If straw or similar type of material is used, use a mulcher to spread the material. If straw is dumped, it tends to remain in large clumps even if there is wave action.

Nets may be more effective than booms for containing relatively small quantities of stringy material such as bark, hay and shredded foam. With a 1" net, velocities of 2 to 3 fps are possible without product loss for small quantities of sorbent. For large quantities, the velocity will probably be limited to 1 to 2 fps without failure.

Other sorbents are available, however they should be checked to be sure they will not cause environmental damage before being used.

PROBABLE DIRECTION AND RATE OF MOVEMENT FOR UNAUTHORIZED DISCHARGES

For spills on water, oil will move in the direction of the wind and at a rate equal to approximately 3% of the wind velocity.

The water current will determine where the oil reaches the surface and will therefore determine where a boom should be placed. Large globules >1" in diameter, will rise approximately 1 foot per second (fps), while smaller droplets will rise at a rate of approximately 1.5" fps. With a stream current of 1 knot and a depth of 20 feet, oil would rise approximately 30 feet downstream of the source.

In the event of groundwater contamination, existing water wells or perennial streams can be helpful for determining the direction of the flow.

ESTIMATING SPILL VOLUME

SECTION 9 ESTIMATING SPILL VOLUME

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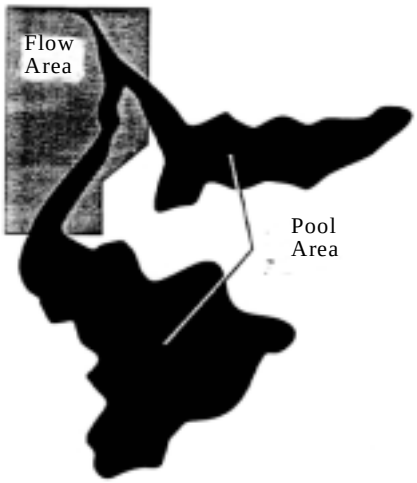
ESTIMATING SPILL VOLUME

Oil spills on land are often as difficult to size as those offshore. A reasonably close estimate can be obtained by determining the area covered, average depth and average penetration into the soil. This process should be completed within 4 hours of discovery or, if daylight is necessary, within 3 hours after sunrise.



Classifying the Areas

The surface of spilled oil is usually so irregular that it is extremely difficult to estimate the area covered. The problem can be simplified if the spill area is first separately divided into two main types of areas:

- Flow Areas: Area coated by oil flow with little or no penetration.
- Pooling Areas: Area where oil has pooled after flowing, allowing penetration to occur.

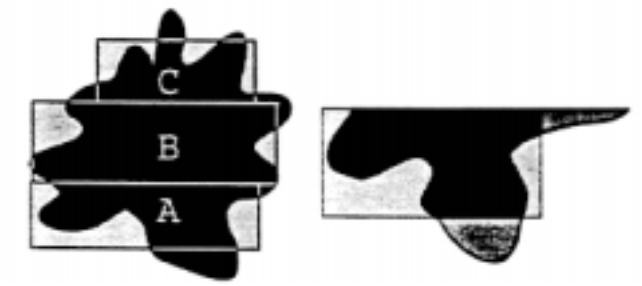
If the pool of oil has water underneath, the depth of oil should be reduced accordingly.

Converting Irregular Shapes (Simpson's Rule)

In order to estimate the area of an irregular shape, the shapes can be converted into a series of rectangles that approximate the area of the irregular shape, with about the same amount of spill area outside of the rectangle as there is dry area inside the rectangle. This can be done by stretching a steel tape along the ground outside the spill area. The area can then be quickly estimated by multiplying the length of the sides.

Area "A" 70' x 20' = 1400 square feet
Area "B" 60' x 10' = 600 square feet
Area "C" 35' x 20' = 700 square feet 2700 square feet total

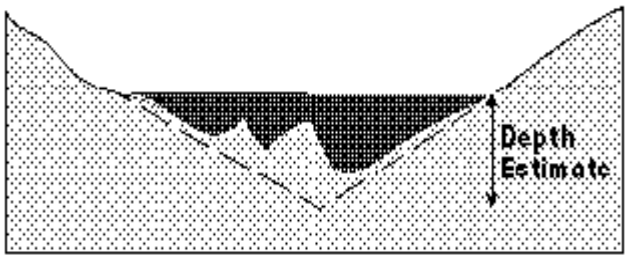
The more rectangles you use, the more accurate your estimate becomes.



Estimating The Average Depth

The next task is to estimate the average depth of oil in each of the areas. The oil will vary from very shallow at the edge to whatever depth the terrain is at the lowest point. This can be determined by "gauging" with a stick if it is shallow or accessible. If the pool is wider, you can heave a large stone into the pool to confirm depth. A good estimate can usually be made by observing the slope of the ground around the pool and assuming that the slope continues under the surface of the oil.

If you estimate that the deepest point in Area "A" is 20" and Area "A" has three boundaries of "shore", divide the depth figure by three to obtain average depth. If it has two "shore" boundaries, like Area "B", divide the depth by two to obtain average area depth.



Obtaining the Free Oil Volume

The irregular shaped area with unseen bottom has now been reduced to a familiar shape. The volume of free oil in Area "A" is:

Area "A": 70' x 20' = 1400 square Feet
Average depth = 20" " 3 – 7"
7 inches " 12 inches per foot = 0.6 foot
Area "A" Volume = 1400 square feet x 0.6 ft
Area "A" Volume – 840 cubic feet
The total volume would be the sum of Areas "A", "B", &"C".

Converting to Gallons and Barrels

Each cubic foot is equivalent to 7.5 gallons.
840 cu. ft. x 7.5 gallons/cubic ft. = 6300 gal
Each U.S. Barrel is 42 gallons:
6300 42 gallons/barrel = 150 barrels of oil.

Considering Penetration

Determining how much additional oil has penetrated into the soil can be accurately measured by taking a core sample of the oil covered soil, however, the following rule should suffice for estimates of oil spilled.

For penetration allowance in normal sand or soil, add 5% to the total volume for every foot of average depth. In the case of Area "A", the average depth was 7 inches, or 0.6 foot, so we add 3%.

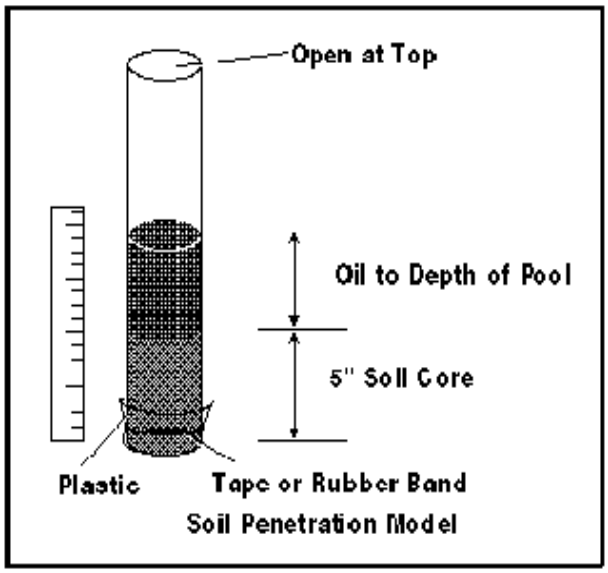
150 barrels x 1.03 = 154.5
6300 gallons x 1.03 = 6489 gallons

- Do not add a penetration allowance to areas with slopes that allowed a reasonable flow rate
- Add an allowance for slow flowing areas
- Reduce allowance by half if area is wet from rain

This is a method of estimating the volume of oil in the penetration. In the case above, the oil would penetrate 3" to 6" into the soil.

Precise Penetration Determination

If more precise determination is required, drive a clear plastic tube about 2" or larger in diameter 6" into the uncontaminated soil adjacent to the spill. Twist and remove with soil core. Seal the bottom of the tube with plastic and tape. Pour free oil into the top of the tube to the depth of the oil in the pool, mark the level and let it set for one hour. Measure how much the oil level has dropped. Observe how deep the oil has penetrated. Retain the model to observe increased penetration with time.



Walk Around Method

If the pool of oil is roughly circular, you can estimate its area by pacing around the pool and counting your paces. Walk as closely to the pool edge as possible. Try to make your paces three feet, or one yard long. If you counted 700 paces, the circumference is 700 paces x 3 ft/pace or 2100 feet. The next step is to guess how much smaller the actual pool is, compared to the circle you walked. If you were pretty close, deduct 10%.

2100 ft x .90 = 1890 ft adjusted circumference.
The diameter (d) of a circle is related to the circumference by the formula:
C = PI d (where; = 3.14)
If the circumference of our circle is 1890 ft., then the diameter is d=1890/PI = 1890/3.14 = 602' and the radius is 1/2 d = 602/2 = 301'
The area of the pool is given by the formula:

$$\text{Area} = \text{PI } r^2$$
$$A = 3.14 \times 301 \times 301$$
$$= 284{,}487 \text{ sq. ft.}$$

Now you can estimate the average depth by guessing the maximum depth. If we guess the depth from the exposed slope to be 12" at the deepest part, we can divide by four (four sloping sides) to estimate an average depth of 3" or 0.25 feet. The volume is therefore:

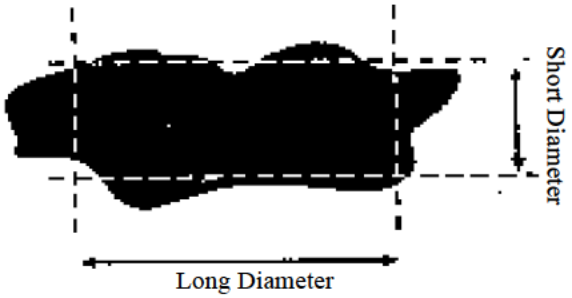
V = 284,487 sq. ft. x .25 feet – 71,122 cubic ft As before, we know each cubic foot contains ~ 7.5 gallons, therefore 71,122 cu. ft./7.5 gallons/cu ft. = 9,483 gallons

To convert to barrels = 9483 gallons/42 gallons/barrel = 226 barrels.

Our average depth was 3" so we can add about one percent for penetration = 226 x 1.01 = 228 barrels.

Average Diameters

You can also estimate the area of an oval shaped pool by pacing off (3' per step) the width of the "short diameter" and the "long diameter" and averaging them.



First pace off the "short diameter", but stop short to allow for the irregular shape. Repeat the procedure for the "long diameter". Add them together and divide by two to get the "average diameter".

In this example, the "short diameter" was 75 paces or 75 x 3 = 225 feet. The "long diameter" was 120 paces, or 360 feet.

The Average Diameter = (225+360)/2 = 292 feet and, the radius is 1/2 the diameter = 292/2 = 146 feet.
$A = PI\ r^2$ = (3.14) (146) (146) – 66932 sq. ft.
The average depth is 3" or .25 feet
The volume is: V = 66,932 sq. ft. x .25 ft. = 16,733 cu. ft.
For Gallons: 16,733/7.5 = 2,231 gallons
For Barrels: 2,231/42 = 53 barrels

Comparison Methods

Sometimes you can estimate area by comparing it to familiar areas, with adjustment for irregular shape. The following table gives the square footage of several familiar areas.

Type	Length	Width	Area
Football field	100 yds	50 yds	5,000 sq. yds.
Basketball court	94 ft.	50 ft.	3,700 sq. ft.
Tennis court	78 ft.	36 ft.	648 sq. ft.
Baseball diamond	90 ft.	90 ft.	810 sq. ft.
Parking space	20 ft.	10 ft.	200 sq. ft.
Office	10 ft.	10 ft.	100 sq. ft.
Service station	700 ft.	250 ft.	175,000 sq. ft.
4-lane intersection	55 ft.	55 ft.	3,025 sq. ft.

Inaccuracies In Estimates

All examples presented offer quick methods of estimating for gross volumes and are generally accurate within 20%, if your assumptions and measuring was accurate within 20%. These accuracies should be sufficient for initial reporting and determining resource requirements. Drills have indicated that all of the estimates generally are within 10% of the others.

Estimating Spill Volume on Water

Purpose

In the event of a sizable spill, a rough estimate of the spill's total volume provides the Incident Commander with preliminary data to plan and initiate the cleanup response. Generating this estimate early in the spill response aids in determining:

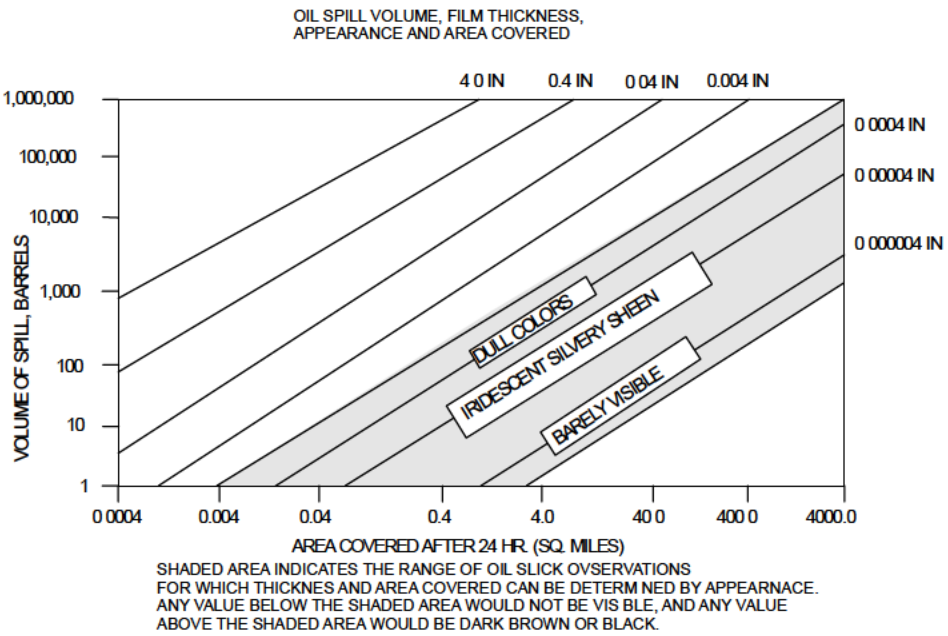
- the equipment and personnel needed
- the amount of oil that may reach shorelines and/or sensitive areas
- the requirements for temporary storage and disposal of recovered materials

This process should be completed within 4 hours of discovery, or if daylight is necessary, within 3 hours of sunrise.

Estimating By Observation

When conditions permit, direct measurements of spill parameters are preferred over visual estimates.

A rough estimate of spill volume can be generated from observations of the oil slick's size and thickness as demonstrated by the following figures.



Since oil slick spreading is influenced by the spill volume as well as physical forces, stopping the spill at it's source is critical in controlling the spread of a slick on water. The more conservative the first estimate of the spill volume, the better the chances that response forces will arrive at the spill site prepared with adequate and appropriate equipment. It is preferable to over respond early to a spill, rather than to under respond and risk un-preparedness. To under respond will impede the effectiveness of spill control and cleanup efforts. A slow or poorly prepared initial response can incur more operational costs and increase the risk of damage to marine and shoreline resources and environments. Therefore, properly planning the initial response is critical in a spill situation.

If a release of any type of oil occurs in an urban area, there is a high probability that the oil can enter a municipal storm drain system. If the oil is found to be entering the storm drain system from a curb drain inlet or street drain inlet, block the inlets. Construct sandbag dams in the street to restrict the oil from spreading and to reduce the area that will be required to be cleaned up.

If the oil has already entered the storm drain, remove the closest storm drain manhole cover and determine the flow direction of the system. If the released oil is flowing in the storm drain, continue reconnaissance of the manholes down stream of the release until there is not a show of oil. At this point, dam the storm drain on the down stream side with absorbent material to stop further migration and begin removal of the oil with a vacuum truck. Flush the drain with water beginning at the point the oil entered the system. Continue to flush the drain and recover the oily water until there is no longer a sheen of oil on the water. As disposal of oily material creates additional problems, flush the drain with the minimum amount of water needed to ensure recovery.

ESTIMATING SPILL VOLUME BY COLOR AND COVERAGE AREA

Estimating Spill Volume by Color and Coverage

Silvery Sheen					
Width X Length (feet)	Sq. Ft	Thickness (feet)	Cu. Ft.	Gal. Per Cu. Ft.	Gallons Spilled
100 X 500	50,000	0.00000025	0.0125	7.48	0.1
100 X 1,000	100,000	0.00000025	0.0250	7.48	0.2
100 X 2,000	200,000	0.00000025	0.0500	7.48	0.4
200 X 1,000	200,000	0.00000025	0.0500	7.48	0.4
500 X 1,000	500,000	0.00000025	0.1250	7.48	0.9
200 X 2,000	400,000	0.00000025	0.1000	7.48	0.7
200 X 5,000	1,000,000	0.00000025	0.2500	7.48	1.9
500 X 5,000	2,500,000	0.00000025	0.6250	7.48	4.7
500 X 10,000	5,000,000	0.00000025	1.2500	7.48	9.4

Bright Bands of Color (Purple, Blue to Green)					
Width X Length (feet)	Sq. Ft.	Thickness (feet)	Cu. Ft.	Gal. Per Cu. Ft.	Gallons Spilled
100 X 500	50,000	0.000001	0.0500	7.48	0.4
100 X 1,000	100,000	0.000001	0.1000	7.48	0.7
100 X 2,000	200,000	0.000001	0.2000	7.48	1.5
200 X 1,000	200,000	0.000001	0.2000	7.48	1.5
500 X 1,000	500,000	0.000001	0.5000	7.48	3.7
200 X 2,000	400,000	0.000001	0.4000	7.48	3.0
200 X 5,000	1,000,000	0.000001	1.0000	7.48	7.5
500 X 5,000	2,500,000	0.000001	2.5000	7.48	18.7
500 X 10,000	5,000,000	0.000001	5.0000	7.48	37.4

Trace of Color (Yellow, Bronze, Violet)					
Width X Length (feet)	Sq. Ft.	Thickness (feet)	Cu. Ft.	Gal. Per Cu. Ft	Gallons Spilled
100 x 500	50,000	0.0000005	00.250	7.48	0.2
100 x 1,000	100,000	0.0000005	0.0500	7.48	0.4
100 x 2,000	200,000	0.0000005	0.1000	7.48	0.7
200 x 1,000	200,000	0.0000005	0.1000	7.48	0.7
500 x 1,000	500,000	0.0000005	0.2500	7.48	1.9
200 x 2,000	400,000	0.0000005	0.2000	7.48	1.5
200 x 5,000	1,000,000	0.0000005	0.5000	7.48	3.7
500 x 5,000	2,500,000	0.0000005	1.2500	7.48	9.4
500 x 10,000	5,000,000	0.0000005	2.5000	7.48	18.7

Colors Turning Dull (Brick Red, Turquoise, Pale Yellow)					
Width X Length (feet)	Sq. Ft.	Thicknes (feet)	Cu. Ft.	Gal. per Cu. Ft.	Gallons Spilled
100 x 500	50,000	0.0000033	0.1650	7.48	1.2
100 x 1,000	100,000	0.0000033	0.3300	7.48	2.5
100 x 2,000	200,000	0.0000033	0.6600	7.48	4.9
200 x 1,000	200,000	0.0000033	0.6600	7.48	4.9
500 x 1,000	500,000	0.0000033	1.6500	7.48	12.3
200 x 2,000	400,000	0.0000033	1.3200	7.48	9.9
200 x 5,000	1,000,000	0.0000033	3.3000	7.48	24.7
500 x 5,000	2,500,000	0.0000033	8.2500	7.48	61.7
500 x 10,000	5,000,000	0.0000033	16.500	7.48	123.4

WASTE MANAGEMENT

SECTION 10 WASTE MANAGEMENT

WASTE MANAGEMENT 1

Overview 1

FACILITY WASTE MANAGEMENT FLOW CHART 2

WASTE MANAGEMENT

Overview

Various Federal and State laws and regulations strictly control waste management health and safety precautions as well as necessary permits. It is the responsibility of the Waste Management Coordinator in coordination with the Environmental Unit Leader to manage necessary waste issues during an incident.

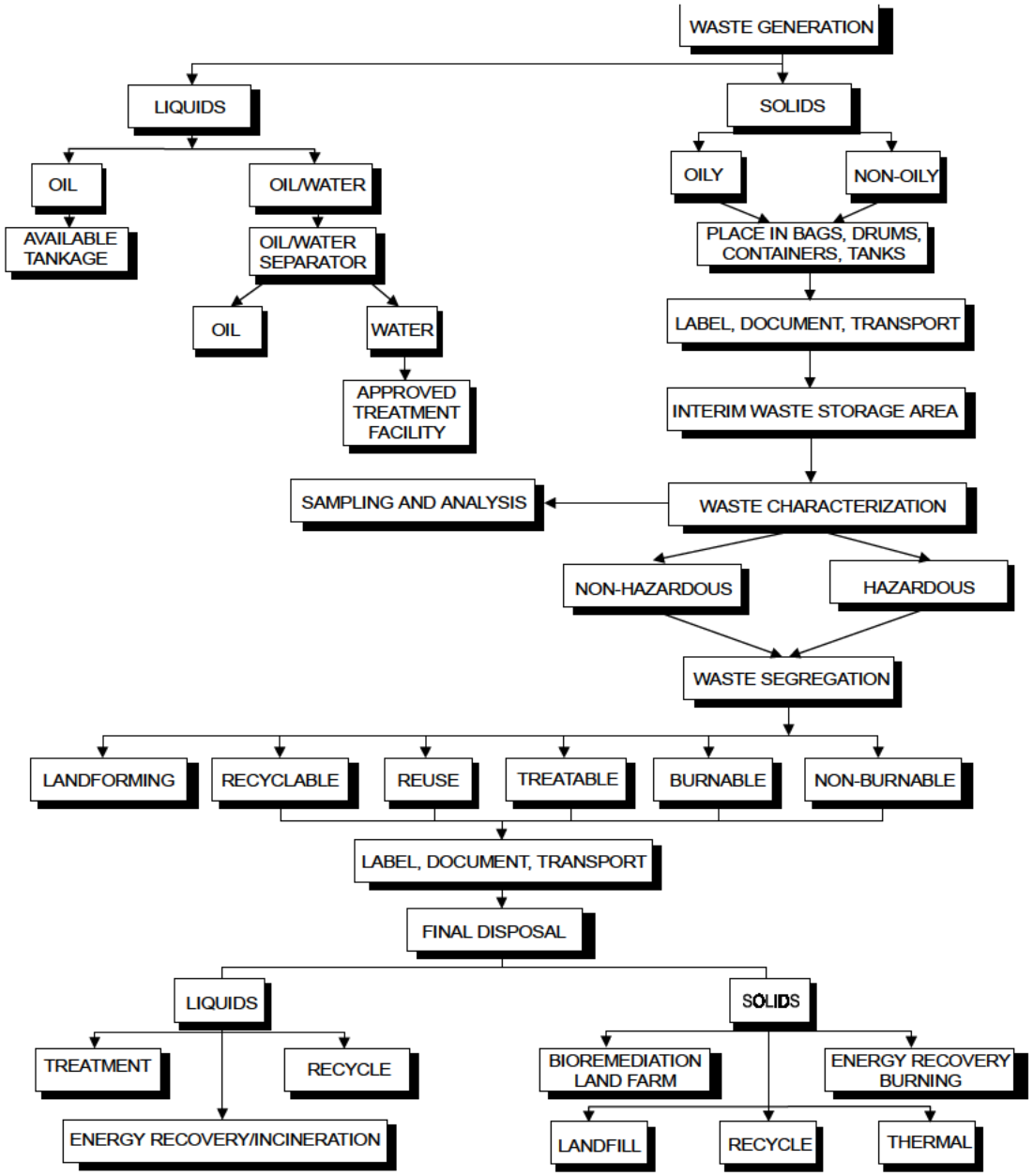
It is important that the Company HES Waste Management Specialist be notified as soon as possible anytime there is a potential for waste management issues. See Section 2 of this Core Plan-for Immediate Notifications for HES contact information.

Oil spill response can generate waste materials ranging from oily debris and sorbent materials to sanitary water and a variety of used contaminated equipment and supplies. These wastes must be properly classified, separated (i.e. oil, water, soil), transported from the site and properly treated and disposed of at approved sites. Each of these activities requires certain regulated health and safety precautions be taken. Proper waste management permits must be obtained.

A general Company Waste Management flowchart is provided on the next page.

In addition, it is important to refer to the State Appendix for specific guidelines regarding waste management including strategies, separation, transfer, storage, transportation and other necessary information.

FACILITY WASTE MANAGEMENT FLOW CHART



COMMUNICATIONS

SECTION 11 COMMUNICATIONS

COMMUNICATIONS 1

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COMMUNICATIONS

Effective and efficient communications systems are essential for emergency response at every level. Communications systems will be utilized to assist with coordination of necessary incident activities.

Several communications systems are available and will be utilized by the Immediate and Sustained Response Teams as follows.

- Primary method will be via Cellular Telephone System(s).
- Secondary method is landline telephone system.

Additional secondary methods includes:

- VSAT Telephone System
- 24 hour Conference Bridge
- Public Telephone systems
- Facsimile via Public Telephone System or Cellular System
- Contractor two-way radio systems
- Spill Cooperative radio networks
- Citizen Band radio systems

These systems may be augmented by additional communications systems as required:

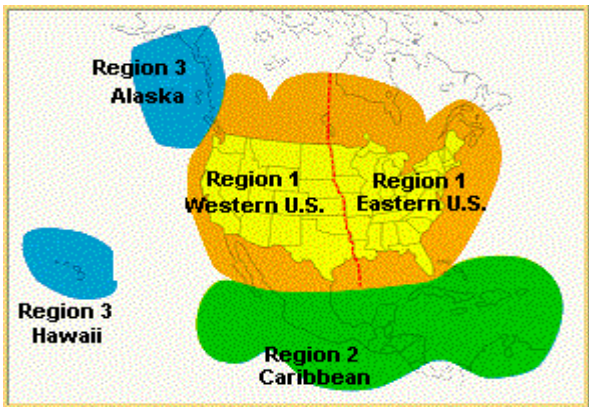
- Public Address Systems
- Marine radio System
- Air to ground radio System
- Local Amateur Radio operators

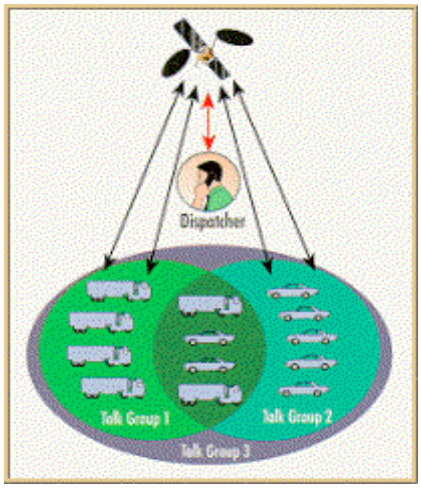
VSAT Telephone System

The Company has a number of VSAT Telephones in place, which can be used as a secondary means of communications.

The Company has placed these telephones at each of the various Field Team locations and the Houston Control Center. These VSAT Telephones provide the local Field Teams with unlimited coverage to communicate with the Control Center Controllers, as well as State and Federal Agencies.

All communications on this system must pass through a satellite, even if units are adjacent.





VSAT Telephone System Coverage Area of American Mobile Satellite. Note: All Company phones are served by Region 1 – Western U.S.

The VSAT System has three Talk Groups which coincide with Regional Boundaries (Talk Group #1 being the Gulf Coast Region, #2 the Central Region and #3 the Western Region).

These units can operate in two separate modes. The first mode, or Dispatch mode uses the "Push To Talk" (PTT) microphone to communicate with the entire talk group. In this mode, when the PTT microphone is pressed it activates the satellite and allows all units in a specific Region to take part in the conversation.

When the PTT microphone is depressed, all units in the talk group can identify the unit which is in use by the unit number being displayed as the unit transmits. When you are in this mode it should also be noted that the speaker which the conversation is be transmitted through is built into the rear of the handset. If you cannot hear the conversation you must pick up the handset and adjust the volume on the handset.

The second mode of operation is the "telephone". This feature uses a handset, which looks much like a cellular telephone handset. This allows a users to call into or out of the satellite telephone system.

When using the handset the two parties can only hear the call, i.e., the unit that placed the call and the party receiving the call. In the Dispatch mode, the entire talk group can hear the conversation.

These two functions are built into the same base unit. The base unit has the capability of switching from the PTT to the handset when an incoming call is received. There is however a one-minute timer, which after placing a call, will prohibit the unit from switching back to the PTT. Therefore, when these units are in use it is recommended that they remain in the PTT active mode.

This system is Half Duplex so when talking on the system, it is necessary for one person to talk while the other person listens.

Along with the field units, which are on talk groups determined by geographical regions, the Control Center at the Texas Facility has a VSAT phone on each console. These units can join into any of the talk groups in any Region.

American Mobile Satellite Company has a 24-hour Customer Service Center which is capable of working with users to help talk them trough opening trouble tickets.

Cellular Telephones

Recent developments in the cellular telephone system permit unprecedented flexibility and access to the PSTN from remote and mobile locations. The cellular systems are so wide spread that there are few areas which cannot be reliably served by these networks. Units can be mounted in vehicles or hand carried to provide for the receipt or initiation of telephone calls.

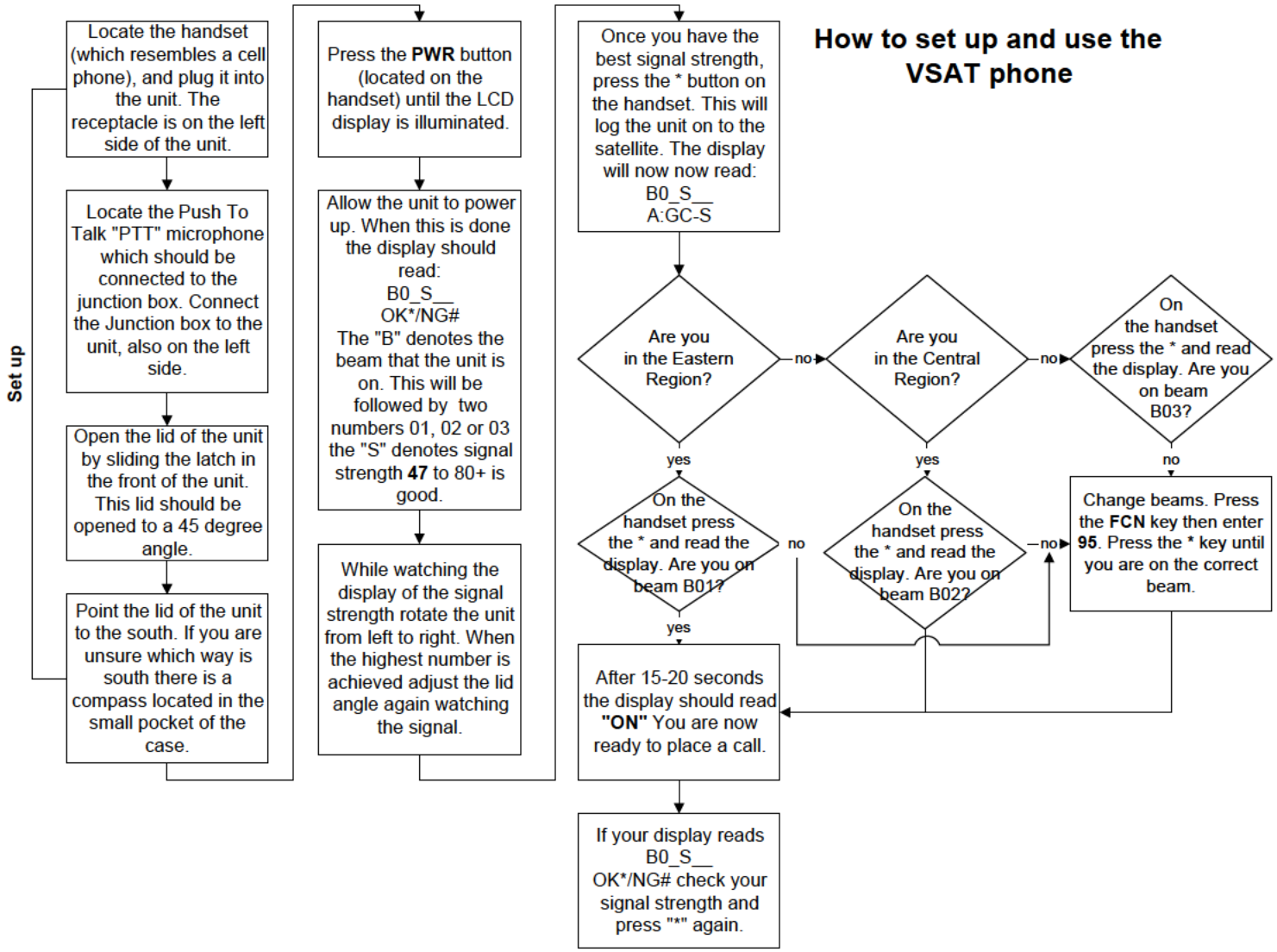
This extensive system provides a semi-private mode of telephone use which can be a valuable tool for emergency response. It permits immediate telephone service at non-connected locations like a Command Post, or remote strategic deployment areas.

The Company owns many cellular telephones that are currently connected to local cellular networks.

In the event of a sustained response effort additional vehicular mobile and/or hand held cellular telephones can be purchased, installed and activated in a few hours time. This helps to establish a more secure network of communications between the Command Post and remote work locations. Cellular telephones may provide telephone access for the Command Post in its initial hours of operation before telephone connections can be made and service established.

In the event of a wide spread event that affects local power distribution and telephone service, cellular telephones may not continue to operate if the cellular repeater power source is affected. Some repeater sites are provided with backup systems. It is likely but not assured, that cellular telephones will be in service and usable on some occasions when local telephone service has been disrupted.

If there is a significant widespread incident or natural disaster such as a hurricane, earthquake, tornado or other major man made disaster, the PSTN may be out of service or overwhelmed by traffic. Should this occur, Company Teams must rely on the VSAT Telephone system as previously described.


How to set up and use the VSAT phone
Set up
Locate the handset (which resembles a cell phone), and plug it into the unit. The receptacle is on the left side of the unit.
Locate the Push To Talk "PTT" microphone which should be connected to the junction box. Connect the Junction box to the unit, also on the left side.
Open the lid of the unit by sliding the latch in the front of the unit. This lid should be opened to a 45 degree angle.
Point the lid of the unit to the south. If you are unsure which way is south there is a compass located in the small pocket of the case.
Press the PWR button (located on the handset) until the LCD display is illuminated.
Allow the unit to power up. When this is done the display should read:
B0_S__
OK*/NG#
The "B" denotes the beam that the unit is on. This will be followed by two numbers 01, 02 or 03 the "S" denotes signal strength 47 to 80+ is good.
While watching the display of the signal strength rotate the unit from left to right. When the highest number is achieved adjust the lid angle again watching the signal.
Once you have the best signal strength, press the * button on the handset. This will log the unit on to the satellite. The display will now now read:
B0_S__
A:GC-S
Are you in the Eastern Region?
no
Are you in the Central Region?
no
On the handset press the * and read the display. Are you on beam B03?
no
Change beams. Press the FCN key then enter 95. Press the * key until you are on the correct beam.
yes
On the handset press the * and read the display. Are you on beam B02?
no
yes
On the handset press the * and read the display. Are you on beam B01?
no
yes
After 15-20 seconds the display should read "ON" You are now ready to place a call.
If your display reads
B0_S__
OK*/NG# check your signal strength and press "*" again.

TIPS FOR SUSTAINED USE OF HAND HELD RADIOS AND CELLULAR PHONES

- Place unit in charging unit for any period of non-use
- Step into a clear area out of doors for improved reception
- Hold radio with antenna vertical to match polarization of base antennas
- Hold the transmission to minimum to conserve power
- Turn unit completely off when unused or when you are within hearing of other radio units
- Keep a spare battery in the charging unit

NOTICE

Cellular telephone conversations can be intercepted and monitored by outsiders equipped with scanning receivers. Due to complicated switching and multiple frequency paths, deliberate monitoring of any specific parties is extremely difficult and is unlikely to occur. However, such monitoring is possible. Cellular telephones should be used with the understanding that privacy is not absolute.

Regular Telephone Service

Telephone service should be requested immediately as soon as a decision is made on the location of the Unified Command Post.

Facsimile

Communication of documents, maps, diagrams, reports, correspondence and other material can be accomplished quickly and accurately via facsimile over commercial telephone lines from stationary and mobile cellular phones.

Facsimile machines can be operated over a cellular telephone. To do so, a device known as an acoustical coupler is required. If this is needed, the request should be made to the Communications Unit Leader.

All Facsimile transmissions should be accompanied by a FAX cover sheet. A typical cover sheet for use during an incident is shown in Section 2 of this Core Plan. This sheet can be copied if cover sheets are not available. This sheet should not be used for non-response related facsimiles.

Contractor Radio System

Contractors likely to be employed in and emergency response effort frequently have vehicles equipped with VHF or UHF FM mobile radio systems. While these systems are not compatible with the other systems described, they will provide communications between work groups from the same contractor and the contractor's office. Additionally, many foremen and supervisory personnel have cellular telephones in their vehicles. These radio systems can be utilized to augment the operational radio system during response efforts. Messages for contractor work

groups or for their Company representative can be relayed through the contractor's office or their vehicles.

Spill Cooperative Radio Systems

An extensive radio system is available and can be utilized through Oil Spill Cooperatives. These radios operate on Federal Communications Commission frequencies that are specifically reserved and assigned for oil spill response.

Communications Matrix

The Logistics Section will be responsible for coordinating the distribution and operation of radios. Logistics will also be responsible for maintaining assignment records for the hand held units and chargers.

The units should not be swapped or given to others for extended use without notifying Logistics. Units requiring repair or maintenance should be turned in to Logistics who will log the unit as returned and issue a replacement unit. The defective unit will be tagged with a repair tag immediately upon return. The tag should be taped to the unit and turned over to the Company technician or sent to the repair shop for service.

Public Address Systems

Electronically amplified voice systems can be employed in response for several purposes:

- To assist with traffic control
- To assist with crowd control
- To direct containment or diversion efforts
- To direct repair efforts
- To address a large gathering of the media

The most useful system for these tasks is the hand held hailing horn. It consists of a battery powered amplifier mounted on a projection horn. The unit has an on/off volume control, a push-to-talk switch and a microphone mounted on a pistol grip. The units are sturdy and will continue to operate satisfactorily under adverse conditions. The units are shock and weather resistant and can be used in marine service.

To use the unit, turn it on, adjust the volume and aim it in the direction you wish to speak. Hold the unit so the microphone is between 4" to 1" from your mouth. Speak in a normal voice level slightly slower than normal for clear understanding. Important instructions should be repeated.

If the unit is equipped with a signaling tone for gaining attention it should be used sparingly. The Company has several of these units that are carried in vehicles for emergency response. Additional units may be purchased if needed for extended use during an incident.

Marine VHF Radio

Should an emergency occur that involves a spill into the ocean marine radio systems provide local communications between vessels and between a vessel and the shore. The oil spill response vessels of most cooperatives are equipped with multi-channel marine VHF radios. Channel 16 is used and monitored by all vessels as a designated emergency and hailing frequency. Use Channel 16 to gain contact with a vessel, then change to a mutually agreed channel for communications. This keeps the emergency and hailing frequency clear for other users. The US Coast Guard port offices and vessels continuously monitor Channel 16 and can be contacted on this frequency.

When coordination and communications between vessels and the shore is required, hand held 80 channel marine VHF transceivers or 80 channel base stations may be used. Although the Company does not have such radios, base and hand held units are available which can be utilized until units can be obtained through the Communications Technology Department.

Additional marine VHF base and hand held transceivers are available through the Company's cooperatives. Hand held and base units are readily available.

Marine VHF radios operate on a "line of sight" principal between stations. The signal does not bend around large obstacles or over the horizon. Antenna height is the single most important factor in the range of the units. Accordingly, reliable communications can be accomplished by relatively low power hand held units if you are above water level and have a clear path. The hand held units are particularly effective for communicating with vessels operating near the shore in oil spill clean up operations.

Air to Ground Radios

All leased aircraft and helicopters are equipped with VHF air to ground radio transceivers. The air to ground VHF also operates on a "line of sight" basis. Because the aircraft is operating at altitude its antenna is at a height which permits communication over a considerable range. Hand held units are also available but not widely stocked. Initial communications with aircraft and helicopters can be handled through the aviation contractor who has base units installed.

Amateur Radio Resources

Amateur Radio Operators are private citizens who have passed the licensing requirements of the Federal Communication Commission to hold communication privileges on various assigned frequency bands. They own and operate base stations and mobile units primarily as a hobby. Frequently these amateur radio operators, or "Hams," establish reliable communication networks and undergo training and drills to establish proficiency in providing emergency communications during disasters when conventional means of communication are out of service. They have a rich history of such assistance and service in times of earthquakes, floods, hurricanes and other natural disasters. Their communications equipment is frequently very modern and capable.

Although the Company radio system is equipped with emergency generators and other standby provisions and should remain in operation under foreseen emergencies it is possible that

telephone trunk lines, microwave paths and fiber optics links could be disrupted. Amateur networks would be a reliable link to communicate with other Company facilities.

NOTE: FCC regulations prohibit the use of amateur radio for commercial use for profit or gain. Any use of this resource should be restricted to emergency communications and not in any way connected with routine business matters.

There are two different types of emergency networks in operation by amateur radio operators. The first type is organized and sponsored by the American Radio Relay League (ARRL) and will accept and transmit radiograms routinely or in times of emergency. The messages should be given a proper priority "routine," "urgent" or "emergency" and delivered by telephone to any operator on the net. Radiogram messages should be in the form of a telegram; brief, abbreviated and restricted to the essential message.

The second network is called the Military Affiliated Radio System (MARS). It is sponsored by military organizations (i.e. ARMY, Air Force) and networked with powerful radio stations located at military bases. This system is primarily intended to assist personnel in the armed forces but it will also process radiograms in times of crisis.

The ARRL networks and arranges direct communications if you can go to their station and arrange to have a party at the receiving station. Radiograms are the preferred medium. In an extreme emergency, contact the local County or Parish Sheriff's Radio Dispatch or the local County Office of Emergency Preparedness. They will be in direct contact with amateur radio relays. Radiograms can be sent to other cities by getting in touch with these individuals.

General Radio Use

Use of the radio in emergency response is essential to the coordination of the effort. Many Company employees use the radio on a daily basis during regular operations and maintenance and are familiar with their utilization. Other members of the Response Team do not regularly use radios and are not experienced in their use. A brief explanation of efficient radio use to help assist with effective communications is as follows:

Rules For Efficient Radio Communication

- Be sure you know how to operate the unit you have been assigned. If you aren't sure, ask.
- Hold the microphone from 1" to 2" from you lips when you speak. Speak clearly and distinctively.
- Repeat or spell essential or difficult to understand phrases such as street names.
- Identify yourself and the party you are calling at the beginning and end of your conversation.
- Yield routine calls to any proclaimed emergency.
- Listen before you transmit to see the frequency is clear.
- Keep transmissions as brief as possible. Do not "ramble on."
- If within range, use the repeater to establish communications then move to the talk-a-round mode for longer transmissions. (Don't forget to put the unit back to repeater mode when the conversation is complete).
- Use the word; "over" to indicate you are ready for the other party to transmit, then release the Push-to-Talk button promptly.
- Wait for others to "Sign Off" before starting your call.
- Except for unusual circumstances communications should be "one on one."
- Clearly indicate your "Sign Off" so others will know the frequency is clear.
- Be courteous and considerate of others.
- Do not use the radio for sensitive or confidential transmissions. The radio is not secure. Media personnel can and often do monitor company frequencies during emergencies.
- The use of cell phones or similar electronic devices while driving is prohibited. Guidelines demand the stopping of the vehicle in a safe location prior to sending or receiving calls.

DRIVE CAREFULLY!

TRAINING & DRILLS

SECTION 12 TRAINING & DRILLS

TRAINING AND DRILLS 1

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Company Emergency Response Training Program 2

Training Levels 3

HAZWOPER Emergency Responder Training 4

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Agency Drills (Announced or Unannounced) 8

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Summary of Response Drill Requirements 9

TRAINING AND DRILLS

Introduction

Company has developed an annual training and education plan and a long range training process to meet the requirements of emergency response regulations, as well as other business needs.

In order to gain practice in the application of their local emergency response plan, Team locations also conduct hypothetical drills.

All employee training is documented using Company's standard documentation process.

Where required by State or Federal regulations, a summary of employee training records is kept at the facility. The summary of employee training records will be maintained as long as personnel have duties under the Response Plan. This summary is available for review by agency representatives as provided for by regulations. Complete training records, including signed course rosters, copies of certificates of completion and course outlines, are maintained by the Headquarters Human Resource Group and may also be made available as required.

Regulatory Overview

The emergency response training program is designed to assure that an adequate number of trained personnel are available to respond to emergencies along pipelines, pumping stations and terminals. The program is designed to comply with all applicable laws and regulations. Company's emergency response drill and exercise program is consistent with Federal PREP requirements. These drills and exercises are discussed in detail following the discussion of Company's training programs.

The emergency response training program complies with OSHA requirements under 29 CFR 1910.120, EPA regulations in 40 CFR 113 and Coast Guard requirements under 33 CFR 154 and 156, 49 CFR 194, 49 CFR 195 & 402 and applicable state requirements.

The program complies with these regulations by:

- Identifying training provided to each individual with responsibilities under the plan.
- Ensuring that all response personnel are trained to meet OSHA standards under 29 CFR 1910.120.
- Identifying the methods of training volunteers and casual laborers receive during a response to comply with 29 CFR 1910.120.
- Training personnel in preventing pollution during operations and oil transfers.
- Instructing personnel in the operations and maintenance of equipment and applicable laws, rules and regulations.

- Scheduling and conducting periodic spill prevention briefings for operating personnel at frequent intervals. The briefings discuss known spill events or failures, malfunctioning components and recently developed precautionary measures.

PREP exercise guidelines specify record-keeping requirements for drills and exercises.

Company maintains drill and exercise records for five years.

Records of training conducted as part of drills and exercises will be maintained as long as personnel have duties under the Response Plan. They will be made available upon request. The records include:

- Documentation of the training received by facility personnel. This documentation consists of a summary of training in which each employee has participated.
- Documentation of drills for facility personnel and the Spill Management Team.
- Documentation of drills of the oil spill response organization and response resources identified in the plan.
- Documentation of training received by those contract personnel that participate in either drills or actual incidents.

Company Emergency Response Training Program

The training program for emergency response is designed to prepare personnel to respond properly to non-routine activities or emergencies such as fires, spills, or leaks involving crude oil, pressure distillates, gasoline, or other petroleum products normally transported or stored in the pipeline system. This program is *not* currently designed to prepare personnel to respond to spills or fires involving other types of chemicals (e.g., boiler feed water treatment chemicals), product transportation accidents other than spills (e.g., tank truck rollover or fire), fires beyond the incipient stage, or interior structural fire fighting.

Training Levels

The variety of jobs in Company requires a range of awareness and expertise to cope with potential emergencies. Training levels have therefore been designed to provide a tailored curriculum for defined levels of response capabilities. Company has established a comprehensive training program to insure that their response teams are properly trained, qualified and capable of carrying out the responsibilities and duties associated with immediate and sustained response to an incident.

Company also maintains an annual training program for additional regulatory required environmental and safety training. This training prepares employees to handle routine and emergency situations by reviewing:

- Notification procedures and phone numbers
- Job site safety
- Emergency scene assessment
- Damage control

This training is provided to employees annually. The level of detail and the type of training each employee receives is based on their job description and requirements. If an employee changes jobs, then the level and type of training they receive will be amended to meet the job requirements. All training records are maintained in the company's database.

The specific objectives of the training program are designed to:

- Define levels of training required for all personnel and within pipeline operations, including awareness training for administrative staff through more advanced specialized response training for those personnel with primary responsibility for the management and mitigation of emergencies.
- Establish the content of in-house classroom, computer-based and hands-on training and identify specialized outside training courses to supplement the in-house program
- Determine the duration and frequency of all training courses.
- Assure attendance and proficiency of personnel.
- Devise and schedule drills to assess response capabilities to a variety of incidents as required by the applicable regulations.
- Maintain compliance status of all Regional System personnel with designated training level requirements using the training tracking system.

Each of the objectives listed above is addressed in the following sections.

HAZWOPER Emergency Responder Training

Federal Regulations 29 CFR 1910.120 and various State Regulations require that those employees whose job descriptions require that they participate in the response to spills, which are classified as hazardous materials, receive training commensurate with their duty descriptions. This training series, popularly known as "HAZWOPER", is illustrated on the matrix following this page. The Company Immediate and Sustained Response Team duties and responsibilities have been evaluated and the appropriate level of HAZWOPER training has been defined for each position.

Casual Hire Training

During post-emergency responses, it may become necessary to hire additional personnel for site clean-up and rehabilitation. Whenever temporary personnel (casual hires) are involved, Company shall review the following items to ensure that they are properly trained:

- Job Site Safety Plan
- Chemical hazards at the site and wearing of appropriate personal protective equipment
- Their specific role in the clean-up
- Names and contacts for the incident's Incident Command System

Drills and Exercises

Company conducts regular drills to assure adequate preparedness and in order to remain in compliance with Local, State and Federal government regulations. Company's drill program is based on the National Preparedness for Response Exercise Program (PREP) and has additional key elements that comply with various State Regulations. These drills are summarized in this Section. Drills and exercises will be conducted under the direction of each Region to ensure that preparedness objectives are met.

Company contacts State Representatives prior to conducting tabletop and deployment drills. Post-drill documentation for drill acceptance and certification by the State is submitted following tabletop and deployment drills.

State of Washington Training Program

The State of Washington Training Program will include (at minimum):

- Applicable ICS training
- NWACP Polices
- Use and location of GRP's
- Contents of ERP
- Worker health and safety

New employees shall complete the training program prior to being assigned job responsibilities, which require participation in emergency response activities.

HAZWOPER Training Summary

COMPANY HAZWOPER TRAINING

Type	Clean-Up			Emergency					TSD Sites	
Level	General Site Worker	Occasional Worker	Low Hazard Worker	Level 1 Responder Awareness	Level 2 Responder Operation	Level 3 HAZMAT Technician	Level 4 HAZMAT Specialist	Level 5 Incident Commander	General Site Workers	Emerg Resp Personnel
Reference 29 CFR	1(a) (3) (i)	1(a) (3) (ii)	1(a) (3) (iii)	1(q) (6) (i)	1(q) (6) (ii)	1(q) (6) (iii)	1(q) (6) (iv)	1(q) (6) (v)	1(p) (7 (i)	1(p) (8) (iii)
Time (Hours): Classroom	40	24	24	Training or Experience	8 or Experience	24 of Level 2+ Items*	24 of Level 3+ Items**	24 of Level 2+ Items**	24 or Experience	Training or Experience
Field	24	8	8							
Annual	8	8	8	Yes		Yes	Yes	Yes		Yes
Subject										
Site Safety & Health Organization	X	X	X						X	
Overview of Reg.	▲	▲	▲			▲	▲	▲	▲	▲
Hazard Communication	X	X	X	X	X	X	X**	X**	X	X
Personal Protective Equipment (PPE)	X	X	X		X	X	X	X	X	X
Medical Surveillance & Overexposures	X	X	X		▲	▲	▲	▲	X	X
Respiratory Protection	▲	▲	▲		▲	X	X	▲	▲	▲
Site Security & Control	▲	▲	▲	X	X	X	X	X	▲	
Decontamination	X	X	X		X	X	X	X	X	X
Containment & Clean-up	X	X	X		▲	X	X	▲	X	▲
Drum & Container	X	X	X					X		
Engineering Controls	X	X	X					X		
Emergency Response	X	X	X	X	X	X	X	X	X	X
Confined Space Entry	X	X	X	▲	▲	▲	▲	▲	▲	▲
Information				X	X	X	X	X		X
Electrical Lockout / Tagout	▲	▲	▲		▲	▲	▲	▲	▲	▲
Monitoring Equip &						X	X			
Fire and Rescue Equipment	▲	▲	▲	▲	▲	▲	▲	▲	X	X
Demo Competency/	X	X	X		X	X	X	X	X	X
Incident Command System						X	X	X		
Std. Op Procedures &	X	X	X		X	X	X	X	X	X
Federal/State/Local Emergency Plans							X	X		
Site Risk Assessment & Characterization						X	X			

* Supervisors and managers of employees at clean-up sites shall have training equivalent to the employee being supervised plus eight hours of Hazardous Waste trainings

** Individuals must be competent in the specific items listed

*** These individuals need more extensive training in this subject. See the appropriate paragraph of the

x = Required ▲ = Recommended if applicable

As previously noted, Company maintains a system of record keeping to document the drills described in this section. In the case of a spill, documentation is also maintained so that credit can be taken for the corresponding type of drill or exercise. These records will be maintained at the facility office and in the regional training files for at least five years as required by State and Federal spill response regulations.

Drills designed to comply with Local, State and Federal regulations may exercise different parts of the plan as necessary to ensure that all parts of the plan are able to be implemented. Drills will be designed so that all elements of the plan are exercised at least once every three years.

The discharge scenarios used for the drills and exercises will include the Reasonable Worst Case Discharge as described in the State Response Zone Appendix. The WCD will only have to be exercised once during any three-year cycle. The WCD scenario is only required to be a Table Top drill.

The drills will be conducted by Teams, Regional System Teams or Company multi-coop groups. Drills can be either announced or unannounced and will be initiated by a Company entity. Federal, State or Local agencies may also initiate drills. The drills conducted by Company will consist of:

- Quarterly notification drills
- Semiannual facility equipment deployment drills
- Annual table top drills
- Annual OSRO equipment drills
- Government initiated (unannounced) drills

Drills will cover all types of pipeline operations as well as drill exercise emergency procedures for both manned and unmanned facilities.

Quarterly Notification Drills

The Qualified Individual and Facility Notification Drill will be exercised once a quarter. This drill will activate the notification procedures, including notifying the appropriate QI. While the spill team will be notified, it will not be activated. Any phone number changes or difficulties reaching parties will be noted on the drill log and the problem rectified by the next scheduled drill. Agencies do not need to be called during this type of drill.

Equipment Deployment Drills

Periodic spill exercises are normally conducted twice a year and include deployment of booms and other facility owned equipment.

Spill exercises are conducted once a year with CO-OP Personnel and include deployment of booms and skimmers.

Supervisors and relief supervisors from Company participate in the exercises, as well as Field personnel.

Company equipment is deployed during the semi annual drills. Equipment deployed during either of these deployment drills may be credited toward the required triennial-cycle of deployment drills. Equipment deployed during an actual spill may be counted if properly documented.

Annual Table Top Drills

After the completion of the requisite training, Company will conduct a drill at least once a year of the Spill Management Team. These drills will simulate an actual incident. A detailed scenario with a realistic set of "existing conditions" will be prepared prior to the drill and delivered to the participants at the start of the drill. This scenario will be prepared by HES staff and each Team and will be structured to test the Team and the plan. The drill may last a complete day and may simulate a longer period of time. The drill rules require the actual mobilization of the Spill Management Team, actual notifications of the company cooperative and contractor resources, but do not require actual mobilization of non-Company resources or mutual aid groups. The drills will be supported and observed by personnel outside the Response Teams (and at times, outside Company) who will act as umpires and will assess the drill critically and prepare reports evaluating the Team's effectiveness.

The participants will also be required to prepare debriefing reports evaluating their own performance and offering recommendations for improvement.

The umpire's reports and the participants debriefing forms, along with recommendations will be evaluated by Company Management. A summary report to Regional and Team Leaders will be prepared along with suggested actions to be taken on the recommendations.

Agency Drills (Announced or Unannounced)

Company will participate in internal and agency unannounced drills in accordance with Local, State and Federal requirements.

Provisions for the agencies to require participation in an agency led announced or unannounced drill are contained in several regulations. Company will respond as required by the agency when such a drill is called. In such cases, the agencies will advise the Company Incident Commander of the drill objectives and goals. Such a drill can be used to take the place of either a table top or a full deployment drill in Company's Drill Schedule, if the level of required response approximates the planned drill. Any unannounced drill called by State and Federal agencies can be credited toward other agencies requirements, provided the drill meets each agency's guidelines. Equipment deployed during the drill may also be credited toward one of the required semiannual equipment deployment drills. The Office of Pipeline Safety may schedule announced drills that would require activation of the spill team. A facility is not required to participate if it produces records of an equivalent drill in the past 24 months. Company will document all aspects of the drills and all agency/Company interactions and be prepared to verify adequate response. Provisions for declining to participate in an unannounced drill, due to critical operational considerations, should not be invoked lightly. This may result in a subsequent drill and could be viewed as an indication of Company being unprepared for an emergency.

Participant debriefing forms, participating agency personnel comments and the documentation of the drill will be collected and summarized in a written report. The report will be presented at a later meeting of all participants, where the drill will be analyzed in detail. Recommendations from the report and any comments in the meeting will be forwarded to Region Management as an Appendix to the report.

Team Member Conduct Toward Agency Personnel During Observed Drills

Agency personnel participating in or observing a drill should be considered to be guests of Company and afforded the courtesy and respect of all Team members. Every Team member should be prepared to stop activities and provide an explanation for any action or activity at any time during a drill, even if your performance or the critical timing of an activity is interrupted by the query.

Participating agency personnel should be considered as a resource that can be utilized to assist Company in a difficult time. The amount of assistance received will depend largely on the Team's ability to keep the agency personnel adequately informed as well as the Team's ability to coordinate the agency's resources and efforts with those of the Team. Coordination is required at every level of response in an actual incident and this is an opportunity to develop this ability to cooperate as a unified force.

Experienced agency observers usually make notes but seldom offer criticism or advice during a drill. If the observer offers criticism or advice during a drill, offer explanations if appropriate, but do not attempt lengthy defenses for your (or the Team's) actions. Report any such criticism to your supervisor, or the Incident Commander, when convenient to do so. Never participate in arguments with observers during the drill. Just do your job as trained and directed. Criticism will be properly responded to, after the drill.

Summary of Response Drill Requirements

Frequency	Drill Summary
Quarterly	Facility Personnel, Qualified Individual, Contractor and Spill Management Team Notification Drills.
Semi-Annual	Facility equipment deployment drills *(The unannounced annual drill my be credited for one of these)*
Annual	Spill Management Team tabletop drills
Annual	Drills requiring the activation of the spill response resources identified in the plan. Includes deployment of equipment.
	(Any other unannounced drill called by another Federal or State agency that meets NVIC-92 satisfies this requirement.)
Unannounced Annual *	Unannounced drills conducted by a government agency or by Company. Drill may involve equipment deployment. Government Agency unannounced drill may count as an annual unannounced drill.
Triennial Cycle	Drills may be designed by Company to exercise components of the plan, so that at least once every three years all components of the plan have been exercised.
EPA 40 CFR 112	Mock alert drills, as required by the Clean Water Act, Section 311(j)(5). Actions taken, both predicted and unanticipated, by the response team should be noted and problems resolved as soon as possible. (This drill is the same as the annual full deployment drill).

***** Annually, each plan holder should ensure that one of the following exercises is conducted unannounced:

- Emergency procedures exercise for vessels and barges;
- Emergency procedures exercise for facilitates (optional);
- Spill management team tabletop exercise: or
- Equipment deployment exercise.

An unannounced exercise is where the exercise participants do not have prior knowledge of the exercise, as the would be the situation in an actual spill incident.

PLAN REVIEW & UPDATES

SECTION 13 PLAN REVIEW & UPDATES

PLAN REVIEW, REVISION AND UPDATE PROGRAM 1

Plan Review and Updates Overview 1

State of Washington Post-Spill Review and Documentation Procedures 2

PLAN REVIEW, REVISION AND UPDATE PROGRAM

Plan Review and Updates Overview

The Company has established an ongoing program designed to keep its Emergency Response Plans (ERPs) updated and current.

- Annual review and subsequent revisions or additions by Team locations and by the Emergency Response Coordinator
- Routine update
- Ongoing and annual updates from lessons learned from annual HAZWOPER training, drills, exercises (Plus/Deltas) and or actual events

In addition, a change order is generated from Company to Field Teams annually to review and make necessary modification in the ERP.

When a new or different operating condition or information substantially affects the implementation of the Emergency Response Plan, it must be immediately modified to address such a change. Within 30 days of the modification, the modification must be submitted to the Pipeline and Hazardous Material Safety Administration (PHMSA).

Examples of changes in operating conditions that would cause a significant change to the ERPs are:

- An extension of the existing pipeline or construction of a new pipeline in a response zone not covered by the previously approved response plan
- Relocation or replacement of the pipeline in a way that substantially affects the information included in the response plan, such as a change to the worst case discharge volume
- A change in the type of oil transported, if the type affects the required response resources such as a change from crude oil to gasoline
- The name of the oil spill removal organization
- Emergency response procedures
- The qualified individual
- Change in ownership
- A change in the National Contingency Plan (NCP) or an Area Contingency Plan (ACP) that has significant impact on the equipment appropriate for response activities
- Any other information relating to circumstances that may affect full implementation of the response plan

The Emergency Response Plan will be resubmitted to PHMSA for approval, every 5 years from the last approval date.

State of Washington Post-Spill Review and Documentation Procedures

Company will conduct post-spill reviews to review both the effectiveness of this Company ERP and make plan improvements. Debriefs with Washington State Department of Ecology and other participating agencies and organizations may be appropriate if:

- Unified Command has been established during a spill; and
- Will occur when significant plan updates are identified or
- Significant lessons can be recorded and implemented.

PUBLIC RELATIONS

SECTION 14 PUBLIC RELATIONS

PUBLIC RELATIONS **1**

Media Coverage 1

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PUBLIC RELATIONS

A spill from a Company facility has the potential to seriously impact areas of high density population, sensitive recreational, sensitive public, commercial assembly and sensitive wildlife and botanical areas. Local news coverage is certain and nation wide coverage is likely.

Media Coverage

In any large incident it is necessary to mobilize the Company's Public Affairs professionals who have extensive training in the field and are experienced in working with the media.

TEAM MEMBER RESPONSE GUIDE

If the media approaches you, you should be guided by the following:

- You will be considered to be a Company spokesperson in the eyes of the media. As such, you should consider any contact with the media as important.
- It is important to communicate that the Company has an Oil Spill Response Plan and a trained organization to deal with the incident and that the team is taking measures to contain the spill and mitigate the impacts.
- You should not withhold information regarding the extent of the incident that you know. It is important that you do not speculate about anything you do not know for sure to be a fact.
- You should not indicate, unless it has been determined, that the spill belongs to the Company. You may say: "We are not sure, but we are responding as if it were a Company spill until it is determined otherwise and others take over."
- You should not speculate on the cause of the incident; instead, you should indicate that the cause is under investigation. An exception should be made if the cause is evident, such as outside party damage.
- You should not make statements or speculate in a manner that can be considered as a commitment by the Company or an assumption of responsibility. Such questions should be referred to the Incident Commander.
- Try to demonstrate the Company's concern regarding the impacts of the incident. The media will ask questions (see the table to follow) to gain your response. Many questions are designed to be difficult to answer in a positive manner. If you feel "trapped" by a question, you can respond by explaining what is being done by the Company in a positive manner.
- The best rule is to respond truthfully, show concern and exhibit confidence in the Company's ability to control and handle the problem.

Sample Media Questions

• How big is the oil spill?	• Where is the terminal located?
• Is it bigger than (another incident)?	• Is the Company prepared and trained to handle this?
• How and when did it occur?	• How old is this facility?
• Whose fault is it?	• Have you had leaks before? How many?
• Why hasn't the Company done something to keep this form occurring? Why didn't it work?	• Is this a routine leak?
• What are you doing? What are these men doing?	• Is this going to another Valdez?
• Why aren't you doing (Whatever)?	• I thought the Company was environmentally concerned? What happened?
• Is this spill dangerous to the people living here?	• How can a responsible company let this happen?
• Has there been loss of life? Injured?	• (Organization or agency) says you're doing nothing to prevent (occurrence). • Why are you ignoring their concerns?
• Will it explode? Catch fire?	• Is this under control?
• Will it go into the ocean?	• What are you objectives at this time?
• What's being done to protect wildlife and birds?	• Has this facility been safety-checked? When?
• Is this going to worsen?	• Will the Company accept volunteers to help?
• Has the leak stopped? Why not? When will it be?	• Is this all the people and equipment that Company intends to use? • Does the Company have more resources, or is this all? • If more, why aren't you using them?
• Is the spilled material toxic?	• What is the Company going to do about (some impact)?
• Will Company return everything like it was before the spill?	
• Does Company take total responsibility for this spill?	
• How long will Company work to clean up the spill?	

MANAGING THE MEDIA

Immediate steps need to be taken to interface with newspaper, television or radio representatives. The Company policy requires that we interact with media the in a positive, cooperative manner. The media is to be provided with pertinent factual information that reports incident facts and not distorted or exaggerated information. Initial statements must be confined to facts that will not be subject to dispute. The release should be consistent with the following criteria:

- Identification of the location or name of the facility.
- Time of the incident.
- Type of oil, gas or product involved.
- Action being taken to control, cleanup or handle.
- Who is involved in cleanup or correction.
- Amount of material spilled (IF CLEARLY ESTABLISHED).
- Cause (ONLY IF DETERMINED).
- Duration of fire or cleanup (IF KNOWN).

Public Affairs personnel, as well as all others directly involved in incident operations, should observe the following rules:

- Speculation on any aspects of the incident should be strictly avoided.
- Names of persons seriously injured or killed shall be withheld pending notification.
- Advise media representatives of personal hazards and hazard areas to be avoided.
- Do not attempt to bar photographs or video filming of a spill or fire.
- Guide photographers, video cameraman or reporters to safe vantage points and advise them of hazard areas to avoid.

Public Affairs personnel are specifically charged with following duties:

- Inform the Company Public Affairs Representative, or his/her alternate, of any incident occurring in their area of responsibility.
- Establish a news media facility with work tables, telephones and facsimile machines for media personnel assigned to an incident. This facility would serve as a site to facilitate news releases, conduct press conferences, interviews and coordinate media coverage of an incident. Hot and cold beverages, sandwiches and snacks should be provided.
- Coordinate media coverage, such as creating pool photographers, reporters, video crews, etc. to satisfy the media without overtaxing resources that are required for other operations.
- Provide photographs and videotape illustrating the Company's efforts in the incident.
- Provide statistical data regarding the numbers of Company employees, contractors, consultants and other involved in containment and/or cleanup and restoration.
- Arrange for upper management interviews and statement releases.

LARGE AND SUSTAINED INCIDENTS

The Public Affairs Representatives(s) will become advisors to the Incident Commander and should consider the following:

- Establishing a new update hot-line for the media.
- Establishing a news update hot-line for Company employees and families of the Response Teams.
- Providing periodic new releases to the media.
- Providing facilities and conducting periodic new conferences.
- Providing scheduled interviews with the Incident Commander, On-Scene Corporate Managers or other selected Response Team Members.
- Providing vessels for media tours of spills impacting the ocean.
- Providing aircraft and/or helicopters for media observation of the incident.
- Providing ground transportation to inaccessible areas for media tours of containment and cleanup efforts.
- Conducting tours of the Company and volunteer wildlife cleaning rehabilitation operations.
- Providing maps and graphic illustrations depicting resource employment.

ADVANTAGES OF SETTING UP A NEWS CENTER

During a large and newsworthy incident, consider setting up a large conference room in a nearby hotel to serve as a news center (See news center list on next page).

Advance notices of releases, particularly news conferences, should be made early enough to allow camera crews to set up and reporters to arrive at the center.

Selecting The News Center Location

The hotel selected for the news center should be a moderate and conservative facility. Appearances of undue economy or opulence (large and elaborate chandeliers, etc.) should be avoided. The hotel should be conveniently located near the incident scene. It is better to use a facility separate from the hotels used to quarter either Company personnel or evacuees.

News Center Equipment List

- Public address system with lavaliere, podium and table microphones
- Remote boom directional microphone
- Overhead projector with stand
- 8’ x 10’ projection screen
- 30” video monitor with stand
- VHS recorder
- Podium and speaker tables on raised platform
- Reporter tables with three chairs/table (six tables suggested)
- Additional folding chairs for others
- Large scale map
- Supplemental portable light stands
- Pointer

NEWS MEDIA PARITY

In fairness, news releases and invitations to news conferences should include, or offer to include, each of the media in the area. Omissions can offend media representatives and result in poor media relations. It is acceptable to limit participation to local media who will provide coverage to their affiliates and networks. If a national network or wire service elects to directly participate, it is usually a good idea to include the other competing services.

Pooling arrangements should be encouraged, particularly for tours conducted by the Company or when the Company provides vessels, aircraft or helicopters for news and film coverage.

COORDINATION WITH AGENCIES

All news releases and news conferences and their content, should be announced to participating agencies prior to their actual release. Coordination with agencies should be directed toward eliminating surprise and averting subsequent interviews with agency personnel with opposing opinions or discrediting viewpoints. Joint news conferences with Federal, State or Local authorities should be considered.

DEALING WITH SPECIAL INTEREST GROUPS

Special interest groups of citizens can be informed groups, residents in the area, boat owners in a marina, fishermen or others who believe they have been individually or collectively impacted by an incident.

Other vocal and highly organized groups like environmentalists, anti-growth advocates, wildlife protection and anti-oil industry organizations may also become involved. Their participation may include active picketing, crashing news conferences, and participating in critical news interviews or other activities that may produce negative news coverage.

It is important that the Company identify these groups (if possible before any public reaction) and meet with them to hear and address their concerns. Although it will probably not be possible to prevent all negative press, some groups will be less vocal if they have been truthfully informed and feel that the Company is addressing their grievances. Also, positive press can be achieved when it is announced that the Company has met or will meet with critical groups(s) to address their issues and concerns.

If hostile groups surface and appear likely to interface with Company activities, security measures may be required to restrict attendance and/or interference. Local law enforcement agencies may be requested to provide assistance or private security personnel may be employed. Any observed indications of such activities should be reported immediately to the Security Coordinator.

PUBLIC AFFAIRS FIELD OFFICES

Refer to the State Appendix Plan, Notifications Section for Public Affairs Field Office telephone numbers.

DOCUMENTATION/ICS FORMS

SECTION 15 DOCUMENTATION

DOCUMENTATION 1

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DOCUMENTATION

Overview

During an emergency it is important to follow required internal and external documentation requirements.

Response Zone Specific documentation forms and flowcharts can be located in the State Appendix Plan.

Additionally, the Job Site Safety Plan is located in Section 7 of this Core Plan and must be completed as required by the Company.

Waste management forms can be located in the State Appendix Plan.

In order to assist with the efficient management of an emergency incident, it is usually necessary to utilize Incident Command System (ICS) Forms. This section contains copies of some of the more commonly utilized ICS Forms necessary to assist with the management of an incident. It is recommended that the ICS 201 Form be completed immediately and in conjunction with the Job Site Safety Plan.

A complete list of ICS Forms is also located in this Section. A complete electronic ICS Forms file is located on the Core Plan CD. The files and instructions for each form can be opened and printed as needed.

ICS – CG FORMS INDEX

ICS Form #	Form Title	Prepared By
201-CG ±	Incident Briefing	Initial Incident Commander
202-CG ±	Incident Objectives *	Planning Section Chief
203-CG ±	Organization Assignment List *	Resources Unit Leader
204-CG ±	Assignment List *	Resources Unit Leader & Operations Section Chief
204a-CG ~	Assignment List Attachment	Operations & Planning Sections Staff
205-CG ±	Incident Radio Communications Plan *	Communications Unit Leader
205a-CG ~	Communications List	Communications Unit Leader
206-CG ±	Medical Plan *	Medical Unit Leader
207-CG ±	Incident Organization Chart	Resources Unit Leader
208-CG	Site Safety Plan	
209-CG +	Incident Status Summary	Situation Unit Leader
210-CG ±	Status Change Card	On-scene Incident Dispatcher
211-CG	Check-in List	Resources Unit/Check-in Recorder
213-CG ±	General Message	Any message originator
213 RR CG	Resource Request Message	Any Resource Requester
214-CG ±	Unit Log	All Sections and Units
215-CG ±	Operational Planning Worksheet	Operations Section Chief
215a-CG ±	Hazard/Risk Analysis Worksheet	Safety Officer
218 •	Support Vehicle/Vessel Inventory	Ground/Vessel Support Unit Leaders
219 •	Resource Status Card	Resources Unit Leader
220-CG ±	Air Operations Summary Worksheet	Operations Section Chief or Air Branch Director
221-CG ±	Demobilization Checkout	Demobilization Unit Leader
230-CG ~	Daily Meeting Schedule	Situation Unit Leader
232-CG ~	Resources at Risk Summary	Environmental Unit Leader
233-CG ~	Open Action Tracking	Situation Unit Leader
234-CG ~	Work Analysis Matrix	Operations & Planning Section Chiefs
--- ~	IAP Cover Sheet *	Planning Section Chief
--- ~	Executive Summary	Planning Section Chief
--- ~	General Plan	Planning Section Chief
--- ~	Initial Incident Information Sheet	Person receiving initial report

- • National Fire Equipment System (NFES) form unchanged, no OS version of these forms.
- ± NFES form has been slightly modified for oil spill response, either version can be used.
- \+ NFES form has been significantly changed for oil spill response.
- ~ New form for oil spill response, no NFES equivalent.
- * Commonly used in written Incident Action Plans (IAP).

INCIDENT SITUATION DISPLAY

The collection and display of information about an incident and the nature and status of response operations is a critical aspect of establishing and maintaining a command and control environment, and it promotes effective and efficient communications. Ideally, pre-designed status boards should be used for display to ensure that critical information is captured and presented in a clear and logical fashion.

Status boards that depict information that is of use to two or more Sections in an Incident Command Post should be grouped together in an area called the Incident Situation Display. Incident Situation Display should be viewed as the one place in an Incident Command Post where anyone can go, at any time, to learn about the nature and status of an incident and response operations.

Status boards in the Incident Situation Display should be limited in number and should be displayed in an ordered fashion to ensure that they impart an integrated and coherent message concerning: (1) the incident (e.g., nature and location of source, status of source, type and quantity of material spilled or emitted, and the environmental conditions affecting the response); and (2) the nature and status of response operations to address the incident. The diagram presents an example of an Incident Situation Display layout that is consistent with a logical left-to-right viewing.

An Incident Situation Display should be established and maintained by the Situation and Resource Unit Leaders. It should be situated in a highly visible and easily accessible location, in close proximity to the Planning Section and easily accessible to the Operations Section. Since it is an active work area, it should be located away from areas subject to heavy foot traffic.

Although an Incident Situation Display is established and maintained by personnel in the Planning Section, it belongs to everyone in the ICS. To the extent the Incident Situation Display contains information about activities underway in other Sections, it is the obligation of appropriate personnel in those Sections to work with Planning to ensure information posted in the Incident Situation Display is accurate and up-to-date. It is likewise the responsibility of the status board monitors within the Situation Unit to seek out sources and establish paths and schedules for needed information.

As time allows, black-and-white, 8” by 10” versions of the status board information should be prepared. These documents should be time-stamped and distributed within the ICS remotely, and copies should be made available at Incident Situation Display.

1. Incident Name	2. Operational Period to be covered by IAP (Date/Time) From: To:	CG IAP COVER SHEET

3. Approved by Incident Commander(s):

ORG NAME

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

INCIDENT ACTION PLAN

The items checked below are included in this Incident Action Plan:

☐ ICS 202-CG (Response Objectives)

_____

☐ ICS 203-CG (Organization List) – OR – ICS 207-CG (Organization Chart)

_____

☐ ICS 204-CGs (Assignment Lists)
One Copy each of any ICS 204-CG attachments:

_____

☐ ICS 205-CG (Communications Plan)

_____

☐ ICS 206-CG (Medical Plan)

☐ ICS 208-CG (Site Safety Plan) or Note SSP Location _____

☐ Map/Chart

☐ Weather forecast / Tides/Currents

Other Attachments

☐ _____

☐ _____

☐ _____

☐ _____

☐ _____

☐ _____

☐ _____

☐ _____

☐ _____

☐ _____

4. Prepared by: **Date/Time**

1. Incident Name	2. Prepared by: (name) Date: Time:	INCIDENT BRIEFING ICS 201-CG

3. Map/Sketch (include sketch, showing the total area of operations, the incident site/area, overflight results, trajectories, impacted shorelines, or other graphics depicting situational and response status)

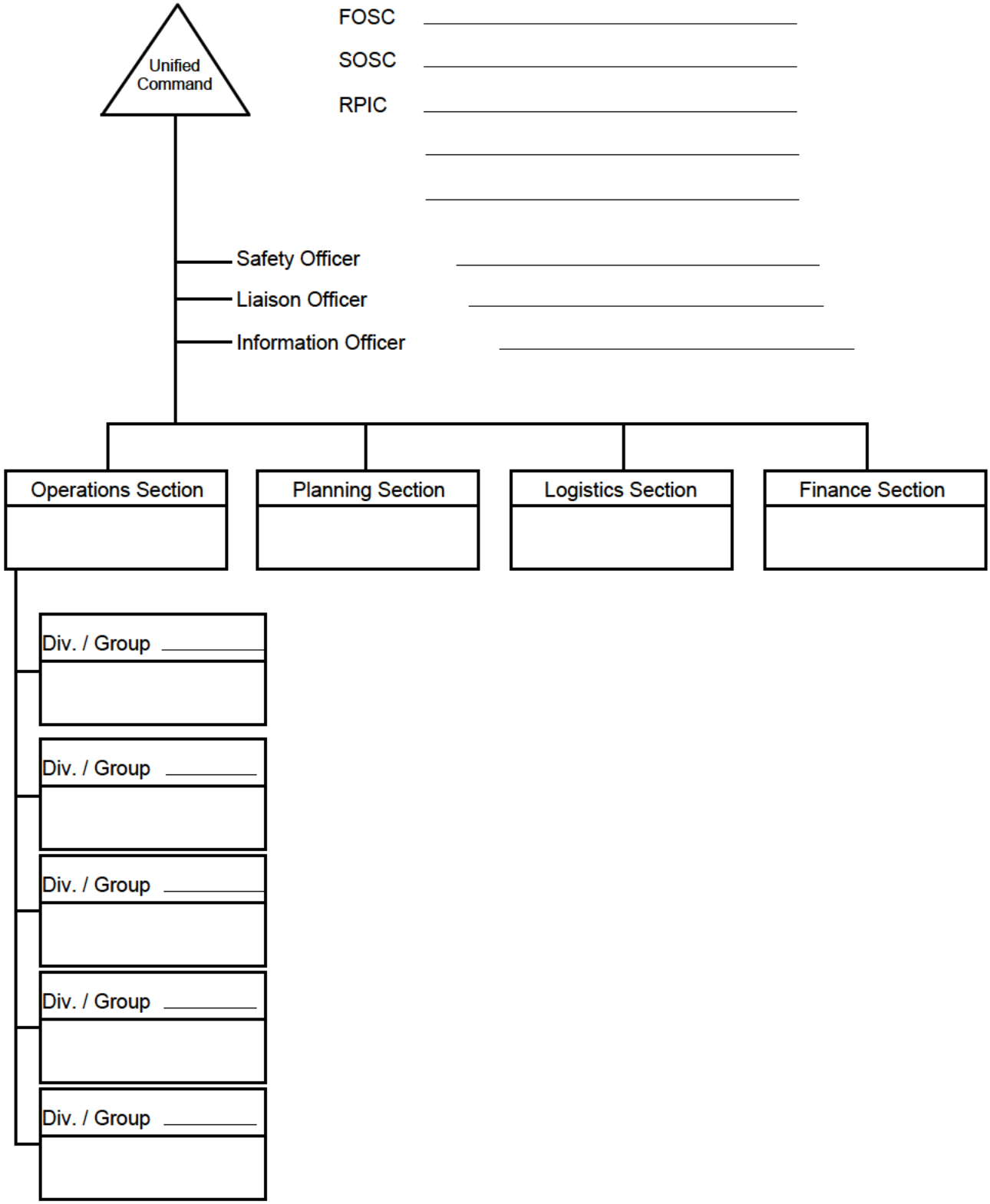
4. Current Situation:

1. Incident Name	2. Prepared by: (name) Date: Time:	INCIDENT BRIEFING ICS 201-CG

5. Initial Response Objectives, Current Actions, Planned Actions

1. Incident Name	2. Prepared by: (name) Date: Time:	INCIDENT BRIEFING ICS 201-OS (pg 3 of 4)

6. Current Organization



1. Incident Name	**2. Prepared by:** (name) Date: Time:	INCIDENT BRIEFING ICS 201-CG

7. Resources Summary

Resource	Resource Identifier	Date Time Ordered	ETA	On-Scene (X)	NOTES: (Location/Assignment/Status)

1. Incident Name	2. Operational Period (Date/Time) From: To:	INCIDENT OBJECTIVES ICS 202-CG

3. Objective(s)

4. Operational Period Command Emphasis (Safety Message, Priorities, Key Decisions/Directions)

Approved Site Safety Plan Located at:

5. Prepared by: (Planning Section Chief) **Date/Time**

INCIDENT OBJECTIVES (ICS 202-CG)

Purpose. The Incident Objectives form describes the basic incident strategy, control objectives, command emphasis/priorities, and safety considerations for use during the next operational period.

Preparation. The Incident Objectives form is completed by the Planning Section following each Command and General Staff Meeting conducted in preparing the Incident Action Plan.

Distribution. The Incident Objectives form will be reproduced with the IAP and given to all supervisory personnel at the Section, Branch, Division/Group, and Unit levels. All completed original forms MUST be given to the Documentation Unit.

Item #	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Operational Period	Enter the time interval for which the form applies. Record the start and end date and time.
3.	Objective(s)	Enter clear, concise statements of the objectives for managing the response. These objectives are for the incident response for this operational period and for the duration of the incident. Include alternatives.
4.	Operational Period Command Emphasis	Enter clear, concise statements for safety message, priorities, and key command emphasis/decisions/directions. Enter information such as known safety hazards and specific precautions to be observed during this operational period. If available, a safety message should be referenced and attached. At the bottom of this box, enter the location where approved Site Safety Plan is available for review.
	Site Safety Plan	Note location of the approved Site Safety Plan.
5.	Prepared By	Enter the name of the Planning Section Chief completing the form.
	Date/Time	Enter date (month, day, year) and time prepared (24-hour clock).

NOTE: ICS 202-CG, Incident Objectives, serves as part of the Incident Action Plan (IAP)

1. Incident Name	2. Operational Period (Date/Time) From: To:	ORGANIZATION ASSIGNMENT LIST ICS 203-CG

3. Incident Commander(s) and Staff

Agency	IC	Deputy

Safety Officer:	
Information Officer:	
Liaison Officer:	

4. Agency Representatives

Agency	Name

5. PLANNING/INTEL SECTION

Chief	
Deputy	
Resources Unit	
Situation Unit	
Environmental Unit	
Documentation Unit	
Demobilization Unit	
Technical Specialists	

6. LOGISTICS SECTION

Chief	
Deputy	
a. Support Branch	
Director	
Supply Unit	
Facilities Unit	
Vessel Support Unit	
Ground Support Unit	
b. Service Branch	
Director	
Communications Unit	
Medical Unit	
Food Unit	

7. OPERATION SECTION

Chief		
Deputy		
Deputy		
Staging Area Manager		
Staging Area Manager		
Staging Area Manager		
a. Branch – Division Groups		
Branch Director		
Deputy		
Division Group		
Division Group		
Division Group		
Division/Group		
Division/Group		
b. Branch – Division/Groups		
Branch Director		
Deputy		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
c. Branch – Division/Groups		
Branch Director		
Deputy		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
d. Air Operations Branch		
Air Operations Br. Dir		
Helicopter Coordinator		

8. FINANCE/ADMINISTRATION SECTION

Chief	
Deputy	
Time Unit	
Procurement Unit	
Compensation/Claims Unit	
Cost Unit	

9. Prepared By: (Resources Unit) **Date/Time**

ORGANIZATION ASSIGNMENT LIST (ICS 203-CG) Instructions for filling out the form

Purpose. The Organization Assignment List provides ICS personnel with information on the units that are currently activated and the names of personnel staffing each position/unit. It is used to complete the Incident Organization Chart (ICS form 207-CG) which is posted on the Incident Command Post display. An actual organization will be event-specific. **Not all positions need to be filled.** The size of the organization is dependent on the magnitude of the incident and can be expanded or contracted as necessary.

Preparation. The Resources Unit prepares and maintains this list under the direction of the Planning Section Chief.

Note: Depending on the incident, the Intelligence and Information function may be organized in several ways: 1) within the Command Staff as the Intelligence Officer; 2) As an Intelligence Unit in Planning Section; 3) As an Intelligence Branch or Group in the Operations Section; 4) as a separate General Staff Intelligence Section; and 5) as an Intelligence Technical Specialist. The incident will drive the need for the Intelligence and Information function and where it is located in the ICS organization structure. The Intelligence and information function is described in significant detail in NIMS and in the Coast Guard Incident Management Handbook (IMH).

Distribution. The Organization Assignment List is duplicated and attached to the Incident Objectives form (ICS 202-CG) and given to all recipients of the Incident Action Plan. All completed original forms MUST be given to the Documentation Unit.

Item #	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Operational Period	Enter the time interval for which the form applies. Record the start and end date and time.
3.	Incident Commander and Staff	Enter the names of the Incident Commander and Staff. Use at least the first initial and last name.
4.	Agency Representative	Enter the agency names and the names of their representatives. Use at least the first initial and last name.
5. thru 8.	Section	Enter the name of personnel staffing each of the listed positions. Use at least the first initial and last name. For Units, indicate Unit Leader and for Divisions/ Groups indicate Division/Group Supervisor. Use an additional page if more than three branches are activated. If there is a shift change during the specified operational period, list both names, separated by a slash.
9.	Prepared By	Enter the name and position of the person completing the form
	Date/Time	Enter date (month, day, year) and time prepared (24-hour clock).

1. Incident Name	2. Operational Period (Date/Time) From: To:	**Assignment List ICS 204-CG**
3. Branch	**4. Division/Group/Staging**	

5. Operations Personnel Name Affiliation Contact # (s)

Operations Section Chief: _____

Branch Director: _____

Division/Group Supervisor/STAM: _____

6. Resources Assigned "X" indicates 204a attachment with additional instructions

Strike Team/Task Force/Resource Identifier	Leader	Contact Info. #	# Of Persons	Reporting Info/Notes/Remarks	☐
					☐
					☐
					☐
					☐
					☐
					☐
					☐
					☐
					☐
					☐
					☐

7. Work Assignments

8. Special Instructions

9. Communications (radio and/or phone contact numbers needed for this assignment)

Name/Function	Radio: Freq./System/Channel	Phone	Cell/Pager	

Emergency Communications

Medical _____ Evacuation _____ Other _____

10. Prepared by: **Date/Time**	**11. Reviewed by (PSC):** **Date/Time**	**12. Reviewed by (OSC):** **Date/Time**

ASSIGNMENT LIST (ICS 204-CG)

Purpose. The Assignment List(s) informs Division and Group supervisors of incident assignments. Once the Unified Command and General Staff agree to the assignments, the assignment information is given to the appropriate Divisions and Groups.

Preparation. The Assignment List is normally prepared by the Resources Unit, using guidance from the Incident Objectives (ICS 202-CG), Operational Planning Worksheet (ICS 215-CG), and the Operations Section Chief. The Assignment List must be approved by the Planning Section Chief and Operations Section Chief. When approved, it is included as part of the Incident Action Plan (IAP). Specific instructions for specific resources may be entered on an ICS 204a-CG for dissemination to the field. A separate sheet is used for each Division or Group. The identification letter of the Division is entered in the form title. Also enter the number (roman numeral) assigned to the Branch.

Special Note. The Assignment List, ICS 204-CG submits assignments at the level of Divisions and Groups. The Assignment List Attachment, ICS 204a-CG shows more specific assignment information, if needed. The need for an ICS 204a-CG is determined by the Planning and Operations Section Chiefs during the Operational Planning Worksheet (ICS 215-CG) development.

Distribution. The Assignment List is duplicated and attached to the Incident Objectives and given to all recipients of the Incident Action Plan. In some cases, assignments may be communicated via radio/telephone/fax. All completed original forms MUST be given to the Documentation Unit.

Item #	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Operational Period	Enter the time interval for which the form applies.
3.	Branch	Enter the Branch designator.
4.	Division/Group/Staging	Enter the Division/Group/Staging designator.
5.	Operations Personnel	Enter the name of the Operations Chief, applicable Branch Director, and Division Supervisor.
6.	Resources Assigned	Each line in this field may have a separate Assignment List Attachment (ICS 204a-CG). Enter the following information about the resources assigned to Division or Group for this period:
	Identifier	List identifier
	Leader	Leader name
	Contact Information	Primary means of contacting this person (e.g., radio, phone, pager, etc.). Be sure to include area code when listing a phone number.
	# Of Persons	Total number of personnel for the strike team, task force, or single resource assigned.
	Reporting Info/Notes/ Remarks	Special notes or directions, specific to this strike team, task force, or single resource. Enter an "X" check if an Assignment List Attachment (ICS 204a-CG) will be prepared and attached. The Planning and Operations Section Chiefs determine the need for an ICS 204a-CG during the Operational Planning Worksheet (ICS 215-CG) development.
7.	Work Assignment	Provide a statement of the tactical objectives to be achieved within the operational period by personnel assigned to this Division or Group.
8.	Special Instructions	Enter a statement noting any safety problems, specific precautions to be exercised, or other important information.
9.	Communications	Enter specific communications information (including emergency numbers) for this division /group. If radios are being used, enter function (command, tactical, support, etc.), frequency, system, and channel from the Incident Radio Communications Plan (ICS 205-CG). Note: Phone numbers should include area code.
10.	Prepared By	Enter the name of the person completing the form, normally the Resources Unit Leader.
	Date/Time	Enter date (month, day, year) and time prepared (24-hour clock).
11.	Reviewed by (PSC)	
	Date/Time	Enter date (month, day, year) and time prepared (24-hour clock).
12.	Reviewed by (OSC)	Enter the name of the operations person reviewing the form, normally the Operations Section Chief.
	Date/Time	Enter date (month, day, year) and time prepared (24-hour clock).

1. Incident Name	2. Operational Period (Date/Time) From: To:	ASSIGNMENT LIST ATTACHMENT ICS 204a-CG
3. Branch	4. Division/Group	
5. Strike Team/Task Force/Resource (Identifier)	6. Leader	7. Assignment Location

8. Work Assignment Special Instructions, Special Equipment/Supplies Needed for Assignment, Special Environmental Considerations, Special Site Specific Safety Considerations

Approved Site Safety Plan Located at:

9. Other Attachments (as needed)

☐ **Map/Chart** ☐ **Weather Forecast/Tides/Currents** ☐ _____

☐ _____ ☐ _____ ☐ _____

10. Prepared by: Date/Time	11. Reviewed by (PSC): Date/Time	12. Reviewed by (OSC): Date/Time

1. Incident Name	2. Operational Period (Date / Time) From: To:	INCIDENT RADIO COMMUNICATIONS PLAN ICS 205-CG

3. BASIC RADIO CHANNEL USE

SYSTEM / CACHE	CHANNEL	FUNCTION	FREQUENCY	ASSIGNMENT	REMARKS

4. Prepared by: (Communications Unit) **Date / Time**

INCIDENT RADIO COMMUNICATIONS PLAN (ICS 205-CG)

Special Note. This form, ICS 205-CG, is used to provide, in one location, information on all radio frequency assignments down to the Division/Group level for each operational period; whereas, the Communications List, ICS 205a-CG is used to list methods of contact for personnel assigned to the incident (radio frequencies, phone numbers, pager numbers, etc.).

Purpose. The Incident Radio Communications Plan is a summary of information obtained from the Radio Requirements Worksheet (ICS 216) and the Radio Frequency Assignment Worksheet (ICS 217). Information from the Radio Communications Plan on frequency assignments is normally noted on the appropriate Assignment List (ICS 204-CG).

Preparation. The Incident Radio Communications Plan is prepared by the Communications Unit Leader and given to the Planning Section Chief. Detailed instructions on the preparation of this form may be found in ICS Publication 223-5, Communications Unit Position Manual.

Distribution. The Incident Radio Communications Plan is duplicated and given to all recipients of the Incident Objectives form, including the Incident Communications Center. Information from the plan is placed on Assignment Lists. All completed original forms MUST be given to the Documentation Unit.

Item #	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Operational Period	Enter the time interval for which the form applies.
3.	Basic Radio Channel	Enter the following information about radio channel use:
	System	Radio cache system(s) assigned and used on the incident.
	Channel	Radio channel numbers assigned.
	Function	Function each channel is assigned (e.g., command, support, division tactical, and ground-to-air).
	Frequency	Radio frequency tone number assigned to each specified function (e.g., 153.400)
	Assignment	ICS organization assigned to each of the designated frequencies (e.g., Branch I, Division A).
	Remarks	This section should include narrative information regarding special situations.
4.	Prepared By	Enter the name of the Communications Unit Leader preparing the form.
	Date/Time	Enter date (month, day, year) and time prepared (24-hour clock).

1. Incident Name	2. Operational Period (Date / Time) From: To:	**COMMUNICATIONS LIST** **ICS 205A-CG**

3. Basic Local Communications Information

Assignment	Name	Method(s) of contact (radio frequency, phone, pager, cell #(s), etc.)

4. Prepared by: (Communications Unit) **Date / Time**

COMMUNICATIONS LIST (ICS 205a-CG)

Special Note. This optional form is used in conjunction with the Incident Radio Communications Plan, ICS 205-CG. Whereas the ICS 205-CG is used to provide information on all radio frequencies down to the Division/Group level, the Communications List, ICS 205a-CG, lists methods of contact for personnel assigned to the incident (radio frequencies, phone numbers, pager numbers, etc.), and functions as an incident directory.

Purpose. The Communications List records methods of contact for personnel on scene.

Preparation. The Communications List can be filled out during check-in and is maintained and distributed by Communications Unit personnel.

Distribution. The Communications List is distributed within the ICS and posted, as necessary. All completed original forms MUST be given to the Documentation Unit.

Item #	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Operational Period	Enter the time interval for which the form applies.
3.	Basic Local Comms Information	Enter the communications methods assigned and used for each assignment.
	Assignment	Enter the ICS Organizational assignment.
	Name	Enter the name of the contact person for the assignment.
	Method(s) of contact	Enter the radio frequency, telephone number(s), etc. for each assignment.
4.	Prepared By	Enter the name of the Communications Unit Leader preparing the form.
	Date/Time	Enter date (month, day, year) and time prepared (24-hour clock).

1. Incident Name	2. Operational Period (Date / Time) From: To:	MEDICAL PLAN ICS 206-CG

3. Medical Aid Stations

Name	Location	Contact #	Paramedics On site (Y/N)

4. Transportation

Ambulance Service	Address	Contact #	Paramedics On board (Y/N)

5. Hospitals

Hospital Name	Address	Contact #	Travel Time		Burn Ctr?	Heli-Pad?
			Air	Ground		

6. Special Medical Emergency Procedures

7. Prepared by: (Medical Unit Leader) Date/Time	8. Reviewed by: (Safety Officer) Date/Time

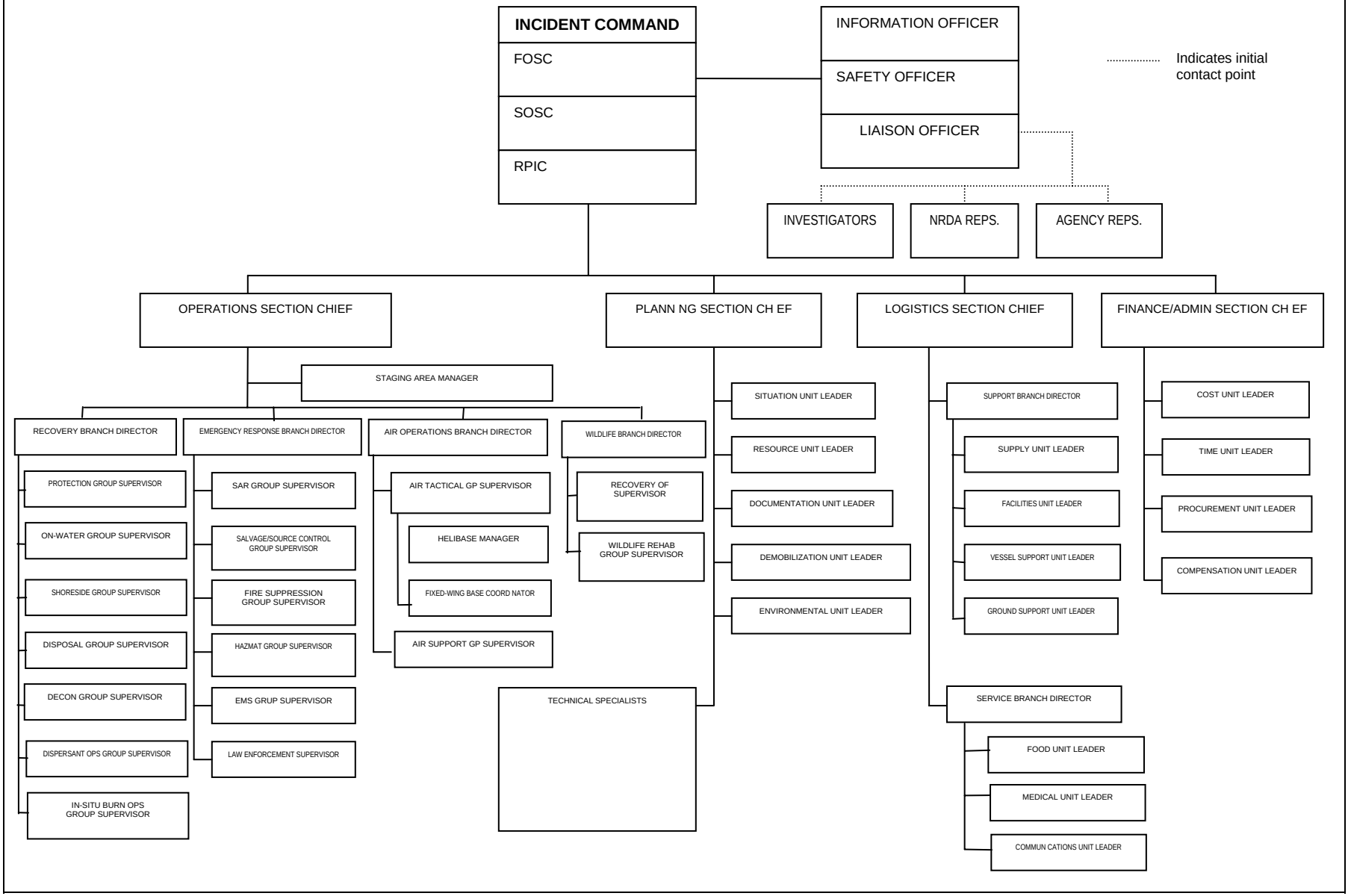
MEDICAL PLAN (ICS 206-CG)

Purpose. The Medical Plan provides information on incident medical aid stations, transportation services, hospitals, and medical emergency procedures.

Preparation. The Medical Plan is prepared by the Medical Unit Leader and reviewed by the Safety Officer.
Distribution. The Medical Plan may be attached to the Incident Objectives (ICS 202-CG), or information from the plan pertaining to incident medical aid stations and medical emergency procedures may be taken from the plan and noted on the Assignment List (ICS 204-CG) or on the Assignment List Attachment (ICS 204a-CG). All completed original forms MUST be given to the Documentation Unit.

Item #	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Operational Period	Enter the time interval for which the form applies.
3.	Medical Aid Stations	Enter name, location, and telephone number of the medical aid station(s) (e.g., Cajon Staging Area, Cajon Camp Ground) and indicate if paramedics are located at the site.
4.	Transportation	List name and address of ambulance services. Provide phone number and indicate if ambulance company has paramedics.
5.	Hospitals	List hospitals that could serve this incident. Enter hospital name, address, phone number, the travel time by air and ground from the incident to the hospital, and indicate if the hospital has a burn center and/or a helipad.
6.	Medical Emergency Procedures	Note any special emergency instructions for use by incident personnel.
7.	Prepared By Date/Time	Enter the name of the Medical Unit Leader preparing the form. Enter date (month, day, year) and time prepared (24-hour clock).
8.	Reviewed By Date/Time	Enter the name of the Safety Officer who must review the plan. Enter date (month, day, year) and time reviewed (24-hour clock).

1. Incident Name	2. Operational Period (Date/Time) From: To:	INCIDENT ORGANIZATION CHART ICS 207-CG



1. Incident Name	2. Operational Period (Date / Time) From: To: Time of Report	INCIDENT STATUS SUMMARY ICS 209-CG

3. Type of Incident

☐	Oil Spill	☐	HAZMAT	☐	AMIO
☐	SAR/Major SART	☐	SI/Terrorism	☐	Natural Disaster
☐	Marine Disaster	☐	Civil Disturbance	☐	Military Outload
☐	Planned Event	☐	Maritime HLS/Prevention	☐	

4. Situation Summary as of Time of Report:

5. Future Outlook/Goals/Needs/Issues:

6. Safety Status/Personnel Casualty Summary

	Since Last Report	Adjustments To Previous Op Period	Total
Responder Injury			
Responder Death			
Public Missing (Active Search)			
Public Missing (Presumed Lost)			
Public Uninjured			
Public Injured			
Public Dead			
Total Public Involved			

7. Property Damage Summary

Vessel	$
Cargo	$
Facility	$
Other	$

8. Attachments with clarifying information

☐	Oil/HAZMAT	☐	SAR/LE	☐	
☐		☐		☐	
☐	Marine Disaster	☐	Civil Disturbance	☐	Military Outload

9. Equipment Resources					
Kind	Notes	# Ordered	# Available	# Assigned	# Out of Service
USCG Assets					
Aircraft – Helo					
Aircraft – Fixed Wing					
Vessels – USCG Cutter					
Vessels – Boat					
Vehicles – Car					
Vehicles – Truck					
Pollution Equip – VOSS/SORS					
Pollution Equip – Portable Storage					
Pollution Equip – Boom					
Non-CG/Other Assets					
Aircraft – Helo					
Aircraft – Fixed Wing					
Vessels – SAR/LE Boat					
Vessels – Work/Crew Boat					
Vessels – Tug/Tow Boat					
Vessels – Pilot Boat					
Vessels – Deck Barge					
Vessels –					
Vehicles – Car					
Vehicles – Ambulance					
Vehicles – Truck					
Vehicles – Fire/Rescue/HAZMAT					
Vehicles – Vac/Tank Truck					
Vehicles –					
Pollution Equip – Skimmers					
Pollution Equip – Tank Vsl/ Barge					
Pollution Equip – Portable Storage					
Pollution Equip – OSRV					
Pollution Equip – Boom					
Pollution Equip –					

10. Personnel Resources	
Agency	**Total # of People**
USCG	
DHS (other than USCG)	
NOAA	
FBI	
DOD (USN Supsalv, CST, etc.)	
DOI (US Fish & Wildlife, Nat Parks, BLM, etc.)	
RP	
State	
Local	
Total Personnel Resources Used From all Organizations:	

11. Prepared by:	Date/Time Prepared:

1. Incident Name	2. Operational Period (Date / Time) From: To: Time of Report	ICS 209-CG OIL/HAZMAT ATTACHMENT

3. HAZMAT/Oil Spill Status (Estimated, in gallons)

Common Name(s):

UN Number:	☐ Secured ☐ Unsecured
CAS Number:	Remaining Potential (bbl):
	Rate of Spillage (bbl/hr):

	Adjustments To Previous Operational Period	Since Last Report	Total
Volume Spilled/Released			
Mass Balance - HAZMAT/Oil Budget			
Recovered HAZMAT/Oil			
Evaporation/Airborne			
Natural Dispersion			
Chemical Dispersion			
Burned			
Floating, Contained			
Floating, Uncontained			
Onshore			
Total HAZMAT/Oil accounted for:	N/A	N/A	

Comments:

4. HAZMAT/Oil Waste Management (Estimated, Since Last Report)

	Recovered	Disposed	Stored
HAZMAT/Oil (bbl)			
Oily Liquids (bbl)			
Liquids (bbl)			
Oily Solids (tons)			
Solids (tons)			

Comments:

5. HAZMAT/Oil Shoreline Impacts (Estimated in miles)

Degree of Impact	Affected	Cleaned	To Be Cleaned
Light			
Medium			
Heavy			
Total			

Comments:

6. HAZMAT/Oil Wildlife Impacts (Since Last Report)

					Died in Facility	
Type of Wildlife	Captured	Cleaned	Released	DOA	Euthanized	Other
Birds						
Mammals						
Reptiles						
Fish						
Total						

Comments:

7. Prepared by:	Date/Time Prepared:

1. Incident Name	2. Operational Period (Date / Time) From: To: Time of Report	ICS 209-CG SAR/LE ATTACHMENT

3. Evacuation Status

	Since Last Report	Adjustments To Previous Operational Period	Total
Total to be Evacuated			
Number Evacuated			

4. Migrant Interdiction Status

	Since Last Report	Adjustments To Previous Op Period	Total
Vessels Interdicted			
Migrants Interdicted at Sea			
Migrants Interdicted Ashore			
Injured			
MEDEVAC'd			
Deaths			
Migrants Repatriated			

5. Sorties/Patrols Summary (List of Sorties Since Last Report)

Air	Since Last Report	Total
Number of Sorties/Patrols		
Area Covered (square miles)		
Total Time On-Scene (In Hours)		
Surface	Since Last Report	Total
Number of Sorties/Patrols		
Area Covered (square miles)		
Total Time On-Scene (In Hours)		

6. Use of Force Summary

Category	Since Last Report	Total
III - Soft Empty Hand Control		
IV - Hard Empty Hand Control		
V - Intermediate Weapons		
VI - Deadly Force		
VSL - Force to Stop Vessel from Cutter/Boat		
A/C - Force to Stop Vessel From Aircraft		
Arrests		
Seizures		
Deaths		

7. Operational Controls Summary

Currently In Force

Type	Initiating Unit	Initiated Date	Activity #

Removed Since Last Report

Type	Initiating Unit	Initiated Date	Date Removed	Activity #

18. Prepared by:	Date/Time Prepared:

INCIDENT STATUS SUMMARY (ICS FORM 209-CG)

Purpose. The Status Summary:
1. Is used by Situation Unit personnel for posting information on Status Boards or attaching as a file to the MISLE Case.
2. Is duplicated and provided to Command Staff members, giving them basic information for planning for the next operational period.
3. Provides information to the Information Officer for preparing news media releases.
4. Summarizes incident information for local and off-site coordination/operations centers.

Preparation. The Situation Unit prepares the Status Summary. Resources information should be obtained from the Resources Unit. It may be scheduled for presentation to the Planning Section Chief and other General Staff members prior to each Planning Meeting and may be required at more frequent intervals by the Unified Command or Planning Section Chief. Suggested sources of information are noted in brackets.
Note: The values on the ICS form 209-CG are the **best available estimates at the Time of Report** (Item # 2 on form). This form is usually in high demand and should be filled out early and often. A suggested source within the ICS organization is noted in brackets [ ] at the top right of each section of the form. **All fields need not be completed in order to distribute the form**.

Distribution. When completed, the form is duplicated and copies are distributed to the Unified Command and staff, and all Section Chiefs, Planning Section Unit Leaders, and the Joint Information Center. It is also posted on a status board located at the ICP. All completed original forms MUST be given to the Documentation Unit.

How to Save and Use the Word Template Form:
The 209 template (.dot file) can be edited to match most incident situations and can be saved into the Word template directory. Open the blank 209 (ICS 209 CG.dot) – do not add any content. Save the blank in the Templates directory. Create a new 209 from File>new picking the 209 template. Type in the file to add any desired content and use “save as” to save the work using a new file name. The file will automatically become a .doc file.

Comments: Please send comments/corrections about this form to the ICS Program Manager, Ms. Kristy Plourde, email: kplourde@tcyorktown.uscg.mil

Item #	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Period Covered by Report	Enter the date and time interval for which the report applies. Use 24-hour clock for all times.
	Time of Report	Enter time for which this information applies. Enter the Time (24-hour clock) the form was prepared.
3.	Type of Incident	Indicate (check box) and/or fill-in the type of incident(s).
4.	Situation Summary	Summary of current situation at time of report.
5.	Future Outlook	This section is for the IC/UC to discuss/project their future outlook, goals, requirements, needs and issues.
6.	Safety Status/Personnel Casualty	This information pertains to responders and assisted public personnel. Indicate the number of serious injuries, death, and missing. Values entered in the column labeled since Last Report are from the start of the

		Period Covered by Report (Item 2) to the time entered in the Time of Report (Item 2).
7.	Property Damage	Enter estimated dollar values for each item, if known.
8.	Attachments	Indicate (check box) and/or fill-in the attachment(s) the help further clarify the incident status.
9.	Equipment Resources	Indicate the number of each type of resource in each status category. There are blank lines below each general type of resource for additional equipment.
	Ordered	Ordered but not yet arrived/available.
	Available	Arrived on scene, stored in staging, not assigned to any task, available for use.
	Assigned	Assigned to a specific task.
	Out of Service	Not working and not assigned to any task (e.g., skimmer being repaired, boom broken, personnel off-duty for rest).
10.	Personnel Resources	Indicate, by agency, the numbers of personnel assigned. There are blank lines for additional personnel, as needed.
11.	Prepared By	Enter name and title of the person preparing the form, normally the Situation Unit Leader.

OIL/HAZMAT ATTACHMENT

1.	Incident Name	Enter the name assigned to the incident.
2.	Period Covered by Report	Enter the date and time interval for which the report applies. Use 24-hour clock for all times.
	Time of Report	Enter time for which this information applies. Enter the Time (24-hour clock) the form was prepared.
3.	Spill Status	This information is only tracked if there is spilled HAZMAT or Oil. Enter Common Name(s) of the released substance or spilled oil (i.e. Ethyl Alcohol/Ethanol or No. 2 Fuel Oil/Light Fuel Oil). Enter UN number and CAS Registry number, if known. Indicate whether the spill source is secured or unsecured (check box) and estimate the remaining potential and the rate of spillage discharge or release. Enter the estimated amounts in barrels for each category. Values entered in the column labeled Since Last Report are from the start of the Period Covered by Report (Item 2) to the time entered in the Time of Report (Item 2).
	Mass Balance	This information is only tracked if there is spilled HAZMAT or Oil whether recovered, evaporated, dispersed, burned, floating, or on shore. The total of these estimates should approximate the total volume spilled, discharged, or released. Values for evaporation, dispersion, etc. can be obtained from the Environmental Unit and/or the Scientific Support Coordinator (SSC).
4.	Waste Management	This information is only tracked if there is spilled HAZMAT or Oil. Enter the estimated amounts in barrels or tons for each category. Total HAZMAT/ Oil (bbl) is the sum of the estimate of HAZMAT/oil in oily

		liquids and HAZAMT/oil in oily solids, and is the value to be entered under "Recovered HAZMAT/Oil" in Item 4.
5.	Shoreline Impacts	This information is only tracked if there is spilled HAZMAT or Oil. Enter the total miles in each category for each degree of oiling. Definitions for Light, Medium, and Heavy oiling can be obtained from the EUL/SSC and should be consistent throughout the incident.
6.	Wildlife Impacts	This information is only tracked after an animal is captured. Indicate the actual number of oiled wildlife in each category. Use numbers in parentheses to indicate the subtotal of threatened / endangered species included in the numbers given.
7.	Prepared By	Enter name and title of the person preparing the form, normally the Situation Unit Leader.

SAR/LE ATTACHMENT

1.	Incident Name	Enter the name assigned to the incident.
2.	Period Covered by Report	Enter the date and time interval for which the report applies. Use 24-hour clock for all times.
	Time of Report	Enter time for which this information applies. Enter the Time (24-hour clock) the form was prepared.
3.	Evacuation Status	This information is only tracked if the incident involves evacuation of personnel. Values entered in the column labeled Since Last Report are from the start of the Period Covered by Report (Item 2) to the time entered in the Time of Report (Item 2).
4.	Migrant Interdiction Status	This information is only tracked if the incident involves Migrant Interdiction. Values entered in the column labeled Since Last Report are from the start of the Period Covered by Report (Item 2) to the time entered in the Time of Report (Item 2).
5.	Sorties/Patrols	This information is only tracked if the incident involves sorties tracked in MISLE Incident Management Activity. List Sorties since last report both Air and Surface. Values entered in the column labeled since Last Report are from the start of the Period Covered by Report (Item 2) to the time entered in the Time of Report (Item 2).
6.	Use of Force	This information is only tracked if the incident involves Use of Force activities. Values entered in the column labeled since Last Report are from the start of the Period Covered by Report (Item 2) to the time entered in the Time of Report (Item 2).
7.	Operational Controls	This information is only tracked if the incident involves Operational Control activities initiated, in force and removed.
8.	Prepared By	Enter name and title of the person preparing the form, normally the Situation Unit Leader.

CHECK-IN LIST	1. INC DENT NAME:	2. CHECK-IN LOCATION:	3. DATE/TIME:

CHECK-IN INFORMATION

4. LIST PERSONNEL (OVERHEAD) BY AGENCY NAME – OR LIST EQUIPEMENT BY THE FOLLOWING FORMAT: S=Supplies H=Helicopter O=Overhead VL=Vessels E=Equipment C=Crew A=Aircraft VH=Vehicle			5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
AGENCY	**RESOURCE IDENTIFIER**	KIND	ORDER/ NUMBER	DATE/TIME CHECK-IN	LEADER'S NAME	TOTAL NO. PERSONNEL	INCIDENT CONTACT INFORMATION	INCIDENT LODGING INFO/ CONTACT INFO	HOME UNIT	METHOD OF TRAVEL	INCIDENT ASSIGNMENT	SENT TO RESTAT TIME/INT
15. ICS 211-CG PAGE _____ of _____			16. PREPARED BY (Name and Position) USE BACK FOR REMARKS OR COMMENTS									

*U.S. GPO: 1009-793-975

GENERAL MESSAGE

TO:	POSITION
FROM	POSITION
SUBJECT	DATE

MESSAGE:

DATE	TIME	SIGNATURE/POSITION

213 ICS 1/79
NFES 1336

PERSON RECEIVING GENERAL MESSAGE KEEP THIS COPY

SENDER REMOVE THIS COPY FOR YOUR FILES

Resource Request Message

ICS-213 RR CG (05/06)

Requestor

1. Incident Name: | 2. Date/Time: | 3. Resource Request No:

4. ORDER Note: Use additional forms when requesting different resource sources of supply

a. Qty.	b. Kind	c. Type	d. Detailed item description (Vital characteristics, brand, specs, experience, etc. & if applicable describe purpose/use, attach diagrams, & other amplifying info)	e. Requested Reporting Location:	e. Requested Reporting Date/Time:	f. ETA (LSC):	g. Cost (FSC):

5. Suggested source(s) of Supply - POC phone no. if known & suitable subtitutes:

6. Requested by Name/Position/Phone: | 7. Date/Time: | 8. Section Chief Approval: | Date/Time:

☐ 9. Check box if request is for tactical/personnel resources & Submit to RESL, otherwise submit directly to Logistics

10. RESL Review/Signature:

☐ Resources as noted are Available ☐ Resources Not Available

Logistics

11. Logistics Order No.: | 12. Supplier Name/Phone/Fax/Email:

13. Notes:

14. Approval Signature of Auth Logistics Rep: | 15. Date/Time:

16. Order placed by (check box): ☐ SPUL ☐ PROC

Finance

17. Reply/Comments from Finance:

18. Finance Section Signature: | 19. Date/Time:

Full Instructions on back page. Requestor fills out # 1-9 & keeps yellow copy (bottom). If applicable, RESL reviews if resource available & signs # 10. Logistics fills in remainder of # 4 & # 10-15 & keeps pink copy. Finance, if needed fills out appropriate items & keeps green copy. Blue original is returned to RESL for tactical/personnel or requestor for non-tactical. White copy goes to DOCL.

Instructions for filling out the ICS-213RR CG Form (5/06)

REQUESTOR: The requestor must fill in Blocks 1 through 9:

Block # 1	Incident name: This is the same as the name stated on the ICS-201 Form and/or the Incident Action Plan (IAP).
Block # 2	Current date and time when submitting request
Block # 3	Resource Request Number: This is to be assigned by the Section submitting request (i.e. CMD, OPS, PLAN, LOG, FIN)
Block # 4	Fill in blocks 4a through 4e. Items requested: Must include Quantity, Kind and Type (if applicable) and detailed description of requirements. **BE SPECIFIC AS POSSIBLE**. The request should focus on capability rather than naming the brand or specific item (e.g. helicopter capable of carrying 4 personnel from location A to B rather than requesting a Coast Guard H-65 helicopter). This gives the logistics section the ability to find the best resource to meet the need. 4.e Requested Reporting Location/Date/Time: This is self-explanatory and is required for ordering official. Leave blocks 4.f. ETA (LSC) and 4.g. Cost (FSC) blank. These will be filled in later by Logistics and Finance.
Block # 5	Suggested sources of supply and suitable substitutes: Enter applicable information if known.
Block # 6 & 7	Requestor: Print Name and Signature and date/time.
Block # 8	Approval: This must be approved by the Section Chief or Deputy Section Chief.
Block # 9	Check box if request is for tactical or personnel resource(s) and submit request to Resources Unit Leader (RESL) to review and approve since RESL tracks all tactical and personnel resources.

Request goes to RESOURCES UNIT if requesting Tactical/Personnel Resource(s):

Block # 10	Resources reviews request and checks to see if resource is available. If the resource is available, reassigns resource as appropriate and sends request back to requester with information noted as to reporting time, etc. The request form is then sent to Documentation Unit Leader (DOCL) for filing. If the resource is not available, RESL sends request to Logistics.

LOGISTICS SECTION: The following blocks are to be filled out be the Supply Unit (SPUL).

Block # 11	Logistics Order Number: To be assigned by Supply Unit.
Block # 12	Supplier Point of Contact, Phone Number and Fax Number: This information is needed for Credit Card purchases and/or Purchase Orders.
Block # 13	Notes: Enter applicable information as need for request.
Block # 4	ETA and Cost: SPUL or PROC fills in Estimated time of arrival (ETA) when determined and cost if known.
Block # 14 & 15	Approval: This must be approved by the Logistics Section Chief or Deputy Logistics Section Chief, printed name and signature is required with Date and Time of approval. Bottom Copy (pink) is retained.

FINANCE SECTION: The following blocks are to be filled out be the Procurement Unit (PROC), if applicable.

Block # 16	Indicates who is to place order as necessary.
Block # 17	Comments concerning request from Finance Section Chief or Deputy Finance Section Chief.
Block # 18 & 19	Approval: This must be approved by the Finance Section Chief or Deputy Section Chief, printed name and signature is required with Date and Time of approval. Bottom copy (green) is retained.
FILING	Original blue copy is returned to RESL for tactical/personnel resources ordered, and the requester for non-tactical. RESL will inform requester of status of request when form received. The white copy is sent to DOCL.

Note: Cost associated requests will not be ordered without approval from the Finance Section Chief or Deputy Finance Section Chief.

Form Filing: Blue (Original) – final disposition to RESL or originator for non-tactical resources, White (copy 1) to DOCL, Green (copy 2) to FIN, Pink (copy 3) to LOG, Yellow (copy 4) to Originator

1. Incident Name	2. Operational Period (Date/Time) From: To:	UNIT LOG ICS 214-CG
3. Unit Name/Designators	4. Unit Leader (Name and ICS Position)	

5. Personnel Assigned

NAME	ICS POSITION	HOME BASE

6. Activity Log (Continue on Reverse)

TIME	MAJOR EVENTS

7. Prepared by: **Date/Time**

1. Incident Name	2. Operational Period (Date/Time) From: To:	UNIT LOG (CONT.) ICS 214-CG

6. Activity Log (Continue on Reverse)

TIME	MAJOR EVENTS

7. Prepared by: **Date/Time:**

UNIT LOG (ICS FORM 214-CG)

Purpose. The Unit Log records details of unit activity, including strike team activity or individual activity. These logs provide the basic reference from which to extract information for inclusion in any after-action report.

Preparation. A Unit Log is initiated and maintained by Command Staff members, Division/Group Supervisors, Air Operations Groups, Strike Team/Task Force Leaders, and Unit Leaders. Completed logs are submitted to supervisors who forward them to the Documentation Unit.

Distribution. The Documentation Unit maintains a file of all Unit Logs. All completed original forms MUST be given to the Documentation Unit.

Item #	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Check-In Location	Enter the time interval for which the form applies. Record the start and end date and time.
3.	Unit Name/Designators	Enter the title of the organizational unit or resource designator (e.g., Facilities Unit, Safety Officer, Strike Team).
4.	Unit Leader	Enter the name and ICS Position of the individual in charge of the Unit.
5.	Personnel Assigned	List the name, position, and home base of each member assigned to the unit during the operational period.
6.	Activity Log	Enter the time and briefly describe each significant occurrence or event (e.g., task assignments, task completions, injuries, difficulties encountered, etc.)
7.	Prepared By	Enter name and title of the person completing the log. Provide log to immediate supervisor, at the end of each operational period.
	Date/Time	Enter date (month, day, year) and time prepared (24-hour clock).

OPERATIONAL PLANNING WORKSHEET

1.INCIDENT NAME

2. DATE & TIME PREPARED

3. OPERATIONAL PERIOD (DATE & T ME)

4. DIVISION/ GROUP/ OTHER LOCATION	5. WORK ASSIGNMENTS	6. KINDS OF RESOURCES																			7. OVERHEAD	8. SPECIAL EQUIPMENT & SUPPL ES	9. REPORTING LOCATION	10. REQUESTED ARRIVAL TIME
		REQ																						
		HAVE																						
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ICS 215 USCG 12-02	11. TOTAL RESOURCES REQUIRED																					14. PREPARED BY (NAME & POSITION)		
	12. TOTAL RESOURCES ON HAND																							
	13. TOTAL RESOURCES NEEDED																							

INCIDENT ACTION PLAN SAFETY ANALYSIS

1. Incident Name | 2. Date/Time Prepared

3. DIVISION/ GROUP/ OTHER LOCATION	4. Work Assignments	5. Gain	6. HAZARDS	7. CONTROLS	8. ORM SEVERITY	8. ORM PROBABILITY	8. ORM EXPOSURE	8. ORM GAR
		Human Health	Check	Check				
		Security						
		Environment						
		Economy						
		Human Health	Check	Check				
		Security						
		Environment						
		Economy						
		Human Health	Check	Check				
		Security						
		Environment						
		Economy						
		Human Health	Check	Check				
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		Human Health	Check	Check				
		Security						
		Environment						
		Economy						
		Human Health	Check	Check				
		Security						
		Environment						
		Economy						
		Human Health	Check	Check				
		Security						
		Environment						
		Economy						

ICS-215A-CG (rev 6/06)

Operational Risk Management Key

Scale	1	2	3	4	5
Severity	Slight	Minimal	Signif-icant	Major	Catas-trophic
Probability	Remote	Un-likely	50/50	>50	Very Likely
Exposure	Below Avg	Avg	Above Avg	Great	N/A

Gar Scale

#	1-19	20-39	40-59	60-79	80-100
Risk	Slight	Possible	Substantial	High	Very High
Color	Green	Amber	Red	Red	Red
Action	Possibly Acceptable	Attention Needed	Correction Required	Immediate Correction	Discontinue/ Stop

9. Prepared by (Name and Position)

1. Incident Name	2. Operational Period (Date / Time) From: To:	AIR OPERATIONS SUMMARY ICS 220-CG

3. Distribution

☐ Fixed-Wing Bases _____ ☐ Helibase _____

4. Personnel and Communications

	Air Operations Director	Air / Air Frequency	Air / Ground Frequency
Air Operations Director			
Air Tactical Supervisor			
Air Support Supervisor			
Helicopter Coordinator			
Fixed-Wing Coordinator			

5. Remarks (Spec. Instructions, Safety Notes, Hazards, Priorities)

6. Location / Function	7. Assignment	8. Fixed-Wing		9. Helicopter		10. Time		11. Aircraft Assigned	12. Operating Base
		NO.	TYPE	NO.	TYPE	Available	Commence		
	13. TOTALS								

14. Air Operation Support Equipment

15. Prepared by **Date / Time**

AIR OPERATIONS SUMMARY (ICS 220-CG)

Purpose. The Air Operations Summary provides the Air Operations Branch with the number, type, location, and specific assignments of aircraft.

Preparation. The Operations Section Chief or the Air Operations Branch Director completes the summary during each Planning Meeting. General air resource assignment information is obtained from the Operational Planning Worksheet (ICS 215-CG). The Air and Fixed-Wing Support Groups provide specific designators of the air resources assigned to the incident.

Distribution. After the summary is completed by Air Operations personnel (except item 11), the form is given to the Air Support Group Supervisor, who completes the form by indicating the designators of the helicopters and fixed-wing aircraft assigned missions during the specified operational period. This information is provided to Air Operations personnel who, in turn, give the information to the Resources Unit. All completed original forms MUST be given to the Documentation Unit.

Item #	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Operational Period	Enter the time interval for which the form applies.
3.	Distribution	Check the block and enter the time and date when ICS 220-CG and attachments were sent to all fixed-wing bases and helibases supporting the incident.
4.	Personnel and Communications	List the names of those assigned to each position, and the air-air and air-ground frequencies to be used.
5.	Remarks	Enter the special instructions or information, including safety notes, hazards, and priorities for Air Operations personnel.
6.	Location/Function	Enter the assigned location and function of the aircraft.
7.	Assignment	Enter the scope of work the aircraft is assigned to complete.
8.	Fixed Wing	Indicate the number and type of fixed-wing aircraft available for this Location / Function.
9.	Helicopters	Indicate the number and type of helicopters available for this Location / Function.
10.	Time	Indicate when aircraft will be available for use and when operations commence (use 24 hour clock).
11.	Aircraft Assigned	Enter the designators of the aircraft assigned. Gather information from Resources Unit, helibases, and fixed-wing bases.
12.	Operating Base	Enter the base (helibase, helispot, fixed-wing base) from which each air resource is expected to initiate operations.
13.	Totals	Enter the total number of fixed-wing and helicopter aircraft assigned to the incident in the Number columns. Enter the total number of each type of aircraft assigned in the Type columns.
14.	Air Operations Support Equipment	List the designators and location of other support resources assigned to Air Operations.
15.	Prepared By Date/Time	Enter name and title of the person preparing the form. Enter date (month, day, year) and time prepared (24-hour clock).

1. Incident Name	2. Operational Period (Date / Time) From: To:	DEMOB. CHECK-OUT ICS 221-CG
3. Unit / Personnel Released	4. Release Date / Time	

5. Unit / Personnel

You and your resources have been released, subject to signoff from the following:
(Demob. Unit Leader "X" appropriate box(es))

Logistics Section

☐ Supply Unit _____

☐ Communications Unit _____

☐ Facilities Unit _____

☐ Ground Unit _____

Planning Section

☐ Documentation Unit _____

Finance / Admin. Section

☐ Time Unit _____

Other

☐ _____ _____

☐ _____ _____

☐ _____ _____

6. Remarks

_____

_____

_____

_____

7. Prepared by: **Date / Time**

DEMOB. CHECK-OUT (ICS 221-CG)

Purpose. This form provides the Planning Section information on resource releases from the incident.

Preparation. The Demobilization Unit Leader or the Planning Section initiates this form. The Demobilization Unit Leader completes the top portion of the form after the resource supervisor has given written notification that the resource is no longer needed.

Distribution. The individual resource will have the unit leader initial the appropriate box(es) in item 5 prior to release from the incident. After completion, the form is returned to the Demobilization Unit Leader or the Planning Section. All completed original forms MUST be given to the Documentation Unit.

Item #	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Operational Period	Enter the time interval for which the form applies.
3.	Strike Team / Unit / Personnel Released	Enter name of Strike Team, Unit or personnel being released.
4.	Release Date/Time	Enter date (month, day, year) and time (24-hour clock) of anticipated release.
5.	Strike Team / Unit / Personnel	Demobilization Unit Leader will enter an "X" in the box to the left of those units requiring check-out. Identified Unit Leaders are to initial to the right to indicate release. NOTE: Blank boxes are provided for any additional unit requirements as needed, (e.g., Safety Officer, Agency Rep., etc.)
6.	Remarks	Enter any additional information pertaining to demobilization or release (e.g., transportation needed, destination, etc.).
7.	Prepared By	Enter name and title of the person preparing the form.
	Date/Time	Enter date (month, day, year) and time prepared (24-hour clock).

1. Incident Name	2. Operational Period (Date/Time) From: To:	DAILY MEETING SCHEDULE ICS 230-CG

3. Meeting Schedule (Commonly-held meetings are included)

Date/ Time	Meeting Name	Purpose	Attendees	Location
	Unified Command Objectives Meeting	Review/ identify objectives for the next operational period.	Unified Command members	
	Command & General Staff Meeting	IC/UC gives direction to Command & General staff including incident objectives and priorities	IC/UC, Command & General Staff	
	Tactics Meeting	Develop/Review primary and alternate Strategies to meet Incident Objectives for the next Operational Period.	PSC, OSC, LSC, RESL & SITL	
	Planning Meeting	Review status and finalize strategies and assignments to meet Incident Objectives for the next Operational Period.	Determined by the IC/UC	
	Operations Briefing	Present IAP and assignments to the Supervisors / Leaders for the next Operational Period.	IC/UC, Command & General Staff, Branch Directors, Div/Gru Sups., Task Force/Strike Team Leaders and Unit Leaders	

4. Prepared by: (Situation Unit Leader) **Date/Time**

DAILY MEETING SCHEDULE (ICS 230-CG)

Purpose. The Daily Meeting Schedule records information about the daily scheduled meeting activities.

Preparation. This form is prepared by the Situation Unit Leader and coordinated through the Unified Command for each operational period or as needed. Commonly-held meetings are already included in the form. Additional meetings, as needed, can be entered onto the form in the spaces provided. Time and location for each meeting must be entered. If any of these standard meetings are not scheduled, they should be crossed out on the form.

Distribution. After coordination with the Unified Command, the Situation Unit Leader will duplicate the schedule and post a copy at the Situation Status Board and distribute to the Command Staff, Section Chiefs, and appropriate Unit Leaders. All completed original forms MUST be given to the Documentation Unit.

Item #	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Operational Period	Enter the time interval for which the form applies.
3.	Meeting Schedule	For each scheduled meeting, enter the date/time, meeting name, purpose, attendees, and location. Note: Commonly-held meetings are included in the form. Additional meetings, as needed, can be entered onto the form in the spaces provided. Time and location for each meeting must be entered. If any of the standard meetings are not scheduled, they should be deleted from the form (normally the Situation Unit Leader).
4.	Prepared By	Enter name and title of the person preparing the form, normally the Situation Unit Leader.
	Date/Time	Enter date (month, day, year) and time prepared (24-hour clock).

1. Incident Name	2. Operational Period (Date/Time) From: To:	**RESOURCES AT RISK SUMMARY** **ICS 232-CG**

3. Environmentally-Sensitive Areas and Wildlife Issues

Site #	Priority	Site Name and/or Physical Location	Site Issues

Narrative

4. Archaeo-cultural and Socio-economic Issues

Site #	Priority	Site Name and/or Physical Location	Site Issues

Narrative

5. Prepared by: (Environmental Unit Leader) **Date/Time**

RESOURCES AT RISK SUMMARY (ICS 232-CG)

Purpose. The Resources at Risk Summary provides information about sites in the incident area which are sensitive due to environmental, archaeo-cultural, or socio-economic resources at risk, and identifies incident-specific priorities and issues. The information recorded here may be transferred to ICS 232a-CG, which acts as a key to the Area Contingency Plan (ACP) or Geographic Response Plan (GRP) site numbers shown on the Situation Map.

Preparation. The Environmental Unit Leader, with input from resource trustees, will complete this form for each operational period. It should be updated prior to the Planning Meeting.

Distribution. This form must be forwarded to the Planning Section Chief for possible inclusion in the IAP. All completed original forms MUST be given to the Documentation Unit.

Item #	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Operational Period	Enter the time interval for which the form applies.
3.	Env- Sensitive Area & Wildlife Issues	
	Site Number	Enter site number. Can come from Area Contingency Plan (ACP) or Geographic Response Plan (GRP) or can be created during an incident.
	Priority	Priority specific to this incident. Can come from an ACP/GRP or can be created during an incident.
	Site Name and/or Physical Location	Name of the site (e.g., Marsh Pt., Glacier Creek, etc.) and/or physical location (e.g., address, lat/long, landmarks, etc.).
	Site Issues	Environmental concerns associated with this site and season.
	Narrative	Use the Narrative section to clarify any issues.
4.	Archaeo-cultural and Socio-economic Issues	
	Site Number	Enter site number. Can come from an ACP/GRP or can be created during an incident.
	Priority	Priority specific to this incident. Can come from an ACP/GRP or can be created during an incident.
	Site Name and/or Physical Location	Name of the site (e.g., Marsh Pt., Glacier Creek, etc.) and/or physical location (e.g., address, lat/long, landmarks, etc.).
	Site Issues	Archaeo-cultural or socio-economic concerns associated with this site and season.
	Narrative	Use the Narrative section to clarify any issues.
5.	Prepared By	Enter name and title of the person preparing the form (normally the Environmental Unit Leader).
	Date/Time	Enter date (month, day, year) and time prepared (24-hour clock).

1. Incident Name	2. Operational Period (Date/Time) From: To:	ACP Site Index ICS 232a-CG

3. Index to ACP/GRP sites shown on Situation Map

Site #	Priority	Site Name and/or Physical Location	Action	Status

Note: This form is designed to be posted next to the situation map. Use additional sheets, as needed.

4. Prepared by: **Date/Time**

ACP SITE INDEX (ICS 232a-CG)

Special Note. This optional form is designed to be a key to the site numbers or site names shown on the Situation Map. The information on priorities for environmentally-sensitive areas and archaeo-cultural and socio-economic issues from the ICS 232-CG may be transferred to ICS 232a-CG, which provides more information on the Area Contingency Plan (ACP) or Geographic Response Plan (GRP) site numbers or names shown on the Situation Map.

Purpose. If used, this form is posted next to the Situation Map, providing a key to the ACP/GRP sites shown on the map.

Preparation. The Situation Unit personnel responsible for the Situation Map prepare this form, using ICS 232-CG prepared by the Environmental Unit.

Distribution. This form is posted next to the Situation Map and copies of this form should accompany any distributed copies of the Situation Map. All completed original forms MUST be given to the Documentation Unit.

Item #	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Operational Period	Enter the time interval for which the form applies.
3.	Index to ACP/GRP sites	Enter site information from the Area Contingency Plan (ACP) or Geographic Response Plan (GRP) or other sources specific to this incident.
	Site Number	Can come from an Area Contingency Plan (ACP) or Geographic Response Plan (GRP) or can be created during an incident.
	Priority	Priority specific to this incident.
	Site Name and/or Physical Location	Name of the site (e.g., Marsh Pt., Glacier Creek, etc.) and/or physical location (e.g., address, lat/long, landmarks, etc.).
	Action	Actions to be taken for designated protection and collection strategies or for other sites identified specifically for this incident.
	Status	Status of site action implementation (e.g., scheduled, in progress, completed).
4.	Prepared By	Enter name and title of the person preparing the form.
	Date/Time	Enter date (month, day, year) and time prepared (24-hour clock).

1. Incident Name					**INCIDENT OPEN ACTION TRACKER ICS 233-CG**		
2. No.	3. Item	4. For/POC	5. POC Briefed	6. Start Date	7. Status	8. Target Date	9. Actual Date
1							
2							
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37							

Open Actions Tracker (ICS 233-CG)

Item #	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	No.	Enter number of task in sequential order (1, 2, 3, …).
3.	Item	Enter short descriptive of the task.
4.	For/POC	Enter responsible section/person.
5.	Briefed to POC	When the tasker has been briefed to the POC after initially assigned, an "X" is placed in the brief column. This was to ensure that taskers identified outsie of the POC's presence (during UC Meeting for example) were assigned the to identified POC.
6.	Start Date	Enter the date the tasker was initially assigned under "Start Date."
7.	Status	Enter status of item. This includes things like: "Awaiting LE Gear", "Update needed", "Awaiting Feedback". When the item is completed, the word "completed" is entered and if working in MS Excel, the task is cut and pasted into the worksheet labeled "COMPLETED."
8.	Target Date	Target date is another way of saying deadline. When the target date is one day away, the block turns yellow. When it is overdue it turns red. When it is yellow, it serves as a reminder to the UC that the target date needs to be changed or the responsible section needs to complete the task.
9.	Actual Date	The block to the right of the Target Date (Actual Date) will always have today's date. It is merely the formula "=today()" inserted into the cell.

NOTE: In order to ensure the red and yellow reminders work for new tasks, the user simply copies a task line, inserts it into the worksheet and overtypes the new task information.

		WORK ANALYSIS MATRIX ICS 234-CG
1. Incident Name	2. Operational Period From: To:	
3. Operation's Objectives DESIRED OUTCOME	4. Optional Strategies HOW	5. Tactics/Work Assignments WHO, WHAT, WHERE, WHEN
6. Prepared by: (Operations Section Chief)		7. Date/Time:

1. Incident Name	2. Operational Period (Date / Time) From: To:	EXECUTIVE SUMMARY

3. Operations

4. Environmental

5. Planning

6. Other

7. Prepared by **Date / Time**

EXECUTIVE SUMMARY June 2000

EXECUTIVE SUMMARY

Purpose. The Executive Summary communicates significant response issues during the current operational period, summarizing the daily activities for all sections in a brief format to Senior Managers, Administrators, Senior Agency Staff, and Civic Leaders.

Preparation. The Situation Unit Leader prepares this form with input from Section Chiefs. Final authorization is provided by the Unified Command prior to dissemination outside the ICS organization.

Distribution. After authorization by the Unified Command, the Documentation Unit Leader will duplicate and post a copy on the Situation Status Display Board in the Command Post. Single copies may then be distributed to the Unified Command, Command Staff, Joint Information Center, and Section Chiefs. All completed original forms MUST be given to the Documentation Unit.

Item #	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Operational Period	Enter the time interval for which the form applies. Record the start and end date and time.
3.	Operations	Operations Section Chief will summarize the tactical accomplishments for the previous operational period.
4.	Environmental	Environmental Unit Leader will summarize any significant impacts identified or mitigated during the previous operational period.
5.	Planning	Planning Section Chief will summarize the critical actions to be carried out during the next operational period.
6.	Other	Situation Unit Leader will indicate any anomalies to previous Executive Summaries, special meetings, community impacts, or items of special interest.
7.	Prepared By	Enter name and title of the person preparing the form, normally the Situation Unit Leader.
	Date/Time	Enter date (month, day, year) and time prepared (24-hour clock).

1. Incident Name	GENERAL PLAN
2. Prepared By Date / Time Prepared	3. Operational Period (Date / Time) From: To:
4. Notification (Date and time completed)	5. Response Initiation (Date and time completed)

6. Plan Item Timeframe ==> (Enter days or weeks)	
Site Characterization, Forecasts, and Analysis	
Site Safety	
Site Security	
Source Stabilization, Salvage, and Lightering	
Surveillance	
On Water Containment and Recovery	
Sensitive Areas / Resources at Risk	
Alternative Response Technology	
Shoreline Protection and Recovery	
Wildlife Protection and Rehabilitation	
Logistics Support	
Response Organization	
Communications	
Public Information	
Financial Management and Cost Documentation	
NRDA and Claims	
Training	
Information Management	
Restoration / Mitigation	
Waste Management	
Demobilization	

GENERAL PLAN-OS

Purpose. The General Plan form displays the progress and planned start and end dates for various incident response activities. Some standard activities have been listed on the form and blank lines are provided at the bottom of the form for planning and tracking additional incident-specific activities.

Preparation. The Planning Section completes the General Plan form when requested by the Unified Command.

Distribution. The General Plan form will be given to the Unified Command and all General Staff as part of the incident summary. All completed original forms MUST be given to the Documentation Unit.

Item #	Item Title	Instructions
1.	Incident Name	Enter the name assigned to the incident.
2.	Prepared By	Enter the name of the Planning Section Chief completing the form.
3.	Date/Time	Enter the Date (month, day, year) and Time (24-hour clock) the form was prepared.
4.	Operational Period	Enter the time interval for which the form applies. Record the start and end date and time.
5.	Notification	Enter the date and time that required notifications were completed.
6.	Response Initiation Plan Item and Timeframe	Enter the date and time that the Response Initiation is completed. Enter specific dates, or day number or week number in the top row to indicate the timeframe being covered by this form. Then enter either descriptive text or shading to the right of each activity to indicate the beginning and estimated end for that activity during this incident response.

INITIAL INCIDENT INFORMATION	INCIDENT NAME	Information as of: Date	Time

NAME OF PERSON REPORTING THE INCIDENT

Call-Back Number(s) of person reporting the incident:

VESSEL/FACILITY INFORMATION AND POINTS OF CONTACT

Vessel / Facility Name: Number of people onboard/on site:

Location:

Type of Vessel / Facility:

Contact / Agent: Phone:

Owner: Phone:

Operator / Charterer: Phone:

VESSEL SPECIFIC INFORMATION

Last Port of Call: Destination: Flag:

Particulars: Length: Ft. Tonnage (Gross/Net/DWT): Draft Fwd: Aft: Year Built:

Type of Hull: ☐ Single ☐ Double ☐ Double-Bottom ☐ Double-Sided

Hull Material:

Type of Propulsion: ☐ Diesel ☐ Steam ☐ Gas Turbine ☐ Nuclear ☐ Other

Petroleum Products or Crude Oil ☐ Yes ☐ No

Type of Cargo: Total Number of Tanks on Vessel:

Total Quantity: Barrels x 42= Gallons Total Capacity: Barrels

Type of Fuel: Quantity on Board: Barrels

INCIDENT INFORMATION

Location: Lat/Long:

Type of Casualty: ☐ Grounding ☐ Collision ☐ Allision ☐ Explosion ☐ Fire ☐ Other

Number of Tanks Impacted: Total Capacity of Affected Tanks:

Material(s) Spilled: Viscosity:

Estimated Quantity Spilled: (☐ Gallons / ☐ Barrels) Classification: ☐ Minor ☐ Medium ☐ Major

Source Secured?: ☐ Yes ☐ No If Not, Estimated Spill Rate: ☐ Barrels ☐ Gallons / Hour

Notes:

INCIDENT STATUS

Injuries/Casualties: ☐ SAR Underway

Vessel Status: ☐ Sunk ☐ Aground ☐ Dead in Water Set and Drift:

☐ Anchored ☐ Berthed ☐ Under Tow Estimated Time to Dock / Anchor:

☐ Enroute to Anchorage / Berth Under Own Power Estimated Time of Arrival:

☐ Holed: ☐ Above Waterline ☐ Below Waterline ☐ At Waterline Approximate Size of Hole:

☐ Fire: ☐ Extinguished ☐ Burning ☐ Assistance Enroute ☐ Assistance On-Scene

☐ Flooding: ☐ Dewatering ☐ Lightering ☐ Assistance Enroute ☐ Assistance On-Scene

☐ List: ☐ Port ☐ Starboard Degrees: ☐ Trim: ☐ Bow ☐ Stern Degrees:

ENVIRONMENTAL INFORMATION

Wind Speed:	Knots	Wind Direction:	Air Temperature:	F°	Water Temperature: F°
Wave Height:	Feet	Wave Direction:	Conditions:		Tide: ☐ Slack ☐ Flood ☐ Ebb
Current:	Knots	Current Direction:			High Tide at: Hours
Swell Height:	Feet	Swell Direction:			Low Tide at: Hours

Prepared By: Date / Time Prepared

INITIAL NOTIFICTION
INCIDENT INFORMATION

Purpose. The Incident Information form provides the Incident Commander (and the Command and General Staff assuming command of the incident) with basic information regarding the incident situation and conditions.

Preparation. The initial Incident Information form is prepared by the responder receiving the first call reporting the incident. Subsequent updates to the form would be made by the Situation Unit.

Distribution. The initial form will be given to the Incident Commander. When updated, the Planning Section Chief will duplicate the Incident Information form and post a copy at the Situation Display in the Command Post. Single copies may then be distributed to the Command Staff, Section Chiefs, and Joint Information Bureau. All completed original forms MUST be given to the Documentation Unit.

Item Title	Instructions
All items	Enter information appropriate for all relevant items.

MATERIAL SAFETY DATA SHEETS

SECTION 16 MATERIAL SAFETY DATA SHEETS

MATERIAL SAFETY DATA SHEETS 1

MATERIAL SAFETY DATA SHEETS

MSDSs can be accessed on the Company website. MSDS's are also located at Company locations.

Some typical MSDSs that may be utilized during an emergency response include but are not limited to:

- Crude Oil
- Regular Unleaded Gasoline
- Mid-Grade Unleaded Gasoline
- Premium Gasoline
- Jet Fuels
- Turbine Fuel, Aviation JP-5
- LS Diesel 1
- LS Diesel 2
- HS Diesel 1
- HS Diesel 2
- Gasoline Generic
- Natural Gasoline
- Ethylene
- LPG
- Natural Gas
- Ethane
- Ethanol

GLOSSARY

SECTION 17 GLOSSARY

GLOSSARY **1**

Definitions 1

GLOSSARY

Definitions

AGENCY REPRESENTATIVE - Individual assigned to an incident from an assisting or cooperating agency who has been delegated full authority to make decisions on all matters affecting his/her agency's participation at the incident. Agency Representatives report to the Liaison Officer.

AIR OPERATIONS BRANCH DIRECTOR - The person primarily responsible for preparing and implementing the air operations portion of the Incident Action Plan. Also responsible for providing logistical support to helicopters assigned to the incident.

ALLOCATED RESOURCES - Resources dispatched to an incident.

ASSIGNED RESOURCES - Resources checked-in and assigned work tasks on an incident.

ASSIGNMENTS - Tasks given to resources to perform within a given operational period, based upon tactical objectives in the Incident Action Plan.

ASSISTANT - Title for subordinates of the Command Staff positions. The title indicates a level of technical capability, qualifications, and responsibility subordinate to the primary positions. Assistants may also be used to supervise unit activities at camps.

ASSISTING AGENCY - An agency directly contributing tactical or service resources to another agency.

AVAILABLE RESOURCES - Incident-based resources that are immediately available for assignment.

BASE - The location at which the primary logistics functions are coordinated and administered. (Incident name or other designator will be added to the term "Base") The Incident Command Post may be collocated with the base. There is only one base per incident.

BRANCH - The organizational level having functional/geographic responsibility for major incident operations. The Branch level is organizationally between Section and Division/Group in the Operations Section, and between Section and Units in the Logistics Section.

CACHE - A pre-determined complement of tools, equipment, and/or supplies stored in a designated location, and available for incident use.

CAMP - A geographical site, within the general incident area, separate from the base, equipped and staffed to provide sleeping areas, food, water, and sanitary services to incident personnel.

CHECK-IN - The process whereby resources first report to an incident response. Check-in locations include: Incident Command Post (Resources Unit), Incident Base, Camps, Staging Areas, Helibases, and Division/Group Supervisors (for direct line assignments).

CHIEF - The ICS title of individuals responsible for command of functional sections: Operations, Planning, Logistics, and Finance/Administration.

CLEAR TEXT - The use of plain English in radio communications transmissions. No Ten Codes nor agency specific codes are used when using Clear Text.

COMMAND - The act of directing, ordering, and/or controlling resources by virtue of explicit legal, agency, or delegated authority. May also refer to the Incident Commander/Unified Command.

COMMAND POST - See Incident Command Post.

COMMAND STAFF - The Command Staff consists of the Information Officer, Safety Officer, and Liaison Officer, who report directly to the Incident Commander. They may have an assistant or assistants, as needed.

COMMUNICATIONS UNIT - A vehicle (trailer or mobile van) used to provide the major part of an incident Communications Center.

COOPERATING AGENCY - An agency supplying assistance other than direct tactical, support, or service functions or resources to the incident control effort (e.g., Red Cross, telephone company, etc.).

COST UNIT - Functional unit within the Finance/Administration Section responsible for tracking costs, analyzing cost data, making cost estimates, and recommending cost-saving measures.

DECONTAMINATION – The process of removing or neutralizing contaminants that have accumulated on personnel and equipment.

DEPUTY - A fully qualified individual who, in the absence of a superior, could be delegated the authority to manage a functional operation or perform a specific task. In some cases, a Deputy could act as relief for a superior, and, therefore, must be fully qualified in the position. Deputies can be assigned to the Incident Commander, General Staff, and Branch Directors.

DEMOBILIZATION UNIT - Functional unit within the Planning Section responsible for assuring orderly, safe, and efficient demobilization of incident resources.

DIRECTOR - The ICS title for individuals responsible for supervising a Branch.

DISPATCH - The implementation of a command decision to move resources from one place to another.

DISPATCH CENTER - A facility from which resources are directly assigned to an incident.

DIVISION - The organization level having responsibility for operation within a defined geographic area or with functional responsibility. The Division level is organizationally between the Task Force/Strike Team and the Branch. (See also "Group")

DOCUMENTATION UNIT - Functional unit within the Planning Section responsible for collecting, recording, and safeguarding all documents relevant to the incident.

EMERGENCY MEDICAL TECHNICIAN (EMT) - A health-care specialist with particular skills and knowledge in pre-hospital emergency medicine.

EMERGENCY OPERATIONS CENTER (EOC) - A pre-designated facility established by an agency or jurisdiction to coordinate the overall agency or jurisdictional response and support to an emergency response.

FACILITIES UNIT - Functional unit within the Support Branch of the Logistics Section that provides fixed facilities for the incident. These facilities may include the Incident Base, feeding areas, sleeping areas, sanitary facilities, etc.

FEDERAL ON-SCENE COORDINATOR (FOSC) - The pre-designated Federal On-Scene Coordinator operating under the authority of the National Contingency Plan (NCP).

FIELD OPERATIONS GUIDE (FOG) - A pocketsize manual of guidelines regarding application of the Incident Command System.

FINANCE/ADMINISTRATION SECTION - The Section responsible for all incident costs and financial considerations. Includes the Time Unit, Procurement Unit, Compensation/Claims Unit, and Cost Unit.

FOOD UNIT - Functional unit within the Service Branch of the Logistics Section responsible for providing meals for incident personnel.

FUNCTION - In ICS, function refers to the five major activities in the ICS, i.e., Command, Operations, Planning, Logistics, and Finance/Administration. The term function is also used when describing the activity involved, e.g., "the planning function."

GENERAL STAFF - The group of incident management personnel comprised of: Incident Commander, Operations Section Chief, Planning Section Chief, Logistics Section Chief, and Finance/Administration Section Chief.

GEOGRAPHIC INFORMATION SYSTEM (GIS) - An electronic information system which provides a geo-referenced database to support management decision-making.

GROUND SUPPORT UNIT - Functional unit within the Support Branch of the Logistics Section responsible for fueling, maintaining, and repairing vehicles, and the ground transportation of personnel and supplies.

GROUP - Groups are established to divide the incident into functional areas of operation. Groups are composed of resources assembled to perform a special function not necessarily within a single geographic division. (See Division.) Groups are located between Branches (when activated) and Single Resources in the Operations Section.

HELIBASE - A location within the general incident area for parking, fueling, maintaining, and loading helicopters.

HELISPOT - A location where a helicopter can take off and land. Some helispots may be used for temporary loading.

INCIDENT ACTION PLAN (IAP) - The Incident Action Plan, which is initially prepared at the first meeting, contains general control objectives reflecting the overall incident strategy, and specific action plans for the next operational period. When complete, the Incident Action Plans will include a number of attachments.

INCIDENT AREA - Legal geographical area of the incident including affected area(s) and traffic route(s) to corresponding storage and disposal sites.

INCIDENT BASE - See BASE.

INCIDENT COMMANDER (IC) - The individual responsible for managing all incident operations.

INCIDENT COMMAND POST (ICP) - The location at which the primary command functions are executed; may be collocated with the incident base.

INCIDENT COMMAND SYSTEM (ICS) - A standardized on-scene emergency management system specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries.

INCIDENT COMMUNICATION CENTER - The location of the Communications Unit and the Message Center.

INCIDENT OBJECTIVES - Statements of guidance and direction necessary for the selection of appropriate strategies, and the tactical direction of resources. Incident objectives are based on realistic expectations of what can be accomplished when all allocated resources have been effectively deployed. Incident objectives must be achievable and measurable, yet flexible enough to allow for strategic and tactical alternatives.

INCIDENT SITUATION DISPLAY - The Situation Unit is responsible for maintaining a display of status boards which communicate critical incident information vital to establishing and maintaining an effective command and control environment.

INFORMATION OFFICER (IO) - A member of the Command Staff responsible for providing incident information to the public and news media or other agencies or organizations. There is only one Information Officer per incident. The Information Officer may have assistants.

JOINT INFORMATION CENTER (JIC) - A facility established within, or near, the Incident Command Post where the Information Officer and staff can coordinate and provide incident information to the public, news media, and other agencies or organizations. The JIC is normally staffed with representatives from the FOSC, SOSC and RP.

JURISDICTION - A range or sphere of authority. At an incident, public agencies have jurisdiction related to their legal responsibilities and authority for incident mitigation. Jurisdictional authority at an incident can be political/geographical (e.g., city, county, state, or Federal boundary lines), or functional (e.g., police department, health department, etc.). (See Multi-Jurisdiction).

JURISDICTIONAL AGENCY - The agency having jurisdiction and responsibility for a specific geographical area, or a mandated function.

LANDING ZONE - See Helispot.

LEADER - The ICS title for an individual responsible for a Task Force/Strike Team or functional Unit.

LIAISON OFFICER (LO) - A member of the Command Staff responsible for coordinating with stakeholder groups and representatives from assisting and cooperating agencies.

LOGISTICS SECTION - The Section responsible for providing facilities, services, and materials for the incident.

MANAGERS - Individuals within ICS organizational units who are assigned specific managerial responsibilities (e.g., Staging Area Manager or Camp Manager).

MEDICAL UNIT - Functional unit within the Service Branch of the Logistics Section responsible for developing the Medical Plan, and for providing emergency medical treatment for incident response personnel.

MESSAGE CENTER - The message center is part of the Communications Center and collocated with or adjacent to it. It receives, records, and routes information about resources reporting to the incident, resource status, and handles administration and tactical traffic.

MULTI-AGENCY COORDINATION (MAC) – A generalized term which describes the functions and activities of representatives of involved agencies and/or jurisdictions who come together to make decisions regarding the prioritizing of incidents, and the sharing and use of critical resources. The MAC organization is not a part of the on-scene ICS and is not involved in developing incident strategy or tactics.

MULTI-AGENCY INCIDENT - An incident where one or more agencies assists a jurisdictional agency or agencies. May be single or Unified Command.

MULTI-JURISDICTION INCIDENT - An incident requiring action from multiple agencies that have statutory responsibility for incident mitigation. In ICS, these incidents will normally be managed using a Unified Command.

NATURAL RESOURCE DAMAGE ASSESSMENT (NRDA) - The process of collecting and analyzing information to evaluate the nature and extent of injuries resulting from an incident, and determine the restoration actions needed to bring injured natural resources and services back to baseline and make the environment whole for interim losses. (15 CFR 990.30)

OFFICER - The ICS title for personnel responsible for the Command Staff positions of Safety, Liaison, and Information.

OPERATIONAL PERIOD - The period of time scheduled for execution of a given set of operational actions specified in the Incident Action Plan. Operational Periods can be various lengths, usually not over 24 hours.

OPERATIONS SECTION - Responsible for all operations directly applicable to the primary mission. Directs unit operational plans preparation, requests or releases resources, makes expedient changes to the Incident Action Plan (as necessary), and reports such to the Incident Commander. Includes the Recovery and Protection Branch, Emergency Response Branch, Air Operations Branch, and Wildlife Branch.

OUT-OF-SERVICE RESOURCES - Resources assigned to an incident but unable to respond for mechanical, rest, or personnel reasons.

PLANNING MEETING - A meeting, held as needed throughout the duration of an incident, to select specific strategies and tactics for incident control operations and for service and support planning.

PLANNING SECTION - Responsible for collecting, evaluating, and disseminating tactical information related to the incident, and for preparing and documenting Incident Action Plans. The section also maintains information on the current and forecast situation, and on the status of resources assigned to the incident. Includes the Situation, Resource, Environmental, Documentation, and Demobilization Units, and Technical Specialists.

POLREP - Pollution report.

PROCUREMENT UNIT - Functional unit within the Finance/Administration Section responsible for financial matters involving vendor contracts.

QUALIFIED INDIVIDUAL (Q.I.) - The person authorized by the responsible party to expend funds and obligate resources.

RADIO CACHE - A cache may consist of a number of portable radios, a base station, and, in some cases, a repeater stored in a predetermined location for dispatch to incidents.

RECORDERS - Individuals within ICS organizational units who are responsible for recording information. Recorders may be found in Planning, Logistics, and Finance/Administration.

REGIONAL RESPONSE TEAM (RRT) - A Federal response organization, consisting of representatives from specific Federal and state agencies, responsible for regional planning and preparedness before an oil spill occurs and for providing advice to the FOSC in the event of a major or substantial spill.

REPORTING LOCATION - Any one of six facilities/locations where incident assigned resources may be checked in. The locations are: Incident Command Post-Resources Unit, Base, Camp, Staging Area, Helibase, or Division/Group Supervisors (for direct line assignments.) Check-in for each specific resource occurs at one location only.

RESOURCES - All personnel and major items of equipment available, or potentially available, for assignment to incident tasks on which status is maintained.

RESOURCES UNIT - Functional unit within the Planning Section responsible for recording the status of resources committed to the incident. The Unit also evaluates resources currently committed to the incident, the impact that additional responding resources will have on the incident, and anticipated resource needs.

RESPONSIBLE PARTY (RP) – The owner/operator of the vessel or facility which is the spill source.

RESPONSIBLE PARTY INCIDENT COMMANDER (RPIC) - Responsible Party's designated incident commander.

SAFETY OFFICER (SO) - A member of the Command Staff responsible for monitoring and assessing safety hazards or unsafe situations, and for developing measures for ensuring personnel safety. The Safety Officer may have assistants.

SECTION - The organization level having functional responsibility for primary segments of incident operation such as: Operations, Planning, Logistics, Finance/Administration. The Section level is organizationally between Branch and Incident Commander.

SERVICE BRANCH - A Branch within the Logistics Section responsible for service activities at the incident. Includes the Communications, Medical, and Food Units.

SINGLE RESOURCE - An individual, a piece of equipment and its personnel complement, or a crew or team of individuals with an identified work supervisor that can be used on an incident.

SITE SAFETY AND HEALTH PLAN (SSHP) – Site-specific document required by state and Federal OSHA regulations and specified in the Area Contingency Plan. The SSHP, at minimum, addresses, includes, or contains the following elements: health and safety hazard analysis for each site task or operation, comprehensive operations workplan, personnel training requirements, PPE selection criteria, site-specific occupational medical monitoring requirements, air monitoring plan, site control measures, confined space entry procedures (if needed), pre-entry briefings (tailgate meetings, initial and as needed), pre-operations commencement health and safety briefing for all incident participants, and quality assurance of SSHP effectiveness.

SITUATION UNIT - Functional unit within the Planning Section responsible for collecting, organizing, and analyzing incident status information, and for analyzing the situation as it progresses. Reports to the Planning Section Chief.

SOURCE CONTROL - Actions necessary to control the spill source and prevent the continued release of oil or hazardous substance(s) into the environment.

SPAN OF CONTROL – Span of Control means how many organizational elements may be directly managed by one person. Span of Control may vary from three to seven, and a ratio of one to five reporting elements is recommended.

STAGING AREA - The location where incident personnel and equipment are staged awaiting tactical assignment.

STAKEHOLDERS - Any person, group, or organization affected by, and having a vested interest in, the incident and/or the response operation.

STATE ON-SCENE COORDINATOR (SOSC) - The pre-designated State On-Scene Coordinator.

STRATEGY - The general plan or direction selected to accomplish incident objectives.

STRIKE TEAM - Specified combinations of the same kinds and types of resources, with common communications and a leader.

SUPERVISOR - The ICS title for individuals responsible for directing the activities of a Division or Group.

SUPPLY UNIT - Functional unit within the Support Branch of the Logistics Section responsible for ordering equipment and supplies required for incident operations.

SUPPORT BRANCH - A Branch within the Logistics Section responsible for providing personnel, equipment, and supplies to support incident operations. Includes the Supply, Facilities, Ground Support, and Vessel Support Units.

SUPPORTING MATERIALS - Refers to the several attachments that may be included with an Incident Action Plan (e.g., communications plan, map, site safety and health plan, traffic plan, and medical plan).

TACTICAL DIRECTION - Directions given by the Operations Section Chief including: the tactics appropriate for the selected strategy; the selection and assignment of resources; tactics implementation; and performance monitoring for each operational period.

TACTICS – Deploying and directing resources during an incident to accomplish the desired objective.

TASK FORCE - A group of resources with common communications and a leader assembled for a specific mission.

TECHNICAL SPECIALISTS - Personnel with special skills who can be used anywhere within the ICS organization.

TEMPORARY FLIGHT RESTRICTIONS (TFR)- Temporary airspace restrictions for non-emergency aircraft in the incident area. TFRs are established by the FAA to ensure aircraft safety and are normally limited to a five-nautical-mile radius and 2000 feet in altitude.

TIME UNIT - Functional unit within the Finance/Administration Section responsible for recording time for incident personnel and hired equipment.

UNIFIED COMMAND (UC) - A unified team which manages an incident by establishing a common set of incident objectives and strategies. This is accomplished without loss nor abdication of agency nor organizational authority, responsibility, nor accountability.

UNIT - The organizational element having functional responsibility for a specific incident planning, logistic, or finance/administration activity.

VESSEL SUPPORT UNIT - Functional unit within the Support Branch of the Logistics Section responsible for implementing the Vessel Routing Plan; for fueling, maintaining, and repairing vessels and other vessel support equipment; and coordinating transportation on the water and between or among shore resources.

VOLUNTEER - Any individual accepted to perform services by an agency which has the authority to accept volunteer services. A volunteer is subject to the provisions of the authorizing statute or regulations.

EMERGENCY RESPONSE RELEASE EXERCISES (HES 706)

SECTION 18 EMERGENCY RESPONSE RELEASE EXERCISES (HES 706)

PURPOSE **1**

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PURPOSE

The purpose of this procedure is to:

A. Provide guidelines for design, execution and evaluation of release response exercises

B. Check the accuracy and logic of information contained in the Emergency Response Plan (ERP)

C. Familiarize Team members with their ERP's contents and their assigned roles

D. Verify that resources required for a successful response can be obtained and integrated

E. Comply with the National Preparedness Response Exercise Program (PREP)

F. Comply with the following Federal and State regulations:

- 33 CFR 154, USCG, Marine Transportation Related Facilities – Transfer To/From Vessels
- 40 CFR 112, Non Transportation Related On Shore Facilities (SPCC Facilities)
- 49 CFR 194, Response Plans for Onshore Oil Pipelines
- 49 CFR 192, Emergency Response and Recordkeeping
- 49 CFR 195, Transportation of Hazardous Liquid by Pipeline
- 30 CFR 254, Offshore Facilities Including Associated Pipelines
- In California only, CCR Title 14 (Division 1, Subdivision 4)
- In Oregon only, OAR 340-47-200(3) and OAR 340-47-150-27
- In Washington only, Chapter 173-182 WAC

SCOPE

Personnel Covered by this Procedure

This procedure applies to all personnel, Company or contractor, involved in planning, executing or evaluating emergency response exercises for the Company.

Activities Covered by this Procedure

This procedure covers Qualified Individual (QI) Notification, Tabletop Exercises and Equipment Deployment Exercises initiated and developed by Company personnel. Combinations of these three exercise types may also be conducted utilizing this procedure. This procedure is intended to be used as a guideline. Deviations from the instructions may be appropriate in some cases to more effectively exercise the ERP and the Team. These deviations should be discussed with HES.

This procedure may also be used when conducting exercises with other Company operating companies, other companies and government agencies.

Exemptions from this Procedure

This procedure does not address the schedule of exercises that a facility must conduct in order to satisfy regulatory requirements.

This procedure is not adequate for conducting large complex exercises such as Area PREP exercises. Consult with HES if there is any doubt whether the exercise to be conducted is too large or complex to use this procedure.

PREREQUISITES

Training/Personnel Requirements

Exercise participants must have completed the level of HAZWOPER training that is required for their specific role in the exercise. Participants must carry current HAZWOPER cards during the exercise. Formal training on this procedure is not required. HES will typically assist the Exercise Design Coordinator in use of this procedure.

Other Requirements

Obtain permission from property owners if the exercise could impact them.

Before conducting Tabletop and Equipment Deployment Exercises notify government agencies as described in this plan.

In California Note: For Office of Spill Prevention and Response (OSPR) regulated facilities: Notify and invite the OSPR Administrator of each exercise by letter according to the following minimum notification periods:

Annual Tabletop (In state)	30 days
Tabletop (out of state)	90 days
Semi-Annual Equipment Deployment	30 days
Full scale combination exercise	60 days
Triennial	60 days
Internal unannounced exercise	30 days

Northwest Area Contingency Note: For all facilities subject to the Northwest Area Contingency Plan (Washington, Oregon, Idaho), an annual exercise schedule must be submitted to the Washington Department of Ecology at www.ecy.wa.gov/programs/spills/forms/drillform.htm. This schedule will then be distributed to State and Federal agencies, which have emergency preparedness responsibility. Changes to the schedule should be provided at least quarterly.

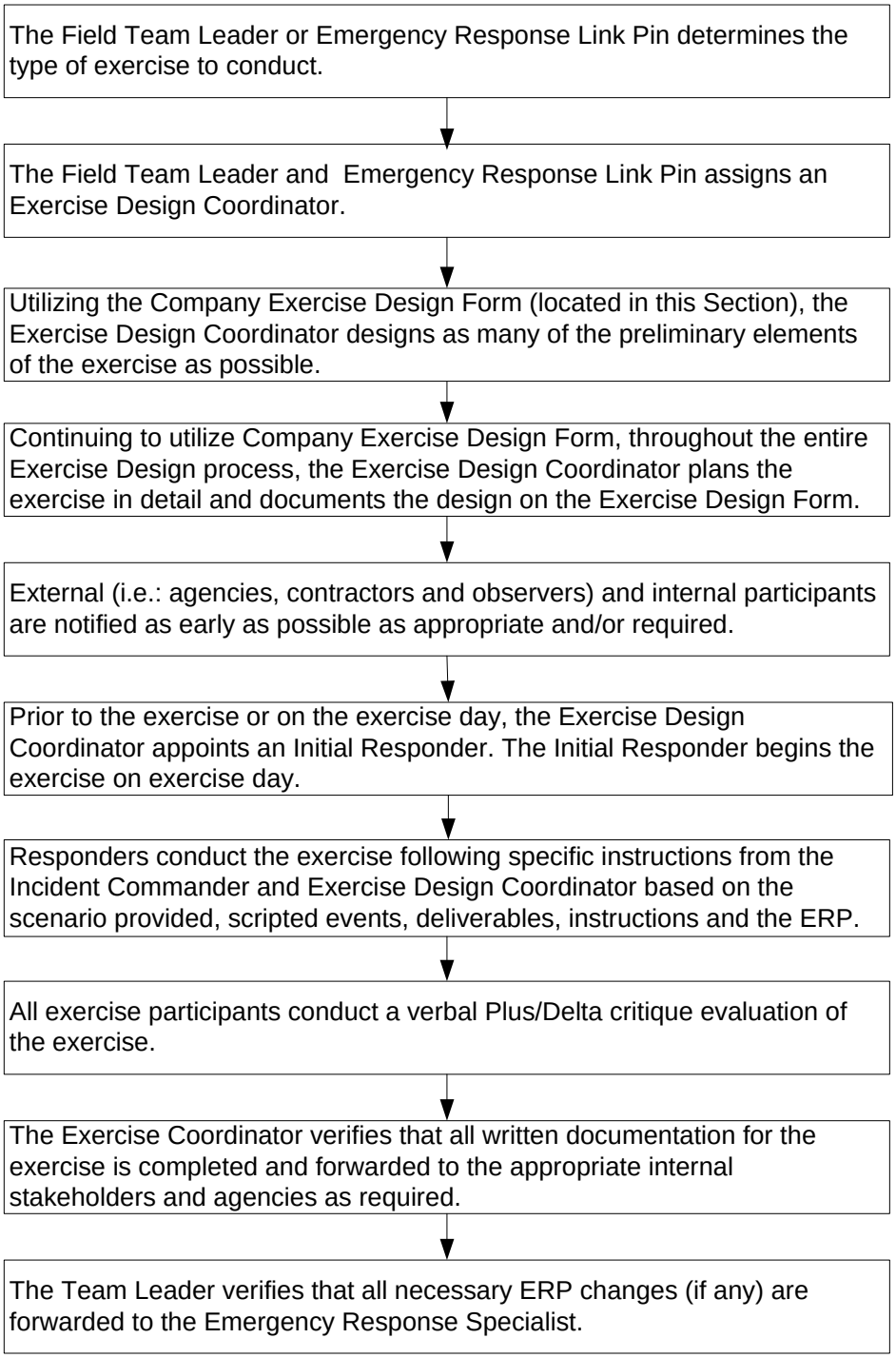
In Oregon Note: Notify the State Emergency Response Coordinator 90 days in advance of scheduled deployment exercises. During a three-year cycle, notify the State Emergency Response Coordinator 90 days in advance of at least one Tabletop Exercise, which involves a sustained or major incident. The State has the option of attending the exercise, providing a critique and/or accepting the exercise as complying with State requirements.

In Washington Note: Notify the Department of Ecology per the scheduling instructions below. The Department of Ecology should be involved in exercise design and deliverables and will provide an Observer and/or Evaluator during the exercise as well as a critique to determine whether the exercise meets State regulations.

Washington Type of Drill	Scheduling Instructions
Tabletop Drills (one in each year of the cycle)	Must be scheduled at least 60 days in advance, except the worst-case discharge scenario at least 90 days in advance.
Deployment Drill (two per year)	Scheduled at least 30 days in advance.
Ecology initiated Unannounced Drill	No notice.

PROCESS OVERVIEW

PROCESS OVERVIEW



02/08/05

INSTRUCTIONS

Select Type of Exercise

The Team Leader or Emergency Response Link Pin determines the type of exercise required. The Team's exercise schedule should be utilized to select a QI Notification Exercise, Tabletop Exercise or Equipment Deployment Exercise. See Section 12, Training and Drills of the Core Plan for a description of each exercise.

Note: Two or more types of exercises may be combined into a single exercise as long as adequate documentation is kept of the types of exercise incorporated.

If a QI Notification Exercise is selected, refer to the instructions located in this section. If a Tabletop or Equipment Deployment Exercise is selected, proceed to following step.

Assign an Exercise Design Coordinator

The Team Leader or Emergency Response Link Pin designates an Exercise Design Coordinator to help design and arrange for facilitation of the exercise.

Note: If possible the Exercise Design Coordinator should not participate as a Response Team member, however from time to time participation may be necessary to fill a role in the Incident Command System.

Preliminary Exercise Design

Note: Preliminary exercise design should be a fairly simple scoping.

- Work through the Exercise Design Form by hand or electronically completing as many design elements as possible based on your current knowledge.
- Attempt to check off as many of the Prep Objectives for each exercise as possible.
- Keep the Exercise Design Form in an accessible location (hard copy or electronic) since you will be utilizing this form to complete the remainder of the exercise design process.

Note: When designing the exercise, take into consideration the probability of the event, risk if the event were to occur, experience of the participants, and the required exercise schedule.

Ongoing and Final Exercise Design

(Use the same Exercise Design Form to continue ongoing and final Exercise Design.)

As information becomes available, continue to work through the Exercise Design Form attempting to complete as many Exercise Design Elements as necessary.

Scenario

Develop a scenario comprised of a paragraph or two, which will adequately describe the scenario and allow the selected objectives to be met and exercised. Some items to consider are:

1. Do you want a spill or gas release?

2. How will the spill or gas release occur?

3. Where does the release need to go to demonstrate response functions?

4. What control events need to be part of the exercise to obtain desired results? (i.e.: weather, media coverage, etc.)

Caution: All documents should include the words "This is an exercise."

Additional items for consideration:

1. If possible, prepare some scripted inject cards to give to participants during the exercise that will help to keep the exercise flowing and allow the objectives to be accomplished.

2. For Equipment Deployment Exercises, consult with HES to determine the types and quantities of equipment that must be deployed to satisfy the minimum requirement.

3. When selecting the exercise participants, consider whether members of other Teams, regulatory agencies, HES, Public Affairs, Spill Removal Organizations (OSRO's), CoOp's, Company World Wide Spill Response Team members, community members, press members, other pipeline companies, railroad operators, utility companies, customers that tie into pipeline, etc. should act as participants, observers, facilitators, or evaluators. See this plan for required notification timeframes.

Note: Participation by local fire, police, DOT, State Fire Marshal, State Spill Agencies and other appropriate public officials satisfies the liaison requirements in 49 CFR 195.

4. When you finalize the location for the exercise verify that arrangements are made for necessary materials and accommodations (food, lodging, radios, maps, Emergency Response Plans, etc.).

5. Determine the ground rules for the exercise. You can record your ground rules on the last page of the Exercise Design Form. Some examples of ground rules are to consider:

    - All documents must state, *"This is an exercise."*
    - All external exercise communications (i.e.: radio, phone) must begin and end with the phrase *"This is an exercise."*
    - Will real time be used?
    - Will resources actually be mobilized?

- Will notifications be actual or simulated?
- Will controlling events be introduced during the exercise?
- What types of safety instructions are required for participants?

6. Prepare the following information before conducting the exercise to provide instructions for the participants:

   - Completed ICS organizational chart (optional)
   - Safety instructions and list of required safety equipment

7. If Controllers, Evaluators or Facilitators are utilized for the exercise, verify that the following information is passed on to the persons assigned to these functions (this information should not be issued to the Response Team):

   - Sequence of events
   - Scripted events
   - Anticipated responses
   - How the exercise will be terminated
   - Review the checklist on the Exercise Design form

8. Notify agencies and outside entities as needed or appropriate, requesting that all parties maintain the confidentiality required for a realistic evaluation and testing of response elements.

Execute the Exercise

Begin the exercise with a safety message, emphasize that no actions should be undertaken which will jeopardize the safety of any of the participants, and emphasize that any participants are empowered to cause an exercise timeout if an unsafe condition develops.

1 The Exercise Design Coordinator should explain the process of the day (i.e.: exercise deliverables and the agenda/these items should be easy to access since they were part of the Exercise Design Form).

2 The Exercise Design Coordinator begins the event by turning over exercise play to the Initial Responder or the Incident Commander, depending on the scenario.

3 The Initial Responder begins by

   - Ensuring his or her own safety
   - Initiating role played assessment and mitigation of potential impacts of those in immediate danger
   - Initiating role played abnormal and emergency procedures per the System and Facility manuals
   - Recording events in the Incident Event Log

4 The Initial Responder notifies the Incident Commander. The Incident Commander should be someone who would normally fill the role during the type of incident being exercised. The Incident Commander documents the notification.

5 The Initial Responder performs an initial assessment of the size, scope, protection priorities, and, expected duration, and reports them to the Incident Commander. The Incident Commander and the Initial Responder conduct a resource evaluation that should consider the following needs for the first two days of the response:

- Contract/CoOp equipment and manpower
- Company resources including members of: other Teams, Support Groups, HES, and Procurement Services
- Company resources including other OpCO's, Worldwide Spill Response Team, and Functional Teams

6 The Response Team establishes a Command Post and Staging Area. These may be pre-established.

7 The Incident Commander implements the Incident Command System (ICS). Using the Incident Command Organization Chart found on ICS Form 201, the Incident Commander or designated scribe writes down the names of the participants in their appointed ICS roles. At a minimum, the following positions should be filled:

- Incident Commander
- Safety Officer
- Operations Section Chief
- Planning Section Chief
- Logistics Section Chief
- Public Information Officer

If agencies are participating in the exercise, appoint a Liaison Officer to integrate the agencies into the Incident Command System.

Continue to update the ICS organization chart and complete the ICS 201 Form throughout the initial period of the event. If pre-assigned roles have been designated in the Incident Command structure, then those individuals should fill their assigned roles.

8 The Incident Commander reviews the scenario with the Section/Unit Leaders. The Incident Commander establishes the objectives of the response (Incident Design Form objectives can be utilized). The Incident Commander verifies that the USCG Incident Management Handbook (IMH) Operational Planning Cycle P (Section 6 of this Core Plan) will serve as the exercise guide. The Incident Commander may also give specific directions to individual Response Team members. The Section/Unit Leaders in turn brief their groups.

9 Before proceeding further with the exercise, each Response Team member with an assigned role in the Incident Command System should read their duties per the USCG IMH. Each Response Team member is responsible for understanding and following their roles as described in the USCG IMH and exercise instructions.

10 Following the Operational Planning Cycle P, the Incident Commander directs the Planning Section Chief to establish a schedule for meetings to be conducted during the day. The Incident Commander also:

- Provides a description of how far into the Operational Planning Cycle P process the exercise will precede
- Ensures the Safety Officer begins a Job Site Safety Plan
- Ensures completion of notifications per the ERP

11 Each ICS Organizational Section then follows the specific instructions from the Incident Commander and the USCG IMH.

12 The Planning Section Chief verifies that a meeting schedule is developed and the Operational Planning Cycle P process remains on track for the duration of the exercise.

13 Continue to repeat the above cycle until the Exercise Design Coordinator terminates the event.

Evaluate the Exercise

1 Conduct a transparent Plus/Delta at the end of the exercise day. Capture lessons learned items during this process.

2 Evaluate the exercise design. Did the exercise, as designed, allow the objectives to be met? The evaluation may be done by the entire Response Team for small exercises or by the Exercise Design Team if applicable.

3 Ensure completion of a training roster, which includes each of the exercise participants.

4 Develop an action plan for items to be improved upon, e.g., ERP modifications, additional exercising, response equipment purchase, coaching Team members, etc.

5 Complete the required exercise documentation located in this section for each type of exercise and file copies per the current Company process.

ROLES AND RESPONSIBILITIES

1 The Exercise Design Coordinator is responsible for:

- Designing the exercise
- Delegating specific exercise design tasks to other Team members and Support Team members
- Facilitating the exercise including controlling the flow of the event
- Appointing additional people to assist in facilitating the event, as needed
- Inviting all exercise attendees
- Facilitating the Plus/Delta at the end of the exercise and capture Lessons Learned

2 The Exercise Participants are responsible for:

- The safety of all participants
- Performing exercise deliverables and competing the ICS tasks identified in the USCG IMH as if the event were a real release
- Documenting their activities during the event
- Participating in the Plus/Delta and Lessons Learned verbal critique

3 The Team Leader is responsible for:

- Ensuring that release response exercises are safely planned, executed, documented, and evaluated
- Ensuring that all action items from the evaluation are completed
- Designating an Exercise Design Coordinator
- Maintaining facility and Team exercise files
- Ensuring that all ERP modifications resulting from exercise findings are forwarded to the Emergency Response Specialist

4 HES is responsible for:

- Providing regulatory guidance on exercise requirements
- Providing guidance on the frequency and type of exercises required for each Team
- Providing resources to assist in the design, execution and evaluation of exercises if requested
- Making necessary changes to the Emergency Response Plan

REPORTING REQUIREMENTS

In California, for OSPR regulated facilities: The Exercise Design Coordinator must submit a one-page form to the Administrator requesting credit for the exercise. The OSPR form is located on their web site at: www.dfg.ca.gov/ospr.

In the event that the Tabletop Exercise is meant to satisfy the BSEE or Annual SMT Drill requirements under 30 CFR Part 254, the Exercise Design Coordinator must submit a formal notice to the BSEE 30 days prior to the commencement of the exercise in order to allow the BSEE the opportunity to attend.

QI NOTIFICATION EXERCISE

BSEE Only

The BSEE QI Notification Drill must be conducted on an annual basis. Furthermore, this exercise must be conducted outside of normal business hours. First, make contact (telephone, fax, pager, radio) with the following groups. All contacts must be acknowledged. Record contacts on the Incident Event Log.

- Team Leader or Immediate Spill Response Team Member as designated by Team Leader
- Control Center (optional)
- HES Hotline number (877-863-5196)

Washington and Oregon Only

Make contact (telephone, fax, pager, radio) with the following groups. All contacts must be acknowledged. Record contacts on the Incident Event Log.

- Team Leader or Immediate Spill Response Team Member as designated by Team Leader
- Control Center (optional)
- HES Hotline number (877-863-5196)

California OSPR Regulated Facilities Only

Make contact (telephone, fax, pager, radio) with the following groups. All contacts must be acknowledged. Record contacts on the Incident Event Log.

- Team Leader or Immediate Spill Response Team Member as designated by Team Leader
- Control Center (optional)
- Profit Center Manager (optional)
- HES Hotline number (877-863-5196)
- Primary response contractors (OSRO)

All Others

Make contact (telephone, fax, pager, radio) with the following groups. All contacts must be acknowledged. Record contacts on the Incident Event Log.

- Team Leader or Immediate Spill Response Team Member as designated by Team Leader
- Control Center (optional)
- Profit Center Manager (optional)
- HES Hotline number (877-863-5196)

DOCUMENTATION AND RECORD RETENTION

Required Documentation

1 The Notification Exercise and ERP Contact Verification Form located in this section is used to document the QI Notification Exercise.

2 Documentation for Tabletop and Equipment Deployment Exercises consists of the following items:

- Training roster
- Completed Exercise Design Form, which includes a written description of the scenario
- Completed ICS Form 201
- Required internal or external documentation listed in this ERP
- Completed Job Site Safety Plan
- Plus/Delta
- Action item list
- List of ERP changes, if any, forward to ER Specialists

Documentation Storage and Retention Time

1 The documentation package for each exercise must be retained at the Team office for a minimum of five years.

2 Copies of the following must be sent to the L&D coordinator. The L&D coordinator will enter the appropriate information in the Knowledge Plant, under Emergency Response Spill Exercises.

- Training roster

Description of Prep Objectives

Exercise Elements and Objectives

1. **Notifications**

   The objective is to demonstrate the Field Team's ability to implement proper notification procedures.

2. **Staff Mobilization**

   The objective is to demonstrate the Field Team's ability to mobilize the Spill Response Organization.

3. **Unified Command**

   The objective is to demonstrate the Field Team's ability to implement Unified Command in cooperation with Federal, State and Local agencies.

4. **Incident Command System**

   The objective is to demonstrate the Field Team's ability to operate within the Incident Command System as described in the Emergency Response Plan.

5. **Discharge Control**

   The objective is to demonstrate the Field Team's ability to develop and implement a discharge control plan and utilize the guidelines established in the ERP, General Procedures and System/Facility Emergency Operating Procedures manuals.

6. **Assessment**

   The objective is to demonstrate the Field Team's ability to provide initial and continuing assessment of the release using the guidelines established in the Emergency Response Plan.

7. **Containment**

   The objective is to demonstrate the Field Team's ability to enter a contaminated area and stop the discharge at the source using guidelines established in the Emergency Response Plan and other Company procedures manuals. Either Equipment Deployment or Tabletop Exercises may be used to accomplish this objective.

8. Recovery of Spilled Material

The objective is to demonstrate the Field Team's ability to recover the discharged volume using the guidelines established in the Emergency Response Plan. Either Deployment or Tabletop Exercises may be used to accomplish this objective.

9. Protection

The objective is to demonstrate the Field Team's ability to protect people, property and the environment identified in the Emergency Response Plan and the Area Contingency Plan.

10. Disposal

The objective is to demonstrate the Field Team's ability to properly manage wastewater and recoverable product as identified in the Emergency Response Plan.

11. Communications

The objective is to demonstrate the Field Team's ability to establish effective communications as identified in the Emergency Response Plan.

12. Transportation

The objective is to demonstrate the Field Team's ability to provide effective transportation for all aspects of a release response.

13. Personnel Support

The objective is to demonstrate the Field Team's ability to provide the necessary personnel support during a release response.

14. Equipment and Maintenance Support

The objective is to demonstrate the Field Team's ability to provide the necessary support of equipment used during a release response.

15. Procurement

The objective is to demonstrate the Field Team's ability to establish an effective procurement system during a release response.

16. Documentation

The objective is to demonstrate the Field Team's ability to establish an effective documentation system within the release response organization.

EXERCISE PLANNING CHECKLIST

1. Have required agency notifications been completed?

2. Will the exercise achieve the desired results stated in your objectives?

3. Has your scenario been reviewed by an insider for realism/probability?

4. Has a contingency plan been developed for unexpected events such as bad weather, operational emergencies, radio transmissions picked up by others, etc?

5. Are a sufficient number of facilitators and equipment available to control and document the exercise?

6. If this is an Unannounced Exercise, has the element of surprise been maintained?

7. Have you visited the prospective hypothetical site?

8. Have you evaluated/eliminated actual hazards from the exercise?

9. Will the exercise cause a significant disruption to critical operations?

10. Are instructions clear and adequate so participants know exactly what is expected of them?

11. Has upper management of affected organization(s) been notified?

12. Have affected property owners, businesses and residents been notified?

13. Are props necessary to meet the objectives?

14. Has a location and time been established for the exercise evaluation?

15. Do you have an understanding of the correct procedures that should have been followed, so you can lead a discussion regarding lessons learned?

16. Has a historian been appointed for the evaluation meeting?

GLOSSARY

ACP: Area Contingency Plan. Response plan prepared by government agencies for a specific geographic region. These plans may include additional protection requirements.

Announced: An exercise where the participants know the scenario in addition to the date, time and location in advance of the exercise.

DOT: Department of Transportation

Equipment Deployment Exercises: Equipment Deployment Exercises involve mobilization and deployment of resources to a release scenario. Representative types and amounts of equipment are deployed and operated in their normal operating medium. Only reusable release response equipment (such as booms, skimmers, pumps, vacuum trucks, boats, etc.) need be deployed. These exercises are intended to give Response Team members practice with response equipment.

Additionally, this exercise will present an opportunity to inspect deployment equipment and record inspection findings on the Equipment Deployment/Inspection Form provided in this section.

IC: Incident Commander

ICS: Incident Command System

IMH: U.S. Coast Guard Incident Management Handbook

NIMS: National Incident Management System

Notification Drills: Drills designed to verify that contact can be made between facility personnel and the QI listed in the Response Plan.
OPA 90: Pollution Act of 1990

OSPR: Office of Spill Prevention and Response, California Department of Fish and Game

OSRO: Spill Removal organization

PREP: National Preparedness for Response Exercise Program Guidelines

QI: Qualified Individual is the person who has authority to activate OSRO's, act as liaison with On Scene Coordinator(s), and obligate funds required to effectuate response activities. This person is typically the same as the Incident Commander and is often the Team Leader.

Qualified Individual Notification Drills: Qualified Individual Notification exercises verify that contact can be made with a QI.

Tabletop Exercise: A Tabletop Exercise is an activity where a response team gathers together to play out and discuss response actions to be taken to a given scenario using their emergency response plan. Tabletop Exercises are typically conducted in a conference room, although they may also be conducted off-site in a field location.

Unannounced Exercise: An exercise where the participants do not know the scenario in advance of the exercise, but may know the date, time and location.

EXERCISE DESIGN FORM

Exercise Design Coordinator(s) _____

_____

_____

Scheduled Date(s) of Exercise _____

Location of Exercise _____

Type of Exercise

- ☐ QI Notification
- ☐ Tabletop
- ☐ Unannounced
- ☐ Equipment Deployment
- ☐ Area Exercise
- ☐ Government-led PREP Exercise

This Exercise is designed to satisfy the following National PREP Objectives:

- ☐ Notifications
- ☐ Staff Mobilization
- ☐ Ability to operate within the Response Management System described in the plan
- ☐ Discharge control
- ☐ Assessment of discharge
- ☐ Containment of discharge
- ☐ Recovery of spilled material
- ☐ Protection of sensitive areas
- ☐ Disposal of recovered material and contaminated debris
- ☐ Communications
- ☐ Transportation
- ☐ Personnel support
- ☐ Equipment maintenance support
- ☐ Procurement
- ☐ Documentation

This Exercise is being designed to satisfy the following deliverables:

- ☐ Notifications
- ☐ Incident Briefing 201
- ☐ Initial Unified Command Meeting
- ☐ UC Objectives Meeting
- ☐ Tactics Meeting
- ☐ Planning Meeting
- ☐ Construct and Complete Active Situation Display
- ☐ Establish Joint Information Center and produce one written press release at least one verbal, role played press briefing
- ☐ Other _____
- ☐ Other _____

List Local, State and Federal Agencies and OSRO's you wish to invite:

	Name of Agency	Contact	Telephone Number
☐ Fire Department(s):			
☐ State Spill Response Agency:			
☐ Federal Response Agency(s):			
☐ Additional agencies you wish to invite:			
☐ Oil Spill Removal Organizations (OSRO's):			

Brief paragraph(s) describing the Exercise scenario:

Exercise Agenda Day 1	
Time	Activity

Exercise Agency Day 2 (if applicable)	
Time	Activity

Initial Response Team ICS Organization

	Position	Name	Telephone Number
	Incident Commander		
	Deputy IC		
	Safety Officer		
	Liaison Officer		
	Operations Section Chief		
	Logistics Section Chief		
	Planning Section Chief		
	Finance Section Chief		
	Public Information Officer		
	Documentation Unit Leader		
	Resources Unit Leader		
	Environmental Unit Leader		

Controllers, Evaluators, Facilitators, Observers you wish to invite:

Name	Agency or Company	Role (Controller, Evaluator, Facilitator and so forth)	Telephone Number

Suggested lodging or other logistical notes for Exercise attendees:

- ☐ Lodging
- ☐ Nearest Airport
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐

Anticipated Exercise planning meetings:

When	Where	Meeting or Teleconference

Will additional Exercise Design persons be needed? ☐ Yes ☐ No

Name	Company	Telephone Number

Attachments as necessary:

- ☐ Command Post Floor Plan
- ☐ Scenario Map Sketch
- ☐ Trajectories
- ☐ ACP's

Scenario map sketch:

Command Post floor plan sketch:

Additional notes or comments and supplies needed:

COMPANY EXERCISE DOCUMENTATION FORMS

Notification Exercise and ERP Contact Information Verification

Location: _____

Team(s): _____

Date performed: _____

Exercise or actual response? _____

Vessel/Facility/Pipeline/Offshore Facility initiating exercise: _____

Name of Responder Making the Notification	Name of person(s) (and OSRO if in California) notified	Is person and phone number identified in ERP as QI or designee? Yes/NO (Verify person and number)	Time initiated	Time in which qualified individual or designee responded	Method used to contact: Telephone Pager Fax Other	Is ERP update necessary? (See note)

Certifying Signature Title Date

Retain completed forms for a minimum of 3 years (for USCG/PHMSA/BSEE) or 5 years (for EPA).

Note: If ERP update is necessary contact the Emergency Response Specialist.

Spill Management Team Tabletop Exercise

Location: _____ Date(s) performed: _____

Team(s): _____

Exercise or actual response? _____

If an exercise, announced or unannounced? _____

Location of tabletop: _____

Time started: _____ Time completed: _____

Response plan scenario used *(check one)*:

☐ Average most probable discharge

☐ Maximum most probable discharge

☐ Worst case discharge

Size of (simulated) release (bbls): _____

Describe how the following objectives were exercised:

Spill Management Team's knowledge of release response plan:

Proper notifications:

Communications system:

Spill Management Team's ability to access contracted release removal organized:

☐ Yes ☐ No

The following OSRO's were successfully contacted and utilized during the response:

Additional non-OSRO contract resources were contacted and utilized from the following organizations:

Spill Management Team's ability to coordinate release response with On-Scene Coordinator, State and applicable agencies:

Unified Command was established with (Names of participating agencies):

Attach Unified Command Organization Chart

Were Unified Command meetings held? ☐ Yes ☐ No

Were Incident Action Plans developed and approved by the Unified Command?

☐ Yes ☐ No

Additional agencies that participated on-scene included:

Spill Management Team's ability to access sensitive site and resource information in the ERP or Area Contingency Plan:

List sensitive areas or GRP's accessed:

Identify which of the objective(s) of your response plan were exercised during this particular exercise:

- ☐ Notifications
- ☐ Staff Mobilization
- ☐ Incident Command System
- ☐ Unified Command System
- ☐ Discharge Control
- ☐ Assessment
- ☐ Containment
- ☐ Recovery
- ☐ Protection
- ☐ Disposal
- ☐ Communications
- ☐ Transportation
- ☐ Personnel Support
- ☐ Equipment maintenance and support
- ☐ Procurement
- ☐ Documentation

(Certifying signature on next page)

I hereby certify that this response/exercise has been conducted in a manner sufficient to satisfy The National Preparedness for Response Exercise Program (PREP) Guidelines in order to satisfy the requirements of 30 CFR 254, 33 CFR 154, 40 CFR 112, and 49 CFR Parts 192 and 194.

Certifying Signature	Title	Date

Retain completed forms for a minimum of 3 years (for USCG/PHMSA/BSEE) or 5 years (for EPA).

Response Equipment Deployment Exercise/Testing/Inspection

Location: _____ Date(s) performed: _____

Team(s): _____

Exercise or actual response? _____

If an exercise, announced or unannounced? _____

Deployment location(s): (list or attach sketch)

Time started: _____ Time completed: _____

Equipment deployed was:

☐ Facility-owned

☐ OSRO-owned. If so, which OSRO? _____

List type and amount of all equipment (e.g., boom and skimmers) deployed and inspected and number of support personnel employed:

Describe goals of the equipment deployment and list any Area Contingency Plan strategies tested. (Attach a sketch of equipment deployments and booming strategies):

Attach description of lesson(s) learned and person(s) responsible for follow up of corrective measures.

Certifying Signature Title Date

Retain completed forms for a minimum of 3 years (for USCG/PHMSA/BSEE) or 5 years (for EPA).

CHEVRON FUNCTIONAL & WORLDWIDE TEAM RESOURCES

SECTION 19 CHEVRON FUNCTIONAL & WORLDWIDE TEAM RESOURCES

ADVISORY & RESOURCE TEAM - INTERNAL 1
CHEMNET - EXTERNAL 3
CHEMTREC - EXTERNAL 4
CHEVRON EMERGENCY INFORMATION CENTER (CEIC) - INTERNAL 5
CHEVRON FUNCTIONAL TEAMS – INTERNAL 6
COMMUNICATIONS EQUIPMENT - INTERNAL 8
CORPORATE EMERGENCY RESPONSE STAFF - INTERNAL 9
CRAWFORD AND COMPANY - EXTERNAL 10
CHEVRON PARK CRISIS MANAGEMENT CENTER - INTERNAL 11
CSI AVIATION SERVICES, INC. - EXTERNAL 12
CULTURAL RESOURCES (HISTORIC PROPERTIES) - INTERNAL 13
ENTRIX, INC. - EXTERNAL 14
RETC HERO SQUAD - INTERNAL 15
INTERNATIONAL BIRD RESCUE RESEARCH CENTER (IBRRC) - EXTERNAL 16
TOM MCCLOSKEY / THE MCCLOSKEY GROUP, INC. - EXTERNAL 18
MARINE SPILL RESPONSE CORPORATION (MSRC) - EXTERNAL 19
OIL TRAJECTORY MODELING - (OILMAP) - INTERNAL 22
OILED WILDLIFE CARE NETWORK (OWCN) - CALIFORNIA - EXTERNAL 23
OK'S CASCADE COMPANY - EXTERNAL 24
OSRL/EARL GLOBAL ALLIANCE - EXTERNAL 25
POLARIS APPLIED SCIENCES, INC. (PAS) – EXTERNAL 26
PRECISION PLANNING & SIMULATIONS, INC. - EXTERNAL 28
RESEARCH PLANNING, INC. (RPI) - EXTERNAL 29
SECURITY FUNCTIONAL TEAM - INTERNAL 31
THE MARINE MAMMAL CENTER (TMMC) - EXTERNAL 32
THE O'BRIEN'S GROUP - EXTERNAL 33
THE RESPONSE GROUP - EXTERNAL 34
TRI-STATE BIRD RESCUE & RESEARCH, INC. - EXTERNAL 35
UNEP WORLD CONSERVATION MONITORING CENTRE (UNEP-WCMC) - EXTERNAL 36
WORLDWIDE EMERGENCY RESPONSE TEAM - INTERNAL 37

EMERGENCY RESPONSE RESOURCE SHEET

ADVISORY & RESOURCE TEAM - INTERNAL

DESCRIPTION:

The Advisory & Resource Team can provide expert advice during the initial stages of an incident and assist in marshalling a wide variety of internal and external resources as needed. The team is composed of a management representative from the impacted operating company and experts in emergency response, ecology, law, public affairs, safety and health, and if needed, marine transportation.

Once activated, Members are prepared to arrive at their local commercial airport within two hours of notification. The Team will report to the Incident Commander upon arrival at the incident.

HOW TO ACCESS:

To activate the team, call the Chevron Emergency Information Center at 1-800-231-0623 or 1-510-231-0623 and ask to speak to the Corporate Emergency Response Staff Duty Contact.

ADDITIONAL INFORMATION:

The Advisory & Resource Team is organized to function only during the initial stage of an incident. As the response progresses, the responding organization may request individual members to become part of the local response team.

Team members who may respond to foreign incidents are prepared to travel internationally on short notice. They have passports and inoculations recommended by the Medical Staff.

The emergency response, safety and health, and ecology team members have received the required level of HAZWOPER training for their expected duties.

Revised 05/10
Reviewed 2/3/04

EMERGENCY RESPONSE RESOURCE SHEET

INTERNAL **AIR DISPERSION MODELING (ETC)**

DESCRIPTION: During a fire, gaseous release or explosion, the Loss Prevention Unit can provide technical consulting services and interface with agencies conducting "real-time" air dispersion modeling. "Real-time" modeling is recommended only during incidents that are expected to continue for several hours or days such as a sour gas/crude well blow-out an extended flaring event, or a large tank fire. Air dispersion modeling can help estimate the potential impacts of such incidents on the facility and surrounding community.

HOW TO ACCESS: During regular work hours contact the team directly:

Name	Office
W. W. (Wilbert) Lee	**510/CTN 242-9330**
R. (Rick) Welty	**510/CTN 200-7192**

After hours call Chevron Emergency Information Center (CEIC) at 1-**800-231-0623 or 1-510-231-0623.** They will be able to place you in contact with a Loss Prevention Unit member.

Alternatively, contact the Emergency Response Staff (see Emergency Response Staff Resource Sheet) which will in turn notify the Loss Prevention Unit personnel.

ADDITIONAL INFORMATION: The Team is available for conducting studies during pre-planning. Various hypothetical scenarios can be evaluated, potential hazard zone information developed and response actions planned in advance. For most short-term incidents, this is the preferred option. Procedures are developed and refined in well-designed studies as opposed to during an emergency when incorrect information can produce flawed and potentially unsafe recommendations.

The Process Risk Team expertise includes predicting the extent of flammable vapors, dispersion of toxic vapors/gases, radiant heat from jet/pool fires, radiant heat from a BLEVE, and the extent of blast over-pressure impacts from an explosion.

The Team can also provide support services in post-incident investigation (re-creation and simulation), litigation, and reporting.

EMERGENCY RESPONSE RESOURCE SHEET

CHEMNET - EXTERNAL

DESCRIPTION:

CHEMNET is a mutual aid network intended to provide technical expertise and assistance at the scene of a Chemical Distribution Incident (CDI) in the USA when the shipper cannot respond promptly. A CDI can involve any material including petrochemical intermediates, products and wastes. CHEMNET may also be used to identify companies capable of supplying HAZWOPER trained personnel for oil spill response.

Once at the scene, as directed by Chevron, the CHEMNET responder will provide technical advice and assistance to reduce the severity of the incident and/or determine the status of the incident and report back to Chevron.

Response will be by "For-Hire Contractors" meeting criteria set by the American Chemistry Council (formerly CMA). The initial commitment is for the first 24-hours. Chevron is obligated to send its own qualified representatives to the scene as soon as practicable or make other arrangements for a continued response.

HOW TO ACCESS:

Call CHEMTREC at its 24-hour number:
800-424-9300

Provide your name, company, phone number, details of the incident and indicate that you wish to activate CHEMNET. The CHEMTREC Communicator will then discuss possible response contractors with you and set up a 3-way teleconference to get the response underway.

A Chevron representative must be available for contact by the response contractor and provide advice on the properties of the material(s) involved and other assistance requested. After establishing themselves at the scene of the incident, the responders will try to contact and maintain periodic communications with Chevron.

ADDITIONAL INFORMATION:

The American Chemistry Council (formerly CMA) via their CHEMTREC network operates CHEMNET. It was organized because of the realization that the consequences of a spill or potential release may be made less serious if a knowledgeable representative is at the scene to give advice and assistance.

If the incident cannot be resolved within 24 hours, the operating company involved must decide whether to: 1) contract with the CHEMNET Responder to continue its work, 2) bring in other third-party contractors to handle the incident, or 3) request mutual aid from other Chevron companies.

Costs for the response services will be in accordance with the current schedule of charges in effect under the CHEMNET For Hire Response Company Contract.

EMERGENCY RESPONSE RESOURCE SHEET

CHEMTREC - EXTERNAL

DESCRIPTION: CHEMTREC (Chemical Transportation Emergency Center) can provide emergency response information such as: chemical hazards: initial response actions to take, or medical advice for chemical and hazardous material release emergencies. The information generally is taken from MSDSs supplied by shippers. CHEMTREC will also notify the material shipper and in some cases, the manufacturer so that they can take appropriate action.

HOW TO ACCESS: **Chemical Emergency:** In the United States, Puerto Rico, American Virgin Islands, Canada, and parts of Northern Mexico call CHEMTREC at their 24-hour number **800-424-9300**. Outside of these areas and ships at sea dial the International/Maritime number **703-527-3887.**

Identify yourself (name, company, and phone number), state that you have a chemical emergency and give the chemical, product or trade name of the released material. Request the desired information regarding the material or advise CHEMTREC you are reporting a chemical transportation incident. If you are reporting a chemical transportation incident, the CHEMTREC communicator will ask specific questions to initially identify the chemical involved in the incident, the location of the incident, and the shipper of the chemical.

ADDITIONAL INFORMATION: CHEMTREC was established and is operated by the American Chemistry Council (formerly CMA) at its Washington, D.C. headquarters. Through Chevron Oronite Company's membership in ACC, all Chevron facilities are entitled to use CHEMTREC to provide initial emergency response information on its products and are authorized to place the CHEMTREC telephone number on its shipping papers and MSDSs.

CHEMTREC maintains a state-of-the-art computer database with more than one-million product-specific MSDSs, including MSDSs for all of Chevron Oronite's products. CHEMTREC communicators can access an MSDS in seconds, view it on-screen and immediately FAX it to the incident scene if desired.

CHEMTREC has contracted with the San Francisco Bay Area Regional Poison Control Center for 24-hour medical emergency response assistance and support. The contract enables CHEMTREC to more promptly respond to emergency requests for medical advice.

CHEMTREC has interpretation services for over 140 languages and can bring a skilled interpreter into the call within seconds, 24 hours a day.

EMERGENCY RESPONSE RESOURCE SHEET

CHEVRON EMERGENCY INFORMATION CENTER (CEIC) - INTERNAL

DESCRIPTION: The Chevron Emergency Information Center (CEIC) is Chevron's 24-hour single point of contact for accessing information and resources to address incidents involving ChevronTexaco and our affiliate's products and facilities. CEIC determines the appropriate expert personnel to contact within Chevron using information provided by the caller, following the "Immediate Notifications Procedure for HES Incidents" procedure, and a flowchart. CEIC immediately contacts and passes on the information about the incident to the Chevron personnel who are then responsible for further handling of the incident.

HOW TO ACCESS: Phone:

Inside United States and Canada	**1-800-231-0623**
Inside Area Code	**1-510-231-0623**
Outside United States	**1-510-231-0623**
Fax:	**1-510-242-3787**

ADDITIONAL INFORMATION: CEIC's contacts within Chevron include designated representatives from each Operating Company, the Corporate Emergency Response Staff, ETC toxicologists (HERO Team) and Corporate support staffs including Public Affairs and Law.

CEIC is operated by Chevron Business and Real Estate Services (BRES) personnel. The Center is located at the Chevron Energy Research and Technology Company's Facility in Richmond, CA.

CEIC maintains written records of each call received and summarizes these annually.

EMERGENCY RESPONSE RESOURCE SHEET

CHEVRON FUNCTIONAL TEAMS – INTERNAL

DESCRIPTION:

Thirteen Functional Teams are available to provide expert, specialized services that are essential to support a response organization. Each team has developed a ready organization to assist an operating company in responding to incidents worldwide. Functional Teams may assemble at the incident site and/or at the operating company's headquarters or other facility. Functional Teams are augmented by contract personnel or consultants when necessary to assure worldwide coverage expertise.

The 13 Functional Teams are:

Communications	Law
Comptroller's	Public Affairs
Documentation	Purchasing
Environmental	Safety, Fire & Health
Facilities	Security
Human Resources	Transportation
Insurance/Claims	

Operating companies may activate one or as many people they feel they need for the response. When activated, team members will report to and, work directly for the organization handling the incident.

HOW TO ACCESS:

To activate the Functional Teams, contact the Corporate Emergency Response On-Duty Person by calling CEIC at 1-510-231-0623 or 1-800-231-0623.

Team members are preauthorized to respond to a call from any operating company and are prepared to arrive at their local commercial airport within 24 hours of notification.

ADDITIONAL INFORMATION:

Team Services. The emergency response support services which the Functional Teams can provide are summarized below.

Communications: Set-up and operation of an integrated communications network using radios, telecommunications, and other technology.

Comptroller's (Finance): Accounting, cost control, office support functions.

Documentation: Responsible for maintenance of accurate up-to-date incident files, (IAP) Record keeping, situation status report documentation, and administrative support. Ensures each section provides and maintains appropriate documents.

Environmental: Environmental impact assessment, permitting, modeling, environmental monitoring, wildlife rescue and rehabilitation, response and remediation technology (dispersants, solidifiers, bioremediation), waste management.

Human Resources: Staffing of the response team, direct human resources services to response team members, emergency relief assistance to affected parties.

Insurance/Claims: Receive and resolve third-party injury and property damage claims, management of insurance-related matters.

Law: Advice on actual and potential legal and liability actions from governmental agencies and third parties, verify compliance with legal requirements, and other legal support.

Public Affairs: Media relations, press releases, government agency and community leaders interface, advice on communication to the public, volunteer referrals.

EMERGENCY RESPONSE RESOURCE SHEET

Purchasing: Procurement and storage of equipment and material management.

Safety, Fire & Health: Technical advice and direct field support on safety, industrial hygiene, fire protection, toxicology, medical support to response personnel and medical liaison with community public health authorities. Also includes three regional "Fire Strike Task Forces" that can respond to a fire or similar incident in their geographical area.

Security: Liaison with local law enforcement, site security, guard services, site access control, theft prevention, personal security.

Transportation: Transportation for personnel, equipment and supplies.

EMERGENCY RESPONSE RESOURCE SHEET

COMMUNICATIONS EQUIPMENT - INTERNAL

DESCRIPTION: The Communications Functional Team maintains (in Bakersfield, California) a cache of communications equipment emergency response anywhere in the world. The equipment includes a complete data network, phone systems, satellite terminals and support equipment in addition to a land/sea/air transportable communications trailer.

HOW TO ACCESS: Contact the Communications Functional Team directly or contact the Emergency Response Staff by contacting CEIC at (800) 231-0623.

ADDITIONAL INFORMATION: Half the equipment is mounted in the trailer, which may be driven, loaded aboard a ship, or flown (on C-130 aircraft) to an incident. The other half is packaged in weatherproof shipping cases ready for quick transport. Each half includes a VSAT Satellite Terminal, Telephone system (75 digital and 25 analog lines), Data System with 56 LAN drops, Shared file servers for files, video, and web applications, UHF and VHF radio base stations, marine and aviation radio scanners. Trained personnel will accompany, set-up and operate the equipment.

Estimated costs for calling out the communications equipment with support personnel are: $5,000 to air deploy the portable equipment within the United States or $2,000 per day to drive the communications trailer on-site. On-site costs will be $2,000 per day for the equipment and two support personnel.

To gain familiarity with the equipment and services of the Communications Functional Team, operating companies are encouraged to use this resource during drills. For a complete listing of the equipment, contact the Communications Functional Team.

EMERGENCY RESPONSE RESOURCE SHEET

CORPORATE EMERGENCY RESPONSE STAFF - INTERNAL

DESCRIPTION: The Corporate Emergency Response Staff is responsible for providing guidance and subject matter expertise for emergency response, crises management and business continuity. This group establishes and maintains mutual aid relationships with internal and external organizations, trains and supports emergency response teams and conducts drills to assess and improve readiness.

A member of the Corporate Emergency Response Staff will also function as the Team Leader when an Advisory and Resource Team is dispatched (see Advisory and Resource Team Resource Sheet).

HOW TO ACCESS: The Corporate Emergency Response Staff Duty Contact can be accessed during an emergency by calling the Chevron Emergency Information Center (CEIC - See Chevron Emergency Information Center Resource Sheet) at 1-800-231-0623 or 1-510-231-0623. During business hours, one can directly call any of the Staff members at their respective offices. The Staff members are identified in the Corporate Emergency Response Staff Intranet website (see Additional Information Section).

ADDITIONAL INFORMATION: Corporate Emergency Response has a website on the company's Intranet. The website can provide valuable information about the Emergency Response Staff and the internal and external resources available. The website provides information on business continuity and crises management, also. The location is:
http://operationalexcellence.chevron.com/ER/

The Emergency Response Staff is part of the Corporate Health, Environment and Safety Department.

EMERGENCY RESPONSE RESOURCE SHEET

CRAWFORD AND COMPANY - EXTERNAL

DESCRIPTION: Crawford & Company can handle third party injury and damage claims resulting from explosions, fires, chemical releases and oil spills. They also offer a cost containment program which uses bar-coders to identify and track cleanup resources. This database is used to provide logistics reports, cost estimation reports and reconcile contractor billings through invoice review.

Crawford adjusters work under the supervision and guidance of Chevron's Insurance Division, Liability Claims group (the Insurance/Claim Functional team).

HOW TO ACCESS: Crawford & Company can be activated by contacting the 24-hour emergency number **404-705-3540.** Be prepared to provide the following information:

- your name, company name
- telephone and fax number
- nature and location of the emergency
- nearest airport
- if the public has been evacuated or threatened and if so how many
- if would you like to establish an “800” claims number.

Your call will be returned within 20 min. by a Crawford Claims Specialist who will act as the point of contact and coordinator of Crawford & Company’s response.

Upon activation immediately contact the Insurance/Claims Functional Team (see call-out list). The team will immediately appoint a representative to provide supervision and guidance for Crawford & Company operations.

Alternatively contact the Emergency Response Staff (see Emergency Response Staff resource sheet) or the Insurance/Claims Functional Team (see call out list), which will in turn contact Crawford & Company.

ADDITIONAL INFORMATION: For large incidents Chevron employs Crawford & Company's "PROACT” unit which is staffed with more than 200 adjusters specially trained to handle injury and property damage claims. The adjusters will process all claims that result from the incident. Adjusters work for a representative of Chevron's Insurance Division. The Insurance Division working with the impacted OpCo will establish the claims strategy, settlement authority, data collection and reporting requirements.

Crawford's cost containment services are limited to controlling the cost of an operation as opposed to directing the actual cleanup. They do not select contractors, determine appropriate cleanup methods, or authorize work to be performed.

EMERGENCY RESPONSE RESOURCE SHEET

CHEVRON PARK CRISIS MANAGEMENT CENTER - INTERNAL

DESCRIPTION: The Chevron Crisis Management Center (CMC) is available to the Corporate Crisis Management Team and to any operating company or corporate department crisis or emergency management team. The CMC is in Building H at Chevron Park and is available 24 hours per day and 365 days per year. By pre-arrangement, it can be used for training and exercises. The CMC is a dedicated facility that includes a central open area designed to serve as a traditional incident command post. The open area is surrounded by three conference rooms and six private offices, copy/printer and storage rooms, and a break room to support catering.

HOW TO ACCESS: Chevron Park, Building H, Lower Level: Prior to coming to the CMC, everyone must first go to Building A Security and obtain a pre-approved temporary badge. (An incident-specific list of individuals reporting to the CMC will be provided to Security prior to picking up the badge). Proceed to Building H and enter the CMC through the northwest door which is inside the parameter of Chevron Park near the pond.

Any member of the Corporate Crisis Management Team can request the CMC be activated.

- Call **CEIC (510-231-0623)** and ask for someone from the Emergency Response Staff to be paged. Leave a call-back number.
- When ERS Duty Person calls back, tell them to activate the CMC.
- The CMC will normally be available for use within two hours.
- Anyone else can request the CMC be activated by following the same procedure. In such cases, someone from the Emergency Response staff will need to approve the activation.

ADDITIONAL INFORMATION: **For routine inquiries about the CMC, call Michele Linton at (925-842-7407)**

EMERGENCY RESPONSE RESOURCE SHEET

CSI AVIATION SERVICES, INC. - EXTERNAL

DESCRIPTION: CSI Aviation Services, Inc. (d.b.a. Charter Services) arranges for and coordinates air charter flights to transport Chevron's personnel or cargo worldwide in emergency response situations. CSI has representatives on call 24 hours a day who are capable of initiating a priority response and taking the actions necessary to provide aircraft charters for an emergency response operation.

CONTACT INFORMATION: Call CSI at their 24-hour telephone number **505-761-9000**. Identify yourself (name, company, and phone number) and describe the desired services and charter requirements needed. Reference the Master Professional Service Agreement dated January 31, 1992 in your service or work order.

Main Number:	(505)-761-9000
Fax:	(505)-342-7377
Email:	csi@csiaviation.com (non-emergency info only) emergency@csiaviation.com (emergency info only)

After standard business hours (8 am to 5 pm MST) please leave a message in option #3 "Emergency Service" for an immediate call back.

ADDITIONAL INFORMATION: The Master Professional Service Agreement allows any Chevron operating company, subsidiary, or affiliate to retain CSI for arrangement of air charters for oil spill preparedness and response and for routine business. Charges will be invoiced directly to the organization which uses their services.

CSI is currently the nation's largest and oldest air charter management company of its kind. Established in 1979, CSI has grown to its present position as a diversified and uniquely specialized aviation services company. Capabilities range from individual, ad hoc passenger and cargo charters to comprehensive air charter management for multiple aircraft programs to aircraft leased on an Aircraft, Crew, Insurance, and Maintenance (ACIM) and Aircraft, Insurance, and Maintenance (AIM) basis. CSI provides on-demand air charters for corporations, incentives and meetings, athletics, and government agencies. It also provides technical services under contract to twelve (12) U.S. airlines for various government contracts. Charters vary from small, executive aircraft missions, to large wide-body aircraft movements of thousands of passengers, to on-demand freighter aircraft. CSI has similar agreements in place with several oil companies and corporations worldwide.

EMERGENCY RESPONSE RESOURCE SHEET

CULTURAL RESOURCES (HISTORIC PROPERTIES) - INTERNAL

DESCRIPTION: Cultural Resources (Historic Properties) may be adversely affected during a spill or release and the ensuing response. Laws exist in many jurisdictions around the world protecting these sites and establishing a protocol for their preservation and treatment.

Expertise in the identification, location and conservation of these sites is available through Chevron's Environmental Functional Team and retained external consultants.

HOW TO ACCESS: During regular work hours contact Tina Toriello of the Environmental Functional Team (EFT) directly:

Tina Toriello	**510/CTN 242-4036**
or	
External Consultant Network:	**URS Greiner Woodward Clyde**
Vance Bente:	**510-874-3274 or 510-874-3013**

Alternatively contact the Environmental Functional Team or a member of the Emergency Response Staff (see appropriate Resource Sheets).

ADDITIONAL INFORMATION: Tina Toriello is available for consulting to draft studies and other projects during pre-planning for potential incidents. Vance Bente and his staff of archeologists and historians have an international network of experts available to carryout studies, remediation, identification, and evaluation of cultural resources. Training for spill responders in identification and preservation of sites is also available. All are HAZMAT qualified.

EMERGENCY RESPONSE RESOURCE SHEET

ENTRIX, INC. - EXTERNAL

DESCRIPTION: ENTRIX can provide environmental expertise during oil and hazardous material emergencies worldwide. The services can include: environmental monitoring during and after response; Natural Resource Damage Assessment (NRDA) work; ephemeral data collection; Shoreline Cleanup Assessment Teams (SCAT); habitat protection and restoration; bioremediation; training programs; and other spill remedial actions.

HOW TO ACCESS: ENTRIX can be activated by contacting their 24-hour emergency number **800-476-5886** or through the Emergency Response Staff (see Emergency Staff Resource Sheet)**.** Identify yourself (name, company, and phone number), state that there has been a spill, and request that ENTRIX respond to the incident. Supply as much information as possible about the incident, where ENTRIX should respond, and the name and phone number(s) of the on-scene contact person. Reference the Chevron Corporation Master Professional Service Agreement dated October 1, 1991 in your service or work order. Alternatively, contact the Emergency Response Staff, which will in turn contact ENTRIX.

ADDITIONAL INFORMATION: The contract allows for any Chevron operating company, subsidiary, or affiliate to retain ENTRIX, Inc. for oil and hazardous material spill preparedness and response consulting. The Chevron Environmental Functional Team has used ENTRIX's services in company spill exercises as well as several actual oil spills.

Cost of services performed by ENTRIX will be charged to the organization requesting the services. Contact Dr. P. Y. O'Brien, Mr. M. Ammann, or Dr. P. Samuels for a copy of ENTRIX's current fees schedule. The ETC-HES Group handles all invoices.

Non-emergency Services: Contact or send a written request to P. Y. O'Brien, M. Ammann, or P. Samuels. Allow at least two weeks for handling of the request.

Specify:

- services requested, dates or length of time for which services are desired
- work location, organization making the request, and name and phone number of contact person
- charge number

Alternatively, any Chevron organization can contact ENTRIX directly for immediate response to non-emergency services through:

Dr. Gordon Robilliard, ENTRIX Vice President
grobilliard@entrix.com
253-858-2114 (office)
1-800-316-1683 (pager)
web site: www.entrix.com

EMERGENCY RESPONSE RESOURCE SHEET

RETC HERO SQUAD - INTERNAL

DESCRIPTION: The Hazmat Emergency Response Officer (HERO) squad at ETC is available to advise on chemical properties, reactivity and decontamination issues associated with Chevron products.

The HERO team provides advice to Operating Companies or on-scene Chevron responders when requested. They are available by phone 24/7. They would not normally participate at the scene of an incident.

HOW TO ACCESS: To access the squad, call the Chevron Emergency Information Center (CEIC) at (800) 231-0623 or (510) 231-0623. Tell the technician you need to talk to someone from the HERO squad. Leave your name, location, and phone number. The technician will locate the on-call HERO or a back up and that person will call you back.

ADDITIONAL INFORMATION: The team members are experienced chemists and chemical engineers. All are certified as Level 3 and Level 5 (Incident Commander) Emergency Phase and Management/Supervisor level HAZWOPER post-ER training.

EMERGENCY RESPONSE RESOURCE SHEET

INTERNATIONAL BIRD RESCUE RESEARCH CENTER (IBRRC) - EXTERNAL

DESCRIPTION: IBRRC provides consultation and on-site management, training, development and direction for oiled bird and animal rescue and rehabilitation during oil spill response. IBRRC is recognized worldwide as the expert organization for oiled bird rehabilitation.

Upon notification, IBRRC will activate the necessary trained emergency response personnel who manage all aspects of an oiled wildlife response.

HOW TO ACCESS: Contact IBRRC by calling the (707) 207-0380, dial operator, fax: (707) 207-0395. Identify yourself (name, company and phone number) and specify the type of service desired. Reference the Chevron U.S.A. Inc. Retainer Agreement in your service or work order. Or, contact the Emergency Response Staff (see Emergency Response Staff resource sheet), which will in turn contact IBRRC headquarters. During non-business hours the answering service will take a message and contact an IBRRC employee who will call you back for more details in order to assemble a team to respond to the incident.

ADDITIONAL INFORMATION: Founded in 1971, IBRRC is a nonprofit organization in the field of rescue, rehabilitation, research and release of oiled wildlife. In addition to providing oil spill response services, IBRRC operates two facilities, the San Francisco Bay Area headquarters located at Fairfield, and the Los Angeles bay area facility at San Pedro for the treatment of oiled and non-oiled wildlife, with a specialty in aquatic birds.

Regional representatives are available for oil spills, exercises, training and consultations. For more information contact the following representatives:

International Bird Rescue Research Center (IBRRC)
4369 Cordelia Road
Fairfield, CA 94534

Main line: (707) 207-0380
Fax: (707) 207-0395

Pacific Northwest
Curt Clumpner
1526 Franklin Avenue
Astoria, OR 97103

Cell: (b) (6)
Hom
E-mail: curtc351@aol.com

Federal Express:
1526 Franklin Avenue
Astoria, OR 97103

EMERGENCY RESPONSE RESOURCE SHEET

Hawaii/Pacific
Linda Elliot
PO Box 506
Hawaii, HI 96719

Home: (b) (6)
E-Mail: ibrrchi@aol.com

Federal Express:
55-3435 Puu Mamo Drive
Hawaii, HI 96719

Alaska
Barbara Callahan
1142 H St.
Anchorage, AK 99501

Home: (b) (6)
Work: 907-562-1326
Nextel use outside of Alaska: (b) (6)
Cell use for Alaska Calls: (b) (6)
Fax: 907-562-2441
E-Mail: bcallahan.ibrrc@ifaw.org

Federal Express:
Alaska Wildlife Response Center
6132 Nielson Way
Anchorage, AK 99518

EMERGENCY RESPONSE RESOURCE SHEET

TOM MCCLOSKEY / THE MCCLOSKEY GROUP, INC. - EXTERNAL

DESCRIPTION: Tom McCloskey is an expert in the organization and management of emergency response and crisis management operations. Mr. McCloskey has worked extensively for every Operating Company in Chevron. His services are invaluable in helping an organization move quickly from an emergency to a project phase.

HOW TO ACCESS: Contact The McCloskey Group at:

Phone **206-780-2282**
FAX **206-780-2383**
Pager **800-SKY-PAGE (Pin # 577-2668)**
E-mail mccloskeys@bainbridge.net

or contact the Emergency Response Staff (see Emergency Response Staff resource sheet), which will in turn contact Mr. McCloskey. Reference the Master Professional Service Agreement dated March 28, 1991 in your service or work order.

ADDITIONAL INFORMATION: The McCloskey Group also provides other services, such as Incident Command System (ICS)-based Response Management System training, assisting with or conducting emergency exercises and drills, and contingency planning.

Tom McCloskey is considered a leading provider of emergency response and crisis management services not only for Chevron, but for dozens of other companies with operations in more than 30 countries.

The Master Professional Service Agreement allows for any Chevron Operating Company, subsidiary, or affiliate to retain The McCloskey Group's services for response activities, training, participation in exercises and drills, and contingency planning. Charges will be invoiced directly to the organizations which use their services.

EMERGENCY RESPONSE RESOURCE SHEET

MARINE SPILL RESPONSE CORPORATION (MSRC) - EXTERNAL

DESCRIPTION: MSRC provides equipment and personnel to respond to oil spills in the coastal and tidal waters of the USA except Alaska using its own extensive dedicated resources, as well as contractors. MSRC can provide traditional equipment such as boom and skimmers, dispersant application services, communications equipment, in situ burning equipment and, through a contractor network, inland spill response services, lightering and shoreline cleanup services. MSRC can also provide a significant amount of equipment and personnel for international deployment. See REACT Package under Additional Information. MSRC can assist in identifying contractors to provide services such as salvage and firefighting.

HOW TO ACCESS: MSRC will respond to call-out calls from an "Authorized Representative" (see Additional Information). To activate, call one of the following 24-hour numbers:

1-800-259-6772 or 1-800-645-7745 or 1-732-417-0175
and provide the following information (to extent known):

- Caller's name, position, phone, fax
- **CHEVRON/MSRC CONTRACT NUMBER - 6CHUSA01**
- Covered entity name (facility or vessel)
- Size and location of incident (nearest coastline)
- Spilled material and if it is classified as hazardous
- Specific resources wanted

The answering service will then quickly arrange a conference call between Chevron's Authorized Representative and/or Incident Commander and the appropriate MSRC personnel. The purpose is to review incident details and assist Chevron in deciding on the best initial response resources to mobilize.

ADDITIONAL INFORMATION: Authorized Representative
In lieu of designating specific persons from each facility, which change frequently, MSRC has agreed to respond to calls from Chevron employees which appear to be legitimate. The likelihood is increased if the caller can cite the MSRC/Chevron Contract Number and/or if the caller has made previous contact with local MSRC personnel. In case of doubt, MSRC will still initiate the response but may call a member of the Corporate Emergency Response Staff for verification.

EMERGENCY RESPONSE RESOURCE SHEET

MSRC Letters

Upon activation, MSRC will fax the Incident Commander a confirmation of call-out. This confirmation lists the resources requested by Chevron. If the Confirmation is inaccurate, please notify MSRC immediately. Depending on the situation, MSRC may also fax Chevron other letters requesting information and/or requiring action, such as:

- *Authorization for Discharge of Excess Water Associated with Mechanical Recovery Operations.* This letter asks Chevron to obtain the signature of the State and/or Federal on scene Coordinator to permit the discharge/decant of excess water back into the sea.
- *Hazardous Waste Generator Numbers for the Oil Spill.* This letter requests that MSRC be provided with Chevron's hazardous waste identification number as required by the EPA. In addition, the letter reminds the spiller that MSRC does not manage or dispose of hazardous waste.
- *Spill Response Activities Associated with the Spill.* This letter reminds Chevron of its responsibilities under the MSRC Service Agreement and highlights other related matters that MSRC believes should be addressed such as decanting, designation of the response area, etc.

Alert Status

MSRC has an "alert status" under which MSRC will undertake an internal readiness review but not mobilize resources.

24-Hour Rule

Chevron may activate MSRC resources under the 24-hour rule. Under this rule MSRC will only bill Chevron for out-of-pocket expenses, including fuel and overtime labor charges, if any, provided the resources are not used and turned around within 24-hours from the initial call-out.

REACT Package

The standard Package includes approximately 60,000 bbl of derated effective daily recovery capacity, 13,000 feet of boom and 7,000 bbl of temporary storage. The Package has been designed to fill out the cubic capacity and weight restrictions of a Boeing 747 aircraft. If 747 aircraft are not available, or the destination airport cannot accommodate one, smaller aircraft may be sourced. MSRC can also customize the Package. The REACT Package can also include handheld radios, base stations, and repeaters.

Communications Equipment

MSRC's Communications Suites, located throughout the continental U.S., have been designed for immediate transport. Each Suite can provide up to 100 Direct-in-Dial phones and dedicated fax circuits and equipment; radio service in the petroleum, marine and aviation bands; t; and LAN services. A Comms Suite is fully self-supporting and can be towed to a location and set up for full operation within 4-6 hours of arrival. MSRC provides the necessary personnel to operate the Comms Suite. The Communications Functional Team is very familiar with this equipment and can help supervise MSRC's personnel.

EMERGENCY RESPONSE RESOURCE SHEET

Requirements for Access to MSRC Response Resource
In order for MSRC to provide response personnel and equipment the following criteria must be satisfied: (1) In U.S. jurisdictional waters the FOSC must be in a monitor or direct role, and (2) appropriate responder immunity or other suitable liability protection must be in place.

Response Management
Chevron will maintain responsibility for overall management and control of the response activity. MSRC will operate under Chevron's operation and control. If government directions are issued directly to MSRC, they will refer the directions to Chevron prior to taking action.

Operational Area
MSRC's Operational Area is the coastal and tidal waters, including the Exclusive Economic Zone and territorial seas of the U.S. (except Alaska and the Great Lakes), Hawaii, Puerto Rico, and the U.S. Virgin Islands, and inland on waterways with a navigable depth of 30 feet. On the Mississippi River, this area is limited inland to Baton Rouge.

Dues Credit
Chevron and other Marine Preservation Association (MPA) members receive a Dues Credit in the event they call out MSRC for a response. The dues credit equals the typical non-response mode cost of the equipment for the days it is used in the response. This credit reflects the fact that MPA's members have already funded the non-response mode cost of the equipment.

MSRC OSRO Classification
Within its operating area, MSRC is classified at the MM, W1, W2, W3 level for rivers/canals, inland and all 3 Ocean environments for vessels and MM, W1, W2 and W3 level for rivers/canals and inland environments for facilities. MSRC meets OSRO classification shoreline protection requirements throughout its Operational Area.

Contract
The Corporate Emergency Response Staff and Law Functional Team maintain ready access to the complete Service Agreement including the rate schedule.

Website - http://www.msrc.org
The following information is required for "Customer Access" to the MSRC website:

User:	skimmer
Password:	transrec

EMERGENCY RESPONSE RESOURCE SHEET

OIL TRAJECTORY MODELING - (OILMAP) - INTERNAL

DESCRIPTION: OILMAP is a windows-based state-of-the-art oil spill trajectory and weathering model that runs on an IBM PC. It can be used both for contingency planning and spill response. Spill trajectories can be produced rapidly using basic coastline maps and ocean current data contained in the system and further enhanced for any location worldwide by the addition of more detailed data. OILMAP is replacing WOSM (Worldwide Oil Spill Model), our DOS-based spill response tool which is being phased out. WOSM is still available and in use in several operating companies, but will no longer be maintained.

HOW TO ACCESS: Modeling can be obtained through the Emergency Response Staff.

ADDITIONAL INFORMATION: The program operates in any of four modes:

- stochastic mode to identify probable impacts for contingency planning,
- trajectory mode without weathering,
- trajectory and fates including weathering by evaporation, emulsification, etc, or
- source identification mode (retracing to a probable source based location of impacts).

Detailed maps (NOAA BSB & NOS Charts, Map Tech Charts, etc.) water currents, wind data and oil properties (using NOAA's ADIOS database or nearly 1,000 oils) can be easily imported to improve modeling accuracy and usefulness. Users may add features such as facility maps, roads, shoreline types, and sensitive area locations. Data for these enhancements can be developed either using Chevron resources or outside contractors.

OILMAP runs on a Pentium PC, GIL compatible and Y2Kcompliant. OILMAP output can be viewed on-screen, printed directly in monochrome, gray-scale or color, or stored for further annotation. An OILMAP viewer is available (free) to review all model output, including animations.

For additional information on the model, training opportunities, or customizing it to a specific location, or ADIOS contact:

Tim Finnigan (CPTC) at 925 CTN 842 8006

EMERGENCY RESPONSE RESOURCE SHEET

OILED WILDLIFE CARE NETWORK (OWCN) - CALIFORNIA - EXTERNAL

DESCRIPTION: The OWCN provides rescue and rehabilitation for sea birds, sea otters, other marine mammals, and sea turtles in the event of an oil spill in California's marine waters.

HOW TO ACCESS: **Emergency Response:** Contact Dr. Mike Ziccardi, Director of OWCN, who will then contact the nearest facility or organization to begin a rescue and rehabilitation operation. (OSPR may also activate the OWCN directly.)

Dr. Mike Ziccardi	Pager - 530 792-7803
Wildlife Health Center	530 752-4167

Initial Notification: Identify yourself (name, company, and phone number), and provide the approximate spill volume, location, and product type.

Follow Up: As soon as the potential impact to wildlife is better known, have the Environmental Unit or the on scene Department of Fish and Game Biologist contact Dr. Mazet with this information and the number and locations of oiled wildlife (species) already found.

ADDITIONAL INFORMATION: The OWCN was developed in response to California's Oil Spill Legislation. The primary focus of the Network is to provide wildlife care and rehabilitation facilities and highly qualified personnel to staff those facilities. When maximum caseloads are approached, those personnel available for search and rescue may decline and additional volunteers will be identified through OSPR's Volunteer Coordinator under the direction of the Unified Command. In most situations, the OWCN activities will be incorporated into the Wildlife Branch of an ICS.

The OWCN is made up of the following participating organizations:

North Coast Marine Mammal Center	Crescent City
Humboldt State University Marine Wildlife Care Center	Arcata
Santa Rosa Bird Rescue Center	Santa Rosa
Marine Mammal Center	Marin Headlands
International Birds Rescue & Research Center	Berkeley
UC Davis Wildlife Health Center	Davis
The Alexander Lindsey Jr., Museum	Walnut Creek
Peninsula Humane Society Wildlife Care Center	San Mateo
UC Santa Cruz Oiled Wildlife Care & Research Center	Santa Cruz
Monterey SPCA	Monterey
Monterey Bay Aquarium	Monterey
Pacific Wildlife Care	San Luis Obispo
Marine Mammal Center of Santa Barbara	Santa Barbara
Santa Barbara Wildlife Care Network	Santa Barbara
Ft. McArther Marine Mammal Center	San Pedro
Wetlands & Wildlife Care Center of Orange County	Huntington Beach
Friends of the Sea Lion Marine Mammal Center	Laguna Beach
Project Wildlife	San Diego
Seaworld of California	San Diego

EMERGENCY RESPONSE RESOURCE SHEET

OK'S CASCADE COMPANY - EXTERNAL

DESCRIPTION: OK's Cascade Company provides emergency feeding, laundry and housing throughout the US. Services are available 24 hours, 365 days a year. Consulting services are available for feeding operations outside of the US or Canada.

HOW TO ACCESS: Call OK's Cascade at **1-800-458-8061** or **509-997-8072** for 24-hour service. Contact Jason Stuvland, Jake Conley or Howard Sonnichsen and identify yourself as Chevron.

Alternatively contact the Emergency Response Staff or the Facilities Functional Team (see call out list), which will in turn contact OK's Cascade.

ADDITIONAL INFORMATION: Founded in 1970, OK's Cascade is experienced in providing catering and support services to wildland firefighters and to other emergency responders during disaster operations. They have participated in numerous major disasters through their contract with FEMA and have responded to over 500 emergency dispatches for the National Forest Service. With equipment stationed throughout the US, they have the capacity to provide thousands of high quality meals per day and set up a self-supported city in a few hours after arrival.

OK's Cascade can also provide mobile shower facilities, staffing of mobile equipment, logistics coordination & consulting, dispatching and coordinating client's equipment needs, mobile laundry facilities and food service consulting.

Additional Information available at http//www.oks.com

EMERGENCY RESPONSE RESOURCE SHEET

OSRL/EARL GLOBAL ALLIANCE - EXTERNAL

DESCRIPTION: Oil Spill Response Ltd, the world's largest international oil spill response company in alliance with East Asia Response Ltd, the largest oil spill response company in the Asia Pacific region provides expertise and resources for responding to oil spills worldwide.
OSRL, located in Southampton, England, and EARL, located in Singapore, have one of the world's largest equipment stockpiles. The Alliance maintains two large, dedicated cargo aircraft to guarantee quick response or dispersant application anywhere in the world.

HOW TO ACCESS: Call the Duty Manager at OSRL or at EARL. The Duty Manager will take your details and ask for a faxed confirmation of authority to mobilize resources.

Alternatively call the Chevron Emergency Information Center and ask to speak to the Corporate Emergency Response Staff Duty Contact. The Duty Contact can assist in providing confirmation of authorization to mobilize resources.

OSRL	**EARL**
Telephone: +44 (0) 23 8033 1551 Fax: +44 (0) 23 8033 1972 Pager: +44 (0) 20 8345 6789 Ask for Pager "OIL39" and provide telephone number and message	Telephone: +65 6266 1566 Fax: +65 6266 2312

Chevron Emergency Information Center (CEIC)
Telephone: +1 800 231 0623 (calls within the United States)
+1 510 231 0623 (calls outside the United States)
Fax: +1 510 242 3787
E-mail ceichl@chevron.com

ADDITIONAL INFORMATION: The Alliance is available for the response to spills of oil (broadly defined as "crude petroleum oil and any fraction thereof or any petroleum product") for which Chevron or an affiliate (50% or more ownership) has any interest.

Chevron has access to 50% of each type of equipment and response personnel not otherwise allocated. Thus, if another spill response is in progress for which 50% of the equipment was allocated, Chevron will have access to only 25% of each type of equipment (50% of what is currently available at the center).

For information on response services, oil spill response training courses, and consulting services provided by the Alliance, contact the Corporate Emergency Response Staff, or see the following websites:

www.oilspillresponse.com www.earl.com.sg

EMERGENCY RESPONSE RESOURCE SHEET

POLARIS APPLIED SCIENCES, INC. (PAS) – EXTERNAL

DESCRIPTION: Polaris Applied Sciences, Inc. (Polaris) is a full-service integrated emergency response, scientific support, Natural Resource Damage Assessment, restoration, spill planning and training organization providing worldwide support for clients in the oil industry. Ed Owens of Polaris is one of the foremost experts on emergency response operations related to oiled shorelines, including shoreline assessment, protection, and clean-up. Gary Mauseth has been the principal investigator in over seventy spills, groundings, and natural resource damage assessment cases nationally and internationally. Elliott Taylor and Greg Challenger also provide primary response and investigation capabilities with expertise in ecology, geology, data management, Shoreline Clean-up Assessment or Advisory Team (SCAT) and NRDA support services. Polaris has worldwide experience including mangrove, coral and arctic environments. Polaris can also access other experienced personnel in a wide range of specialty fields as the need arises.

HOW TO ACCESS: To request emergency services, contact:

	Office	Cell	Home
Ed Owens / Principal	**206 842-2951**	(b) (6)	
Gary Mauseth / President	**425 823-4841**		
Elliott Taylor / Associate	**206 780-0860**		
Greg Challenger / Associate	**425 823-4841**		
Polaris Fax:	**425 823-3805** Kirkland		
	206 842-2861 Bainbridge Island		

For the Emergency Response Staff (see Emergency Response Staff resource sheet). Reference the Chevron Master Service Agreement in your work order.

ADDITIONAL INFORMATION:

Planning

Polaris has a staff of 8 full-time employees that provide pre-spill planning including classification of shorelines, identification of protection strategies and suggestions for response priorities and clean-up methods.

Scientific Support for Spill Response

Polaris has expertise in shoreline protection and cleanup operations and has considerable field experience worldwide in arctic, tropical and temperate environments. Polaris has prepared spill response field guides and training manuals for Environment Canada, API, MSRC, and other industry clients.

Following the EXXON Valdez spill, Ed Owens established the shoreline assessment field program, aerial VTR surveys, and a long-term fate and persistence monitoring study for Exxon.

EMERGENCY RESPONSE RESOURCE SHEET

SCAT

Polaris also provides training in SCAT (Shoreline Cleanup Advisory Team) methods and procedures. The pre-established agreements Polaris has in place define the terms and scope of services and pre-agreed rates, which range between $75 and $100 US/hour. These SCAT support personnel can be contacted through Polaris and can be contracted and managed directly by Chevron or Polaris.

NRDA

Implementation of scientific support during an oil spill response provides the client with a critical head start to Natural Resource Damage Assessment. Polaris personnel have provided scientific representation for damage claims ranging from simple to highly complex that require several years to settle. These natural resource damage claims have been based in marine, estuarine, freshwater and terrestrial environments and have included natural resources such as fisheries, birds, marine mammals, wetlands, coral reefs, aquatic and terrestrial vegetation, sand dunes, water, sediment, invertebrates, recreational use, and threatened and endangered species.

Restoration

Federal and many state regulations require restoration of services provided by injured resources in a spill either directly, by creation of similar services such as habitat, or by enhancing the quality of available habitats. Polaris personnel have acted as the technical representative for responsible parties on many restoration projects. Our services include: trustee liaison, development and assessment of alternative restoration/ compensation options, innovative conceptual project designs, project design coordination, permitting, contractor selection, and monitoring of construction and performance criteria.

Technical Training and Exercises

Polaris offers 1, 2 and 3-day Shorelines and Oil Spill Response training courses that provide a basic introduction to coastal processes, shoreline character, and the fate and behavior of spilled and stranded oil. Polaris personnel have also been key members of design, preparation, and control teams for a number of spill response exercises.

Training/Exercise Development

EMERGENCY RESPONSE RESOURCE SHEET

PRECISION PLANNING & SIMULATIONS, INC. - EXTERNAL

DESCRIPTION: Precision Planning & Simulations, Inc. (PPS) assists the oil industry in the conduct of oil spill response training and Preparedness for Response Exercise Program (PREP) exercises. In addition, PPS can assist with the establishment of a Situation Unit in the Planning Section for an actual oil spill or emergency response.

HOW TO ACCESS: Contact Tom Marquette directly at:

Office: (252) 330-4254
Cell: (b) (6)
E-Mail tmarquette@ppscorp.com

Alternate Contact is Paul Gebert at:

Office: (610) 469-1810
Cell: (b) (6)
E-mail: paulgebert@ppscorp.com

Web-Site address: www.ppscorp.com

ADDITIONAL INFORMATION: PPS is available to assist with the design; development, execution and evaluation of oil spill response training, and oil spill and security type exercises. In addition, PPS can provide assistance with actual oil spill emergencies. PPS personnel have in-depth knowledge of the federal government's PREP exercise program, and can assist with any type of exercise ranging from Spill Management Team (SMT) Tabletop exercises to large scale, multi agency Industry-Led Area exercises.

Rates for PPS' services:

Training and Exercises

Personnel:
In-Office: $850.00 per day
On Site: $1200.00 per day

Response

Personnel deployed: $900.00 per day
Standard Equipment package: $615.00 per day

3 – computers
2 - color printers
1 - poster printer
1 – LSD projector
1 – Digital camera
Admin Kit
Response software (ICS forms, mapping, etc.)
Hubs & wireless networking equipment

All charges will be directly invoiced to the organization using PPS' services. The daily rates listed are effective for the period of 1/1/03 to 1/1/04. These daily rates do not reflect actual expenses, or material costs associated with the conduct of training, exercises, or actual response.

EMERGENCY RESPONSE RESOURCE SHEET

RESEARCH PLANNING, INC. (RPI) - EXTERNAL

DESCRIPTION: Research Planning, Inc. (RPI) provides emergency spill response expertise in four areas: 1) identifying and prioritizing sensitive resources for protection; 2) selecting and obtaining approval for oil-spill treating agents (e.g., dispersants, burning, shoreline cleaning agents); 3) optimizing shoreline cleanup methods; and 4) assessment of impacts or damages to natural resources

HOW TO ACCESS: Contact Jacqueline Michel, Research Planning, Inc. at:
Phone **803-256-7322** (24-hour answering service) FAX 803-254-6445, email = jmichel@researchplanning.com, or contact the Emergency Response Staff (see Emergency Response Staff resource sheet), which will in turn contact RPI. Reference the Master Professional Service Agreement dated January 1996 in your service or work order.

ADDITIONAL INFORMATION: RPI also provides a range of non-emergency services associated with oil spill planning, environmental impact studies, environmental assessments, risk assessments, and training.

RPI is the world leader in developing sensitivity maps and digital databases on sensitive natural resources for oil spill planning. They can develop simple to complex databases using Geographic Information Systems (GIS) technology for managing and presenting data.

RPI can prepare ecological risk assessments and environmental impact studies of oil exploration, development, and transportation operations overseas. They have expertise in marine and terrestrial ecology, fisheries, geology, coastal geomorphology, water quality, and socio-economics. They integrate Global Positioning Systems (GPS) methods into field studies to improve data quality and use in spatial databases. They have the ability for collection of nearly any type of complex field data that requires a spatial location, including ecological surveys, environmental or chemical sampling, ground-truthing of aerial or satellite imagery, or natural resource inventories. The system is also ideal for situations where the rapid collection and analysis of spatial data are essential, such as emergency spill response. They can integrate instruments with a digital output–barcode scanners, water quality instruments, thermometers, or digital cameras–with GPS units to simultaneously collect and store multiple types of data.

EMERGENCY RESPONSE RESOURCE SHEET

RPI offers a range of training courses on spill planning and response. The courses emphasis technical and environmental aspects of spills, such as decision-making for dispersant use, and conditions where burning of oiled wetlands is recommended.

The Master Professional Service Agreement allows for a Chevron operating company, subsidiary, or affiliate to retain RPI's services for oil and hazardous material spill preparedness and response consulting. Charge will be invoiced directly to the organizations that use their services.

EMERGENCY RESPONSE RESOURCE SHEET

SECURITY FUNCTIONAL TEAM - INTERNAL

DESCRIPTION:

The Security Functional Team can provide security services to Chevron Companies during and emergency. Functional Team members can assume the role of Security Unit Leader (or other security roles) in the Incident Command System (ICS).

The Security FT can provide specific assistance, as needed to:

- Protect senior management personnel who may be present
- Protect response personnel
- Establish and maintain liaison with public law enforcement authorities
- Conduct or manage investigations as requested
- Manage contract security personnel as required
- Advise the Incident Commander, Sr. Management and others on security issues.
- Counsel the Facilities FT with regard to the operation of security guard and access control of the Incident Command Center and operations in the field
- Counsel other FT members on any security related matters

HOW TO ACCESS:

In the event of an incident or crisis, which results in the activation of Security staff personnel, notification should be made to the Manager, Global Security, and to the Security FT Coordinator. When a person is notified to respond to the incident location, the request shall be given top priority.

ADDITIONAL INFORMATION:

Global Security Website, **Security FT Plan**

EMERGENCY RESPONSE RESOURCE SHEET

THE MARINE MAMMAL CENTER (TMMC) - EXTERNAL

DESCRIPTION: The Marine Mammal Center (TMMC) is a world renowned private, non-profit institution (located in Marin County, California) licensed by the National Marine Fisheries Service to rescue and rehabilitate injured or oiled marine mammals. The Marine Mammal Center can dispatch a team of professionals worldwide for the capture and care of injured animals.

HOW TO ACCESS: To activate call their 24-hour number: **415-289-7325**. he incident will be referred to TMMC's **On-Call** Stranding Coordinator. They will contact the spiller to confirm activation of center personnel.

Upon arrival at the scene, TMMC will immediately consult with Chevron and government officials to determine priorities, identify problem areas, and establish a response plan.

TMMC will also enlist our aid to identify an appropriate rehabilitation facility. Options include transporting all affected animals to TMMC's facility or establishing and equipping an on-scene emergency facility. TMMC will also provide medical and rehabilitative care for all oiled marine mammals delivered to the facility, and **will** provide training for volunteers in safety, animal handling and care.

ADDITIONAL INFORMATION: For spills in Northern California (San Luis Obispo to the Oregon border) the Center **may be able to** mobilize 1-2 veterinarians and 50-100 volunteers within 2 to 4 hours of the incident. TMMC is permitted to operate as far north as the Oregon border, however, The North Coast Marine Mammal Center actually covers Humboldt and Del Norte Counties.

EMERGENCY RESPONSE RESOURCE SHEET

THE O'BRIEN'S GROUP - EXTERNAL

DESCRIPTION: The O'Brien's Group offers a broad array of consulting services that include ICS training, exercise facilitation and evaluation, client-specific oil spill schools, 8-hour and 24-hour HAZWOPER refresher training, plan writing, plan review and plan management, and client-specific specialized emergency response training. The O'Brien's Group also is available 24/7 to respond to virtually any emergency worldwide – including oil spills, fires, industrial accidents, hazardous material releases or natural disasters. The Master Consulting Services Agreement allows for any Chevron operating company, subsidiary, or affiliate to retain "Services" by executing a Statement of Work found in the link below.

HOW TO ACCESS: For emergencies, contact The O'Brien's Group directly at:

24-hour telephone number: (**985)-781-0804**
FAX: (**985)-781-0580**

or contact the Corporate Emergency Response Staff (see Emergency Response Staff resource sheet), which will in turn contact The O'Brien's Group. Identify yourself (name, company, and phone number), state that you have an emergency. Provide the details of the emergency and request assistance. Also provide the location where assistance is needed and the name and phone number of the Chevron contact person at the scene. Reference Master Consulting Services Agreement number 99016309 dated August 1, 2004.

For non-emergency consulting "Services", contact The O'Brien's Group at:

(714) 577-2110 Office **(714) 577 2118 Fax**

ADDITIONAL INFORMATION: Use the following link for a copy of the Master Consulting Services Agreement and the Statement of Work used for obtaining "Services" under the Agreement.

EMERGENCY RESPONSE RESOURCE SHEET

THE RESPONSE GROUP - EXTERNAL

DESCRIPTION: The Response Group offers emergency response pre-planning and support solutions to the domestic and international petroleum industry. They currently service over thirty major oil and gas companies. Their goal is to provide the finest service to their clients utilizing skilled personnel and the latest innovations in technology. Through close personal relations, attention to detail, and capitalizing on years of experience and leadership in the industry, the Response Group can provide you with effective emergency response solutions.

HOW TO ACCESS:

Call Roy Barrett – Project Manager:
Email: rbarrett@responsegroupinc.com
Mobile Phone: (b) (6) [redacted]

ADDITIONAL INFORMATION:

Services:

Pre-Planning, Response & Mapping

- Inland & Shoreline Tactical Response Guides
- Emergency Response & Drill Trajectory Analysis
- Inland & Shoreline Tactical Response Guides
- Incident Management Team Support regarding trajectories, mapping & IAP software support
- Onshore & Offshore Mapping Support including Facility Maps, Pipeline Maps, Platform Maps, Spill Response Maps, etc.
- Offshore & Onshore Worst Case Discharge Response Guides
- Inland & Offshore DOT IMP Plan Mapping Support

Software Support

- IAP Software 3.X Crisis Management Support & Software Upgrades
- IAP Software 3.X Response Equipment Quarterly Updates
- Fact Sheet 1.0 Software
- Custom Database & Software Application Development

Other Services

- Custom Company Specific ICS Guides
- Pipeline GPS Services

EMERGENCY RESPONSE RESOURCE SHEET

TRI-STATE BIRD RESCUE & RESEARCH, INC. - EXTERNAL

DESCRIPTION: Tri-State Bird Rescue & Research specializes in the rescue and rehabilitation of oiled wildlife. During an oil spill response Tri-State can establish and operate rehabilitative facilities, provide medical and rehabilitative care for affected animals, train volunteers, and establish field protocols. Tri-State will respond to oil spills worldwide.

HOW TO ACCESS: Call Tri-State Bird Rescue & Research, Inc. at their 24-hour telephone pager numbers:

Eileen Gilbert	800-710-0695 (pager)
Dr. Heidi Stout	800-710-0696 (pager)

If your call is not returned try the Main Office number:
302-737-7241 (Tri-State Bird Rescue & Research, Inc.)

Be prepared to provide the following information: name, affiliation, position, responsibility regarding spill, telephone number during spill response, product spilled, time/date, amount, spilled if known, location, habitat, wildlife involvement, government agencies notified/involved and current wildlife rescue and rehabilitation plans. Caller will also need to initiate contract negotiations.

Alternatively contact the Emergency Response Staff (see Emergency Response Staff resource sheet), which will in turn contact Tri-State.

ADDITIONAL INFORMATION: Charges for their services are generally "at cost" with no mark-up for overhead or profit.

Tri-State requests that they be contracted within the minimum amount of time possible to prepare for an on-scene bird rescue, usually 12-48 hours following the spill. Tri-State will immediately send a Response Team to assess the spill situation and if necessary mobilize a full Response team.

Tri-State offers pre-spill training and contingency planning services. They also maintain a full-time bird hospital/research facility in Newark, Delaware.

EMERGENCY RESPONSE RESOURCE SHEET

UNEP WORLD CONSERVATION MONITORING CENTRE (UNEP-WCMC) - EXTERNAL

DESCRIPTION: The UNEP World Conservation Monitoring Centre is the biodiversity assessment and policy implementation arm of the United Nations Environment Program (UNEP), the world's foremost intergovernmental environmental organization. UNEP-WCMC aims to help decision-makers recognize the value of biodiversity to people everywhere, and to apply this knowledge to all that they do. The Center's challenge is to transform complex data into policy-relevant information, to build tools and systems for analysis and integration, and to support the needs of nations and the international community as they engage in joint program of action.

HOW TO ACCESS:

UNEP-WCMC:
Information Enquires Tel**:** **+ 44 (0) 1223 277722**
Main Switchboard Tel: **+ 44 (0) 1223 277314**
Fax: **+ 44 (0) 1223 277136**
E-Mail: info@unep-wcmc.org
Internet**:** http://www.unep-wcmc.org

Information Office
UNEP World Conservation Monitoring Center (UNEP-WCMC)
219 Huntington Road
Cambridge, CB3 ODL, UK

The Centre is open Monday – Friday from 8.30 AM – 5.30 PM (GMT & BST). To reach WCMC outside of regular business hours, contact the Emergency Response Staff (see Emergency Response Staff resource information required in as much detail as possible) for assistance. Identify the area of interest and the type of

ADDITIONAL INFORMATION: UNEP-WCMC, based in Cambridge, UK Became an integral part of the UN Family in July 2000. UNEP-WCMC maintains a worldwide GIS database, the Bio-diversity Map Library relating to marine and coastal environments and their conservation.

Maps, databases and reports are available for most areas of the world, documenting important local features. The Bio Diversity Map Library is digital information, including maps as graphics files that can be produced within minutes of incident notification and dispatched via communications networks showing the important features of biodiversity that are under threat.

Information is of varying detail depending on the geographical area requested, with the tropical climates containing a higher degree. WCMC can also assist in locating information on international conservation agreements and programs.

EMERGENCY RESPONSE RESOURCE SHEET

WORLDWIDE EMERGENCY RESPONSE TEAM - INTERNAL

DESCRIPTION:

Worldwide Emergency Response Team (WWERT) members are on-call to fill and provide backup for key spill response and cleanup management positions. The team is a select group of about 30 experienced and highly trained individuals from the spill response organizations of the various operating companies.

Operating companies may activate one or as many people they feel they need for the response. When activated, team members will report to and work directly for the operating company handling the incident.

HOW TO ACCESS:

To activate WWERT members, contact the Corporate Emergency Response Staff On-Duty Person by calling CEIC at 1-510-231-0623 or 1-800-231-0623.

Team members are preauthorized to respond to a call from any operating company and are prepared to arrive at their local commercial airport within six hours of notification.

ADDITIONAL INFORMATION:

All team members are prepared to travel internationally on short notice. They have passports and inoculations recommended by the Medical Staff.

The team members are also certified as having at least received Level 5 (Incident Commander), Low Hazard Worker, and Management/Supervisor level HAZWOPER training.

GAS PIPELINES & FACILITIES NORTH AMERICA EMERGENCY OPERATING PLAN

General portions of this Plan will be considered part of the Emergency Operating Plan for all gas pipelines and company gas facilities.

GAS PIPELINES & FACILITIES NORTH AMERICA EMERGENCY OPERATING PLAN

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GENERAL REQUIREMENTS

Emergency Operating Plan

Purpose

The purpose of this Plan is to provide emergency operating plan procedural guidelines for gas pipelines and facilities and shall be known as the Company Gas Pipelines & Facilities North America Emergency Operating Plan. These emergency procedures are intended to place the primary emphasis on the protection of life.

This Plan is not intended to stand alone, but should be utilized in conjunction with other applicable sections of this Core Plan and relevant State Appendices.

Scope

The scope of this Plan is limited to those emergency situations, as hereinafter are more fully defined, affecting or relating to Company gas pipelines and gas facilities.

GENERAL INFORMATION

This Emergency Operating Plan provides guidelines to:

- Handle situations to minimize personal injury and property damage
- Handle initial responses to incidents
- Identify and define when an emergency exists
- Evacuate a facility as required
- Establish an Incident Command System
- Notify appropriate personnel and authorities
- Conduct emergency and post emergency operations
- Provide procedures for prompt reporting and investigation of incidents
- Outline procedures to evaluate risk for a facility and surrounding area
- Provide guidelines for integrating this plan with those of the surrounding community
- Operate during severe weather
- Handle bomb threats and other disturbances
- Maintain a trained organization that can mobilize quickly in response to incidents

Lines of Authority

The plan has been developed so that it complies with the spirit and letter of all applicable local, state and federal regulations pertaining to emergency situations, including 29 CFR 1910 Occupational Safety and Health Standards, Department of Transportation 49 CFR 192 Transportation of Natural Gas and Other Gas by Pipeline, Department of Transportation 49 CFR 195 Transportation of Hazardous Liquids by Pipeline, and SARA Title III, Emergency Planning and Community Right-To-Know Act of 1986.

OSHA Standard 29 CFR 1910.120 mandates the use of an incident command system (ICS) during times of emergency defined as “a release of a hazardous substance which cannot be absorbed, neutralized, or otherwise controlled.” This act also mandates that “the Senior Emergency Response Official responding to an emergency shall become the individual in charge of a site-specific Incident Command System (ICS). All emergency responders and their communications shall be coordinated and controlled through the individual in charge of the ICS assisted by the Senior Official present for each employer. There is an Incident Commander in any declared emergency. If an emergency is not declared, it is assumed no hazard to the public or company personnel exists and normal chain-of-command prevails.

During a declared emergency, the Incident Commander carries the designation of “Command” and is in control of the immediate areas of the emergency scene. The boundaries of the immediate area would be dictated by the emergency. Simply defined, it would be all of the area in which a hazard exists to humans.

The Incident Commander controls all activities directed at response to the emergency. All subordinate positions established under the ICS report to the Incident Commander. Per 29 CFR 1910.120(q), a Safety Officer must be appointed along with an Incident Commander. Initially the Incident Commander may also be the Safety Officer.

Emergency Operations Center

In addition to the Unified Command Post, an Emergency Operations Center may be activated. This is where incident support activities are performed and may be located in two (2) locations:

- Primary Emergency Operations Center located at the Team Office; and
- Secondary Emergency Operations Center- Pipeline Systems Control Center or other location as determined.

The Emergency Operations Center will coordinate all equipment and personnel support needs except for emergency response equipment requests, which are normally handled by the Incident Command Post.

Unified Command

When other agencies with jurisdiction are involved due to the nature of the incident or the kinds of resources required (e.g., a natural gas release, natural gas liquids release, hazardous material spill, fire, etc.), the Incident Commander will ensure that those organizations are involved in developing incident objectives and strategy and kept informed of the Action Plan and its implementation.

Concept of Operations

There are four basic elements of the Emergency Operation Plan to follow. These four elements are prevention, preparedness, response and recovery.

Prevention incorporates all those activities that eliminate or reduce the probability for a disaster occurring onsite;

Preparedness includes all activities necessary to ensure a high degree of readiness so that response to an incident will be swift and effective;

Response includes all measures taken during an incident to prevent the loss of life and to minimize damage to the facility and surrounding areas.

Recovery includes those short and long-term activities that return all systems to a normal state of operation.

Primary responsibility for emergency response involving a facility has been assigned collectively to Company and facility personnel with the local offsite response agencies agreeing to act in a support role. The authority for responding to minor emergency situations has been assigned to the lowest levels of the response organization possible.

Following an incident, an investigation will take place to formulate new or modify existing prevention activities.

Plan Assumptions and Situations

This plan makes the following assumptions:

- The fire department, police department, civil defense, and other public emergency response organizations will be available to respond to an emergency occurrence and will be able to provide support
- The required training and drills will be conducted and facilities and equipment obtained
- Facility employees will recognize and carry out their roles in an emergency

The situations for which this plan is designed are emergency incidents with a potential for severe consequences. This includes, but may not be limited to, the following:

- Technological hazards, fire, explosion, utility failure, a hazardous materials accident, and onsite materials that might adversely impact the surrounding public under specific conditions
- Natural hazards such as hurricanes, floods, windstorms, tornadoes, winter storm
- Social emergencies such as bomb threats, riots, and sabotage

Job Site Safety Plan

A Company Job Site Safety Plan (Section 7, Core Plan) must be completed as part of the emergency response process.

The Incident Commander will ensure completion of the Company Job Site Safety Plan. The Incident Commander may delegate the task of completion of the Job site Safety Plan to the Safety Officer. The Safety Officer will administer the Job Site Safety Plan.

NOTIFICATION PROCEDURES

Response

General

Notifications will be per Section 2 of this Core Plan and per additional notification listed in each State Appendix.

This Section outlines the various concerned departments and individuals that personnel should notify in the event of an emergency. An emergency is any situation demanding immediate corrective action, which involves company facilities or operations and may endanger human life or cause significant loss of property.

Notification of Emergencies

It is imperative to respond quickly to any actual emergency. It is also important to contact the Local Emergency Planning Committees (LEPCs) and Federal, State and Local emergency response organizations (police, fire, ambulance, etc.) as necessary. Contact with the appropriate Local, State, and Federal regulatory agencies is also important.

Follow the Notification Flowchart that is found in Section 2 of this Core Plan.

Do not wait to collect all the information concerning the incident but provide this information to agencies and Company resources as it becomes available.

Note: Notifications must begin immediately after the realization of an incident.

Initial Observation Responsibilities of Company Personnel During an Emergency

Any employee including the Pipeline Systems Control Center Dispatcher receiving a report of or discovering an emergency should attempt to gather and record the following information:

- Any injuries or potential hazards to the public or Company personnel
- Location of the observed phenomenon in relation to recognizable landmarks (both natural and man-made, such as rivers, highways, railroads, etc.)
- Description and time of the observed phenomenon

- Proximity to public, residential, storage and vacant buildings and the density thereof
  - ♦ If applicable name of the informant, their address, time and phone number where they can be contacted
  - ♦ Direction of prevailing winds from the accident location with respect to residential houses, commercial buildings or public roadways
  - ♦ Indications of any other pipelines and/or other utilities belonging to the area and the name of the operator, if available
  - ♦ Estimate of resources needed to control the Emergency / Incident

First Responder (Company Employee) Initial Notification Responsibilities

Any employee who receives a notification of an incident from an outside party or is the first person to witness an incident will notify:

- Control Center and as applicable, the area control room impacted by the incident
- His/Her supervisor
- Follow the Notification Flowchart in Section 2 of this Core Plan

Note: A record of the time each call was made and the name of the individual notified must be maintained.

Pipeline Systems Control Center - Initial Notifications Responsibilities

Dispatcher Initial Notification Responsibilities

- Upon receiving notification of an incident from an outside party/general public, the Pipeline Systems Control Center Dispatcher and if applicable the impacted area Control Room Operator should follow the Notification Flowchart found in Section 2 of this Core Plan.
- Upon receiving notification of an incident from Company employee, the Pipeline Systems Control Center Operator should follow the Notification Flowchart found in Section 2 of this Core Plan.

Note: A record of the time each call was made and the individual notified must be maintained.

Federal DOT and State Pipeline Safety Incidents

General

Gather all information concerning an emergency incident, and then determine whether that incident should be reported to the Local, State, or Federal Agencies having jurisdiction over the pipelines. Immediate telephonic notifications of incidents shall be made to the Local, State and Federal Agencies (when applicable). Telephonic notifications must be made at the earliest practical moment following the discovery of an incident but within the time limits set by the different agencies.

Local Emergency Planning Committee (LEPC)

Along with other Local, State and Federal Agencies, the appropriate LEPC should be informed of any incident that could involve the community or attract attention of the community or news media. If an affect will be felt in any of the surrounding communities, be prepared to advise of the need for evacuation when making the report. Notification to LEPCs should be made for any incident of smoking that lasts for more than five minutes, or any odor or noise that could be detected outside the facility. Informing the LEPC should be considered if the wind and weather conditions are such that hazardous exposure could occur.

State Emergency Response Commission (SERC)

Notification is required if the release is either in excess of the reportable quantities (RQ) of materials on the CERCLA list or the list of extremely hazardous substances or if the roadway is blocked. The LEPC, SERC & National Response Center (NRC), requests verbal notification within 1 hour of the incident. Written follow-up should be made within 5 working days.

Emergency Communication

General

Effective communications is one of the keys to effective emergency response. The ability of the various emergency organizations to adequately respond, coordinate, report, and make requests depends on effective communication with other groups.

Land line telephones, mobile telephones, two-way radios and pagers will also be used during all emergencies except for bomb threats (also see Incident Response). Key people can be reached by mobile telephones and pagers at all times. For actual phone numbers, see Emergency Notifications and Communications Rosters contained in the Site Specific Sections of this Plan.

Requirements

When a telephone system is designated as an emergency communication system, the following are required:

- At least one designated telephone instrument must be capable of continuous dial access directly to the telephone network or to the public telephone network or to another similarly manned location (station manned at least five hours a day, five days a week);
- A designated telephone must be in a continuously accessible location considered to be safe during a potential emergency situation;
- The designated telephone or telephone system must have a power source, with at least eight hours reserve, which will not become inoperable during a localized emergency situation. A large percentage of telephone systems furnished by local telephone companies do not require local power except for external bells, horns, or indictor lamps; and
- At locations where telephone systems do not remain fully operational during power loss situations, a separate telephone instrument, powered by telephone line voltage, must be installed.

Procedure

Company owned and operated facilities have provided for communication among the following groups:

- Emergency Operations and Incident Command Post;
- Emergency Operations Center and response teams;
- Emergency Operations Center and all off-site agencies;
- Emergency Operations Center and support personnel, including press/public relations and technical support; and
- On-site emergency response teams and off-site emergency response teams.

In an emergency situation, Personnel use landline telephones, mobile telephones, pagers and/or 2-way radios.

Responsibility for Procedure

The responsibility for administration belongs to the Team Leader.

A record of scheduled and documented tests of the communications facilities using the Company computer maintenance scheduling system.

Emergency Communications Training Program

All new employees should be made aware of the emergency phone lists and the emergency operations center. These lists should be posted in manned stations, and tests of the emergency management should be regularly conducted as well as documented and recorded.

Emergency Equipment

General

Responders should be careful to protect personnel, vehicles, and other equipment during an incident. Protection of personnel from toxic exposures to hazardous substances involves wearing proper chemical protective clothing and respiratory equipment. Responders should stay away from potential fires or explosions. A rest and rehabilitation area where responders can cool off should be established. Heat stress can be a major problem. In situations where decontamination of protective clothing is required, the rest and rehabilitation area can be incorporated in the decontamination line.

Protection of personnel, equipment, and vehicles also involves approaching the danger area from upwind or an angle other than downwind. If response personnel can only approach the danger area from downwind, they will be at a tremendous disadvantage and will have to place themselves and their vehicles much further back. Generally, vehicles should be parked at a safe distance away from the danger area with the engines shut off.

Fire-Fighting Equipment

Hand portable fire extinguishers are located in all operator vehicles and in designated facility areas.

All company owned fire equipment will be maintained and tested in accordance with established company procedures so that it will be ready for service at all times. All personnel will be trained in the use of personal protective equipment and fire fighting procedures in order to control any fires to the maximum extent possible with the equipment available.

Local fire departments may be called in when the emergency requires. Outside fire organizations should always be aided by Company personnel who have expertise in the location and probable cause and effect of the fire. It is essential to provide guidance to ensure that non-Company people do not enter an area where they may be trapped by fire or where a pipe rupture could occur.

Personal Protective Equipment

All employees working in and around hazardous operations must be instructed in the hazards of their respective jobs and in the personal protective equipment (PPE) designed to protect against these hazards. Employees are to train in the selection, use, and limitations of PPE.

The Company must provide necessary personal protective equipment for eyes, face, head, and extremities. This equipment includes protective clothing, respiratory devices, and protective shields and barriers. These devices will be used and maintained in a sanitary and reliable condition. Hazards of process or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation, or physical contact will be mitigated by using personal protective equipment.

All personal protective equipment used by employees must be of safe design and construction for the work to be performed and must be properly maintained to retain its original effectiveness provided for their use.

Using Personal Protective Equipment

Proper use of personal protective equipment by all employees is defined in the Company Procedures which covers equipment such as hard hats, safety glasses, footwear, clothing and respiratory protection pertinent to specific jobs or tasks. This equipment is specific in preventing personnel from exposures through absorption, inhalation, and physical contact. Also see Training and Drills in this Plan.

Reusable and Disposable Personal Equipment

As required, safety equipment for the protection of employees is available. This equipment includes but is not limited to:

- Protective Clothing (including Nomex coveralls);
- Respiratory Protection (SCBA, AP);
- Splash goggles;
- Safety Glasses;
- Full-face shields;
- Hard hats;
- Chemical resistant gloves; and
- Hearing Protection.

General Non-Personal Emergency Equipment List

The following list of equipment is not intended to be inclusive of all equipment that might be needed to deal with any emergency, nor is it intended to be the minimum acceptable list. It may be impractical for some facility to supply large or specialized items (e.g., bulldozers or hot-tapping equipment).

Equipment	Amount	Location
Portable Gas Detectors		
Pipeline Locator		
Rope, Signs, Cones, etc. (To mark hot zones)		
Rescue Lines		
Potable Water		
Shovels and Rakes		
Ladders		
Miscellaneous Hand Tools		
Windsock		
Communication Devices (Two-way Radios, Walkie-Talkies, Cellular Phones, CB Radios, etc.)		
Sorbent Materials		
Disposal Bags and Containers for used Sorbent Materials		
Boat(s)		
Fire Extinguishing Systems (Foam, Dry Chemical, etc.)		

Security

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

Evacuation

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

Emergency Evacuation Checklist

(b) (7)(F), (b) (3)

[redacted]

Facility Shutdown - General

Purpose

The objective of shutdown procedures is to shut down the facility as quickly as possible and not expose personnel to danger. Any of the following constitutes an emergency shutdown:

- Fire or explosion;
- Major equipment failure;
- Hurricane, tornado, floods, or other natural disaster; and
- Civil disorder involving facility intrusion by outsiders.

Emergency Shutdown Procedure

- Make sure to turn off all instrument detectors. This will prevent a strong current surge when the main breakers are re-energized;
- Turn off all electrical equipment individually;
- Shut off the compressed gas cylinder block valves;
- Shut off each compressed gas cylinder in the gas rack and disconnect it from the manifold system. Replace the safety caps on each cylinder;
- Inspect the Compressed Gas Cylinder area to be sure that all cylinders are secured by safety chains;
- Shut off all utilities at the service entrance to the building; and
- De-energize the electrical circuits by disconnecting the main circuit breaker for each switch panel.

Gas Detected Inside or Near a Building

General

In the case of gas detected or suspected inside or near a building, all Company personnel shall take such action as necessary to protect the public first and then the facilities. On-site judgment is required in order to react properly to each individual situation.

Consideration should be immediately given to getting all people out of any building involved if gas is detected inside the building.

When approaching any building that contains natural gas facilities or that may contain escaped gas, an employee should always look and listen for any signs of escaped gas. Under no circumstances should an employee immediately open a building door, if escaped gas is detected.

Procedure

If gas is detected near a building, then all people inside should be asked to extinguish all open flames, to open windows and doors and then get outside immediately. A determination should immediately be made as to severity of the leak and the potential and immediate danger involved.

If leaking gas is detected in a building, assess the nature of the problem, the potential danger to life or property and the actions required to bring the situation under control. Under no circumstances should an employee enter a building with audible leaking gas, until backup assistance arrives, and the environment has been tested and determined to be safe for entry. Actions taken will depend on the employee's assessment of the situation. General guidelines for responding to this type of emergency are as follows.

- Do not open any doors until explosion limits have been determined.
- Return to vehicle and reposition upwind, preferably blocking access to the location by others.
- If you need assistance with requesting local emergency/public safety agencies then contact the Team office or your supervisor and request assistance. The Team office or your supervisor should contact public safety agencies and utilities as applicable. Otherwise, contact local emergency/public safety agencies, as you deem necessary.

    - ♦ Describe the condition;
    - ♦ Give the location;
    - ♦ Give the wind direction;
    - ♦ Have them bring a portable combustible gas indicator/detector;

- Evacuate people from adjacent buildings if they are close enough to be injured in an explosion or fire;
- Shut off electrical power to building and eliminate other potential ignition sources;

- Isolate the building from gas sources if possible. Close service line valves on buildings receiving domestic gas service. On measurement buildings, close inlet and outlet block valves and open blowdown valves. As in any suspected or actual emergency, the Control Center Dispatcher and Team Leader should be notified just as soon as notice is received or the condition detected. Corrective actions and valve movement required should be done in consultation with the Pipeline Systems Control Center Dispatcher in all cases except where immediate action is required by the Incident Commander due to a dangerous or hazardous situation.

- After gas sources are shut off, proceed to the building with a portable combustible gas indicator/detector, and check door seams for an explosive mixture. If an explosive mixture is not found, open the door and insert gas detector in building. If the gas concentration is within safe limits, enter and ventilate the building and determine the cause of the detected gas.

- Once the cause of the detected gas has been determined, contact the appropriate personnel to investigate, repair, and return everything to service.

Natural Gas or Natural Gas Liquids Escaping From a Pipeline Facility

Gas or liquids escaping from a pipeline facility must be brought under control as quickly as possible. Leaks, ruptures, overflow of tanks, etc may cause these conditions. Such conditions must be reported to the Dispatcher or the Impacted Area Control Room Operator as well as the Team Leader. The Incident Commander will appraise the situation and direct such corrective action as necessary to bring the conditions under control. Any valve movements will be in consultation with the Control Center or Impacted Area Control Room Operator, in all cases except where immediate action is required by the Incident Commander due to a dangerous or hazardous situation.

Caution should be exercised as flammable vapors may accumulate in enclosed spaces and volatile liquids in mist form may accumulate on clothing or other objects. In either case ignition can cause secondary accidents. Even if there is not fire present, water spray can be useful in mitigating the hazards encountered during rescue and containment.

In the event liquids have migrated beyond dikes or Company Property, and immediate effort must be made to contain, retrieve or otherwise avoid contamination of the adjacent lands or waterways. Some spills may require immediate notification to regulatory agencies whose jurisdiction is involved.

Explosion Near or Directly Involving a Pipeline Facility

General

If an explosion has occurred, particularly where no fire has resulted, be especially alert to the possibility that additional explosions could occur. Keep at a safe distance. Secure the area and restrict access to trained personnel only.

Procedure

Immediately upon the realization of an explosion involving a pipeline facility, the First Responder shall notify the Control Center Dispatcher or Impacted Area Control Room Operator and Team Leader. Once said notifications are made, the Incident Commander shall proceed to the incident scene and evaluate the situation. The action required depends upon whether the explosion actually involved a Company pipeline facility or was near or adjacent to pipeline facilities and the seriousness of the situation. Should there be a serious explosion on a pipeline facility, the Incident Commander will direct work crews as needed to the incident location. Appropriate outside Emergency Response organizations such as fire and ambulance should be dispatched to the location as quickly as possible.

Notifications will be made per the Notification Flowchart in Section 2 of this Core Plan.

The Incident Commander will evaluate the situation and inform the Control Center Dispatcher or Impacted Area Control Room Operator accordingly. Corrective actions and valve movements required should be in consultation with the Dispatcher or Control Room Operator in all cases except where immediate action is deemed necessary by the Incident Commander due to a dangerous or hazardous situation.

Where warranted, the Incident Commander will then cause the isolation of the section of pipeline by way of valves on either side of the explosion and open the proper blow down valves, if required for gas blow down or liquid flaring (this will depend on how close the blow down valves are to the actual site). In the event the explosion was too close to a blow down valve for safe operation, then a blow down valve farther away from the actual explosion would be used. In the event of a fire, following the explosion then in addition, the procedure, Fire Located Near or Directly Involving a Pipeline Facility, should be followed. Local fire and police officials should be contacted as determined by the Incident Commander.

In the event that there is a potential or actual fire spread to areas adjacent to Company Facilities, or people are injured and/or spectators are gathering or evacuation of people is needed, the appropriate local ambulance, hospital, fire and police officials should be immediately notified. Company employees should be assigned, if available, to assist local police and fire officials in evacuating personnel from the area by means of barricades or roping off the area or by other means as directed by the officials.

Fire Located Near or Directly Involving a Pipeline Facility

General

To help ensure public safety, on fires near or involving natural gas or natural gas liquids pipeline facilities, Company personnel will need to continue to practice Unified Decision making and control of the area even though outside fire fighting personnel are en-route or present.

Procedure

Immediately upon the realization of fire near or involving a Company pipeline facility, the First Responder should notify Control Center Dispatcher or the Impacted Area Control Room; and the Team Leader. Once said notifications are made, the Incident Commander shall proceed to the incident scene and evaluate the situation. The seriousness of the fire, whether it be a major or of a minor nature, dictates the actions to be taken. Actions to be taken also depend on whether the fire actually involves our pipeline facilities or is located near or adjacent to Company pipeline facilities. The local fire and police officials should be notified as determined by the Incident Commander. The fire department, police and general public should be instructed to make no attempt to close or open any valves. The operation of Company pipeline facility equipment, including all valves, should be done only by Company personnel or Company authorized contractors.

Notifications will be made per the Notification Flowchart located in Section 2 of this Sate Appendix.

All employees who are appropriately trained are allowed to fight incipient stage fires. An incipient stage fire is a fire that is in the initial or beginning stage and can be controlled or extinguished by portable fire extinguisher, Class II standpipe, or small hose systems without the need for protective clothing or a breathing apparatus.

The Incident Commander will direct work crews to the designated location, as he/she deems necessary. Local fire departments should be dispatched to the location as quickly as possible.

The Incident Commander will evaluate the situation and inform the Control Center Dispatcher or Impacted Area Control Room Operator immediately. Corrective actions and valve movements required should be done in consultation with the Control Center Dispatcher or Impacted Area Control Room in all cases except where immediate action is deemed necessary by the Incident Commander due to a dangerous or hazardous situation. Further action might involve the isolation of the section of pipeline where the fire occurred by closing main line valves on either side of the fire and opening the appropriate blow down valves for gas blow down or liquid flaring (this would depend on how close the blow down valves are to the actual fires). In case the fire is too close to a blow down valve for safe operation, a blow down valve further away from the actual fire should be opened.

In the event that fire spreads to areas adjacent to Company pipeline facilities and/or spectators are gathering or evacuation of people is necessary, then the appropriate fire/rescue and law enforcement officials should be immediately notified. Company employees should be assigned if available to assist law enforcement and fire officials in evacuating personnel around the fire by means of barricade or by roping off the area or by other means as directed by outside emergency response officials. If people are injured, appropriate ambulance, hospital, and other emergency services should be notified.

Fire, General

Outside Assistance

If, in the opinion of the Incident Commander outside assistance is necessary, then outside aid shall be requested. The following procedures shall be adhered to when calling for assistance:

All Clear Call

If the fire has been controlled after a stand-by or call for assistance has been placed, the Incident Commander should contact the fire department and inform them of the controlled situation. The fire department shall be provided with the following information:

- The name of the person reporting the controlled event;
- An assurance that the fire is under control; and
- A repeated request for clarification that the facility is reporting the situation as "all clear".

Employee Consideration

The following considerations must be taken into account by all employees:

- All actions should be defensive in nature and conducted from outside any danger area;
- At no time will any employee place themselves, or allow themselves to be placed, into a life threatening situation;
- Employees are expected to act only in accordance with their training. It is not the Company's intent to place any employee into a hazardous situation when the employee has not been trained to safely respond to the possible hazards present; and
- The safety of employees and the public takes precedence over all other considerations. Protecting a facility from damage or destruction will always be a secondary consideration.

Extinguishing Fires

All employees who are appropriately trained are allowed to fight incipient stage fires. An incipient stage fire is a fire that is in the initial or beginning stage and can be controlled or extinguished by portable fire extinguishers, Class II standpipe, or small hose systems without the need for protective clothing or a breathing apparatus.

To extinguish burning hazardous materials, the proper extinguishing agent must be used. Although straight water streams are effective for extinguishing high flash point liquids such as kerosene and diesel fuel, water is generally ineffective for extinguishing low flash point liquids such as gasoline. Low flash point liquids may be extinguished with foam or dry chemicals.

When selecting the proper extinguishing agent, response personnel must be sure not to mix incompatible agents. For example, foam and water are incompatible. In some situations, water should be shut off prior to using any foam. If foam and water are used at the same time, the fire may not be extinguished. Moreover, the water may wash the foam away.

Another example of incompatible agents is foam and some dry chemical extinguishing agents. These agents are effective only when used separately. If response personnel are required to extinguish water reactive materials, dry powder should be used. Generally, a dry powder agent is shoveled onto the material to extinguish the fire. If an extinguisher containing this agent is used, the responder must be careful not to spread the burning material.

Note: Extreme caution should always be taken when using water for fire control. If water reactive chemicals are present, extreme reactions can occur which can escalate the severity of the incident.

Receiving Outside Aid

The Incident Commander shall direct responding outside aid to the emergency scene.

The Evacuation Designee shall be responsible for logging in the fire department name, type of emergency equipment, and the number and names of persons responding who are directed to the fire scene. The Evacuation Designee will also be responsible for signing out responding equipment and personnel as they leave the emergency site.

Removing Ignition Sources

Remove all potential ignition sources to prevent ignition of flammable (explosive) vapors and gases. Removing all ignition sources is usually a very difficult tactic to accomplish. If responders attempt this tactic, they should start downwind and remove all sources of flame, heat, or spark. To protect themselves, responders should continually monitor the area to determine the flammability hazard present. Also, to ensure that all ignition sources are removed, responders will require additional assistance from public utility personnel from the electric and gas companies.

Removing Oxygen Source /Letting Substance Burn

A second tactic that may be used to extinguish ignited materials is to remove the fuel supply. To decrease the hazard, responders should consider closing valves and plugging leaks, and where appropriate, removing the fuel supply from the danger area. This is an appropriate tactic for flammable liquids or gas. Another tactic that may be used to extinguish ignited materials is the removal of the oxygen supply (i.e., smothering the hazardous material). For certain hazardous materials, a fire may be effectively extinguished by smothering the material with foam, sand, or dirt. Finally, responders may extinguish ignited material by letting the substance burn itself out. For example, for fires involving pesticides or poisonous gases, a tactic is to let the substances burn themselves out, making certain that people are evacuated from the area which may be effected by the “smoke” produced by the fire.

Unauthorized Excavation Near or Exposure of a Buried Pipeline

Any excavation near a Company pipeline facility may pose a serious threat to the facilities. Except for foreign construction being done with our knowledge, permission and authorized representative present, all such activities should be brought to the Team Leaders attention without delay. If such encroachment is approaching a buried pipeline, the excavator should be warned and the location of the pipeline pointed out to him/her. In no case is the excavation allowed to continue within Company rights-of-way without approval from Team Leader. Should such approval be granted, any further excavation must meet Company requirements in order to protect the facilities and a Company representative must be present during the excavation.

In the event of an unexpected exposure or contact with a buried pipeline, all work should cease until the Team Leader or designee can make a thorough examination or the pipeline. Hand digging should be employed to thoroughly expose the suspect area. Scratches, dents and coating damage or pipe should be appraised thoroughly. In cases were the wall thickness has been diminished, the Team Leader will coordinate with Control Center Dispatcher or Impacted Area Control Room Operator a reduction in pressure on that segment of pipeline until an accurate determination of damage can be made. HES should be contacted and given details concerning the damage to the pipeline in order to determine if a “Safety Related Condition” might exist.

Spills

General

The majority of hazardous substance spills encountered by Company facilities are reasonably easy to contain and clean up. Company employees are instructed to accommodate these spills through their operations and maintenance training programs.

Spill Response

In the event of a spill or release, the following notification procedure should be followed:

- Contact the Control Center and Team Leader;
- Follow the Notification Flowchart located in Section 2 of this Core Plan;
- Outside assistance can be obtained, if necessary, by calling contractors listed in this Core Plan;
- For more information on spill prevention, control, and counter measures (SPCC), see Company Environmental Procedures Manual and Site Specific SPCC Plans not contained in this plan.

Confinement and Containment

The normal strategy for handling small spills and releases can be located in the Core Plan.

Responsibilities

Trained employees must identify the types of hazardous substances present and the hazards associated with a spill, and designate the type of response (normal or emergency) that will be used for control of a specific incident and report findings to the Incident Commander.

According to 29 CFR 1910.12 the Incident Commander must assess all hazardous substances and conditions present before taking action.

Containing the Hazard

Stopping the Leak

Often, a leaking hazardous substance may be contained by trained personnel by stopping the leak in a pipeline drum, tank, or other container. This can be accomplished by safely closing valves, plugging openings, or uprighting containers.

When dealing with a pressurized storage tank, trained responders should approach the tank from the sides. Most pressurized tanks have hemispherical heads that are welded to the body, or sides, of the tank. There is a higher probability of a failure in the heads, or ends, of the tank versus the side. Approaching a tank from the sides, however, does not provide a guarantee that response personnel will be protected. Extreme caution should be exercised in these situations.

Constructing a Barrier

Another tactic that may be useful is to confine a substance by the construction of barriers (dams, dikes, or channels) to control run-off and to keep the material from being spread over a larger physical area. If a great deal of dirt or sand is used for constructing a containment dam, dike or channel, responders should consider the problems associated with the disposal of the now contaminated dirt and sand.

Handling Spills

Liquids spilled at a facility can be difficult to handle. In most cases, containment may already be in place. For example, most tanks have a berm around their periphery, if required, for confining major leaks. If a transfer line breaks or an accident occurs in transporting or loading a liquid, there will be no “automatic” containment. On concrete, blacktop, or other hard surfaces, berms can be constructed with dirt, sand, absorbents, or urethane foam packs specifically designed for this purpose. If the spill is on the ground, berms can be constructed by simply mounding the soil itself. In many cases, though, it may be more advantageous to “herd” the liquids by ditches, swales, and berms to an existing low point or construct a catch basin. This allows the material to pool and may make cleanup easier.

Primary Tool Kit For Spills

Often a leak may be controlled by simply tightening fittings such as bungs, caps, pipes or flange bolts. A variety of tools may be necessary to accomplish this. A basic tool kit shall be located in the command post or area office. The tool kit should contain, at a minimum, the following items:

Suggested Primary Tool Kit for Spills

Tool / Material
Brass mall
18” and 36” pipe wrench
Open end wrench set
Box end wrench set
Slip joint pliers (2 pair)
Common pliers
18” or 24” Flat blade screwdriver with plastic handle
Medium weigh ball peen hammer
Pocket knife for carving wooden plugs
8” Vise grip pliers
6” Pry bar or pinch bar
Lock back knife
Portable explosion proof hand light
18” to 36” bolt cutters
Bung wrenches
Diagonal side cutting pliers
Needle nose pliers
Screwdriver set – common
Screwdriver set - cross point
Tin snips
Wire brush with long handle
Hacksaw with quick disconnect for blades
Hacksaw blades
Teflon tape - available in a wide variety of widths and used for wrapping threads on fittings and connections.
Duct tape – used to slow leakage from pipes, fittings, etc. by wrapping tightly around the affected area - also can be used as a gasket with wedges or plugs.
Rubber sheeting (old inner tubes work well) – useful as a gasket material for any type of patch or plug
Assorted sheet metal screws - when backed by flat washers and rubber gaskets, useful for small holes, pinholes and some cracks
Assorted pipe caps – can be used on threaded pipe ends
Bungs – used to secure drums
Assorted automotive clamps - used to secure rubber sheeting over pipe ends, etc.
Assorted threaded pipe plugs – used on internally threaded pipe ends
Flat washers for sheet metal screws

Hazardous Materials (HAZMAT)

Characteristics of Hazardous Materials

The process of size-up involves both identifying the materials involved and evaluating all of their hazardous characteristics. These hazardous characteristics include:

- Toxicity (whether the material is a poison);
- Corrosiveness (whether the material will eat away or gradually destroy another material);
- Radiation hazards (whether the material emits radiation);
- Etiological hazards (whether the material may potentially cause some type of disease in exposed humans);
- Asphyxiating hazards (whether the material may potentially kill or make unconscious humans or animals by replacing or depleting oxygen);
- Flammable hazards (whether the material may ignite and burn);
- Oxidizing capabilities (whether the material may change after combining with oxygen and become more dangerous);
- Reactive hazards (whether the material may interact with other chemicals yielding an undesired change or reaction);
- Instability (whether the material has a lack of resistance to chemical change - may undergo unwanted and dangerous alterations);
- Explosive hazards (whether the material may explode); and
- Cryogenic hazards (whether the material is very cold).

Type, Condition, and Behavior of Containers

During size-up, response personnel should always consider the type, size, condition and possible behavior of any containers used to store or ship hazardous materials. Behavior of the container involves the manner in which a container may rupture, leak or explode.

Drums and bulk containers in the same general area may contain different or incompatible materials. During an incident that does not initially involve container failure, there may be a potential for container failure. For example, during size-up it may be determined that a container may fail because:

- It is under stress from heat or fire; and/or
- It is under stress from mechanical damage; and/or
- It is under stress from chemical reactions.

Cooling Containers

One way to reduce the probability of container failure because it is on fire, or near a fire, is cooling the container. This is done by applying large quantities of water to the container. Generally, a minimum of 500 gallons per minute must be applied at the point of flame impingement. If there are several points of flame impingement, large quantities of water are needed in order to apply 500 gallons per minute at each point of flame impingement. Maintaining an adequate water supply may be difficult in areas that do not have a domestic water supply for fighting fires. In such a case the local fire department will be called for assistance.

If an adequate supply of water is available, heavy streams should be applied to the vapor space (the space in the container above the liquid), as well as the point of flame impingement. When the flames are thick and heavy and the relief value is operating, it is likely that more and more of the product is being released into the environment. As the level of the product in the container goes down, greater vapor space is exposed. This vapor space, a critical area in the tank, is generally the point at which failure of the container will occur. Heavy streams of water must be applied to the vapor space in order to prevent the container from failing.

When a container holding a hazardous product is on fire, or near a fire, responders should also consider whether it may present an undue risk to response personnel manning the cooling streams. If it is determined that the risk is high, unmanned monitors shall be used. The equipment should be set up and then all response personnel shall leave the danger area. If unmanned monitors are used, it may only be necessary to enter the danger area occasionally to check the equipment to ensure that it is operating properly.

Using Stress Barriers

Stress barriers between the fire and containers must be used to prevent container failure. Stress barriers absorb the radiant heat or prevent the container form coming into contact with the flame.

Removing Uninvolved Materials

Another tactic is to remove containers (assuming they are mobile) that have not been affected or are not involved in the fire. This tactic shall be used with extreme caution. For example, in some cases, individual containers, having been exposed to fire, may have stabilizers that are driven away by the heat. In other cases, the chemical in the product itself, once heated, may cause the container to fail. Finally, it may be necessary to cool a container after it is moved. For example, if a hazardous material product remains in a container after it is moved, and the container is moved out of the danger area, but into the sun, pressure inside the container may continue to build up and a catastrophic failure may occur.

Modifying Conditions

During the process of gathering information, response personnel must consider conditions such as the location, time factors and weather. The conditions must be evaluated in order to determine the most effective and appropriate response tactics. Consider complex street patterns, limited access, lack of water, whether the location of an incident is near a waterway and if so, what spill control measures must be used to prevent a release into the body of water.

Time

As much as possible, response personnel must determine what is the probable or expected condition of the incident that will be encountered on their arrival at the scene. If response time is long, response personnel may have to expedite a preliminary size-up of the incident. If the response time is quick, response personnel may have more time to gather information about the incident and plan the response.

Weather Conditions

The temperature on the outside as well as in the inside of a structure containing materials should be considered because the materials involved in the incident may have differing vapor pressures that are affected by temperatures. Also, wind direction and speed may yield information about possible plume location and/or dispersion rate.

Furthermore, if an air inversion occurs, this may cause vapors from materials to be concentrated or held near the ground, thus potentially exposing the public to a hazardous condition. Air inversions may also inhibit dispersion of vapors. Finally, because some chemicals react adversely with water, precipitation can have an effect on response operations.

Resources and Control Measures

The number of individuals available to respond to a hazardous materials incident will affect the time and extent of the response operation. The fatigue of the response personnel and potential replacements must be factored into the number of available individuals for response. The level of training of the response personnel is important. Response personnel should determine the number of individuals that are prepared through proper training to handle a hazardous materials incident.

Note: Hazardous materials guides published by such groups as the Department Of Transportation (DOT) and National Institute of Occupational Safety and Health (NIOSH) yield information about hazardous materials.

Strategy

The concept of incident control includes suppressing the source, instituting appropriate and effective measures to limit the various hazards associated with materials from happening; isolating the materials and hazards to the smallest possible physical area, and removing people from harm's way.

Strategy - Priority Factors

The factors that need to be considered in establishing priorities are:

- Immediate rescue or life-saving activities;
- Protection of affected persons;
- Responders' safety;
- Protection of property;
- Protection of the environment;
- Fire or explosions (or potential for);
- Potential for container failure;
- Availability of necessary resources;
- Need for time; and
- Weather conditions.

Strategy – Prevention and Minimizing

A strategy must be developed to prevent, or if the incident has already occurred, minimize the effects of:

- Explosions;
- Fires;
- Releases of chemicals from their containers;
- Toxic hazards from liquids, solids, vapors, or gases;
- Corrosive and reactive hazards;
- Radiation hazards; and
- Biological hazards.

Strategy - Tactics

In general, the tactics that are employed to prevent or reduce the hazards associated with chemicals are:

- Extinguishing fires and wetting areas;
- Controlled burning or detonation;
- Cooling containers (that heat may cause to explode or ignite);
- Removing materials;
- Plugging, patching, and other methods (containment) to keep materials in their original containers;
- Using dikes, berms, dams, and other techniques to confine spilled materials to the smallest possible physical area; and
- Using various chemical and physical methods, for example, neutralization, absorption, dilution, transfer, dispersion, solidification, and others to minimize hazards.

Rescue

Endangered Persons are those individuals directly involved in the incident who are in immediate jeopardy and who, because of injury, may not be able to leave the area of danger. These people will require rescue.

Note: Only individuals trained in emergency rescue techniques shall conduct emergency rescues.

Affected Persons are those whose health and safety are threatened. They include people adjacent to the incident as well as those that are subject to potential exposure to materials released in the air or surface water. It may be necessary for responders to evacuate those people who may be affected.

If rescue of trapped or injured persons is attempted, responders must be certain that they do not take any undue risks. Responders should always determine and evaluate the risk to themselves before a rescue of a victim is attempted.

After determining that a rescue is appropriate, responders shall be certain that no first aid is given in the danger area. Rather, the rescued victim should be removed from the danger area as quickly as possible. This will ensure that the rescuers and the victim are not subjected further to the hazards associated with hazardous materials.

Tactical Withdrawal

Sometimes, responders may have to withdraw from an area to protect personnel, equipment and vehicles. Withdrawal from a danger area must always be considered a possibility and withdrawal plans should be prepared. Response personnel should never be placed in a situation where they can get trapped. Before entering an area, responders should plan withdrawal routes to ensure a quick and safe exit in case the situation becomes dangerous and requires withdrawal.

Bomb Threats

(b) (7)(F), (b) (3)

[redacted]

Bomb Search

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[redacted]

(b) (7)(F), (b) (3)

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(b) (7)(F), (b) (3)

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(b) (7)(F), (b) (3)

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Severe Weather Plan

Purpose

This Severe Weather Plan provides a coordinated, teamwork-based program intended to reduce the potential for personnel injury, damage to Company facilities and/or curtailment of production due to severe weather.

Since weather conditions are unpredictable, this plan cannot provide for all possible events. It is therefore, the intent of this plan to deal with threatening severe weather conditions. The Team Leader will be responsibility for implementing the applicable parts of this plan as needed.

Scope

For purposes of this plan “Severe Weather" is defined as:

- Hurricanes;
- Sub-freezing temperature;
- High winds, severe thunderstorms, lightning or tornadoes; and
- Flooding (from other than hurricane-related rainfall or tides).

Hurricanes

For specific information on hurricanes, please see Natural Disaster-Hurricane Preparedness Plan under the Incident Response Section contained in this Plan.

Freezing Temperatures

A hard freeze is defined as the condition existing when temperatures remain below freezing for a period of six (6) hours or more. If the possibilities of a hard freeze is predicted, preventive measures must be taken to prevent damage to piping and equipment.

All lines subject to freezing must be protected. The cost of repair of even small water lines due to freeze damage can be a major expense, both in terms of direct maintenance costs and production loss. Freeze damage, especially to smaller water lines, is virtually always preventable.

When freezing conditions threaten, the area around any dripping water line (whether the drip is intentional or not) must be properly barricaded and marked as a hazardous area. The puddle formed by the drip will freeze and make the area too slick for the safe passage of personnel or vehicles.

High Winds, Severe Thunderstorms, Lightning, and Tornadoes

This category of severe weather usually occurs on short notice and organized preparation is not usually possible. To the extent that preparation is possible, the applicable checklist items in mentioned Hurricane Preparedness Plan can be used as a guide.

If sustained high winds are predicted, then as a minimum, a general clean up of the facility should be ordered with special attention given to removing or securing loose items, trash, construction materials, and small equipment which could be damaged or become airborne. Winds above 40 mph can make dangerous projectiles out of otherwise harmless materials such as boards, buckets, cans, bottles, and even small stones.

Loose sheet metal in a high wind is especially dangerous to personnel and to electrical equipment. Flying sheet metal coming in contact with power lines or substation equipment can cause a power outage with serious consequences to facility operations.

Flooding

Flooding from non-hurricane related causes usually happen with little advance warning. In the event such flooding is predicted, the applicable parts of the checklists in the mentioned Hurricane Preparedness Plan should be used as a guide in Flood Preparation Actions. Since advance warning may be limited to only a few hours, each individual with severe weather responsibilities should quickly prioritize the actions to be taken and ensure that the most critical of those actions are carried out first.

If a facility curtailment or shutdown is ordered and sufficient time is available before arrival of the flood, then the Site Specific Shut Down Procedures will be followed. If sufficient time is not available for a planned shutdown, then facility personnel will follow instructions from management and secure the equipment for which they are responsible in the best manner possible.

Severe Weather Checklist

The following checklist should be reviewed during the approach of severe weather:

- Conduct severe weather planning meetings;
- Initiate a severe weather alert to all functional teams;
- Call alert meetings and issue instructions;
- Review weather information from Weather Service and make decisions to formulate action plan;
- Review plan with Supervisors;
- Conduct facility inspection to identify and correct potential hazards;
- Provide support for operations on securing and tying down of all necessary equipment;
- Ensure all trash bins are empty and removed from facility if not needed;

- Ensure all portable buildings and trailers are secured;
- Review electrical department procedures and make appropriate recommendations;
- De-energize all electrical equipment including switch gear, transformers, and motors that are in danger of flooding;
- Maintain liaison with contractors to ensure compliance with company procedures;
- Fill fuel tanks on equipment, including all vehicles;
- Locate supplies needed upon request from operations and maintenance;
- Ensure land line telephones, mobile telephones, pagers and two-way radio systems are operating properly;
- Coordinate repairs to defective radio equipment as needed;
- Coordinate installation of temporary phone lines;
- Provide environmental coordination with outside agencies;
- Establish and maintain communication with Emergency Operations Center;
- Coordinate meetings to assemble up-to-date information;
- Release all non-essential personnel from facility site;
- Review facility-wide shutdown plan;
- Review employee work schedule to ensure adequate coverage;
- Review procedures for loss of electrical power, pipeline, and/or marine movements;
- Ensure that all tanks and vessels are filled to normal operating levels;
- Coordinate operations activities to ensure minimal risk to employees and facility equipment; and
- Coordinate orderly shutdowns, clearing equipment, and securing process equipment, as needed.

Natural Disaster – General

In the event of a natural disaster affecting the operation of our facilities, Company employees should be prepared to provide for a prompt and effective response. The type and extent of the response required, depends upon the type of disaster involved and how our facilities are affected.

A natural disaster in our area could consist of the following: hurricane, earthquake, tornado, severe electrical or hailstorm, flood, wind combinations of one or more of these and others. Any of these disasters may or may not cause damage to our facilities or seriously interfere with our operations.

Possible company responses or actions required would be covered by one or more written procedures contained in this Emergency Operating Plan and Procedures, such as: rupture or line break, fire, explosion or leak. Therefore, references should be made to the appropriate section covering the situation.

For specific procedures covering each of the above said natural disaster please see the specific natural disaster procedures immediately following this Natural Disaster- General procedure.

Natural Disaster – Hurricane Procedure

Hurricane Emergency Procedure

This procedure is intended to cover the preparation and "weathering" of a hurricane without out-of-the-ordinary emergency conditions for a hurricane. If conditions during the storm develop that present hazards other than weather hazards to personnel, the Incident Command System (ICS) and appropriate emergency procedures will be utilized.

The National Weather Service (NWS) and NOAA are the official sources of hurricane weather information for the site. The following warning system is broadcast by the NWS on NOAA radio:

Hurricane Watch

A hurricane watch is issued for a coastal area when there is a threat of hurricane conditions within 24-36 hours.

Hurricane Warning

A hurricane warning is issued when hurricane conditions are expected in a specified coastal area in 24 hours or less. Hurricane conditions include winds of 74 miles per hour (64 knots) and/or dangerously high tides and waves. Actions for protection of life and property should begin immediately when the warning is issued.

Hurricane Categories

- **Category One: 74-95 mph**. Primary damage to shrubbery, signs, and unanchored mobile homes. Tide level is 4 to 5 feet above normal.

- **Category Two: 96-110 mph**. Major damage to poorly structured signs and exposed mobile homes; some damage to roofs, windows, and doors. Tide level is 6 to 8 feet above normal and 2 to 4 hours before hurricane arrival. Immediate evacuation of shoreline homes and low-lying flood prone areas.

- **Category Three: 111-130 mph**. Large trees downed, serious roof, window and door damage. Tide level is 9 to 12 feet above normal. Serious flooding along the coast. Evacuation of low-lying residences within several blocks of the shoreline may be required.

- **Category Four: 131-155 mph**. Extensive roof damage on small homes, destruction of mobile homes, some wall damage. Tide level is 13 to 18 feet above normal. Terrain lower than 10 feet may be flooded inland as far as six miles.

- **Category Five: Over 155 mph**. Considerable roof and structure damage. Some complete building failure. Tide level greater than 18 feet above normal. Major damage to all structures less than 15 feet above sea level within 500 yards of shore. Massive evacuation of residential areas within 5 to 10 miles of the shore may be required.

Hurricane Preparation Stages

Stage One - Ongoing Preparations

The hurricane season extends from June 1 through November 30. On June 1 of each calendar year, or the first workday thereafter, the Team Leader will convene a meeting of appropriate personnel to initiate hurricane season preparations. At this meeting, the following steps should be initiated by the Team Leader.

- The Emergency Response Team Members shall inspect guy wires and portable building ties downs and assess the need for additional securing.

- The Emergency Response Team Members shall check facility drainage system for good drainage, and check all sheet metal insulation covering and building roofs.

- The Team Leader will review, revise if necessary, and issue detailed checklists for the shutdown and securing of the Company facilities (including material handling areas) in preparation for weathering any hurricane.

Stage Two (2)

Stage two (2) goes into effect as soon as a hurricane watch is issued by the NWS radio. The major items for preparation should have been completed in stage one (1). The following steps will be taken immediately:

- The Team Leader will cause a facility-wide inspection listing conditions that must be corrected and monitor weather reports and keep his/her supervisor informed of any change in hurricane status.

- The Team Leader will remind all employees to prepare their family and homes for possible hurricane conditions and will hold a team meeting to establish the emergency team and discuss procedures in the event of stage three (3).

- The Team Leader will make arrangements with a local motel to reserve rooms for the families of the hurricane Emergency Response Team and will notify his/her supervisor as soon as arrangements are complete.

Stage Three (3)

Stage three (3) will begin after a hurricane warning is issued for the area by NWS. The timing of the steps below will depend to some degree on the storm's position, direction, speed, and probability of affecting the coast.

The Team Leader will release the Emergency Response Team volunteers on an as-needed basis to take care of responsibilities outside the facility. This decision is strictly at the Team Leaders discretion; however, the goal should be to have the Emergency Response Team in place twelve (12) hours before hurricane force winds (74 miles per hour) are expected at the facility.

This action will allow the release of non-essential personnel in advance of development of hazardous conditions in the area. A careful staffing of the hurricane Emergency Response Team with personnel who can operate or shut down the facility will allow the delaying of the decision to shut down, should the storm change directions at the last minute, or just come close.

Stage Four (4)

Stage four (4) will begin four (4) to six (6) hours before hurricane force winds are expected to reach the facility.

The Incident Commander will coordinate an orderly shutdown of the Pipeline facilities (see stage one, above) and notify his/her supervisor or representative, of the shutdown.

Storm Effects - Hurricanes have four damaging effects: tides, heavy rains, high winds, and tornadoes. Approximately 90% of the damage and injury result from flooding. Persons in facilities in locations subject to flooding should seek shelter elsewhere before the storm. There should be no travel during the storm due to the danger of flying debris, falling trees, and power lines.

Storm Surge - In most hurricanes, “storm surge” caused most loss of life and property damage. Storm surge is different than regular tides. Together, regular tides and storm surge form the “hurricane tide”.

Storm surge development takes place over deep water, where the drop in barometric pressures in the storm center causes the sea to bulge. A second action develops as hurricane winds sweep across the sea surface. This causes a swirling movement of the surface water that gradually goes down to a depth of about 300 feet.

The maximum swirl moves to the right of the hurricane’s eye (track) where wind speeds are highest. There is no change in sea level due to the swirling motion so long as he water remains deeper than 300 feet.

As the hurricane approaches land, the swirling water mass scrapes bottom, tries to spread in all directions, and begins to pile up. Peak surge heights are seen at the shoreline about the time the hurricane center reaches land.

The maximum water swirl occurs 10-20 miles to the right of the storm track, near the point of maximum wind speeds. Thus, the greatest danger from both winds and surge usually is about 15 miles right of that track.

The surge may lift the ocean 15 feet or more at the coastline. Carla in 1961, produced a 21 foot surge at Matogorda Bay. Camille, which hit Mississippi in 1969, caused a 25 foot surge, the highest ever recorded in the Western Hemisphere.

Among the storms' worst killers and destroyers of property. Tornadoes always pose a threat in the hurricane area. The greatest outbreak of tornadoes on record was associated with Hurricane Beulah when 115 tornadoes were spawned during a five-day period. Sixty-seven of these occurred on one day, setting a national record.

Stage Five (5)

Stage five (5) will begin as soon as storm conditions have subsided.

The Emergency Response Team is to survey the facility to assess the damage, availability of utilities (water, electricity, etc.), and the needs for facility re-start as soon as possible. The post storm assessment survey team should take the following precautions:

- Do not touch or go near fallen utility lines;
- Make sure to see where you are walking. If it's dark stay inside; or if water remains, take no chances wading unless absolutely necessary;
- Drive with extreme caution especially where roads are still under water;
- Poisonous snakes or insects are always a threat in this area during the post-storm clean-up; and
- Guard against spoiled food, contaminated water and fires.

All personnel are to contact the facility (by phone or in person) as soon as possible and advise their availability for returning to work. A list is to be maintained by and for the Incident Commander.

The Incident Commander is to organize a relief for the emergency team as soon as possible so they can take care of out-of-facility responsibilities.

During severe thunderstorm warnings monitor local radio stations for tornado warnings. Follow all National Weather Service instructions. If flooding occurs follow the above procedures.

Natural Disaster – Tornado Procedure

General

Certain weather conditions are conducive to the formation of tornadoes. When such weather conditions exist, personnel should be alert and on the lookout for an actual occurrence.

Procedure

When weather conditions are such that a tornado could be formed, alert personnel to the fact and:

- Have personnel with conventional radios tune them to monitor weather information. On weather alerts:
    - ♦ Tornado watch means atmospheric conditions are favorable.
    - ♦ Tornado warning means a tornado has been sighted.
- During extreme weather conditions, or if a warning affecting your location is issued, assign an observer to watch storm conditions for a possible tornado.

If a tornado is sighted, notify all affected personnel. Take the following actions as time allows. Remember to protect life first.

- Notify the Control Center if it becomes necessary to seek shelter. Advise them that the location will probably be out of radio communication.
- Extinguish all unnecessary fires and lights.
- Switch over to auxiliary power.
- Do not trip the ESD system. It will function automatically if a fault occurs. Leave facilities in operation and seek shelter.

Personnel in a vehicle when a tornado approaches should:

- Drive at right angles, away from the tornado if possible.
- If the tornado cannot be avoided, seek shelter in a ditch or other low-lying area if below ground shelter is not available.
- Avoid locations under electric power lines.

After the storm has passed and if damage has occurred:

- Survey damage.
- Trip ESD shutdowns, if necessary.
- Isolate those portions of facilities that have been damaged.

Notify the Control Center that the storm has passed. Tell them the amount of damage that has occurred. Proceed with any repairs or other actions that are required.

Civil Disturbance

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COMPANY ASSISTANCE – REGION/DIVISION LEVEL

Pipeline Systems Control Center

Notifications

Follow the Notification Flowchart located in Section 2 of this Core Plan and contact the Pipeline Systems Control Center for all incidents meeting any one of the criteria as defined below:

- A release of flammable, toxic, or corrosive gas or liquid that causes death or injury requiring in-patient hospitalization
- Any incident that may result in regulatory or media attention, even though no release of gas or liquid occurred
- Any incident that requires reporting to an outside agency
- Any event that causes an intentional but unplanned shutdown of a pipeline facility
- A pipeline rupture that requires isolation and blowdown of gas pipeline facility or flaring of a liquids pipeline facility.

The Control Center will then promptly notify customers that may be impacted.

Pipeline Systems Control Center Responsibilities

The duties of the Pipeline Systems Control Center are to:

- Receive telephone calls on incidents. Immediately after receiving an outside party call, follow the Notification Flowchart located in Section 2 of this Sate Appendix.
- Notify all customers that may be impacted in the event of service disruption. Reference Emergency Shut-In Contact Roster contained in the Site Specific Sections of this Plan.

COMPANY ASSISTANCE – DIVISION LEVEL

Records

Company will maintain the official files on all incidents occurring on or impacting Company Facilities that are reported to outside regulatory agencies. Each file will be kept at least five years from the date of the incident. Legal department will be contacted prior to destroying a file.

COMPANY ASSISTANCE - CORPORATE

Follow the Notification Flowchart in Section 2 of this Core Plan.

OUTSIDE ASSISTANCE

Medical

It is up to the Team Leader in consultation with HES to determine non-emergency medical assistance needs.

Medical Surveillance Program

Under Federal requirements, those persons who are members of a hazardous materials emergency response team or who are hazardous materials specialists are required to participate in medical surveillance program. The federal definition for employees who are members of hazardous material response teams is as follows:

> "An organized group of employees, designated by the employer, who are expected to perform work to handle and control actual leaks or spills of hazardous substances requiring possible close approach the substance. The team members perform responses to releases or potential release of hazardous substances for the purpose of control or stabilization of the incident."

The above definition covers, for the most part, the duties of the majority of the Emergency Response Team members who are part of a designated hazardous materials Emergency Response Team. In addition, the Company will make medical examination or consultations available to all employees who may have been exposed in an emergency situation to hazardous substances and/or who exhibit signs and symptoms from such exposure. These exposure occur at concentrations above the Permissible Exposure Limits (PEL)

- Medical examinations are to be scheduled before members are assigned to a hazardous material team or any Emergency Response Team.
- For those personnel currently members of a hazardous materials Emergency Response Team, examinations are to be scheduled at least once every twelve months.
- Examination are to be scheduled at the termination or reassignment of a team member to a position or classification where that employee will not be covered by the annual medical examination requirement, if that employee has not had an examination within the last six months.
- Examination are to be scheduled as soon as possible, upon notification by an employee (whether or not that employee is a member of the hazardous materials Emergency Response Team) that signs or symptoms indicating possible overexposure to hazardous substances or health hazards have developed, or that an employee has been injured in an emergency.
- Examination are to be scheduled at more frequent intervals, if the examining physician determines that an increased frequency of examination is medically necessary.

There is no standard medical examination suitable for all hazardous materials response team personnel. Under Federal requirements, the examining physician is to make the determinations as to the content and requirements of the medical examination. To assist the physician in making the proper determinations as to the content of the examination, the Facility is to provide the following documents to the examining physician:

- A copy of OSHA Standard 1910.120 and its appendices.
- A description of the employee's duties as they relate to chemical exposure.
- The employee's exposure levels or anticipated exposure levels.
- Information from previous medical examinations that the examining physician may not have readily available.

Note: OSHA also recommends that a copy of Chapter 5 from Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, which deals with the establishment of a medical surveillance program, be supplied to the physician. This publication is available through the National Institute for Occupational Safety and Health (NIOSH).

The physician, upon reviewing the information provided, will then develop a comprehensive medical examination for the type of activities for which the hazardous material Emergency Response Team will be responsible and the types of chemical that may be encountered. It is very important that hazardous materials Emergency Response Teams keep detailed records dealing with chemical exposure of their personnel

This information should be supplied to the examining physician at each employee's physical examination. Addition tests may be necessary based on the chemical exposure history of the employees.

Employee exposure reports are to be maintained for at least thirty (30) years, and are to be kept as part of the employee's medical records described below.

After the physician has examined the employee and reviewed the necessary test data, the following will then be proved to the Company Facility.

- Results of the medical examination and tests.
- The physician's opinion as to whether the employee has any detected medical conditions that would place him/her at an increased risk.
- The physician's recommended limitations upon the employee's work assignment (if any).
- A statement that the employee has been informed, by the physician, of the results or the medical examinations and any medical conditions requiring further examination or treatment.
- The written opinion given to the facility representative shall not reveal specific findings or diagnoses not related to occupational exposures.

A copy of the above written statements will be provided to the employees at the Company Facility.

Records of the results of the employee's medical information are to be retained according to established regulations. These records shall include at least the following information

- The name and social security number of the employee
- Physician's written opinions, recommended limitations and results of examinations and tests.
- Any employee medical complaints related to exposure to hazardous materials or substances.
- A copy of the information proved to the physician, which the physician used in determining the requirements of the physical, with the exception of the Federal standard and appendices.

Local Emergency Planning Committee

General

The Superfund Amendments and Reauthorization Act of 1986 requires that states established State Emergency Response Commissions (SERC) and communities establish Local Emergency Planning Committee (LEPC). Industrial facilities are required to assist the LEPC in establishing emergency plans to deal with chemical emergencies. In addition, industrial facilities are required to report certain incidents or release to the LEPC and SERC immediately by phone (within 15 minutes) or radio with a written follow-up report.

Incidents to be Reported

- Any material in the Facility which appears on the EPA extremely hazardous substance list or on the EPA CERCLA list which is released and crosses the fence or property line in an amount equal to or greater than the reportable quantity (RQ) must be reported. Substance found in the Company Natural Gas Facilities which meet this criteria include:
- Visible smoke which lasts more than five minutes.
- Any unusual odor on site that might extend beyond facility boundaries.
- Any unusual noise which might be heard beyond facility boundaries (or anything that might attract the attention of the community).
- A rash of calls from concerned citizens or the news media.

Note: For further information regarding these substances see Notification Procedure Section of this Core Plan.

Level One (1)

There is no community impact, but possible community awareness. This alert is for informational purposes only. The incident is internal to the facility, but heard, seen or smelled outside the facility. There is smoke, fumes or leaks inside the facility but with no impact outside the facility. No assistance from outside the facility is required.

Level Two (2)

This is a standby alert. There is possible community impact as well as community awareness. An incident is in progress in the facility that can most likely be handled within the boundaries of the facility. However, outside areas could be affected and assistance from community personnel might be required. Community emergency response systems are asked to assume a standby position and wait for further information.

Level Three (3)

This is a full emergency condition. There is definite community impact and action is required. The incident will not be contained within facility boundaries. Outside assistance will be required and evacuation or indoor protection may be advised. Communities are asked to activate their emergency response systems.

All Clear – Indicates this is the end of an incident; it is safe to return home or go outside. The situation has returned to normal.

Local Emergency Planning Committee (LEPC) Call Procedure

In the event of an incident that falls into one of the categories described above, the LEPC must be notified within 15 minutes!

Note: See specific Local Emergency Planning Committee phone numbers listed in each Site-Specific Section of this Plan.

Call the number listed under the appropriate Parish Emergency Notification Roster contained in the Site Specific Sections of this Plan.

In all incident levels immediate notification must be made by HES Specialist or their Designee. DO NOT WAIT until all information is available. Make the initial call as soon possible and make follow-up calls to provide additional information and keep LEPC informed. Be prepared to provide the following information:

- Your name.
- The name of your company.
- Level of the incident: one (1), two (2) or three (3).
- Nature of the incident.
- Name of the chemicals released (if appropriate).
- Approximate quantity released (if appropriate).
- Wind direction (if appropriate)
- Precautions to be taken such as evacuation or sheltering in place
- Location of advisable evacuations (if appropriate).
- Location of advisable road blocks (if appropriate).

The LEPC requires that the facility be prepared to send a representative to the Emergency Operations Center for any emergency that affects the area.

After an “all clear”, the LEPC must be notified.

Law Enforcement

Law enforcement must be called during emergencies. During certain emergencies law enforcement must be contacted within the first fifteen (15) minutes to allow for notification and protection of the community.

Note: For further information on law enforcement bomb squads see incident response for bomb threats under the Incident Response Section contained in the General Section of this Plan.

RESTORATION OF SERVICE

Isolation, Repair, Restoration

General

Service will be restored as quickly as practical following isolation, control and repair of any emergency situation that interrupts service. When the need for control tactics has passed, there remains the task of termination for all parties. Termination includes the return of evacuees, removal of debris and maintenance of traffic. Company personnel with aid of contractors will attend to repairs of the pipeline facility and restoration of service.

Procedure

General procedures for responding to any service outage are as follows:

Contact the Control Center and the local Emergency Operations Center (primary) as soon as possible with the following information:

- A description of the situation;
- The location of the service outage and your relative location;
- An assessment of whether Company Personnel can handle the situation; and
- A request for type of assistance is needed.

Assign or call out the required personnel to complete any required repairs.

Follow the Notification Flowchart, as applicable, located in Section 2 of this Core Plan.

Emergency procedures to accomplish repair will be formulated as dictated by the situation but should approximate the following outline:

- Isolation of the affected pipeline facility by valving;
- Shut-in of all supply sources connected to the section;
- Extinguishing of any fire involved;
- Final depressurizing of the section;
- Repair (according to Company specification and procedure); and
- Repressurizing and equalization of the affected section with adjacent sections after proper purging.

Notify any affected customers and/or interconnected companies of service interruption. See Emergency Shut-In Contact Roster contained in Site Specific Sections of this Plan and coordinate any joint service restoration efforts with them.

Where service is provided directly to an end user (e.g., an industrial plant). Notify the affected customer and give them the following information:

- Why the service has been interrupted;
- Their service shall be restored as soon as possible;
- That if the outage is going persist they will be notified; and
- They will be notified when service is to be restored.

After necessary repairs have been completed and Company Facilities are back in service, restore service to all customers. All repair actions shall be in compliance with Company Operating Procedures and the General Engineering Standards. Restoration of service to interrupted customer will be coordinated with a responsible person(s) representing the customer should be in agreement with the procedure used to restore service.

Many restorations will require reference to but are not necessarily limited to the following Company operating and other procedures:

- Examination of Buried Pipelines;
- Repair Procedures;
- Operating Pressures - Limit Criteria; and
- Pipeline Defects and Repairs General Requirements.

In situations where service cannot be restored in a reasonable amount of time, consider the following alternatives:

- Supply the customers with volume bottles;
- Switch small numbers of users to alternate fuels such as propane; or
- Arrange for shelters or other temporary housing.

POST INCIDENT

Clean Up and Disposal

General

Clean-up operations can be either emergency response or post emergency operations depending on the personnel conducting the clean up. There are two possible groups that can conduct clean-up operations, Company employees and outside assistance contract personnel. All equipment to be used in the performance of clean-up work will be in serviceable condition and will have been inspected prior to use.

Company Personnel

If the clean up is done using Company employees who initially responded to the emergency, then the emergency response training requirements are still in effect. Once the clean ups phase begins, the Incident Commander will ensure that clean-up personnel responding during the Post Emergency Phase comply with 29 CFR 1910.120 paragraph (b) through (o).

Contract Personnel

If contract personnel from outside the Company facility are brought in to complete the cleanup of the facility, the contractor clean up is considered to be post emergency operations. The Incident Commander will ensure that the clean-up personnel comply with 29 CRF 1910.120 paragraph (b) through (o). An alternative would be a generic plan that addresses the appropriate elements listed in 29 CFR 1910.120 (b) through (o). It is possible that some of these elements would not be necessary at a particular site and others would have limited applicability. This determination should be made by Unified Command if State and Federal Agencies are on the scene. These elements include:

- Safety and health program;
- Site characterization and analysis;
- Site control;
- Training;
- Medical surveillance;
- Engineering controls, work practices, and personal protective equipment for employee protection;
- Monitoring;
- Informational programs;
- Handling drums and containers;
- Decontamination;
- Emergency response by employees at uncontrolled hazardous waste sites;
- Illumination;
- Sanitation at temporary work places; and
- New technology programs.

All Clear Designation

For the purposes of this Plan, post response procedures are activities that follow the approval of the all-clear signal by the Incident Commander. If Local, State and Federal Agencies are on the scene and are participating in the response, this determination should be made in a Unified manner. The Site Safety Officer should also be consulted regarding this determination. There is a clear distinction between emergency operations and post response procedures. While the Emergency Response Team controls the site or a safety/health hazard exists, the emergency situation continues to be in effect. When the Emergency Response Team declares the response activity complete and leaves the site, any remaining activities, such as clean-up, are considered to be post emergency response procedures.

The Incident Commander will designate the site all clear only after the following:

- Ensuring that the safety/health hazard no longer poses a threat to Company or contract employees;
- Consulting with the Site Safety Officer regarding the all clear;
- Site security is maintained until clean-up operations are complete;
- Appropriate Controlled Response Procedures have been followed by all personnel;
- The appropriate Company management officials have been notified;
- The proper government agencies have been notified; and
- Termination procedures are in place and being followed.

Critique and Follow Up

Purpose

A review of an emergency response (critique) will allow involved parties to check the effectiveness of their response capabilities and the Emergency Response Plan as a whole. The ultimate goal of such an exercise is to review each aspect of the response, evaluate response actions, and to revise the existing plan where necessary. As many personnel as possible who served in key roles during the response and cleanup should take part in the critique.

Procedure

A Plus/Delta critique shall take place as soon as possible after the incident.

The Incident Commander should facilitate the Plus/Delta critique and all Lessons Learned should be recorded and acted upon appropriately.

A written record of the Plus/Delta critique and Lessons Learned may become part of the Incident Documentation.

Investigation

Purpose

The Company Incident Investigation Procedure is intended to provide consistent and formal accident and incident reporting and investigating procedure for use by all operational entities within the Company. These procedures are intended to help prevent loss of life, injuries, property and environmental damage and other losses as well as provide a safer workplace for Company employees and contractors

Follow internal Company Incident Investigation Procedures that are separate from this Plan. Contact HES directly for assistance as necessary.

FORMS AND CHECKLISTS

Emergency Log

TEXACO NATURAL GAS - NORTH AMERICA

COMPANY: _____

TNG-NA FORM EOP001

SYSTEM: _____

Sheet _____ of _____

E M E R G E N C Y L O G

INCIDENT
AND LOCATION: _____

DATE	TIME	PERSON CONTACTED	ACTION TAKEN OR REMARKS	SIGNATURE

Pipeline Information Report

COMPANY NATURAL GAS - NORTH

COMPANY: _____ TNG-NA FORM EOP003

SYSTEM: _____

PIPELINE INFORMATION REPORT

Received By: _____ **Time:** _____ AM/PM

Date: _____

Reported By: **Name:** _____ **Telephone:** _____

Address: _____ **Employed By:** _____

Type Of Event: Encroachment On Right of Way _____

Other (New Structure, Construction Activity, Etc. _____

When Observed- Date: _____ **Time:** _____

Location: _____

Description of Reported Condition or Event: _____

NOTE: IF DRAWING NEEDS TO BE MADE, USE BACK SIDE OF THIS SHEET.

Investigation of Report: _____

Signed: _____ **Date:** _____

Disposition: _____

Signed: _____ **Date:** _____

Leak Log and Classification Sheet

COMPANY NATURAL GAS - NORTH
LEAK LOG AND CLASSIFICATION SHEET

TNG-NA FORM EOP004

COMPANY: _____

SYSTEM: _____

Page No. _____

LEAK CLASS	LOCATION AND DESCRIPTION OF LEAK	DATE FOUND	REVIEW DATE(S)	DATE FIXED

Buried Pipeline Inspection Report

COMPANY NATURAL GAS - NORTH

TNG-NA FORM EOP005

COMPANY: _____

SYSTEM: _____

BURIED PIPE INSPECTION REPORT

Location _____ Date _____

Line No. _____ Parish / County _____

Landowner Name _____

Address _____ City _____ State _____ Zip _____

Reason for Excavation _____

Pipe Size _____ Depth _____ Length Exposed _____ Type Coating _____

Condition of Coating _____ Site Pipe-Soil Potential _____

Scale or Moisture Under Coating _____ Is Coating Bonded to Pipe ? _____

Visible Damage _____

Evidence of Corrosion on Pipe (Describe Fully) _____

Depth of Pit _____ Approximate Number of Pits _____

Length of Contiguous Corroded Area _____

Distance to Nearest Foreign Line Crossing _____ Name of Company _____

Nature of Repairs _____

Type of Recoating Material Used _____

Attach Photographs of Exposed Pipe Before and After Repairs are Made, If Possible

Remarks _____

Prepared By: _____ **Date:** _____

Reviewed By: _____ **Date:** _____

Emergency Occurrences and/or Upset Notification

I. Company Name _____
Physical Location _____
St. or P.O. Box _____
Telephone Number _____

II. Date and time of verbal notification _____
DEQ official contacted _____
Company official who made the call _____

III. Emission point source(s) involved? (including the process unit and EIQ numbers, if applicable) _____

IV. Applicable permit # and the current permitted limit (lbs./hr) for the pollutant(s) released from the emission point source involved? _____
_____

V. Which applicable Air Quality regulation limits were exceeded? (so limit, Mass Emission limit, opacity limit, etc) _____

VI. Give the **date** and **time** the release began and duration of release. _____
_____

VII. Which specific pollutants were emitted and how much of each compound was released? [total amount of each compound expressed in pounds (**attach emission calculations**)]
_____
_____
_____

VIII. Upset description, cause, and what off-site impact resulted? _____
_____
_____
_____
_____

IX. Was the release preventable? Yes / No (circle one).
If no, explain why the release was not preventable: _____
_____
_____
_____

X. What other agencies were notified? _____
_____

Emergency Occurrences and/or Upset Notification – Continued

XI. Immediate corrective action taken? _____

XII. Specific remedial action taken and / or planned to prevent recurrence? (Include timetable for completion of project, if applicable) _____

XIII. Regulation notification requirement(s)? (check appropriate)

_____

_____

_____

XIV. **Company Official:**

Signature: _____

Title: _____

Date: _____

Incident Report

COMPANY NATUAL GAS - NORTH AMERICA

TNG-NA FORM EOP008

COMPANY: _____

SYSTEM: _____

INCIDENT REPORT

[ ] Test Failure [ ] Damage [ ] Preliminary
[ ] Leak [ ] Other [ ] Final

Incident No _____ Line Number/Name _____
Date Suspect _____ Date Confirmed _____ Date Repaired _____
District No _____ Mile Number _____ Rechain Station _____
City, State _____ County/Parish _____ Texas:Block _____ Survey _____
Sec Twp _____ Rnge _____ Time of Incident _____ AM / PM

Estimated Pressure at Point and Time of Incident (PSIG) _____ Maximum Allowable Operating Pressure (PSIG) _____ Elapsed Time Until Area Was Made Safe _____
Nature and Size of Incident

Cause of Incident _____

Incident Data

1 System: _____
[ ] Transmission System [ ] Gathering System
[ ] Transmission Line of Distribution System

2 Occurred on:
[ ] Body of Pipe [ ] Fitting, _____
[ ] Mechanical Joing [ ] Other, _____
[ ] Valve [ ] Weld, _____

3 Nominal Pipe Size (In): _____
4 Wall Thickness (In): _____
5 Specification: _____ SMYS:
6 Seam Type: _____
7 Valve Type: _____
8 Manufactured by: _____ Year _____

9 Material Involved
[ ] Steel [ ] Other, _____

10 Part of System Involved in Incident
a Part
[ ] Pipeline [ ] Regulator / Meter Sta
[ ] Compr Sta [ ] Other, _____

b Year Installed _____

11 Area of Incident
[ ] Under Pavement [ ] Above Ground
[ ] Under Ground [ ] Under Water
[ ] Other, _____

12 Class Location: [ ] 1 [ ] 2 [ ] 3 [ ] 4

Repair Data
Repair Type: [ ] Pipe Replacement [ ] Pressure Vessel Sleeve [ ] Other: _____
Details of Repair:

Pipe Replacement or Sleeve Location: Beg Sta # _____ End Sta # _____ Specification: _____
Manufacturer: _____ Test Rpt No _____ P O # _____

Cost Data			Office	Field
Gas Lost (Also Report on GS-95):	_____ MCF	_____	$ _____	xxxxx
R/W Damages (Estimate - Actual):	(total)	(rate)	xxxxx	$ _____
Field Hourly Labor:			xxxxx	$ _____
Supervision (Name - Classification - Hours)	_____			
_____			$ _____	xxxxx
Material Used: _____				
_____			$ _____	xxxxx

Include Reference - Stock Nos , Purchase Order Nos , Etc

Equipment Cost (Company and Rental): xxxxx $ _____
Other (Contractors, Etc): _____ xxxxx $ _____
TOTAL: $ $ _____

(Prepared by) (Date) (Signed by) Supervisor (Date)

Safety Related Condition Report

COMPANY NATURAL GAS - NORTH AMERICA TNG-NA FORM EOP009

COMPANY: _____

SYSTEM: _____

SAFETY RELATED CONDITION REPORT

Company _____ Date of Report _____

Address _____

City _____ State _____ Zip _____

Person Filing Report _____ Title _____

Address _____ Tel No. _____

Name of Informant _____

Address _____ Tel No. _____

Supervisor Determining Condition Exists _____ Title _____

Address _____ Tel No. _____

Date Condition Discovered _____ Date Condition Determined to Exist _____

Location of Safety Related Condition _____

Description of Condition _____

Safety Effect on Pipeline and/or Public _____

Corrective Action Taken to this Time _____

Corrective Action Contemplated _____

Expected Completion _____

SIGNATURE _____ DATE _____

Bomb Threat Caller Sheet

(b) (7)(F), (b) (3)

[redacted]

Bomb Threat Caller Sheet – Continued

(b) (7)(F), (b) (3)

[redacted]

Emergency Evacuation Checklist

(b) (7)(F), (b) (3)

[redacted]

PUBLIC EDUCATION

Public Education Program

General

This procedure outlines the Company Public education program. The public education program shall provide customers, the public, appropriate government organizations, and individuals engaged in excavation activities information on how to learn the location of underground pipelines, and how to recognize and report gas pipeline emergencies. The purpose of the public education program is to protect the general public, Company employees, and the environment. The public education program must also satisfy the requirements of the Department of Transportation regulations 192.614 (b) (2), and 192.615 (d) and 195.440.

Responsibility for Administration

The responsibility for administration of the public education program shall be with the Team Leader.

General

Each area and/or locations shall carry out a public education program which meets the requirement procedure.

The Team Leader is responsible for monitoring the effectiveness of the education programs and advising his/her supervisor if changes are necessary or could be made to improve the effectiveness of the program(s).

The Team Leader should determine if a significant number and concentration of non-English speaking population exists along the pipeline and determine if communications media are needed other than English.

Procedure

Identify customers, appropriate government organizations, and individuals or organizations who excavate, contract projects that require excavation, or those individuals or organizations involved in the planning of excavation activities, or those individuals or groups that live in the vicinity of Company pipelines.

Communicate the following with the applicable individuals or organizations at least annually, but more often if necessary:

- The purpose and existence of the Damage Prevention Program.
- How to learn the existence of underground pipelines prior to excavation.
- How to recognize a pipeline emergency so that it may be reported to the Company or appropriate public officials.
- Applicable details of this emergency plan.

To assist in identifying individuals, persons, organizations listed above, use the following criteria:

- Include the owner, manager, or tenant actively involved with use of property where the pipeline is located.

Include occupants of dwellings (single or duplex) and managers or operators of other buildings, public use areas, multifamily (three or more units) dwellings, and are not included above. The intent is to indicate the persons who would be most likely to hear, see, or otherwise identify a pipeline problem(s) so they can notify the Company or appropriate public officials.

Identification by mailing address is adequate for individuals and business locations where turnover is frequent. Identification of excavators, public use areas, organizations, other buildings and similar “persons” should normally include the name of the organization or facility (e.g. ABC Excavators, Inc.)

On non-jurisdictional gathering pipelines, it is not necessary to identify individual owners, managers, tenants or occupants addressed immediately above. Consider informing these “persons” through the use of mass media such as newspapers.

Communications media for use in the program may consist of calendars, letters, newspaper notices, maps, advertisements, brochures and other materials (pens, key chains, etc.) Communications may be via a one (1) call organization.

Communications Information shall include the following:

- Company name and telephone numbers.
- Facts about gas being distributed or transported.
- Importance of recognizing and reporting a gas emergency.
- What actions to take in an emergency or if gas leaks are detected or suspected.
- How to identify a pipeline marker.

Records

The identity of each of the individuals or organizations included in this procedure shall be maintained in tabulation form or other type of listing. Where mailings are involved the mailing addresses shall be included.

Update the listings at least once each calendar year.

Document the transmittal of information or the participation in activities publicizing the Companies Damage Prevention Program and Public Education Program. Retain documentation for at least three (3) years.

INCIDENT RECOGNITION AND PREVENTION

Loss Prevention

General

A loss prevention program is fundamentally an investigation of processes and systems to identify hazardous conditions or failures of the design, and then to make alterations to adequately protect people and property. The Company's facility loss prevention/loss control program (separate form this Plan) deals with areas of concern such as potential releases and their consequences.

Loss control personnel look for proactive engineering methodologies to control the occurrence of losses rather than incorporating countermeasures in a reactive response to a loss. A vital part of this is timely recognition of emergency conditions that allow prevention and control measures to be enacted prior to an incident.

The emergency recognition and prevention plan consists of continuous employee training, industrial hygiene, fire protection practices, the Process Safety Management Plan, and a reliable system of computerized and mechanical process control parameters.

Early warning is crucial to a loss prevention program.

Incident Recognition

General

Incident recognition is a major focus in an emergency plan, since personnel can only take appropriate response measures when they know with reasonable certainty what they are dealing with. Routine training is critical for employees who have responsibilities under the Emergency Operating Plan. It is impossible to over-estimate the beneficial effects of simulation exercises, though all forms of rehearsing the Plan are helpful.

Some of the major elements already covered in the Plan that relate to incident recognition will be listed here:

- Alarms, evacuation, monitoring devices, etc. are covered in various Sections in this Plan and in the Company Operating and Maintenance Procedural Manual for Company Pipelines
- General training requirements are covered in Training/Drills, Incident Response contained in this Plan and elsewhere
- Training employees in recognizing potential emergencies is covered in incident response, contained in this Plan, this Section immediately below, and elsewhere

Process Hazard Analysis

Process safety management requirements (29 CFR 1910.119) have established that facilities maintain a source of information that will be useful in preparing for and preventing an emergency. For instance, process safety information is available at the facility and includes a process hazard analysis.

The basic components of a process hazard analysis include:

- An evaluation of processes that might be hazardous
- An analysis of the process area and its hazards
- An analysis of engineering and administrative controls and the consequences of their failing
- An analysis of the possibility of human error and any previous incidents

See previous hazard analyses for more information.

Characteristics of Hazardous Materials

The characteristics of hazardous materials are described in material data safety sheets. The characteristics that must be recognized in an incident are:

- Toxicity (whether the material is a poison)
- Corrosiveness (whether the material will eat away or gradually destroy another material)
- Radiation hazards (whether the material emits radiation)
- Etiologic hazards (whether the material may potentially cause some type of disease in exposed humans)
- Asphyxiating hazards (whether the material may potentially kill or make unconscious humans or animals by replacing or depleting oxygen)
- Flammable hazards (whether the material may ignite and burn)
- Oxidizing capabilities (whether the material may change after combining with oxygen and become more dangerous)
- Reactive hazards (whether the material may interact with other chemicals yielding an undesired change or reaction)
- Instability (whether the material has a lack of resistance to chemical change, and whether it may undergo unwanted and dangerous alterations)
- Explosive hazards (whether the material may explode)
- Cryogenic hazards (whether the material is very cold)

For more information on material safety data sheets and the location of the material safety data sheet book(s) contact the HES Specialist.

Comprehensive Characterization

Although it may not be needed in all responses, comprehensive characterization is a more methodical investigation than the initial steps of characterization, for which see “Incident Recognition.” A comprehensive characterization serves to enhance, refine, and enlarge the information base obtained during the preliminary inspection. This phase provides more complete information for characterizing the hazards associated with an incident. As a continuously operating program, the second phase also reflects environmental changes resulting from response activities.

Available information and information obtained through initial site entries may be sufficient to thoroughly identify and assess the human and environmental effects of an incident. If not, an environmental surveillance program needs to be implemented. Much of the same type of information as collected during the preliminary inspection is needed. However, it may be much more extensive. Instead of one or two groundwater samples being collected, an extensive ground-water survey may be needed over a long period of time. Results from the preliminary inspection provide a screening mechanism for a more complete environmental surveillance program to determine the extent of contamination. Also, since mitigation and remedial measures may cause changes in the original conditions, a continual surveillance program must be maintained to identify any changes.

Evaluating the hazards associated with an incident involves various degrees of complexity. The release of a single, known chemical compound may represent a relatively simple problem. It becomes progressively more difficult to determine harmful effects as the number of compounds increase. Evaluation of the imminent or potential hazards associated with an abandoned waste site, storage tanks, or lagoons holding vast amounts of known or unknown chemical substances is far more complex than a single release of an identifiable substance.

Incident Control

The concept of incident control includes suppressing the source, instituting appropriate and effective measures to limit the hazards, isolating the materials and hazards to the smallest possible physical area, and removing people from harm's way.

The procedures to prevent or reduce the hazards associated with chemical incidents are:

- Extinguishing fires and wetting areas
- Removing materials
- Plugging, patching, and other methods (containment) to keep materials in their original containers
- Using dikes, berms, dams, and other techniques to confine spilled materials to the smallest possible physical area
- Using various chemical and physical methods such as neutralization, absorption, dilution, transfer, dispersion, solidification, and others to minimize hazards
- Cooling containers that heat may cause to explode or ignite

During an incident that does not initially involve container failure, there may be a potential for container failure. For example, it may be determined that a container may fail because it is under stress from heat or fire, from mechanical damage, from chemical reactions, etc.

Control of Chemical Hazards

This Section identifies the some of the principal hazardous substances present at the Company pipeline facilities and the primary characteristics including some health effects resulting from a potential release or reaction. For more information on characterizing chemical hazards, see "Incident Response." Also consult your material safety data sheets and/or contact your safety coordinator.

For these and any other substances, see the material safety data sheets (MSDS). The *NIOSH Pocket Guide to Chemical Hazards*, latest edition, may be used as an additional reference.

Preplanning

General

Preplanning for an incident will greatly assist response personnel during an actual emergency. Indeed, all the topics in this Section should be rehearsed before any incident occurs.

Personnel who have response duties shall be trained in this Plan and in its procedures. These procedures shall provide for:

- Activation of the center, including notifying the staff
- Onsite communications
- Offsite communications
- Use of equipment and technical support
- Press information and public information
- Accident assessment capabilities

Security and access control provision should also be developed to prevent unauthorized individuals from interfering with emergency operations center staff. Procedures should be established and individuals assigned responsibility by the Team Leader for maintaining emergency operations center equipment in a state of readiness. All of these functions shall be rehearsed in exercises, simulations, etc.

Reviewing the Emergency Chain of Command

The Team Leader is designated the Incident Commander and is ultimately in charge of all emergencies. However, until that individual arrives on location, other Company employees may be responsible for taking charge of an emergency until someone of higher sequence number arrives on site and assumes command:

Assembly and Accounting for Personnel

Once outside the evacuated location, a role call will be taken to determine if any employees are missing.

If an employee is missing, a check will be made with other employees from the area to determine where the missing employee might be.

If a Company pipeline facility office is evacuated, the Company employee on duty/on call will be responsible for taking the visitors log book.

Personnel who are responsible for visitors will escort their guest(s) to the assembly point and wait with them. Facility hosts are responsible for accounting to the Emergency Evacuation Designee for their guests and visitors. If a guest or visitor is missing after checking the Visitors Log Book and visually counting each guest and visitor, the Incident Commander will be notified.

Control Center Emergency Recovery Plans

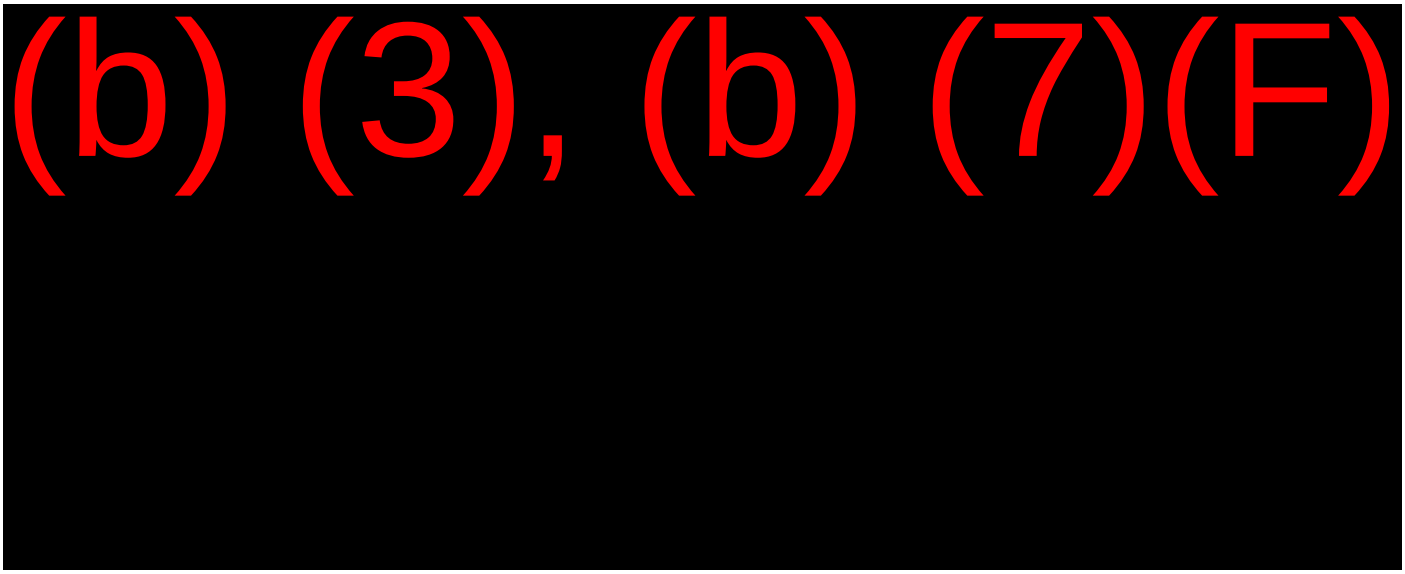
This Section contains detailed recovery procedures for defined emergencies.

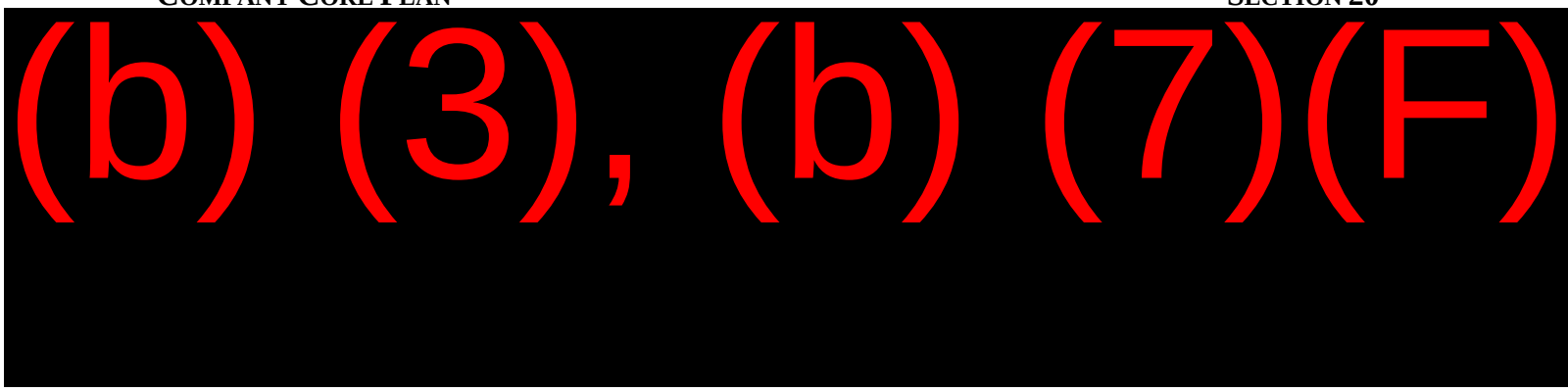
Loss of Electrical Power

Roof-Mounted Standby Generator Roof-mounted generator automatically supplies power. Determine reason for failure.	
Evaluate any damage to facility. Estimate time for repairs.	
Is time for repairs greater than 24 hours?	
No	Yes
Plan any required measures for personnel	Contract for repairs; maintain Control Center
Resumption of electrical service; generator automatically shuts down.	
Return To Normal Operations	

Outside Communications Failures

Gas Scada System Communications Failure





Radio System Failure – Henry Area Only

Identify channels or towers not working; notify operators of service.	
Check truck to truck communications.	
If Nothing Works:	If Only Truck To Truck Works:
Contact operators of repeater towers in affected area.	Contact Equilion for microwave operation; confirm base stations are operating; replace defective base station if necessary.
Consider using cellular phones or beepers for temporary communications.	Use telephone for access to repeater towers in affected area.
Monitor radio system for return of service.	
Return To Normal Operations	

Minor Damage

Minor Damage To Control Center? – Yes
Advise personnel and customers of status.
Monitor system and make necessary adjustments.
Monitor condition of Control Center; begin necessary repairs.
When repairs completed, resume normal operations.
Advise personnel and customers of normal operations.
Return To Normal Operations

Major Damage

Major damage to Control Center? – Yes
Advise personnel and customers of status.
Monitor system and make necessary adjustments.
Monitor condition of Facility; begin necessary repairs.
When repairs completed, resume normal operations.
Advise personnel and customers of normal operations.
Return To Normal Operations

Catastrophic Damage

Catastrophic Damage To Control Center? – Yes
Monitor system and make necessary adjustments to the extent possible.
Advise personnel and customers of status.
Request telephone company to relocate critical telephone numbers.
Advise office personnel to relocate offsite.
Operate offsite as "call center" and use telephone / radio / cellular telephone / beeper to coordinate operational activities with field personnel.
Assess damage to computers and/or communications and begin necessary repairs.
Monitor repairs; begin any additional repairs that may be necessary.
When repairs are completed, notify personnel and customers of the reestablishment of the Control Center as the off-site location.
Reestablish the Control Center at the offsite location.
Advise personnel and customers of normal operations.
Return To Normal Operations

Computer Failure

Emergency Response Team should review length of outage; use telephone list to advise personnel.
Information Systems to assess damage to computers and begin necessary repairs.
Monitor repairs to computers; begin any additional repairs that may be necessary.
Workers revert to pre-computer "manual" mode and work using alternate methods.
When service is repaired, advise personnel and customers that service has been restored.
Advise customers and telephone company to return to normal operations.
Return To Normal Operations

Evacuation

(b) (7)(F), (b) (3)

[redacted]

Control Center Hurricane Plan

The purpose of this Section is to provide preparedness and response activities specific to an impending tropical storm or hurricane incident. These activities supplement those detailed in other sections of this Plan.

Each year at the beginning of hurricane season, the Emergency Response Team Coordinator will assure that a supply of non-perishable food items will be purchased and stored at the Control Center. This food will be available if the Control Center is operational during a hurricane. At the end of hurricane season, the food items may be donated to a local food bank.

When weather conditions predicted by the National Weather Service Hurricane Center indicate that the Control Center area may be affected, the following actions are authorized.

General

In the event that employees based at the Control Center are released because of hurricane conditions, the following telephone numbers will be "manned" to provide information to employees.

Condition 1

Situation - Tropical Disturbance

The National Weather Service has advised that a tropical disturbance has developed in the Gulf of Mexico or will enter the Gulf of Mexico.

Action - The Emergency Response Team Coordinator will monitor weather reports to ensure preparedness and will keep the Emergency Response Team Manager advised of conditions.

Condition 2

Situation - Tropical Storm

A tropical disturbance has been upgraded in the Gulf of Mexico to a tropical storm or a tropical storm will enter the Gulf of Mexico, and may be upgraded to a hurricane within 72 hours.

Action - The Emergency Response Team Coordinator will contact the Emergency Response Team Manager to schedule a staff meeting at the Control Center to review the following:

- Emergency Preparedness and Recovery Plan.
- Personnel schedules.
- General pipeline system conditions.

The following additional actions will be taken:

- Assemble cellular telephones for possible use at the Control Center.
- Ensure that extra backup tapes or CD's are available.

Condition 3

Situation - Hurricane Watch

The National Weather Service has issued a Hurricane Watch that may include the Control Center within 24 hours.

Action - The Emergency Response Team Coordinator will begin to secure arrangements for the following:

- Food items.
- Sleeping facilities for employees who will be stationed at the Control Center.
- Bottled drinking water.
- Ice and ice chest.
- Key personnel schedules.
- List of Operations personnel that will be stationed at the Control Center for Conditions 4 and 5.

The following additional actions will be taken:

- Confirm availability of charged batteries for GFMCs.
- Secure availability of contract personnel.
- Confirm readiness of roof-mounted standby generator (primary) and trailer-mounted stand by generator (secondary).
- Confirm readiness of backup systems.
- Survey employees required to work at the Control Center to determine if anyone wants his/her house boarded. Material and boarding plan provided to employee prior to Condition 3.
- Notify customers of transportable telephone numbers and instructions for use in the event of a phone system outage.

Condition 4

Situation - Hurricane Warning

The National Weather Service has issued a Hurricane Warning that includes the Control Center.

Action - The Emergency Response Team Manager, or his/her designee, will communicate to the Executive Contacts that the Plan is in effect and will notify all Team members and begin the following:

- With input from the Executive Contacts, the Emergency Response Team Manager, or his/her designee, may decide to evacuate the Control Center and establish the offsite Control Center at a remote location.
- Move aluminum shutters from the closet in the Control Center.
- Decide which personnel will remain at the Control Center.
- Have truck transportation available.
- If personnel are available, move all office PC's away from windows.

Condition 5

Situation - Hurricane Conditions

Action - The following actions will be taken:

- Secure Control Center.
- Secure computer room if conditions appear extremely severe.
- Monitor pipeline system.
- Maintain operations.

LEAK CLASSIFICATION AND ACTION CRITERIA

Grade 1

DEFINITION	ACTION CRITERIA	EXAMPLES
A leak that represents an existing or probable hazard to persons or property and requires immediate repair or continuous action until conditions are no longer hazardous.	Requires prompt action to protect life and property. Continuous action until conditions are no longer hazardous. Prompt action may require one or more of the following: A. Implementation of company emergency plan B. Evacuating premises C. Blocking off area D. Re-routing traffic E. Eliminating ignition sources F. Venting the area G. Stopping gas flow by closing valves or by other means H. Notification of police and fire departments	1. A leak judged by operating personnel at the scene to be an immediate hazard 2. Escaping gas that has ignited 3. Gas migration: into or under building, tunnel 4. Indication of gas at outside wall of building 5. Reading of 80% lel in confined space 6. Leak that can be seen, heard or felt. Leak which may endanger general public or property

Grade 2 on next page

LEAK CLASSIFICATION AND ACTION CRITERIA – CONTINUED

Grade 2

DEFINITION	ACTION CRITERIA	EXAMPLES
A leak that is recognized as being non-hazardous at the time of detection, but justifies repair based on probable future hazard.	Leaks shall be repaired within one calendar year. Repair priority criteria should include the following: A. Volume and migration of gas B. Proximity of gas leak to buildings and sub-surface structures C. Extent of pavement D. Soil type and soil conditions including moisture content and natural venting Grade 2 leaks should be re-evaluated at least monthly. The frequency of reevaluation should be determined by the location and magnitude of the leak Grade 2 leaks may vary significantly in degree of potential hazard. Some leaks will require scheduled repair within 5 working days, others will allow repair within 30 days The Team Leader shall be notified on the day in which any leak is discovered	A. Leaks which require action ahead of any change in venting conditions: A leak which, due to rain- soaked soil conditions, may migrate to the outside of a building B. Leaks requiring action within six months: 1. A reading of 40% lel or greater under a sidewalk or in a wall-to-wall paved area 2. A reading of 80% lel under a street or in a wall-to-wall paved area that has significant gas migration potential 3. A reading less than 80% lel in small sub-structures from which gas would migrate 4. A reading between 1% and 5% lel in a confined space 5. A reading of 80% lel in gas-associated sub-structures 6. A leak judged by operating personnel to warrant scheduled repair

Grade 3 on next page

LEAK CLASSIFICATION AND ACTION CRITERIA – CONTINUED

Grade 3

DEFINITION	ACTION CRITERIA	EXAMPLES
A leak that is recognized as being non-hazardous at the time of detection and can reasonably be expected to remain non-hazardous	Leaks should be re-evaluated during the next scheduled pipeline survey or within 15 months of the date of its report.	Leaks which require re-evaluation at periodic intervals: 1. A reading of less than 20% lel in gas-associated sub-structures 2. An lel reading below 80% under a street without wall-to-wall paved area where it is unlikely that gas could migrate to the outside wall of a building 3. A reading less than 1% lel in a confined space

COMPANY PLAN DEFINITION

COMPANY EMERGENCY RESPONSE PLAN

LOUISIANA STATE APPENDIX LOUISIANA RESPONSE ZONE

DOT/PHMSA Sequence Number 189

THIS STATE APPENDIX ALONG WITH THE CORE PLAN ESTABLISHES EMERGENCY RESPONSE PLANNING CRITERIA FOR:
CHEVRON PIPE LINE COMPANY
CHEVRON MIDSTREAM PIPELINES, LLC (FORMERLY TEXACO PIPELINES LLC)
BRIDGELINE HOLDINGS, L.P. (BHLP)
NECHES GAS DISTRIBUTION COMPANY (NGDC)
SABINE PIPE LINE (SPLLLC)
TEXACO EXPLORATION AND PRODUCING INC. (TEPI)
CHEVRON PETROCHEMICAL PIPELINE LLC
CHEVRON CORPORATION
(HEREIN REFERRED TO AS "COMPANY")

Prepared by:
Chevron Pipe Line Company
4800 Fournace Place
Bellaire, TX 77401
(800) 762-3404 or (877) 596-2800

REGULATORY COMPLIANCE

This Plan combined with the Core Plan in addition to implementing Company policy, addresses the following Federal requirements:

- Oil Pollution Act of 1990: 49 CFR 194 Response Plans for Onshore Oil Pipelines (Department of Transportation).
- Oil Pollution Act of 1990: Bureau of Safety and Environmental Enforcement - Spill Response Plans for Offshore Facilities including State Submerged Lands and Pipelines.
- Oil Pollution Act of 1990: 33 CFR Parts 150 and 154 Response Plans for Marine Transportation Related Facilities (USCG).
- Oil Pollution Act of 1990: 40 CFR Parts 9 and 112 Oil Pollution Prevention; Non-Transportation Related Onshore Facilities (USEPA).
- Bureau of Safety and Environmental Enforcement – Notice to Leases (NTL) 92-04.
- Department of Transportation 49 CFR 192.615 Emergency Plans.

A cross reference between the format of this Plan and applicable regulations is provided in the State Appendix.

DOT/PHMSA APPROVAL LETTER

U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

400 Seventh Street, S.W.
Washington, D.C. 20590

May 10, 2005

Certified Mail –7003 3110 0003 2602 9832-Return Receipt Requested

Mr. Tracy Long
ChevronTexaco Pipeline Company
2811 Hayes Road
Houston, TX 77082

Re: OPS Plan Sequence Numbers

210 Core Plan
189 Louisiana Response Zone
206 California Response Zone
211 Northwest Response Zone
217 Texas Response Zone

Dear Mr. Long,

Your Facility Response Plan (FRP) is approved in accordance with 49 CFR Part 194, *Response Plans for Onshore Transportation-Related Oil Pipelines*. The Pipeline and Hazardous Materials Safety Administration (PHMSA) commends you for developing a plan that reflects the characteristics of your company, the facility it operates, and the environment it strives to protect. In approving your plan, we have determined that your January and March 2005 revisions have adequately addressed the findings in our letter dated 25 January 2005. On the basis of the information we reviewed, your response plan now satisfies the minimum response planning standards established by 49 CFR Part 194.

We accept as true all information in the plan but reserve the right to verify its validity and accuracy. We will advise you of any deficiencies discovered during our ongoing quality control activities and you will have the opportunity to correct such deficiencies.

Response planning is an ongoing process. The preparation, submission, review, and approval of a response plan are only the first steps in the process of developing an effective national response planning program. We will continue to help you refine and improve your plan. We trust that you will continue to improve your plan as you gain new knowledge and discover better practices, whether through responses to actual spills or through evaluations of drills and exercises.

Note that this approval will expire on May 10, 2010, which is five years from the date of this letter. Although we have approved the plan, we expect you to maintain your plan's compliance with 49 CFR 194, including making and submitting any required revisions to the plan as specified in 49 CFR 194.121(a) and (b).

Ext. # 9301 File # 2355, 2406 Act. # 9068

Please refer to the "OPS Plan Sequence Numbers" listed above in all plan-related correspondence, including e-mails. E-mail is the preferred method for submitting inquiries, questions and comments to me at le.herrick@dot.gov. You can also telephone me at (202) 366-5523 or fax me at (202) 366-4566. Thank you for your cooperation.

Sincerely,

L. E. Herrick
Response Plans Officer

Enclosure

cc: EPA IV, EPA VI, EPA VIII, EPA IX, EPA X, MSO Morgan City, MSO New Orleans, MSO Port Arthur, MSO Galveston/Houston and MSO LA/LB.

Ext. # 9301 File # 2355, 2406 Act. # 9068

USCG APPROVAL LETTER

U.S. Department of Homeland Security
United States Coast Guard

Commander
United States Coast Guard
Sector New Orleans

1615 Poydras Street
New Orleans, LA 70112
Staff Symbol: Prevention Department
Phone: (504) 565-5011
Fax: (504) 565-5111

16450 / NWF014

MAR 19 2010

Chevron Pipeline Company – Empire Facility
Attn: Timothy Fournier
PO Box 1034
Buras, LA 70074

Dear Mr. Fournier:

Members of my staff reviewed the facility response plan for Chevron Pipeline Company – Empire Facility. The response plan meets all Federal requirements of Title 33 of the Code of Federal Regulations Part 154 (33 CFR 154) and is hereby approved. **The approval is valid until March 12, 2015.**

You are required to resubmit an updated plan every five years in accordance with 33CFR154.1030 and 33CFR154.1060. Also, if you make any changes outlined in 33CFR 154.1065(b), such as changing the types of oil handled or your OSRO, you must submit revisions to this office within 30 days. Finally, you must notify this office if you make revisions to personnel and telephone number lists included in the response plan.

Please refer to the facility identification number NWF014 in any future correspondence. Contact the Facilities Compliance Branch at (504) 565-5011 if you have any further concerns.

Sincerely,

J. M. TWOMEY
Lieutenant Commander, U. S. Coast Guard
Deputy Chief, Prevention Department
By direction

UPDATE/REVISION NOTICES

UPDATE NOTICE
COMPANY EMERGENCY RESPONSE PLAN
CORE PLAN

To All Holders of the Company ERP:

Revision Number: New Publication of the Louisiana State Appendix
Date: June 2002

VOLUME 1	REMOVE PAGES	REPLACEMENT PAGES
Section Title	Volume 1	Volume 1
Enclosed is a new Louisiana State Appendix		

Insert this Update Notice in the front of your ERP Louisiana State Appendix with previous historical Update Notices.

Sign the enclosed acknowledgment letter and mail to PTS, Inc. in the enclosed self addressed envelope to acknowledge receipt of the new ERP Louisiana State Appendix.

UPDATE NOTICE

Revision # 0001

To All Holders of the Louisiana State Appendix

Revision Date: February 2003

This sheet contains instructions for switching out pages in your Louisiana State Appendix Emergency Response Plan. Please follow the attached flowchart. This process must be completed within 14 working days of receipt of this document. Notify the Emergency Response Coordinator Tracy Long via e-mail when you have completed updating your ERP.

Remove Existing Pages	Replace With New Print Out Pages
Front Pocket Information Remove entire document	**Front Pocket Information** Print entire Front Pocket Information
Section 2, Notifications Remove pages 3/4, 6 and 7/8	**Section 2, Notifications** Print and insert pages 3/4, 6 and 7/8
	Front of Book Once your switchout process is complete, add this update notice to your Louisiana State Appendix Front of Book.

Revision # 0002

To All Holders of the Louisiana State Appendix

Revision Date: July 2003

This sheet contains instructions for switching out pages in your Louisiana State Appendix Emergency Response Plan. Please follow the attached flowchart. This process must be completed within 14 working days of receipt of this document. Notify the Emergency Response Coordinator Tracy Long via e-mail when you have completed updating your ERP.

Remove Existing Pages	Replace With New Print Out Pages
Louisiana State Appendix Plan CD • Destroy or delete all previous electronic versions of this State Appendix	**Louisiana State Appendix Plan CD** • Replace with new electronic versions of this State Appendix provided
Front Pocket Information • Remove entire document	**Front Pocket Information** • Print the title page single sided • Print the table of contents single sided • Print pages 1 through 24 double sided • Print pages 25 and 26 single sided • Staple the compete set and insert into the front pocket of the Plan
Table of Contents Remove table of contents pages as follows:	**Table of Contents** Replace table of contents pages as follows:
• Page with Front Pocket Information Table of Contents with back page Section 1 Information Summary	• Page with Front Pocket Information Table of Contents with back page Section 1 Information Summary print double sided
• Page with Section 2 Notifications with back page Section 3 OSRO Contractors/Facility Equipment	• Page with Section 2 Notifications with back page Section 3 OSRO Contractors/Facility Equipment print double sided
• Section 5 Hurricane Plan with back page Section 6 Dispersants	• Section 5 Hurricane Plan with back page Section 6 Dispersants print double sided
• Locate and remove page with the Pardis Gas Plant Table of Contents page through the end of the TOC	• Page with Pardis Table of Contents with Napoleonville Gas Storage starting with page 1, ending with page 11 print double sided

Revision # 0002

To All Holders of the Louisiana State Appendix

Revision Date: July 2003

This sheet contains instructions for switching out pages in your Louisiana State Appendix Emergency Response Plan. Please follow the attached flowchart. This process must be completed within 14 working days of receipt of this document. Notify the Emergency Response Coordinator Tracy Long via e-mail when you have completed updating your ERP.

Remove Existing Pages	Replace With New Print Out Pages
	• Napoleonville Gas Storage Table of Contents starting with page 11, ending with page 19 with Sorrento Dome Facility Table of Contents starting with page 1, ending with page 9 print double sided
	• Sorrento Dome Facility Table of Contents starting with page 9, ending with page 20 with Louisiana Gas Pipelines Emergency Operating Plan starting with page 1 and ending with page 12 print double sided
	• Louisiana Gas Pipelines Emergency Operating Plan starting with page 13 and ending with page 27 with page starting with page 27 and ending with page 43 print double sided
	• Louisiana Gas Pipelines Emergency Operating Plan starting with page 43 and ending with page 62 with page starting with page 63 and ending with page 83 print double sided
	• Louisiana Gas Pipelines Emergency Operating Plan starting with page 83 and ending with page 93 print single sided
Section 1, Area Information Summary • Remove page 1 - 11 X 17 color map	**Section 1, Area Information Summary** • Print single sided 11 X 17 color map and insert as page 1 Since this page is 11 x 17, you may need to extract the page, write it to a CD and take to a printer to print in color

Revision # 0002

To All Holders of the Louisiana State Appendix

Revision Date: July 2003

This sheet contains instructions for switching out pages in your Louisiana State Appendix Emergency Response Plan. Please follow the attached flowchart. This process must be completed within 14 working days of receipt of this document. Notify the Emergency Response Coordinator Tracy Long via e-mail when you have completed updating your ERP.

Remove Existing Pages	Replace With New Print Out Pages
Section 2, Notifications • Remove entire section	**Section 2, Notifications** • Print the title page single sided • Print the table of contents single sided • Print pages 1 through 20 double sided • Print pages 21 single sided • Print page 22 (color page) single sided
Section 5, Hurricane • Remove entire section	**Section 5, Hurricane** • Print the title page single sided • Print the table of contents single sided • Print pages 1 through 10 double sided
Section 10, Regional Oil Spill Response Plan • Remove pages 23/24 "Table 2 Facility Information – ROW Pipelines OCS Waters" Please carefully remove these pages and assure that you are removing the correct table	**Section 10, Regional Oil Spill Response Plan** • Print pages 23/24 "Table 2 Facility Information – ROW Pipelines OCS Waters" print double sided Please carefully switch-out these pages and assure that you are replacing the correct table
Evangeline Ethyline Pipeline System • Remove entire section including the index tab	**Reserved** • No replacement for this section
Napoleonville Gas Storage Facility • Remove pages 3/4 • Remove pages 15/16	**Napoleonville Gas Storage Facility** • Print pages 3/4 print double sided • Print pages 15/16 print double sided
	Front of Book Once your switch-out process is complete, add this update notice to your Louisiana State Appendix Front of Book.

UPDATE/REVISION NOTICE

Revision # 0003

To All Holders of the Louisiana State Appendix

Revision Date: August 2003

Important – please read before you begin this update process:

- Please have your hard copy of the Louisiana State Appendix available for reference to assist you in processing this update.
- All pages for your update are included in this file.
- This sheet contains instructions for switching out pages in your Louisiana State Appendix Emergency Response Plan. Please follow the attached flowchart. This process must be completed within 14 working days of receipt of this document. Notify the Emergency Response Coordinator Tracy Long via e-mail when you have completed updating your ERP.
- If you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail at ptsdoug@hazassist.com.

Remove Existing Pages	Replace With New Print Out Pages
Louisiana State Appendix Plan CD • Destroy or delete all previous electronic versions of this State Appendix	**Louisiana State Appendix Plan CD** • Replace with new electronic version of this State Appendix provided
Front Pocket Information • Remove entire document	**Front Pocket Information** • Print the title page single sided • Print the table of contents single sided • Print pages 1 through 26 double sided • Staple the compete set and insert into the front pocket of the Plan
Table of Contents Remove table of contents pages as follows:	**Table of Contents** Replace table of contents pages as follows:
• Page with Section 2 Notifications with back page Section 3 OSRO Contractors/Facility Equipment	• Print Section 2 Notifications with back page Section 3 OSRO Contractors/Facility Equipment print double sided (back to back)
Section 1, Area Information Summary • Remove page 1 - 11 X 17 color map	**Section 1, Area Information Summary** • A replacement copy of the 11 X 17 color map has been provided for your convenience - insert as page 1
Section 2, Notifications • Remove pages 3 through 8	**Section 2, Notifications** Print pages 3 through 8 double sided (back to back)

UPDATE/REVISION NOTICE

Revision # 0003

To All Holders of the Louisiana State Appendix

Revision Date: August 2003

Remove Existing Pages	Replace With New Print Out Pages
Section 3, OSRO Contractors/Facility Equipment • Remove Table of Contents page • Remove page 17	**Section 3, OSRO Contractors/Facility Equipment** • Print Table of Contents page single sided • Print pages 17and 18 double sided (back to back)
Front of Book Once your switch-out process is complete, add this update notice to your Louisiana State Appendix Front of Book.	
Notify the Emergency Response Coordinator Tracy Long via e-mail when you have completed updating your ERP.	

UPDATE/REVISION NOTICE

Revision # 0004

To All Holders of the Louisiana State Appendix

Revision Date: September 2003

Important – please read before you begin this update process:

- Please have your hard copy of the Louisiana State Appendix available for reference to assist you in processing this update.
- All pages for your update are included in this file.
- This sheet contains instructions for switching out pages in your Louisiana State Appendix Emergency Response Plan. Please follow the attached flowchart. This process must be completed within 14 working days of receipt of this document. Notify the Emergency Response Coordinator Tracy Long via e-mail when you have completed updating your ERP.
- If you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail at ptsdoug@hazassist.com.

Remove Existing Pages	Replace With New Print Out Pages
Louisiana State Appendix Plan CD • Destroy or delete all previous electronic versions of this State Appendix	**Louisiana State Appendix Plan CD** • Replace with new electronic version of this State Appendix provided
Table of Contents • Table of contents pages Front Pocket Information with Section 1 Information Summary along with the next page that starts at the top with 43 and ends with 115 (back side of the page starts with 117 and ends with 146)	**Table of Contents** • Print double sided (back to back) table of contents pages starting with Section 1 Information Summary starting with 1 and ending with 42 with back side of the page starting with 43 and ending with 115 • Print double sided (back to back) table of contents pages starting 117 and ending with 154 and back side of the page starting with 155 and ending with 158
• Table of contents page Section 2 Notification with back page Section 3 OSRO Contractors/Facility Equipment	• Print double sided (back to back) table of contents page Section 2 Notification with back page Section 3 OSRO Contractors/Facility Equipment
Section 1, Area Information Summary • Table of contents pages (2 pages)	**Section 1, Area Information Summary** • Print new table of contents pages double sided (back to back starting with 1 and ending with 42 with back side of the page starting with 43 and ending with 115 • Print double sided (back to back) table of contents pages starting 117 and ending with 154 and back side of the page starting with 155 and ending with 158

UPDATE/REVISION NOTICE

Revision # 0004

To All Holders of the Louisiana State Appendix

Revision Date: September 2003

Remove Existing Pages	Replace With New Print Out Pages
• Pages 61/62	• Print double sided (back to back) pages 61/62
• Pages 71/72	• Print double sided (back to back) pages 71/72
• Pages 127 through 146	• Print pages 127 through 158 double sided (back to back) (Note: pages 129, 131, 132, 133,134 and 136 are 8 ½ X 11 color pages)
Section 2, Notifications • Table of contents page (1 page)	**Section 2, Notifications** • Print new table of contents page (1 page) single sided
• Pages 17 thru the end of the Section 2	• Pages 17 thru 24 double sided (back to back) • Page 25 single sided in color
Sorrento Dome Facility • Pages 3/4	**Sorrento Dome Facility** • Print pages 3/4 double sided (back to back)
Front of Book Once your switch-out process is complete, print this Update Notice double sided and add it to your Louisiana State Appendix Front of Book.	
Notify the Emergency Response Coordinator Tracy Long via e-mail when you have completed updating your ERP.	

UPDATE/REVISION NOTICE

Revision # 0005

To All Holders of the Louisiana State Appendix

Revision Date: February 2004

Important – please read before you begin this update process:

- Please have your hard copy of the Louisiana State Appendix available for reference to assist you in processing this update.
- All pages for your update are included in this file.
- This sheet contains instructions for switching out pages in your Louisiana State Appendix Emergency Response Plan. Please follow the attached flowchart. This process must be completed within 14 working days of receipt of this document. Notify the Emergency Response Coordinator Tracy Long via e-mail when you have completed updating your ERP.
- If you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail at ptsdoug@hazassist.com.

Remove Existing Pages	Replace With New Print Out Pages
Louisiana State Appendix Plan CD • Destroy or delete all previous electronic versions of this State Appendix	**Louisiana State Appendix Plan CD** • Replace with new electronic version of this State Appendix provided
Front Pocket Information • Remove entire document	**Front Pocket Information** • Print the title page single sided • Print the table of contents single sided • Print pages 1 through 26 double sided • Staple the compete set and insert into the front pocket of the Plan
Front of Book	**Front of Book** • Print the Archive DOT RSPA Approval Letter (2 pages) single sided and insert after the USCG Approval Letter page
Table of Contents Remove table of contents pages as follows:	**Table of Contents** Replace table of contents pages as follows:
• Table of contents page Section 2 Notification with back page Section 3 OSRO Contractors/Facility Equipment	• Print double sided (back to back) table of contents page Section 2 Notification with back page Section 3 OSRO Contractors/Facility Equipment
• Section 11B Midstream Assets Sensitive Information/Maps starting with page number 96 and ending with 125 with back page Empire Terminal	• Print double sided (back to back) table of contents page Section 11B Midstream Assets Sensitive Information/Maps starting with page number 96 and ending with 125 with back page Empire Terminal

UPDATE/REVISION NOTICE

Revision # 0005

To All Holders of the Louisiana State Appendix

Revision Date: February 2004

Remove Existing Pages	Replace With New Print Out Pages
• Empire Terminal starting with page number 24 and ending with 28 with back page Fourchon Terminal	• Print double sided (back to back) Empire Terminal starting with page number 24 and ending with 28 with back page Fourchon Terminal
• Fourchon Terminal starting with page number 24 and ending with 27 with back page Main Pass 69 terminal	• Print double sided (back to back) Fourchon Terminal starting with page number 24 and ending with 27 with back page Main Pass 69 terminal
• Main Pass 69 terminal starting with page number 18 and ending with 28 with back page Henry Gas Processing Plant	• Print double sided (back to back) Main Pass 69 terminal starting with page number 18 and ending with 28 with back page Henry Gas Processing Plant
Section 1, Area Information Summary • Remove 11 X 17 Color Team Map on page 1	**Section 1, Area Information Summary** • A replacement copy of the 11 X 17 color map has been provided for your convenience - insert as page 1
• Pages 5 through 8	• Print pages 5 through 8 double sided (back to back)
Section 2, Notifications • Table of contents page (1 page)	**Section 2, Notifications** • Print table of contents page (1 page) single sided
• Pages 3/4	• Pages 3/4 double sided (back to back)
• Pages 13 thru the end of the Section 2	• Pages 13 thru 24 double sided (back to back) • Page 25 single sided • Page 26 single sided in color
Section 3, OSRO Contractor Information • Pages 17/18	**Section 3, OSRO Contractor Information** • Pages 17/18 double sided (back to back)
Section 9, Spill Impact • Pages 1/2	**Section 9, Spill Impact** • Pages 1/2 double sided (back to back)
Empire Terminal • Table of contents page (double sided)	**Empire Terminal** • Print table of contents page double sided
• Pages 1 through 4	• Print pages 1 through 4 double sided (back to back)
• Pages 23 through 26	• Print pages 23 through 26 double sided (back to back)
Fourchon Terminal • Table of contents page (double sided)	**Fourchon Terminal** • Print table of contents page double sided
• Pages 1/2	• Print pages 1/2 double sided (back to back)

UPDATE/REVISION NOTICE

Revision # 0005

To All Holders of the Louisiana State Appendix

Revision Date: February 2004

Remove Existing Pages	Replace With New Print Out Pages
• Pages 4/5	• Print pages 4/5 double sided (back to back)
• Pages 8/9	• Print pages 8/9 double sided (back to back)
• Pages 20/21	• Print pages 20/21 double sided (back to back)
• Pages 24 through 27	• Print pages 24 through 27 double sided (back to back)
Main Pass 69 Terminal • Table of contents page (double sided)	**Main Pass 69 Terminal** • Print table of contents page double sided
• Pages 1 through 4	• Print pages 1 through 4 double sided (back to back)
Louisiana Gas Pipelines **Emergency Operation Plan** • Title page	**Louisiana Gas Pipelines** **Emergency Operation Plan** • Print the title page single sided
Front of Book Once your switch-out process is complete, print this Update Notice single sided and insert it in your Louisiana State Appendix Front of Book.	
Notify the Emergency Response Coordinator Tracy Long via e-mail when you have completed updating your ERP.	

UPDATE/REVISION NOTICE

Revision # 0006

To All Holders of the Louisiana State Appendix

Revision Date: May 2004

Important – please read before you begin this update process:

- Please have your hard copy of the Louisiana State Appendix available for reference to assist you in processing this update.
- All pages for your update are included.
- This sheet contains instructions for updating your Louisiana State Appendix Emergency Response Plan. This process must be completed within 14 working days of receipt of this document. Notify the Emergency Response Coordinator, Tracy Long, via e-mail when you have completed updating your ERP.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: doug.flaherty@ptseps.com.

Remove Existing Pages	Replace with New Pages
Louisiana State Appendix CD • Destroy or delete all previous electronic versions of this Louisiana State Appendix	**New Louisiana State Appendix CD** • Replace with new electronic versions of this Louisiana State Appendix provided
Front Pocket Information • Entire stapled packet	**Front Pocket Information** • Entire stapled packet
Table of Contents Index Tab • Sections 1, 2 and 3 Table of Contents (3 double sided pages) • Sections 9 and 10 Table of Contents (2 double sided pages)	**Table of Contents Index Tab** • Sections 1, 2 and 3 Table of Contents (3 double sided pages) • Sections 9 and 10 Table of Contents (1 double sided page)
Section 1, Information Summary • Table of Contents (2 double sided pages) • Pages 137 through 158 (double sided)	**Section 1, Information Summary** • Table of Contents (2 double sided pages) • Pages 137 through 161 (double sided)
Section 2, Notifications • Table of Contents (1 single sided page) • Pages 11 through 26 (double sided)	**Section 2, Notifications** • Table of Contents (1 single sided page) • Pages 11 through 28 (double sided)
Section 10, Regional Oil Spill Response Plan • Entire Section	**Section 10, Regional Oil Spill Response Plan** • Entire Section

Front of Book

Once your update process is completed, insert this Update/Revision Notice in your Louisiana State Appendix Front of Book following any previous update notices.

Notify the Emergency Response Coordinator, Tracy Long, via e-mail when you have completed updating your ERP.

UPDATE/REVISION NOTICE

Revision # 0007

To All Holders of the Louisiana State Appendix

Revision Date: September 2004

Important – please read before you begin this update process:

- Please have your hard copy of the Louisiana State Appendix available for reference to assist you in processing this update.
- All pages for your update are included in this file for printing.
- This sheet contains instructions for updating your Louisiana State Appendix Emergency Response Plan. This process must be completed within 14 working days of receipt of this document. Notify the Emergency Response Coordinator, Tracy Long, via e-mail when you have completed updating your ERP.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: doug.flaherty@ptseps.com.

Remove Existing Pages	Replace with New Pages
Louisiana State Appendix CD • Destroy or delete all previous electronic versions of this Louisiana State Appendix	**New Louisiana State Appendix CD** • Replace with new electronic versions of this Louisiana State Appendix provided
Table of Contents Index Tab • Sections 1, 2 and 3 Table of Contents (3 double sided pages) • Sections 5 and 6 Table of Contents (1 double sided page) • Section 11B Midstream Assets Sensitive Information/Maps Table of Contents starting with page number 96 and ending with 125 with back page Empire Terminal Table of Contents (1 double sided page) • Empire Terminal Table of Contents starting with page number 24 and ending with 28 with back page Fourchon Terminal Table of Contents (1 double sided page) • Paradis Gas Plant with back page Napoleonville Gas Storage Facility Table of Contents (1 double sided page)	**Table of Contents Index Tab** • Print double sided Table of Contents for Sections 1, 2 and 3 (3 double sided pages) • Print double sided Table of Contents for Sections 5 and 6 (1 double sided page) • Print double sided Table of Contents for Section 11B Midstream Assets Sensitive Information/Maps starting with page number 96 and ending with 125 with back page Empire Terminal (1 double sided page) • Print double sided Table of Contents for Empire Terminal starting with page number 17 and ending with 23 with back page Fourchon Terminal (1 double sided page) • Print double sided Table of Contents for Paradis Gas Plant with back page Napoleonville Gas Storage Facility (1 double sided page)

Revision # 0007

To All Holders of the Louisiana State Appendix

Revision Date: September 2004

Table of Contents Index Tab – Continued • Napoleonville Gas Storage Facility Table of Contents starting with page 11 through 19 with back page Sorrento Dome Facility Table of Contents (1 double sided page) • Sorrento Dome Facility Table of Contents starting with page 9 through page 20 with back page Louisiana Gas Pipelines Emergency Operating Plan (1 double sided page)	**Table of Contents Index Tab – Continued** • Print double sided Table of Contents for Napoleonville Gas Storage Facility starting with page 11 through 19 with back page Sorrento Dome Facility (1 double sided page) • Print double sided Table of Contents for Sorrento Dome Facility starting with page 8 through page 18 with back page Louisiana Gas Pipelines Emergency Operating Plan (1 double sided page)
Section 1, Information Summary • Table of Contents (2 double sided pages) • Pages 147 through 150 (double sided)	**Section 1, Information Summary** • Print double sided Table of Contents (2 double sided pages) • Print double sided pages 147 through 150
Section 2, Notifications • Table of Contents (1 single sided page) • Pages 1/2 (1 single sided page) • Pages 5/6 (1 single sided page) • Pages 11 through 28 (double sided)	**Section 2, Notifications** • Print single sided the Table of Contents • Print pages 1/2 double sided • Print pages 5/6 double sided • Print double sided pages 11 through 26
Section 5, Hurricane • Remove entire section	**Section 5, Hurricane** **(Completed new section)** • Print single sided the title page • Print single sided the Table of Contents • Print pages 1 through 10 double sided
Empire Terminal • Table of contents page (double sided) • Pages 11 through 28	**Empire Terminal** • Print double sided the Table of Contents page • Page 11 is being provided as an 11 X 17 color page • Print double sided pages 12 through 23
Paradis Gas Plant • Remove entire section	**Paradis Gas Plant** **(Completed new section)** • Print single sided the title page • Print single sided the Table of Contents • Print single sided the Emergency Action Plan title page • Print double sided pages 1 through 4 • Print single sided page 5

Revision # 0007

To All Holders of the Louisiana State Appendix

Revision Date: September 2004

Sorrento Dome Facility • Remove entire section	**Sorrento Dome Facility** **(Completed new section)** • Print single sided the title page • Print double sided the Table of Contents • Print double sided pages 1 through 14 • Print as 11 X 17 single sided pages 15 through 18
Front of Book Once your update process is completed, print this Update/Revision Notice single sided and insert in your Louisiana State Appendix Front of Book following any previous update notices.	
Notify the Emergency Response Coordinator, Tracy Long, via e-mail when you have completed updating your ERP.	

UPDATE/REVISION NOTICE

Revision # 0008

To All Holders of the ChevronTexaco Pipeline Company Louisiana State Appendix

RSPA Plan Sequence #189 Louisiana Response Zone / EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal –FRP-65-LA-00318, Fourchon Terminal – FRP-06-LA-00320

Revision Date: March 2005

Important – please read before you begin this update process:

- Please have your hard copy of the Louisiana State Appendix available for reference to assist you in processing this update.
- All pages for your update are included in this file for printing.
- This sheet contains instructions for updating your Louisiana State Appendix Emergency Response Plan. This process must be completed within 14 working days of receipt of this document. Notify the Emergency Response Coordinator, Tracy Long, via e-mail when you have completed updating your ERP.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: doug.flaherty@ptseps.com.

Remove Existing Pages	Replace with New Pages
Louisiana State Appendix CD • Destroy or delete all previous electronic versions of this Louisiana State Appendix	**New Louisiana State Appendix CD** • Replace with new electronic versions of this Louisiana State Appendix provided
Front Pocket Information • Remove entire document	**Front Pocket Information** • Print the title page single sided • Print the table of contents single sided • Print pages 1 through 24 double sided • Print page 25 single sided • Staple the compete set and insert into the front pocket of the Plan
Table of Contents Index Tab • Sections 2 and 3 Table of Contents (1 double sided page)	**Table of Contents Index Tab** • Print double sided Table of Contents for Sections 2 and 3 (1 double sided page)
Section 2, Notifications • Table of Contents (1 single sided page) • Pages 5/6 (1 single sided page) • Pages 17 through 26 (double sided)	**Section 2, Notifications** • Print single sided the Table of Contents • Print pages 5/6 double sided • Print double sided pages 17 through 26

Front of Book

Once your update process is completed, print this Update/Revision Notice single sided and insert in your Louisiana State Appendix Front of Book following any previous update notices.

Notify the Emergency Response Coordinator, Tracy Long, via e-mail when you have completed updating your ERP.

Revision # 0009

To All Holders of the ChevronTexaco Pipeline Company Louisiana State Appendix

RSPA Plan Sequence #189 Louisiana Response Zone / EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal –FRP-65-LA-00318, Fourchon Terminal – FRP-06-LA-00320

Revision Date: August 2005

Important – please read before you begin this update process:

- Please have your hard copy of the Louisiana State Appendix available for reference to assist you in processing this update.
- All pages for your update are included in this file for printing.
- This sheet contains instructions for updating your Louisiana State Appendix Emergency Response Plan. This process must be completed within 14 working days of receipt of this document. Per Tracy Long, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

NOTE: This is an electronic update only; no CD will be issued at this time.

Remove Existing Pages	Replace With New Pages
Front Pocket Information • Remove pages 1 through 4	**Front Pocket Information** • Print pages 1 through 4 double sided • Staple the compete set and insert into the front pocket of the Plan
Section 2, Immediate Notifications • Remove pages 3 through 6	**Section 2, Immediate Notifications** • Print pages 3 through 6 double sided

Front of Book

Once your update process is completed, print this Update/Revision Notice single sided and insert in your Louisiana State Appendix Front of Book following any previous update notices.

Per Tracy Long, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.

UPDATE/REVISION NOTICE

Revision # 0010

To All Holders of the ChevronTexaco Pipeline Company Louisiana State Appendix

OPS Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Fourchon Terminal – FRP-06-LA-00320

Revision Date: September 2005

Important – please read before you begin this update process:

- Please have your hard copy of the Louisiana State Appendix available for reference to assist you in processing this update.
- All pages for your update are included in this file for printing.
- This sheet contains instructions for updating your Louisiana State Appendix Emergency Response Plan. This process must be completed within 14 working days of receipt of this document. Per Tracy Long, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Existing Pages	Replace with New Pages
Louisiana State Appendix CD • Destroy or delete all previous electronic versions of this Louisiana State Appendix	**New Louisiana State Appendix CD** • Replace with new electronic versions of this Louisiana State Appendix provided
Front Pocket Information • Remove entire document	**Front Pocket Information** • Print the title page single sided • Print the Table of Contents single sided • Print pages 1 through 24 double sided • Print page 25 single sided • Staple the compete set and insert into the front pocket of the Plan
Front of Book • Remove laminated title page • Remove Archive DOT RSPA Approval Letter dated October 3, 2001, 2 pages • Remove Archive Distribution List, 1 page	**Front of Book** • Print title page in color single sided and laminate it • No replacement page • No replacement page

Revision # 0010

To All Holders of the ChevronTexaco Pipeline Company Louisiana State Appendix

OPS Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Fourchon Terminal – FRP-06-LA-00320

Revision Date: September 2005

Table of Contents Index Tab • Remove Sections 2 and 3 Table of Contents (1 double sided page) • Remove Paradis Gas Plan Table of Contents through the first page of Louisiana Gas Pipelines Emergency Operating Plan (3 double sided pages)	**Table of Contents Index Tab** • Print Table of Contents for Sections 2 and 3 double sided • Print Paradis Gas Plan Table of Contents through the first page of Louisiana Gas Pipelines Emergency Operating Plan double sided (3 double sided pages)
Section 2, Notifications • Table of Contents (1 single sided page) • Pages 17 through 26	**Section 2, Notifications** • Print the Table of Contents single sided • Print pages 17 through 24 double sided • Print page 25 single sided
Napoleonville Gas Storage Facility • Remove the entire contents	**Napoleonville Gas Storage Facility** **(Completed new section)** • Print the title page single sided • Print the Table of Contents double sided • Print pages 1 through 20 double sided
Sorrento Dome Facility • Remove entire section	**Sorrento Dome Facility** **(Completed new section)** • Print the title page single sided • Print the Table of Contents double sided • Print pages 1 through 10 double sided • Print page 11 single sided • Print pages 12 through 15 as 11 X 17 single sided
Front of Book Once your update process is completed, print this Update/Revision Notice single sided and insert in your Louisiana State Appendix Front of Book following any previous update notices.	
Per Tracy Long, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.	

UPDATE/REVISION NOTICE

Revision # 0011

To All Holders of the Chevron Pipeline Company Louisiana State Appendix

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Fourchon Terminal – FRP-06-LA-00320, Forked Island Terminal (Formally FRP USCG MORM –U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Revision Date: February 2006

Important – please read before you begin this update process:

- Please have your hard copy of the Louisiana State Appendix available for reference to assist you in processing this update.
- All pages for your update are included in this file for printing.
- This sheet contains instructions for updating your Louisiana State Appendix Emergency Response Plan.
- **This process must be completed within 14 working days of receipt of this document.**
- **Per Tracy Long, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.**
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Existing Pages	Replace with New Pages
New Louisiana State Appendix CD • Destroy or delete all previous electronic versions of this Louisiana State Appendix	**New Louisiana State Appendix CD** • Replace with new electronic versions of this Louisiana State Appendix provided
Louisiana State Appendix Volume 1 and 2 binders provided	**Transfer contents of current manual into new Volume 1 of 2 and Volume 2 of 2 binders as described below:** **New Volume 1 of 2 binder** • Transfer contents from current manual beginning with the Title Page through Section 10 and insert into new Volume 1 of 2 binder provided **New Volume 2 of 2 binder** • Transfer contents from current manual beginning with Section 11A through Agency Cross Reference and insert into new Volume 2 of 2 binder provided
Volume 1 of 2	
New plastic binder pocket provided - insert in front of the ERP laminated title page	
Front Pocket Information • Remove entire document	**Front Pocket Information** • Print the title page single sided • Print the Table of Contents double sided • Print pages 1 through 30 double sided Staple the compete set and insert into the plastic binder pocket provided

Revision # 0011

To All Holders of the Chevron Pipeline Company Louisiana State Appendix

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Fourchon Terminal – FRP-06-LA-00320, Forked Island Terminal (Formally FRP USCG MORM –U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Revision Date: February 2006

Louisiana Terminal ERAP	**Louisiana Terminal ERAP** **(Complete new section to add)** • Print the Emergency Response Action Plan cover page single sided • Print the title page single sided • Print the Table of Contents double sided • Print pages 1 through 26 double sided • Print page 27 single sided in color • Print pages 28/29 double sided • Print pages 30 single sided, 11 X 17 3 hole punch, insert into blue folder and insert into the plastic front binder pocket you inserted in the steps above
Front of Book • Remove laminated title page	**Front of Book** • Print title page in color single sided and laminate it
Table of Contents Index Tab • Remove entire Table of Contents	**Table of Contents Index Tab** • Print double sided Table of Contents for Sections 1, through Louisiana Gas Pipelines Emergency Operating Plan starting with page number 63 and ending with 83 (21 double sided pages) • Print single sided Table of Contents for Louisiana Gas Pipelines Emergency Operating Plan starting with page number 83 and ending with 93 (1 single sided pages)
Section 1, Information Summary • Table of Contents (2 double sided page) • Pages 5/6 • Pages 139/140 • Pages 147 through 150 • Pages 159 through 161	**Section 1, Information Summary** • Print the Table of Contents double sided • Print pages 5/6 double sided • Print pages 139/140 double sided • Print pages 147 through 150 double sided • Print pages 159 through 162 double sided
Section 2, Notifications • Table of Contents (1 single sided page) • Pages 3 through 6 • Pages 21 through 24	**Section 2, Notifications** • Print the Table of Contents single sided • Print pages 3 through 6 double sided • Print pages 21 through 24 double sided
Section 3, OSRO Contractors Information • Pages 1/2 • Pages 17/18	**Section 3, OSRO Contractors Information** • Print pages 1/2 double sided • Print pages 17/18 double sided
Section 4, Waste Management • Pages 3/4	**Section 4, Waste Management** • Print pages 3/4 double sided
Section 5, Hurricane Plan • Pages 3/4	**Section 5, Hurricane Plan** • Print pages 3/4 double sided

Revision # 0011

To All Holders of the Chevron Pipeline Company Louisiana State Appendix

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Fourchon Terminal – FRP-06-LA-00320, Forked Island Terminal (Formally FRP USCG MORM –U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Revision Date: February 2006

Section 9, Spill Impact • Pages 1/2	**Section 9, Spill Impact** • Print pages 1/2 double sided
Volume 2 of 2	
Empire Terminal • Table of Contents (1 double sided page) • Pages 3/4 • Pages 12/13	**Empire Terminal** • Print the Table of Contents double sided • Print pages 3/4 double sided • Print pages 12/13 double sided
Fourchon Terminal • Table of Contents (1 double sided page) • Page 3 through 7 • Pages 12/13 • Pages 16/17	**Fourchon Terminal** • Print the Table of Contents double sided • Print page 3 single sided • Print pages 4 through 7 double sided • Print pages 12/13 double sided • Print pages 16/17 double sided
Main Pass 69 Terminal • Table of Contents (1 double sided page) • Pages 3 through 6 • Pages 11 through 16	**Main Pass 69 Terminal** • Print the Table of Contents double sided • Print pages 3 through 6 double sided • Print pages 11 through 16 double sided
Henry Gas Processing Plant • Remove entire section	**Henry Gas Processing Plant** • Print title page single sided • Print Table of Contents 2 pages double sided and last page single sided • Print page 1 single sided • Print page 2 single sided • Print pages 3 through 50 double sided
Napoleonville Gas Storage Facility • Pages 1/2	**Napoleonville Gas Storage Facility** • Print pages 1/2 double sided
Sorrento Dome Facility • Pages 1/2	**Sorrento Dome Facility** • Print pages 1/2 double sided

Revision # 0011

To All Holders of the Chevron Pipeline Company Louisiana State Appendix

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Fourchon Terminal – FRP-06-LA-00320, Forked Island Terminal (Formally FRP USCG MORM –U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Revision Date: February 2006

Forked Island Terminal	**Forked Island Terminal** **Completed new section to be inserted behind Sorrento Dome Facility** • Forked Island Terminal Index Tab • Print title page single sided • Print Table of Contents 2 pages double sided • Print pages 1 through 14 double sided • Print page 15 single sided • Print page 16 single sided 11 X 17 • Print pages 17 through 20 double sided • Print page 21 single sided • Print page 22 single sided 11 X 17 • Print pages 23 through 94 double sided
Gas Pipelines Emergency Operations Plan • Page 1 • Pages 5/6 • Pages 29/30	**Gas Pipelines Emergency Operations Plan** • Print page 1 single sided • Print pages 5/6 double sided • Print pages 29/30 double sided
Agency Cross Reference • Remove entire section	**Agency Cross Reference** • Print title page single sided • Print Table of Contents single sided • Print pages 1 through 8 double sided

Front of Book
Once your update process is completed, print this Update/Revision Notice single sided and insert in your Louisiana State Appendix Front of Book following any previous update notices.

Per Tracy Long, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.

UPDATE/REVISION NOTICE

Revision # 0012

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Fourchon Terminal – FRP-06-LA-00320, Forked Island Terminal (Formally FRP USCG MORM –U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Revision Date: July 2006

Important – please read before you begin this update process:

- **This process must be completed within 14 working days of receipt of this document.**
- This sheet contains instructions for updating your State Appendix Emergency Response Plan.
- Please have your hard copy of the State Appendix available for reference to assist you in processing this update. All pages for your update are included in this file for printing.
- **Per Barry Staskywicz, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.**
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Existing Pages	Replace with New Pages
New Louisiana State Appendix CD • Destroy or delete all previous electronic versions of this Louisiana State Appendix	**New Louisiana State Appendix CD** • Replace with new electronic versions of this Louisiana State Appendix provided
Volume 1 of 2	
Manual Cover and Spine Remove current manual cover and spine	**Manual Cover and Spine** Insert new current manual cover and spine provided
Front Pocket Information • Remove entire document	**Front Pocket Information** • Print the title page single sided • Print the Table of Contents double sided • Print pages 1 through 4 double sided • Print page 5, 11 X 17 single sided • Print pages 6 through 27 double sided • Print page 28 single sided Staple the compete set and insert into the plastic binder pocket

Revision # 0012

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Fourchon Terminal – FRP-06-LA-00320, Forked Island Terminal (Formally FRP USCG MORM –U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Revision Date: July 2006

Louisiana Terminal ERAP • Remove entire document	**Louisiana Terminal ERAP** • Print the Emergency Response Action Plan cover page single sided • Print the title page single sided • Print the Table of Contents double sided • Print pages 1 through 4 double sided • Print page 5 single sided • Print page 6, 11 X 17 single sided • Print pages 7 through 30 double sided • Print page 31 single sided • Print pages 32 single sided, 11 X 17 3 hole punch and insert into blue folder and insert into the plastic front binder pocket
Front of Book • Remove laminated title page	**Front of Book** • Print title page in color single sided and laminate it • New to add – Print single sided the DOT/PHMSA Letter of Approval dated May 10, 2005, 2 pages and insert behind Regulatory Compliance page
Table of Contents Index Tab • Remove entire Table of Contents	**Table of Contents Index Tab** • Print double sided Table of Contents for Sections 1, through Louisiana Gas Pipelines Emergency Operating Plan (21 double sided pages)
Section 1, Information Summary • Remove pages 3 through 6	**Section 1, Information Summary** • Print pages 3 through 6 double sided
Section 2, Notifications • Remove the entire section	**Section 2, Notifications** • Print the title page single sided • Print the Table of Contents single sided • Print pages 1 through 6 double sided • Print page 7, 11 X 17 single sided • Print pages 8 through 31 double sided • Print page 32 single sided
Section 5, Hurricane Plan • Remove the entire section	**Section 5, Hurricane Plan** • Print the title page single sided • Print the Table of Contents single sided • Print pages 1 through 10 double sided • Print page 11 single sided

Revision # 0012

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Fourchon Terminal – FRP-06-LA-00320, Forked Island Terminal (Formally FRP USCG MORM –U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Revision Date: July 2006

Section 8, Spill History • Remove the entire section	**Section 8, Spill History** • Print the title page single sided • Print the Table of Contents single sided • Print pages 1 through 20 double sided
Volume 2 of 2	
Manual Cover and Spine • Remove current manual cover and spine	**Manual Cover and Spine** • Insert new current manual cover and spine provided
Henry Gas Processing Plant • Remove entire section	**Henry Gas Processing Plant** • Print title page single sided • Print Table of Contents 2 pages double sided • Print page 1 single sided • Print page 2 single sided • Print pages 3 through 40 double sided • Print page 41 single sided
Sorrento Dome Facility • Remove pages 1/2	**Sorrento Dome Facility** • Print pages 1/2 double sided
Front of Book Once your update process is completed, print this Update/Revision Notice single sided and insert in your State Appendix Front of Book following any previous update notices.	
Per Barry Staskywicz, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP. **This update must be completed within 14 working days of receipt of this document**	

UPDATE/REVISION NOTICE

Revision # 0013

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Fourchon Terminal – FRP-06-LA-00320, Forked Island Terminal (Formally FRP USCG MORM –U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Revision Date: September 2006

Important – please read before you begin this update process:

- **This process must be completed within 14 working days of receipt of this document.**
- This sheet contains instructions for updating your State Appendix Emergency Response Plan.
- **Per Barry Staskywicz, notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.**
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Pages	Replacement Pages
New Louisiana State Appendix CD • Destroy or delete all previous dated CDs or electronic versions of this State Appendix	**New Louisiana State Appendix CD** • Replace with new CD provided
Volume 1 of 2	
Front Pocket Information • Entire stapled document	**Front Pocket Information** • Entire stapled document, insert into the plastic binder pocket
Forked Island Terminal ERAP (Emergency Response Action Plan) • Remove entire document, retain the blue folder	**Forked Island Terminal ERAP (Emergency Response Action Plan)** • Entire document, insert into the blue folder and insert into the plastic binder pocket
Table of Contents Index Tab • Sections 2 and 3 table of contents, (1 double sided page)	**Table of Contents Index Tab** • Sections 2 and 3 table of contents, (1 double sided page)
Section 2, Notifications • Entire section	**Section 2, Notifications** • Entire section
Section 5, Hurricane Plan • Pages 3/4 • Pages 9/10	**Section 5, Hurricane Plan** • Pages 3/4 • Pages 9/10

Front of Book
Once your update process is completed, print this Update/Revision Notice single sided and insert in your State Appendix Front of Book following any previous update notices.

Notify PTS (Willie Eldridge) via e-mail at willie.eldridge@ptseps.com, when you have completed updating your ERP.

This update must be completed within 14 working days of receipt of this document

UPDATE/REVISION NOTICE

Revision # 0014

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Fourchon Terminal – FRP-06-LA-00320, Forked Island Terminal (Formally FRP USCG MORM –U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Revision Date: October 2006

Important – please read before you begin this update process:

- **This process must be completed within 14 working days of receipt of this document.**
- This sheet contains instructions for updating your State Appendix Emergency Response Plan.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Pages	Replacement Pages
Louisiana State Appendix CD • Destroy or delete all previous dated CDs or electronic versions of this State Appendix	**New Louisiana State Appendix CD** • Replace with new CD provided
Volume 1 of 2	
Front Pocket Information • Entire stapled document	**Front Pocket Information** • Entire stapled document, insert into the plastic binder pocket
Forked Island Terminal ERAP (Emergency Response Action Plan) • Remove entire document, retain the blue folder	**Forked Island Terminal ERAP (Emergency Response Action Plan)** • Entire document, insert into the blue folder and insert into the plastic binder pocket
Table of Contents Index Tab • Sections 1 through 3 table of contents (3 double sided pages)	**Table of Contents Index Tab** • Sections 1 through 3 table of contents (3 double sided pages)
Section 1, Information Summary • Table of Contents • Pages 9/10	**Section 1, Information Summary** • Table of Contents • Pages 9/10
Section 2, Notifications • Table of Contents • Pages 8 through 31	**Section 2, Notifications** • Table of Contents • Pages 8 through 30
Front of Book Once your update process is completed, insert this Update/Revision Notice in your State Appendix Front of Book following previous update notices.	
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UPDATE/REVISION NOTICE

Revision # 0015

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Fourchon Terminal – FRP-06-LA-00320, Forked Island Terminal (Formally FRP USCG MORM –U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Revision Date: November 2006

Important – please read before you begin this update process:

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- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Pages	Replacement Pages
Louisiana State Appendix CD • Destroy or delete all previous dated CDs or electronic versions of this State Appendix	**New Louisiana State Appendix CD** • Replace with new CD provided
Volume 1 of 2	
Forked Island Terminal ERAP (Emergency Response Action Plan) • Pages 7/8	**Forked Island Terminal ERAP (Emergency Response Action Plan)** • Pages 7/8
Section 2, Notifications • Pages 10/11	**Section 2, Notifications** • Pages 10/11

Front of Book
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UPDATE/REVISION NOTICE

Revision # 0016

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Forked Island Terminal (Formally FRP USCG MORM –U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Revision Date: June 2007

Important – please read before you begin this update process:

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Louisiana State Appendix CD • Destroy or delete all previous dated CDs or electronic versions of this State Appendix	**New Louisiana State Appendix CD** • Replace with new CD provided
Volume 1 of 2	
Front Pocket Information • Entire stapled document	**Front Pocket Information** • Entire stapled document, insert into the plastic binder pocket
Forked Island Terminal ERAP (Emergency Response Action Plan) • Remove entire document, retain the blue folder	**Forked Island Terminal ERAP (Emergency Response Action Plan)** • Entire document, insert into the blue folder and insert into the plastic binder pocket
Front of Book • Laminated title page • Regulatory Compliance	**Front of Book** • Laminated title page • Regulatory Compliance
Table of Contents Index Tab • Entire section	**Table of Contents Index Tab** • New contents
Section 1, Area Information Summary • Page 2 - 11 X 17 Midstream Louisiana Assets color map	**Section 1, Area Information Summary** • Page 2 - 11 X 17 Midstream Louisiana Assets color map
Section 2, Notifications • Pages 3/4 • Pages 10/11 • Pages 14/15 • Pages 20 through 23	**Section 2, Notifications** • Page 3 (printed single sided) • Page 4 (printed single sided) • Pages 10/11 • Pages 14/15 • Pages 20 through 23
Section 3, OSRO Contractors Information • Entire section	**Section 3, OSRO Contractors Information** • New contents
Section 5, Hurricane • Pages 9 through 11	**Section 5, Hurricane** • Pages 9 through 14
Section 10, Regional Oil Spill Response Plan • Entire section	**Section 10, Regional Oil Spill Response Plan** • New contents

Revision # 0016

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Forked Island Terminal (Formally FRP USCG MORM –U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Revision Date: June 2007

Volume 2 of 2

Fourchon Terminal • Entire section	**Fourchon Terminal** • New contents
Henry Gas Processing Plant • Entire section including the index tab	**New section titled - Henry Pipeline** • New index tab Henry Pipeline and contents
Paradis Gas Plant • Emergency Action Plan title page	**Paradis Gas Plant** • Emergency Action Plan title page
Napoleonville Gas Storage Facility • Pages 1/2 • Pages 15/16	**Napoleonville Gas Storage Facility** • Pages 1/2 • Pages 15/16
Sorrento Dome Facility • Page 12 • Page 15	**Sorrento Dome Facility** • Page 12 • Page 15
Forked Island Terminal • Table of contents (2 pages) • Pages 1 through 6 • Pages 13 through 15 • Pages 55/56 • Pages 69 through 94	**Forked Island Terminal** • Table of contents (2 pages) • Pages 1 through 6 • Pages 13 through 15 • Pages 55/56 • Pages 69 through 72
Gas Pipelines Emergency Operations Plan • Page 1 • Page 2 - Midstream Louisiana Assets 11 X 17 color map	**Gas Pipelines Emergency Operations Plan** • Page 1 • Page 2 - Midstream Louisiana Assets 11 X 17 color map
Agency Cross Reference • Entire section	**Agency Cross Reference** • New contents

Front of Book
Once your update process is completed, insert this Update/Revision Notice in your State Appendix Front of Book following previous update notices.

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UPDATE/REVISION NOTICE

Revision # 0017

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Forked Island Terminal (Formally FRP USCG MORM –U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Revision Date: January 2008

Important – please read before you begin this update process:

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- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Pages	Replacement Pages
Louisiana State Appendix CD • Destroy or delete all previous dated CDs or electronic versions of this State Appendix	**New Louisiana State Appendix CD** • Replace with new CD provided
Volume 1 of 2	
Front Pocket Information • Entire stapled document	**Front Pocket Information** • Entire stapled document, insert into the plastic binder pocket
Forked Island Terminal ERAP (Emergency Response Action Plan) • Remove entire document, retain the blue folder	**Forked Island Terminal ERAP (Emergency Response Action Plan)** • Entire document, insert into the blue folder and insert into the plastic binder pocket
Front of Book • Laminated title page	**Front of Book** • Laminated title page
Table of Contents Index Tab • Entire section	**Table of Contents Index Tab** • New contents
Section 1, Area Information Summary • Entire section	**Section 1, Area Information Summary** • New contents
Section 2, Notifications • Entire section	**Section 2, Notifications** • New contents
Section 3, OSRO Contractors Information • Entire section	**Section 3, OSRO Contractors Information** • New contents
Section 5, Hurricane • Entire section	**Section 5, Hurricane** • New contents
Volume 2 of 2	
Empire Terminal • Entire section	**Empire Terminal** • New contents

Revision # 0017

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Forked Island Terminal (Formally FRP USCG MORM –U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Revision Date: January 2008

Fourchon Terminal • Entire section	**Fourchon Terminal** • New contents
Main Pass 69 Terminal • Entire section	**Main Pass 69 Terminal** • New contents
Henry Pipeline • Pages 29/30	**Henry Pipeline** • Pages 29/30
Napoleonville Gas Storage Facility • Pages 15/16	**Napoleonville Gas Storage Facility** • Pages 15/16
Sorrento Dome Facility • Pages 1/2	**Sorrento Dome Facility** • Pages 1/2
Gas Pipelines Emergency Operations Plan • Page 1 • Page 2 - Midstream Louisiana Assets 11 X 17 color map	**Gas Pipelines Emergency Operations Plan** • Page 1 • Page 2 - Midstream Louisiana Assets 11 X 17 color map

Front of Book
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UPDATE/REVISION NOTICE

Revision # 0018

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Forked Island Terminal (Formally FRP USCG MORM –U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Revision Date: March 2008

Important – please read before you begin this update process:

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Remove Pages	Replacement Pages
Louisiana State Appendix CD • Destroy or delete all previous dated CDs or electronic versions of this State Appendix	**New Louisiana State Appendix CD** • Replace with new CD provided
Volume 1 of 2	
Table of Contents Index Tab • Section 8 and 9 Table of Contents page	**Table of Contents Index Tab** • Section 8 and 9 Table of Contents page
Section 8, Spill History • Remove the entire contents, keep the index tab	**Section 8, Spill History** • New contents provided which references to the Company Web Site

Front of Book
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UPDATE/REVISION NOTICE

Revision # 0019

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Forked Island Terminal (Formally FRP USCG MORM –U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Revision Date: July 2008

Important – please read before you begin this update process:

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Remove Pages	Replacement Pages
Louisiana State Appendix CD • Destroy or delete all previous dated CDs or electronic versions of this State Appendix	**New Louisiana State Appendix CD** • Replace with new CD provided
Volume 1 of 2	
Front Pocket Information • Entire stapled document	**Front Pocket Information** • Entire stapled document, insert into the plastic binder pocket
Forked Island Terminal ERAP (Emergency Response Action Plan) • Remove entire document, retain the blue folder	**Forked Island Terminal ERAP (Emergency Response Action Plan)** • New contents, insert into the blue folder and place into the plastic binder pocket
Table of Contents Index Tab • Entire section	**Table of Contents Index Tab** • New contents
Section 2, Notifications • Table of contents • Pages 1 through 17	**Section 2, Notifications** • Table of contents • Pages 1 through 17
Section 10, Regional Oil Spill Response Plan • Entire section	**Section 10, Regional Oil Spill Response Plan** • New contents
Volume 2 of 2	
Paradis Gas Plant • Pages 3/4	**Paradis Gas Plant** • Pages 3/4
Front of Book Once your update process is completed, insert this Update/Revision Notice in your State Appendix Front of Book Index Tab following previous update notices.	
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UPDATE/REVISION NOTICE

Revision # 0020

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Forked Island Terminal (Formally FRP USCG MORM –U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Revision Date: October 2008

Important – please read before you begin this update process:

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Louisiana State Appendix CD • Destroy or delete all previous dated CDs or electronic versions of this State Appendix	**New Louisiana State Appendix CD** • Replace with new CD provided
Volume 1 of 2	
Table of Contents Index Tab • Entire section	**Table of Contents Index Tab** • New contents
Section 1, Information Summary • Table of contents • Pages 140 through 162	**Section 1, Information Summary** • Table of contents • Pages 140 through 163

Front of Book
Once your update process is completed, insert this Update/Revision Notice in your State Appendix Front of Book Index Tab following previous update notices.

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UPDATE/REVISION NOTICE

Revision # 0021

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Forked Island Terminal (Formally FRP USCG MORM –U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Revision Date: July 2009

Important – please read before you begin this update process:

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Remove Pages	Replacement Pages
Louisiana State Appendix CD • Destroy or delete all previous dated CDs or electronic versions of this State Appendix	**New Louisiana State Appendix CD** • Replace with new CD provided that contains the State Appendix and Core Plan electronic files.
Front Pocket Information • Entire stapled document	**Front Pocket Information** • New entire stapled document, insert into the plastic binder pocket
Forked Island Terminal ERAP (Emergency Response Action Plan) • Pages 1 thru 3 • Page 6	**Forked Island Terminal ERAP (Emergency Response Action Plan)** • Pages 1 thru 3 • Page 6
Volume 1 of 2	
Table of Contents Index Tab • Entire section	**Table of Contents Index Tab** • New contents
Section 1, Information Summary Index Tab • Pages 5/6	**Section 1, Information Summary Index Tab** • Pages 5/6
Section 2, Notifications Index Tab • Pages 3 and 4 • Page 7	**Section 2, Notifications Index Tab** • Page 3/4 • Page 7
Volume 2 of 2	
Empire Terminal Index Tab • Pages 7/8 • Page 9	**Empire Terminal Index Tab** • Pages 7/8 • Page 9
Henry Pipeline Index Tab • Entire contents	**Henry Pipeline Index Tab** • New contents

Revision # 0021

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Forked Island Terminal (Formally FRP USCG MORM –U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Revision Date: July 2009

Paradis Gas Plant Index Tab • Emergency Action Plan title page • Page 5	**Paradis Gas Plant Index Tab** • Emergency Action Plan title page • Page 5
Sorrento Dome Facility Index Tab • Pages 1/2	**Sorrento Dome Facility Index Tab** • Pages 1/2
Forked Island Terminal Index Tab • Entire contents	**Forked Island Terminal Index Tab** • New contents

Front of Book Index Tab

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UPDATE/REVISION NOTICE

Revision # 22

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Forked Island Terminal (Formally FRP USCG MORM – U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Revision Date: November 2009

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Remove Pages	Replacement Pages
Louisiana State Appendix CD • Destroy or delete all previous dated CDs or electronic versions of this State Appendix	**New Louisiana State Appendix CD** • Replace with new CD provided that contains the State Appendix and Core Plan electronic files.
Front Pocket Information • Entire stapled document	**Front Pocket Information** • New entire stapled document, insert into the plastic binder pocket
Forked Island Terminal ERAP (Emergency Response Action Plan) • Pages 4/5 • Pages 19/20	**Forked Island Terminal ERAP (Emergency Response Action Plan)** • Pages 4/5 • Pages 19/20
Volume 1 of 2	
Table of Contents Index Tab • Entire section	**Table of Contents Index Tab** • New contents
Section 1, Information Summary Index Tab • Pages 5/6	**Section 1, Information Summary Index Tab** • Pages 5/6
Section 2, Notifications Index Tab • Entire section	**Section 2, Notifications Index Tab** • New contents
Section 3, OSRO Contractors Information Index Tab • Entire section	**Section 3, OSRO Contractors Information Index Tab** • New contents
Volume 2 of 2	
Section 11A, Louisiana Sensitive Info. Maps Index Tab • Page 1	**Section 11A, Louisiana Sensitive Info. Maps Index Tab** • Page 1

Revision # 22

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Forked Island Terminal (Formally FRP USCG MORM – U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Revision Date: November 2009

Empire Terminal Index Tab • Entire section	**Empire Terminal Index Tab** • New contents
Agency Cross Reference Index Tab • Pages 11 through 16	**Agency Cross Reference Index Tab** • Pages 11 through 20

Front of Book Index Tab
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UPDATE/REVISION NOTICE

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

Revision # 23

Revision Date: May 2010

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Forked Island Terminal (Formally FRP USCG MORM – U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

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Remove Pages	Replacement Pages
Louisiana State Appendix CD • Destroy or delete all previous dated CDs or electronic versions of this State Appendix	**Louisiana State Appendix CD** • Replace with new CD provided that contains the State Appendix and Core Plan electronic files.
Front Pocket Information • Entire stapled document	**Front Pocket Information** • No replacement
Forked Island Terminal ERAP (Emergency Response Action Plan) • Remove the entire contents for the blue folder, retain the blue folder	**Emergency Response Action Plan (ERAP)** • New contents, insert into the blue folder
Volume 1 of 2	
Front of Book Index Tab • Archive Revision Log (1 page)	**Front of Book Index Tab** • No replacement page
Table of Contents Index Tab • Entire section	**Table of Contents Index Tab** • New contents
Section 1, Information Summary Index Tab • Entire section	**Section 1, Information Summary Index Tab** • New contents
Section 2, Notifications Index Tab • Entire section	**Section 2, Notifications Index Tab** • New contents
Section 3, OSRO Contractors Information Index Tab • Entire section	**Section 3, OSRO Contractors Information Index Tab** • New contents
Section 5, Hurricane Index Tab • Entire section	**Section 5, Hurricane Index Tab** • New contents

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

Revision # 23

Revision Date: May 2010

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
EPA Main Pass Terminal 69 - FRP-06-LA-00319, Empire Terminal – FRP-65-LA-00318, Forked Island Terminal (Formally FRP USCG MORM – U154, EPA# FRP-06-LA-003677, DOT/PHMSA Plan Sequence #704)

Volume 2 of 2

Empire Terminal Index Tab • Title page thru page 22, retain the Sensitivity of Coastal Environments and Wildlife to Spilled Oil maps	**Empire Terminal Index Tab** • Title page thru page 22 in front of the Sensitivity of Coastal Environments and Wildlife to Spilled Oil maps
Fourchon Terminal Index Tab • Entire section	**Fourchon Terminal Index Tab** • New contents
Main Pass 69 Terminal Index Tab • Entire section	**Main Pass 69 Terminal Index Tab** • New contents
Henry Pipeline Index Tab • Entire section	**Henry Pipeline Index Tab** • New contents
Paradis Gas Plant Index Tab • Entire section	**Paradis Gas Plant Index Tab** • New contents
Napoleonville Gas Storage Facility Index Tab • Entire section	**Napoleonville Gas Storage Facility Index Tab** • New contents
Sorrento Dome Facility Index Tab • Entire section	**Sorrento Dome Facility Index Tab** • New contents
Agency Cross Reference Index Tab • Entire section	**Agency Cross Reference Index Tab** • New contents

Front of Book Index Tab

Once the update process is completed, insert this Update/Revision Notice in the State Appendix Volume 1 behind the Front of Book index tab following previous update notices.

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UPDATE/REVISION NOTICE

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

Revision # 24

Revision Date: May 2011

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
Empire Terminal – FRP-65-LA-00318, USCG 16450/NWF014
Forked Island Terminal (Formally FRP USCG MORM – U154, EPA# FRP-06-LA-003677)

Important – please read before you begin this update process:

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Remove Pages	Replacement Pages
Louisiana State Appendix CD • Destroy or delete all previous dated CDs or electronic versions of this State Appendix	**Louisiana State Appendix CD** • Replace with new CD provided that contains the State Appendix and Core Plan electronic files.
ERAP(Emergency Response Action Plan) • Remove the entire contents for the blue folder, retain the blue folder	**ERAP (Emergency Response Action Plan)** • New contents, insert into the blue folder
Volume 1 of 2	
Front of Book • Laminated title page Regulatory Compliance page	**Front of book** • Laminated title page Regulatory Compliance page
Table of Contents Index Tab • Entire section	**Table of Contents Index Tab** • New contents
Section 1, Information Summary Index Tab • Entire section	**Section 1, Information Summary Index Tab** • New contents
Section 2, Notifications Index Tab • Entire section	**Section 2, Notifications Index Tab** • New contents
Section 4, Waste Management • Page 8 • Page 9	**Section 4, Waste Management** • Page 8 • Page 9
Section 5, Hurricane Index Tab • Entire section	**Section 5, Hurricane Index Tab** • New contents
Section 10, Regional Oil Spill Response Plan Entire section	**Section 10, Regional Oil Spill Response Plan** • New contents

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

Revision # 24

Revision Date: May 2011

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
Empire Terminal – FRP-65-LA-00318, USCG 16450/NWF014
Forked Island Terminal (Formally FRP USCG MORM – U154, EPA# FRP-06-LA-003677)

Volume 2 of 2

Empire Terminal Index Tab • Title page thru page 22, **retain the Sensitivity Of Coastal Environments and Wildlife to Spilled Oil maps**	**Empire Terminal Index Tab** • Title page thru page 22 in front of the Sensitivity Of Coastal Environments and Wildlife to Spilled Oil maps
Fourchon Terminal Index Tab • Entire section	**Fourchon Terminal Index Tab** • New contents
Main Pass 69 Terminal Index Tab • Entire section	**Main Pass 69 Terminal Index Tab** • New contents
Henry Pipeline Index Tab • Entire section	**Henry Pipeline Index Tab** • New contents
Paradis Gas Plant Index Tab • Entire section	**Paradis Gas Plant Index Tab** • New contents
Napoleonville Gas Storage Facility Index Tab • Entire section	**Napoleonville Gas Storage Facility Index Tab** • New contents
Sorrento Dome Facility Index Tab • Entire section	**Sorrento Dome Facility Index Tab** • New contents
Forked Island Terminal Index Tab • Entire section	**Forked Island Terminal Index Tab** • New contents
Agency Cross Reference Index Tab • Entire section	**Agency Cross Reference Index Tab** • New contents

Front of Book Index Tab
Once the update process is completed, insert this Update/Revision Notice in the State Appendix Volume 1 behind the Front of Book index tab following previous update notices.

This update must be completed within 14 working days of receipt of this document.

UPDATE/REVISION NOTICE

To All Holders of the Chevron Pipe Line Company Louisiana State Appendix

Revision # 25

Revision Date: June 2014

DOT/PHMSA Plan Sequence #189 Louisiana Response Zone
Empire Terminal – FRP-65-LA-00318, USCG 16450/NWF014

Important – please read before you begin this update process:

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- This sheet contains instructions for updating your State Appendix Emergency Response Plan.
- Should you need assistance or have questions on how to process this update, please contact Planning & Training Solutions, Inc. at 714-283-5140 or via e-mail: willie.eldridge@ptseps.com.

Remove Pages	Replacement Pages
Louisiana State Appendix CD • Destroy or delete all previous dated CDs or electronic versions of this State Appendix	**Louisiana State Appendix CD** • Replace with new CD provided that contains the State Appendix and Core Plan electronic files.
ERAP(Emergency Response Action Plan) • Remove the entire contents of the blue folder, retain the blue folder	**ERAP (Emergency Response Action Plan)** • Insert new contents into the blue folder
Front of Book Index Tab • Laminated title page	**Front of Book Index Tab** • Laminated title page
Table of Contents Index Tab • Entire contents	**Table of Contents Index Tab** • New contents
Section 1, Information Summary Index Tab • Pages 3/4 • Pages 140 thru 143 • Page 160/161	**Section 1, Information Summary Index Tab** • Pages 3/4 • Pages 140 thru 143 • Page 160/161
Section 2, Notifications Index Tab • Entire contents	**Section 2, Notifications Index Tab** • New contents
Section 3, OSRO Contractors Information Index Tab • Entire contents	**Section 3, OSRO Contractors Information Index Tab** • New contents
Forked Island Index Tab • Entire contents	**Forked Island Index Tab** • New contents

Front of Book Index Tab

Once the update process is completed, insert this Update/Revision Notice in your State Appendix behind the Front of Book index tab following previous update notices.

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INFORMATION SUMMARY

SECTION 1 INFORMATION SUMMARY

LOUISIANA RESPONSE ZONE MAP SHOWING RESPONSE AREA 1

LOUISIANA RESPONSE ZONE MAP MIDSTREAM ASSETS 2

QI / CERTIFICATION OF RESOURCES / SIGNIFICANT & SUBSTANTIAL HARM STATEMENT 3

LOUISIANA RESPONSE ZONE INFORMATION SUMMARY 4

Response Areas within the Louisiana Response Zone 4

FACILITY INFORMATION GULF COAST REGION 5

FACILITY INFORMATION CPL ROW PIPE LINES IN OCS WATERS 6

FACILITY INFORMATION MIDSTREAM LOUISIANA NATURAL GASOLINE PIPELINE ASSETS 6

Commodity Change Lake Charles Pipeline System 6

GULF COAST GAS AND GAS LIQUIDS NATURAL GASOLINE PIPELINE AREA DESCRIPTIONS 8

Response Area 1 AC01A-Sorrento to Crossroads M/S, 6" Natural Gasoline Pipeline 8

Sorrento Storage Area 10

Gator Crossing V/S 13

Motiva V/S 13

East Bank V/S 15

West Bank V/S 16

Point E V/S 17

Point D V/S 18

Promix M/S 19

Cross Roads M/S 21

Relief Valve Sites 24

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[redacted]

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	A	ISSUED FOR APPROVAL 12-12-96	2	REVISED PER PERONNEL CHANGE & UPDATED AREAS OF RESPONSIBILITY 3/1/2000	BPM RR
	1	REVISED PER PERSONNEL CHANGE & UPDATED PIPELINES 12-1-97	3	REVISED TEAM LEADER CONTACT INFORMATION	RRR

Chevron Pipe Line

SCALE: NOTED DATE: 12-10-96
DR: MRJ CK: DR APP: ENGR: KPG
OPR'G. DEPT: ENG'R. DEPT: FSG
APPROVED 12-12-96

KEY MAP
TEAM LEADER COVERAGE
LOUISIANA, MISSISSIPPI & ALABAMA

SHEET 0

A | C.C. FAC# | GCR FE 01 | 3

CP_41 01/31/2002 RRR
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MIDSTREAM LOUISIANA ASSETS

857 MILES OF GAS TRANSMISSION PIPELINE
145 MILES OF GAS GATHERING PIPELINE
302 MILES OF LIQUID PIPELINE

1. LAKE CHARLES COMPRESSION: 2 UNITS – 2,400 H.P.
2. HENRY PLANT COMPLEX:
   GAS PROCESSING CAPACITY: 330 MMCFD
   FRACTIONATION CAPACITY: 56 MBPD
   NGL PUMP STATION: 3 PUMPS – 1,800 H.P.
3. GRAND CHENIER COMPRESSION: 6 UNITS – 6,600 H.P.
4. COW ISLAND COMPRESSION: 1 UNIT – 650 H.P.
5. HENRY JUNCTION COMPRESSION: 2 UNITS – 1,100 H.P.
6. FLOODWAY PLANT:
   GAS PROCESSING CAPACITY: 600 MMCFD

886 MILES OF GAS TRANSMISSION PIPELINE
339 MILES OF GAS GATHERING PIPELINE
290 MILES OF NGL PIPELINE

7. TALLY HO COMPRESSION: 1 UNIT – 1 470 H P
8. DONALDSONVILLE COMPRESSION: 1 UNIT – 1 800 H P
9. NAPOLEONVILLE GAS STORAGE:
   TOTAL CAVERN CAPACITY: 8 26 BCF
   WORKING CAPACITY: 4 16 BCF
   INJECTION CAPACITY 400 MMCFD
   WITHDRAWAL CAPACITY: 80 400 MMSCFD
   COMPRESSION: 2 UNITS – 5 300 H P
10. SORRENTO GAS STORAGE:
    TOTAL CAVERN CAPACITY: 13 16 BCF
    WORKING CAPACITY: 6 00 BCF
    INJECTION CAPACITY 60 100 MMCFD
    WITHDRAWAL CAPACITY:400 700 MMSCFD
    COMPRESSION: 3 UNITS – 6 750 H P
    NGL PIPELINE PUMP STATION: 2 PUMPS – 800 H P
11. PARADIS PLANT COMPLEX:
    GAS PROCESSING CAPACITY: 240 MMCFD
    COMPRESSION: 8 UNITS – 8 410 H P
    LIQUID PIPELINE PUMPING STATION: 9 PUMPS – 3 900 H P
    DISCOVERY PRODUCER SERVICES FRACTIONATOR:
    FRACTIONATION CAPACITY: 34 000 BPD
    LIQUID STORAGE CAPACITY: 56 900 BBLS
12. PARADIS FIELD COMPRESSION: 1 UNIT – 1 100 H P

CHEVRON MIDSTREAM PIPELINES LLC (FORMERLY TEXACO PIPELINES LLC)

- LIQUID
- GATHERING
- GAS TRANSMISSION
- CHEVRON PETROCHEMICAL PIPELINE LLC
- BRIDGELINE HOLDINGS LP
- SABINE PIPE LINE CO.
- BRIDGELINE HOLDINGS COMPRESSOR
- BRIDGELINE HOLDINGS GAS STORAGE
- CHEVRON MIDSTREAM PIPELINES LLC PLANT
- CHEVRON MIDSTREAM PIPELINES LLC PUMP STATION
- CHEVRON PETROCHEMICAL PIPELINE LLC PUMP
- SABINE COMPRESSOR
- BRIDGELINE HOLDINGS RECEIPT
- BRIDGELINE HOLDINGS DELIVERY
- TEXACO PIPELINES LLC DELIVERY
- CHEVRON PETROCHEMICAL PIPELINE LLC DELIVERY
- SABINE INTERCONNECTS
- DISCOVERY INTERCONNECT
- LOUISIANA COASTAL ZONE BOUNDARY

Note:
Holmwood Compressor Station, Calcasieu Parish at Sabine Pipeline Station #3662 + 60.6 and adjacent to LA. Hwy 397 added on August 1, 2007

01/31/08

QI / CERTIFICATION OF RESOURCES / SIGNIFICANT & SUBSTANTIAL HARM STATEMENT

CERTIFICATIONS

Qualified Individual

Chevron Pipe Line Company (Company) is authorizing all of its employees who are trained in Incident Command and who are functioning as the Incident Commander (IC) to be the Qualified Individual (QI). This financial authority is unique to spills and emergency releases and is not a part of the Company's routine delegation of authority guidelines.

In the event of an oil spill or emergency release, Company employees who will be responding as Incident Commanders (IC/QIs) have the authority to:

1. Activate the Emergency Response Plan.
2. Activate and engage in contracting with oil spill removal organizations. Commit resources from within the Company, through the Corporate Oil Spill Coordinator/Staff, outside contractors, MSRC, cooperatives, and as directed by the Federal or State On-Scene Coordinator.
3. Act as liaison with Federal or State On-Scene Coordinator and other Federal and State officials.
4. Obligate funds required to carry out all necessary or directed response activities.

The response organization is critical to the management of an emergency response because of the large geographic areas covered by the Company. Immediate response in remote areas is managed by local personnel who may be replaced by additional personnel if the magnitude of the spill warrants. The response of the additional personnel may take some time due to geography. It is impossible to name the specific individual who will be IC in advance. It will depend on the location of the spill, the size of the spill, and whether it is the initial response or a later phase in the clean up process.

Various federal and state agencies have recognized the need for owners/operators who use a tiered response to allow for the transfer of authority upward as the extent of a spill is assessed. Agencies also acknowledge that response efforts often involve 24- hour efforts, and authorities must be transferred in this "shift" works situation.

National Contingency Plan / Area Contingency Plan Consistency

Company (Operator) certifies that it has reviewed the National Contingency Plan (NCP) and each applicable Area Contingency Plan, and that this Emergency Response Plan is consistent with the existing NCP and each existing applicable ACP.

Per applicable geographical areas, the following Area Contingency Plans have been reviewed for consistency with Company's Emergency Response Plan:

- US EPA Region 6 Integrated ACP (Facilities in Texas and New Mexico)
- South Louisiana/Acadia Region ACP (Morgan City)
- New Orleans/Baton Rouge ACP
- US EPA Region 8 ACP (Facilities in Utah and Colorado)
- US EPA Region 9 Regional Contingency Plan (Facilities in California)
- US EPA Region 10 ACP (Facilities in Idaho, Oregon and Washington)
- San Francisco Oil Spill Contingency Plan (N. California Bay Area Facility)
- Los Angeles/Long Beach ACP (S. California Los Angeles Facility)

CERTIFICATION OF RESOURCES

The Company hereby certifies to the Pipeline Hazardous Materials Safety Administration (PHMSA) of the Department of Transportation that we have identified and ensured by contract or other means to be approved by the PHMSA, the availability of private personnel and equipment to respond, to the maximum extent practicable, up to and including a worst case discharge or a substantial threat of such a discharge.

STATEMENT OF SIGNIFICANT AND SUBSTANTIAL HARM

The Company hereby submits to the Pipeline Hazardous Materials Safety Administration of the Department of Transportation that we have identified, as required by 49 CFR, Part 194.107 and Part 194.103, the pipeline sections in each Response Zone that can be expected to cause significant and substantial harm to the environment in the event of a discharge of oil or products into or on navigable waters, adjoining shorelines, public drinking water intakes, or other environmentally sensitive areas. Each pipeline segment meeting the significant harm definition is identified, as required, in the applicable State Appendices.

Signature: Lonnie Evans Date: 15 Mar 2010

Printed Name and Title: Lonnie Evans, CEM, Emergency Response Specialist
4800 Fournace Place, Rm. E320B, Bellaire, TX 77401-2324
Tel 713-432-3406, LonnieJEvans@chevron.com

LOUISIANA RESPONSE ZONE INFORMATION SUMMARY

Operator: Chevron Pipe Line Company
4800 Fournace Place
Bellaire, TX 77401-2324

To Contact Chevron Pipe Line Company call this 24 Hour Contact Telephone Number – 800-762-3406

Refer to Front Pocket Information for a listing of QI and their telephone numbers.

Response Areas within the Louisiana Response Zone

Response Areas: Empire
Fourchon
Midstream Louisiana Assets

Company is the owner of certain pipelines in the Gulf of Mexico that are subject to the jurisdiction of Bureau of Safety and Environmental Enforcement All of the pipelines that are subject to BSEE jurisdiction are covered in a joint Chevron USA and Chevron Pipe Line Company Gulf of Mexico Oil Spill Response Plan. The Joint Plan is maintained by Chevron USA.

Qualified Individual(s): All employees trained in Incident Command and who are functioning as the Incident Commander (IC) are authorized to be the Qualified Individual (QI). Refer to the Front Pocket Information telephone list for telephone/pager numbers where the QI can be contacted on a 24-hour basis.

Personnel arriving on the scene of a spill, pending arrival of an IC/QI, will follow Initial Response Activities as described in the Company Core Plan, Section 3, Page 5.

Basis for determination of significant and substantial harm: These pipelines are located in shallow water marshy areas, cross navigable waterways and are located near onshore and offshore sensitive environments in South Louisiana and South Mississippi. A release of crude oil could cause significant and substantial harm to the area.

Note: For more specific Worst Case Discharge information, please refer to Worst Case Discharge Information on Page 141 of this Section.

For spills in Mississippi waters, refer to the Company Emergency Response Plan Mississippi State Appendix.

The Louisiana State Appendix is intended to be utilized along with the Company ERP Core Plan.

FACILITY INFORMATION GULF COAST REGION

Note: The Empire to Pascagoula 20" line is out of service.

DOT - PHMSA Pipelines included in CPL's Gulf Coast Region Emergency & Oil Spill Response Plan					
Zone	**From**	**To**	**Size, ins.**	**Length, mi.**	**Parish/County**
OIL PIPE LINES					
Empire	Empire	Pascagoula	20	103.7	Plaquemines, offshore LA, offshore MS, Jackson Co Ms
Empire	BS Blk 2	Y Connection	20	28.55	Offshore LA
Empire	BS Blk 2	Empire	20	26.8	Offshore LA
Empire	QB Tbtry 2	BB Connection	6	0.06	Offshore LA (Sold)
Empire	West BB	Central BB	8	16.4	Offshore LA (Sold)
Empire	Central BB	Empire	8		Offshore LA Plaquemines (Sold)
Fourchon	Fourchon	Empire	20	43.64	LaFourche, Jefferson, Plaquemines, LA
Fourchon	Tbay Tbtry 2	Tbay Tbtry 5 Jct	6	5.71	LaFourche, LA (Abandoned in Place 1997)
Fourchon	Tbay Tbtry 3	Bay Marchand	10	5.83	LaFourche, LA (Abandoned in Place 2003)
Venice	WD 53	SWP W-2	6	3.22	Offshore LA Plaquemines (Sold)
Venice	SWP E-3 Sta	SWP W-2	8	1.03	Plaquemines, LA
Venice	SWP E-3 Sta	SWP Shell SP Sta	8		Plaquemines, LA
Venice	SWP W-2 Sta	Wbay Bstr	6	10.3	Plaquemines, LA (Abandon)
Venice	SWP W-2 Sta	Wbay Bstr	10	3	Plaquemines, LA (W-2 to Venice Bstr)
Venice	SP 24 Hassie Hunt	Dixon Bay	6	3.7	Plaquemines, LA
Venice	Pennzoil Wbay	Wbay Scr. Trap	4	2.7	Plaquemines, LA (Abandon)
Venice	Marathon	Venice Bstr	8	0.19	Plaquemines, LA
Venice	West Bank River	East Bank River	12	1	Plaquemines, LA
Venice	West Bank River	East Bank River	8	1	Plaquemines, LA
Venice	MP 69 Term	MP41 Term	10	13.4	Offshore LA Plaquemines
Venice	SWP W-6 Sta	SWP W-1 Sta	10	8.2	Plaquemines, LA (Sold)
Venice	SWP E-5 Sta	SWP E-3 Sta	4	4.4	Plaquemines, LA (Abandon)
Venice	SWP E-5 Sta	SWP E-3 Sta	8	4.4	Plaquemines
Venice	DGS	Venice Bstr	10	1.1	Plaquemines, LA
Venice	Venice Bstr.	Ostrica	6	16.36	Plaquemines, LA
Venice	Venice Bstr.	Empire/Ostrica	12	16.36	Plaquemines, LA
Venice	Venice Bstr.	Empire	4	16.36	Plaquemines, LA - (Paradis)
Venice	E-8	E-3	6/8	4.4	Plaquemines, LA
Venice	MP 41 Term	Grand Bay Rec. Sta	6	3.6	Offshore LA, Plaquemines
Venice	Tbtry 12	Grand Bay Rec. Sta	6	0.86	Plaquemines, LA
Venice	Grand Bay Rec. Sta	Empire	10	17.69	Plaquemines, LA
Venice	W-1	Long Island Bayou	10	10.8	Plaquemines, LA - Out of service
Fourchon	S/T 15 to	Fourchon Term.	10	11.5m	LaFourche, LA, Terrebone, Offshore, LA
OTHER PIPELINES					
Fourchon	Faustina	UTP E/P Line	6	114	Plaquemines, LaFourche, St. James, LA (Paradis Group)
Fourchon	Klotzville	St. James Ethylene	8	17.26	Assumption, St. James, LA - (Sorrento Group)
Fourchon	GI 75 SSTI	ST 124 SSTI	8	5.67	Offshore LA
Fourchon	SP 13	ST 52	10		Offshore LA
Fourchon	ST 265 "A"	ST 177 (10" SSTI)	6	15.4	Offshore LA
	ST 72 to	SP 15 SST I			

Note:

Flushed and abandoned:

Segment #10912; ST 265 – ST 176; Route Code LAL0360
Segment #9773; ST 177 – ST 176 SSTI
Segment #9785; ST 176 – ST 63A; Route Code LAL0358
Segment #4244; ST 63 – ST 52; Route Code LAL0355

FACILITY INFORMATION CPL ROW PIPE LINES IN OCS WATERS

For facility information regarding CPL ROW pipelines in OCS water, refer to the Chevron Gulf of Mexico Response Plan maintained by Chevron Production.

FACILITY INFORMATION MIDSTREAM LOUISIANA NATURAL GASOLINE PIPELINE ASSETS

Area#	Name	Parish(s)	State	Area Description
1	AC-01A	Ascension and Iberville	LA	(6") Natural Gasoline pipeline running from Sorrento to Crossroads M/S, via Star NGL M/S, UTP V/S, Pt. "D" V/S and Bi-directional between Promix M/S and Pt. "D" V/S.
2	SS-01B	Ascension, St. James and St. John the Baptist	LA	(6") Natural Gasoline pipeline running from Sorrento to Marathon NGL M/S.
3	SS-01A	St. Charles and St. John the Baptist	LA	(6") Natural Gasoline pipeline running bi-directionally between Hwy 3127 V/S and Marathon NGL M/S.
4	PP-01/ PP-03	St. Charles	LA	(6") Natural Gasoline pipeline running bi-directionally between HWY 3127 V/S and Paradis P/S.
5	AL-01	St. Charles, Lafourche, Jefferson and Plaquemines	LA	(6") Natural Gasoline pipeline running from Paradis P/S to AL Alliance P/S.
6	LGPP	Lafourche	LA	(18") Condensate pipeline running from the Larose Gas Processing Plant.
8	UC-01	St. Charles	LA	(6") Natural Gasoline pipeline running from Hwy 3127 V/S to Union Carbide M/S.

Commodity Change Lake Charles Pipeline System

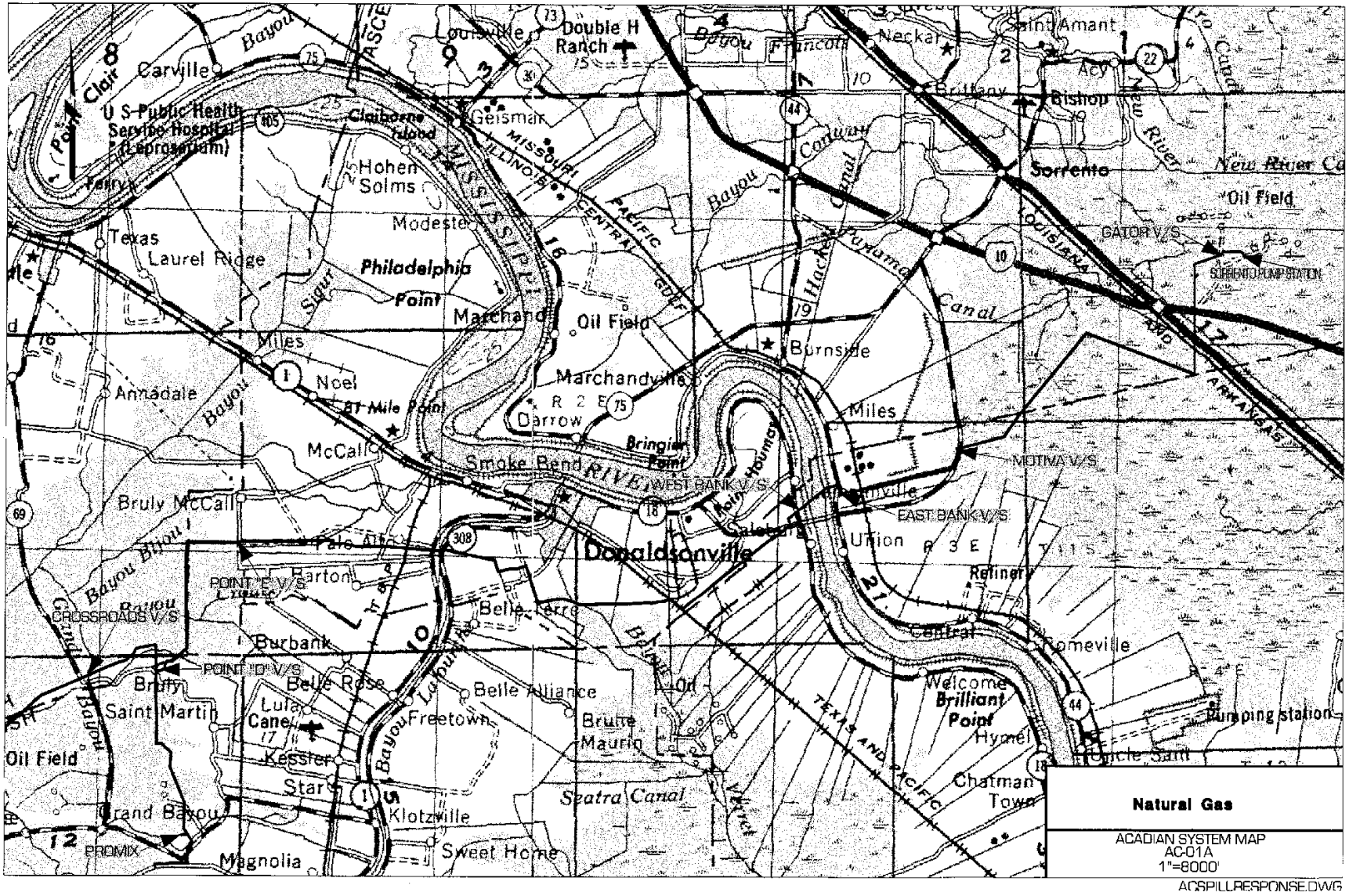
Commodity change will occur on or about November 1, 2006 on Lake Charles PL System to transport natural gasoline. This is an HVL Pipeline System normally transporting propane, ethane, and butanes. Job scope includes receipt of natural gasoline from the Acadian Pipeline System and possibly from the Breaux Bridge Pipeline System into the Lake Charles Pipeline System with final destination at Lake Charles, LA.

The Lake Charles NGL System is an intrastate NGL bi-directional flow system that extends from Henry to Lake Charles. Refer to the System Map at the beginning or this Section.

The Lake Charles NGL Pipeline System can transport Ethane, Propane, Propylene, Normal Butane, Iso-Butane and EP Mix (raw make). These natural gas liquids are considered highly volatile liquids (HVL), and have the potential to form a flammable vapor cloud when released to the atmosphere.

The Lake Charles NGL Pipeline System originates at the Henry Complex located in Vermilion Parish, Louisiana and extends west approximately 84.5 miles through the Parishes of Cameron, Jefferson Davis, and Calcasieu and terminates near the community of Carlyss. The pipeline segments are described as follows:

Line No.	Miles	Size	Description
LC-01	80.0	8"	Henry Pump Station @ HGPP to Hwy 1133 Meter Station
LC-02	1.37	8"	Westlake Lateral from Hwy 1133 Meter Station to Westlake Petrochemical
LC-03	1.85	8"	Hwy 1133 Meter Station to Dow Sulphur Meter Station
LC-04	1.26	8"	CITGO Lateral from Hwy 1133 Meter Station to CITGO's Refinery


Carville
U S Public Health Service Hospital (Leprosarium)
Louisville
Double H Ranch
Geismar
Hohen Solms
Modeste
Texas
Laurel Ridge
Philadelphia Point
Marchand
Oil Field
Miles
Noel
Annadale
81 Mile Point
McCall
Smoke Bend
Bruly McCall
Pale Alto
Barton
POINT "E" V/S
CROSSROADS V/S
Burbank
POINT "D" V/S
Belle Rose
Belle Alliance
Saint Martin
Lula Cane
Freetown
Bruin Maurice
Kessler
Start
Klotzville
Grand Bayou
PROMIX
Magnolia
Sweet Home
Oil Field
Seatra Canal
Marchandville
Darrow
Bringier Point
WEST BANK V/S
Donaldsonville
Belle Terre
Burnside
Miles
MOTIVA V/S
EAST BANK V/S
Union
Refinery
Central
Romeville
Welcome
Brilliant Point
Hymel
Chatman Town
Uncle Sam
Pumping station
Neckar
Saint Amant
Acy
Britany
Bishop
Sorrento
Oil Field
GATOR V/S
SORRENTO PUMP STATION
New River
Natural Gas
ACADIAN SYSTEM MAP
AC-01A
1"=8000'
ACSPILLRESPONSE.DWG

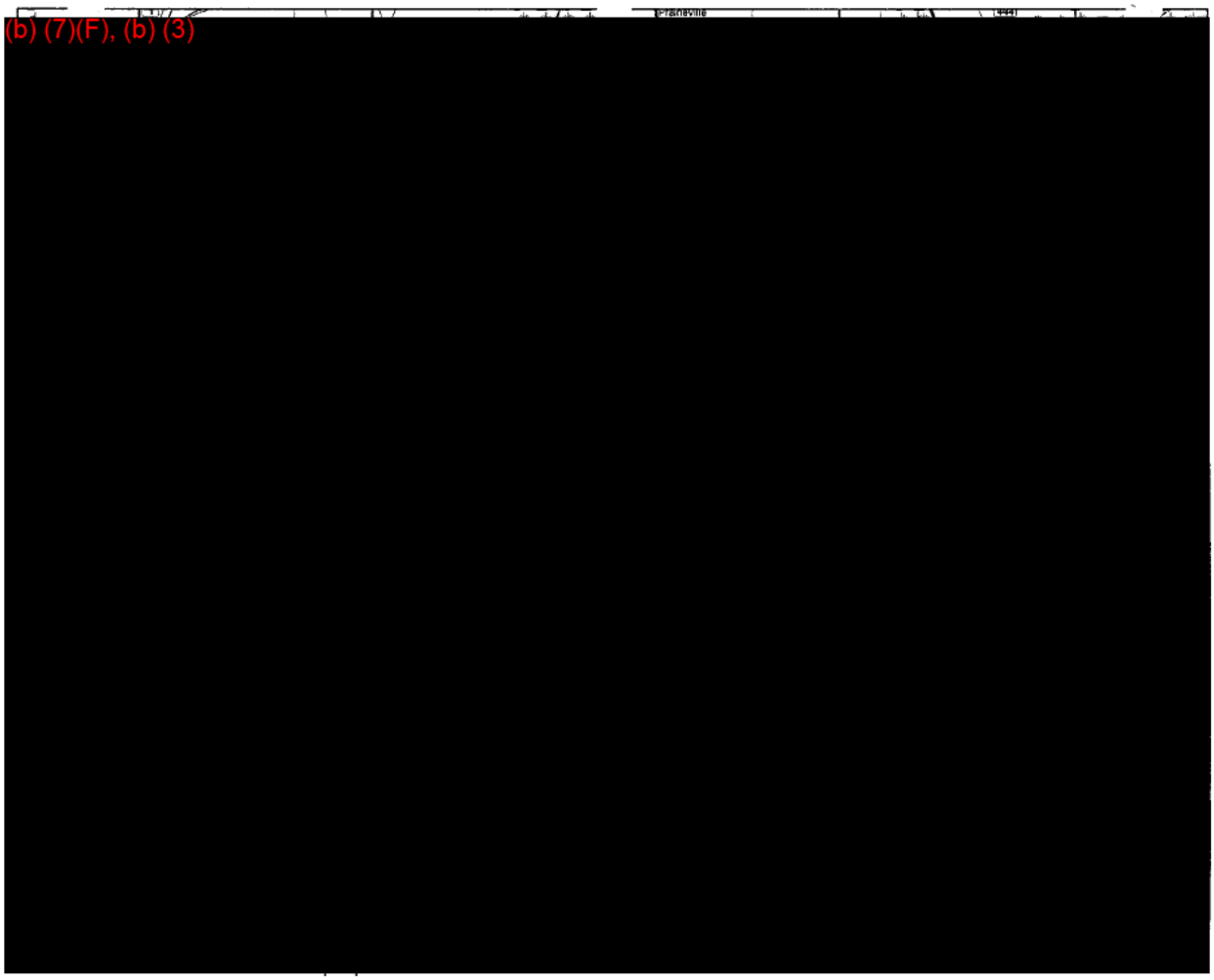
GULF COAST GAS AND GAS LIQUIDS NATURAL GASOLINE PIPELINE AREA DESCRIPTIONS

Response Area 1 AC01A-Sorrento to Crossroads M/S, 6" Natural Gasoline Pipeline

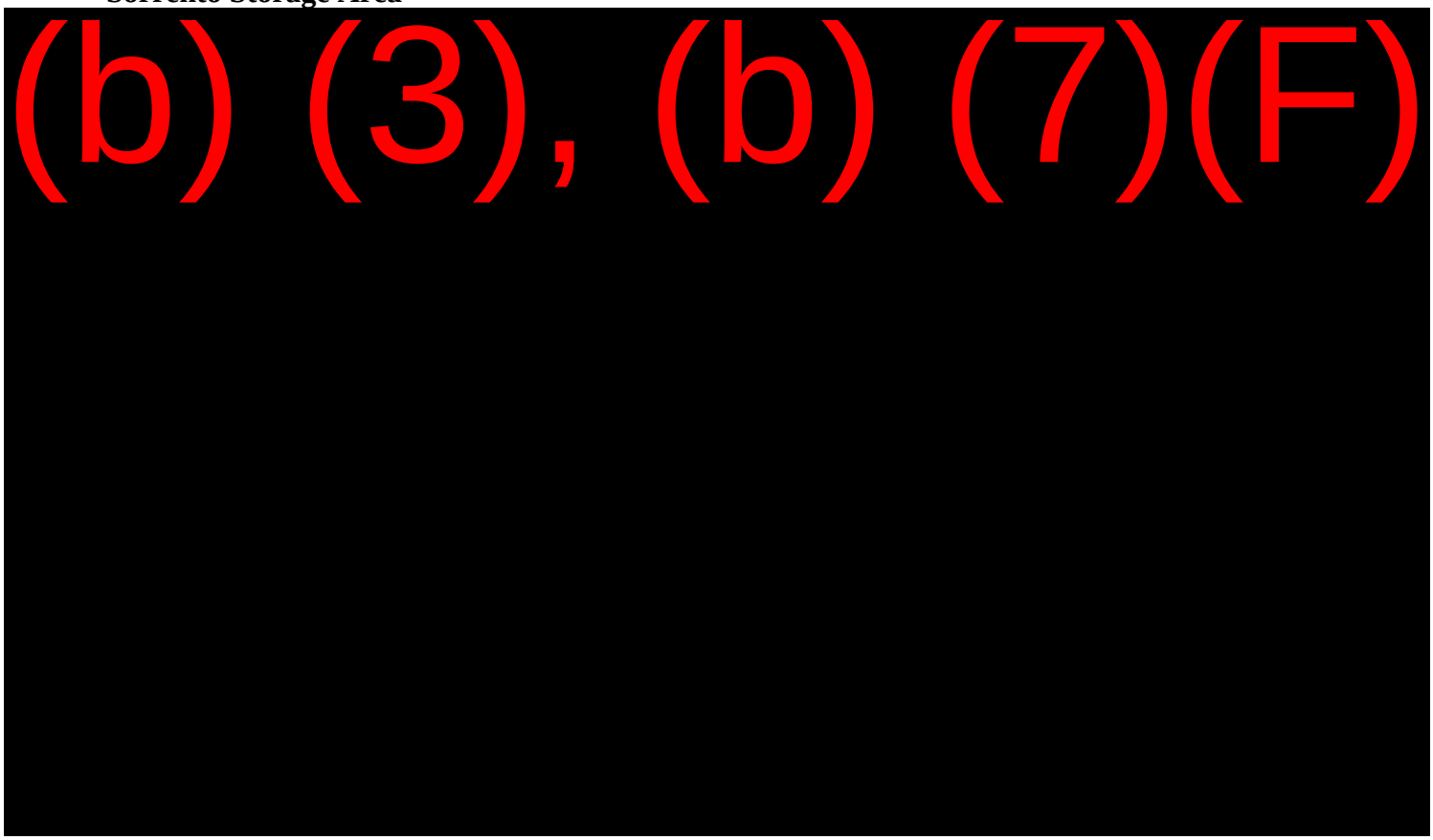
Response Area Description
Response Area 1 is identified by Chevron Midstream Pipelines LLC (formerly Texaco Pipelines LLC) as AC-01A (b) (3), (b) (7)(F) [redacted] This line runs 29.4 miles in Louisiana through Ascension, Assumption, St. James, and Iberville Parishes. (b) (3), (b) (7)(F) [redacted] he geographic region this pipeline passes through contains areas of environmental and economic sensitivity. The general region is described in the maps and charts that are included on the following pages. The legend below identifies key pipeline segments and systems and corresponds to the overview map on the following page. More specific information relating to environmental and economic areas of concern can be found in the following pages of this section.

Key Pipeline Segment Areas And Systems
(b) (7)(F), (b) (3) [redacted]

(b) (7)(F), (b) (3)



Sorrento Storage Area



Sorrento Pumping Station
Facility Entrance

Pumping Systems

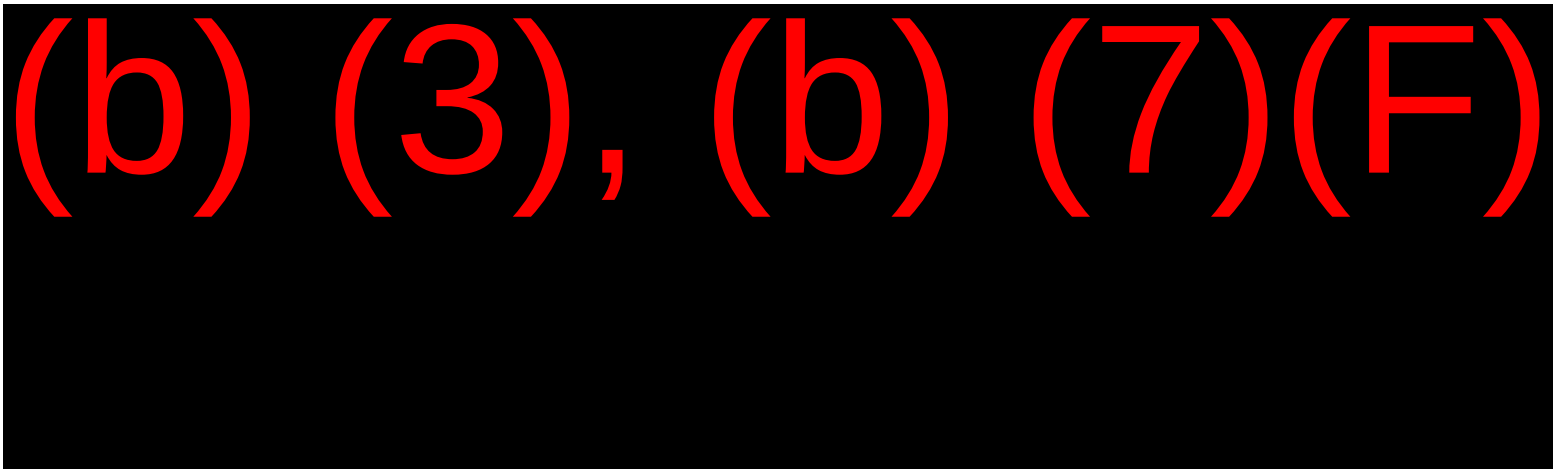
(b) (7)(F), (b) (3)

Sorrento Pumping Station
Pumping Systems

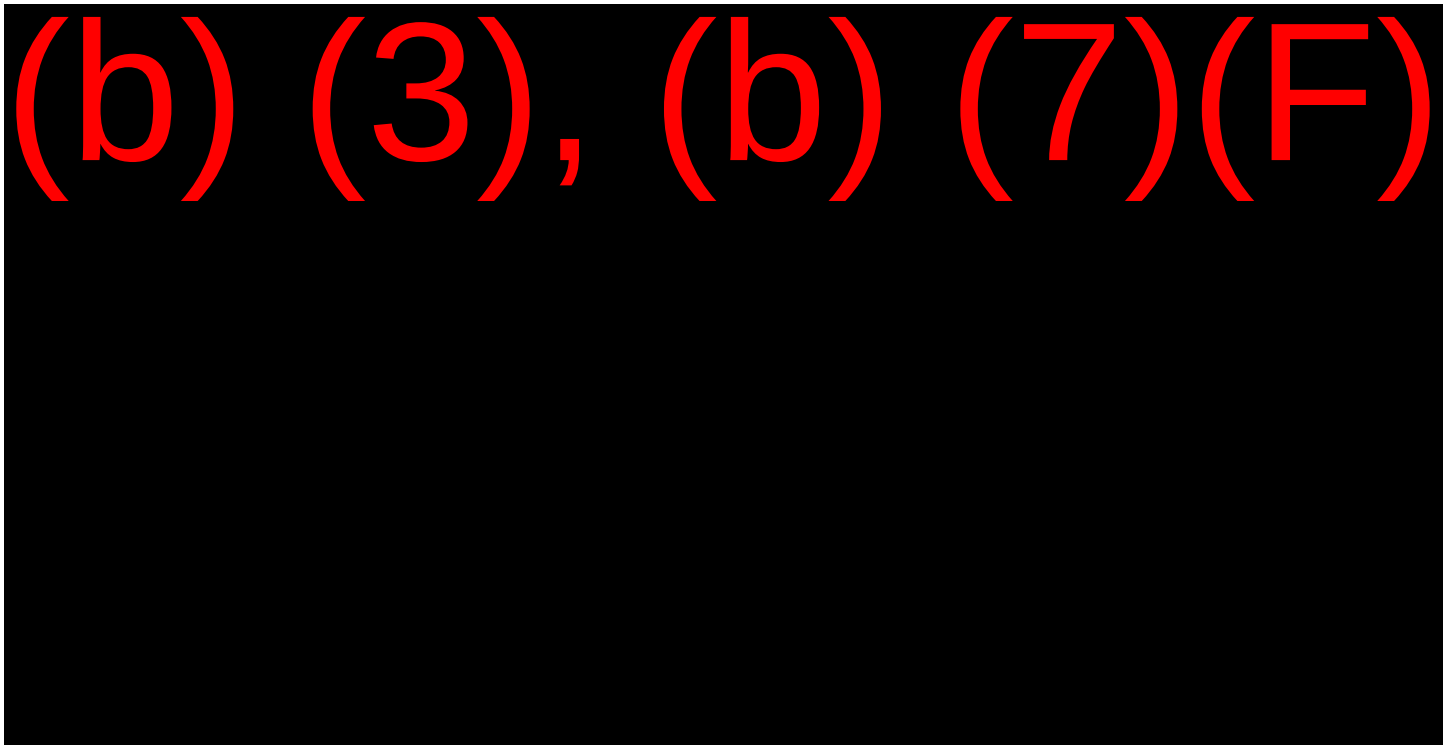
(b) (7)(F), (b) (3)

[redacted]

Gator Crossing V/S



Motiva V/S



Motiva V/S
Valve Station Overview

(b) (7)(F), (b) (3)

[redacted]

East Bank V/S

(b) (7)(F), (b) (3)

[redacted]

West Bank V/S

(b) (7)(F), (b) (3)

[redacted]

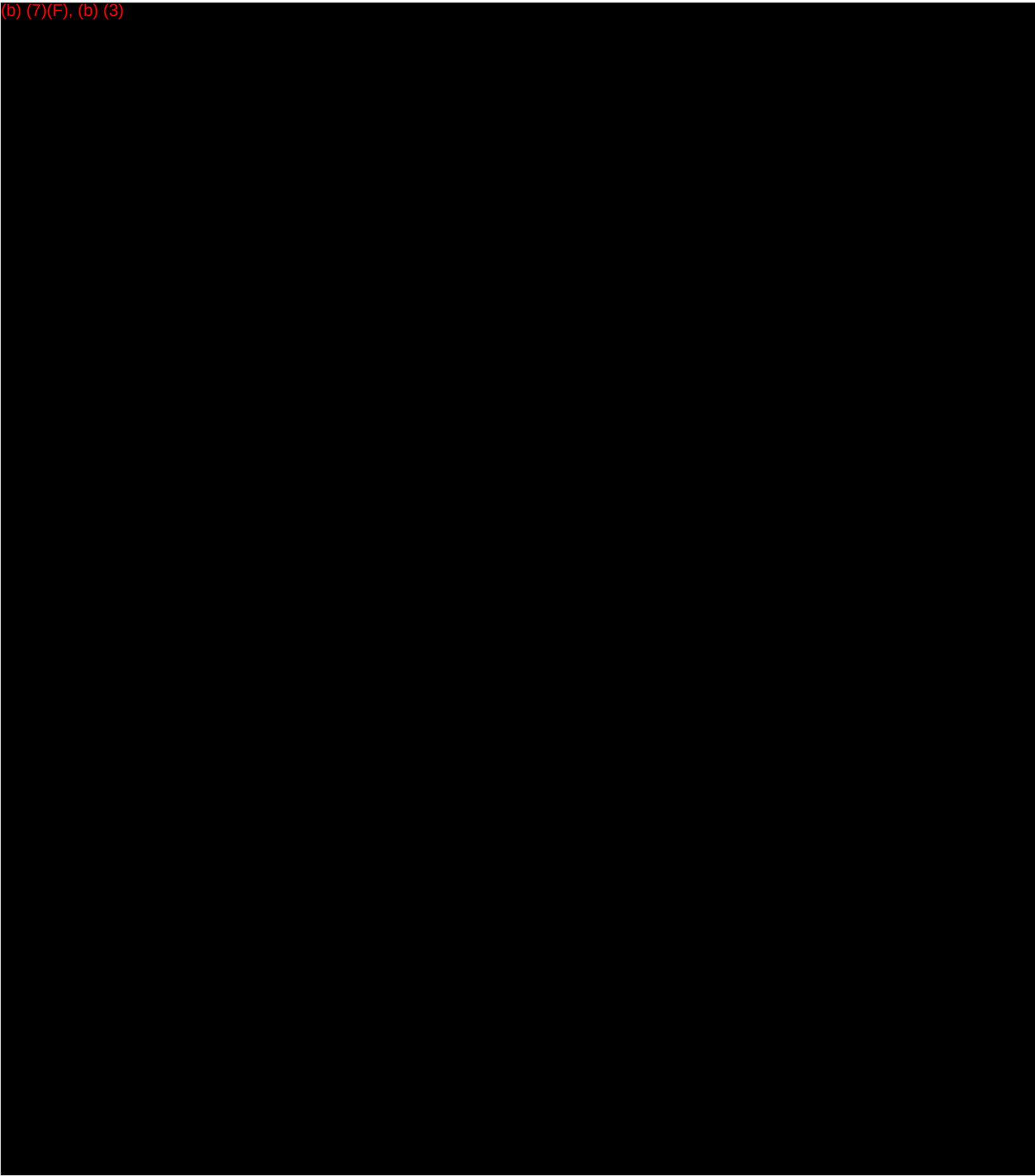
Point E V/S

(b) (7)(F), (b) (3)

[redacted]

Point D V/S

(b) (7)(F), (b) (3)



Promix M/S

(b) (7)(F), (b) (3)

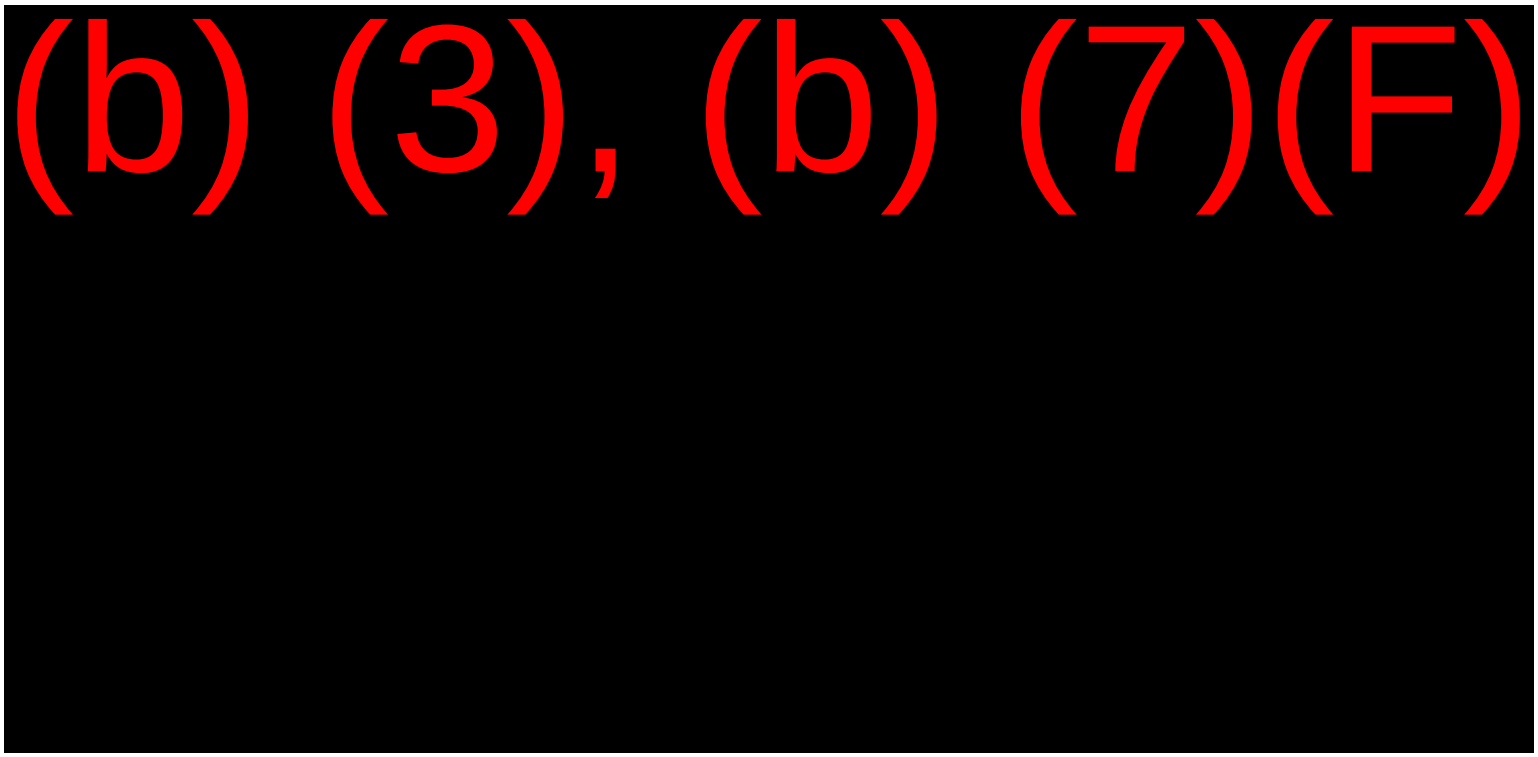
[redacted]

Promix M/S

(b) (7)(F), (b) (3)

[redacted]

Cross Roads M/S



Crossroads M/S
Valve Site Overview

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

Relief Valve Sites

(b) (7)(F), (b) (3)

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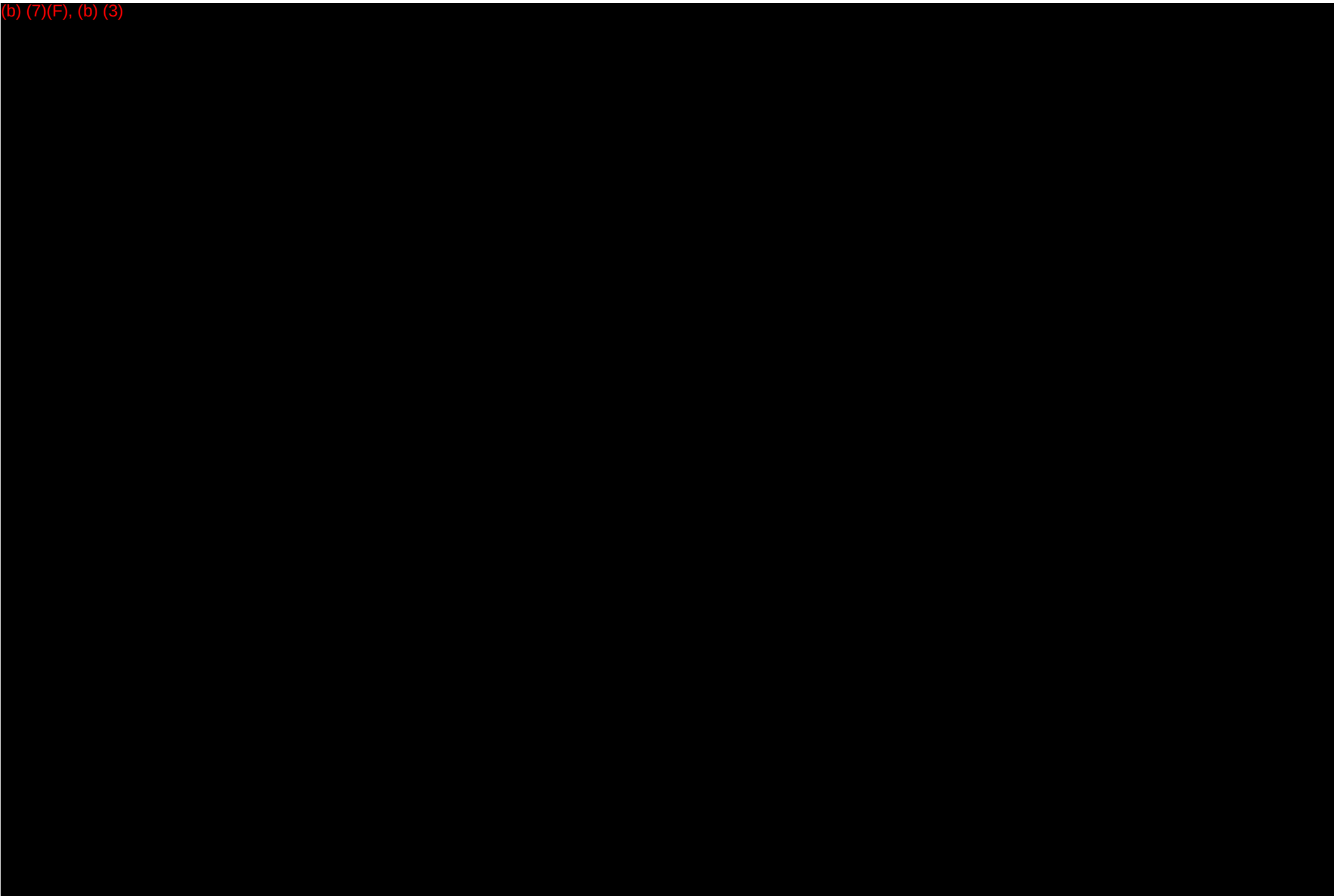
(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

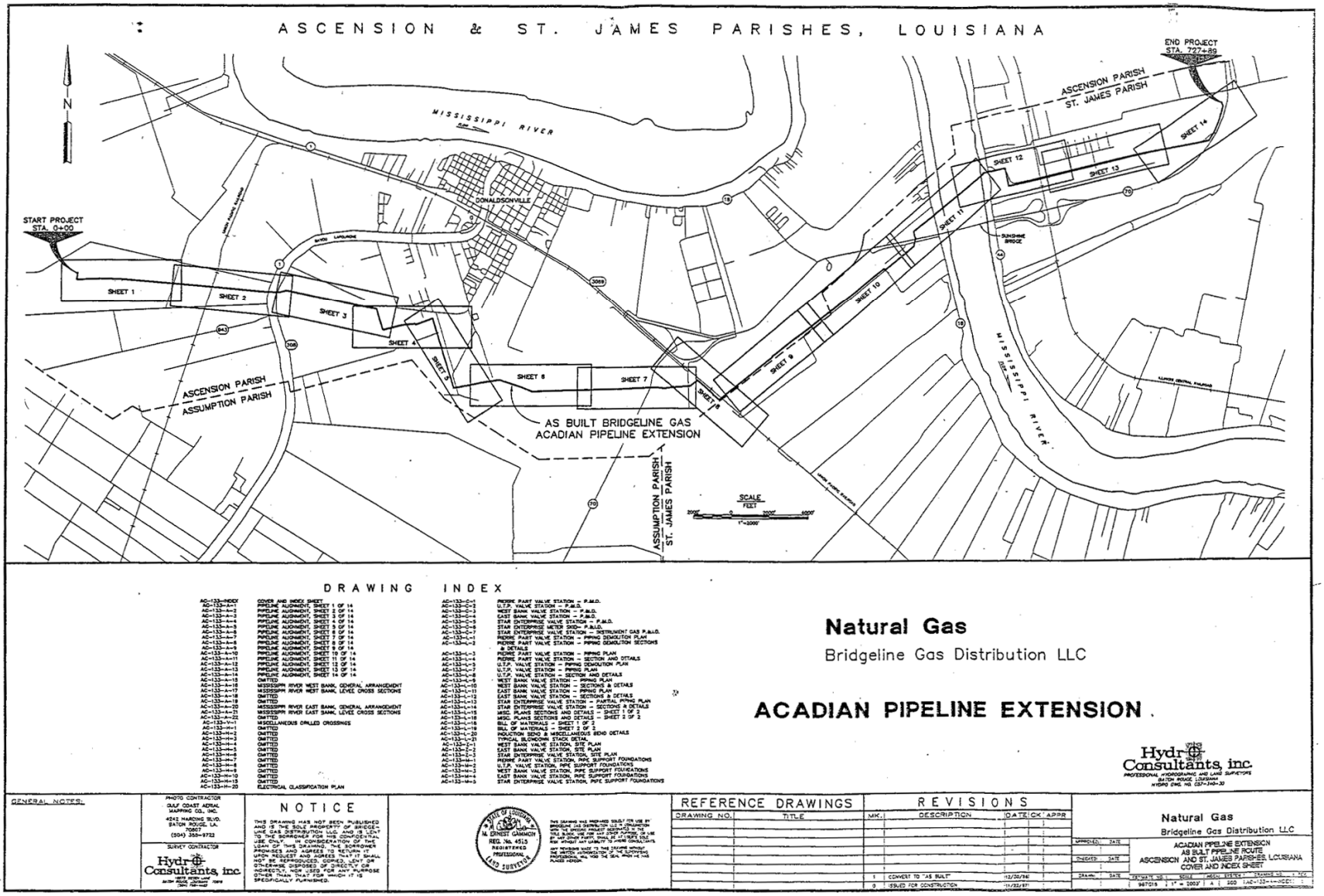


(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]


ASCENSION & ST. JAMES PARISHES, LOUISIANA
MISSISSIPPI RIVER
DONALDSONVILLE
START PROJECT STA. 0+00
END PROJECT STA. 727+89
ASCENSION PARISH
ASSUMPTION PARISH
ASCENSION PARISH
ST. JAMES PARISH
AS BUILT BRIDGELINE GAS
ACADIAN PIPELINE EXTENSION
ASSUMPTION PARISH
ST. JAMES PARISH
SUNSHINE BRIDGE
MISSISSIPPI RIVER
SCALE
FEET
SHEET 1
SHEET 2
SHEET 3
SHEET 4
SHEET 5
SHEET 6
SHEET 7
SHEET 8
SHEET 9
SHEET 10
SHEET 11
SHEET 12
SHEET 13
SHEET 14
DRAWING INDEX
Natural Gas
Bridgeline Gas Distribution LLC
ACADIAN PIPELINE EXTENSION
Hydro Consultants, inc.
GENERAL NOTES:
PHOTO CONTRACTOR
GULF COAST AERIAL MAPPING CO., INC.
4242 HARDING BLVD.
BATON ROUGE, LA.
70807
(504) 355-9722
SURVEY CONTRACTOR
Hydro Consultants, inc.
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STATE OF LOUISIANA
AL ERNEST GAMMON
REG. No. 4513
REGISTERED
PROFESSIONAL
LAND SURVEYOR
REFERENCE DRAWINGS
DRAWING NO.
TITLE
REVISIONS
MK.
DESCRIPTION
DATE
CK'
APPR
1 CONVERT TO "AS BUILT" 12/20/96
0 ISSUED FOR CONSTRUCTION
Natural Gas
Bridgeline Gas Distribution LLC
ACADIAN PIPELINE EXTENSION
AS BUILT PIPELINE ROUTE
ASCENSION AND ST. JAMES PARISHES, LOUISIANA
COVER AND INDEX SHEET
APPROVED DATE
CHECKED DATE
DRAWN DATE
DRAWING NO.
SCALE
MEDIA SYSTEM
DRAWING NO.
REV.
967215
1" = 2000'
A
500
1AC-133-H-INDEX

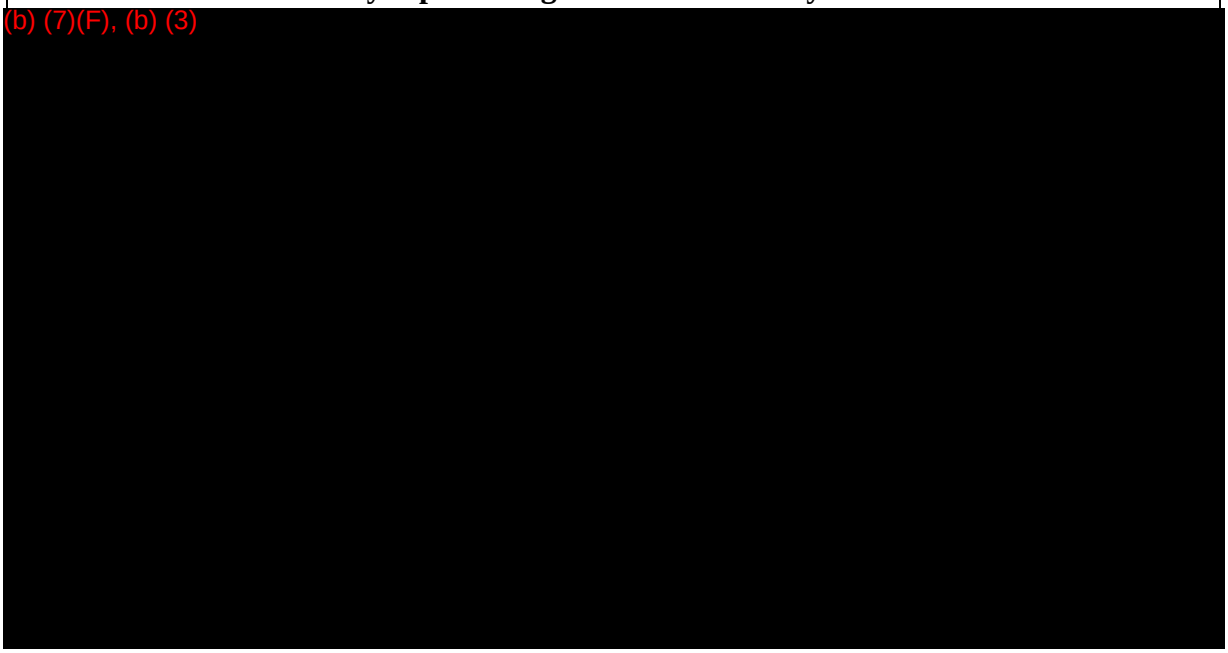
Response Area 2 SS-01B-Sorrento to Marathon V/S, 6" Natural Gasoline Pipeline

(b) (3), (b) (7)(F)

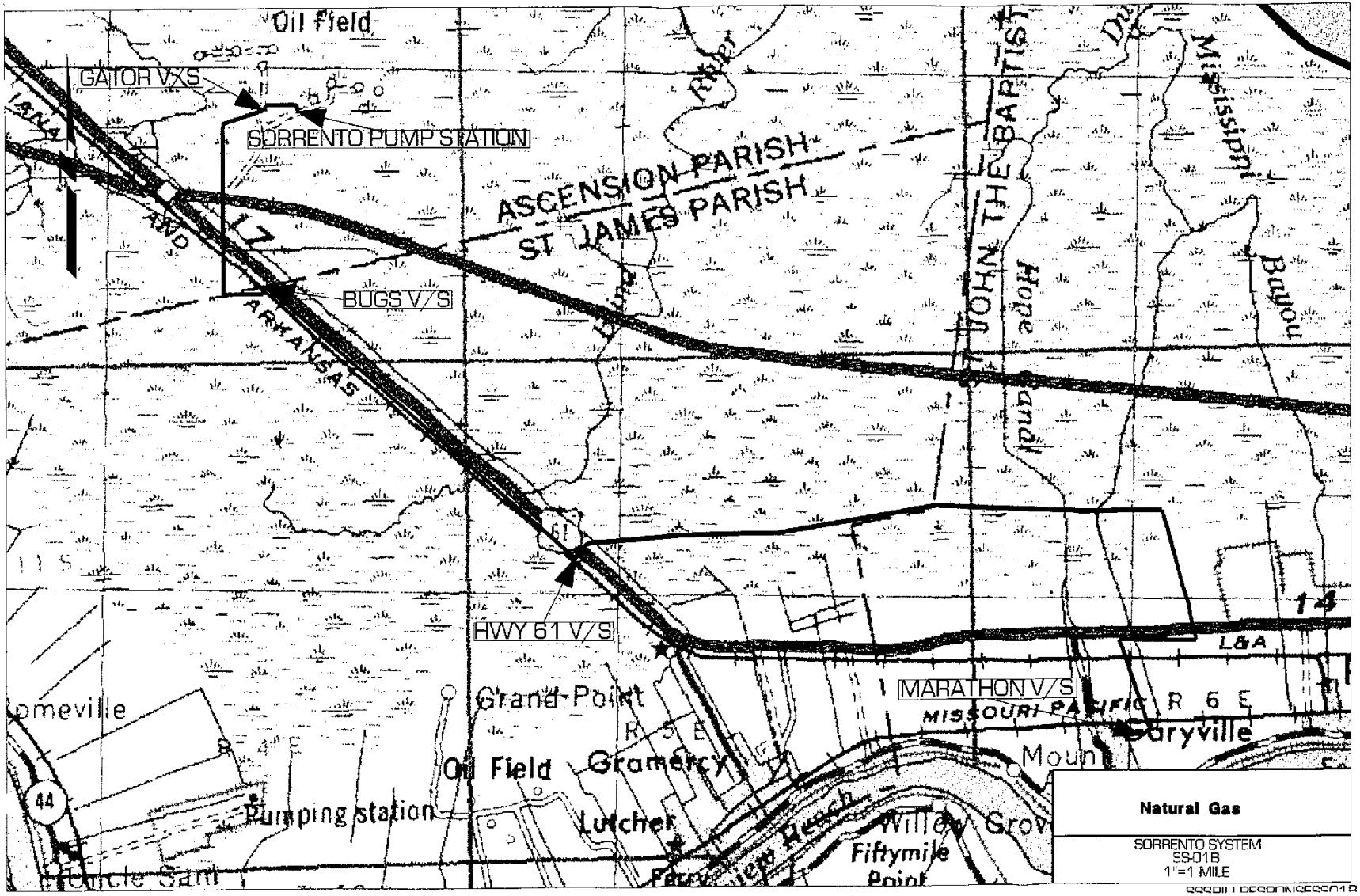
Ascension, St. James, and St. John the Baptist parishes. The geographic region this pipeline passes through contains areas of environmental and economic sensitivity. The general region is described in the maps and charts that are included on the following pages. The legend below identifies key pipeline segments and systems and corresponds to the overview map on the following page. More specific information related to environmental and economic areas of concern can be found later in the response plan.

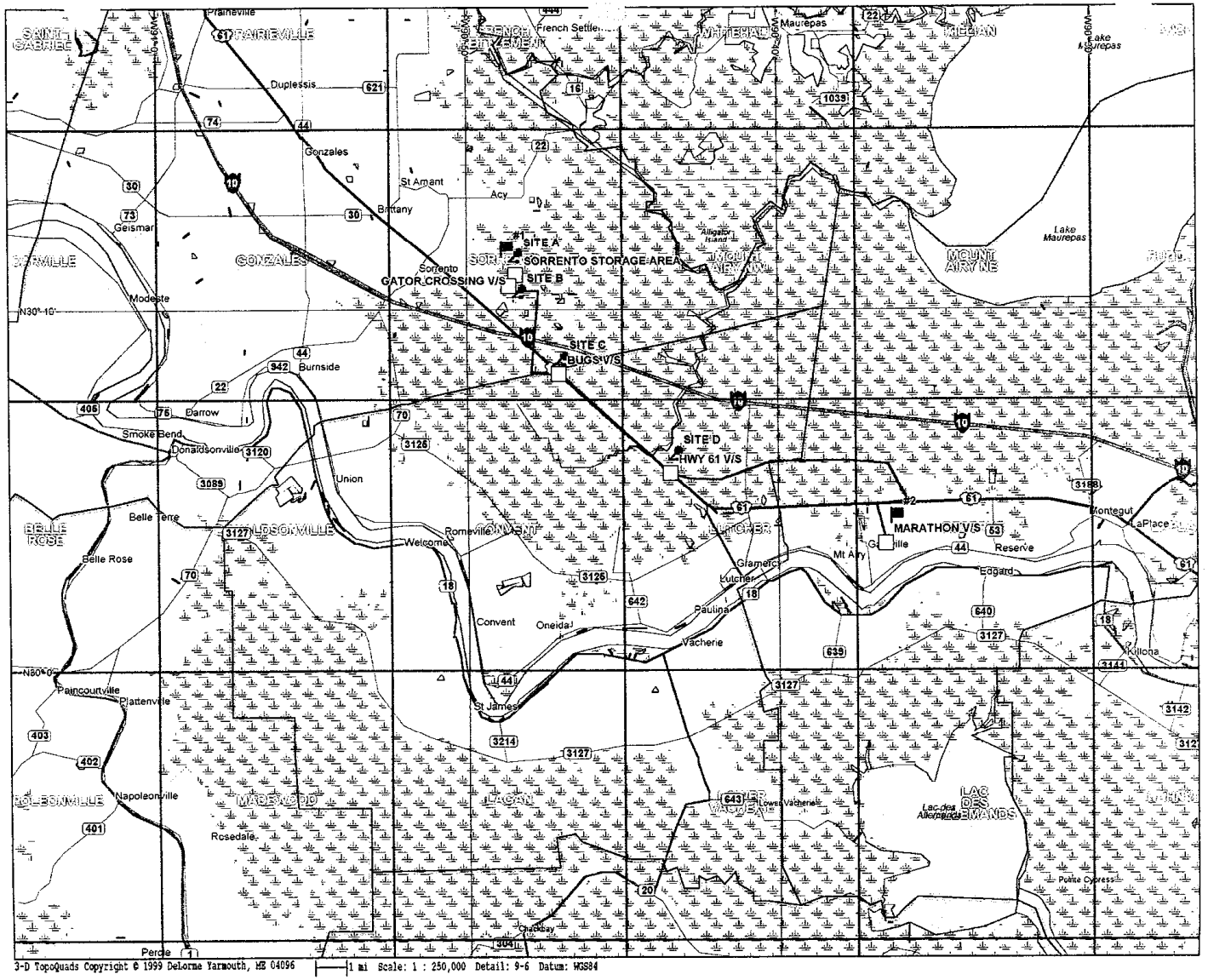
Key Pipeline Segment Areas And Systems

(b) (7)(F), (b) (3)

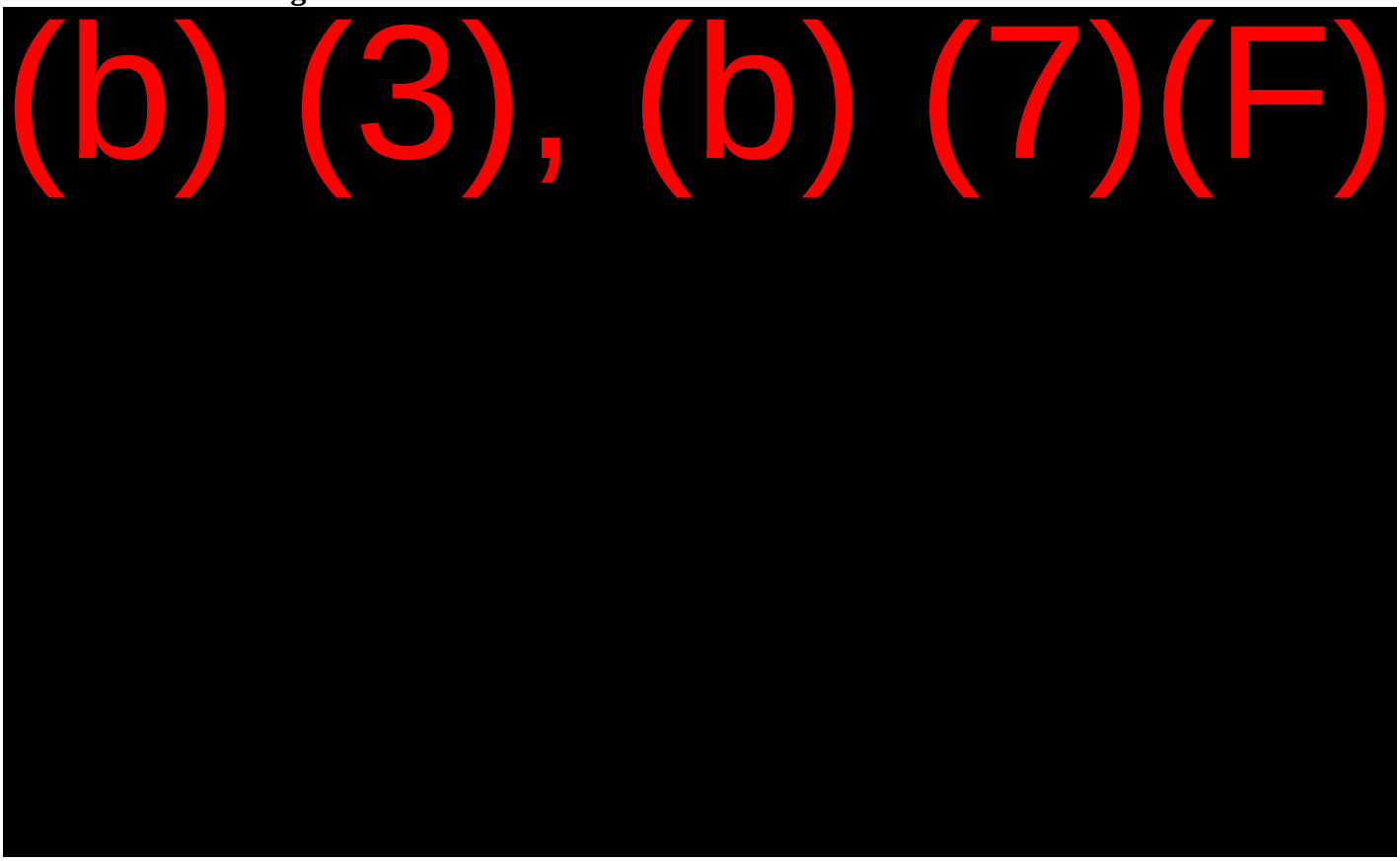


- Please see the site map and text on the following pages for locations and more specific detail on these systems.

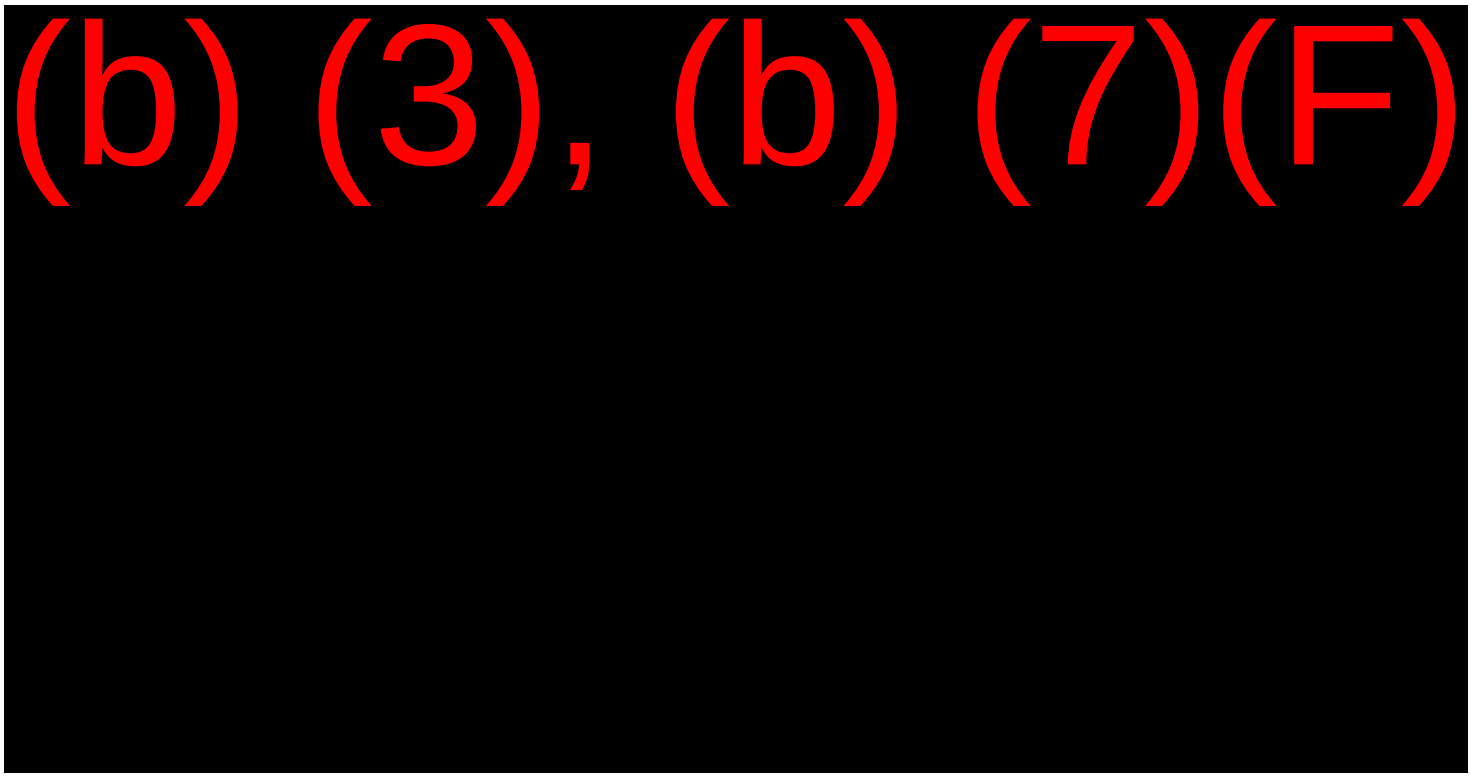

Oil Field
GATOR V/S
SORRENTO PUMP STATION
ASCENSION PARISH
ST JAMES PARISH
BUGS V/S
HWY 61 V/S
MARATHON V/S
Grand Point
Oil Field
Gramercy
Pumping station
Lutcher
Willow Grove
Fiftymile Point
Uncle Sam
Natural Gas
SORRENTO SYSTEM
SS-01B
1"=1 MILE


SITE A
SORRENTO STORAGE AREA
SITE B
GATOR CROSSING V/S
SITE C
BUGS V/S
SITE D
HWY 61 V/S
MARATHON V/S
Sorrento
Gonzales
Prairieville
Duplessis
St Amant
Acy
Brittany
Geismar
Modeste
Burnside
Darrow
Smoke Bend
Donaldsonville
Union
Belle Terre
Belle Rose
Romeville
Welcome
Convent
Oneida
Paulina
Vacherie
St James
Plattenville
Paincourtville
Napoleonville
Rosedale
Pierre Part
Lutcher
Gramercy
Mt Airy
Reserve
Edgard
Montegut
LaPlace
Mount Airy Ne
Mount Airy
Lake Maurepas
Lac des Allemands
Lower Vacherie
Point Cypress
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096
1 mi Scale: 1 : 250,000 Detail: 9-6 Datum: WGS84

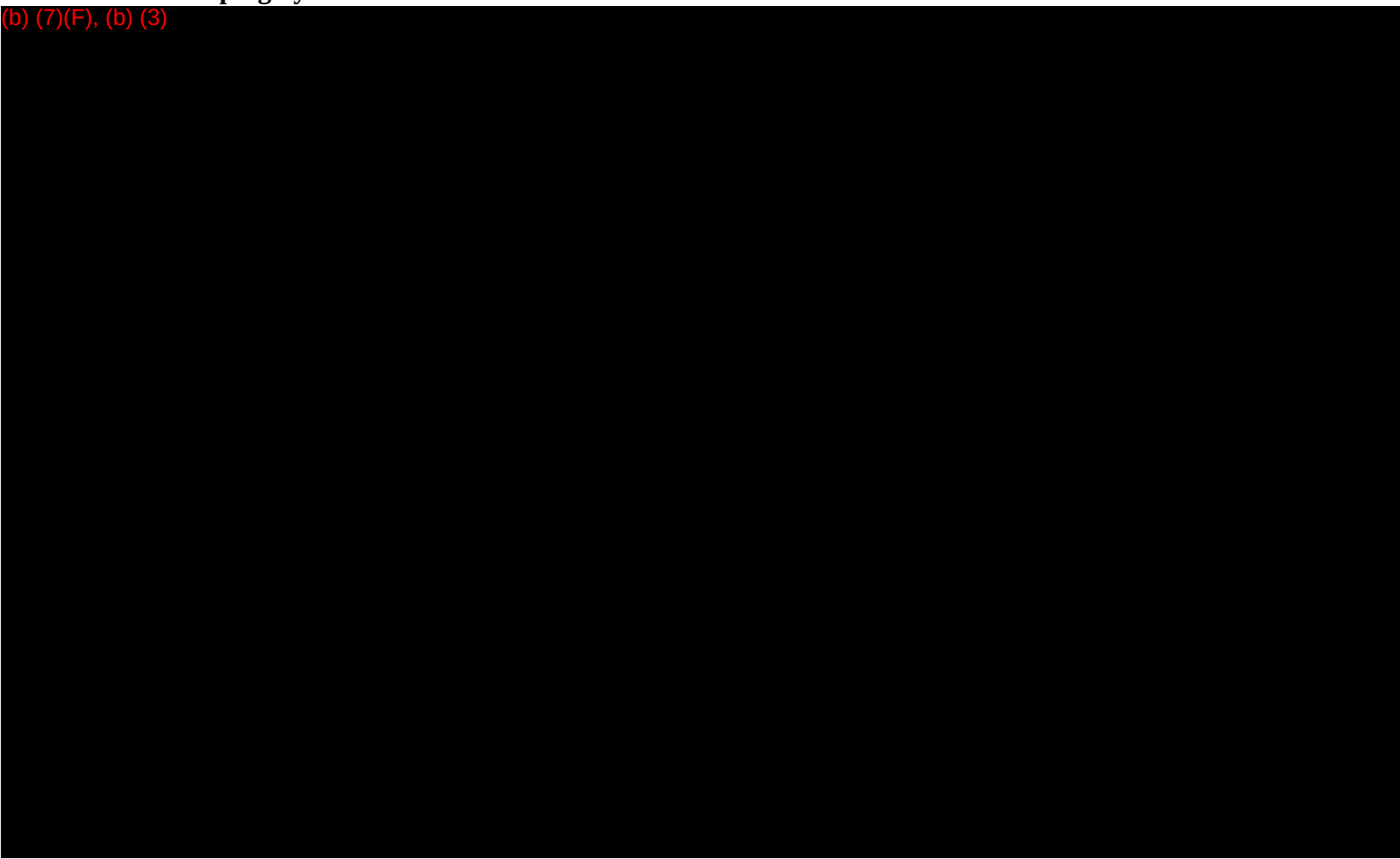
Sorrento Storage Area



Sorrento Pumping Station



Pumping Systems



Sorrento Pumping Station
Pumping Systems

(b) (7)(F), (b) (3)

[redacted]

Gator Crossing V/S

(b) (7)(F), (b) (3)

[redacted]

Bugs Valve Station

(b) (7)(F), (b) (3)

[redacted]

HWY 61 V/S

(b) (7)(F), (b) (3)

[redacted]

Marathon V/S

(b) (7)(F), (b) (3)

[redacted]

Marathon V/S

(b) (7)(F), (b) (3)

[redacted]

Marathon V/S

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

Relief Valves and Key Block Valve Sites

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

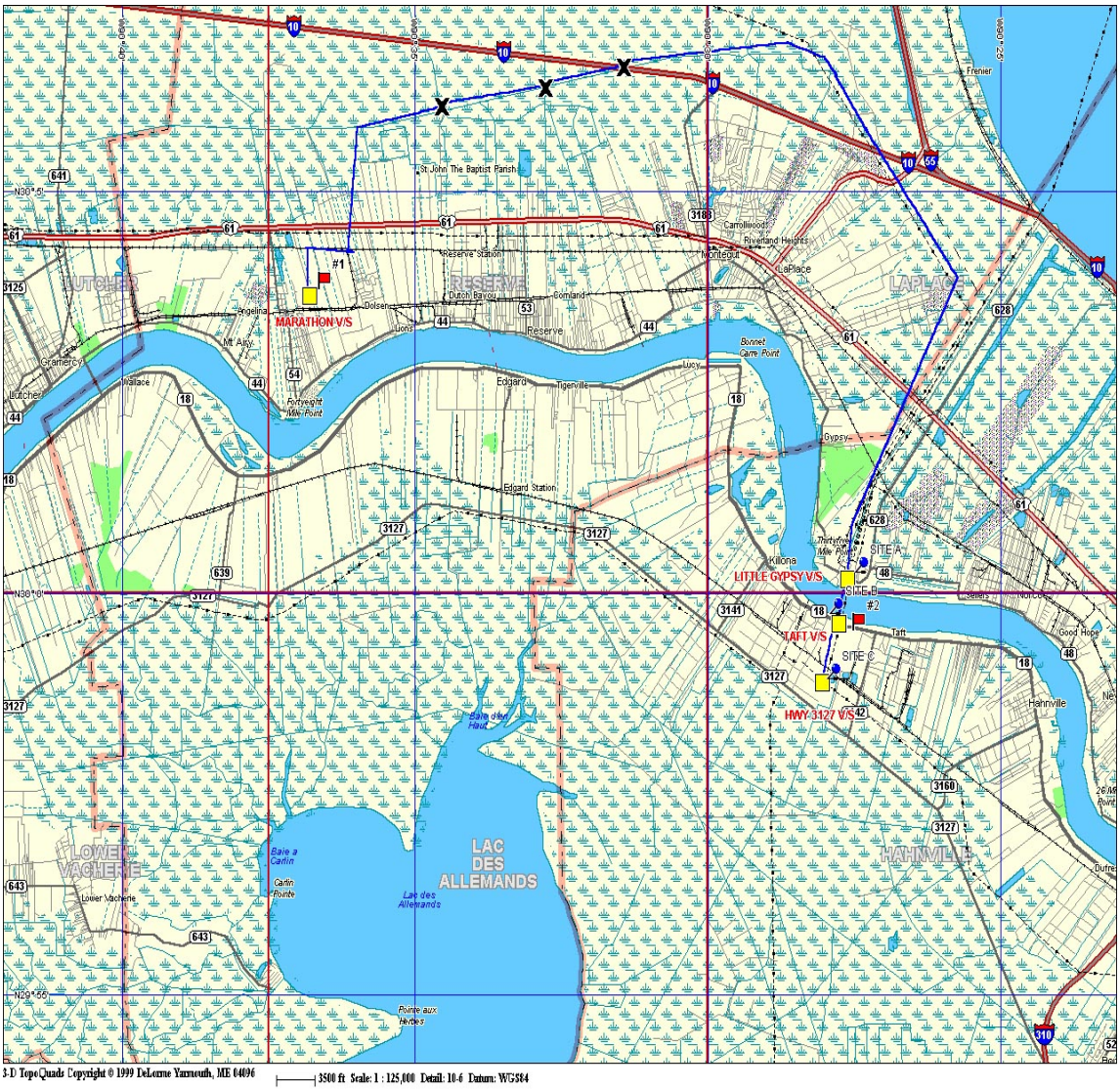
(b) (7)(F), (b) (3)

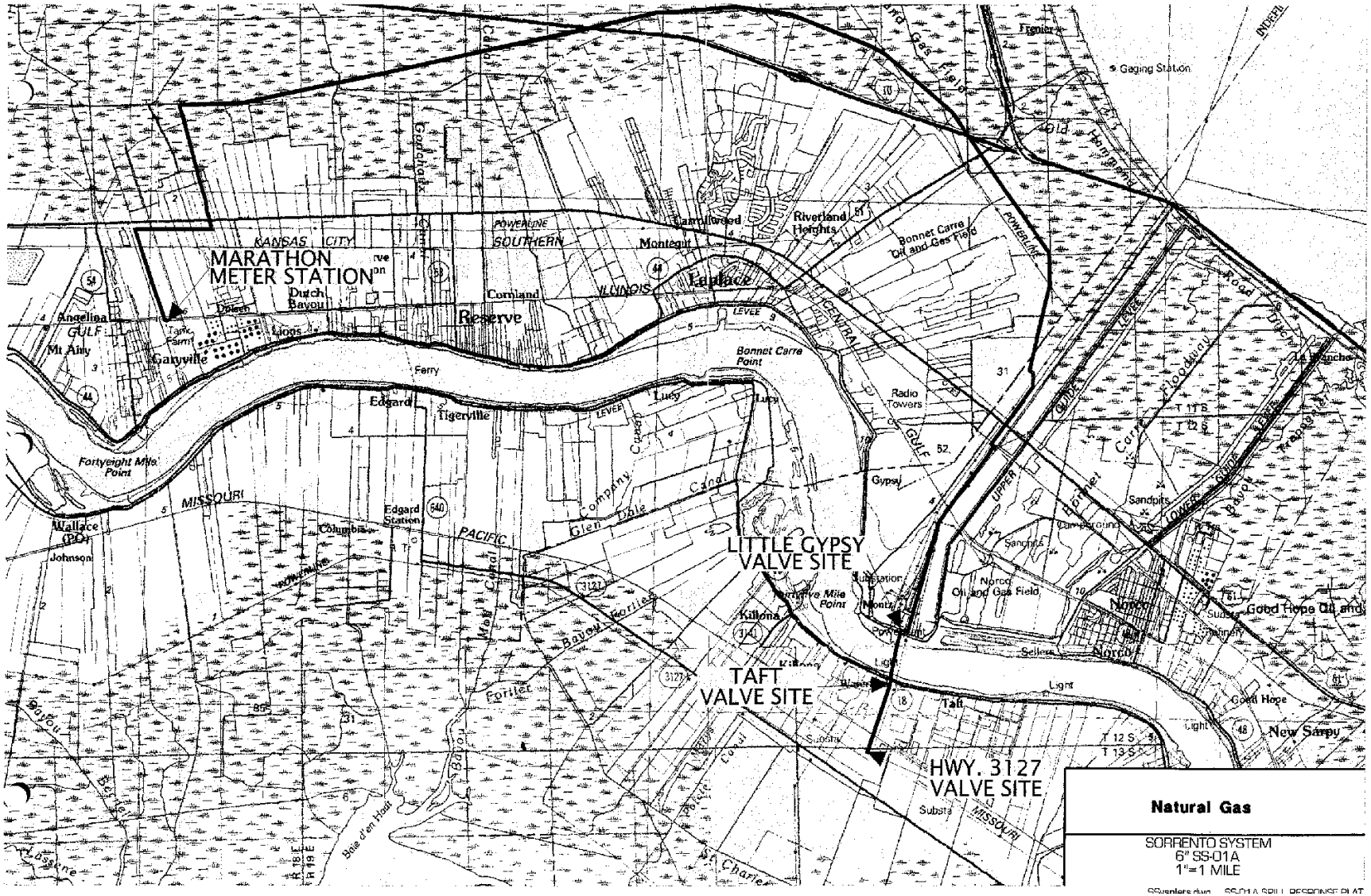
[redacted]

Response Area 3 SS-01A-Marathon V/S to Hwy 3127 V/S, 6” Natural Gasoline Pipeline

(b) (7)(F), (b) (3)

[redacted]


MARATHON V/S
LITTLE GYPSY V/S
TAFT V/S
HWY 3127 V/S
SITE A
SITE B
SITE C
LAC DES ALLEMANDS
BUTCHER
RESERVE
LAPLACE
HAHNVILLE
LOWER VACHERIE
St. John The Baptist Parish
Reserve Station
Dutch Bayou
Bonnet Carre Point
Edgard Station
Killona
Taft
Hahnville
Lower Vacherie
Pointe aux Herbes
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096
3500 ft Scale: 1 : 125,000 Detail: 10-6 Datum: WGS84


MARATHON METER STATION
LITTLE GYPSY VALVE SITE
TAFT VALVE SITE
HWY. 3127 VALVE SITE
Natural Gas
SORRENTO SYSTEM
6" SS-01A
1"=1 MILE
KANSAS CITY SOUTHERN
ILLINOIS CENTRAL GULF
MISSOURI PACIFIC
Reserve
Lions
Garyville
Angelina
Mt Ally
Dutch Bayou
Cornland
Montegut
Riverland Heights
Bonnet Carre Oil and Gas Field
Bonnet Carre Point
Ferry
Edgard
Tigerville
Fortyeight Mile Point
Wallace (PO)
Johnson
Columbia
Edgard Station
Glen Dale Canal
Gypsy
Sandpits
Norco
Good Hope Oil and
New Sarpy
Killona
Taft
Light
Gaging Station
Figner
Old River
Floodway
Levee
Road
Bayou
Subst.
Sellers
Radio Towers

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

Relief Valves and Key Block Valve Sites

(b) (7)(F), (b) (3)

[redacted]

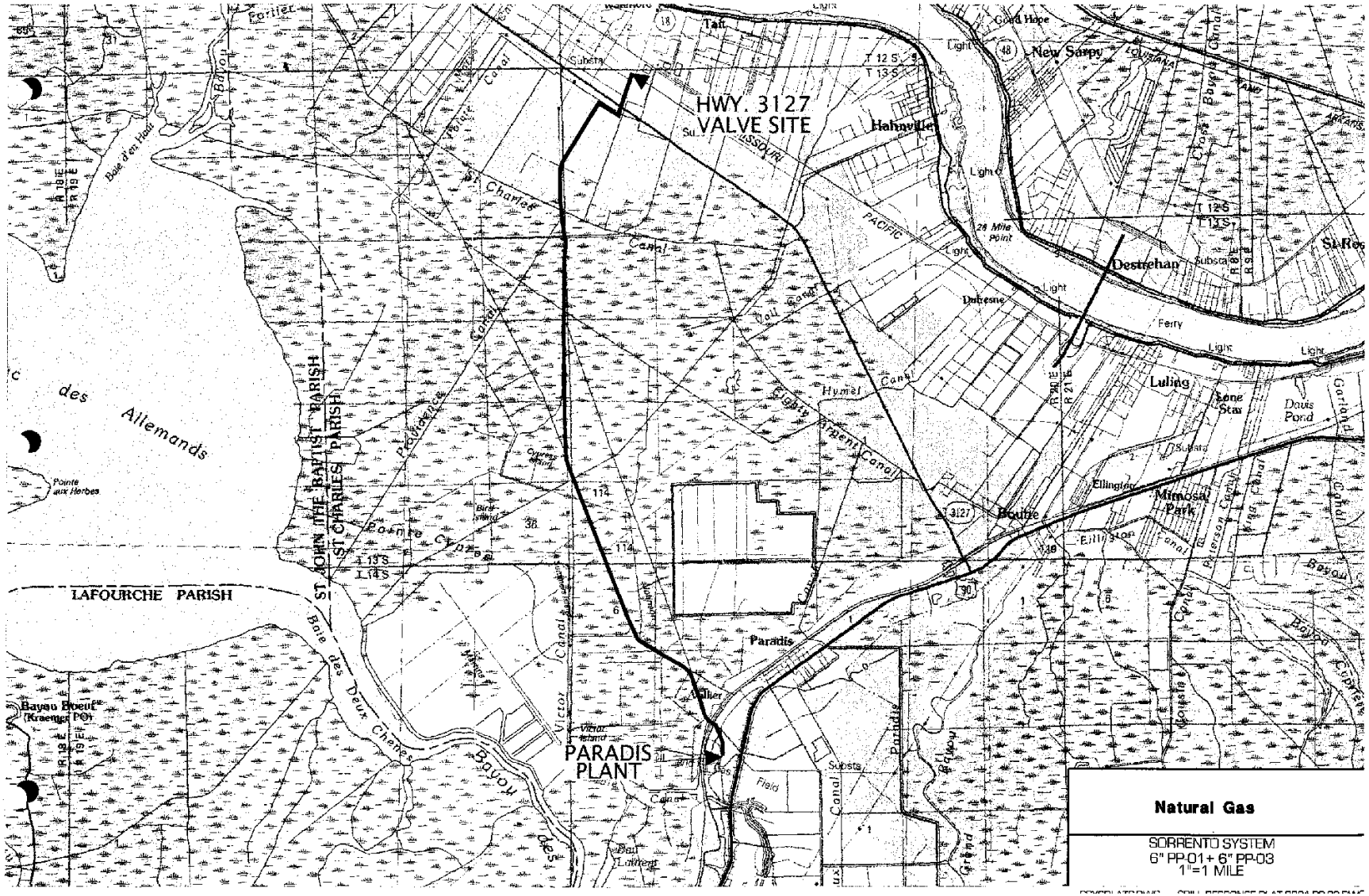
SS-01A PIPELINE SCHEMATIC

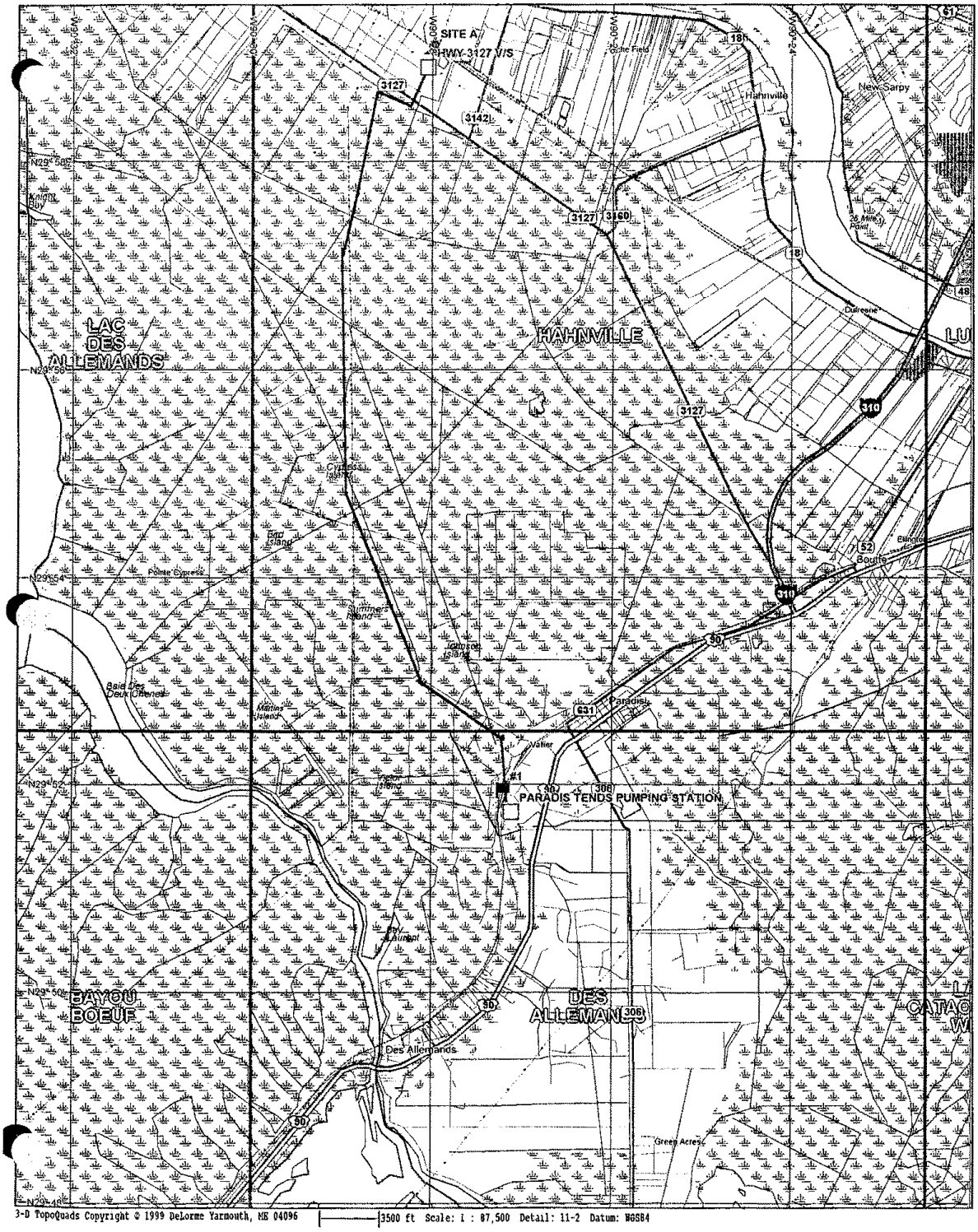
(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]


HWY. 3127
VALVE SITE
PARADIS
PLANT
LAFOURCHE PARISH
ST. JOHN THE BAPTIST PARISH
ST. CHARLES PARISH
Taft
New Sarpy
Hahnville
Destrehan
Luling
Boutte
Mimosa Park
Paradis
Bayou Boeuf
Kraemer PO
Pointe aux Herbes
Baie des Allemands
Baie des Deux Chenes
Natural Gas
SORRENTO SYSTEM
6" PP-01 + 6" PP-03
1"=1 MILE


SITE A
HWY 3127 N/S
3127
3142
3160
Hahnville
New Sarpy
HAHNVILLE
LAC DES ALLEMANDS
Bayou Des Allemands
Paradis
#1
PARADIS TENDS PUMPING STATION
BAYOU BOEUF
DES ALLEMANDS
Des Allemands
Green Acres
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096
3500 ft Scale: 1 : 87,500 Detail: 11-2 Datum: WGS84

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

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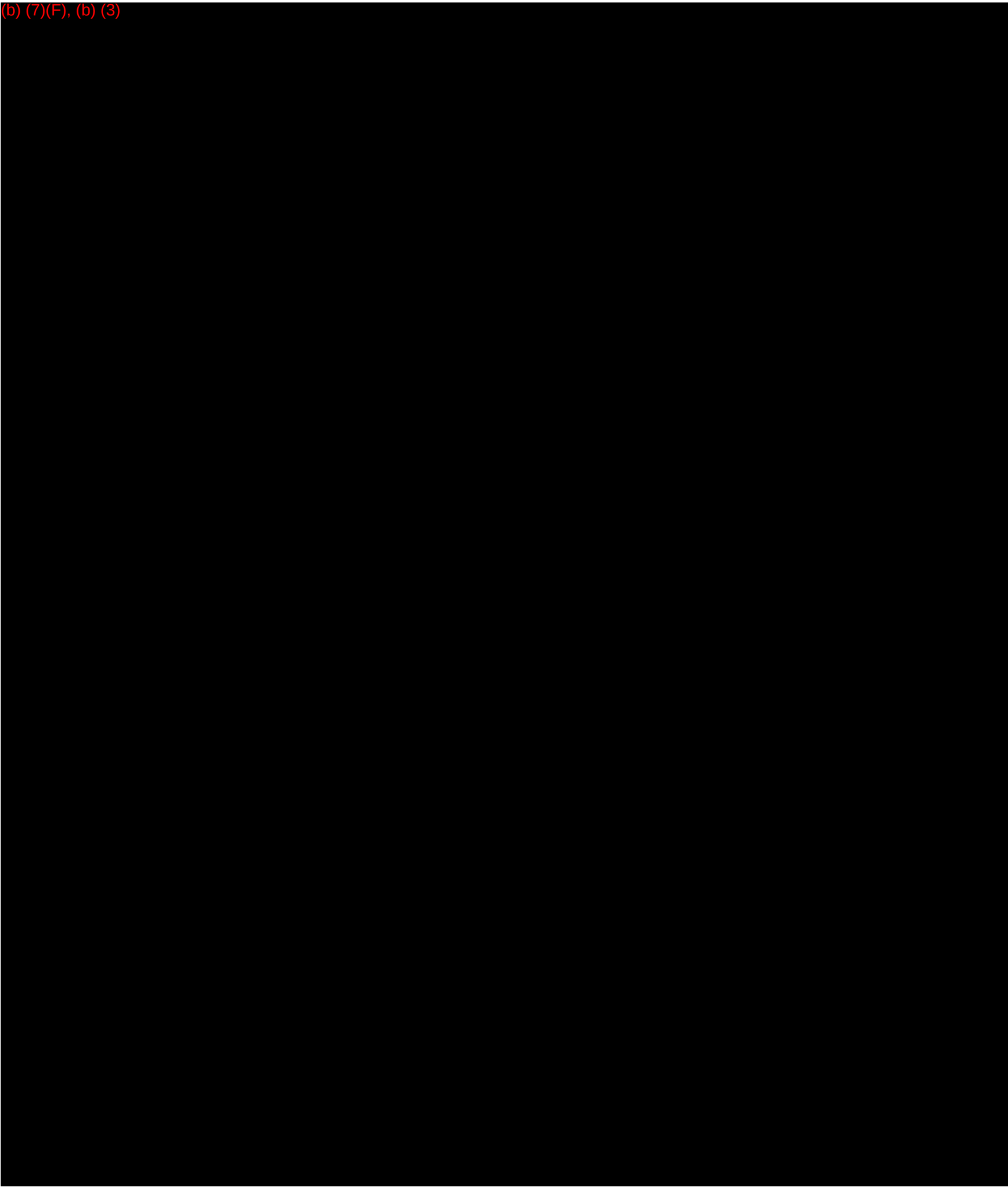
(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

[redacted]

Relief Valves and Key Block Valve Sites

(b) (7)(F), (b) (3)

[redacted]

PP-01 + PP-03 PIPELINE SCHEMATIC

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

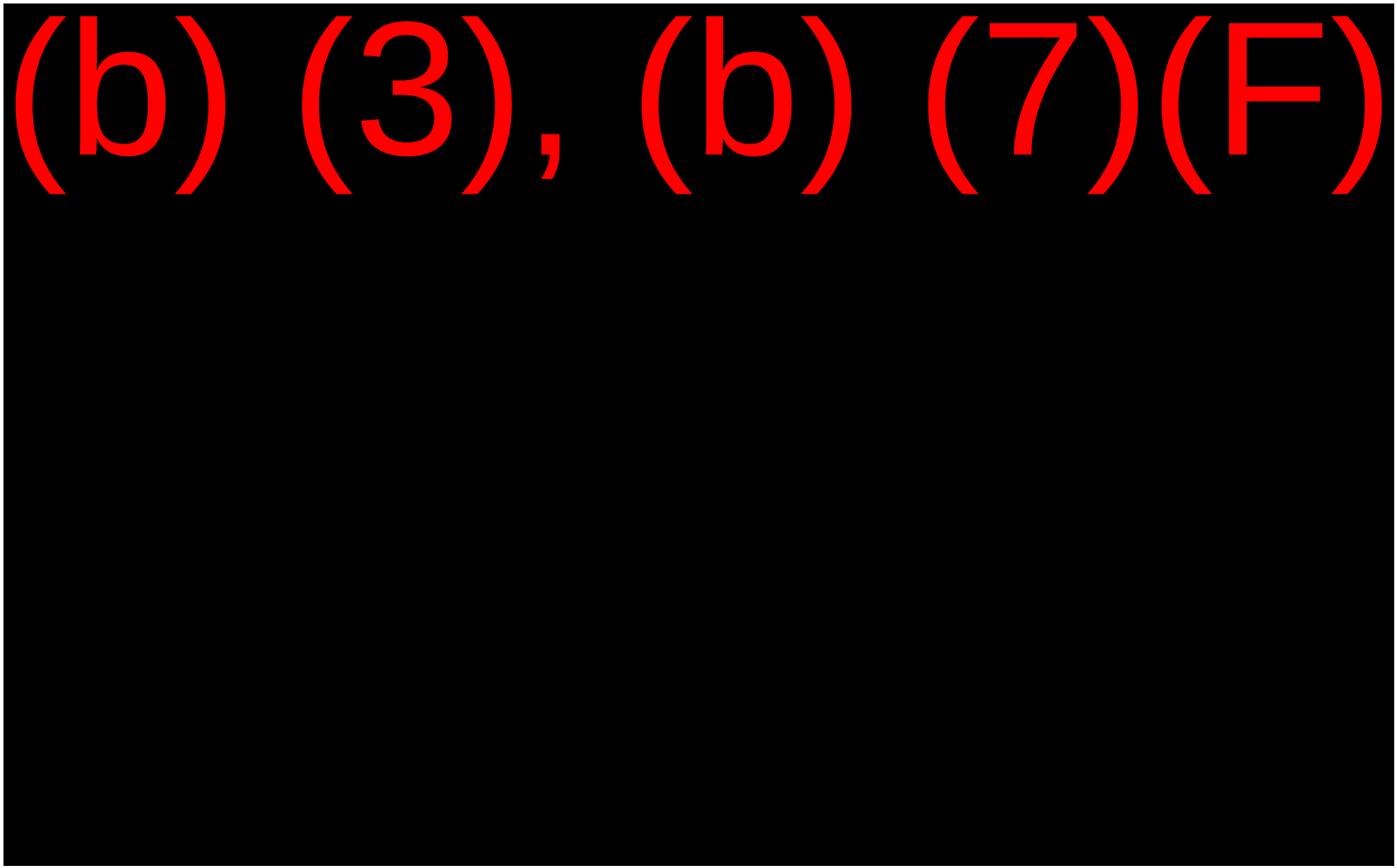
[redacted]

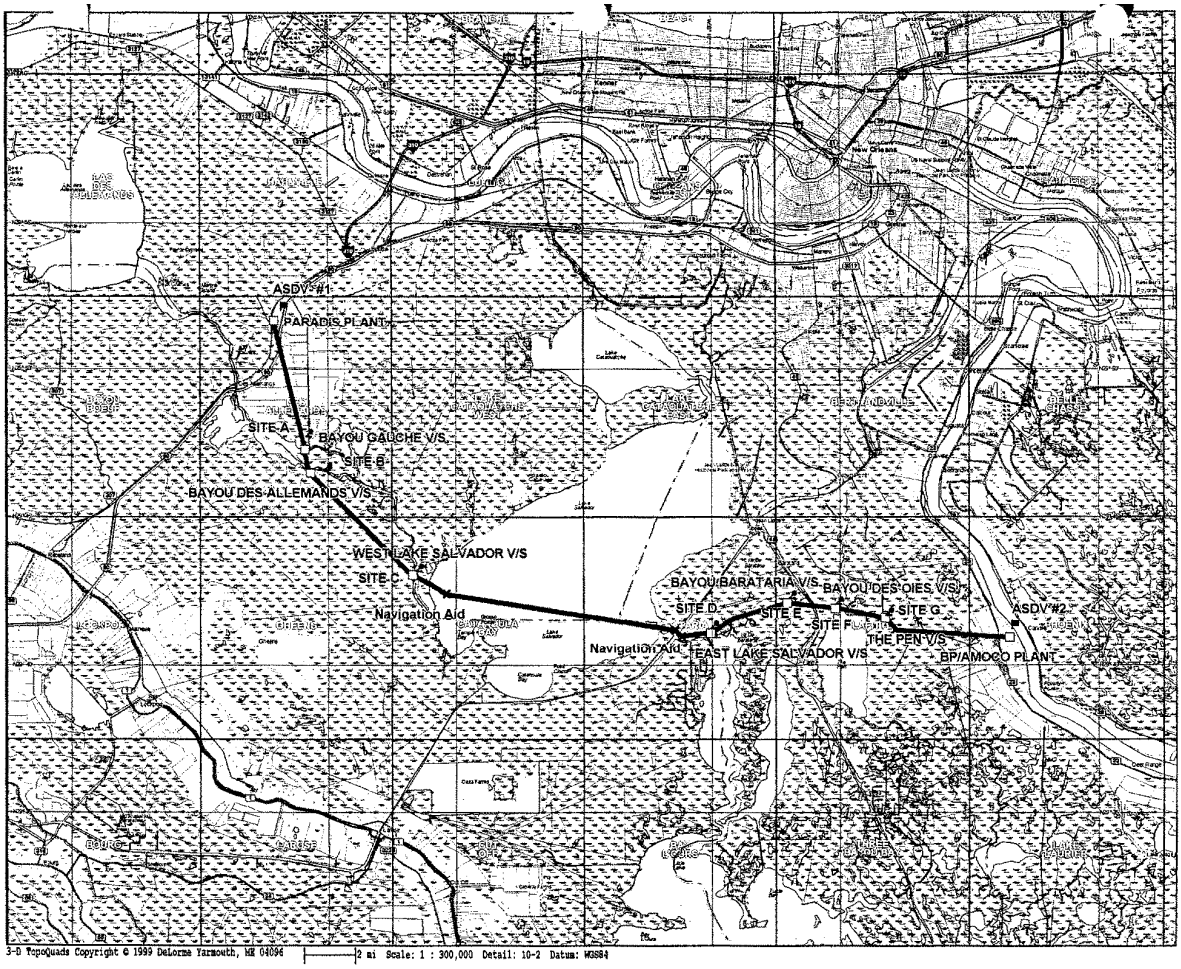
Response Area 5 BP-01-Paradis Tends Pumping Station to the BP/Amoco Plant; 6" Natural Gasoline Pipeline

(b) (3), (b) (7)(F)

identifies key pipeline segments and systems and corresponds to the overview map found in this section. More specific information related to environmental and economic areas of concern can be found later in this response plan.

(b) (7)(F), (b) (3)


(b) (3), (b) (7)(F)


ASDV #1
PARADIS PLANT
SITE A
BAYOU GAUCHE V/S
SITE B
BAYOU DES ALLEMANDS V/S
WEST LAKE SALVADOR V/S
SITE C
Navigation Aid
BAYOU BARATARIA V/S
BAYOU DES OIES V/S
SITE D
SITE E
SITE F
SITE G
ASDV #2
THE PEN V/S
Navigation Aid
EAST LAKE SALVADOR V/S
BP/AMOCO PLANT
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096
2 mi Scale: 1 : 300,000 Detail: 10-2 Datum: WGS84

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

Bayou Des Allemands Crossing

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

Adjacent ICW Crossing

Navigational Aid Near Valve Site

(b) (7)(F), (b) (3)

[redacted]

Valve Site Overview

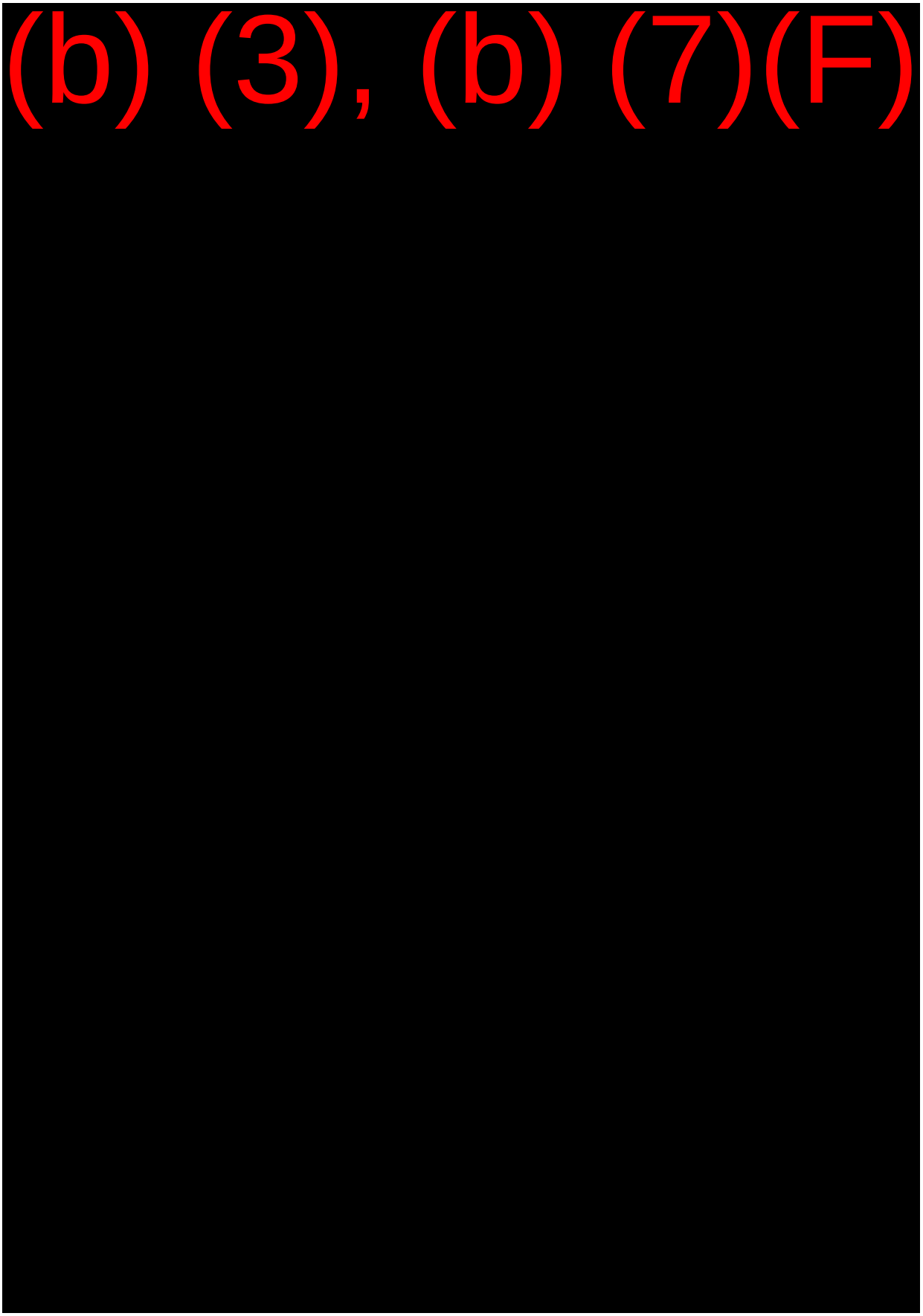
(b) (7)(F), (b) (3)

[redacted]

Adjacent Water Crossing

(b) (7)(F), (b) (3)

[redacted]

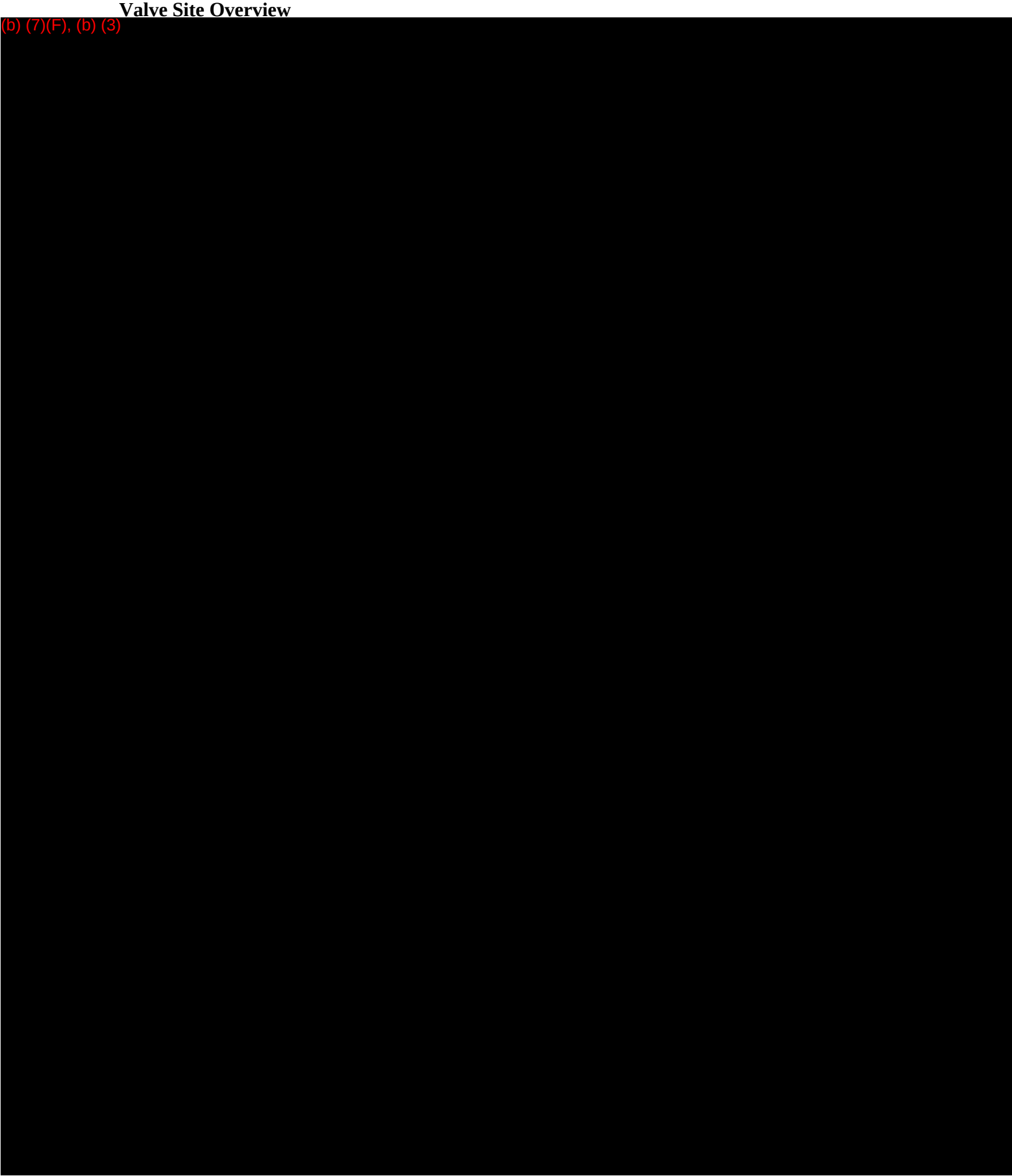

(b) (3), (b) (7)(F)

(b) (7)(F), (b) (3)

[redacted]

Valve Site Overview

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

Relief Valves and Key Block Valve Sites

(b) (7)(F), (b) (3)

[redacted]

Navigational Aid Stations

Navigational Aid Station #1
This navigational aid site is located on the western side of Lake Salvador and identifies the pipelines at the following coordinates: (b) (7)(F), (b) (3)

Navigational Aid Overview

Navigational Aid Station #2
This navigational aid site is located on the eastern side of Lake Salvador near the location where the pipeline crosses the Intracoastal Waterway. The site identifies the pipelines at the following coordinates: (b) (7)(F), (b) (3)

Navigational Aid Overview

(b) (7)(F), (b) (3)

Navigational Aid Station #3
This navigational aid site is located on the south side of the Intracoastal Waterway where the pipeline crosses Bayou Perot and identifies the pipelines at the following coordinates: (b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

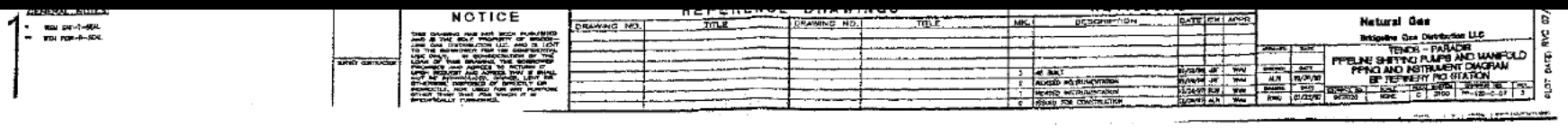
BP-01 PIPELINE SCHEMATIC

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]



(b) (7)(F), (b) (3)

[redacted]

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SURVEY CONTRACTOR

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REFERENCE DRAWINGS

DRAWING NO.	TITLE	DRAWING NO.	TITLE

REVISIONS

MK.	DESCRIPTION	DATE	CK.	APPR.
1	REVS. TO CONFORM TO CONST. REDLINES	7/31/97	MDT	
0	APPROVED FOR CONSTRUCTION	6/27/97	MDT	
B	APPROVED FOR BIDS	5/24/97	MDT	
A	PRELIMINARY FOR APPROVAL	5/14/97	MDT	

Natural Gas
Bridgeline Gas Distribution LLC

	DATE
WGM	7/24/97
DESIGN	DATE
MDT	7/24/97
DRAWN	DATE
NLG	6/25/97

TEXACO PARADIS GAS PLANT TO BP ALLIANCE REFINERY S.E. LOUISIANA
PROCESS & INSTRUMENTATION DIAG.
BAYOU DES ALLEMANDS VLV. STA.#4

DRAWING NO.	SHEET	WORK ORDER	DRAWING NO.	TYPE
987016	80100	AL 4300	AL-100-G-008	1

PLOT DATE: JJT 4/29/99 7:42 AM

(b) (7)(F), (b) (3)

[redacted]

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REFERENCE DRAWINGS

DRAWING NO.	TITLE	DRAWING NO.	TITLE

REVISIONS

MK.	DESCRIPTION	DATE	CK	APPR
1	REVD. TO CONFORM TO CONST. RECORDS	3/2/99	NOT	

Natural Gas
Bridgeline Gas Distribution LLC

TEXACO PARADIS GAS PLANT TO BP ALLIANCE REFINERY S.E., LOUISIANA PROCESS & INSTRUMENTATION DIAG. WEST/EAST LAKE SALVADOR VLV. STA.

APPROVED	DATE	CHECKED	DATE	DRAWN	DATE	ESTIMATE NO.	SCALE	STATE SYSTEM	DRAWING NO.	REV.
–	–	–	–	MCC	3/2/99	957015	NOTED	AL ; 4300	AL-100-C-003	1

PLOT DATE: JJT 4/29/99 7:46 AM

(b) (7)(F), (b) (3)

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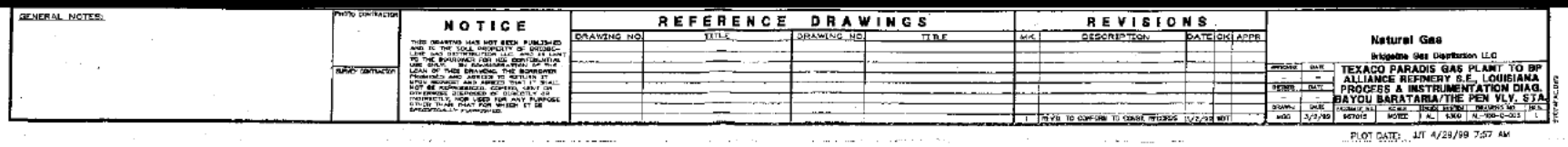

PLOT DATE: JT 4/29/99 7:57 AM

(b) (7)(F), (b) (3)

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PLOT CONTRACTOR

SURVEY CONTRACTOR

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REFERENCE DRAWINGS

DRAWING NO.	TITLE	DRAWING NO.	TITLE

REVISIONS

MK.	DESCRIPTION	DATE	CK	APPR
1	REVD. TO CONFORM TO CURST. RECORDS	3/2/98	MST	

Natural Gas
Bridgeline Gas Distribution LLC

APPROVED	–	DATE –
ENGINEER	–	DATE –
DRAWN	MGG	DATE 3/2/98

TEXACO PARADIS GAS PLANT TO BP ALLIANCE REFINERY S.E. LOUISIANA PROCESS & INSTRUMENTATION DIAG. BAYOU DES DIES VALVE STATION

FORMAT SIZE	SCALE	DRAWING NO.	REV.
ANSI D	NOTED	AL-1300-E-004	1

PLOT DATE: JUL 6/29/09 8:00 AM

(b) (7)(F), (b) (3)

[redacted]

GENERAL NOTES:

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SURVEY CONTRACTOR

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REFERENCE DRAWINGS

DRAWING NO.	TITLE	DRAWING NO.	TITLE

REVISIONS

MK	DESCRIPTION	DATE	CK	APPR
1	W/FS TO CONFORM TO CONST. RECORDS	11/3/98	MH	

Natural Gas
Entergy Gas Distribution LLC

DRAWN / DATE	– / –
CHECKED / DATE	– / –
SYSTEM / DATE	MGC / 3/2/98

TEXACO PARADIS GAS PLANT TO BP ALLIANCE REFINERY B.E. LOUISIANA
PROCESS & INSTRUMENTATION DIAG.
BAYOU GAUCHE VALVE STATION NO.3

SCALE: NTS	DRAWING NO.	REV.
MICRO	A1 | 1301 | A-100-D-1GS |	1

PLOT DATE: WT 4/29/99 8:05 AM

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

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(b) (7)(F), (b) (3)

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(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

Adjacent Water Crossing

Adjacent Water Crossing

(b) (7)(F), (b) (3)

[redacted]

Relief Valves and Key Block Valve Sites

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

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[redacted]

(b) (7)(F), (b) (3)

[redacted]

Relief Valves and Key Block Valve Sites

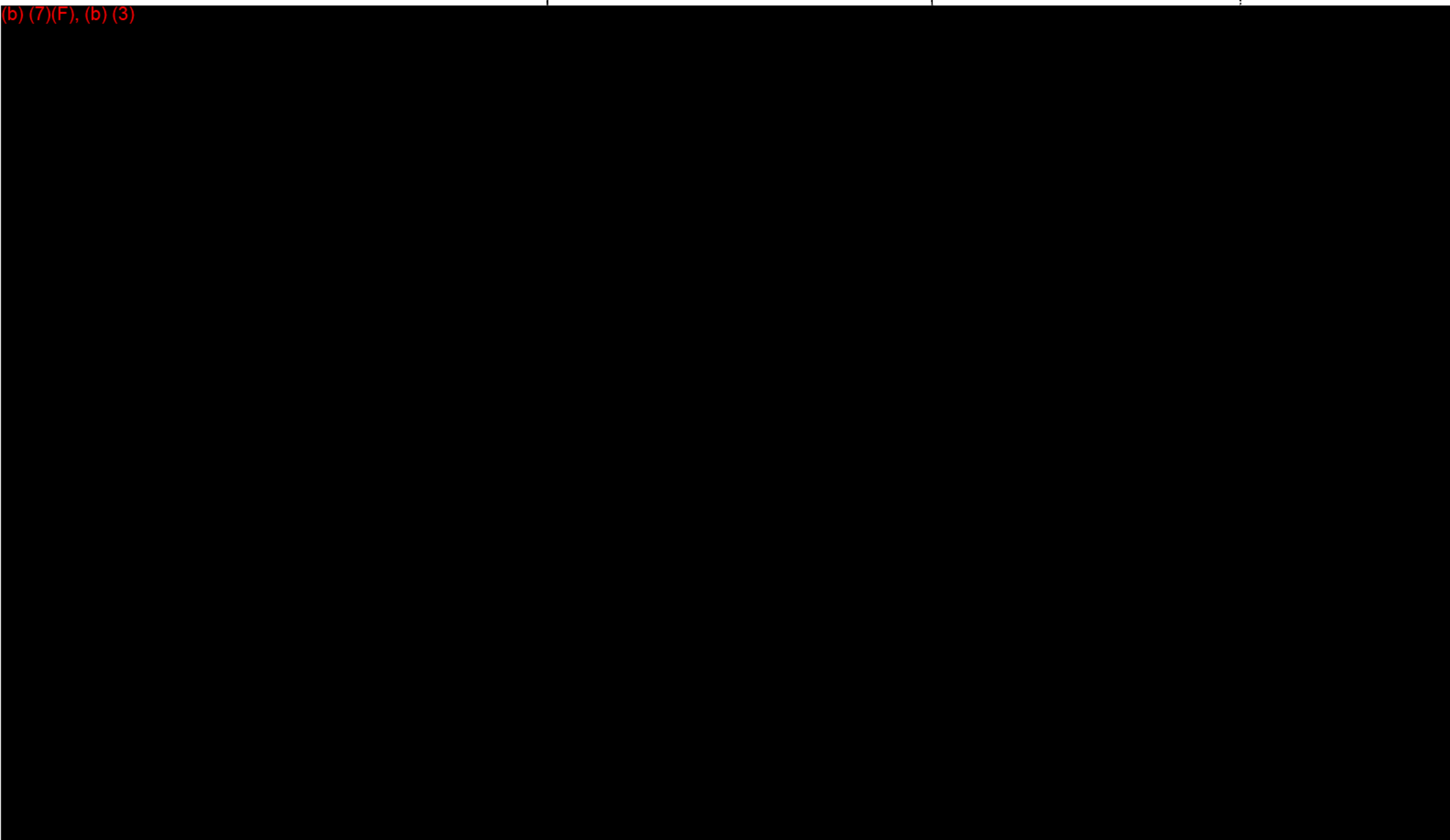
(b) (7)(F), (b) (3)

[redacted]

TEXACO PIPELINES LLC
UC-01 PIPELINE SCHEMATIC

DRAWN: 2/20/01
BY: LAGeorge

(b) (7)(F), (b) (3)



MIDSTREAM LOUISIANA ASSETS GAS PLANTS, GAS PIPELINES AND ETHYLENE PIPELINE

For additional facility information as well as Emergency Plans for Midstream Louisiana gas plants, gas pipelines and the ethylene pipeline, see specific sections at the end of this State Appendix.

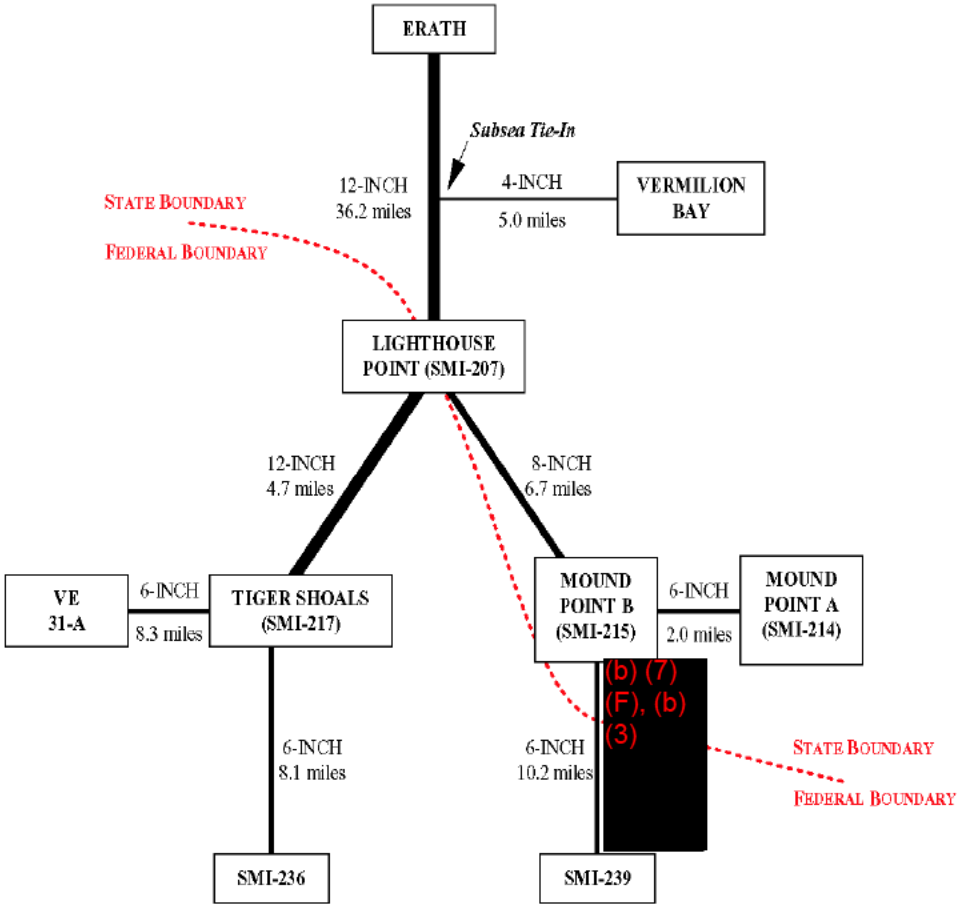
- Henry Gas Processing Plant
- Paradis Gas Plant
- Bridgeline, Cajun, Neches, & Sabine Gas Pipeline
- Evangeline Ethylene Pipeline

VP-01 LPG LINE

VP-01 LPG Line									
Vesco Plant - Venice, LA to Paradis Tends Station - Paradis, LA									
Segment Start			Segment End			P/L Diameter	Pipeline Length (miles)	Notes
Site	(b) (3), (b) (7)(F) Coordinates		Site	(b) (3), (b) (7)(F) oordinates				
[redacted]	[redacted]		[redacted]	[redacted]		8"	21.7	
						8"	11.8	
						8"	15	
						8"	8.3	Note: ASD at Lafitte
						18"	7.3	
						16"	18.9	
						20"	6.3	
						6"	9.5	
						6"	3.7	

VP-01 LPG LINE ROUTE

TIGER SHOALS PIPELINE SYSTEM



The Pipelines are collectively approximately 81.2 miles long. The Pipelines deliver offshore production from the following platforms not owned by Seller to Seller's onshore Erath Station:

State Waters:

- Vermilion Bay to Subsea Tie-In: 5.0 miles of nominal 4-inch diameter pipe
- South Marsh Island 214 to SMI-215: 2.0 miles of nominal 6-inch diameter pipe
- Federal Water Boundary to SMI-215: 2.4 miles of nominal 6-inch diameter pipe
- SMI-215 to SMI-207: 6.7 miles of nominal 8-inch diameter pipe
- SMI-207 to Erath Station: 36.2 miles of nominal 12-inch diameter pipe (approximately 6.7 miles onshore)

Federal Waters:

- SMI-217 to SMI-207: 4.7 miles of nominal 12-inch diameter pipe
- SMI-236 to SMI-217: 8.1 miles of nominal 6-inch diameter pipe
- SMI-239 to Federal Water Boundary: 7.8 miles of nominal 6-inch diameter pipe
- VE-31 to SMI-217: 8.3 miles of nominal 6-inch diameter pipe

(b) (7)(F), (b) (3)

[redacted]

REV NO	DATE	DESCRIPTION OF REVISION	ES NO.	BY	ELEC DRWR	MECH DRWR	APP
03	06/03	INSTALL BAYOU SALE/MOBIL BURNS METER SKID	02-080	JDS		DMD	MLS
02	11/01	GENERAL REVISION		WTL		ML.S	MLS
01	04/01	REVISED VALVE NUMBERS		WTL		ML.S	MLS
00	10/00	VALVE CHART AS-BUILT		DMD			

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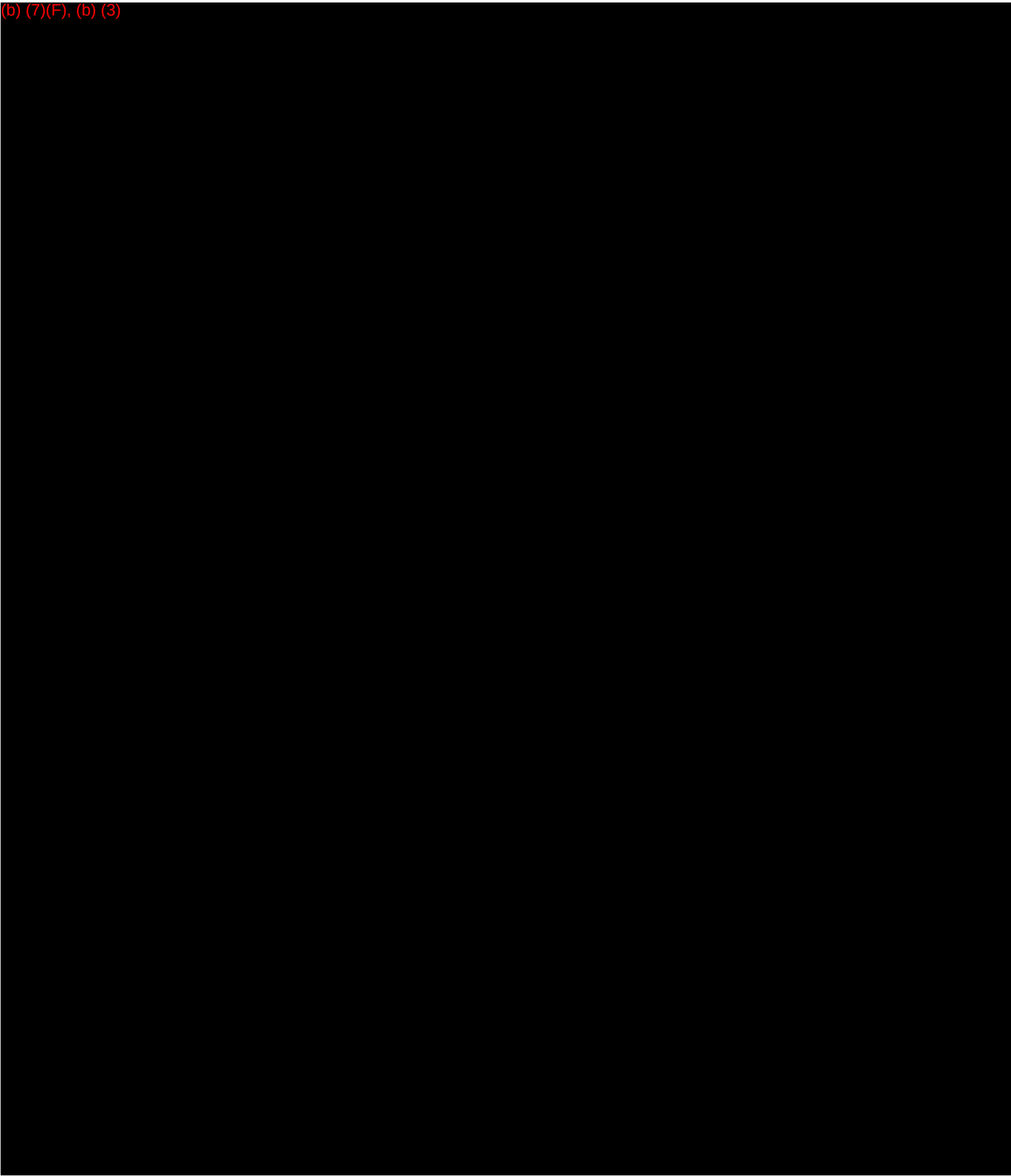
TIGER SHOAL 12" P/L & METER
ERATH STATION

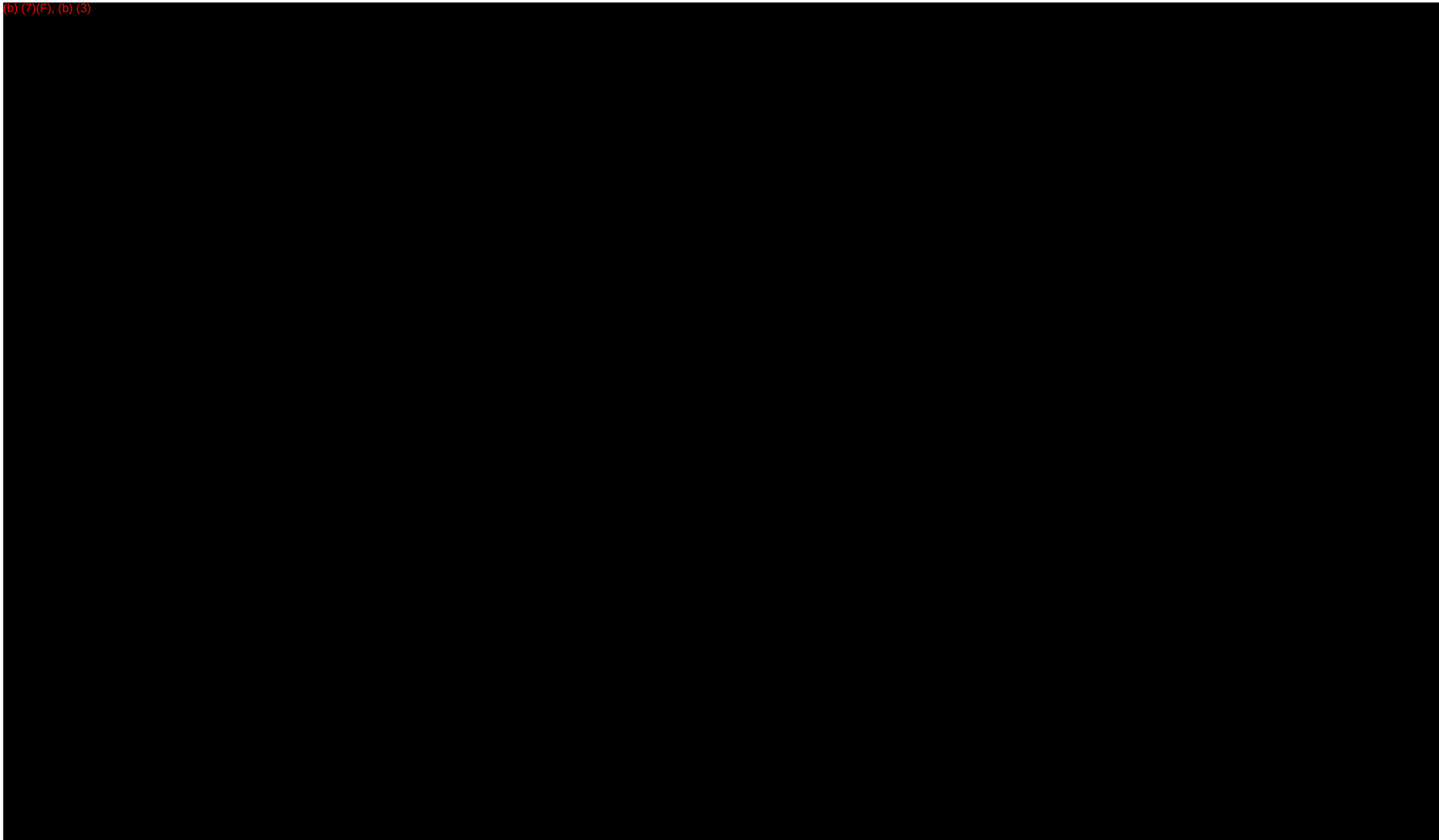
DATE: 7/97
DRAWN: PETROVIS LLC
SD- 58040
REV. 03

(b) (7)(F), (b) (3)

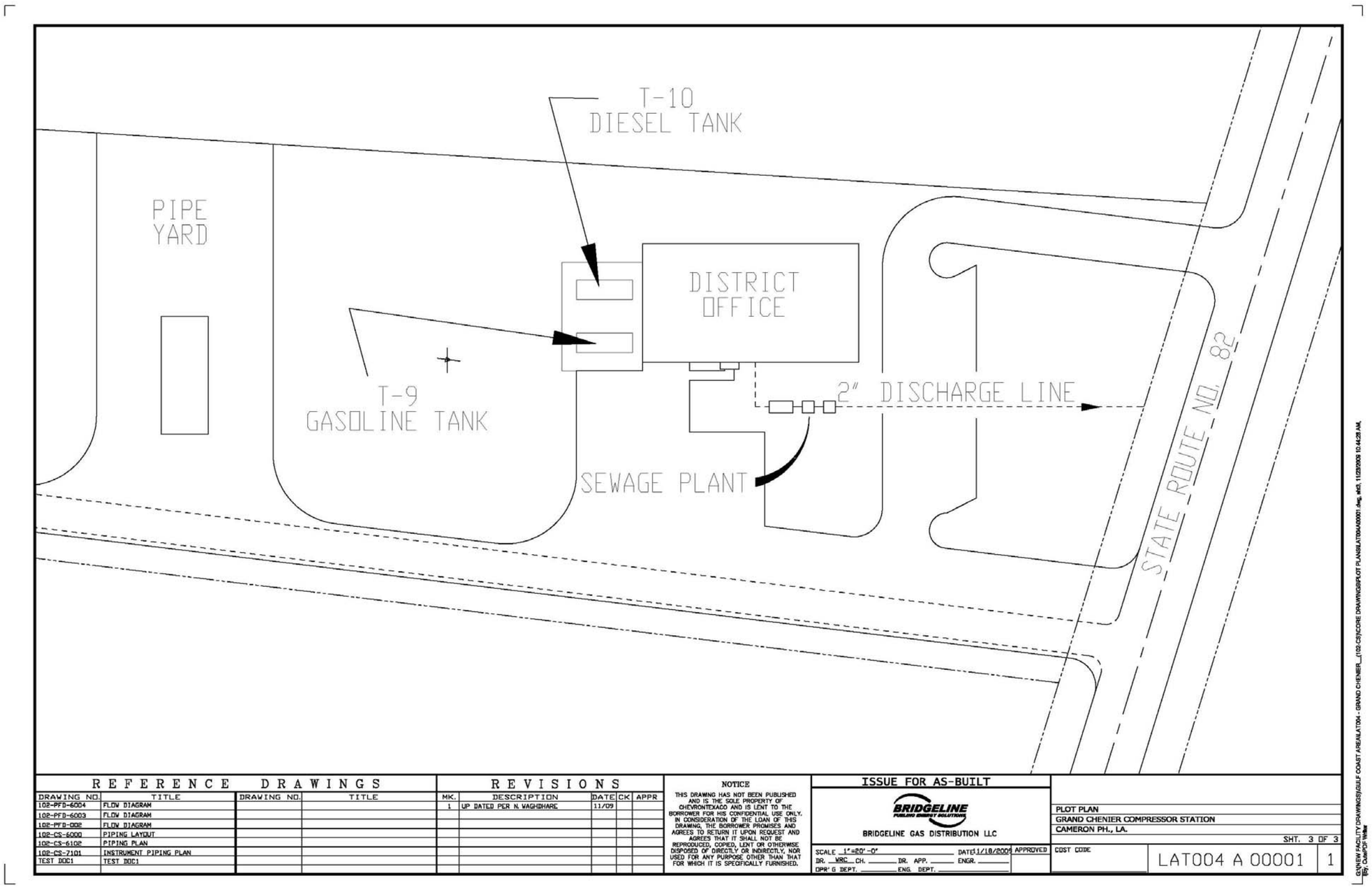


GRAND CHENIER COMPRESSOR STATION PLOT PLAN

(b) (7)(F), (b) (3)



GRAND CHENIER OFFICE WAREHOUSE PIPE YARD PLOT PLAN



REFERENCE DRAWINGS			
DRAWING NO.	TITLE	DRAWING NO.	TITLE
102-PFD-6004	FLOW DIAGRAM		
102-PFD-6003	FLOW DIAGRAM		
102-PFD-002	FLOW DIAGRAM		
102-CS-6000	PIPING LAYOUT		
102-CS-6102	PIPING PLAN		
102-CS-7101	INSTRUMENT PIPING PLAN		
TEST DOC1	TEST DOC1		

REVISIONS				
MK.	DESCRIPTION	DATE	CK	APPR
1	UP DATED PER N. VAGHDHARE	11/09		

NOTICE

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ISSUE FOR AS-BUILT

BRIDGELINE PIPELINE SERVICE SOLUTIONS

BRIDGELINE GAS DISTRIBUTION LLC

SCALE 1"=20'-0" DATE 1/18/2009 APPROVED
DR. WRC CH. DR. APP. ENGR.
OPR'G DEPT. ENG. DEPT.

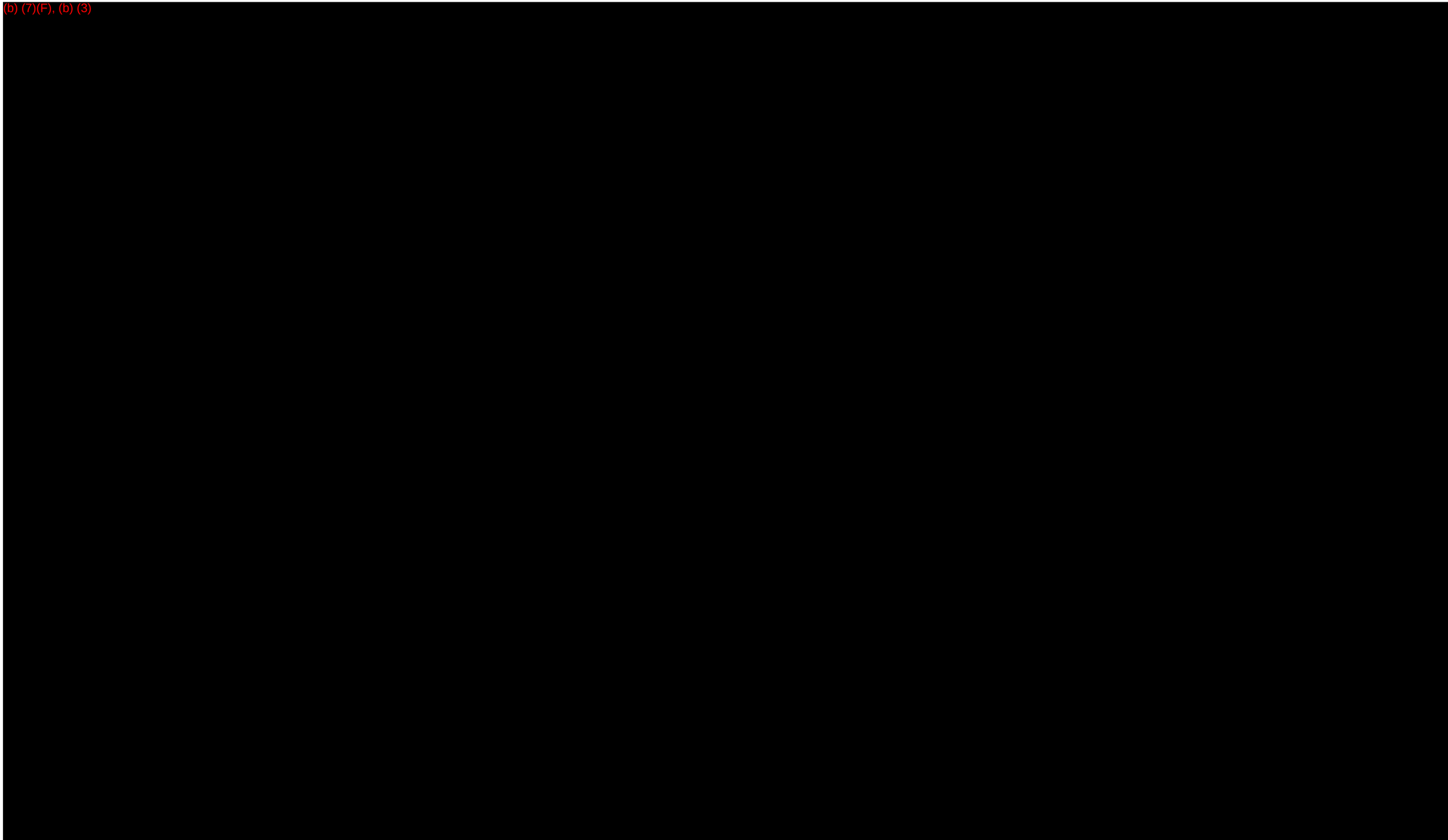
PLOT PLAN
GRAND CHENIER COMPRESSOR STATION
CAMERON PH., LA.
SHT. 3 OF 3

COST CODE | LAT004 A 00001 | 1

G:\NEW FACILITY DRAWINGS\SOUTH COAST AREA\LAT004 - GRAND CHENIER_(103.03)\CORE DRAWINGS\PLOT PLANS\LAT004A00001.dwg, 8x11, 11/23/2009 10:44:28 AM, tjoy, CamPDF Writer

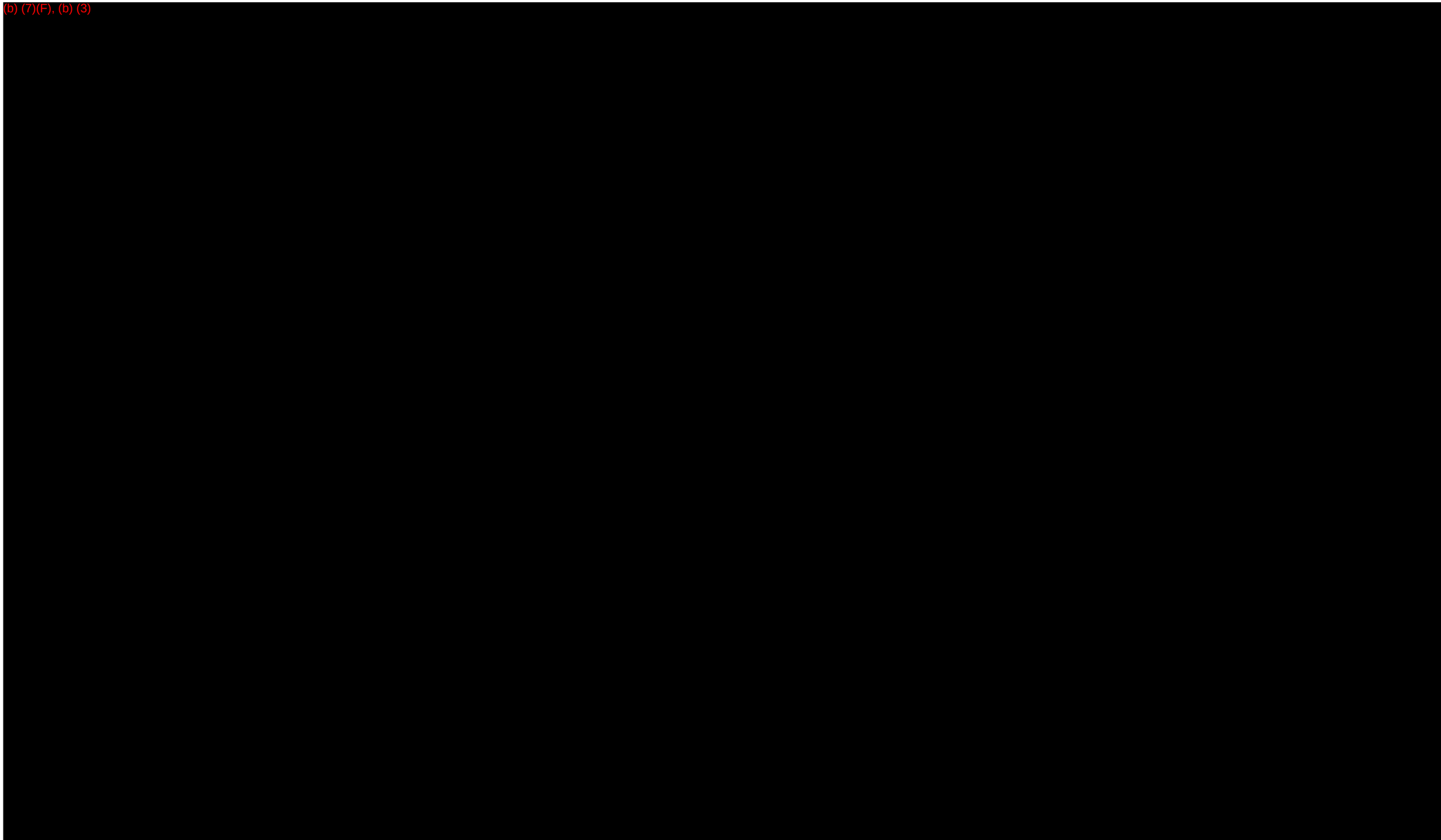
GRAND CHENIER PLOT PLAN OVERVIEW

(b) (7)(F), (b) (3)



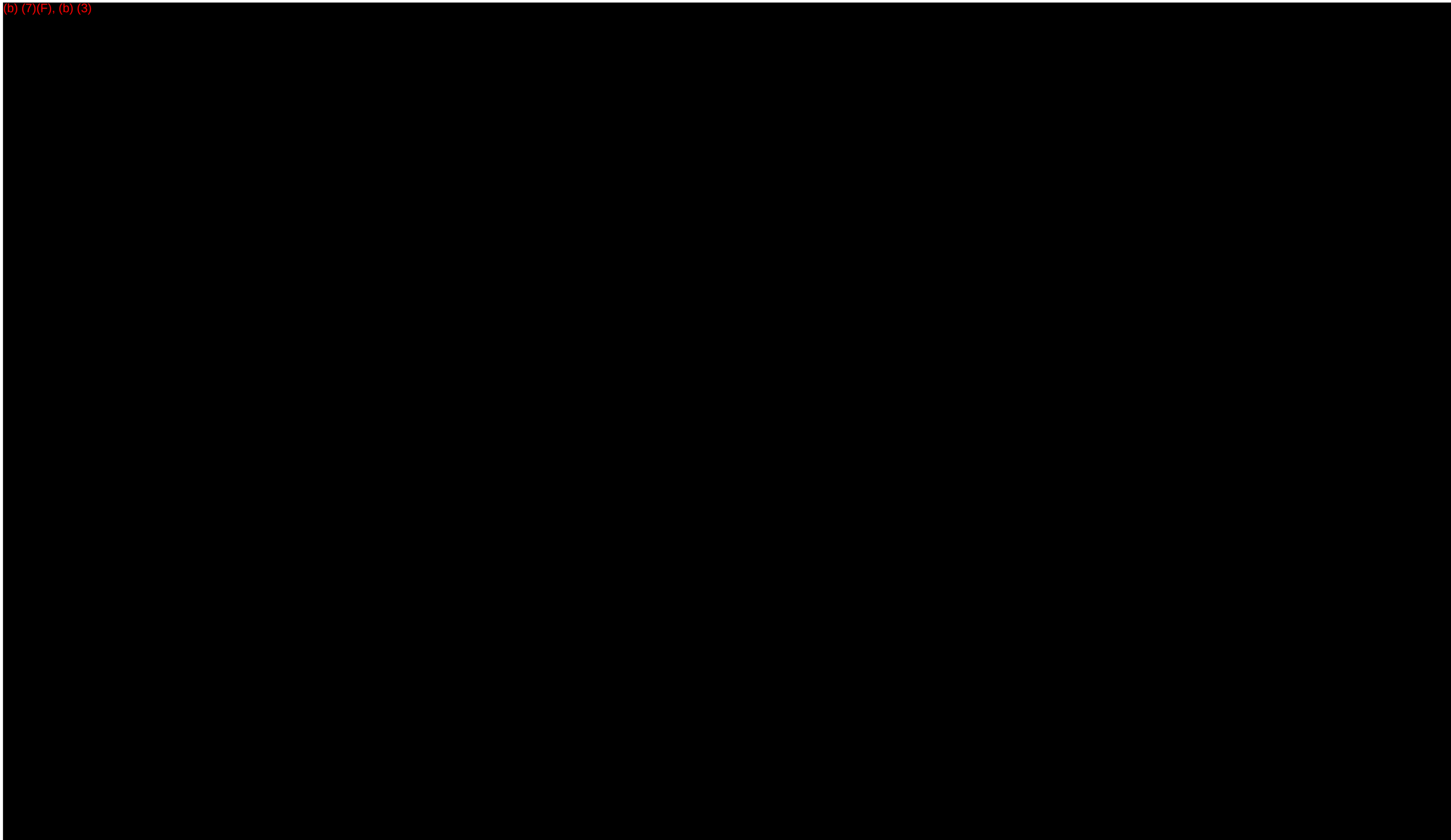
HENRY HUB SOUTH BOOSTER STATION PLOT PLAN

(b) (7)(F), (b) (3)



HOLMWOOD FACILITY PLOT PLAN

(b) (7)(F), (b) (3)



BRIDGELINE HOLDINGS - PAGE 1 (BLH)

(b) (7)(F), (b) (3)

[redacted]

BRIDGELINE HOLDINGS - PAGE 2 (BLH)

(b) (7)(F), (b) (3)

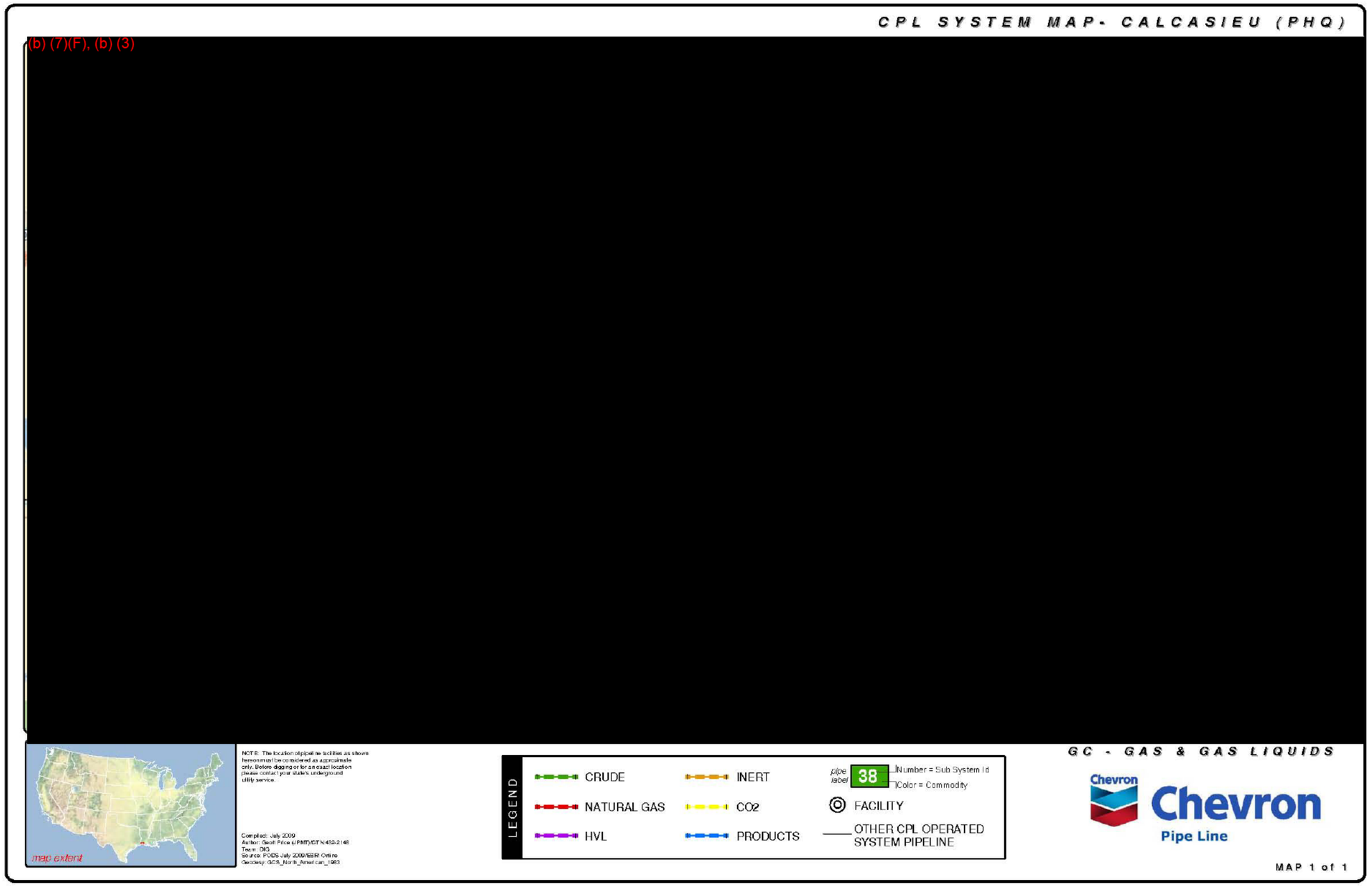
[redacted]

HGPP GAS GATHERING (HPP)

(b) (7)(F), (b) (3)

[redacted]

CALCASIEU (PHQ)



CHEVRON PETROCHEM (TPC)

(b) (7)(F), (b) (3)

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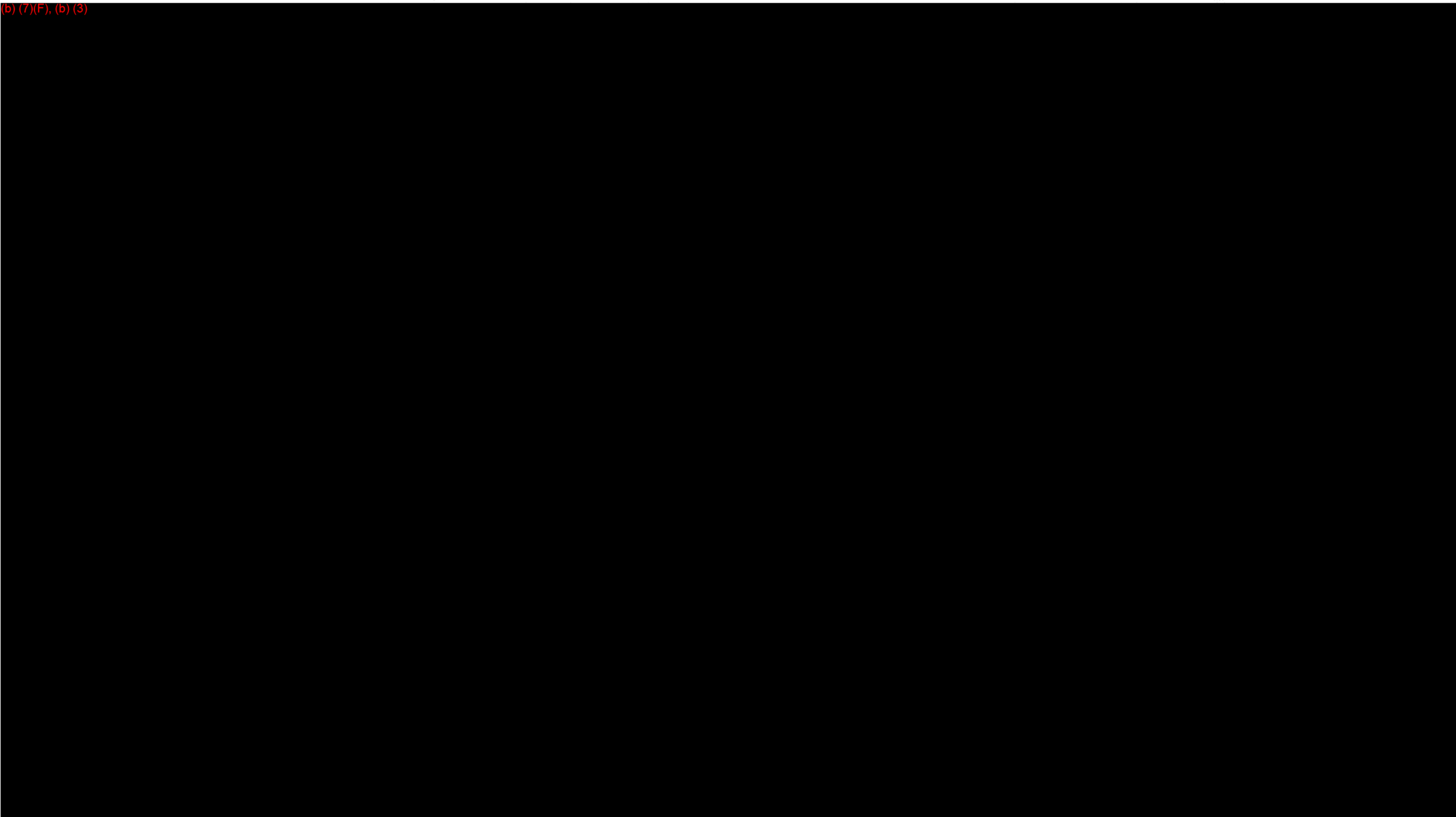
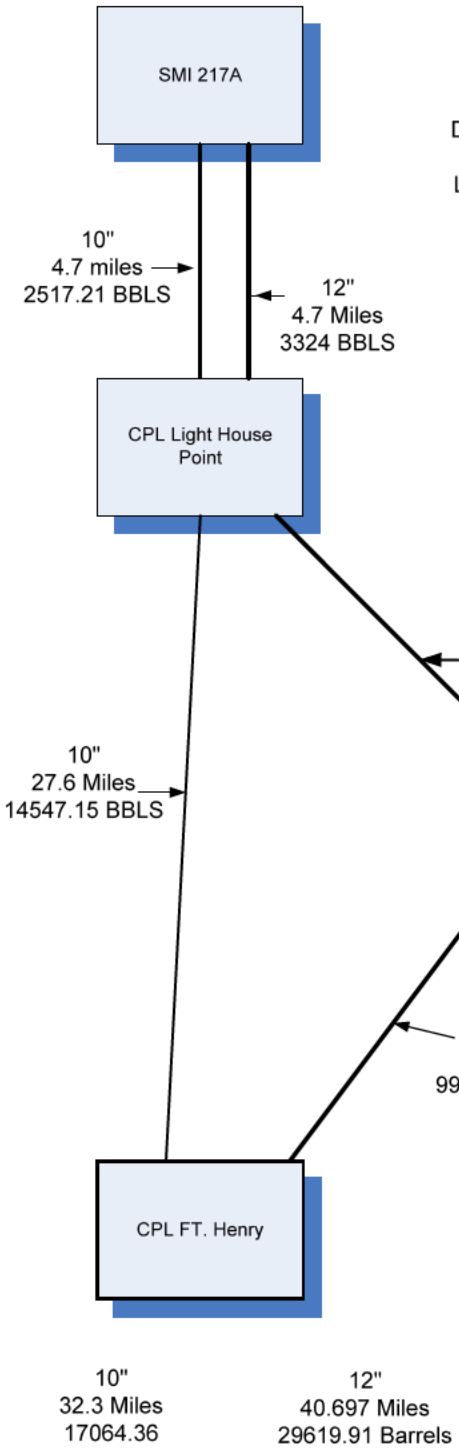
SULPHUR PUMP STATION PLOT PLAN

(b) (7)(F), (b) (3)



10" Tiger Shoals Conversion

This Information represents the process for the 10" Tiger Shoals conversion of service to DOT 195 operation, from being a gas gathering pipeline.



1/29/2008
Fill 10" line from SMI 217 to LHP with crude oil
Leave SMI 239 and White Oak in the 12"
1/30-31/2008
Divert Crude Oil flow from 12" to 10" at SMI 217A and LHP (SMI 239 and White Oak)
Launch 12" Geo-Mapping Tool from SMI 217A to Ft. Henry, pushing with water.
1/31-2/1/2008
Receive 12"X10" Geo-Mapping tool at Ft. Henry
After receipt of tool divert crude oil back into the 12" at SMI217A after 4000 BBLS have been pushed from SMI217A divert SMI239 AND White Oak back into 12" At LHP.
At this Point the 10" line should be approx ½ Oil and ½ Water and shut-in.
2/9-10/2008
Divert all Crude oil Production to the 10" (SMI217, SMI239, White Oak)
Launch 12" X10" MFL tool at SMI217 Pushing it with ***Inhibited Water***.
Receive 12"X10" MFL Tool
Block in the 12" Pipeline with the ***Inhibited Water***

LOUISIANA RESPONSE ZONE WORST CASE DISCHARGE INFORMATION

The worst case discharge volume for the largest tank in this Response Zone is T-6113 at the Empire Terminal. The WCD for pipelines was calculated based on PHMSA methodology and the response times are based on adverse weather. Refer to the end of this section for additional details on worst-case discharge volume calculations.

For USCG and EPA methodology, the Worst Case Discharge volumes (barrels) have been calculated for three terminals as follows:

(b) (7)(F), (b) (3)

The worst case discharge volume for Empire has been calculated based on EPA and USCG methodology for storage and transfer operations for complexes in high volume areas. The worst case discharge volume for Fourchon is based on EPA methodology. These worst case discharge volumes are for the terminal facility only. Refer directly below for the worst-case discharge volumes for the pipelines covered by this plan. The worst-case discharge volume calculations for the Empire and Fouchon facilities are shown under their respective tabs in this State Appendix Plan.

Facility Information

Empire to Pascagoula 20” Pipeline

This pipeline is located within the State waters of Louisiana and Mississippi. The right-of-way traverses the Breton Sound, Chandeleur Sound and Mississippi Sound. The right-of-way is located between the coastline and barrier islands for those areas. The distance from the coastline varies along the right-of-way.

The worst case discharge volume is calculated to be (b) (7)(F), (b) (3) . (See calculation sheet in this Section) *While the Empire terminal was heavily damaged from Hurricane Katrina., there has not been an incident on the pipeline in 20+ yrs on this segment of line.

Note: Historic discharge information.

Land Segment Identification

The following Probable Impact Areas are from the Bureau of Safety and Environmental Enforcement’s (BSEE) Oil Spill Risk Analysis Model (OSRAM) tables.

Source of spill – Launch area C69 on the subject 20" pipeline.

Land Segments – Name (No.)

Probabilities (expressed as a percent) that a spill will contact the Parish/County within 3, 10, or 30 days (3/10/30)

Jefferson, LA (18)	0/7/0	St. Tammany, LA (20)	0/13/11	Escambia, FL (24)	0/0/5
Plaquemines, LA (19)	0/4/14	Hancock, MS (21)	2/10/21	Santa Rosa, FL (24)	0/0/5
Orleans, LA (20)	0/13/11	Mobile, AL (22)	3/5/14	Okaloosa, FL (25)	0/0/1
St. Charles, LA (20)	0/13/11	Baldwin, AL (23)	1/1/9	Walton, FL (26)	0/0/1
St. Bernard, LA (20)	0/13/11				

Resource Identification

Resources* of special economic or environmental importance found in Land Segment 21 (Counties of Hancock, Harrison, and Jackson, MS). These include but are not limited to the following:
(Source Mississippi Triage Maps/ NW Florida and Mississippi and Alabama Area Contingency Plan – MSO Mobile). Also, refer to the Environmental Sensitivity Maps found in this Volume.

*For use with this worst-case scenario discussion only. Actual events will require a comprehensive assessment of resources at risk using all appropriate sources, maps, and databases. All response decisions and actions must consider actual the actual situation. The actions noted in this worst-case scenario are hypothetical and are not to be used as a fixed procedure. In case of an actual spill, all actions must be approved by the Unified Command with the Incident Command System (ICS) infrastructure.

Davis Bayou A309
E. Ship Island West Tip A744
Ship Island North Shore A746
West Ship Island North Shore A747
Ship Island West Tip South Shore A748
West Ship Island East Tip A749
West Tip of W. Ship Island A750
East Tip of E. Ship Island A751
E. Ship North Shore East A752
E. Ship Island South Shore A753
Round Island A302
Singing River Island A304
Pascagoula Bay A306
Upper West Pascagoula River A307
Graveline Lake A308
Horn Island A733
North Shore of Horn Island A734
Horn Island East A735
Horn Island Garden Pond A736
Horn Island Ranger Lagoon A737
Horn Island Big Lagoon A738
Horn Island North Shore A739
Horn Island A740
Horn Island A741
Horn Island West Tip A742
Horn Island SE of Ranger Station A743
Jackson County Middle Bay A300
Pt. Aux Chenes Bay & Bangs Lake A301
Lake Yazoo Jackson County A303
East Pascagoula River A305
Petit Bois Island A723
North Shore of Petit Bois Island A724
West Tip of Petit Bois Island A725
Lagoon Inlet North Shore Petit A727
East Tip of Petit Bois Island A726
Petit Bois Island A728
Petit Bois Island A729
Shore Spoil Island A730
Petit Bois Island West Marsh A731
Mid Island Marsh A732

Assumptions for this Worst Case Scenario

Weather

Initial (for first 1 to 2 days) adverse	Forecast for next 5 to 10 days improving
Rain, scattered thunderstorms, heavy in some areas	Chance of rain diminishing
Ambient temperature 89 to 90°F, Water 78°F	Temperature Highs 88 – 92°F, Lows 74 – 78°F, Water 78°F
Wind 10 to 15 mph from NE	Wind 2 to 6 mph from NNW
Seas 3 to 4 choppy	Seas less than 1 ft
Currents 2 knots from East	Currents 1 knot from East
Visibility 2 to 3 miles	Visibility unlimited
Ceiling 1,000 to 1,500 mostly cloudy	Ceiling clear to partly cloudy

Note: The maximum time to detect a spill and shut down an affected pipeline in adverse weather is approximately .25 hours.

Response

Many of these actions will be done simultaneously by the spill response team.

- Make all appropriate agency notifications. Refer to Section 2 and the Front Pocket information.
- Activate spill response organization and ICS infrastructure
- Establish response objectives
- Safety
- Protect the environment
- Control

Staging Site: Mississippi State Port Authority
Port of Gulfport
Gulfport, MS
228-865-4300

Recovery/Equipment

The following equipment would be called out from the primary OSRO and deployed as quickly as possible with safety being a priority.

MSRC – All equipment shown is based in Texas, Mississippi, Louisiana and Florida.

Equipment Type	Quantity (Capability)	Effective Daily Recovery Capacities[1] (bbls/day)	Location & Response Time (hours) to spill site[2]
Oil Spill Response Vessels (OSRV) 4 w/ Transrec 350 skimmers, 1 w/ Stress 1 skimmer)	5 (10,567)	57,268 +20,000 bbls storage	Pascagoula, MS – 5 Fort Jackson, LA – 9 Lake Charles, LA – 30 Galveston, TX – 33 Miami, FL – 50
Various Skimmers – ground transport to staging site (South MS) then onto vessels of opportunity; (Foilex 250, Vikoma 3 weir, GT-185, Desmi Ocean, Walosep W4, Stress 1)	6	32,500	Fort Jackson, LA – 14
Various Skimmers – ground transport to staging site (South MS) then onto vessels of opportunity; (Foilex 250, GT-185, Walosep W4, Stress 1)	4	25,500	Galveston, TX – 38
Various Skimmers – ground transport to staging site (South MS) then onto vessels of opportunity; (Foilex 250, WP 1, Vikoma 3 weir, GT-185, Stress 1)	5	29,500	Ingleside, TX – 30
Various Skimmers – ground transport to staging site (South MS) then onto vessels of opportunity; (Foilex 250, Desmi Ocean, Stress 1)	3	22,500	Lake Charles, LA – 35
Various Skimmers – ground transport to staging site (South MS) then onto vessels of opportunity; (Aardvac 800, Foilex 200, WP 1, GT-185, Stress 1, Don Wilson)	6	28,000	Pascagoula, MS – 10
Skimmer – ground transport to staging site (South MS) then onto vessels of opportunity; (Foilex 200)	1	2,000	Fourchon, LA – 15
Vessels of opportunity	25		Various sources
Storage – Oil Spill Response Barges (OSRB)	6 (38,000)	227,000 bbls	Pascagoula, MS – 10 Fort Jackson, LA – 20 Galveston, TX – 50 Ingleside, TX – 60 Tampa, FL - 72 Miami, FL – 77
Towable storage bladders	2 (3,000) 26 (500)	19,000	Most within 10 hours, balance within 24 hours
Shallow water barges Self-propelled and propelled w/push boat	11 (400)	4,400	Most within 18 hours, balance within 36 hours

Equipment Type	Quantity (Capability)	Effective Daily Recovery Capacities[1] (bbls/day)	Location & Response Time (hours) to spill site[2]
Boom	81,364 feet		67% (54,193') within 18 hours, 33% (27,171') within 36 hours
Mobile communication suites	7		
Personnel Supervisors Responders	 59 209		MSRC & STARs Contractor from around the Gulf Coast

[1]Derated capacity
[2]Includes procurement, transport, load/offload, travel to site, deployment as necessary

Clean Gulf Associates (CGA) – All equipment noted is based in Texas, Mississippi, Louisiana, and Florida

Equipment Type	Quantity (Capability)	Effective Daily Recovery Capacities[1] (bbls/day)	Location & Response Time (hours) to spill site[2]
Skimming Vessels (HOSS Barge, CGA 57, CGA 58 – Timbalier Bay)	3	14,900	HOSS Houma, LA – 30 CGA 58 Houma – 12 Venice, LA – 4
Various Skimmers – (FRU)	2	6,800	Fort Jackson, LA – 7 (Either ground transport to staging site or direct onto vessels of opportunity at Ft. Jackson)
Various Skimmers - (FRU)	1	3,400	Pascagoula, MS – 7 (Directly onto vessels of opportunity)
Various Skimmers – (FRU) (ground transport to staging site then onto vessels of opportunity	3	10,200	Houma, LA - 7
Various Skimmers – (FRU) (ground transport to staging site then onto vessels of opportunity	1	3,400	Grand Isle, LA – 8
Various Skimmers – (FRU) (ground transport to staging site then onto vessels of opportunity	1	3,400	Lake Charles, LA – 9
Various Skimmers – (FRU) (ground transport to staging site then onto vessels of opportunity	1	3,400	Galveston, TX – 13
Various Skimmers – (FRU) (ground transport to staging site then onto vessels of opportunity	1	3,400	Ingleside, TX – 18
Shallow water skimmers	5 (varied)	7,000	Most within 12 hours, balance within 18 hours

Equipment Type	Quantity (Capability)	Effective Daily Recovery Capacities[1] (bbls/day)	Location & Response Time (hours) to spill site[2]
Vessels of opportunity	17		Various sources
Various small storage tanks	11 (180) 2 (100) 3 (50)	2,230	Most within 12 hours, balance within 18 hours
Boom		31,500	Most within 12 hours, balance within 18 hours
Bird scare guns	120		Most within 12 hours, balance within 18 hours
Communication trailer	1		Lake Charles, LA – 9
Wildlife rehabilitation trailer	1		
Personnel Supervisors Responders	 28 97		MSRC and STARs contractor network – from around Gulf Coast

[1]Derated capacity
[2]Includes procurement, transport, load/offload, travel to site, deployment as necessary

Other Resources That May Be Acquired

Equipment Type	Quantity (Capability)	Effective Daily Recovery Capacities[1] (bbls/day)	Location & Response Time (hours) to spill site[2]
Shuttle tanker – possible lightering	1	250,000 bbls	From Pascagoula Refinery
Wildlife rehabilitation trailer	1		From Pascagoula Refinery
Communications trailer	1		Chevron Corp.
Aerial support	2-6 or as needed		From Chevron aviation group
Food & beverage support	1200+ meals/day 6000+ drinks/day (coffee, tea, cokes, water)		Various locations, on-site caterers and local restaurants.

Summary

Total skimming capacity.....253,168 bbls/day (de-rated)
Total storage capacity .....272,630 bbls
Total boom.....112,864 feet
Total fire boom w/guide boom .....1,500 feet
Total personnel
- Supervisors.....87
- Responders.....306
- Marine vessels.....50 (+tugs and barges as necessary)

Alternative response techniques that will be considered

ALL permissions to utilize dispersants or initiate an in situ burn, either within the scope of pre-approval or not, must come through the Unified Command structure of the Incident Command System.

Dispersants

While the majority of the spill area falls outside of the Regional Response Teams' (RRT) pre-approved guidelines, a Dispersant Application permit will be pursued with both RRT (Region IV and Region VI). Utilization of dispersants (as much as practicable or permitted) will be paramount to the success of the response.

Equipment necessary for a dispersant application is as follows:

Equipment Type	Payload Gallons	Maximum operational time	Quantity, Gallons	OSRO	Location & Response Time (hours) to spill site[1]
Corexit 9500			28,985 2,200	CGA LOOP	Galveston, TX – 50 Miami, FL – 77 Houma, LA
Corexit 9527			5,665 42,000 24,640	CGA LOOP MSRC	Houma, LA – see DC 4 Houma, LA – see DC 4 Lyndon, NJ - 48
Aircraft for aerial application DC 4	2,170	4.5 hours		Airborne Support, Inc.	Houma, LA – 5 (3-4 hours wheels up response, 1 hour to spill site)
Air Tractor 801	800	2.5 hours			Various locations – TX, LA 7-8
Spotter aircraft				Chevron	1 hour
Injectors for marine vessel application	Vessel dependent			MSRC & various supplies	Contingent on vessles of opportunity described earlier.

[1]Includes procurement, transport, load/offload, travel to site, deployment as necessary.

Refer to Dispersants Section in this Plan Volume.

In Situ Burn

Based on the adverse weather condition, upon which this scenario is based, it is doubtful that in-situ burn will be a viable option for the following reasons:

- Emulsification
- Proximity to population centers
- Prevailing wind direction (early in the response)

In any event, an in-situ burn permit will be pursued with both RRT (Region IV and Region VI). The permits will address all of the variables that will be assessed in order to start a urn. The process will identify leading indicators that will forecast when the variables may become acceptable for a burn. In-situ burn equipment will be mobilized and in a "ready state" in the event a burn becomes possible and permits have been granted by the appropriate RRT(s).

Equipment Type	Quantity	OSRO	Location & Response Time (hours) to spill site[1]
Fire boom with appropriate guide boom (400 ft)	3 (500 ft) sections for total of 1,500 feet	MSRC	Pascagoula, MS – 10 Galveston, TX – 50 Miami, FL – 77

1. Includes procurement, transport, load/offload, travel to site, deployment as necessary.

Empire Response Area

Empire – Pascagoula Pipeline – Out of Service

Location Data			
Location type Port type Product type Product group Maximum pipeline pumping rate (bbls/hour) Worst case discharge scenario detection time (hours in adverse weather) Worst case discharge scenario shutdown time (hours in adverse weather) Line length for worst case discharge scenario (miles) Line diameter (inches) Line segment volume	(b) (7)(F), (b) (3)		
Discharge Volumes/Calculations			
Worst case discharge (bbls) DOT-PHMSA Response Area WCD Calculation Maximum pump rate * (Detection time + Shutdown time)+largest line drainage volume			
Selected Calculation Factors			
Removal capacity planning volume – percent natural dispersion Removal capacity planning volume – percent recovered floating oil Removal capacity planning volume – percent oil onshore Emulsification factor Tier 1 – on water oil recovery resource mobilization factor Tier 2 – On water oil recovery resource mobilization factor Tier 3 – On water oil recover resource mobilization factor	(b) (7)(F), (b) (3)		
Response Planning Volume Calculation			
On-water recovery volume bbls On-shore recovery volume bbls Total recovery volume bbls			
	Tier 1	**Tier 2**	**Tier 3**
On-water recovery capacity (bbls/day) Shallow water response capability (bbls/day) Storage capacity (bbls/day) On-water response capacity (bbls/day) Additional response required (bbls/day) Response time (hours)	(b) (7)(F), (b) (3)		

Fourchon Response Area

Fourchon – Empire Pipeline

Location Data			
Location type	(b) (7)(F), (b) (3)		
Port type			
Product type			
Product group			
Maximum pipeline pumping rate (bbls/hour)			
Worst case discharge scenario detection time (hours in adverse weather)			
Worst case discharge scenario shutdown time (hours in adverse weather)			
Line length for worst case discharge scenario (miles)			
Line diameter (inches)			
Line segment volume			
Discharge Volumes/Calculations			
Worst case discharge (bbls)			
DOT-PHMSA Response Area WCD Calculation Maximum pump rate * (Detection time + Shutdown time)+largest line drainage volume			
Selected Calculation Factors			
Removal capacity planning volume – percent natural dispersion	(b) (7)(F), (b) (3)		
Removal capacity planning volume – percent recovered floating oil			
Removal capacity planning volume – percent oil onshore			
Emulsification factor			
Tier 1 – on water oil recovery resource mobilization factor			
Tier 2 – On water oil recovery resource mobilization factor			
Tier 3 – On water oil recover resource mobilization factor			
Response Planning Volume Calculation			
On-water recovery volume bbls			
On-shore recovery volume bbls			
Total recovery volume bbls			
	Tier 1	**Tier 2**	**Tier 3**
On-water recovery capacity (bbls/day)	(b) (7)(F), (b) (3)		
Shallow water response capability (bbls/day)			
Storage capacity (bbls/day)			
On-water response capacity (bbls/day)			
Additional response required (bbls/day)			
Response time (hours)			

Empire Response Area

Pipeline

Location Data			
Location type Port type Product type Product group Maximum pipeline pumping rate (bbls/hour) Worst case discharge scenario detection time (hours in adverse weather) Worst case discharge scenario shutdown time (hours in adverse weather) Line length for worst case discharge scenario (miles) Line diameter (inches)	(b) (7)(F), (b) (3)		
Discharge Volumes/Calculations			
Worst case discharge (bbls) DOT-PHMSA Response Area WCD Calculation Maximum pump rate * (Detection time + Shutdown time)+largest line drainage volume			
Selected Calculation Factors			
Removal capacity planning volume – percent natural dispersion	(b) (7)(F), (b) (3)		
Removal capacity planning volume – percent recovered floating oil			
Removal capacity planning volume – percent oil onshore			
Emulsification factor			
Tier 1 – on water oil recovery resource mobilization factor			
Tier 2 – On water oil recovery resource mobilization factor			
Tier 3 – On water oil recover resource mobilization factor			
Response Planning Volume Calculation			
On-water recovery volume bbls			
On-shore recovery volume bbls			
Total recovery volume bbls			
	Tier 1	**Tier 2**	**Tier 3**
On-water recovery capacity (bbls/day)	(b) (7)(F), (b) (3)		
Shallow water response capability (bbls/day)			
Storage capacity (bbls/day)			
On-water response capacity (bbls/day)			
Additional response required (bbls/day)			
Response time (hours)			

CALCULATIONS TABLES
FOR WORST CASE DISCHARGE RESPONSE RESOURCES DETERMINATION
REMOVAL CAPACITY PLANNING

Spill Location	(1) Rivers & Canals			(2) Nearshore/Inland/Great Lakes			(3) Offshore		
Sustainability of on-water oil recovery	3 Days			4 Days			6 Days		
		D	E		D	E		D	E
Oil Group	% Natural Dissipation	% Recovered Floating Oil	% Oil On Shore	% Natural Dissipation	% Recovered Floating Oil	% Oil On Shore	% Natural Dissipation	% Recovered Floating Oil	% Oil On Shore
I. Non-persistent oils	(b) (7)(F), (b) (3)								
II. Light crudes									
III. Medium crudes and fuels									
IV. Heavy crudes and fuels									

EMULSION FACTORS

F	
NON-PERSISTENT OIL	
Group I	(b) (7)(F), (b) (3)
PERSISTENT OIL	
Group II	
Group III	
Group IV	
Group V	

RESPONSE CAPABILITY CAPS (bbls/day)
(Maximum Required Recovery levels)

AREA	TIER 1	TIER 2	TIER 3
All except Rivers and Canals, Great Lakes	(b) (7)(F), (b) (3)		
Great Lakes			
Rivers & Canals			

ON-WATER OIL RECOVERY RESOURCE MOBILIZATION FACTORS

AREA	TIER 1	TIER 2	TIER 3
River	(b) (7)(F), (b) (3)		
Inland/Nearshore Great Lakes			

Note: These mobilization factors are for total resources mobilized, not incremental response resources.

RESPONSE TIME (hours)

AREA	TIER 1	TIER 2	TIER 3
Higher volume port area	(b) (7)(F), (b) (3)		
All Other			

Midstream Louisiana Assets Natural Gasoline Pipeline Response Area

Response Area 1 AC-01A, Sorrento to Crossroads M/S, 6" Natural Gasoline Pipeline

Worst Case Discharge Information

(b) (7)(F), (b) (3)

[redacted]

Response Area 2 SS-01B, Sorrento to Marathon V/S, (6”) Natural Gasoline Pipeline

Worst Case Discharge Information

(b) (7)(F), (b) (3)

[redacted]

Response Area 3 SS-01A, Marathon V/S to HWY 3127 V/S, (6”) Natural Gasoline Pipeline

Worst Case Discharge Information

(b) (7)(F), (b) (3)

[redacted]

Response Area 4 PP-01/PP-03 Hwy 3127 V/S To Paradis Tends Pumping Station Dual (6”) Natural Gasoline Pipelines

Worst Case Discharge Information

(b) (7)(F), (b) (3)

[redacted]

Response Area 5 Bp-01, Paradis Tends Pumping Station To The Bp/Amoco Plant (6") Natural Gasoline Pipeline

Worst Case Discharge Information

(b) (7)(F), (b) (3)

[redacted]

Response Area 6 LGPP Larose Processing Plant to the Point Au Chien Valve Site 18" Condensate Pipeline

Worst Case Discharge Information

(b) (7)(F), (b) (3)

[redacted]

Response Area 9 UCAR Hwy 3127 V/S To The Union Carbide Plant, (6”) Natural Gasoline Pipeline

Worst Case Discharge Information

(b) (7)(F), (b) (3)

[redacted]

VP-01 LPG Line Venice, LA to Paradis, LA

Worst Case Discharge Information

(b) (7)(F), (b) (3)

[redacted]

FORKED ISLAND TERMINAL AND ASSOCIATED PIPELINES

Chevron Pipe Line no longer owns or operates this facility as of the fourth quarter of 2012.

NOTIFICATIONS

SECTION 2 NOTIFICATIONS

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NOTIFICATION PROCEDURES

Note: The following pages explain Company notification reporting procedures. For a detailed list of telephone numbers, including Agencies, OSRO's and other resources, see the Front of Pocket Information Section of this State Appendix. For additional telephone numbers for gas pipelines and gas plants, please see the specific gas pipeline or gas plant emergency plan at the end of this State Appendix.

Appropriate and timely notification of the incident is essential to activate the response organizations, to alert company management, to obtain assistance and cooperation of agencies, to mobilize resources and to comply with Federal, State and Local regulations.

The order of notification is based on the premise that those who can render assistance in controlling or minimizing the impacts of an incident be notified before those that are remote from the incident. Some notifications may occur simultaneously. The notification process encompasses the following categories:

- Internal Company notification
  - Activate Immediate Response Team
  - Area Management
  - Company Response Teams, as needed
  - Higher Company management levels as necessary.

- External notifications
  - Response contractors
  - Response cooperative
  - Concerned Agencies
  - Potentially impacted third parties

Notification lists must be accurate, current and readily available to those responsible for making notifications.

A comprehensive list of agency telephone numbers is provided in the front pocket of this manual.

A pipeline Incident Information Summary, shown in this Section, should be used to record information provided by the spill observer. When spills are reported by outside observers, they are often vague as to spill location and other details necessary for rapid response. It is important to obtain as much information as possible to facilitate decisions on the appropriate response actions.

The Notification Matrix in this Section shows a typical notification procedure. The order and timeliness of notification will depend on size and location of the spill. It should be based on the premise that safety, controlling the release and minimizing the impacts of the incident are of paramount concern.

INTERNAL NOTIFICATION

Initial Notifications For Immediate Response Actions

The following internal notifications shall be implemented for any oil spill incident. Notification will not be delayed if Team Leaders are not immediately available. Authorization is given to bypass management levels as necessary to provide immediate notification to appropriate levels of Company management. The Spill Observer, or the first Company person notified of a spill that may be from a Company facility, shall notify the Team Leader. If the spill is initially reported to the Control Center, the Control Center Controller will notify the appropriate field Team Leader.

- The Team Leader shall notify appropriate operating personnel to control the operations that may be involved in the release.
- The Team Leader will assess the situation and if appropriate, activate the Immediate Response Team.
- The Team Leader shall notify the Pipeline Operations Specialist. Additional notifications will be made as indicated.

Continuing Notifications

The Incident Commander, a HES Staff person, or the Pipeline Operations Specialist will notify Company management as the situation demands.

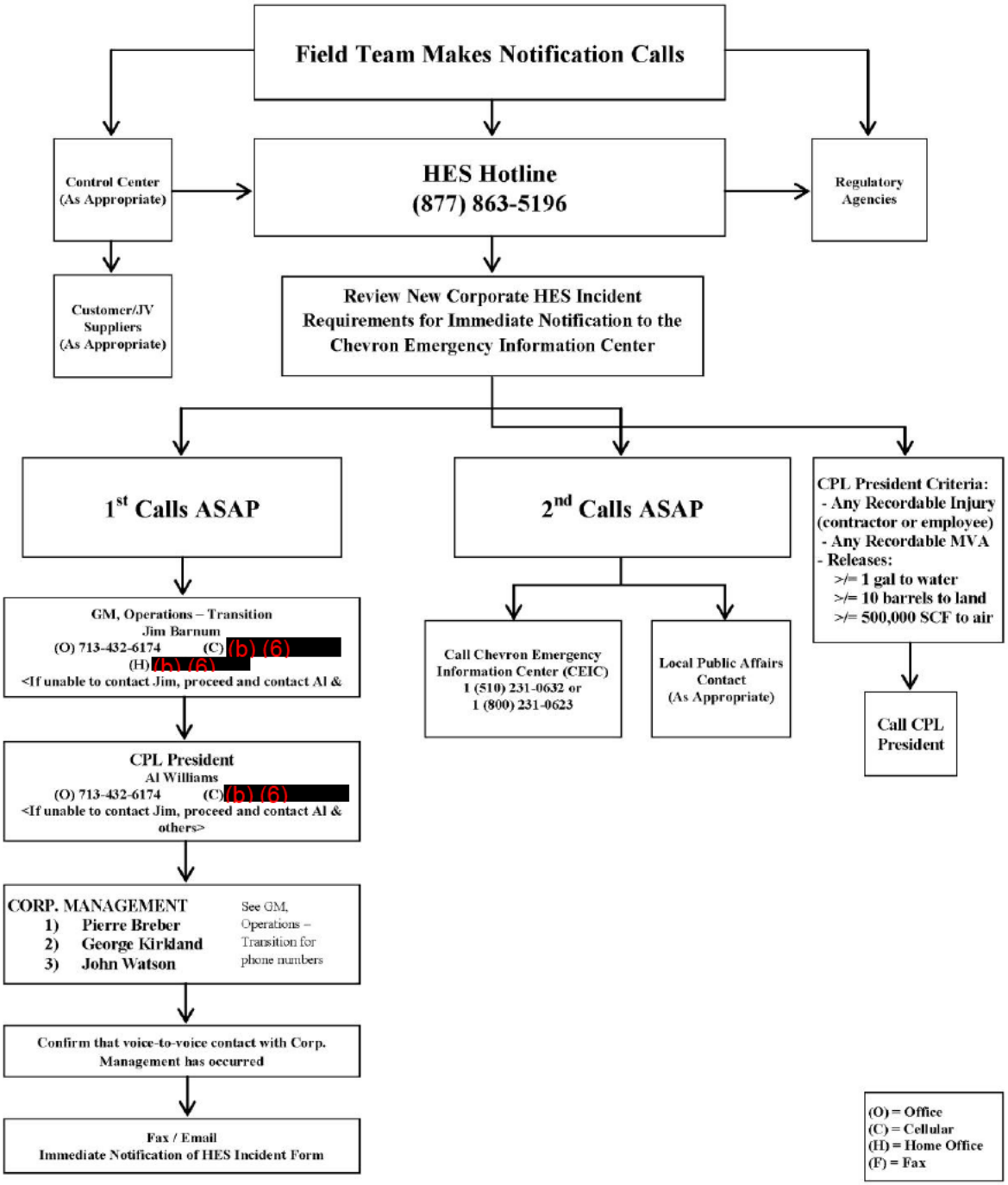
One person in the Region will be designated the "Region Incident Contact". This person will be the one to receive periodic status updates from the Incident Commander and disseminate the update information as appropriate.

Use the form shown in this Section to notify the Home Office of the incident. A FAX cover sheet, shown in this Section will be used to transmit information to the Home Office.

The person in the Home Office that receives the initial incident report will assume the position of "Home Office Incident Contact". The Home Office Incident Contact has the responsibility to call or otherwise notify other appropriate Home Office personnel. The Company and Corp Management Initial Emergency Notification Procedure, shown in the Front Pocket Information, outlines the process to follow when making incident notifications.

INTERNAL HES NOTIFICATION FLOWCHART

CHEVRON PIPE LINE CORPORATION MANAGEMENT
INTERNAL HES NOTIFICATION FLOWCHART



HES Hotline Staff Member contacted will become the Incident Contact who will perform the initial and update communications during the emergency unless relieved

- The Incident Contact has the responsibility to contact a person in each applicable box of the next level of the notification chain
- **Fax and/or Email** Emergency Notification to **A. Williams, J. Patry, P. Breber, G. Kirkland** and Local Public Affairs

Revised 05/2014

INCIDENTS REQUIRING IMMEDIATE INTERNAL CORPORATE MANAGEMENT NOTIFICATION

Note: Internal Corporate Notification information only, not synonymous with Federal or State spill reporting Notifications Criteria located elsewhere in this Plan.

Incidents Requiring Immediate Notification to Corporate Management

Highlighted Fields Incidicate Reporting Requirementss of a More Stringent Nature Within and Through the Chevron Gas & Midstream Organization

Incident Type	CG&M SBU* President or VP	CG&M President	Corp Emergency Response Staff and VP, HES	Reporting Officer and Chairman
Work-related fatality of employee, contractor, or third party	M	M	M	M
Work-related recordable injuries of employee, contractor, or third party	M	M		
Incidents resulting in multiple employee, contractor, or third party overnight hospitalization; (except for observation only)	M	M	M	M
Petroleum or petroleum product spills equal to or greater than 1 gallon and less than 1 barrels **to water**	M			
Petroleum or petroleum product spills equal to or greater than 1 barrels and less than 50 barrels **to water**	M	M		
Petroleum or petroleum product spills greater than 50 barrels **to water**	M	M	M	M
Petroleum or petroleum product spills greater than 10 barrels and less than 500 barrels **to land**	M	M		
Petroleum or petroleum product spills greater than 500 barrels **to land**	M	M	M	M
Any incident that attracts international or broad USA media coverage	M	M	M	M
Any incident that attracts significant local media coverage	M	M	M	R
Natural disaster, political unrest, civil disturbance, or other situations that threatens safely, health, or welfare of employees or contractors	M	M	M	R
Incidents resulting in the need for employees or public to shelter-in-place or evacuate	M	M	M	R
Release of Produced Gas, Natural Gas, or LPG greater than 500,000 SCF and less than 10 MMSCF or that presents fire/explosion hazard to populated area	M			
Release of Produced Gas. Natural Gas, or LPG greater than 10 MMSCF or that presents fire, explosion hazard to populated area	M	M	M	R
Any release of LNG that is reported to government agencies, or attracts, or is expected to attract media attention, or: involves a vessel incident.	M	M	R	R
Chemical release to land, water, or air greater than 8000 Kg or that threatens human safety or health or adverse impact to environment.	M	M	M	R
Fire, explosion, well blowout or other incident damaging Company and/or third party assets with costs likely to exceed $500,000 for physical damage, loss of product or production, and incident response	M	M	M	R
Note: kidnapping and ransom	See CVX Corporate Security Guidelines			

Note:
M = Mandatory (Phone call via operating chain preferred for initial notification Details can follow via email or fax)
R = Recommended
20110530Upward Notification Require doc

*SBUs may have requirements that differ for what is reportable to their management

IMMEDIATE NOTIFICATION OF HES INCIDENT

To be used when Upward Notification by telephonic and e-mail communication methods are either unable to be performed or prove unsuccessful. **Initial Notification must not be delayed pending collection of all information.**

Business Unit:	Location:	
Name, Address and Telephone of Suspected Responsible Party:		
Person Making Notification:	Local Date and Time of Notification:	Contact Number and Address of Person Making Notification:
Type of Incident: ☐ Fatality ☐ Spill/Release ☐ Injuries ☐ National/Significant Local News Coverage ☐ Other Significant HES Incident _____		
Local Date and Time of Incident:		
Description of Incident/Name of Oil Involved/Estimated Volume of Oil Spilled/Source/Capacity of Tank Involved:		
Materials Released, Total Quantity and Total Quantity in Water:		
Injuries, Fatalities, Evacuations:		
Actions Taken or Planned:		
Notifications Made:		
Assistance Required:		
Media Attention:		
Damage in Dollars:		
Other Information, Including Weather Conditions:		
Corp ERS Team Member Taking Report:		

Fax: 1-510-242-3787

NRC Toll Free Number: 800-424-8802

E-mail: ceichl@chevron.com

EMERGENCY NOTIFICATION TO MANAGEMENT FAX

EMERGENCY NOTIFICATION TO MANAGEMENT FAX

From:
Chevron Pipe Line Company
4800 Fournace Place
Bellaire, TX 77401
Phone: ( ) -
Fax: (713) 432-3477
Date:

Pages 2

Chevron

Mr. Al Williams (CPL President) At: (AWilliams@Chevron.com)
Mr. George Kirkland (Vice Chairman) (GLKirkland@Chevron.com)
Mr. Pierre Breber (Chevron President) (PBreber@Chevron.com)

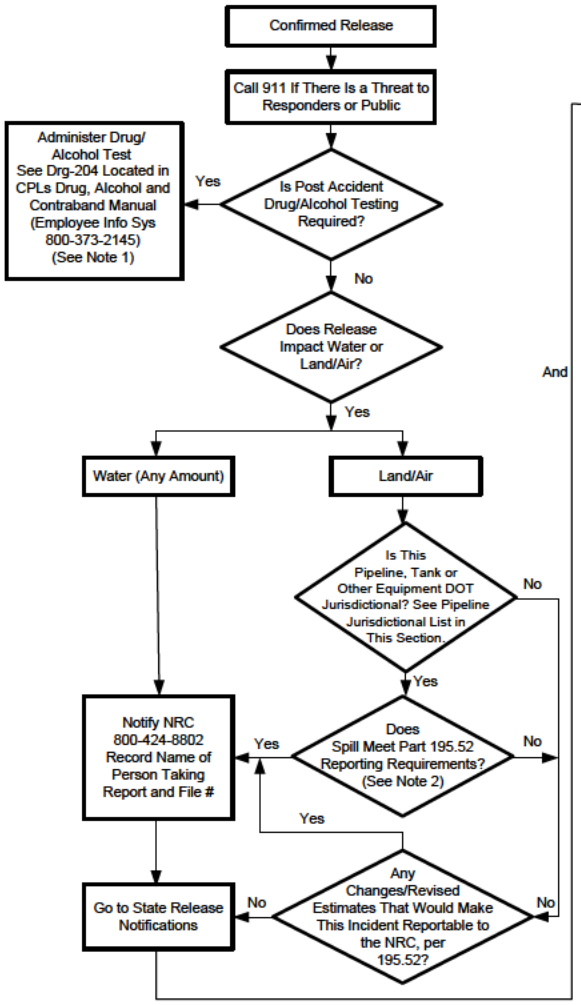
CEICHL (800) 231-0623 (CEICHL)

Remarks: ☐ Urgent ☐ Please Confirm Receipt ☐ Reply ASAP

CPL Emergency Incident Contact is: _____
Phone Number: _____
Revised: 05/14

AGENCY NOTIFICATION CHART

Agency Notification Chart



Note 1:
D&A Post Accident Testing
As Soon As Possible, But No Later Than 3 Hours After An Accident, An Operator Shall Perform An Alcohol Test, and No Later Than 32 Hours Perform Drug Testing of Each Employee Whose Performance Contributed to the Incident or Cannot Be Completely Discounted As a Contributing Factor to the Accident.

Note 2:
Dot Telephonic Reporting Requirements Part 195.52

1. Caused a Death or Personal Injury Requiring Hospitalization.
2. Resulted in a Fire or Explosion Not Intentionally Set By the Operator.
3. Caused Estimated Property Damage Including Cost of Clean-Up and Recovery, Value of Lost Product, and Damage to the Property of the Operator or Others, or Both Exceeding $50,000;
4. Resulted in Pollution of Any Stream, River, Lake Reservoir or Other Similar Body of Water That Violated Applicable Water Quality Standards or Caused a Discoloration of the Surface of the Water or Upon Adjoining Shorelines; or
5. Was Otherwise Significant in the Operators Judgment Even Though It Did Not Meet the Criteria of Any Other Part of 195. (* See CPL Comment Below.)

Telephonic Report Must Include the Following Information:
(1) Name and Address of the Operator
(2) Name and Telephone Number of the Reporter
(3) The Location of the Failure
(4) The Time of the Failure
(5) The Fatalities and Personal Injuries, If Any
(6) All Other Significant Facts Known By the Operator That Are Relevant to the Cause of the Failure or Extent of the Damages

* CPL Comment: An Otherwise Significant Event in the Operators Judgment is Defined as:
- If the news media reports the incident
- Major evacuation (a school, hospital or health care facility, multiple dwellings, ect.)
- Rerouting of traffic or closing a highway by public emergency responders

Note 3:
Additional Responder/Agency Telephone Numbers Can Be Found Under Site Specific Tabs and In the Front Pocket Information.

Note 4:
DOT Written Reporting Requirements §195.50

An Accident Report Is Required For Each Failure In a Pipeline System Subject to This Part In Which There Is a Release of the Hazardous Liquid or Carbon Dioxide Transported Resulting In Any of the Following:

(a) Explosion or Fire Not Intentionally Set By Operator
(b) Release of 5 gallons (19 liters) or More of Hazardous Liquid or Carbon Dioxide, Except That No Report is Required for a Release of Less Than 5 barrels (0.8 cubic meters) Resulting From a Pipeline

Maintenance Activity if the Release is:
(1) Not Otherwise Reportable Under This Section
(2) Not One Described in Sec 195.52(a)(4) (Pollution to Water)
(3) Confined to Company Property or ROW, and
(4) Cleaned Up Promptly
(c) Death of Any Person
(d) Personal Injury Necessitating In-Patient Hospitalization
(e) Estimated Property Damage, Including Cost of Cleanup and Recovery Value of Lost Product, and Damage to the Property of the Operator or Others, or Both, Exceeding $50,000

Send Information Regarding the Incident to the Appropriate DOT Specialist Who Will Submit the Written Report DOT 7000-1.

Note 5:
195.54 Accident Reports
(b) Whenever An Operator Receives Any Changes In the Information Reported or Additions to the Original Report on DOT Form 7000-1, It Shall File a Supplemental Report Within 30 Days

Note 6:
For Spills 5 Gals to 5 BBLs Not Otherwise Reportable Under 195.50 (Note 4) Nor Resulting In Water Pollution. Complete Only Page 1 of DOT 7000-1.

For All Other Reportable Spills 5 Gals or 5 or More BBLs or Reportable By Other Criteria Under 195.50 (Note 4), Complete As Much As Possible of the Long Form Within the 30 day Filing Period.

2009-01-20 LAAgencyNotification.vsd

LOUISIANA RELEASE NOTIFICATIONS

LOUISIANA RELEASE NOTIFICATIONS	
Release to Land or Air and Water (within 1 hour) up to 3 miles from shoreline	**Release to Water or Air = / > 3 miles offshore (OCS waters) (within 1 hour)**
Louisiana State Police Hazardous Materials Hotline 877-925-6595 Any spill of oil or hazardous substance potentially polluting waters in the state including both surface and groundwater. A sheen is a reportable incident. State Police Haz-Mat (within 1 hour) RQ of 100# for Crude Oil or 14 gallons Review the "RQ tables" and "additional Louisiana specific releases" information for crude and all other releases AND Contact the appropriate LEPC	BSEE (OCS waters) 800-424-8802 (NRC) Plus BSEE District Offices as needed (see next page for BSEE reporting details) Mandatory call for any spill = / > 1 barrel to water = / > 3 miles offshore
The Following Notifications Apply To Releases or Spills Affecting Water, Land or Air	
RQ of 100# for Crude Oil or 14 gallons Review the RQ tables for all other releases **State Department of Natural Resources / Pipeline Safety Division - 24 hours — 225-342-5505** All Intrastate (In State) lines (Jurisdictional =up to 3 miles from shoreline) Systems excluded: Sabine Pipeline LLC, Chevron Petrochemical Pipeline LLC and Chevron Pipe Line Company's EP and Ethylene Systems.	
Delta National Wildlife Refuge (Releases => 2 gallons in USF&W areas) 985-882-2000	
Department of Wildlife & Fisheries Potential or impact to wildlife and or fish game 24 Hr. 225-765-2441	
Significant release or any spill to water within state jurisdiction Louisiana Department of Environmental Quality (LDEQ) 225-342-1234 Louisiana Oil Spill Coordinator 225-219-5800 / After hours (800) 538-5388 Pager Pin # 129340 Louisiana State Police Hazardous Materials Hotline 225-925-6595	

DOT SPECIALIST NOTIFICATIONS

DOT Specialist Notifications

Note: In addition to following the HES Notifications Flowchart and making the required agency notifications above and below, notify the appropriate DOT Specialist when any of the flowing occurs: Spill, Releases, MVC's involving company operated commercial vehicles and nay incident involving an OQ covered task. DOT Specialists geographic area and telephone numbers are listed below:

Name	Phone #	Area of Responsibility
Randy Burke	281-451-7537	Texas – Shares the responsibility for Colorado, Utah.
Henry Leger	337-654-8915	Louisiana, Mississippi, Alabama as well as the following entities extending into the state of Texas: Chevron Petrochemical Pipeline, LLC & Sabine Pipe Line, LLC.
Garrett Parker	713-598-0613	Shares responsibilities for Utah, and Texas, Louisiana, Mississippi, Alabama as well as the following entities extending into the state of Texas: Chevron Petrochemical Pipeline, LLC & Sabine Pipe Line, LLC.
Gary Saenz	281-450-5523	California – Shares the responsibility for Colorado, Utah.
Jeff Richardson	713-628-6319	California – Shares the responsibility for Colorado, Utah, Texas, and Louisiana.

NATIONAL RESPONSE CENTER (NRC) 800-424-8802
Notify the NRC for any release to water. **Refer to additional NRC requirements in the NRC Reporting Section of this document.**

(BSEE Reporting continued on next page)

BSEE INCIDENT REPORTING (OCS WATERS)

BSEE INCIDENT REPORTING (OCS WATERS)
800-424-8802

= / > 1 bbl to water
= / > 3 miles offshore

Note:
Notify BSEE GOMR Pipeline Section if spill is related to OCS pipeline activities
Office (504) 736-2814 / Fax (504) 736-2408 / Cell (b) (6)

= / < 10 bbls make notification by Fax to BSEE District Office (listings in this Section)

> 10 bbls make notification to BSEE GOMR Office by telephone at 504-736-0557 (8a - 5p)

Notify BSEE if you discover an oil spill whether it's originating from your facility or another offshore facility or if it is a spill of unknown origin which could be expected to equal or exceed 1 bbl.

BSEE GOMR DISTRICT OFFICE CONTACT INFORMATION)

Office	Mailing Address	Office	Fax	Cell
New Orleans District	990 N. Corporate Drive Suite 100 New Orleans, LA 70123-3392	504-734-6740 or 504-734-6742	504-734-6741	(b) (6)
Houma District	3804 Country Drive Post Office Box 760 Bourg, LA 70343-0760	985-853-5884	985-879-2738	
Lafayette District	201 Energy Parkway Suite 410 Lafayette, LA 70508	337-289-5100	337-354-0008	
Lake Charles District	620 Esplanade Street Suite 200 Lake Charles, LA 70607-2984	337-480-4600	337-477-9889	
Lake Jackson District	Oak Park Center 102 Oak Park Drive, Suite 200 Clute, TX 77531	979-238-8121	979-238-8122	
Pipeline Section	Mail Stop 52321201 Elmwood Park Blvd New Orleans, LA 70123-2394	504-736-2814	504-736-2408	

Note: For BSEE GOMR District Office Areas of Responsibility, refer to the end of Section 2.

Gas Release Information

Gas Release
Louisiana (Notify LEPC & State Police) • Any release that creates an emergency situation. • **A release of 100 pounds or more for natural gas from crude oil and natural gas operations would trigger notifications. A release of 100 pounds affecting the public would trigger State Police notifications. Refer to the Louisiana and Midstream Area Reportable Quantities matrix and notes in this Section.** • A death or personal injury necessitating in-patient hospitalization; • Estimated property damage, including cost of gas lost, of the operator or others, or both, of $50,000 or more. • An event that is significant, in the judgment of the Emergency Response Director. • The release directly causes any injury requiring hospitalization or any fatality; or • The release results in a fire or explosion which could reasonably be expected to affect the public safety beyond the boundaries of the facility; or • The release (other than an application of a pesticide or fertilizer) exceeds the reportable quantity during any continuous 24 hour period when that reportable quantity could be reasonably expected to escape beyond the site of the facility; or • The incident, accident or cleanup within a facility could reasonably be expected to affect the public safety beyond the boundaries of the facility (for example: a facility evacuating its personnel); or • The owner or operator knows a protective action beyond the facility has been initiated. **DOT Reporting Criteria (Notify via NRC call)** **Gas Release Reporting Triggers for US DOT Office of Pipeline Safety:** 1. Gas means natural gas, flammable gas, or gas which is toxic or corrosive. 2. Report any incident that involves a release of gas from a pipeline or of liquefied natural gas or gas from an LNG facility that: a. Caused a death and/or a personal injury necessitating in-patient hospitalization of the operator or others. b. Caused estimated property damage, including cost of gas lost, totaling $50,000 or more. c. Resulted in an emergency shutdown of an LNG facility. d. In the judgment of the operator was significant, even though it did not meet the criteria of a. through c. above. 3. Reports must include the following: a. Names of operator and person making the report and their telephone numbers. b. The location of the leak. c. The time of the leak. d. The fatalities and personal injuries, if any. e. All other significant facts that are known by the operator that are relevant to the cause of the leak or extent of the damages.

Additional Louisiana Specific Release Information

Natural Gas Liquids Pipelines (Natural Gasoline) (Contact State Police and LEPC)

An event that involves a release of hazardous liquids transported resulting in any of the following:

- Any release that creates an emergency situation;
- Explosion or fire not intentionally set by the operator;
- 100 LBS or 18 GAL State Police
- 1 BBL or > DEQ
- Escape to the atmosphere of more than 5 barrels (0.8 cubic meters) a day of highly volatile liquids;
- Death of any person; and
- Bodily harm to any person resulting in one or more of the following:
  - Loss of consciousness;
  - Necessity to carry the person from the scene;
  - Necessity for medical treatment; and
  - Disability, which prevents the discharge of normal duties or the pursuit of normal activities beyond the day of the accident.
- Estimated property damage, including cost of clean up and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding $50,000.

Local Emergency Planning Committee (LEPC)
(see Office of Emergency Preparedness telephone list on pages to follow)

The appropriate LEPC should be informed of any incident, which could involve the community or attract attention of the community or news media. If an affect will be felt in any of the surrounding communities, be prepared to advise of the need for evacuation when making the report. Notification to LEPCs should be made for any incident of smoking that lasts for more than five minutes, or any odor or noise that could be detected outside the facility. Informing the LEPC should be considered if the wind and weather conditions are such that hazardous exposure could occur.

State Emergency Response Commission (SERC)
(contact State Police to satisfy this notification)

Notification is required if the release is either in excess of the reportable quantities (RQ) of materials on the CERCLA list or the list of extremely hazardous substances or if the roadway is blocked. The LEPC, SERC & National Response Center (NRC), requests verbal notification within 1 hour of the incident. Written follow-up should be made within 5 working days.

Note: See "Reported Quantities of Commonly Used Substances Under CERCLA and EPCRA" located at the end of this procedure.

Louisiana Department of Environmental Quality (LADEQ)

Water

The State's Spill Contingency Plan identifies reporting requirements to the LADEQ in the event of a spill. Reporting by phone should be done as soon as possible. A follow up written report should be submitted normally within five working days. What constitutes a spill? By definition, a spill involves oil or a hazardous substance that pollutes, or has the potential to pollute, waters in the state to include both surface and groundwater. If an oil spill leaves a sheen on the water and leaves a site via a waterway it is a reportable incident.

Air

Any vapor releases must be reported to the LADEQ. This includes any releases that would exceed limits given on the facilities operating permit as well as releases regulated by the LADEQ. Among these are emissions from flaring for a period of over five (5) minutes in any two-hour period.

Therefore, while a spill into navigable waters would require a report, a spill within a site should be evaluated for possible reporting.

USCG COTP & MSU Numbers

USCG COTP & MSU Contacts	
US Coast Guard COTP of New Orleans	504-846-66261 or 504-846-5924 Supervisor
US Coast Guard COTP of Morgan City	985-380-5320
US Coast Guard MSU Houma	985-380-5320
US Coast Guard MSU Baton Rouge	225-298-5400
US Coast Guard MSU Lake Charles	337-491-7800
US Coast Guard COTP Port Arthur	409-723-6500

NATIONAL RESPONSE CENTER

National Response Center (NRC)
800-424-8802

For oil spills, liquid pipeline releases, gas pipeline releases, other releases as defined below:

All Spills

(The following criteria applies to both Interstate and Intrastate regulated pipeline systems)

- Any release to water

Liquid Pipeline Releases

(The following criteria applies to both Interstate and Intrastate regulated pipeline systems)

At the earliest practicable moment following discovery of a release of the hazardous liquid or carbon dioxide transported resulting in an event described in Sec. 195.50, the operator of the system shall give notice, in accordance with this section, of any failure that:

- Caused a death or a personal injury requiring hospitalization;
- Resulted in either a fire or explosion not intentionally set by the operator;
- Caused estimated property damage, including cost of cleanup and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding $50,000;
- Resulted in pollution of any stream, river, lake, reservoir, or other similar body of water that violated applicable water quality standards, caused a discoloration of the surface of the water or adjoining shoreline, or deposited a sludge or emulsion beneath the surface of the water or upon adjoining shorelines; or
- In the judgment of the operator was significant even though it did not meet the criteria of any other paragraph of this section.

Reports made under this paragraph must be made by telephone to the National Response Center at 800-424-8802 or 202-267-2180 and must include the following information:

- Name and address of the operator.
- Name and telephone number of the reporter.
- The location of the failure.
- The time of the failure.
- The fatalities and personal injuries, if any.
- All other significant facts known by the operator that are relevant to the cause of the failure or extent of the damages.

Telephonic Notification to NRC (Gas Pipeline Releases) continued on next page

Telephonic Notification to NRC – Continued

Gas Pipeline Releases

Per DOT, Gas means natural gas, flammable gas, or gas which is toxic or corrosive;

Incident means any of the following events:

- An event that involves a release of gas from a pipeline or of liquefied natural gas, liquefied petroleum gas, refrigerant gas, or gas from an LNG facility and that results in one or more of the following consequences:
  (i) A death, or personal injury necessitating in-patient hospitalization;
  (ii) Estimated property damage of $50,000 or more, of the operator or others, or both, but excluding cost of gas lost;
  (iii) Unintentional estimated gas loss of three million cubic feet or more;
  (2) An event that results in an emergency shutdown of an LNG facility. Activation of an emergency shutdown system for reasons other than an actual emergency does not constitute an incident.
  (3) An event that is significant, in the judgment of the operator, even though it did not meet the criteria of paragraphs (1) or (2) of this definition.

At the earliest practicable moment following discovery, each operator shall give notice of each incident as defined above.

Each notice shall be made by telephone to 800-424-8802 and shall include the following information:

- Names of operator and person making report and their telephone numbers.
- The location of the incident.
- The time of the incident.
- The number of fatalities and personal injuries, if any.
- All other significant facts that are known by the operator that are relevant to the cause of the incident or extent of the damages.

Chemical Spills to Land or Air

- Chemical release that exceeds the RQ.

LOUISIANA RELEASE NOTIFICATIONS REPORTABLE QUANTITIES

Louisiana Release Notification Table 1

TABLE 1
CHEVRON PIPE LINE COMPANY
LOUISIANA RELEASE NOTIFICATION

IF YOU ARE IN THE FOLLOWING LOUISIANA PARISH'S THESE LIMITS APPLY TO YOU:

Ascension, East Baton Rouge, Iberville, Livingston, West Baton Rouge, St. Charles, St. James, St. John the Baptist, Pointe Coupe, West Feliciana

Chemical Spill/Release	State Police Reportable Quantity (RQ)	LDEQ Reportable Quantity (RQ)	CERCLA Reportable Quantity (RQ)
Butane (iso)	100 lbs. (21 gallons/ 0.5 BBLS)	5000 lbs. (1050 gallons / 25 BBLS)	N/A
Butane (normal)	100 lbs. (20 gallons/ 0.48 BBLS)	5000 lbs. (1008 gallons/ 24 BBLS)	N/A
Crude oil	100 lbs. (14 gallons/ 0.33 BBLS) *	1 BBL (42 gallons) or more	N/A
Condensate (NG)	100 lbs. (16 gallons/ 0.38 BBLS)	1 BBL (42 gallons) or more	N/A
Ethane	100 lbs. (33 gallons/ 0.79 BBLS)	1 MMCF or 42,000 lbs.	N/A
Ethylene	100 lbs. (21 gallons/ 0.48 BBLS)	100 lbs. (21 gallons/ 0.48 BBLS) (considered an HRVOC - highly reactive organic volatile organic compound)	5000 lbs. (1052 gallons/ 25 BBLS)
E-P Mix (ethane-propane mix)	100 lbs. (29.5 gallons/ 0.70 BBLS)	5000 lbs. (1473 gallons/ 35 BBLS)	N/A
LPG (Y-Grade)	100 lbs. (23 gallons/ 0.55 BBLS)	5000 lbs. (1153 gallons/ 27.5 BBLS)	N/A
Natural Gas	100 lbs. **	1 MMSCF or 42,000 lbs.	N/A
Natural Gasoline	100 lbs. (16 gallons / 0.38 BBLS)	1 BBL (42 gallons) or more	1 bbl (10 lbs. benzene) 10 bbls (100 lbs. xylene) 33 bbls (5000 lbs. hexane) 109 bbls (1000 lbs. toluene) 303 bbls (1000 lbs. ethylbenzene)
Propane	100 lbs. (24 gallons/ 0.57 BBLS)	5000 lbs. (1199 gallons / 28.6 BBLS)	N/A
Propylene	100 lbs. (19.8 gallons/ 0.47 BBLS)	100 lbs. (19.8 gallons/ 0.47 BBLS) (considered an HRVOC)	N/A
P-P Mix (80% propane-20%propylene mix)	100 lbs. (P-P mix) (23.6 gallons / 0.56 BBLS)	5000 lbs. (P-P mix has 100 lbs propylene) (1178 gallons/ 28 BBLS)	N/A

See Notes following Table 2

Louisiana Release Notification Table 2

TABLE 2
CHEVRON PIPE LINE COMPANY
LOUISIANA RELEASE NOTIFICATION

APPLIES IN ALL OTHER LOCATIONS EXCEPT AS NOTED IN TABLE 1

Chemical Spill/Release	State Police Reportable Quantity (RQ)	LDEQ Reportable Quantity (RQ)	CERCLA Reportable Quantity (RQ)
Butane (iso)	100 lbs. (21 gallons/ 0.5 BBLS)	5000 lbs. (1050 gallons / 25 BBLS)	N/A
Butane (normal)	100 lbs. (20 gallons/ 0.48 BBLS)	5000 lbs. (1008 gallons/ 24 BBLS)	N/A
Crude oil	100 lbs. (14 gallons/ 0.33 BBLS) *	1 BBL (42 gallons) or more	N/A
Condensate (NG)	100 lbs. (16 gallons/ 0.38 BBLS)	1 BBL (42 gallons) or more	N/A
Ethane	100 lbs. (33 gallons/ 0.79 BBLS)	1 MMCF or 42,000 lbs.	N/A
Ethylene	100 lbs. (21 gallons/ 0.48 BBLS)	5000 lbs. (1052 gallons/ 25 BBLS) (considered an HRVOC)	5000 lbs. (1052 gallons/ 25 BBLS)
E-P Mix (ethane-propane mix)	100 lbs. (29.5 gallons/ 0.70 BBLS)	5000 lbs. (1473 gallons/ 35 BBLS)	N/A
LPG (Y-Grade)	100 lbs. (23 gallons/ 0.55 BBLS)	5000 lbs. (1153 gallons/ 27.5 BBLS)	N/A
Natural Gas	100 lbs. **	1 MMSCF or 42,000 lbs.	N/A
Natural Gasoline	100 lbs. (16 gallons / 0.38 BBLS)	1 BBL (42 gallons) or more	1 bbl (10 lbs. benzene) 10 bbls (100 lbs. xylene) 33 bbls (5000 lbs. hexane) 109 bbls (1000 lbs. toluene) 303 bbls (1000 lbs. ethylbenzene)
Propane	100 lbs. (24 gallons/ 0.57 BBLS)	5000 lbs. (1199 gallons / 28.6 BBLS)	N/A
Propylene	100 lbs. (19.8 gallons/ 0.47 BBLS)	5000 lbs. (985 gallons/ 23.5 BBLS) (considered an HRVOC)	N/A
P-P Mix (80% propane-20%propylene mix)	100 lbs. (P-P mix) (23.6 gallons / 0.56 BBLS)	5000 lbs. (1178 gallons/ 28 BBLS)	N/A

See Notes following Table 2

*** Note:** 14 gallon RQ is per telephone conversation on 06/18/03 with Bob Hayes, State Police. However any spilled amount of oil or hazardous substances that pollutes, or has potential to pollute waters in the state to include both surface and ground waters is reportable. If an oil spill leaves a sheen on the water and leaves a site via a waterway it is a reportable incident.

**** Note:** State Police notification is required if the natural gas escapes beyond the facility and releases to the atmosphere. State Police must also be notified it the release exceeds 100 lbs and affects the public. The controlled release of natural gas for maintenance or other purposes is considered a permitted release and is not reportable provided the release cannot be reasonably expected to affect the public safety beyond the boundaries of the facility. Natural gas from crude oil and natural gas production operations regardless of system pressure shall have a RQ of 100 lbs.

LOCAL EMERGENCY PLANNING COMMITTEES (LEPC) PARISH INFORMATION

Parish	Day Contact		Night Contact	
Phone	**Agency**	**Phone**	**Agency**	**Phone**
Acadia	911 Dispatch	337-788-8772	911 Dispatch	337-788-8772
Ascension	Office of Emergency Preparedness	225-621-8360	Sheriff's Office	225-621-8300
Assumption	Sheriff's Office	985-369-2912	Sheriff's Office	985-369-2912
Calcasieu	Office of Homeland Security & Emergency Preparedness	337-439-9911	911 Dispatch	337-439-9911
Cameron	Office of Emergency Preparedness	337-775-5111	Sheriff's Office	337-775-5111
East Baton Rouge	FD Communications	225-389-2050	FD Communications	225-389-2050
Iberia	Sheriff's Office	337-369-3711	Sheriff's Office	337-369-3711
Iberville	911 Dispatch	225-687-5140	Sheriff's Office	225-687-5140
Jefferson	Office of Homeland Security & Emergency Preparedness	504-736-6211	Office of Homeland Security & Emergency Preparedness	504-736-6211
Jefferson Davis	Jennings Fire Dept	337-821-5508	Sheriff's Office	337-821-2100
Lafayette	Office of Homeland Security & Emergency Preparedness	337-291-5075	Office of Homeland Security & Emergency Preparedness	337-291-5075
Lafourche	Office of Homeland Security & Emergency Preparedness	985-446-8427	Parish Government	985-446-8427
Orleans	Office of Homeland Security & Emergency Preparedness	504-658-8700	Office of Homeland Security & Emergency Preparedness	504-658-8725
Plaquemines	911 Dispatch	504-394-3541	Belle Chasse Fire Dept	504-394-3541
Pointe Coupee	Sheriff's Office	225-694-3737	Sheriff's Office	225-694-3737
St Bernard	Fire Department	504-278-4275	Fire Dispatch	504-279-1200
St Charles	Emergency Ops	985-783-5050	Emergency Ops	985-783-5050
St James	Sheriff's Office	225-562-2200	Emergency Operator	225-562-2364
St John	Office of Homeland Security & Emergency Preparedness	985-652-2222	911 Dispatch	985-652-6338
St Landry	Office of Homeland Security & Emergency Preparedness	337-948-7177	911 Dispatch	337-948-9088
St Martin	Sheriff's Office	337-394-2800	Sheriff's Office	337-394-2800
St Mary	Sheriff's Office	337-828-1960	Sheriff's Office	337-828-1960
Terrebonne	Houma Police Dept	985-879-3568	Office of Emergency Preparedness	985-580-0911
Vermilion	OHSEP	337-898-4308	OHSEP / 911	337-898-4308
West Baton Rouge	Sheriff's Office	225-346-1577	Sheriff's Office	225-490-8599

THIRD PARTY UTILITY OR PIPELINES

Field Team Area	Third Party Utility or Pipeline Company Name	Emergency Contact Number
Fourchon	Entergy	800-368-3749
Henry	Atmos Energy	800-852-2424
Henry	Centerpoint Energy	800-992-7552
Henry	Cleco	800-622-6537
Henry	Entergy	800-368-3749
Henry	Slemco	337-896-5551
Pipeline East	Atmos Energy - Louisiana Division	800 654-6669
Pipeline East	Cleco Power, LLC Teche Power Station	866 862-9482
Pipeline East	Entergy Gulf States Inc	800-368-3749
Pipeline East	Florida Gas Transmission Company	800 238-5066
Storage	Atmos Energy - Louisiana Division	800 654-6669
Storage	Entergy - Distribution	800-905-5834
Storage	Entergy-Transmission - Baton Rouge, La. to Beaumont, Tx - TOC - Transmission Operating Center	800-903-7612
Storage	Entergy - Transmission - Southern Control Center-Bayou Parishes - TOC - Transmission Operating Center	504-366-7237

ADDITIONAL PHONE NUMBERS

Wildlife Rehab & Education Oiled Wildlife Response	Phone Pager	281-332-8319 713-279-1417 or 281-418-8100

BSEE GOMR DISTRICT OFFICES JURISDICTION AREAS OF RESPONSIBILITY

New Orleans District

BSEE GOMR District Offices	Areas of Responsibility
Apalachicola (AP)	All OCS blocks
Atwater (AT)	All OCS blocks
Breton Sound (BS)	All OCS blocks
Chandeleur (CA)	All OCS blocks
Chandeleur, East Addition	All OCS blocks
Chandeleur Sound (CS)	All OCS blocks
Charlotte Harbor (CH)	All OCS blocks
De Soto Canyon (DC)	All OCS blocks
Destin Dome (DD)	All OCS blocks
Dry Tortugas (DT)	All OCS blocks
Ewing Bank (EW)	Those OCS blocks east of a line extending south from the west side of EW Block 787, including those Ewing Bank blocks north and east of Grand Isle, South Addition.
Florida Middle Ground (FM)	All OCS blocks
Gainesville (GV)	All OCS blocks
Grand Isle (GI)	All OCS blocks
Grand Isle, South Addition	All OCS blocks
Henderson (HE)	All OCS blocks
Howell Hook (HH)	All OCS blocks
Key West (KW)	All OCS blocks
Lloyd (LL)	All OCS blocks
Lund (LU)	All OCS blocks
Main Pass (MP)	All OCS blocks
Main Pass, East Addition	All OCS blocks
Main Pass, South Addition	All OCS blocks
Miami (MA)	All OCS blocks
Mississippi Canyon (MC)	All OCS blocks
Mobile (MO)	All OCS blocks
Pensacola (PE)	All OCS blocks
Pulley Ridge (PR)	All OCS blocks
Rankin (RK)	All OCS blocks
South Pass (SP)	All OCS blocks
South Pass, East Addition	All OCS blocks
South Pass, South Addition	All OCS blocks
St. Petersburg (PB)	All OCS blocks
Tiger Shoals	All OCS blocks
Tarpon Springs (TP)	All OCS blocks
The Elbow (EL)	All OCS blocks
Viosca Knoll (VK)	All OCS blocks
West Delta (WD)	All OCS blocks
West Delta, South Addition	All OCS blocks

Houma District

BSEE GOMR District Offices	Areas of Responsibility
Bay Marchand (BM)	All OCS blocks
Ewing Bank (EW)	Those OCS blocks west of a line extending south from the west side of EB Block 787.
Green Canyon (GC)	All OCS blocks
Ship Shoal (SS)	All OCS blocks
Ship Shoal, South Addition	All OCS blocks
South Timbalier (ST)	All OCS blocks
South Timbalier, East Addition	All OCS blocks
South Pelto (PL)	All OCS blocks
Walker Ridge (WR)	All OCS blocks

Lafayette District

BSEE GOMR District Offices	Areas of Responsibility
Eugene Island (EI)	All OCS blocks
Eugene Island, South Addition	All OCS blocks
Garden Banks (GB)	Those OCS blocks east of a line extending south from the west side of GB Block 64.
Keathley Canyon (KC)	Those OCS blocks east of a line extending south from the west side of KC Block 20.
South Marsh Island (SM)	All OCS blocks
South Marsh Island, North Addition	All OCS blocks
South Marsh Island, South Addition	All OCS blocks

Lake Charles District

BSEE GOMR District Offices	Areas of Responsibility
East Cameron (EC)	All OCS blocks
East Cameron, South Addition	All OCS blocks
Garden Banks (GB)	Those OCS blocks west of a line extending south from the east side of GB Block 63, and east of a line extending south from the west side of GB Block 143.
Keathley Canyon (KC)	Those OCS blocks west of a line extending south from the east side of KC Block 19, and east of a line extending south from the west side of KC Block 11.
Sabine Pass, Louisiana (SA)	All OCS blocks
Vermilion (VR)	All OCS blocks
Vermilion, South Addition	All OCS blocks
West Cameron (WC)	All OCS blocks
West Cameron, South Addition	All OCS blocks
West Cameron, West Addition	All OCS blocks

Lake Jackson District

BSEE GOMR District Offices	Areas of Responsibility
Alaminos Canyon (AC)	All OCS blocks
Brazos (BA)	All OCS blocks
Brazos, South Addition	All OCS blocks
Corpus Christi (CC)	All OCS blocks
East Breaks (EB)	All OCS blocks
Galveston (GA)	All OCS blocks
Galveston, South Addition	All OCS blocks
Garden Banks (GB)	Those blocks west of a line extending south from the east side of GB Block 142.
High Island (HI)	All OCS blocks
High Island, East Addition	All OCS blocks
High Island, East Addition, South Extension	All OCS blocks
High Island, South Addition	All OCS blocks
Keathley Canyon (KC)	Those OCS blocks west of a line extending south from the east side of KC Block 10.
Matagorda Island (MI)	All OCS blocks
Mustang Island (MU)	All OCS blocks
Mustang Island, E. Add.	All OCS blocks
North Padre Island (PN)	All OCS blocks
North Padre Island, East Addition	All OCS blocks
Port Isabel (PI)	All OCS blocks
Sabine Pass, Texas (SX)	All OCS blocks
South Padre Island (PS)	All OCS blocks
South Padre Island, East Addition	All OCS blocks

U.S. FIELD PGPA EMERGENCY RESPONSE COVERAGE

Geography Coverage	Primary	Location	Phone number	Cell Number	Secondary	Location	Phone Number	Cell Number
AL, GA, FL, SC, NC, KY, TN, NJ	**Stan Luckoski** *Corp PGPA*	Atlanta	770.984.3010	(b) (6)	**Steve Renfroe** *Global DS*	Pascagoula	228.938.4548	(b) (6)
					Phil Blackburn *Global Gas*	Houston	713.372.4920	
LA (On-Shore) and Gulf Coast Off-Shore	**Felicia Frederick** *CNAEP/GOM*	Covington	985.773.6082		**Chanel Jolly CNAEP/GOM**	Covington	985-773-6454	
MS (Onshore)	**Steve Renfroe** *Global DS*	Pascagoula	228.938.4548		**Katherine Swetman** *Global DS*	Pascagoula	228.938.4855	
					Amy Brandenstein *Global DS*	Pascagoula	228.938.4563	
					Trudi Dixon *Global DS*	Pascagoula	228.938.4964	
TX, NM, OK, Houston	**Mickey Driver** *Corp PGPA*	Houston	713.372.4912		**Margaret Cooper** *Corp PGPA*	Houston	713.372.4919	
UT, ID, MT, WY, CO	Greg Hardy *Corp PGPA*	Salt Lake	801.539.7337		**Mickey Driver** *Corp PGPA*	Houston	713.372.4912	
Los Angeles, San Bernardino, Riverside Counties	**Rod Spackman** *Global DS*	El Segundo	310.615.5281		**Lily Craig** *Global DS*	El Segundo	310.615.5483	
					Jill Brunkhardt *Global DS*	El Segundo	310.615.5387	
Orange County, San Diego County, AZ, NV, NM	**Juan Garcia** *Global DS*	Brea	714.671.3457		**Rod Spackman** *Global DS*	El Segundo	310.615.5281	
					Lily Craig *Global DS*	El Segundo	310.615.5483	
AK	**Roxanne Sinz** *CNAEP/MCA*	Anchorage	907.263.7623		**Christine LeLaurin** *CNAEP/MCA*	Houston	713.372.2927	
Central California	**Carla Musser** *CNAEP*	Bakersfield	661.654.7155		**Simon Tait** *CNAEP*	Bakersfield	661.654.7153	

Geography Coverage	Primary	Location	Phone number	Cell Number	Secondary	Location	Phone Number	Cell Number
Central California - Coastal Areas	**Suzanne Parker** *Global DS*	San Luis Obispo	805.546.6985	(b) (6)	**Carla Musser** CNAEP	Bakersfield	661.654.7155	(b) (6)
Northern California, OR, WA San Ramon/ Concord Office Bldgs.	**Marian Catedral** *Global DS*	San Ramon	925-842-2969		**Juan Garcia** *Global DS*	Brea	714.671.3457	
					Marielle Boortz *Corp PGPA*	San Ramon	925.790.3496	
Richmond	**Dean O' Hair** *Global DS*	Richmond	510.242.2400		**Walt Gill** *Global DS*	Richmond	510.242,3585	
Sacramento	**Steve Burns** *Corp PGPA*	Sacramento	916.441.3638		**KC Bishop** *Corp PGPA*	Sacramento	916.441.3638	
Washington, D. C.	**Lisa Barry** *Corp PGPA*	Washington DC	202.408.5865		**Dan Fager** *Corp PGPA*	Washington DC	202.408.5857	
					Dave Sander *Corp PGPA*	Washington DC	202.408.5853	
Hawaii	**Albert Chee** *Corp PGPA*	Kapolei	808.682.2313		**Rod Spackman** *Global DS*	El Segundo	310.615.5281	
					Carina Tagupa *Corp PGPA*	Hawaii	808.682.2333	

Last update 4/26/11 **Chevron Confidential** Revised by: Mylene Bombon (MBOM) (925) 842-0775

U.S. Field PGPA Emergency Response Coverage – Continued Next Page

U.S. Field PGPA Emergency Response Coverage - Continued

Functional Notification by PGPA Person:								
Upstream	**Ed Spaulding**	Houston	713.372.5513	713.504.2565				
Upstream	**Maria Pica Karp**	San Ramon	925.842.2595	925.997.0091				
Gas & Midstream	**Brad Haynes**	San Ramon	925.842.6146	202.615.5753				
Chevron Pipe Line Company	**Santana Gonzalez**	Houston	713.432.3883	713.397.5994				
Chevron Shipping Company	**Christine Wigren**	San Ramon	925.842.5755	925.699.4619	**Brad Haynes**	San Ramon	925.842.6146	202.615.5753
Downstream	**Jeff Swindel**	San Ramon	925.842.2983	925.997.3694				
Other Contacts:								
Media Relations	**Sean Comey**	San Ramon	925.842.0788	650.575.5655				
Manager, Internal Communications	**Deb McNaughton**	San Ramon	925.842.0851	925.348.5001				
GM, Public Affairs	**Dave Samson**	San Ramon	925.842.2615	415.279.7737				
HR, Internal Communications	**Susan Boyle**	San Ramon	925.842.4918	925.997.7672				
Houston Area Crisis Committee	**Amber Tierce**	Houston	713.372.4909	832.453-6271				
PGPA 24-hour phone number:	**925.218.3825**							
Chevron Emergency Information Center	**800.231.0623**							
Other Numbers:								
Emergency News Line:	925.842.3400	**BRES Service Center:**	8-123					
Media Relations Pager:	925.218.3825	**San Ramon Police:**	925.973.2700					
Emergency Facility Services:	925.842.7777	**San Ramon Fire:**	925.838.6600					
Chevron Park Security:	925.842.2105	**San Ramon Hospital:**	925.275.9200					
Last update 4/26/11		**Chevron Confidential**				Revised by: Mylene Bombon (MBOM) (925) 842-0775		

MOU BETWEEN PASCAGOULA REFINERY AND CHEVRON PIPE LINE

Memorandum

To Mr. Roland Kell

From Mr. Tracy Long

Date January 1, 2004

Re **MEMORANDUM OF UNDERSTANDING FOR A COORDINATED RESPONSE TO RELEASES FROM CHEVRON PIPE LIINE COMPANY dba CHEVRONTEXACO PIPELINE COMPANY OWNED OR OPERATED PIPELINES**

Chevron U.S.A. Products Company, Pascagoula Refinery, herein referred to as Facility, and the undersigned, herein identified as ChevronTexaco Pipeline Company (CTPC); hereby mutually agree to perform the work set forth in this Memorandum of Understanding.

Term: This Memorandum of Understanding shall be in effect from January 1, 2004 and continue until terminated by either party giving thirty (30) days prior written notice of termination to the other party.

T. L. Long

Tracy Long, Emergency Response Specialist
ChevronTexaco
Chevron Pipe Line Company
2811 Hayes RD. Room 1366F
Houston, TX. 77082

cc:
Hector Fajardo
Gerald Walker
✓George Odell
Lee Harbison
✓Kathy Baldwin
Marty Bowin

CHEVRON PIPE LINE COMPANY dba CHEVRONTEXACO PIPELINE COMPANY (CTPC) / PASCAGOULA REFINERY MEMORANDUM OF UNDERSTANDING

The parties wish to agree on procedures for a coordinated response to incidents involving a release from ChevronTexaco Pipeline Company herein referred to as CTPC owned or operated pipelines within the immediate vicinity of the Pascagoula Refinery. CTPC accepts full responsibility for responding to all releases from its pipelines. CTPC may request assistance from the Facility as discussed below. In the event that a release from a CTPC pipeline is discovered by the Facility, the Facility will implement its spill response plan until relieved by CTPC.

This understanding is made in the spirit of mutual cooperation for the benefit of the ChevronTexaco Pipeline Company and Pascagoula Refinery. The understanding is intentionally flexible to cover the wide range of possible incidents. Open communication between the Facility and CTPC is encouraged to ensure a prompt and effective coordinated response to releases from CTPC pipelines.

SUMMARY OF RESPONSIBILITIES

Consistent with ChevronTexaco's Guiding Principles for Prevention, Preparedness and Response to Oil and Chemical Spills to Water, CTPC accepts full responsibility for responding to releases arising from its operations. CTPC's Emergency Response Plan (ERP) outlines CTPC's response to such incidents with CTPC personnel filling key management and coordination positions. The ERP looks to other CTPC owned or affiliated organizations, such as the Facility, to provide assistance in the way of expertise, manpower, equipment and other resources to clean up the spill.

In the event of a release or threatened release from a CTPC pipeline, the Facility agrees to provide response assistance to CTPC to the extent they are able. Assistance may be requested by the Empire Team Leader (TL), the Emergency Response Specialist and the Eastern Profit Center Leader (PCL), or his or her designee. The degree of assistance requested will vary depending upon the particular circumstances of each spill.

In the event that the Facility discovers the spill, the Facility will initiate immediate response activities and assume response management duties. The Facility will immediately notify CTPC so that shutdown of the pipeline may begin and so that CTPC may begin mobilization of its response team. The Facility will continue the response until relieved by CTPC personnel.

NOTIFICATION PROCEDURES

Facility Discovery of a Release

In the event that the Facility suspects a release from a CTPC pipeline, the Facility will notify the CTPC Control Center 800-762-3404 and identify a Facility contact (General Manager). The Control Center will immediately shutdown the pipeline and notifies the Empire Team Leader (TL). Upon notification by the Control Center, CTPC's TL will then proceed as described below in "CTPC Discovery of a Release".

CTPC Discovery of a Release

In the event of a suspected release from a CTPC pipeline, the CTPC Control Center will immediately shutdown the pipeline. The CTPC Empire Team Leader (TL) will dispatch a CTPC employee (RECON) to investigate. RECON will investigate and report all findings back to the TL. The TL will advise the CTPC Control Center and the Facility Contact of the findings. The pipeline will not be started up until it is confirmed that a leak does not exist. At such time that it appears likely or is confirmed that there is a pipeline leak, the TL will:

1. Notify the CTPC Hotline group (877-863-5196).

2. Notify and or confirm that all local, state and federal authorities are contacted as required by laws and regulations as outlined in CTPC's ERP.

3. Determine the situation from the CTPC RECON and other reliable sources including what firefighting, source control, community impact and containment measures may be required.

4. Advise the Facility and request assistance in the response effort as appropriate.

RESPONSE PROCEDURES

Facility

In conjunction with the above notification procedures, the Facility will carry out the following response functions until relieved by CTPC's Response Team.

1. Assist with the above notification procedures as requested by the CTPC representative.

2. Activate the current Regional Oil Spill Response Plan to the extent required.

3. Act as local Incident Commander (IC) until relieved by CTPC. Select a suitable location for On Scene Commander Headquarters. Initiate the Facility call-out procedure for manpower to direct and conduct clean-up operations.

4. Activate local oil spill cooperative or equipment stockpile.

5. Assemble and deploy equipment, supplies, manpower, transportation, etc., as required to combat the spill. Identify environmentally sensitive areas and prioritize response activities accordingly. Hire contractors as necessary including bird and wildlife experts.

6. Handle all local governmental and public affairs requirements including notification and liaison with appropriate government agencies, issuing of press releases, responding to media and public inquiries, conduction media interviews, liaising with local politicians, etc. CTPC will provide a technical pipeline representative to advise the Facility Incident Command on pipeline issues.

7. Seek approvals for the use of dispersants and/or in-situ burning as appropriate.

8. Ensure all personnel on scene have required HAZWOPER training.

9. Utilize standard CTPC accounting systems and procedures to accumulate all costs associated with the incident. Maintain accurate records of events and personnel involved.

10. Determine physical properties of spilled material and handle safety, health and fire protection requirements. Arrange for sampling and laboratory tests of spilled material as required.

11. CTPC will take over on-scene management as soon as possible for all pipeline releases. The Facility IC will formally transfer IC responsibilities to the CTPC IC upon completion of a turnover. The Facility will provide ongoing assistance to CTPC's Response Team members following an orderly transition of responsibility and authority. This transition will be conducted as mutually agreed upon by the Facility Incident Commander and the CTPC Incident Commander.

12. Supply manpower and equipment for the duration of the release or until mutually agreed that Facility is no longer needed in the response.

CTPC
In conjunction with the above notification procedure, upon receipt of notification of the incident, CTPC Incident Commander will:

1. Manage the overall CTPC incident response to shutdown and isolate the source of the leak and manage the release clean-up. In certain circumstances as described above, the initial management and clean-up of the release may be handled by the Facility until relieved by CTPC.

2. Activate the CTPC ERP to the extent required.

3. Ensure that an accurate initial assessment of the magnitude of the release and the required response is made. Arrange for a survey of the incident by aircraft or other suitable means to obtain an accurate assessment of the situation. Transmit to the CTPC Emergency Response Specialist and act on newly acquired information regarding the release including: size, nature and extent of spill; weather, sea and tide conditions; potential damage to shore or sensitive water habitats; what action has been taken or is possible to contain, disperse, or otherwise combat the spill; what future action is planned; and what staffing is needed for the response organization. Arrange for required services from the Facility and Oil Release Response Organizations (OSRO).

4. Notify Corporation management (per corporate guidelines) of the incident and keep them apprised on an ongoing basis.

5. Confer with the Facility Incident Commander to determine the actual and potential severity of the release (in terms of size, location, environmental impact, public scrutiny or newsworthiness).

6. Confer with the Facility Incident Commander to agree on the level of ongoing Facility assistance. This assistance may include Facility manpower (Company and/or contract), Facility equipment, temporary storage of waste generated during the response, and recovery and processing oil and water recovered during the response.

7. Deploy CTPC's Response Team at the appropriate level as required. For any newsworthy incidents, dispatch the appropriate personnel to the scene to determine whether sufficient resources are available for the response.

8. Access other corporate resource organization including the Advisory Resource Team, (WWERT) World Wide Emergency Response Team, and Functional Teams as required.

REIMBURSEMENT OF COSTS

CTPC will reimburse the Facility for all costs incurred in responding to a spill. The Facility should keep accurate records of expenditures and charges to assist in recovering costs from its insurance providers. The Facility is authorized to incur whatever costs it deems necessary on behalf of CTPC in initiating the response to a spill. Following the initial response, the Facility should confer with CTPC prior to making major commitments for non-emergency items.

Manager

Roland Kell
Refinery General Manager
Chevron Pascagoula Refinery
P.O. Box 1300
250 Industrial Road
Pascagoula, MS 39581

Eastern Profit Manager

Hector Fajardo
Eastern Profit Center Manager
Chevron Pipe Line Company
2811 Hayes Road
Houston, TX 77082-2642

OSRO CONTRACTORS/FACILITY EQUIPMENT

SECTION 3 OSRO CONTRACTORS/FACILITY EQUIPMENT

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RESPONSE RESOURCES

Local Area Response Equipment

Company has response equipment stored at a number of locations throughout its operating area. Detailed equipment lists are provided in this State Appendix Plan. Company will maintain company owned equipment.

In the event of a discharge that is beyond the capability of locally available company resources, the response team may request activation of other Company resources. Company also stores and maintains oil spill response and related emergency equipment in the Texas – New Mexico operating area that will be available if needed.

The response team could also request activation of other Company resources, or that of private contractors, cooperatives, Marine Spill Response Corporation (MSRC) and other experts and consultants as discussed in this Plan.

Other Company Resources

To facilitate this mutual aid, the Company Mutual Aid Directory for North America describes emergency capabilities and provides contact information. For information about resources available and contact numbers, refer to the Company Core Plan.

Contract Resources

In the event of a discharge which is beyond the initial response capabilities of the Immediate Response Team (Team level), contract resources can be activated. The resources will be secured from a Company approved contractor database. Chevron Production Company, Environmental Safety and Health reviews equipment monthly inspection and annual deployment records for compliance with the PREP guidelines. Contract resources are responsible to maintain their equipment.

Contractors

Most local area units have outside contractors available if additional resources are needed for immediate response efforts. If additional resources are required other than available locally, Company has contracts with several companies that will respond to spills in the operating area of the Gulf Coast Region. The Company also has Master Service Agreements with national spill response contractors who will respond to land-based spills and/or offshore spills.

Consultants

The Company has Master Service Agreements with a number of consultants offering expertise in spill response, dispersant use, in-situ burning and environmental issues. These consultants are listed in this Plan.

Cooperative Resources

Clean Gulf Associates

The Clean Gulf Associates (CGA) is an industry supported oil spill response cooperative (co-op) covering the Gulf of Mexico, its bays and estuaries and the Intracoastal Waterway. The CGA is designed to supply oil spill containment and cleanup equipment to local oil spill cleanup contractors for use in responding to a spill. CGA is organized to provide maximum flexibility in responding to calls for assistance from members or non-members. Assistance may range from advice on prevention, containment and cleanup procedures to providing equipment and direction for major spill cleanup operations. However, the company responsible for or in charge of, spill cleanup operations will direct and coordinate the cleanup effort. Chevron Production Company, Environmental Safety and Health reviews equipment monthly inspection and annual deployment records for compliance with the PREP guidelines. These records will be maintained in the Company Production office.

Refer to Clean Gulf Associates "Operations Manuals" Equipment binder for listing of phone numbers and equipment or call the HES staff for the information.

Associated Gulf Coast Responders

Associated Gulf Coast Responders is a commercially contracted resource using a network of contractors throughout the coastal zones of the Gulf of Mexico and the Lower Mississippi River. Coordination of the resources is handled by Industrial Cleanup, Inc. (ICI). Contact the HES Staff for telephone numbers and additional information.

Marine Spill Response Corporation (MSRC)

In the event of a discharge incident which exceeds the local company and private response capability, the Company has the ability to request assistance from the Marine Spill Response Corporation (MSRC).

MSRC is an independent, not-for-profit corporation dedicated to providing a "best-effort" response to help clean up large oil spills in the United States offshore and tidal waters, including bays, harbors and the mouths of rivers. It also intends to respond to spills further up river when oil has been spilled from cargoes of tankers passing through the ocean or tidal areas. It is expected that the U.S. Coast Guard will direct MSRC to respond to a spill if it is too big for local response organizations.

External Emergency Response Resources

The Company maintains a relationship with various environmental and technical consultants that can provide support in the event of an incident. These consultants can provide expertise and support in areas including emergency response management, environmental services, site assessment, permitting, waste treatment, recycling, dewatering, hazardous waste disposal and remediation. Contact should be made through the HES Team.

CONTRACT RESOURCES

The Company currently has contracts or membership agreements with the service providers listed below:

OSRO CONTACT INFORMATION

Name & Address		Phone No.	24 Hour Phone No.
Marine Spill Response Corporation (Houma Office)	396 Roland Rd Houma, LA 70363	985-580-0924	800-645-7745
Marine Spill Response Corporation (MSRC)	980 W. Lincoln Rd. Lake Charles, LA 70606	337-475-6400	800-645-7745
U.S. Environmental Services, LLC	2809 E. Judge Perez Dr. Meraux, LA 70075	888-279-9930	888-279-9930
American Pollution Control Corp. (AmPol)	401 W Admiral Doyle Dr New Iberia, LA 70560	337-365-7847	800-482-6765
Oil Mop, Inc.	131 Keating Dr. Belle Chasse, LA 70037	504-394-6110	800-645-6671
ES&H	P.O. Box 9217 Houma, LA 70361	985-851-5350	877-437-2634

Phillip Services Corp.

PSC INDUSTRIAL OUTSOURCING, INC.
OIL SPILL EMERGENCY RESPONSE

24 HOUR EMERGENCY HOTLINE

1-877-577-2669

Information and administrative matters, call Rick Wimberley
Phone 337-233-4889 Fax 337-233-4106

Response General Manager: Gary Delafoisse - Gibson LA
Office: 985-575-3434
Cell: (b) (6)

Response General Managers: Jeff LeMaire – Lafayette, LA
Office: 337-233-4889
Cell: (b) (6)

J.P. Solis – Venice, LA
Office: 504-394-9050
Cell: (b) (6)

Tony Lucas – Cameron, LA
Office: 337-775-5851
Cell: (b) (6)

Tommy Davis – Golden Meadow, LA
Office: 985-396-5555
Cell: (b) (6)

ES&H

ES&H
Environmental Safety and Health Consulting Services, Inc.

EMERGENCY RESPONSE CAPABILITIES

Environmental Safety and Health Consulting Services, Inc.(ES&H) is pleased to offer our emergency response resources to Texaco Pipelines LLC for their pipeline operations in Louisiana.

ES&H can have the necessary resources to the sensitive areas identified in this response plan within 1 hour of notification. ES&H resources will be provided based on availability at the time of notification.

Any questions or comments regarding these provisions may be directed to Mr. Pat Bergeron or Mr. Kevin Voisin at (877)-4- ES and H or by the e-mail addresses listed below.

Respectfully,

Kevin Voisin
Environmental Consultant
kevin@esandh.com

Pat Bergeron, R.E.M.
Consulting Division Manager
Environmental Safety and Health Consulting Services, Inc.
pat@esandh.com

1730 Coteau Rd.
Houma, LA 70364
24-Hour Toll Free Number: 1-877-4ES and H
504-851-5350
504-853-1978 fax
www.esandh.com

RESPONSE RESOURCE SHEET

24 HOUR EMERGENCY HOTLINE
1-877-ESANDH

October 1999

*HOUMA*FOURCHON*MORGAN CITY*NEW IBERIA*
*BELLE CHASSE*BATON ROUGE*VENICE*

FACILITY EQUIPMENT

Empire Terminal

Equipment is located in the storage building.

Response Equipment

Item	Derated Capacity	Quantity
100 ft. section of 18" harbor boom w/6" flotation and 12" skirt		5
Response boat		1
5" x 10" sorbent boom (5/bale)		5 Bales
Oil snares (30/box)		10 Boxes
Oil snare rope		2
Sorbent pads (19" x 17" x 3/16", 200/bale		10 Bales
Portable oil skimmer, wier-type with hoses/rigging	19 gpm	1
Discharge hose of sufficient length to reach the nearest receiver tank		1

Personal Protective Equipment (PPE)

Item	Quantity
Half-face respirators	1-S, 7-M, 1-L
Organic vapor cartridges for respirators	36
Protective rubber and/or latex boot covers	36 Pair
Protective neoprene gloves	18 Pair
Tyvek suits (various sizes)	36
Safety goggles	9 Pair
Personal floatation devices (PFD's)	9
H_2S portable monitors	1

Miscellaneous

As a supplement, a supply of the following items are suggested for spill response:

Empire Continued
- Mop buckets
- Safety shovels (coated) and approved for hazardous materials
- Duct Tape
- Rags
- Hand cleaner
- Disposable plastic bags for spill site clean up
- Polypropylene rope 600 ft x 3/8"

Fourchon Terminal Response Equipment

Fourchon Terminal relies primarily on Company approved OSRO's for response equipment resources.

OSRO CONTRACTS

Chevron Pipe Line Company
Environmental & Technical Services
4800 Fournace Place, Rm. E320B
Bellaire, TX 77401-2324
Tel 713-432-3406
LonnieJEvans@chevron.com

Lonnie Evans, CEM
Emergency Response Specialist

March 20, 2010

RE: USCG Approved OSRO's

Dear: Sir or Madam:

This letter certifies that we have current procurement contracts in place with the following Emergency Response contractors. Below is a table that identifies the pertinent information. All contracts are on file at our Corporate Office in Houston, Texas.

ContractorName	Agreement Number
Advanced Cleanup Technologies	99002231
Ampol	99015262
ES&H	99012996
Garner Environmental	99002690
Marine Spill Response Corporation and its STARS Contractors	6CHUSA01
PSC Industrials Outsourcing	99002233
U S Environmental Services	99013881

Should you have any questions, please feel free to contact me at 713-432-3406.

Sincerely,

Lonnie Evans

Lonnie Evans, CEM

Emergency Response Specialist
Chevron Pipe Line Company
4800 Fournace Place, Room E320B
Bellaire, TX 77401-2324
Tel 713-432-3406
Fax 713-432-3477
LonnieJEvans@chevron.com

Note: Garner Environmental no longer operates in this area.

WASTE MANAGEMENT

SECTION 4 WASTE MANAGEMENT

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OVERVIEW

Oil spill response can generate waste materials ranging from oily debris and sorbent materials to sanitary water and used batteries. These wastes must be classified, separated (i.e., oil, water, soil), transported from the site and treated/disposed at approved sites. Each of these activities require certain health and safety precautions be taken. This section provides a discussion of various waste classification, handling, transfer, storage and disposal alternatives. It is the responsibility of the Waste Management Coordinator to manage waste disposal needs during an oil spill cleanup.

WASTE MANAGEMENT STRATEGY

Initial waste handling and disposal needs may be overlooked in the emergency phase of a response which could result in delays and interruptions of clean-up operations. Initial waste management concerns should include:

- Skimmer capacity
- Periodic recovery of contained oil
- Adequate supply of temporary storage capacity and materials

The following action items should be conducted during a spill response:

- Development of a site-specific Safety and Health Plan addressing the proper PPE and waste handling procedures
- Continuous tracking of oil disposition in order to better estimate amount of waste that could be generated over the short and long-term
- Organization of waste collection, segregation, storage, transportation and proper disposal minimization of risk of any additional pollution
- Regulatory review of applicable laws to ensure compliance
- Documentation of all waste handling and disposal activities
- Disposal of all waste in a safe and approved manner

A waste management plan should be prepared and provided to the appropriate personnel so that specific concerns and considerations of the response may be addressed. An example of a waste disposal plan is provided in this section.

Organization

The Environmental Unit Leader will assign the waste management function to a Waste Management Coordinator, who will direct and monitor local contractors identified for the transport, storage and disposal of waste consistent with applicable laws and regulations.

Coordination With Government Agencies

The Waste Management Coordinator is responsible to assure that the waste management operation will be coordinated with the Federal On-Scene Coordinator and Local, State and Federal Agencies.

Safety

All activities carried out under the Plan shall be consistent with the approved Site Safety Plan for the incident. Coordination of these two plans is the responsibility of the Waste Management Coordinator.

Objectives of the First 24 Hours

The first 24-hour period is critical to any emergency response situation. Coordination between the Waste Management Coordinator, governmental agencies, logistics and the waste management contractor is imperative. A verbal permission to decant can be obtained from the Louisiana Oil Spill Coordinator's Office and the USCG.

- As soon as enough preliminary information is known, calculations will be made to estimate volumes in each of the anticipated waste streams. A determination of storage capacity will be made; capacity of vessels on site and en route, estimated quantity of product currently in storage and possible need for alternate storage must be determined.
- Activate primary waste management contractor. The contractor will perform all offshore and impact site waste segregation, analysis, profiling and manifesting, if necessary.
- Calls will be made to State Agencies for approval to set up temporary waste storage at a logistically appropriate site. Any permitting required for upcoming activities (storage, transportation, handling, etc.) should be coordinated at this time, as well as any emergency permits anticipated for waste storage or disposal.
- Secure solid waste containers based on anticipated waste estimates of quantity and offshore waste storage capacity, get solid waste containers en route to temporary storage facility.
- Coordinate with waste management contractor and Wildlife Rehabilitation Coordinator to supply waste containers for wildlife rehabilitation activities.

Ongoing Activities of Waste Management Coordinator

- Monitor and evaluate waste storage and disposal needs and report to Environmental Unit Leader at pre-determined time intervals.
- Coordinate with Logistics for waste cleanup resources and waste storage needs (Hopper Barges for oily waste, dumpsters for non-oily waste and trash, rolloff boxes for supply boats, etc.).
- Work with Waste Management Contractors on waste storage, transportation and disposal issues.
- Track total mass of recovered material including estimated volumes decanted, evaporated, dispersed or burned for presentation during tactical briefs.

WASTE CLASSIFICATION

Liquid Wastes

Oily and chemical liquid wastes that can be handled, stored and disposed during response operations are very similar to those handled during routine storage and transfer operations. Oily liquids may be produced by recovery operations through the use of vacuum devices or skimmers. In addition, oily water and emulsions, such as spent motor oils and lubricants, can be generated by vessel and vehicle operations.

Response operations can produce non-oily liquid wastes. Water and other liquid wastes can be generated from the storage area, any storm water collection systems, vessel and equipment cleaning (i.e., water contaminated with cleaning agents) and office and field operations (i.e., sewage, construction activities).

Solid/Semi-Solid Wastes

Oily and chemical solid/semi-solid wastes that may be generated by containment and recovery operations include damaged or worn-out booms, other used sorbent materials, disposable/soiled equipment, saturated soils, contaminated sediments and other debris.

Other soil/semi-solid wastes may be generated by emergency construction operations (i.e., scrap, wood, pipe, wiring) and office and field operations (i.e., refuse). Vessel, vehicle and aircraft operations may also produce solid wastes.

CHARACTERIZATION OF HAZARDOUS WASTE

The purpose of characterizing waste is to protect employee safety and ensure the proper handling and disposal of waste according to the appropriate State and Federal laws. Each waste must be evaluated by individual analysis at an approved laboratory.

Hazardous wastes may be as “listed waste” or “characteristic waste” as follows:

Listed Waste

- Waste is considered hazardous if it appears on any of the four lists of hazardous waste contained in the RCRA regulations.
- These wastes are specifically identified in 40 CFR 261.31-261.33, lists F, K, P and U.
- These wastes have been listed because they either exhibit one of the characteristics described below or contain any number of toxic constituents that have been shown to be harmful to health and the environment.

Characteristic Waste

A waste is considered hazardous if it exhibits one of the four following characteristics:

1. Ignitable

- A liquid with a flash point of less than 1400 F (600 C).
- Not a liquid and capable of causing fire through friction, absorption of moisture or spontaneous chemical change.
- Ignitable compressed gas.

2. Corrosive
   - A liquid with a pH < 2 or > 12.5
   - A liquid which corrodes steel (SAE 1020) of greater than 0.25 inches per year (6.35 mm/year) at 1300 F (550 C).

3. Reactive
   - Reacts violently with oxidizing substances.
   - Detonation when exposed to strong heat or pressure.
   - Explosive as defined in 49 CFR 173.

4. Toxic
   - A substance which meets or exceeds threshold levels of contaminant concentrations specified in the Toxicity Characteristic Leaching Procedure (TCLP).

WASTE HANDLING

Wastes generated during response operations may need to be separated by type (i.e., hazardous/non-hazardous and exempt/non-exempt) and transferred to temporary storage before treatment, incineration or disposal. Proper handling of waste is imperative to ensure personnel and public health and safety, as well as efficient disposal.

Safety Considerations

Care should be taken to minimize direct contact with wastes. All clean-up personnel should wear personal protective equipment (PPE) appropriate for the type of waste they are handling. A barrier cream may be applied prior to putting on gloves to further reduce the possibility of absorption through the skin. Any portion of the skin exposed to waste should be cleansed as soon as possible. Safety goggles must be worn by personnel involved in waste handling where splashing might occur. Decontamination zones may be needed during response operations to properly clean and decontaminate personal protective clothing and evaluate any personnel exposure. Contract spill response personnel should have appropriate prior training. Details can be found in the Site Safety Plan located in the Company Core Plan.

WASTE STORAGE

Interim storage of recovered oil, oily and non-oily waste may be necessary until a final waste management method is selected. These materials may be considered hazardous depending on the type and concentration involved. Often, oily waste and debris generated from clean-up activities consist of recovered oil, sorbents, PPE, soil, trash, vegetation, oil/water mixtures and other wastes. Management of these wastes requires facilities and procedures for:

- Collection/Waste Handling
- Temporary Storage
- Waste characterization
- Transport
- Processing
- Disposal

In addition, the segregation of wastes according to type could facilitate the appropriate method of disposal. The storage method used depends upon the type and volume of material to be stored, storage duration, site access and applicable regulations.

Temporary storage sites should use appropriate measures to protect the environment and human health. They should be designed to prevent leakage and contact of wastes with soil or surface water. The following elements may affect the choice of a potential storage site:

- Geology
- Soil characteristics
- Surface water proximity
- Surface slope
- Site and nearby land use
- Site security
- Public contact
- Hydrology
- Flooding potential
- Climatic factors
- Volumetric capacity
- Possible toxic air emissions
- Site access

Proper isolation and containment of wastes during storage will minimize additional associated cleanups. The waste should be secured so that uncontaminated material is not exposed to the waste.

When the waste has been removed from the storage site, any ground protection (visqueen, liners, etc.) need to be removed and properly disposed of. Any surrounding soil that has been contaminated will also need to be removed for treatment or disposal.

The management of the wastes generated in clean-up and recovery activities must be conducted with the overall objective of ensuring:

- Worker Safety
- Waste Minimization
- Cost-Effectiveness
- Minimization of Environmental Impacts
- Proper Disposal
- Minimization of present and future environmental liability

Solid wastes such as sorbents, PPE, debris and equipment will typically be transported from the collection site to a designated facility for storage, waste segregation, packaging and transportation. Once this process is complete, the waste will be shipped off-site to an approved facility for required disposal.

WASTE DISPOSAL

Techniques for Management of Recovered Oil

Recovery, reuse and recycling are preferred options when draining with spill waste management. Treatment (neutralization, landfarming) is the next preferred option, but incineration and fuel blending for energy recovery are also possibilities. Landfill disposal should be the last option. During an oil spill incident, consult Corporate Subject Matter Experts to identify the optimal waste management methods and sites.

There is no template or combination of waste management methods that can be used in every spill situation. Each incident should be reviewed carefully to ensure an appropriate waste management method or a combination of methods is employed.

The following is an outline of the available waste disposal methods. Various combinations of these methods can be analyzed for disposal of the waste generated during the response operation.

Landfill

Landfill should be considered after all other alternatives have been eliminated. Disposal at landfill facilities may depend on available capacity of the local landfill and governmental restrictions. In addition, it may cost more to dispose of waste at a landfill. Under the right conditions, landfilling waste may be useful in that it is a method which can be implemented rapidly and the landfill can receive a variety of waste. For proper disposal, the landfill must be permitted by the appropriate regulatory agencies.

Land Treatment or Bio-Treatment

Oily waste can be disposed of at these facilities when mixed with sand or sediment. This is considered to be a proven method for disposal of oily liquids and sediments. In addition, it is a method which can also be implemented fairly quickly. A large surface area is required however and may not be useful for large quantities of oily debris.

Incineration (Total Destruction)

Incineration is generally used only for hazardous waste disposal. It is a costly process and takes time to implement. Energy recovery facilities generally use a rotary kiln to burn oily waste and use the resulting heat for facility heating or production processes. Many of these facilities can accept items such as oil filters, sorbent pads and booms, oily rags and most other burnable material generated during cleanup operations.

Treatment

A method by which a waste quantity and/or toxicity is reduced. Treating a waste may produce its own waste which would also require disposal. Examples of treatment are neutralization or solidification of liquids.

Recycle/Reuse

Recycling involves the process of processing discarded materials for another use. For example, oil may be sent to a refinery or other processing plant for refining. Reuse of a material implies it can be used again for its intended purpose.

MODEL DISPOSAL PLAN FOR OIL SPILLS

This plan is written at the request of the BSEE, the U. S. Coast Guard, E.P.A. and/or Louisiana Department of Environmental Quality (whichever are applicable)._____ (responsible party) will recover the maximum feasible amount of condensate oil spilled during the _____ (incident name) from _____ (description of area involved). In addition, an unknown quantity of contaminated solid debris will be recovered during the cleanup.

_____(Incident name) DISPOSAL PLAN

Sampling and Testing:

Sampling of contaminated debris and soil/sand will be accomplished by the following methods:

(description of sampling procedures, and photographs)

Testing procedures to be utilized are as follows:

(description of testing methods)

The result of the testing is as follows:

(description of quantity and type of material, and how it designates)

Copies of the lab analysis of samples is included as attachment #_____ and is certified as true and correct to the best knowledge of the Company, by the signature of this plan by _____ (representative of the Company).

Interim Storage

Interim storage has been designated at ____(number) sites. They are: _____ (name, address or description of each location) with the approval of _____ (name of local health department representative). A copy of the approval/agreement letter is included as attachment # _____.

Interim storage of oily debris will be held at _____ (site names/locations) for no more than 90 days. The sites will be designed to use the best achievable technology to protect the environment and human health.

MODEL DISPOSAL PLAN FOR OIL SPILLS

The _____ (Site name/location) interim storage site (do this for each one) will be protected.

SOLID WASTE; (do this for each type of treatment/disposal)

_____ (type ie; gravel, soil, sand) debris has been approved through appropriate testing for _____ (disposal or treatment type, ie; reuse in asphalt production, bioremediation, land farming, incineration, burning for energy recovery, etc.) at _____ (name of facility or treatment site) which is located _____ (address/location and proximity to interim storage or cleanup site). This _____ (facility, site) has storage capacity to hold the _____ (type) debris for the amount of time required to completely (recycle, treat, burn, incinerate, landfill) the amount generated during _____ (name of incident) _____(product spilled) spill clean-up effort.

Approval and acceptance of the _____ (type) waste is included as attachment # _____ in the form of _____ (ie; letter between the Company and treatment/disposal facility manager, approval signature of Incident Commander on treatment/disposal proposal, etc.) This _____ (type) debris will begin being transported from interim storage site(s) _____ (site name/location at _____(time) on _____ (date).

This plan may be amended as necessary to ensure compliance with all applicable laws and regulations. Amendments may occur only upon mutual agreement of the responsible party, the BSEE, the U. S. Coast Guard, the E.P.A. and/or the Louisiana Department of Environmental Quality.

Submitted the _____ Day of _____ , 20__;
executed _____ , 20__.

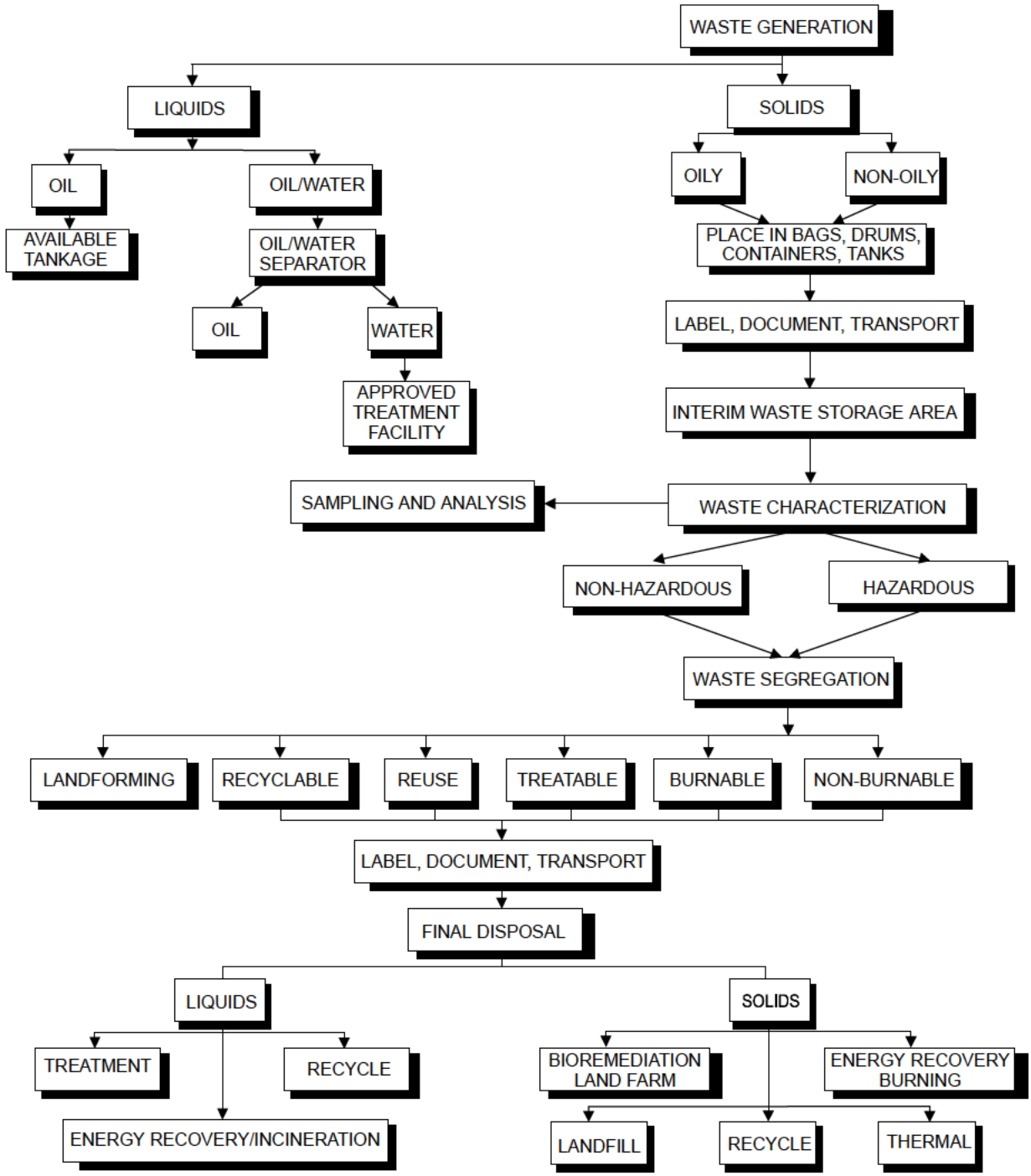
By _____ (Company Representative)
Date: _____

Approved: Reviewed by:

Louisiana Department of Environmental Quality BSEE/U.S. Coast Guard/E.P.A.

By _____ (SOSC) By _____ Date: _____
Date: _____

FACILITY WASTE MANAGEMENT FLOW CHART



GENERAL WASTE CONTAINMENT AND DISPOSAL CHECKLIST

Consideration	Yes/No/NA
Is the material being recovered a waste or reusable product?	
Has all recovered waste been containerized and secured so there is no potential for further leakage while the material is being stored?	
Has each of the discrete waste streams been identified?	
Has a representative sample of each waste stream been collected?	
Has the sample been sent to an approved laboratory for the appropriate analysis, i.e. hazardous waste determination?	
Has the appropriate waste classification and waste code numbers for the individual waste streams been received?	
Has a temporary EPA identification number and generator number(s) been received, if they are not already registered with EPA?	
Have the services of a registered hazardous waste transporter been contracted, if waste is hazardous?	
If the waste is nonhazardous, is the transporter registered?	
Is the waste being taken to an approved disposal site?	
Is the waste hazardous or Class I nonhazardous?	
If the waste is hazardous or Class I nonhazardous, is a manifest being used?	
Is the manifest properly completed?	
Are all Federal, State, and Local laws/regulations being followed?	
Are all necessary permits being obtained?	
Has a disposal plan been submitted for approval/review?	

STORAGE, TRANSFER AND DISPOSAL PROCEDURES

Storage

During an oil spill incident, the volume of oil that can be recovered and dealt with effectively depends upon the storage capacity available. Typical short-term storage options are summarized in this section. The majority of these options can be used either onshore or offshore. In addition, environmental conditions or locations may necessitate some type of special containment needs. If storage containers such as bags or drums are used, the container should be clearly marked and/or color-coded to indicate the type of material/waste contained and/or the ultimate disposal option. Bladder or pillow tanks would be acceptable if the space available is capable of supporting the weight of both the container and product.

If storage pits are used, they should be bermed and covered with liners that extend over the bermed area. Storage pits should be located on as level terrain as possible, at least 5 feet above the high-water mark of streams, rivers, and lakes and where drainage is dispersed and not concentrated.

Temporary Storage Methods

Container	Onshore	Offshore	Solid	Liquid	Notes
Barrel	Y	Y	Y	Y	May require handling devices
Tank Trucks	Y			Y	Consider road access onshore Barge-Mounted offshore
Dump/Flat Bed Trucks	Y		Y		Require impermeable liner and cover Consider flammability of vapors at mufflers
Barges		Y	Y	Y	Liquids only in tanks Consider venting of tanks
Oil Storage Tanks	Y	Y		Y	Consider problems of large volumes of water in oil
Bladders	Y	Y		Y	May require special hoses or pumps for oil transfer
Pits	Y		Y	Y	Liner(s) required
Roll-off Bins	Y		Y		Require impermeable liner and cover
Mud Tanks	Y	Y	Y	Y	500 gallon - 500 bbls
Fast Tanks	Y	Y	Y	Y	Portable, can be deployed anywhere

Transfer

Several transfers may be necessary before the oil and oily debris are ultimately disposed of at a state approved disposal site. Depending on the location of response operations, at least the following transfer operations may occur:

- From portable or vessel-mounted skimmers into flexible bladder tanks, the storage tanks of the skimming vessel itself, or a barge.
- Directly into the storage tank of a vacuum device.
- Directly into the storage tank on a dredge.
- From a skimming vessel or flexible bladder to a barge.
- From a vacuum device storage tank to a barge.
- From a barge to a tank truck.
- From a tank truck to a processing system (i.e., oil/water separator).
- From a processing system to a recovery system and/or incinerator.
- Directly into impermeable bags that, in turn, are placed in impermeable containers.
- From containers to trucks.
- From trucks to lined pits.
- From lined pits to incinerators and/or landfills.

There are four general classes of transfer systems that could be employed to effect oily waste transfer operations:

- Pumps;
- Vacuum systems;
- Belt/screw conveyors; and
- Wheeled vehicles.

A comparative evaluation of 14 types of transfer systems that could be available for transfer operations is provided in this section.

The following is a brief discussion of each of the general classes of transfer systems.

Pumps

Rotary pumps, such as centrifugal pumps, may be used when transferring large volumes of oil, but may not be appropriate for pumping mixtures of oil and water. The extreme shearing action of centrifugal pumps tends to emulsify oil and water, thereby increasing the viscosity of the mixture and causing low, inefficient transfer rates. The resultant emulsion would also be more difficult to separate into oil and water fractions.

Lobe or "positive displacement" pumps work well on heavy, viscous oils and do not emulsify the oil/water mixture.

Double acting piston and double acting diaphragm pumps are reciprocating pumps that may also be used to pump oily wastes.

Vacuum Systems

Vacuum systems, such as air conveyors, vacuum trucks and portable vacuum units may be used to transfer viscous oil and debris, but are large and heavy and usually have a very high water/oil ratio.

Belt/Screw Conveyors

Conveyors may be used to transfer oily wastes containing a large amount of debris. These systems can transfer weathered debris ladened with oil either horizontally or vertically for short distances (i.e., 100 feet). However, these systems are bulky and difficult to set up and operate.

Wheeled Vehicles

Wheeled vehicles may be used to transfer liquid wastes of oily debris to storage or disposal sites. These vehicles are readily available but have a limited transfer rate (i.e., 100 barrels) and require good site access.

COMPARATIVE EVALUATION OF OIL SPILL TRANSFER SYSTEMS

CHARACTERISTICS OF TRANSFER SYSTEMS	CENTRIFUGAL PUMP	LOBE PUMP	GEAR PUMP	SCREW PUMP	VANE PUMP	FLEXIBLE IMPELLER	SCREW/ AUGER PUMP	PROGRESSING CAVITY	PISTON PUMP	DIAPHRAGM PUMP	AIR CONVEYOR	VACUUM TRUCK	PORTABLE VACUUM PUMP	CONVEYOR BELT	SCREW CONVEYOR	WHEELED VEHICLES
HIGH VISCOSITY FLUIDS	1	5	5	5	3	2	5	5	5	3	5	4	4	5	4	5
LOW VISCOSITY FLUIDS	5	2	2	2	3	4	1	3	3	4	5	5	5	1	1	5
TRANSFER RATE	5	2	1	1	3	4	1	2	2	3	4	5	3	2	2	2
DEBRIS TOLERANCE SILT/SAND GRAVEL/PARTICULATE SEAWEED/ STRINGY MATTER	5 5 2	3 2 3	1 1 4	1 1 3	1 1 2	4 2 2	5 5 4	5 3 4	3 2 2	4 3 3	5 5 4	5 5 4	5 4 3	5 5 5	5 4 4	5 5 5
TENDENCY TO EMULSIFY FLUIDS	1	4	3	3	3	3	5	5	3	3	5	5	5	5	5	5
ABILITY TO RUN DRY	5	3	2	1	2	3	4	3	2	5	5	5	5	4	3	-
ABILITY TO OPERATE CONTINUOUSLY	5	3	2	2	2	3	3	3	3	2	3	3	3	3	2	4
SELF PRIMING	1	3	2	2	2	5	1	5	4	4	5	5	5	5	5	-
SUCTION/HEAD	2	3	2	2	3	4	1	5	4	4	5	5	5	5	5	-
BACK PRESSURE/HEAD	1	5	5	5	4	3	4	5	5	2	1	1	1	3	3	-
PORTABILITY	5	3	3	2	4	4	3	2	2	4	-	-	2	1	1	-
EASE OF REPAIR	5	3	2	2	3	4	3	2	3	5	1	1	2	3	2	3
COST	5	3	2	2	3	3	1	2	3	5	1	1	2	2	2	3
COMMENTS	E,J	B	B	B,.J	-	F	A	B	B,D	A,C,D	F,G,I	F,G,I	F,G	-	-	G,H,I

KEY TO RATINGS: 5 = BEST 1 = WORST

KEY TO COMMENTS:

A. NORMALLY REQUIRE REMOTE POWER SOURCES, THUS ARE SAFE AROUND FLAMMABLE FLUIDS
B. SHOULD HAVE A RELIEF VALVE IN THE OUTLET LINE TO PREVENT BURSTING HOSES
C. AIR POWERED UNITS TEND TO FREEZE UP IN SUB-=FREEZING TEMPERATURES
D. UNITS WITH WORK BALL VALVES ARE DIFFICULT TO FRAME
E. SOME REMOTELY POWERED TYPES ARE DESIGNED TO FIT IN A TANKERS BUTTERWORTH HATCH
F. CAN ALSO PUMP AIR AT LOW PRESSURE
G. TRANSFER IS BATCH WISE RATHER THAN CONTINUOUS
H. WASTE MUST BE IN SEPARATE CONTAINER FOR EFFICIENT TRANSFER
I. TRANSPORTABLE WITH ITS OWN PR ME MOVER
J. HIGH SHEAR ACTION TENDS TO EMULSIFY OIL AND WATER MIXTURES

TECHNIQUES FOR OIL/WATER/DEBRIS SEPARATION

The different types of wastes generated during response operations require different disposal techniques. To facilitate the disposal of wastes, they should be separated by type for temporary storage or transport. The table below lists some options that are available to separate oily wastes into liquid and solid components. The table also depicts methods that may be employed to separate free and/or emulsified water from the oily liquid waste.

OILY WASTE SEPARATION

Type Of Material	Separation Techniques
Liquids	
Non-emulsified oils	Gravity separation of free water
Emulsified oils	Emulsion broken to release water by: ▪ heat treatment ▪ emulsion breaking chemicals ▪ mixing with sand centrifuge ▪ filter/belt press
Solids	
Oil mixed with sand	Collection of liquid oil leaching from sand during temporary storage Extraction of oil from sand by washing with water or solvent Mechanical sand cleaner Removal of solid oils by sieving
Oil mixed with cobbles, pebbles or shingle	Screening Collection of liquid oil leaching from beach material during temporary storage Mechanical sand/gravel cleaner Extraction of oil from beach material by washing with water or solvent
Oil mixed with wood, plastics, seaweed and sorbents	Screening Collection of liquid oil leaching from debris during temporary storage
Tar balls	Separation from sand by sieving

TECHNIQUES FOR WASTE MINIMIZATION AND DISPOSAL

Crude Oil and Refined Petroleum Products

Crude oil spilled to marine waters, recovered and transported to a production facility or a refinery will be considered a product and will not be subject to waste management regulations. Refined petroleum products that are recovered from marine waters may also be handled as product if they can be used for their originally intended purpose (i.e. fuel, fuel oil, etc.).

There are other avenues by which recovered petroleum may be managed as a material. These approaches include recycling the petroleum through incineration, as fuel, a substitute for raw material feedstock or as an ingredient used in the production of a product (i.e. asphalt). The appropriate State environmental agency should be consulted for more information on these and other management options. Recycling should be a top priority and will be undertaken if at all possible.

Recovered petroleum “products” that are not accepted by a refinery or production facility that can not be recycled must be managed as waste. In order that the appropriate management mechanism is determined for the recovered petroleum, the waste must be analyzed by a State certified laboratory to determine if the waste is hazardous. If is the responsibility of the Responsible Party (RP) to have the waste accurately characterized for proper disposition.

Disposal at Sea of Water Separated From Recovered Oil

Oil recovered at sea typically contains significant amounts of sea water. In order to maintain the efficiency of the skimming process, this water must be separated/decanted from the oil and discharged back to the ocean during recovery operations. Separated sea water typically contains elevated levels of hydrocarbons and thus the discharge of this material may constitute a discharge of a pollutant. This issue is presently being discussed with regulatory agencies to determine if a National Pollution Discharge Elimination System (NPDES) permit, or waiver from the permit is required before separated/decanted water may be discharged back into state waters. The “discharge" pf separated/decanted water is recognized by the USCG On-Scene Commander as an integral part of offshore skimming operations and as an excellent waste minimization tool. Therefore the OSC or his/her representative may authorize the discharge of separated/decanted water back into the area of a boom/skimming system outside of State Waters (3 miles). The exception to this will be in the NOAA Marine Sanctuary waters.

Federal law prohibits the discharge of material such as separated water, to marine sanctuaries unless permitted by the Administrator of the sanctuary program.

Contaminated Soil and Debris

Contaminated soil and debris, including organic material, contaminated cleanup equipment (i.e. booms, pompoms, sorbents, etc.) and other contaminated materials that cannot be recycled must be managed as waste. The materials must also be characterized before the appropriate waste management option is determined.

Oiled Animal Carcasses

Oiled animals and carcasses should be collected and turned over to Fish and Wildlife representatives who are responsible for wildlife rehabilitation and collection of carcasses for natural resource damage assessment (NRDA) investigations.

Liquid Waste Handling and Disposal Techniques

Temporary Storage Devices

- USCG certified tank barges (free oil and water)
- Portable oil field mud tanks (500 gallon up to 500 bbls.)
- Facility waste oil tanks/slop tanks
- 60 barrel to 100 barrel vacuum trucks
- 150 barrel tanker trucks
- Portable "fast tanks" (500 gallon up to 2500 gallon)
- Mud tanks on board offshore supply vessels
- 55 gallon open top drums or tight head drums

Disposal Options

- Reprocess through facility waste oil/water treatment system, API separator, heater treater, etc.
- Transport off-site to a Federal/State approved waste oil processor for recycle/reuse
- Use in Fuel Management Program as burner feed stock
- Ultimate destruction via incineration

Disposal Of Hazardous And Non-Hazardous Solid Waste

Oil Contaminated Solid Waste Profile

- Oil contaminated sorbent material (pads, booms, sweeps, particulate, etc.)
- Contaminated organic material (peat moss, straw, hay, fiber perl, etc.)
- Shoreline and marsh debris (drift wood, sea-weed, grass, garbage)
- Oily sand and mud
- Oil contaminated rocks, shells and rip-rap used for erosion control
- Oil saturated items such as protective suits, boots, gloves, rope, plastic bags, and rags

Handling and Storage Techniques

- 20 cubic yard roll on/roll off containers (with tarp covers or roller tops)
- DOT approved open top drums (DOT 17c/h)
- Dump trucks (temporary only)
- On-site pits (permitted only)
- Construct temporary lined pits (with Federal/State approval only)
- Dumpsters for non-hazardous debris only (paper, cans, bottles, lunch bags, etc)

- 6ml minimum plastic bags with wire ties

Solid Waste Characterization and Profile

- Facility to receive, separate/sort and store solid waste
- Reduce waste volume by shredding, adding absorbent material to stabilize free liquids
- Back-hoe or front-end loader to facilitate segregation activities

Analytical Support

- Pre-qualify local laboratory for waste sample analysis
- Local lab to supply necessary sample equipment and chain of custody forms
- Set up for fast turn-a-rounds on results
- Pre-approve analytical (TCLP, PCB, BTU's, etc.)

RECYCLING OPPORTUNITIES

Personnel can be deployed to remove debris from beach intertidal areas to above the high tide line in order to prevent oiling of stranded debris/trash. It is important to note that such crews are not likely to be certified as required under OSHA 1910.120 and can only perform this task prior to the stranding of oil. A safety/industrial hygiene specialist should be consulted regarding the limitations of these crews and the effective establishment of exclusion zones in the area of beach impact.

Recovered Oil and Oily-Water

In order to maximize skimmer efficiency and effectiveness, water should be decanted with the approval of the Federal OSC and relevant State Agency Representative. Operational standards should be established as soon as skimming is initiated. In federal waters, decanting can be approved through a request to the OSC. In state waters, approval must be secured from the appropriate State agency representative.

Both oil and oily-water recovered from skimming operations should be offloaded to facilities where it can be effectively recycled/managed with established process and treatment streams. Such facilities would include production facilities, terminals, refineries and commercial refineries/reclaimers/recyclers. These facilities can often provide temporary tank storage, when necessary. Oiled debris which is recovered with skimmed oil should be maintained in secure, temporary storage until it is sufficiently characterized for disposal.

Disposal Site Selection

- Contact local disposal facilities for waste acceptance (liquids, solids, sanitary, etc.)
- Ensure State and Federal and Chevron approvals are in order
- Research transportation requirements
- Analytical results on waste streams available for disposal facility review and approval

Free Liquids (Oil and Water)

- Consider all oil and oil emulsions for possible recycle/reuse
- Research local waste oil recycling firms in area. Ensure State/Federal and Company approvals are in order
- Utilize facility's water stripper units and/or heater treaters to separate oil and water

Oil Absorbent Materials:

Research new technology as it pertains to recycling used oil absorbent material.

- Set up pad wringer stations throughout the spill work site where sorbents are being used
- Sorbent pads can be used up to four to five times before losing their oil absorbing property
- Sorbent booms and sweeps should be double bagged and separated from other solid waste items
- Once a recycling firm has been located, ship direct from spill site to the recycling facility
- Ensure compliance with State and Federal recycling guidelines, if any

Oil Contaminated Sand and Gravel

- Research available commercial sand and gravel cleaners
- Consult Local, State and Federal regulations for any permitting requirements
- Have pre-approved lab set up analytical if required by regulations
- Train shoreline clean-up team not to remove excessive amounts of sand or beach front

Oil Contaminated Debris

- Seek approval from State or Federal representatives on-scene to allow stacking of contaminated debris and pressure washing to remove oil clingage as opposed to hauling off-site for disposal
- Research methods and applications for in-situ bio-degradation in-situ

The Facility will inform the Federal and State On-Scene Coordinators in writing of the name and location of waste disposal sites used to support the response.

All waste generated from an oil spill will be removed from the temporary staging area within 14 days of the completion of all response operations.

A list of Company approved waste disposal facilities is shown in this section.

TOXICITY CHARACTERISTICS AND LEVELS

Toxicity Characteristic Contaminants And Regulatory Levels

EPA hazardous waste number	Contaminant	Chronic toxicity reference level (mg/L)	Basis*	Regulatory level (mg/L)[t]
D004	Arsenic	0.05	MCL	5.0
D005	Barium	1.0	MCL	100.0
D018	Benzene	0.005	MCL	0.5
D006	Cadmium	0.01	MCL	1.0
D019	Carbon tetrachloride	0.005	MCL	0.5
D020	Chlordane	0.0003	RSD	0.03
D021	Chlorobenzene	1	RFD	100.0
D022	Chloroform	0.06	RSD	6.0
D007	Chromium	0.05	MCL	5.0
D023	o-Cresol	2	RFD	200.0[a]
D024	m-Cresol	2	RFD	200.0[a]
D025	p-Cresol	2	RFD	200.0[a]
D026	Cresol	2	RFD	200.0[a]
D016	2,4-D	0.1	MCL	10.0
D027	1,4-Dichlorobenzene	0.075	MCL	7.5
D028	1,2-Dichloroethane	0.005	MCL	0.5
D029	1,1-Dichloroethylene	0.007	MCL	0.7
D030	2,4-Dinitrotoluene	0.0005	RSD	0.13[b]
D012	Endirn	0.0002	MCL	0.02
D031	Heptachlor (and its hydroxide)	0.00008	RSD	0.008
D032	Hexachlorobenzene	0.0002	RSD	0.13[b]
D033	Hexachloro-1,3-butadiene	0.005	RSD	0.5
D034	Hexachloroethane	0.03	RSD	3.0
D008	Lead	0.05	MCL	5.0
D013	Lindane	0.004	MCL	0.4
D009	Mercury	0.002	MCL	0.2
D014	Methoxychlor	0.1	MCL	10.0
D035	Methyl ethyl ketone	2	RFD	200.0
D036	Nitrobenzene	0.02	RFD	2.0
D037	Pentrachlorophenol	1	RFD	100.0
D038	Pyridine	0.04	RFD	5.0[b]
D010	Selenium	0.01	MCL	1.0
D011	Silver	0.05	MCL	5.0
D039	Tetrachloroethylene	0.007	RSD	0.7
D015	Toxaphene	0.005	MCL	0.5
D040	Trichloroethylene	0.005	MCL	0.5
D041	2,4,5-Trichlorophenol	4	RFD	400.0
D042	2,4,6-Trichlorophenol	0.02	RSD	2.0
D017	2,4,5-TP (Silvex)	0.01	MCL	1.0
D043	Vinyl chloride	0.002	MCL	0.2

LOUISIANA

Location	Company	Disposal Type	Waste Types	Phone No.
LA, Baton Rouge	Philip Services Corp. [formerly Allwaste]	Liquid Treatment	Wastewater, IBCs	(504) 355-7692
LA, Bossier City	Jones Environmental, Inc.	Liquid Treatment	Wastewater	(800) 456-2515
LA, Lake Charles EPA ID No. LAD000777201	WMI [formerly CWM]	HW Landfill, LDR Treatment, Fuel Blending	Haz Waste, RCRA Waste, High Btu Liquid and Sludge, Inorganics, Solvents	(800) 843-3604
LA, Monroe	WMI (Magnolia)	Non-Haz Landfill	Soil, Industrial Waste, Asbestos	(318) 343-5636
LA, New Orleans	International Petroleum Corp. (World Fuel Svcs)	Waste Oil Recycling	Waste Oil, Antifreeze, Oil Filters, Wastewater	(504) 254-9021
LA, Shreveport	Specialty Environmental Services	Waste Oil Recycling	Waste Oil, Antifreeze, Oil Filters	(800) 256-9900
LA, Sorrento	BFI (Colonial)	Non-Haz Landfill	Soil, Industrial Waste, Asbestos	(504) 675-8021
LA, Venice	Newpark Environmental	Transfer Facility	E&P Waste	(504) 534-7442
LA, Walker	WMI (Woodside Sanitary)	Non-Haz Landfill	Soil, Industrial Waste, Asbestos	(504) 665-8225
LA, Westlake	CECOS International, Inc.(BFI)	Disposal Well	Non-Haz Liquids	(318) 527-6857
LA, White Castle	Safety-Kleen [formerly Laidlaw]	Landfarming	Non-Haz Soil, Wastewater	(504) 545-3676

WASTE TRANSPORTATION COMPANIES

Company	Address	Phone No.
Gulf South Systems	42593 Hwy. 23, Venice, LA 70091	(504) 534-7818
Ninety Plus	918 Willow Springs Rd., Westlake, LA 70669	(318) 527-6857
Safety-Kleen	52735 Clark Rd., White Castle, LA 70788	(504) 545-3676
Jones Brothers Co. Inc.	4100 Meadow Lane, Bossier City, LA 71111	(800) 456-2515
Philip Services/LA Inc.	456 Highlandia Dr., Baton Rouge, LA 70810	(504) 756-8992
International Petroleum Corp.	14890 Intracoastal Dr., New Orleans, LA 70129	(504) 254-9021

HURRICANE PLAN

SECTION 5 HURRICANE PLAN

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GENERAL INFORMATION/INSTRUCTIONS

Objective and Plan Organization

This Hurricane Plan is intended to provide a general plan of action to be followed in the event that a hurricane or tropical disturbance becomes active in the Gulf of Mexico or is likely to move into the Gulf of Mexico. The primary concern and immediate objective of this plan is to help ensure maximum protection of personnel and property and to provide for well-organized re-establishment of operations after the storm passes.

This manual has been organized to cover both pre and post hurricane information. Site-specific procedures, including checklists for shutdown and start-up procedures, appear in the various system Operations & Maintenance Manuals and/or local Hurricane Action Plans. Shutdown and start-up tasks have been categorized by function for ease of job assignment. Throughout the Hurricane Plan, these job functions appear in italics.

Phases of Hurricane Alert - Definitions

The Pipeline Operation Manager or designee, in conjunction with the FTLs, shall notify and announce to the Control Center (CC) the hurricane phases for their various geographic locations within the corridor. All areas will not be affected at the same time or in the same manner. Therefore, the declared phases may vary for different locations. To facilitate decision-making in each system, the Alert Weather Service forecast will be distributed by the CC to each FTL and work location via information dissemination.

Phase 1 - Alert Phase

- Possibility of hurricane entering Gulf of Mexico.
- Hurricane develops in Gulf of Mexico.

Phase 2 - Hurricane 72 hours away

- National Weather Bureau reports the “eye” of the hurricane to be a minimum of 72-hours away and approaching.

Phase 3 - Evacuation Phase

- Storm will critically affect the area.

Areas of Responsibilities During Hurricane Plan Implementation

Systems	Teams
Empire, West Bay, East Bay Empire to Pascagoula 20" Mainline Pumps {3 total (2 of which are alternated for operations and one to serve as a spare)}	Empire
Fourchon Empire to Pascagoula 20" Crude System	Fourchon
Beaumont Terminal SPR P/L	Beaumont Terminal
Forked Island Terminal VE38 P/L Freshwater Bayou P/L North Fresh Water Bayou P/L	Forked Island Terminal
TENDS	Henry Pipeline, Storage, Pipeline East, Henry Complex and Sour Lake
Bridgeline Holding	Henry Pipeline, Storage, Pipeline East and Henry Complex
Paradis Gathering	Pipeline East
Henry/Floodway Gas Gathering	Henry Pipeline
Sabine	Henry Pipeline and Sour Lake
Evangeline	Henry Pipeline and Sour Lake
Note: When other companies are involved, they shall be notified and will assist as needed with the implementation of hurricane procedures.	

COMMUNICATION

Effective communication is essential for safe shutdown/personnel evacuation and start-up. The GCR Emergency Telephone List is to be used in conjunction with this plan, particularly with reference to “Producer/Delivery Point Phone Numbers”, “Emergency Assistance Telephone Numbers”, “Emergency Special Services”, and “List of Contractors”.

Contact Points

The following communication centers and contingencies are developed to ensure ongoing communication of status and plans:

- Emergency Conference Bridge No. located in GCR Emergency Telephone List.
- Emergency Notification Network (ENN) - as a “final” contingency, a 24-hour line is available to ensure good communications within Region. Refer to this manual for information on the use of ENN. **ENN numbers are located on the last page of this Section.**

Sample Messages

Sample Messages for Managers and Team Leaders to use in Conjunction with CPL's ENN System.

1. Sample "Generic Greeting" to be used when no emergencies are in effect.

You have reached the Chevron Pipe Line Emergency Notification Network. In the event of an emergency such as a hurricane or other disaster, this "ENN System" was developed to allow area Team Leaders and Team Members to communicate with each other. This message will be updated periodically during an emergency to convey the status of operations and other useful information. Employees will be able to leave messages for their Team Leader on their whereabouts and when they plan to report to work. When you have finished leaving your message, please press "0#" and you will be connected with Chevrons Employee Emergency Line. Doing so will allow Chevron to better serve and account for each employee. If you have dialed this number in error or you do not intend to leave a message, please hang up now. <<Slight Pause>> Else, please wait until you hear the tone before leaving a brief message.
Thank you.

2. Sample ENN "Outgoing Message" to be used when emergencies are in effect.

You have reached the Chevron Pipe Line Emergency Notification Network for the <<Name of Field Team>>. The <<Name of Facility>> will be evacuated and closed to non-essential personnel due to <<Reason for Emergency>>. <<Team Leader can ad-lib additional information here>>. I will update this message periodically to convey the status of operations, so please call back at least twice daily for the latest developments. If you have dialed this number in error or you do not intend to leave a message, please hang up now. <<Slight Pause>> Else, wait until you hear the tone before leaving your message. Be sure to leave me Your Name, Contact Phone Number, Physical Location, Expected Date for return to work, and a brief message. **Upon completion of your message, please dial "0#" which will connect you to the Chevron Employee Emergency Line.** Your first message allows your supervisor to account for you. The Chevron Employee Emergency Line provides Human Resources the ability to account for personnel across the organization.
Thank you.

Employee Responsibilities

Employees should call their ENN contact number to provide a phone number where they can be reached by their TL.

Pipeline Operation Manger Responsibilities

The Pipeline Operation Manger will be responsible for coordinating overall effort and will provide a communications link with higher management levels and Public Affairs.

Emergency Notification Network

- This network was developed to allow Team Leaders and Team Members to communicate during an emergency. During a Hurricane, this system will be used to convey pertinent information to all employees and to collect information on the availability of employees. **ENN numbers are located on the last page of this Section.**

To access this system Employees should:

1. Dial into the appropriate toll free number according to your work location.
2. Leave a message at the tone that includes:
   a. Name
   b. Contact phone number
   c. Physical location
   d. Availability for return to work
   e. Messages for your Team Leader

GENERAL HURRICANE PROCEDURES

General Pre-Hurricane Season Preparation Procedures

The status of the following ongoing general measures should be checked in May of each year (prior to the start of the hurricane season in early June) and maintained throughout the hurricane season (through November).

- Pipeline Operation Manager Coordinate updates to the General and System Specific Hurricane Plans.
- Ensure ENN and Emergency Conference Bridges are working.

Field Teams

- Review and update Hurricane Plans to account for facility modifications.
- Maintain good housekeeping. Properly secure or remove all loose or movable materials or equipment that is not in current use at the facility. Maintain a supply of items such as tape, rope, chain, binders, cable clamps and other material necessary to secure equipment.
- Check and if needed, repair all guy wires and tie-downs.
- Designate the minimum stock to be retained in crude oil tanks at each location. This amount will be determined by production rates, storage capacity and transportation requirements.
- Check all circulating pumps and maintain in good operating condition.
- Check stand-by generators for operational readiness.
- Keep water and fuel tanks full.
- Check to ensure that all communication equipment such as radios, batteries, battery chargers, antenna systems and RTU's are in good working order. Equipment used to receive weather information and special bulletins will also be checked for proper operation.

- Take all necessary precautions to adequately protect all company records and portable equipment.
- Make a list of all boats and floating equipment at each facility, including the most likely safe harbor during a storm.
- Check first-aid kits and restock them if necessary.
- TL's should participate in Hurricane Coordination meeting with customers.

Control Center (CC)

- Verify the Producer and Delivery Customer phone list.
- Fax the Producer and Delivery Communication Flowchart to Customers by June 1st.
- Coordinate the hurricane testing of Empire and Fourchon.
- Participate in the pre-hurricane coordination meeting.
- Monitor Alert Weather Service (on-line weather service) daily to track storm formation.
- Fax or email storm information to Fourchon, Empire, New Orleans, Pipeline East, Storage, Henry Pipeline / Henry Complex, Forked Island Terminal, Beaumont, Mont Belvieu, HIPS (Texas City) and Sour Lake.

HURRICANE CHECK LIST – GENERAL PLAN

Phase 1

Pipeline Operation Manager

If Pipeline Operation Manager deems it to be necessary, based on storm tracking and intensity, a Remote Emergency Operations Center (EOC) may be established.

- Determine location of Remote EOC.
- Pipeline Operation Manager decides who will evacuate to the Remote EOC in Phase 3.
- Reserve sufficient hotel/motel rooms at the remote EOC location.

Field Team

- Initiate Phase 1 activities in Hurricane Action Plan.

Control Center (CC)

- Contact all the Delivery Customers to determine shutdown schedule.
- Monitor the weather on the intranet and weather channel.
- Update the FTL's with frequent weather advisories.
- Verify the Tank Levels at Empire and Fourchon.
- Producers will notify the CC of tentative plans.
- Start a "Producer Shutdown Log" to record producer communication and meter readings.

Bellaire Office Building

Take all necessary precaution to adequately protect all company records and equipment.

Information Dissemination--All Phases

- Monitor radio/cable TV to track storm and local responses.
- Use Producer Shutdown Log for tracking customer status. (Refer to Emergency Telephone List for field office fax numbers)
- Get weather status data from CC and distribute to field offices as updates are received.
- Ensure that all Contact Point phone numbers shown on Producer Shutdown Log are accurate (i.e., verify them).
  - New Orleans
  - Contractors
  - Emergency Notification Network (ENN) **ENN numbers are located on the last page of this Section.**
  - Employee contact numbers are distributed to Team Leader's, CC, and Operations Manager
  - Other

Phase 2

Pipeline Operation Manager

- Establish schedule of personnel movement for Phase 3.
- Collect times required to secure each facility for evacuation.

Field Teams

- Review Phase 1 checklist.
- Initiate Phase 2 activities in Hurricane Action Plan.
- Establish necessary communication with Parish Officials.

Control Center (CC)

- Call in extra manpower if needed to support Customer communications.
- Monitor the weather on the intranet and the weather channel.
- Update the FTL's with frequent weather advisories.
- Record all Producer shutdown plans in the "Producer Shutdown Log".
- Communicate approximate shutdown time to all Delivery Customers.
- Verify tank level readings with Fourchon and Empire Terminals.
- Follow established hurricane procedures concerning Chandeleur pipeline pressure.

Bellaire Office Building

- Move computers and related equipment away from exterior windows to interior offices. Keep equipment elevated and covered with something waterproof.
- Relocate valuables away from windows and place in elevated, interior locations.
- Take necessary precautions to adequately protect all company records.

Phase 3

Pipeline Operation Manager

- Makes Phase 3 declaration.
- Establishes conference call schedule on Emergency Bridge Line.

Field Teams

- Review Phase 1 and 2 checklists.
- Initiate Phase 3 activities in Hurricane Action Plan.

Control Center (CC)

- Monitor the weather on the intranet and the weather channel.
- Update the FTL's with frequent weather advisories.
- Switch Empire and Fourchon Terminal to "Hurricane Mode".
- Record all Producer evacuations and log meter reading in "Producer Shutdown Log".
- Establish contact with the Covington Control Center, Callon's remote site (MO 908 & MS 73) and Chevron's remote site (MO 904).
- Activate the pump shutdown or ESD to all platforms that are shutdown and evacuated.
- Communicate shutdown times to all Delivery Customers.
- Isolate Pipelines, Tanks and Terminals when production shuts down.

Bellaire Office Building

- Review/check checklists from Phase 1 and 2.
- Close doors to offices when departing.
- Company employees should be available at their home telephone numbers. Otherwise, if contact information changes after evacuation of New Orleans, those employees should:
- Call the 24-hour Emergency Notification Network and leave a message giving update information. **ENN numbers are located on the last page of this Section.**

EVACUATE

Post Hurricane Re-Mobilization and Start-Up

Pipeline Operation Manager

- Initiate Remobilization of Personnel.

Field Teams

- Initiate Post Hurricane Start-up Procedures.

Control Center (CC)

- Establish contact with all the FTL's.
- Participate in post Hurricane meetings (assessing damage).
- Start a "Producer Startup Log" to track all Producers returning to the field.
- Ask the Producer for alternate phone numbers as they call in (If the primary phone service has been knocked down they may have a cell phone available).
- Will not allow any producer to startup until Pipeline integrity has been verified.
- Coordinate any Pipeline stand up tests that are deemed necessary.
- Bring on Delivery Customers as needed dependent on inventory levels.
- Follow established procedures if the communication has not been restored (verbal communication with manual line balance).

COMPANY'S DELIVERY POINT COMMUNICATION FLOWCHART

CONTROL CENTER (CC)

COMPANY'S DELIVERY POINT COMMUNICATION FLOWCHART

Prior to June 1st,
Fax this flowchart to
delivery points.

↓

Phase 1
CC to contact delivery points to determine shutdown plans, as well as each phase change.
Paradis Terminal supports communication as necessary.

↓

Carry out all other hurricane procedures in the hurricane plan. Track field status via shutdown log.
CC to communicate status to Team Leader.

↓

Phase 2
CC to contact delivery points and give them an approximate shutdown time. Continue with hurricane procedures. Track field status with shutdown log and communicate to Team Leaders.

↓

Phase 3
Before evacuating Paradis, CC must advise delivery points that they are shutting down and valves will be closed. Continue with hurricane procedures, tracking field status, communicate status to Team Leaders.
Switch Paradis to hurricane mode.

↓

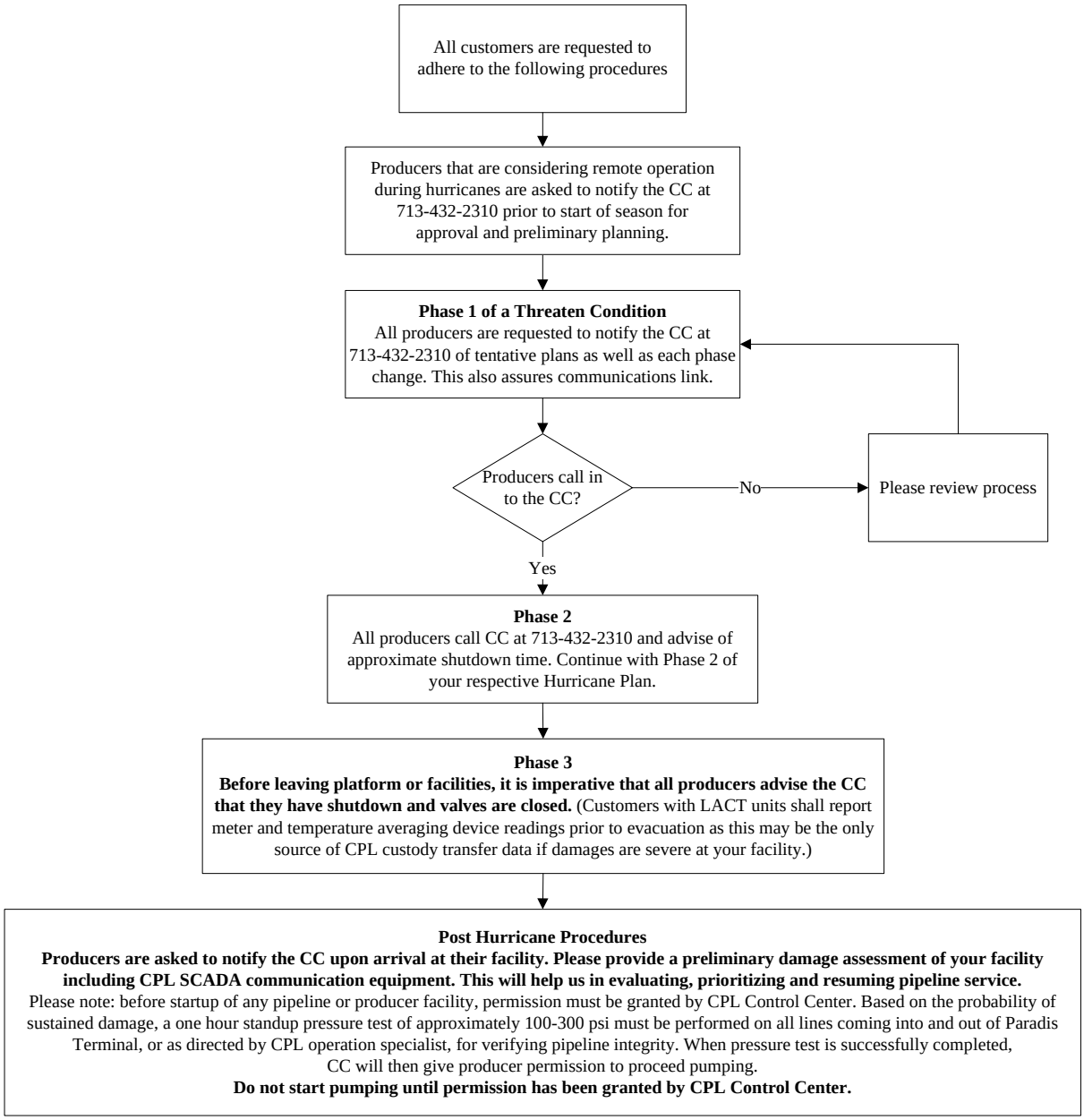
Post Hurricane Procedures
Before startup of any pipeline or producer facility, permission must be granted by Bellaire, CC/Paradis Terminal.
A one hour standup pressure test of approximately 100-300 psi is performed on all lines coming into and out of Paradis Terminal if directed by Operations Specialist based on sustained damage.
When pressure test is completed, Paradis will give producer permission to proceed pumping.
Before shipping, Paradis advise delivery point of start status.

CC Phone Number: 713-432-2310
Fax Number: 713-432-2755

05/2011

PRODUCER COMMUNICATION FLOWCHART

CHEVRON PIPE LINE COMPANY CONTROL CENTER (CC)
PRODUCER COMMUNICATION FLOWCHART



CC Phone Number: 713-432-2310
Fax Number: 713-432-2755
Satellite Phone Number: 254-241-8452
Emergency Phone Number: 800-762-3404
Strategic Backup Cell Number: (b) (6)

05/2011

ENN INFORMATION

Work Group ENN	
Assigned to	**ENN System Phone Number**
Asset Management Vice Presidents	1-877-812-4303
Asset Management - Gulf Coast Gas & Gas Liquids	1-877-812-4838
Operations	1-877-295-6922
Paradis	1-866-240-4312
Henry	1-877-312-5860
Sorrento	1-877-240-4313
Commercial	1-877-812-4304
HES	1-877-295-6924
Fld Engineering	1-877-812-4315
Asset Management - MidContinent	1-877-295-6924
TX Operations TL Card	1-877-295-6942
Wortham	1-877-295-6943
West Texas	1-877-295-6945
Sour Lake	1-877-687-7981
Mt Belvieu	1-877-202-0203
NW Operations TL Card	1-877-295-6946
Aitken Creek	1-877-295-6949
Boise	1-877-295-6960
Cook Inlet	1-877-295-6961
Pasco	1-877-218-3302
Rangely	1-877-218-3308
Salt Lake	1-877-218-3344
Piceance	1-877-218-3360
Commercial	1-877-218-3361
HES	1-877-218-3362
Field Engineering - Northwest	1-877-218-3363
Field Engineering - Texas	1-877-218-3364
Pipeline Operation Manager (3)	1-877-218-3365

ENN Information - Continued

Work Group ENN	
Assigned to	**ENN System Phone Number**
Asset Management - California	1-877-218-3368
Operations - California	1-877-213-1175
San Joaquin	1-877-812-4831
Los Angeles	1-877-812-4832
Los Medanos	1-877-812-4834
Estero	1-877-213-1176
San Ardo	1-877-213-1178
HES	1-877-213-1180
Field Engineering	1-877-213-1181
Pipeline Operation Manager	1-877-213-1184
	1-877-213-1186
Asset Management - Gulf Coast Crude & Products	1-877-213-1187
Operations	1-877-213-1190
Beaumont (TL)	1-877-202-0617
Maintenance - Beaumont	1-877-213-1191
Operations - Beaumont	1-877-239-5260
Terminal Accounting - Beaumont	1-877-239-5268
Whitecap/Forked Island (TL)	1-877-202-0375
Fourchon	1-800-734-9461
Empire/Venice	1-800-734-9462
Commercial	1-877-239-5269
Fld Engineering	1-877-239-5272
HES	1-877-239-5306
Asset Management - Control Service Center	1-877-239-5307
Quality & Measurement	1-877-239-5308
CSC - Midcontinent	1-877-202-0302
CSC-Gas & Gas Liquids	1-877-202-0334
CSC-Crude & Products	1-877-202-0360
CSC-California	1-877-239-5309
Field Control	1-877-239-5313

ENN Information - Continued

Work Group ENN	
Assigned to	**ENN System Phone Number**
Asset Management - Operations Standardization	1-877-239-5314
All Teams	1-877-218-1012
Business Development & Strategy Team Leaders (BDS)	1-877-218-1014
BDS / Business Development North America	1-877-812-4840
BDS / Deepwater Portfolio	1-877-812-4839
BDS / International	1-877-812-4316
BDS / Manager Engineering Scoping	1-877-812-4841
BDS / Non-Operated Joint Ventures	1-877-218-1016
BDS / Strategic Planning	1-877-812-4323
Finance (Team Leaders/Direct Reports)	1-877-587-2647
Comptroller (Team Leaders/Direct Reports)	1-877-218-1017
Decision Support	1-877-218-1019
Plant & Pipeline Accounting	1-877-218-1020
	1-877-218-1050
Supply Chain Procurement	1-877-218-1104
Regulatory	1-877-218-1106
IT & SCADA Systems Team Leaders (IT)	1-877-812-4314
SCADA Systems	1-877-659-1625
IT / Business Systems Development & Support	1-877-218-1120
IT / Information Mangement	1-877-659-1628
IT / Network Infrastructure & Security	1-877-812-4322
IT / Systems Architect	1-877-744-1271

ENN Information - Continued

Work Group ENN	
Assigned to	**ENN System Phone Number**
Legal	1-877-812-4317
Pipeline Services and Standards Team Leaders (PS&S)	1-877-744-1273
PS&S / Asset Integrity & Reliability	1-877-812-4829
Lead Risk Specialist	1-877-744-1274
Data, Documents & GIS	1-877-744-1275
Lead Pipeline Integrity	1-877-744-1276
Reliability Supervisor	1-877-744-1277
PS&S / HES	1-877-812-4835
PS&S / Organizational Capability	1-877-744-1278
PS&S / Process Standardization / OE	1-877-744-1279
PS&S / Right-Of-Way Team	1-877-812-4836
PS&S / Technology	1-877-744-1280
Deepwater Technical	1-877-744-1281
Instrument & Electrical	1-877-259-0965
Engineering	1-877-259-0971
PLT / Human Resources / Public Affairs	1-877-812-4302
Project Management Team Leaders (PM)	1-877-259-0974
PM / Construction Management	1-877-259-0977
PM / Project Services	1-877-259-0978
Project Services	1-877-259-0979
Design & Drafting	1-877-259-0983
PM / Piceance	1-877-259-0984
PM / Projects	1-877-259-0985
PM / Projects (Posted)	1-877-259-0987
PM / San Ardo	1-877-647-3410

DISPERSANTS

SECTION 6 DISPERSANTS

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PROPERTIES AND INVENTORY

Note: For additional Dispersant Information see the Dispersant Section in the Chevron Gulf of Mexico Regional Oil Spill Response Plan Section of this State Appendix Plan.

Chemical dispersants may potentially be used for oil-spill mitigation. The key components of chemical dispersants are surface-active agents (surfactants), which are molecules that have both water-soluble (hydrophilic) and oil-soluble (hydrophobic) ends. These molecules, when applied to an oil spill, orient themselves at the oil/water interface such that the hydrophilic ends of the molecules are in the water and the hydrophobic ends are in the oil. The result is a reduction of interfacial tension between the oil and water. This action reduces the cohesiveness of the oil slick and, with agitation, finely dispersed oil droplets (ranging in size, depending on the effectiveness of the surfactant formulation, from above 10 microns to 0.5 mm in diameter) are formed in the near-surface water. The hydrophilic surfactant groups prevent droplet recoalescence.

Chemical agents fall into two general categories: dispersing agents, that disperse or emulsify oil; and, surface collecting agents, which are surface-film-forming chemicals for controlling oil layer thickness (i.e., spread).

Corexit 9527, a water-based concentrate, is currently stocked in quantity by Marine Spill Response Corporation (MSRC) and will be the dispersant used if approval is received by the Federal On-Scene Coordinator.

In the event that MSRC dispersant inventories become depleted, MSRC may call upon Exxon Chemical Company for additional supplies. Corexit 9527 should be available within 24 hours from notification and transported to the designated staging area(s) by air, boat, truck.

Toxicity Data

In selecting a specific dispersant to use on an oil slick, three factors need to be equally considered:

- Toxicity of dispersant
- The effectiveness of a specific dispersant on the type of oil spilled
- The availability of sufficient quantities of dispersant to effectively disperse the oil.

Corexit 9527 is a highly concentrated, biodegradable dispersant with a unique "self-mix" property. A summary of its physical properties is provided below:

- Specific gravity at 60°F: 0.995
- Density at 60°F: 8.29 lb/gal
- Flash point: 162°F
- Pour point: -45°F
- Viscosity at 100°F: 22 cst
- Viscosity at 150°F: 9 cst
- Solubility in fresh water: soluble

- Solubility in Hydrocarbon solvents: soluble
- Solubility in sea water: slightly soluble

Manufacturer: Exxon Chemical Co.
8230 Stedman Street
Houston, Texas 77028
(713) 671-8614

Many oils, before they have a chance to weather, are readily dispersable under most conditions. Oils with a high viscosity or high pour point, may be difficult to disperse under some conditions; especially if the temperature is relatively low. The following is a dispersability rating scheme for crude oil and products based on consideration of API gravity and pour point:

API Gravity	Pour Point	Description	Dispersability Factor
over 45		Very light weight material. No need to disperse. Oil will disperse rapidly.	1
35 - 45	under 41 F	Light weight material. Relatively non-persistent. Easily dispersed	2L
35 - 45	over 41 F	Light weight material. Relatively non-persistent Probably difficult to disperse if water temperature is below pour point of material.	2H
17 - 34	under 41 F	Medium weight material. Fairly persistent. Easily dispersed if treated promptly.	3H
17 - 34	over 41 F	Medium weight material. Fairly persistent. Probably difficult to disperse if water temperature is below pour point of material.	3H
under 17		Probably difficult or impossible to disperse	4

This classification scheme is based on the assumption that less than 24-hours has elapsed from the time of the spill. The oil may be difficult to disperse if more than 24-hours has elapsed.

The effectiveness of any particular dispersant application is dependent upon a combination of factors including oil type and condition, dispersant type and dosage, mixing energy, and temperature. Typically, dispersants are most effective on the less persistent (more volatile) oils and less effective on the more persistent oils. Approximately 95 percent of the oil produced in the Gulf of Mexico has the characteristics of South Louisiana crude which is a light, very low asphaltene oil.

Dispersants contain surface active agents which reduce the oil-to-water interfacial tension. In the presence of energy supplied by natural or mechanical mixing or in some cases by molecular diffusion, formation of oil droplets is enhanced. Coatings on each oil droplet prevent their reforming. Dispersant formulations may be divided into three basic types: those which contain surface active agents carried in a hydrocarbon (hydrocarbon base) solvent, those which contain surface active agents carried in an aqueous solvent (commonly water), and those which contain high concentrations of active ingredients in relation to the carrier (concentrate).

Dispersant Consultants

To use a chemical for any kind of oil spill control, you must use proper application techniques and understand the chemical's properties. Rely on the expertise and experience of oil spill chemicals response consultants listed below:

Jim O'Brien, OOPS Inc.	Gordon P. Lindblom	John P. Fraser
645 Codifer Street	14351 Carolcrest	23 Hibury Drive
Slidell, LA 70458	Houston, TX 77079	Houston, TX 77024
Phone: 504-781-0804	Phone: 281-497-1092	713-780-9224

DESCRIPTION AND LOCATION OF APPLICATION EQUIPMENT

Dispersants may be applied by boat, aircraft or hand sprayer. Boat application is limited to small spills or those within a few miles of shore. Aerial spraying is the preferred method because it offers rapid response, coverage of large areas per unit of time, good control of treatment rates, optimum use of dispersants and better evaluation of treatment results than is possible from boats. Regardless of the method used, the application system must deliver the proper dosage of dispersant in a uniform spray of droplets.

Aircraft spraying would be used to insure a rapid application over a large area, under rough sea conditions and remote locations. Airborne Support in Houma, LA, provides 24 hour access to aircraft designed and maintained in a ready state for aerial dispersant application. Dispersant preapproval applies to only aerial application.

A secondary application method would be a boat sprayer system to apply "low mixing energy" dispersants from the bow of a work boat on fresh, low viscosity oils. Use of this system will require consideration of auxiliary application equipment and personnel needs, mobilization instructions and optimization charts that are discussed in the referenced CGA manuals.

The planning checklist in this section provides a quick reference on the types of spill incidents that might warrant the use of dispersants, a description of their application, and a checklist for planning, conducting and servicing the spraying operation.

APPLICATION METHOD

The method for dispersant application has been taken from the EPA NCP Product Schedule Notebook within the Region VI Oil and Hazardous Substances Pollution Contingency Plan.

- The usual application methods are by aircraft (Corexit 9527 is applied undiluted during aerial spray), hand-held equipment (i.e., spray cans of "back-pack" sprayers) or workboats (fitted with spray booms mounted ahead of the bow wake as forward as possible.)
- Corexit 9527 should be applied to the floating oil, not to the water around it.

- When applied from workboats, systems using a portable fire pump, or a fixed fire-fighting system is best. This should operate at approximately 40-80 psi depending on the requirements of the system used. This system should deliver sea water at a rate adequate to maintain the spray pattern from the nozzles at the operating velocity of the vessel without blowing away before reaching the oil.

Alternatively, the chemical can be fed to the sea water stream with a small metering pump. A treatment rate of approximately 5 gallons per acre is recommended. The concentration of chemical required is calculated utilizing the pump capacity, the boom swath width, the boat speed, and the thickness of the slick or the amount of oil to be treated over a given area.

Unless land areas are immediately threatened, neither agitation nor chemical concentration should necessarily be increased simply to cause rapid disappearance of the oil. Nozzles for spray booms should produce droplets, (not a fog or mist,) in a uniform flat spray pattern. Atomizing nozzles are not recommended.

Concentration/Application Rate:

- During boat application, using a metering pump for chemical addition, Corexit 9527 will usually be added to the sea water stream to give a concentration of 3% to 10%.
- For slicks formed by more viscous crude or petroleum products, a hydrocarbon based (kerosene or other aliphatic solvent) dispersant is required. In such a case, one part of Corexit 9527 may be diluted with five or more parts of solvent.
- The required dosage of Corexit 9527 is usually 3 to 7 gallons per acre, regardless of the method of application. Undiluted dispersant is used in aerial spraying.

Conditions For Use

- Corexit 9527 is not recommended for use on spills on fresh water. It can be used most effectively on spills on salt water of about 1% salt (10,000 ppm salinity) or greater.
- Water temperature does not affect the dispersant's action, but the effect of very low temperatures (in increasing viscosity of the oil) could make dispersion more difficult.
- Weathering of oil can have a negative affect on dispersability, but the amount of time to reach that point can vary widely from a few days to more than a month depending on climatic conditions.

CONDITIONAL USE

The decision to use dispersants must be made soon after the spill occurs. Weathering of oil will increase the viscosity and decrease the capability of chemically dispersing the oil. Factors to be considered in making this decision are 1) oil type and properties, 2) environmental conditions, 3) the availability of dispersant and application equipment and 4) the probable fate of the oil without treatment.

In some cases, chemical dispersants may be the best method to control a slick. In January, 1995 dispersant preapproval was granted by the Federal Region VI Regional Response Team (RRT) to the On-Scene Coordinator (OSC) in offshore waters of Texas and Louisiana that are:

- No less than 10 meters in depth; and
- at least 3 nautical miles from the nearest shoreline; and
- excludes the Flower Gardens National Marine Sanctuary

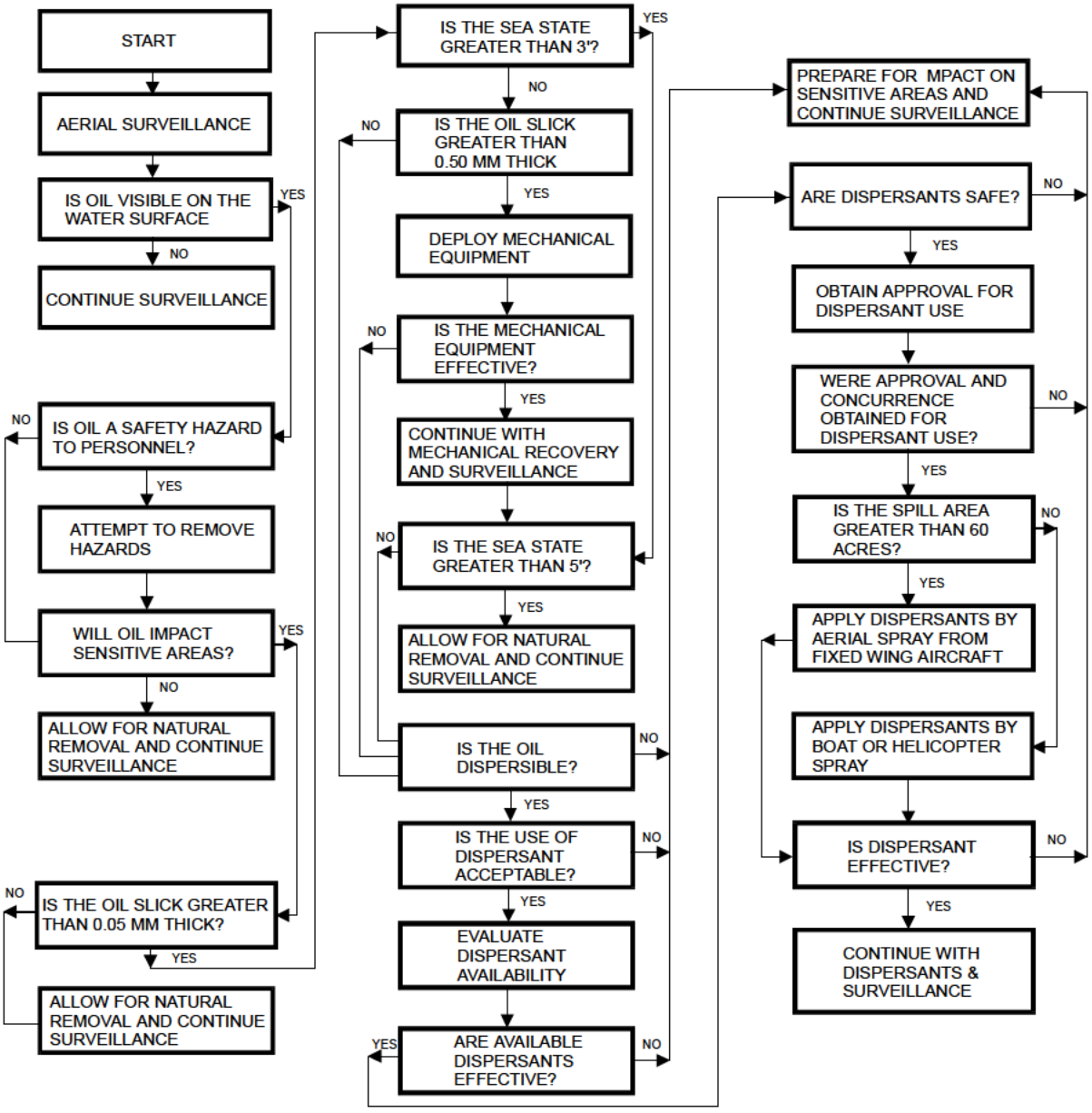
The preapproval is for aerial application only. Only disperants listed in the most recent NCP Product Schedule may be used. Corexit 9527 is not listed in the NCP. Maximum dispersant spray coverage of suitable slick areas is for only one complete treatment. Suitable slick areas are those having visibly thick oil, described as black or brown and not a sheen. Suitable coverage may mean more than one sortie to complete. CGA has established a contractual arrangement with Airborne Support Inc. (ASI) to provide aerial application.

Approval Guidelines

The Facility incorporates applicable sections of the "RRT VI FOSC Preapproved Dispersant Use Manual", approved January 10, 1995 Version 1.0 or the most current version by reference. The Facility intends to follow the procedures outlined within that Manual that pertain to actions to be undertaken by the responsible party in the event of a spill. The Oil Spill Response Coordinator is responsible for activating dispersant use preapproval procedures as soon as possible during the response effort. The HSE/Planning coordinator is responsible for collecting and submitting the necessary information. The Oil Spill Response Coordinator alerts Logistics Coordinator, CGA and ASI, interacts with the Coast Guard representative until a decision has been reached and notifies the Cleanup Supervisor to begin field application when approval is received. The Dispersant Use Activation System, as diagramed in this section, is designed to allow an initial spray to begin within 6 hours of the spill event, weather and daylight permitting. The FOSC Dispersant Use Flow Chart (FIGURE F-6) is attached to provide insight into the conditions that would warrant dispersant application.

A blank Dispersant Preapproval Initial Call Checklist is provided in this Section. The spill and on-scene conditions will be obtained by the HSE/Planning Coordinator and provided to the RRT via the FOSC. Information on API gravity, pour point, crude type will be on file in advance of the spill.

DISPERSANT USE DECISION TREE



DISPERSANT PREAPPROVAL INITIAL CALL CHECKLIST

CALLER

TIME OF CALL: DATE: _____ / _____ / _____ TIME: _____CT
MONTH DAY YEAR 24-HOUR CLOCK

NAME OF CALLER: _____

TELEPHONE #: (_____) _____

NAME OF ALTERNATE CONTACT: _____

TELEPHONE #: (_____) _____

COMPANY NAME: _____

Address:

Street: _____

City/State/Zip Code: _____ _____

SPILL

INITIAL TIME OF SPILL: DATE: _____ / _____ / _____ TIME: _____CT
MONTH DAY YEAR 24 HOUR CLOCK
LOCATION OF SPILL: LAT: _____N
LON: _____W

BLOCK NAME: _____ *BLOCK NUMBER*: _____
TYPE OF RELEASE: [INSTANTANEOUS ( ) OR CONTINUOUS FLOW ( )]
OIL: NAME: _____
API: _____ POUR POINT: _____ *(C ° OR F °)*
CIRCLE ONE

AMOUNT SPILLED: _____ [GAL. OR BBL (42 GAL/BBL)]
FLOW RATE IF CONTINUOUS FLOW (EST MATE): _____

ON-SCENE WEATHER
(NOTE: IF NOT AVAILABLE CONTACT SSC FOR WEATHER)

WIND (Direction From, Degrees): _____ WIND SPEED: _____KNOTS
SURFACE CURRENT (DIRECTION TOWARD, DEGREES): _____
(SPEED) : _____KNOTS
VISIBILITY: _____NAUTICAL MILES (NEED MIN OF 3 NM)
CEILING: _____FEET (NEED MINIMUM OF 1,000 FEET)

DISPERSANT SPRAY OPERATOR:

IS SPILLER LOOP, OR A MEMBER OF MIRG OR CLEAN GULF ASSOCIATES? (YES _____ NO _____)

IF YES, DOES SPILLER INTEND TO ACTIVATE THE STANDING CONTRACT WITH AIRBORNE SUPPORT COMPANY?
(YES _____ NO _____)

DEDICATED TO DISPERSANT OPERATIONS IN GULF OF MEXICO:

COMPANY NAME:	**RESOURCES:**
AIRBORNE SUPPORT COMPANY	(2) DC-3/ (1) DC-4
P.O. BOX 497	1000 GAL / 2000 GAL. DISP.
BOURG, LOUISIANA 70343-0497	DISPERSANT = COREXIT 9527

IF "NO" TO EITHER OF THE ABOVE QUESTIONS, PROVIDE THE FOLLOWING INFORMATION:

DISPERSANT SPRAY CONTRACTOR:

NAME: _____

ADDRESS: _____

STREET: _____

CITY/STATE/ZIP CODE : _____

TELEPHONE : (_____) _____

DISPERSANT: NAME: _____

QUANTITY AVAILABLE: _____

AIRCRAFT: TYPE: _____

MULTI-ENGINE ( ) OR SINGLE ENGINE( )

DISPERSANT LOAD CAPACITY (GAL): _____

TIME UNTIL FIRST DISPERSANT DROP ON THE OIL (HOURS) = _____

DISPERSANT USE REQUEST FOR NON PRE-AUTHORIZED AREA

Potential Responsible Party

Name of Company _____
Address _____
Individual to contact (Qualified Individual)
Phone Number _____ Fax Number _____
Individual to contact for Dispersant Use
Phone Number _____ Fax Number _____
Signature _____

Spill Data

Circumstances (Fire, Coll, Etc.) _____ Date/Time of Spill _____
Spill Location _____
Volume Released _____
Potential Volume to be Released _____ Type of Release (continuous, intermittent, etc.) _____

Characteristics of Spilled Oil

Oil type/Name _____ Spec Grav _____ Viscosity _____
Pour Point _____ Flash Point _____

Weather and Water Conditions/Forecasts

Air Temp _____ Wind Speed _____ Wind Direction _____ Sea Condition _____
Water Temp _____ Water Salinity _____ Water Direction _____ Mixed Layer Depth _____
Tide Information _____
Current Information _____

Oil Trajectory Information

Source of Trajectory Information _____

48 Hour Surface Oil Forecast
Surface area of slick _____
Expected landfall _____

48 Hour Dispersed Oil Forecast
Oil movement in water colun _____
Surface movement/landfall _____

Shorelines and/or Sensitive Environments at Risk

Attach Map showing 1) Pre-authorized zones (if any), 2) spill location, 3) estimated trajectory path of undispersed oil, 4) proposed area of dispersant use, 5) estimated trajectory path of dispersed oil.

Environments at Risk	Area and Estimated Time of Impact	
	Dispersed Treated Spill	Untreated Spill

DISPERSANT USE REQUEST FOR NON PRE-AUTHORIZED AREA

Characteristics of Proposed Dispersant

Dispersant name _____

Manufacturer _____

Location of staging area _____

Amount available (gal) at staging area at 2 hrs _____ 4 hrs _____ 8 hrs _____ 24 hrs _____ 48 hrs _____

Type of containers _____

Applicability on present oil _____

Is dispersant on EPA and applicable state acceptance list: Yes _____ No _____

Proposed application methods and rates _____

Expected dispersant effectiveness under existing conditions (% of amount dispersed vs amount treated) _____

Dispersant Equipment

Type of equipment (boat, helicopter, fixed wing aircraft) _____

Name of company _____

Location of company _____

Availability of specific equipment _____

Schedule of the dispersant operation _____

Monitoring

Identify method of effectiveness monitoring _____

When will monitoring start? _____

Additional Comments

COREXIT MSDS

FIGURE F-4
COREXIT MSDS

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MATERIAL SAFETY DATA SHEET

PRODUCT

EC9527A COREXIT 9527

Emergency Telephone Number
Medical (800) 462-5378 (24 hours) (800) I-M-ALERT

SECTION 01 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME: EC9527A COREXIT 9527
DESCRIPTION: A blend of oxyalkylate polymers, organic sulfonic acid salt, substituted fatty ester, and glycol ether

NFPA 704M/HMIS RATING 2/2 HEALTH 2/2 FLAMMABILITY 0/0 REACTIVITY 0 OTHER
0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

SECTION 02 COMPOSITION AND INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical ingredient(s) as hazardous under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Consult Section 15 for the nature of the hazard(s).

INGREDIENT(S)	CAS #	APPROX.%
2-Butoxyethanol	111-76-2	20-40

SECTION 03 HAZARD IDENTIFICATION

EMERGENCY OVERVIEW:
WARNING! Causes irritation to skin and eyes. Combustible. May be harmful if inhaled, swallowed or absorbed through the skin. Avoid prolonged or repeated breathing of vapor. Do not get in eyes, on skin, or on clothing. Wear goggles and face shield when handling. Use with adequate ventilation. Do not take internally. Keep away from heat and open flame. Keep container closed when not in use.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

PRIMARY ROUTE(S) OF EXPOSURE: Eye, Skin, Inhalation

EYE CONTACT: Can cause moderate to severe irritation.
SKIN CONTACT: May cause irritation with prolonged contact.
Can be harmful if absorbed.
INGESTION: Can cause central nervous system depression, nausea, dizziness, vomiting or unconsciousness depending on the length of exposure and on the first aid action given.
Can cause liver, kidney damage.
May cause red blood cell hemolysis.
INHALATION: May cause irritation to the respiratory tract and lungs.

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SYMPTOMS OF EXPOSURE:
ACUTE: Inhalation of high concentrations of 2-butoxyethanol can cause nausea, dizziness, vomiting, stupor or unconsciousness.

CHRONIC: Repeated or prolonged exposure to 2-butoxyethanol can result in injury to liver, kidney or red blood cells (hemolysis).

Prolonged skin contact with oxyalkylated organic ester may cause dermatitis.

AGGRAVATION OF EXISTING CONDITIONS: Skin contact may aggravate an existing dermatitis.

SECTION 04 FIRST AID INFORMATION

EYES:	Immediately flush with water for at least 15 minutes while holding eyelids open. Call a physician at once.
SKIN:	Wash thoroughly with soap and rinse with water. Call a physician.
INGESTION:	Induce vomiting. Give water. Call a physician.
INHALATION:	Remove to fresh air. Treat symptoms. Call a physician.

NOTE TO PHYSICIAN: Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

CAUTION: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.

SECTION 05 FIRE FIGHTING MEASURES

FLASH POINT: 163 Degrees F (TCC)

UEL 10.6% LEL 1.1%

EXTINGUISHING MEDIA: Based on the NFPA guide, use dry chemical, foam, carbon dioxide or other extinguishing agent suitable for Class B fires. Use water to cool containers exposed to fire. For large fires, use water spray or fog, thoroughly drenching the burning material.

UNUSUAL FIRE AND EXPLOSION HAZARD: Containers exposed in a fire should be cooled with water to prevent vapor pressure buildup leading to a rupture.

SECTION 06 ACCIDENTAL RELEASE MEASURES

IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE NUMBER (800) I-M-ALERT or (800) 462-5378.

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SPILL CONTROL AND RECOVERY:

Small liquid spills: Contain with absorbent material, such as clay, soil or any commercially available absorbent. Shovel reclaimed liquid and absorbent into recovery or salvage drums for disposal. Refer to CERCLA in Section 15.

Large liquid spills: Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA in Section 15.

For large indoor spills, evacuate employees and ventilate area. Those responsible for control and recovery should wear the protective equipment specified in Section 8 .

SECTION 07 HANDLING AND STORAGE

Storage : Keep container closed when not in use.

SECTION 08 EXPOSURE CONTROLS AND PERSONAL PROTECTION

RESPIRATORY PROTECTION: Use either a chemical cartridge respirator with a black cartridge or supplied air.

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a positive pressure, self-contained breathing apparatus is recommended.

VENTILATION: General ventilation is recommended. Additionally, local exhaust ventilation is recommended where vapors, mists or aerosols may be released.

PROTECTIVE EQUIPMENT: Wear impermeable gloves, apron and chemical splash goggles. Examples of impermeable gloves available on the market are neoprene, nitrile, PVC, natural rubber, viton and butyl (compatibility studies have not been performed). A full slicker suit is recommended if gross exposure is possible.

The availability of an eye wash fountain and safety shower is recommended.

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

HUMAN EXPOSURE CHARACTERIZATION: Based on Nalco's recommended product application and our recommended personal protective equipment, the potential human exposure is: MODERATE.

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SECTION 09 PHYSICAL AND CHEMICAL PROPERTIES

COLOR:	Clear to slightly hazy amber
FORM:	Liquid
ODOR:	Mild
DENSITY:	8.2-8.5 lbs/gal.
SOLUBILITY IN WATER:	Soluble
SPECIFIC GRAVITY:	0.98-1.02 @ 60 Degrees F
VISCOSITY:	160 cst @ 32 Degrees F, 65 cst @ 60 Degrees F, 22 cst @ 100 Degrees F
POUR POINT:	Less than -40 Degrees F
BOILING POINT:	340 Degrees F
FLASH POINT:	163 Degrees F (TCC)
VAPOR PRESSURE:	Less than 5 mm Hg (Less than 0.1 psi) @ 100 Degrees F ASTM D-445
EVAPORATION RATE (BuAc = 1):	0.1

NOTE: These physical properties are typical values for this product.

SECTION 10 STABLILITY AND REACTIVITY

INCOMPATIBILITY: Avoid contact with strong oxidizers (eg. chlorine, peroxides, chromates, nitric acid, perchlorates, concentrated oxygen, permanganates) which can generate heat, fires, explosions and the release of toxic fumes.

STORAGE: Prevent contact with zinc, magnesium, and galvanized metals.

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion CO, CO2, may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

SECTION 11 TOXICOLOGICAL INFORMATION

TOXICITY STUDIES: Toxicity studies have been conducted on this product along with toxicity studies of the ingredient(s) in Section 2. The results are shown below.

ACUTE ORAL TOXICITY (ALBINO RATS):

2-Butoxyethanol	LD50 = 470 mg/kg

ACUTE DERMAL TOXICITY (ALBINO RABBITS):

2-Butoxyethanol	LD50 = 222 mg/kg
Product	LD50 = Greater than 1,000 mg/kg

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ACUTE INHALATION TOXICITY (ALBINO RATS):
2-Butoxyethanol LC50 = 700 ppm (7-hour exposure)

SECTION 12 ECOLOGICAL INFORMATION

If released into the environment, see CERCLA in Section 15.

SECTION 13 DISPOSAL CONSIDERATIONS

DISPOSAL: If this product becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous liquid waste, it should be solidified with stabilizing agents (such as sand, fly ash, or cement) so that no free liquid remains before disposal to an industrial waste landfill. A non-hazardous liquid waste can also be incinerated in accordance with local, state and federal regulations.

SECTION 14 TRANSPORTATION INFORMATION

PROPER SHIPPING NAME/HAZARD CLASS MAY VARY BY PACKAGING, PROPERTIES, AND MODE OF TRANSPORTATION. THIS PRODUCT IS REGULATED IN THE U.S. ONLY WHEN SHIPPED IN CONTAINERS EXCEEDING 119 GALLONS OR 882 POUNDS CAPACITY OR WHEN THE PACKAGE EXCEEDS THE REPORTABLE QUANTITY. TYPICAL PROPER SHIPPING NAMES FOR THIS PRODUCT ARE:

ALL TRANSPORTATION MODES (UNLESS SPECIFIED BELOW)	:	COMBUSTIBLE LIQUID, N.O.S.
AIR TRANSPORTATION (IATA/ICAO)	:	PRODUCT IS NOT REGULATED DURING TRANSPORTATION
MARINE TRANSPORTATION (IMDG/IMO)	:	PRODUCT IS NOT REGULATED DURING TRANSPORTATION
UN/ID NO	:	NA 1993
HAZARD CLASS - PRIMARY	:	3 - COMBUSTIBLE LIQUID
PACKING GROUP	:	III
IMDG PAGE NO	:	N/A
IATA PACKING INSTRUCTION	:	CARGO: N/A
IATA CARGO AIRCRAFT LIMIT	:	NO LIMIT (MAX NET QUANTITY PER PACKAGE)
FLASH POINT	:	163 F 72.7 C

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TECHNICAL NAME(S) : GLYCOL ETHER
RQ LBS (PER PACKAGE) : NONE
RQ COMPONENT(S) : NONE

SECTION 15 REGULATORY INFORMATION

The following regulations apply to this product.

PEDERAL REGULATIONS:

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:
Based on our hazard evaluation, the following ingredient in this product is hazardous and the reason is shown below.

2-Butoxyethanol - Irritant, systemic effects, combustible

2-Butoxyethanol = TWA 25 ppm, 121 mg/m3 (skin) ACGIH/TLV

2-Butoxyethanol = TWA 25 ppm, 120 mg/m3 (skin) OSHA/PEL

CERCLA/SUPERFUND, 40 CFR 117, 302:
Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312 AND 313:

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):
This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370):
Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories:

XX Immediate (acute) health hazard
XX Delayed (chronic) health hazard
XX Fire hazard
-- Sudden release of pressure hazard
-- Reactive hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

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SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):
This product contains the following ingredient(s), (with CAS # and % range) which appear(s) on the List of Toxic Chemicals.

Glycol ethers 20-40 No CAS #

TOXIC SUBSTANCES CONTROL ACT (TSCA):
The chemical ingredients in this product are on the 8(b) Inventory List (40 CFR 710).

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:
Consult Section 13 for RCRA classification.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15/ formerly Sec. 307, 40 CFR 116/formerly Sec. 311:
None of the ingredients are specifically listed.

CLEAN AIR ACT, Sec. 111 (40 CFR 60), Sec. 112 (40 CFR 61, 1990 Amendments), Sec. 611 (40 CFR 82, CLASS I and II Ozone depleting substances):
This product contains the following ingredients covered by the Clean Air Act:

2-Butoxyethanol - Section 111
Glycol ethers (2-Butoxyethanol) - Section 112

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65:
This product does not contain any chemicals which require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS:
This product does not contain ingredients listed on the Michigan Critical Materials Register.

STATE RIGHT TO KNOW LAWS:
The following ingredient(s) are disclosed for compliance with State Right To Know Laws:

2-Butoxyethanol 111-76-2

INTERNATIONAL REGULATIONS:

This is a WHMIS controlled product under The House of Commons of Canada Bill C-70 (Class D2B and Class B3). The product contains the following substance(s), from the Ingredient Disclosure List or has been evaluated based on its

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toxicological properties, to contain the following hazardous ingredient(s):

Chemical Name	CAS #	% Concentration Range
2-Butoxyethanol	111-76-2	20-40

SECTION 16 OTHER INFORMATION

Internal number F102962

SECTION 17 RISK CHARACTERIZATION

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

* The human risk is: MODERATE.
* The environmental risk is: LOW.

Any use inconsistent with Nalco's recommendations may affect our risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

SECTION 18 REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (CD-ROM version), Micromedex, Inc., Englewood, CO.

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IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (CD-ROM version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA).

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, Ohio (CD-ROM version), Micromedex, Inc., Englewood, CO.

Shepard's Catalog of Teratogenic Agents (CD-ROM version), Micromedex, Inc., Englewood, CO.

Suspect Chemicals Sourcebook (a guide to industrial chemicals covered under major regulatory and advisory programs), Roytech Publications (a Division of Ariel Corporation), Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, Washington (CD-ROM version), Micromedex, Inc., Englewood, CO.

PREPARED BY: William S. Utley, PhD., DABT, Manager, Product Safety
DATE CHANGED: 11/06/1997 DATE PRINTED: 03/28/1999

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PRODUCT INFORMATION

EC 9527A Corexit Oil Dispersant Concentrate

The first consideration when an oil spill occurs is its containment and physical removal. In many accidents at sea, however, dispersion of the oil slick by use of an efficient and safe dispersant chemical may be the only effective action that can be taken.

While conventional dispersant formulations have performed well on many oil spills at sea, they have often required considerable mixing energy after application of the chemical in order to promote oil droplet formation.

EC 9527A COREXIT Oil Dispersant Concentrate is a highly concentrated new formulation with a unique "self-mix" property that offers maximum versatility in treating any oil slick on salt water. Properly used, it causes rapid, complete dispersion of oil films of salt or brackish water with minimum mixing requirements. The normal motion of the sea is usually adequate. (COREXIT 9527 is not formulated for use on spills on fresh water.)

EC 9527A COREXIT can be used with all types of application equipment and may be immediately adapted to meet local requirements in dispersing oil slicks. It is effective on a wide range of petroleum products. Including viscous crudes and fuel oils. Depending on the type of oil, one part of COREXIT 9527 will usually treat 30 to 60 parts of oil. With particularly efficient application procedures, as much as 100 parts of oil have been treated.

As with any dispersant, EC 9527A COREXIT should be applied to the floating oil, not to the water around it. Best results are always obtained with dispersants if treatment is begun early.

Prior regulatory approval may be required for any application of this product.

Application Techniques

In addition to selection of the most effective dispersant, the successful dispersion of an oil slick requires the availability and use of proper equipment and carefully planned application procedures.

EC 9527A COREXIT Oil Dispersant Concentrate is usually diluted before or during use, although it may be used as supplied under certain circumstances, such as in aerial spraying. If equipment for dilution during use is not available, pre-use dilution may be required.

The product is soluble in both fresh water and hydrocarbon solvents. It is not completely soluble in salt water. (This desirable property enhances its action as an oil dispersant at sea.) If salt-water dilutions are made long before use, active ingredients may concentrate near the bottom of the container, and agitation will be required during use. This does not occur during the education of the chemical into seawater.

EC 9527A COREXIT may also be applied by eduction into a fixed fire-hose system on board a tug or workboat. The dose should be carefully regulated, since most fire systems have very large capacities. Most often a seawater bleed should be inserted before the point of chemical entry. Also, it is important to attempt to maximize coverage by directing the hose stream at about 45 degrees upward. Direct high-pressure hosing will often be unsuccessful because the active sufactants are driven through the slick into the water without an opportunity to attach to the oil.

Helicopter/Airplane Spraying

Aircraft provide the most rapid method of applying dispersant to an oil spill. For aerial spraying EC 9527A COREXIT is used undiluted. A treatment rate of about 5 USG per acre is recommended, but this may need adjustment, depending on the type of oil and the thickness of the slick. A variety of fixed-wing aircraft can be used for spraying over a large area. These range from very large aircraft equipped for carrying 100 to over 4,000 U.S. gallons of chemical.

The spray nozzles used are most critical, since droplet size must be controlled. Many nozzles used for agricultural spraying are of low capacity and produce too fine a spray (actually a mist or fog) which is not desirable dose levels cannot be overemphasized.

Calculations similar to those mentioned previously for workboat spraying should also be made for aerial application. Consideration must be given to: the speed and altitude of the plane: the capacity of the chemical pumps: the pressure at which they operate: the effective swath width obtained: and any windage losses. Flights should be made directly into the wind for best results.

Helicopters may also be employed in aerial spraying, either with fixed spray booms, or by attachment of a slung-bucket system equipped with spray booms. If a bucket is used, it should be stabilized against rotating and swaying.

Tests have shown that an altitude of 30 to 50 feet is optimum for both helicopters and fixed-wing aircraft. Speed will vary with aircraft type, spray boom width, and pump capacity.

Post-Spill Cleanup

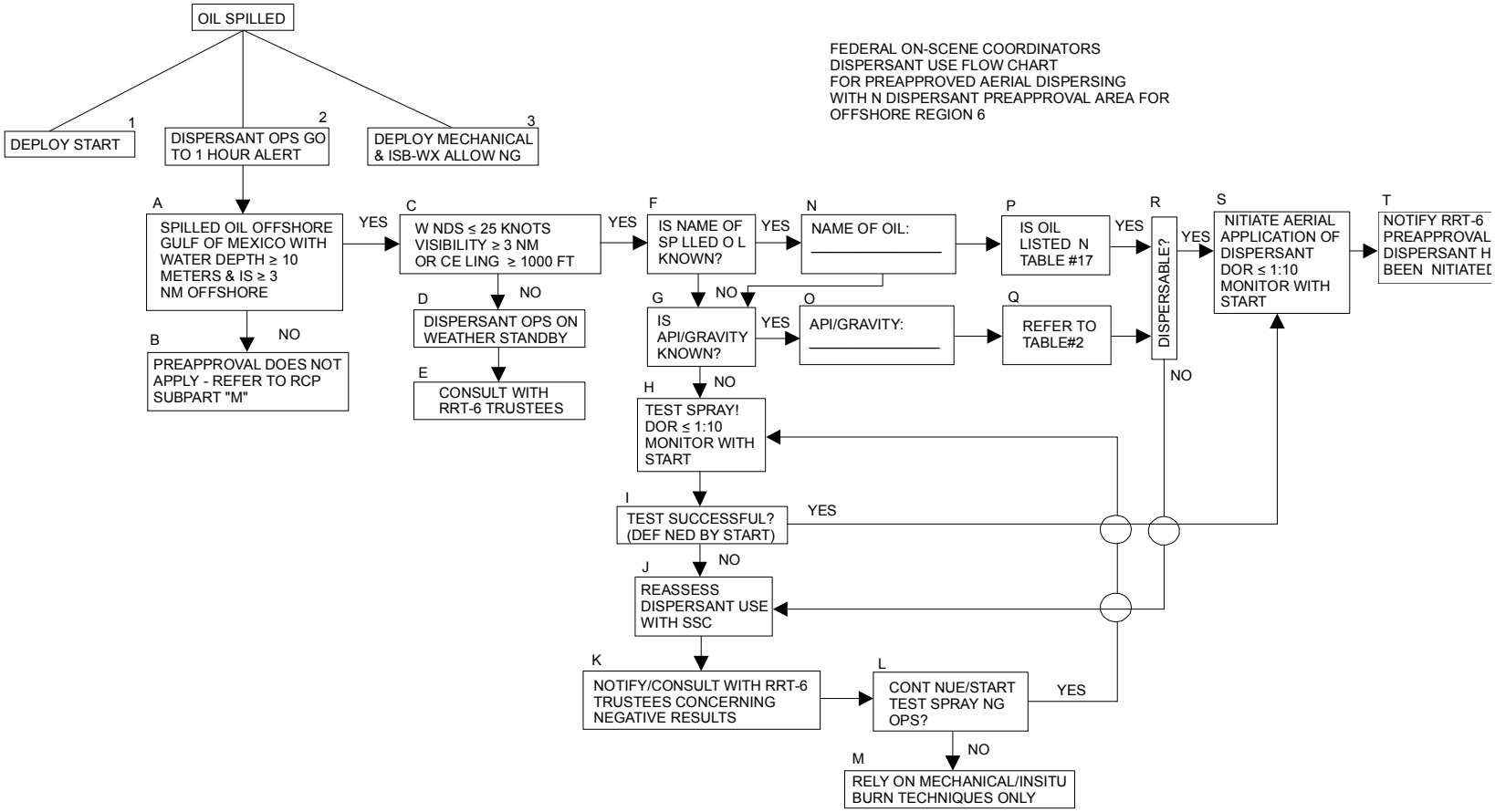
EC 9527A COREXIT Oil Dispersant Concentrate can be used as an aid in cleaning oil from small areas such as rocks, docks, seawalls and the like after oil has come ashore. It should be used in either fresh water or hydrocarbon solution of about 1 to 2%. Large areas are best cleaned with COREXIT 7664. EC 9527A COREXIT is not recommended for use as a beach cleaner.

Typical Physical Properties

Specific Gravity, @60°F/15.6°C	0.995
Density, Lb/Gal @60°F/15.6°C	8.29
Flash Point, SETA CC, °F/°C	162/72
Pour Point, °F/°C	-45/-43
Viscosities	
cSt @60°F/15.6°C	60
cSt @100°F/37.7°C	22
cSt @ 150°F/65.6°C	9
SUS @ 100°F/37.7°C	108

Solubility: Soluble in fresh water and in hydrocarbon solvents. Dispersible in salt water

FOSC DISPERSANT USE FLOW CHART



DISPERSANT INVENTORY

Aircraft And Spray Systems – Worldwide

Normal Operating Area	Organization(S) & Phone Numbers	Aircraft Provider	Aircraft Type & Spray Systems	Comments
USA – West Coast	Clean Seas; Carpenteria, CA; 805-684-3838 Clean Bay; Concord, CA; 510-685-2800 CCW; Long Beach, CA; 310-432-1415 Clean Sound; Edmonds, WA; 206-744-0948	Air Response Kirk Miles Mesa, AZ 602-246-3336	DC-4 Cap. 2,000 gal.	Can reach Hawaii if weather acceptable and crew available.
USA – Gulf of Mexico and Florida	MIRG; New Orleans; 504-368-9845 Clean Gulf; New Orleans; 504-593-6724	Airborne Support Howard Baker Houma, LA 504-851-6391	DC-4 Cap. 2000-gal. DC-3 Cap. 1000 gal.	ASI also supplies spotter aircraft.
USA – Prince William South and Gulf of Alaska	Alyeska; Anchorage, AK; 907-835-6901	Southern Air Crystal Bergstrom 800-327-6456	L100 ADDS packs (2) cap. 5000 gal. each.	Plane and 1 ADDS used outside of AK. With approval of ADEC & USCG
USA – lower 48	EDAC; Ed Rosenberg; 512-547-9928	EDAC Ed Rosenberg 512-547-9928	Air Tractor 802 – (6) Air Tractor 502- (numerous)	EADC is a consortium of plane owners. Service on an as-available basis.
USA – Nationwide	Federal OSC in charge of response	US Air Force – Youngstown, OH	C-130 Military Aerial Spray System (MASS) cap. 2000 gal.	Can only be used if commercial systems are unavailable or insufficient.
USA – Alaska (and possibly elsewhere)	Federal OSC in charge of response	US Coast Guard, 17th District Alaska	C-130	Can only be used if commercial systems are unavailable or insufficient.
USA Gulf of Mexico and Caribbean	Clean Caribbean; Ft. Lauderdale, FL; 305-983-9880 MIRG; New Orleans, LA 504-368-9845	Renter must supply aircraft.	ADDS pack cap. 5000 gal. @ Ft. Lauderdale	Available worldwide to MIRG members at all times and CCC members with Director's approval.
Canada and Europe; (and USA)	Conair Mark Paterson 604-855-1171 Abbotsford, B.C.	Conair Mark Paterson 604-855-1171 Abbotsford, B.C.	DC-6 (3) Two systems cap. 3000 gal each	Can only be used in USA when other USA-commercial systems unavailable.
SE Asia; (worldwide as needed)	EARL Singapore 65 266-1566	Heavy Lift Cargo Richard Smith Singapore 65 483-0661	C-130 H ADDS Pack cap. 5000 gal.	Can respond to Far East and other areas if needed.
Worldwide	OSRL United Kingdom 44-1703-331551	After 3/96 – Hunting Air Cargo	L100 ADDS pack cap. 5000 gal.	Mobilization only by written request from authorized Chevron personnel.
Worldwide	Biegert Aviation Chandler, AZ 520-796-2400	Renter must supply aircraft.	ADDS Packs (2) cap. 5,000 gal. each	
Worldwide	Southern Air Miami, FL 800-327-6456	Southern Air Miami, FL 800-327-6456	L100 (15) with 1-2 usually in US lower 48.	Renter must supply ADDS pack. Callout subject to availability and location.

Many countries worldwide also maintain aircraft and spray systems suitable for oil spill response.

DISPERSANT INVENTORY

Dispersants – USA

Organization / Phone	Stockpile Location	Dispersant Type And Approximate Amount (Gals)	Storage Method
Delaware Bay COOP Eugene Johnson 302-645-7861	Slaughter Beach, DE	Corexit 9527 – 1,500	55-gal. drums
Clean Harbors Ed Wirkoski 908-738-3002	Perth Amboy, NJ	Corexit 9527 – 1,500	55-gal. drums
MSRC Greg Rixon 202-408-5793	Edison, NJ	Corexit 9527 – 25,000	55-gal. drums
Clean Caribbean Paul Schuler 305-983-9880	Ft. Lauderdale, FL	Corexit 9527 – 30,000 Corexit 7664 – 1,500	55-gal. drums and tanks
Clean Gulf Associates Dick Armstrong 504-593-6724	Houston, TX Grand Isle, LA Panama City, FL	Corexit 9527 – 35,000	55-gal. drums
LOOP, INC. C. Cooper-Gates 504-363-9282	Houma, LA Galiano, LA Fourchon, LA	Corexit 9527 – 35,000	2000-gal. tanks
Energy Chemicals 24 Hr. Security 713-263-7200	Sugarland, TX Baytown, TX	Corexit 9527 – 55,000	55-gal. drums
Clean Coastal Waters Chris Gregory 310-432-1415	Los Angeles, CA Clean Waters No. 1	Corexit 9527 – 7,000	55-gal. drums
Clean Bay Coop. Steve Ricks 510-685-2800	Martinez, CA Richmond, CA	Corexit 9527 – 15,000	Tank trailer and 55-gal. drums
Clean Islands Council Kim Beasely 808-845-8465	Honolulu, HI	Corexit 9527 – 4,000	55-gal. drums
Clean Seas Coop Darryle Waldron 805-684-3838	Carpenteria, CA	Corexit 9527 – 20,000	Tank truck and 55-gal. drums
Clean Sound Coop. Roland Miller 206-744-0948	Chevron Point Wells Rainer Beach, WA	Corexit 9527 – 6,000	300-gal. DOT containers
Sea Pro Jim Annicelli 907-225-7002	Sitka, AK	Corexit 9527 – 16,000	55-gal. drums
Alyeska Coop Steve Hood 907-835-6923	Anchorage, AK	Corexit 9527 – 65,000	55-gal. drums
CISPRI Bill Stillings 907-776-5129	North Kenai, AK Anchorage, AK North Kenai, AK	Corexit 9527 – 20,000 Corexit 9550 – 2,500 Breaxit – 1,000	Tanks and 55-gal. drums

SAMPLING

SECTION 7 SAMPLING

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EPHEMERAL DATA COLLECTION GUIDANCE MANUAL

Prepared for:

CHEVRON RESEARCH AND TECHNOLOGY COMPANY
Richmond, CA

Prepared by:

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Walnut Creek, CA
with
Arthur D. Little, Inc.
Cambridge, MA

Project No. 329116

May 9, 1996

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INTRODUCTION

1.0
INTRODUCTION

PURPOSE

The purpose of this guidance manual is to identify the basic sampling methods for collecting essential **ephemeral*** samples and data, and to describe these methods so that they can be implemented by the Chevron first responders (or their immediately-available contractors) even if they have limited specialized experience, expertise and equipment.

BACKGROUND

There are several types of ephemeral samples and data that can be obtained only in the first few hours to a day or two following an oil spill (hereafter meant to include any unauthorized release of petroleum hydrocarbons to which the Oil Pollution Act of 1990 applies). In most spills, the oil quickly spreads on the surface, is dispersed in the water, stranded on the shoreline and other structures, removed by cleanup actions, and/or evaporated. Ephemeral data are often critical in making immediate decisions about identifying the least environmentally damaging containment, cleanup or protection countermeasures. Ephemeral data are also critical for evaluating the impacts of the spilled oil to natural resources and their habitats in the natural resource damage assessment (NRDA) that may follow months to years later. In most instances, the first responders at the scene will be Chevron employees from the facility (e.g., refinery, terminal, tank farm, pipeline, ship or barge, truck) where the spill originated. First responders are unlikely to be trained or experienced in the methods for collecting ephemeral data, nor are they likely to have the

*With regard to environmental sampling by Chevron first responders, ephemeral refers to samples and data that are particularly transient and changeable during the first 48 hours of the spill. Ephemeral data include: distribution of oil on and in the water; water and sediment quality in areas prior to oil impact; early weathering of the oil; petroleum hydrocarbon concentration in biota, especially mussels and other bivalves; and site physical characteristics.

necessary equipment readily available. More likely, the facility will have a response plan that relies on corporate response resources, such as Chevron's Advisory Resource Team (ART) and/or Environmental Functional Team (EFT) as well as experienced contractors and consultants (hereafter called consultants), some of whom may be on a 24-hr/7-day call-out status. However, by the time help arrives several hours to a day or two after the spill occurs, it will be too late for them to collect some of the critical ephemeral data.

APPLICATION OF MANUAL

This manual emphasizes the critical ephemeral data and samples that may be lost forever if they are not collected in the first 24-48 hours of a spill. These data include: (a) source oil and freshly spilled oil, (b) spatial distribution and amount of oil on the water surface, (c) unoiled and some oiled beach sediments, (d) water quality in unoiled and oiled areas, and (e) unoiled intertidal organisms. The manual briefly describes the purpose for obtaining each type of sample or data, and the relevance and importance of the environmental decision-making and assessment following an oil spill.

The manual provides **guidance** on where, when, and how to collect each type of sample and data. It recognizes that specialized equipment may not be readily available, however the basic materials and equipment are usually available at the facility or at nearby hardware, building supply and/or marine supply stores. Adequate logistics support (e.g., vehicles, boats, etc.) is also usually readily available.

The manual also emphasizes the importance of documenting the samples and data so that they can be used by scientists, engineers, economists, and attorneys to evaluate the environmental impacts of the spilled oil. With appropriate quality assurance and documentation, the data should also be useful in preparation for a negotiated settlement or litigation.

The manual does not provide detailed Standard Operating Procedures (SOP), site-specific protocols or study plans, work plans, quality assurance/quality control (QA/QC) plans, or a Health and Safety Plan. The manual also does not provide guidance for sampling biological resources such as birds, mammals, fish, most shoreline macroinvertebrates, or submerged organisms. The sampling methods for most of these biological resources

generally require technical expertise and experience that most first responders do not have and do not require for their usual jobs.

The manual also does not provide guidance on collecting data on recreational or commercial uses of the potentially oiled area and resources. All of these topics and issues will be dealt with by members of Chevron's ART and/or EFT as well as experienced consultants and contractors when they arrive on site, usually within 24 to 48 hours.

PRIORITIES OF ACTIVITIES

2.0

PRIORITIES OF ACTIVITIES, GENERAL OBSERVATIONS, REQUIREMENTS, AND EQUIPMENT LISTS

INTRODUCTION

This manual provides general **guidance** for the collection, processing, documentation and preservation of ephemeral samples and data. The guidance may need to be modified depending upon the characteristics of the site and oil spill. The actual methods implemented should be thoroughly documented in the field by the first responders doing the sampling. Documentation should include video and/or photographic methods. Any modifications to the methods described in this guidance manual or any other plans used by the first responders should be described in the field notes.

There are five overall guidelines that should govern the first-responders actions:

(1) Be flexible, be practical, use common sense, and use prudent judgment.

(2) Collect the samples and data, if in doubt. A decision to analyze them can be made later by Chevron EFT or consultants.

(3) Document samples, methods, observations, chain-of-custody and other information that is relevant.

(4) Contact the Chevron EFT or consultants for spill-specific advice as early as practical in the spill response, including while they are at home or en route.

(5) Comply with health and safety procedures listed in the daily Incident Action Plan.

Ideally, this manual will provide incentive for Chevron's first responders to begin: pre-incident planning including: identification of local consultants; preparation of standard operating procedures to augment those described in following sections; training in field sampling methods; stockpiling equipment and materials or identifying local sources; identifying the sensitive habitats and resources to be sampled first; and preparation of the contact list for Chevron EFT and expert consultants. This manual also provides a brief description of the need for collecting each type of data or sample.

PRIORITY OF FIRST-RESPONDER'S ACTIVITIES

The following is a priority list of initial environmental sampling and monitoring activities for Chevron's first responders, with the highest priorities listed first. The actual order may need to be modified, based on spill-specific circumstances.

(1) Contact one of the following members of the Chevron EFT (Pat O'Brien, Gary Rausina, Will Gala, Andy Glickman, Lucinda Jackson, Kirk O'Reilly, or Michael Ammann) or consultants for advice and guidance. A short phone call or fax can provide expert advice based on experience with numerous oil spills and save a lot of time.

(2) Identify the first-responder ephemeral sampling team members, assign responsibilities and tasks, and identify schedule and reporting relationships within the team as well as with others in the response organization.

(3) Assign one team member full-time to be responsible for documenting and compiling samples, data, photos, video tapes, field logs, chain-of-custody, and similar material according to procedures described in this guidance manual. This person should also be responsible for coordinating QA/QC activities with the first responders and for transitioning to the EFT QA/QC coordinator upon arrival at the site.

(4) Compile general information on physical and biological site characteristics of the affected and adjacent areas, and on spill

characteristics, to the extent practical. The information will facilitate discussion with Chevron ART and/or EFT and consultants so they can plan ephemeral data/sample collection activities. Consult the oil spill Area Contingency Plan for information on sensitive or listed species.

(5) Collect source oil and spilled (e.g., weathered) oil samples.

(6) Document distribution and amount of oil with photos, video and personal observations at least once per day and preferably 2-3 times per day.

(7) Collect water, beach sediment and biological samples "ahead" of the oil slick for "before impact" comparison.

(8) Notify the appropriate state and federal fish and wildlife agencies responsible for managing any biological resources that Chevron first responders want to sample selected biota (e.g., mussels, clams) for pre-impact petroleum hydrocarbon bioaccumulation levels. Often, only a valid sport-fishing license will be required.

(9) Collect water samples adjacent to and, if practical, within the oil slick.

(10) Locate a secure place to store samples. At minimum, samples must be refrigerated to 4°C. A secure freezer, preferably one that can store sediment, oil and biological (but not water) samples at –20°C is also desirable.

(11) Obtain logistic support, equipment and materials for incoming Chevron EFT and consultants.

A generalized sampling scheme and priority of sampling stations, based on Sections 3.0 and 5.0-7.0 following, is presented in Figure 2-1 (page H-53).

GENERAL OBSERVATIONS

General observations on the oil spill and site characteristics should be documented in writing, and with video and/or photographs daily and preferably 3 times per day to provide:

(1) A basis for planning the ephemeral data and sample collection programs.

(2) Background information to the Chevron ART and EFT, and consultants as they are en route to, and when they arrive, at the spill site.

(3) Documentation of conditions that are essential input to any NRDA models and assessments that the state and/or federal trustees use.

Two example data sheets are provided in Appendix A (page H-38).

In addition, the surface oil trajectory model (e.g., WOSM) output provided to the Unified Command should be obtained as soon as it is available. The trajectory information may suggest areas and resources to be sampled and help establish the sampling priorities.

GENERAL REQUIREMENTS FOR ALL EPHEMERAL SAMPLE AND DATA COLLECTION PROGRAMS

There are five requirements that are applicable to all ephemeral sample and data collection programs. They are described below under Basic Quality Assurance, Chain-of-Custody, Documentation, Sample Station Location, and Sample Station Characterization.

BASIC QUALITY ASSURANCE

Adherence to basic quality assurance (QA) procedures is essential and will enhance the quality of the samples and data collected for subsequent use in environmental decision-making, NRDA evaluation, and potential negotiated settlements or litigation. These basic QA procedures include:

(1) Follow the sampling protocols generally described herein, with modifications as provided by Chevron EFT or consultants.

(2) Decontaminate sampling equipment (e.g., cores, sample bottles, spoons, etc.) between each sample with solvent (preferably methanol or

methylene chloride) or Alconox detergent followed by a distilled water wash. Collect the wash water, solvents and discarded sampling gear in containers for proper disposal as determined in the daily Incident Action Plan.

(3) Mark the sample stations and document position using LORAN or GPS coordinates, radar, line-of-sight triangulation or other reproducible methods (see following sections for more detail).

(4) Document site characteristics immediately prior to sampling (see following sections for more detail).

(5) Maintain complete documentation, including chain-of-custody forms, and sample tags or labels for every sample or data type.

(6) Process and store samples in the field so as to prevent cross-contamination between samples; e.g., keep samples in separate containers, and separate different sample types.

(7) Store sediment, water and biological samples on frozen "Blue-Ice" if available, or ice cubes, in ice chests/coolers while in the field.

(8) Transport samples on a daily basis to a secure storage area onsite where they can be kept cool or frozen as appropriate for specific samples. Where practical, transport directly to the analytical laboratory which will store the samples until analyses are done, is preferable.

(9) Maintain proper chain-of-custody documentation for each sample (see Appendix A for example of chain-of-custody form).

(10) Use nitrile gloves to avoid contaminating samples. If nitrile gloves are unavailable, use latex gloves. In either case, do not allow oil that has come into contact with the gloves to get into the sample. If it does, discard the sample and obtain a new one.

Environmental monitoring in the first 24-48 hours of a spill response should focus on the collection of reliable samples and data, and their documentation. Decisions regarding sample analyses can be made by Chevron's NRDA experts after they evaluate the spill response and initial injury to natural resources.

CHAIN-OF-CUSTODY

It is essential to maintain chain-of-custody on all samples and data such as video tapes. If the chain-of-custody is "broken," then the integrity of the sample and resulting data may be questioned later, especially if the NRDA and related assessments are adversarial between Chevron and other parties. A sample chain-of-custody form is provided in Appendix A.

Chain-of-custody means that the sample or data are the possession and under the control of the person identified on the form for the period specified on the form. Possession and control can mean literally in possession, within sight, or in secure storage where the access is limited to the person in possession. The person taking possession and the person relinquishing possession need to sign the form when the transition takes place.

Chain-of-custody forms should be completed as part of the documentation activity.

DOCUMENTATION

All field activities, observations, samples and data collected, personnel involved, and similar information should be documented in the appropriate media (e.g., paper, photographs or slides, video tape recording, computer files/diskettes, etc.). Before sampling, each sample location should be documented with photographs and/or video to record site conditions, geographic references, and human use. Documentation should only include objective observations, data, and similar information. It should not include personal opinion, speculations, preliminary conclusions, "editorial" notes, and similar material.

One person should be responsible for compiling all documents at a central, secure location, preferably at or near the Chevron command and resource coordination location. The

compilation and documentation may require more than one person in a substantial oil spill incident.

SAMPLE STATION LOCATION

The geographic location of each sample station should be determined and documented as accurately and precisely as time, conditions, equipment and expertise allow for two reasons. First, being able to show others where the samples and data came from may be important in establishing the next response action(s) and in estimating the oil impacts to natural resources. Second, the longer-term injury assessment and natural resource recovery monitoring programs may need to re-occupy the same stations to obtain data for comparison with data collected in the ephemeral sampling program.

Most sampling done from a ship or boat can utilize the global positioning system (GPS), radar, LORAN, or other navigational aids used by the vessel. If one of these systems, preferably a GPS, is not available on the vessel, the first responders should consider chartering another vessel that does have the equipment.

For sampling on mudflats, beaches, and other shorelines, there are several methods available for station locations. The fastest and easiest to implement is hand-held GPS, provided the precision of ± 10 m in most areas is acceptable. For most ephemeral data sampling in mudflats and sedimentary beaches, a ± 10 m precision is generally adequate. If more precision is required or desired, then there are at least 3 alternatives:

(1) Use a differential GPS such as that used by surveyors for very precise positioning.

(2) Have a survey crew determine the position of each sample, using a variety of standard survey methods and equipment.

(3) Mark the sample location and/or document its location with respect to known, fixed landmarks, and survey the position at a later time if the exact coordinates need to be determined.

To the extent practical in the circumstances of a specific spill, the first responders should consider the following in establishing, marking and documenting the sample station locations:

(1) Select stations with easy access to streets, roads, and parking lots. Note location and address on maps and in field notebook.

(2) Select stations within sight and, preferably, easy measuring distance of distinctive, permanent landmarks (e.g., commercial buildings, piers, named/numbered storm drains, recreational buildings on the beach). On tidalflats and mudflats, it may be necessary to select buildings, etc. that are several hundred feet or more away. If possible, select landmarks that "line up."

(3) Mark the backshore end of the transect (which is usually oriented perpendicular to the waterline) with fluorescent paint if there is a dry solid surface. Be careful not to deface structures that cannot be cleaned up later. On sedimentary beaches, it may be necessary to drive a stake into the substratum and mark it with flagging.

(4) Measure the distance and compass direction to actual sample station location(s) from this backshore marker, and record the information in the field notebook.

(5) Document, with a camera and/or video recorder, the sample location in at least the four cardinal compass directions (e.g., N, E, S, W) on a tideflat, mudflat, or similar large area. On a linear shoreline, document the area in both directions along the shore as well as across the shore. For the latter, take photos and/or video from the waterline toward the backshore, and try to get a permanent, distinctive landmark in the photo or video. Then, take photos and/or video from the backshore to the waterline. In each photo, include a card with the station name/number and date.

As a guide to documenting the station location, the first responder should ask themselves "Could I relocate this station precisely and accurately with the data I am recording?"

SAMPLE STATION CHARACTERIZATION

For sampling water and weathered oil on/in water, the characterization of sample stations is generally limited to the following information which should be recorded in the field notebook:

(1) Station name/number and location.

(2) Water depth.

(3) Sea surface conditions.

(4) Presence, amount, distribution, and weathered status of oil in the station vicinity.

(5) Presence of flotsam and jetsam, seagrass, kelp, corals, birds, fish, marine mammals, and other macro-biota.

(6) Salinity and temperature (if instrumentation is readily available to obtain these data).

(7) Photograph and/or video; usually only useful to document #(4) or (5) above.

For sampling stations on tideflats, mudflats, and/or shorelines, the physical characteristics of the habitat as well as the oiling should be documented in writing in a field notebook, and with photos and/or video. The first responders should not rely solely on photos and/or videos for characterizing the station. Data and observations that may be recorded include:

(1) Station name/number and location; describe relative to named access points and other landmarks.

(2) Distance/direction from fixed points to station.

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(3) Substrate characteristics.

(4) Time and estimated tide level.

(5) Water conditions, especially surf, and wind conditions (direction and speed).

(6) Substratum type (e.g., sand, cobble, mud, rock, concrete); close-up photos are recommended.

(7) Beach use by people.

(8) Number and orientation of photographs and/or video obtained; see Sample Station Location previously for guidance.

(9) Location of man-made facilities (e.g., storm drains) and activities (e.g., lifeguard towers, fishing piers) nearby.

GENERAL EQUIPMENT LIST

The equipment necessary to conduct each type of sampling is identified in Section 3.0-7.0 following. More site-specific lists of equipment, materials and logistic support may be developed by the local facility personnel in any pre-spill planning and training activities they conduct.

Additional items are listed in Appendix B (page H-42). Because the requirements for each location and facility will differ, additional space is provided in Appendix B for the first responders to add items that they consider necessary for safe and successful ephemeral sample and data collection.

OIL FROM THE SOURCE AND WEATHERED OIL

PURPOSE

Sampling source or "neat" oil immediately and weathered oil over the first few days (as well as later) is essential in oil spill situations. These samples provide the detailed chemical "fingerprinting" of the oil from the release source for comparison to waterborne or beached weathered oil. This information is especially important for evaluating the temporal changes in oil toxicity. Neat oil sampling and advanced chemical fingerprinting methods allow identification of the source, determination of the environmental fate of the spilled product, differentiation between multiple sources, and allocation of relative contributions of pollutant levels to their respective sources. Although weathered oil may persist in the environment, its toxicity decreases with time; therefore sampling over time provides specific information related to the extent and duration of the injuries.

SAMPLING PRIORITIES

Sampling of source and weathered oil should be initiated immediately in all oil spills.

The priorities, in chronological order, are to:

- Collect samples from the spill source (e.g., ship cargo tank, pipeline, onshore storage facility) and other suspected or possible sources, especially if there is any uncertainty about the source(s).

- Collect samples of the spilled oil including "fresh" oil and emulsified oil (mousse) from the leading edge of the floating oil slicks; this sampling can be conducted in conjunction with water column sampling described in Section 5.0 (page H-23).

- Collect oil samples in the main oil slick and near the release point, if practical and safe.

- Collect samples of beached oil; this sampling can be conducted in conjunction with shoreline sediment sampling, described in Section 6.0 (page H-28).

SAMPLING METHODS

The primary objective is to obtain samples of the source oil which have not been exposed to environmental conditions and thus have not begun to weather significantly. It may not always be possible or practical to collect neat oil. For example, during oil tanker or platform fires, the oil "source" is consumed or altered during the spill event. In such cases, it may be necessary to obtain samples of the "source" product from the point of origin loading facility (in the case of a tanker which is lost) or from the same production formation (in the case of a platform blowout); these samples can be obtained by the consultants after they arrive.

Source oil and recently-released weathered oil samples should be collected as soon as practical after the spill event. A bomb or pond sampler may be used to collect source samples which cannot be reached by hand. An uncontaminated spoon or scoop may be used if the source is accessible by hand. Use nitrile gloves if available to avoid contaminating samples. If nitrile gloves are not available, use latex gloves. In either case, do not allow oil that has come into contact with the gloves to get into the sample. If it does, discard the sample and obtain a new one.

Four samples should be collected, three replicates for chemical analyses and one for possible toxicity tests. Each sample should be a minimum 100 ml and preferably as much as the sample container will hold. The sample should be collected into a pre-cleaned, certified (e.g., I-Chem) glass, wide-mouth jar; however, a clean, glass jar with an airtight cap will work if necessary. The samples should be labeled, kept cool in the field and then stored frozen at –20°C prior to shipment to an analytical laboratory. Any sampling devices or implements used to collect samples should be stainless steel and rinsed with a solvent such as methanol or methylene chloride immediately prior to use for each replicate sample.

If solvent is not available, a thorough washing with Alconox laboratory detergent followed by rinsing with distilled water will work.

The same sample collection procedure should be used to collect samples of the "weathered" oil including the floating oil slick, mousse, and tarballs, and oil deposits on the shoreline.

An additional objective is to minimize the amount of water collected and retained with the weathered oil sample. The excess water can be removed by pouring the oil from one jar to another, possibly several times, until the sample is mostly oil and most of the water is discarded.

DISTRIBUTION OF OIL

4.0
DISTRIBUTION OF OIL

PURPOSE

Documentation of the changes in distribution of oil on the water surface and the amount (thickness) of oil in the surface slicks for the first 48 hours of an oil spill is necessary for NRDA. Several state NRDA procedures are based on the area covered by oil from the beginning of the spill; an overestimate results in an overestimate of economic damages. The amount of oil present is important for estimating injury in some state and federal NRDA models.

The documentation of oil distribution, independent of or in addition to that done by USCG, NOAA and cleanup contractors, is necessary because they typically do not accurately and precisely document the oil amount or distribution beyond what they need for short-term cleanup operation decisions. Location, date, elevation, scale, etc. are often not well-documented. Also, video tapes, photographs and/or written observations may not be readily available when needed by the NRDA teams.

SAMPLING PRIORITIES

The first priority is to document the distribution of oil on the water surface, particularly the large slicks, because this distribution can change rapidly and markedly under the influence with wind, tidal currents, and other water currents.

The second priority is to document oiled shorelines. However, once oil is stranded on the shore, it is typically visible for several days to weeks and can be documented by the Shoreline Cleanup Assessment Team (SCAT) or consultants.

SAMPLING METHODS

The distribution of oil should be documented at least twice per day beginning with the first day and continuing for the next 2-5 days when the frequency may be reduced to daily or less.

Permanent and quantitative documentation of the distribution of oil should be done by a commercial aerial photography firm with the following specifications:

- Color film and, if available, infrared film in 9" x 9" format on a continuous roll.
- Overlapping frames, preferable 60% forward overlap and 30% side overlap.
- Scale of 1" = 500' for overwater photography.
- Scale of 1" = 200' for shoreline photography (this should be separate flight line(s) from over water survey).
- Time, date, and location (via GPS if possible) should be recorded on each frame or, at minimum, at begin and end of each flight line.
- As early as practical in the morning and early to mid afternoon; however, local conditions and experience of the aerial survey firm may dictate more appropriate time periods.

If the video equipment, aircraft (preferably a helicopter), and people are available, a low-level aerial video survey is useful to document the estimated amount of oil on the water surface as well as on the shore zone. The video operator records the oil slicks while a second observer estimates the amount of oil present, based on the characteristics described in Table 4-1. The geographic location of images recorded on the videotape (VTR) must be recorded on the audio track of the videotape or cross-referenced with notes kept by the second observer. The video camera should use color VTR and record time, date, and audio. The start and end time and locations for each VTR must be recorded.

Table 4-1. General Relationship of Sheen Color to Oil Layer Thickness.

State of Alaska	Exxon	Thickness (mm)
Gray	Very light sheen (transparent)	0.00005
Silver	Silver sheen	0.00010
Blue	First color	0.00015
Rainbow	Rainbow	0.0003
Copper	Dull Yellow brown	0.001 0.01
Brown	Light brown	0.1
Black	Brown/black	1.0

WATER SAMPLING

5.0
WATER SAMPLING

PURPOSE

The primary purpose of sampling the near surface water column (upper 1 m) in unoiled and oiled areas is to determine the concentration of toxic petroleum components such as aromatics. The secondary purpose is to determine what portion of the petroleum hydrocarbons present may come from the spilled oil as a result of physical mixing, dissolution, adsorption to suspended particles, etc.

The petroleum components in the water column may be at concentrations that could be toxic to fish, crustaceans, plankton, and eggs and larvae, all of which may constitute substantial injury and thus monetary damages in the NRDA process. The concentration of petroleum hydrocarbons in the upper 1 m of the water column is highest in the first few hours to day following a release of fresh oil, and decreases very rapidly. Therefore, to document the time-concentration relationship, Chevron's first responders should collect water samples during the first day of the spill response.

SAMPLING PRIORITIES

The **first** priority is to collect samples in areas that are not yet affected by the oil, but which are expected to be affected, based on trajectory analyses and professional opinion of the Unified Command. Begin with the sensitive areas that are likely to be oiled within the first few hours to 1-2 days.

The **second** priority is to collect samples in oiled areas, provided it is safe and permitted by the Unified Command. Within the oiled areas, the first priority is to sample in the main oil slick followed by sampling at the leading margin where the oil slick has begun to break up and the oil has begun to weather. If oil is already ashore, some sampling could be conducted in the offshore area adjacent to the oiled beach, and outside the surf zone.

The **third** priority is to sample reference areas. These are areas unlikely to be affected by the spill and that are similar to the affected areas. In general, the selection and sampling of reference areas should be left to Chevron ART or EFT who will consult with the trustees as appropriate.

The second and third priority samples should be collected within 48 hours after the spill, if practical. These samples may be collected by the Chevron EFT or consultants, if they arrive within the first 24-48 hours.

SAMPLING METHODS

Discrete samples should be collected in the priority sequence described above, beginning on the first day of the spill and at least once per day thereafter until Chevron's EFT and consultants arrive.

At each sample station, sampling should meet the following criteria:

- Three replicate samples from each sample depth (e.g., 1 m, 2 m, 5 m below water surface).
- Samples should be taken as close in time and location as practical.
- Samples taken about 1-m below the surface; additional sample depths may be taken at 2-m and 5-m below the surface if time and equipment allow, and if there has been sufficient wave energy to suggest that oil may be physically dispersed into the water column.
- Sampler to be cleaned between each sample (especially important for samples obtained in the oiled areas) using solvent (preferably methanol or methylene chloride) or Alconox detergent plus distilled water rinse.
- Sampler must not be deployed directly through oil at the surface. If it is, the sampler must be decontaminated before being used again.

Samples should be obtained with a water sampler capable of obtaining at least 1-liter of water. The sampler should be deployed from the surface and kept closed during deployment and retrieval. Any visible oil at the water surface should be "moved aside" with a water hose, compressed air, or a paddle before sampler deployment. The sampler should be cleaned between samples. The preferred sampler is one that:

- Allows for the sample bottle (minimum size 1 liter and ideal size 2 liters) to enter the water through the surface in a closed position.
- Can be opened at the desired depth.
- Can sample reliably at a prescribed sampling depth.
- Can be closed after sample collection.
- Allows for preservation of the sample in the sample container.

The recommended sampler is the "Sub-surface Grab Sampler III" (Ben Meadows Co., telephone number 1 (800) 241-6401; Cat. No. 226400), with pre-cleaned, 2500mL, amber-glass wide mouth jars (closure size 70-400), available from Environmental Sampling Supply, Inc. (ESS) (telephone number 1 (800) 233-8425, Cat. No. 2500-0500) or other supplier. The sample can be poured into the specific sample jars, with the volatile organics analysis (VOA) sample collected first.

Two types of samples will be obtained for chemical analyses: one for semi-volatile organics and one for total petroleum hydrocarbons (TPH) and polyaromatic hydrocarbons (PAH).

For volatile organics (VOA):

(1) Use only standard, pre-cleaned, 40-ml glass, screw-cap, VOA vials with Teflon®-faced silicone septum and containing 2 drops of 6N hydrochloric acid as preservative. These will be provided by the laboratory.

(2) Fill out label on bottle with the following information: sample number, sample type, date, analysis to be conducted (volatile organics), time of collection, collector's name. Use permanent marker for labeling. Cover label with clear tape. Complete sample collection data sheet and chain-of-custody form.

(3) After retrieving the field sample, pour the VOA sample gently into bottle to prevent formation of air bubbles in the vial as it is being filled. Fill vial until a meniscus is formed over the lip of the vial. Cover with screw-cap lid. After tightening the lid, invert the bottle and tap to check for air bubbles. If bubbles are present, pour out the sample, add 2 drops of hydrochloric acid, and refill with sample.

(4) Seal each VOA vial in a separate plastic bag to prevent cross-contamination.

(5) Place sample in small ice chest with frozen "Blue-Ice" or ice cubes.

(6) Transfer to refrigerator for storage at 4°C and send samples to analytical laboratory within 24-48 hours, if possible (maximum holding time prior to extraction and analysis is 7 days).

For TPH and PAHs:

(1) Use only pre-cleaned amber glass bottles, preferably from an analytical laboratory. Five ml of 6N hydrochloric acid per liter of water should be added as a preservative. Preferably, the acid will be added by the laboratory; if not, it will need to be added by the field sampling team. Use one-liter, amber-glass, screw-cap bottles with Teflon® liners.

(2) Fill out label on bottle with the following information: sample number (each sample container must have discrete number), sample type (e.g., water), date, location of sampling, time of collection, and collector's name. Use permanent marker for labeling. Cover label with clear tape. Complete sample collection data sheet and chain-of-custody form.

(3) Carefully fill bottle completely with water. Replace the cap and check to make sure screw-cap covers are tightly in place.

(4) Place sample in small ice chest with frozen "Blue-Ice" to maintain a temperature of 4°C. If "Blue-Ice" is not available, use ice cubes or block of ice.

(5) Transfer to refrigerator for storage at 4°C. Send samples to the analytical laboratory within 24-48 hours, if possible. Do not freeze water samples.

INTERTIDAL SEDIMENT SAMPLING

6.0
INTERTIDAL SEDIMENT SAMPLING

PURPOSE

The purpose of sampling the beach sediments (e.g., mud, sand and/or gravel) in unoiled areas is to determine the concentration of oil fractions, especially toxic ones such as aromatics, that are present prior to the spilled oil reaching the beach and to determine what proportion of the petroleum hydrocarbon present comes from the spilled oil compared to other sources. The oil on and in beach sediments may be toxic to animals and plants living there.

The emphasis of the ephemeral sampling program is on beaches that are unoiled, but are likely to be oiled within 2-5 days. Sampling of oiled beaches, unoiled reference beaches, and oiled or unoiled rocky shores could be done by first-responders using the methods described below. However, once a beach is oiled, the oil is generally persistent for several days to weeks or months, and could be sampled by Chevron's EFT or consultants after they arrive. Also, samples for sediment grain size and total organic carbon analyses can generally be deferred for a few days. Offshore and subtidal sediments are typically not affected by spilled oil in the first few days (except for oil that is heavier than water when released) and could also await sampling by Chevron's EFT or consultants. Subtidal sampling requires either divers or specialized sampling equipment that may not be readily available to first-responders.

SAMPLING PRIORITIES

OILED AND UNOILED AREAS

Samples should be obtained from the potentially oiled and reference areas in the following sequence of decreasing priority (see also Figure 2-1).

(1) Areas that have not been oiled but are likely to be within 24-48 hours.

(2) Areas that have not been oiled, but may be 2-5 days hence.

(3) Reference areas that are unlikely to be oiled.

Priority category (1) is the critical sampling effort and must be completed before oil reaches the area. Also, sampling of sediments in oiled areas can be left for a few days.

HABITATS

Within each of the potentially oiled areas, especially priority category (1), habitats should generally be sampled in the following sequence of decreasing priority (see also Figure 2-1);

(1) Areas known or suspected to be utilized by threatened or endangered species.

(2) Wetlands, mangroves.

(3) Tidal mudflats.

(4) Sand/gravel beaches.

Field judgment may modify this sequence; for example, if oil will reach a sand beach within 3 hours and a wetland after 12 hours, then the sand beach could be sampled first. Also, information on areas of specific habitats that are utilized by threatened or endangered species may be available from the Area Contingency Plan and/or the local state or federal fish and wildlife agencies.

SAMPLING METHODS

Collection of discrete samples should be collected in the priority sequence described above, preferably on the first day of the response. Subsequent sampling at the same

locations will probably be done by Chevron EFT or consultants, so station locations need to be marked and documented.

Stations should be located at the same elevation relative to mean lower low water (MLLW) or other standard tidal datum used in the area. If practical, three tidal elevations should be sampled, in the following sequence of decreasing priority:

(1) Mean high tide where most of the oil is typically stranded and greatest intertidal beach recreation use occurs, though biological diversity is lowest here.

(2) Mean sea level where less oil is stranded but intertidal biological diversity begins to increase.

(3) Mean low tide where the least oil is stranded, beach recreation use is lowest, and intertidal biological diversity is greatest.

At each station, obtain at least three replicate samples within a 5-m diameter. The sampling procedure for each sample is described in the following 7 steps:

(1) Prior to any sampling and after marking the station location, photograph or video the sampling site. Take video and/or the photos in both directions along the shore as well as from the waterline toward the backshore, and from the backshore to the waterline. Try to get permanent and distinctive landmarks in some photos and/or videos for future reference.

(2) Collect sample with pre-cleaned core sampler, preferably stainless steel. However, brass core liners or plastic, PVC, or acrylic pipe may be used if that is all that is available. Core should be 10-cm long, if possible, and at least 2.5-cm, preferably 5-cm, in diameter. In gravel or small cobble, it may be necessary to dig the 10-cm deep sample out using a pre-cleaned trowel, spoon or similar tool.

(3) Fill out label on bottle with the following information: sample number (each sample container must have discrete number), sample type (e.g., sediment), date, location of sampling, time of collection, collector's name. Use permanent marker for labeling. Cover label with clear tape. Complete sample collection data sheet and chain-of-custody form.

(4) Use 8-oz. screw-cap jar with Teflon® liners, preferably glassware pre-cleaned and provided by the analytical laboratory. Fill jar completely with soil/sediment if possible; a minimum of 100-ml is required for analyses. Replace cap and make sure cap cover is tightly sealed. As an alternative, the core can be left in the core sampler and frozen on dry ice at the site. This allows the sediment stratigraphy, if any, and depth of visible oil penetration into the sediment to be documented. The core can be sectioned, if needed.

(5) Wash all equipment that will be used to collect sample with solvent (preferably methanol or methylene chloride) or Alconox detergent and rinse completely with distilled water prior to use and between each sample collection to prevent cross-contamination of samples. Equipment to be cleaned includes shovels, spatulas, mixing bowls, cores, etc.

(6) Place sample in an ice chest with dry ice if available or, at minimum, with frozen "Blue-Ice" to maintain a temperature of 4°C. If "Blue-Ice" is not available, use ice cubes or block of ice. Transfer to a freezer for temporary storage at –20°C.

(7) Samples should be sent to the laboratory within 24-48 hours, if possible, and held at –20°C prior to extraction. Maximum holding time prior to extraction and analysis is 14 days.

(8) Mark the location of the sample sites using stakes and flagging distances/directions to permanent landmarks, etc. so the stations can be relocated for subsequent sampling programs.

(3) Fill out label on bottle with the following information: sample number (each sample container must have discrete number), sample type (e.g., sediment), date, location of sampling, time of collection, collector's name. Use permanent marker for labeling. Cover label with clear tape. Complete sample collection data sheet and chain-of-custody form.

(4) Use 8-oz. screw-cap jar with Teflon® liners, preferably glassware pre-cleaned and provided by the analytical laboratory. Fill jar completely with soil/sediment if possible; a minimum of 100-ml is required for analyses. Replace cap and make sure cap cover is tightly sealed. As an alternative, the core can be left in the core sampler and frozen on dry ice at the site. This allows the sediment stratigraphy, if any, and depth of visible oil penetration into the sediment to be documented. The core can be sectioned, if needed.

(5) Wash all equipment that will be used to collect sample with solvent (preferably methanol or methylene chloride) or Alconox detergent and rinse completely with distilled water prior to use and between each sample collection to prevent cross-contamination of samples. Equipment to be cleaned includes shovels, spatulas, mixing bowls, cores, etc.

(6) Place sample in an ice chest with dry ice if available or, at minimum, with frozen "Blue-Ice" to maintain a temperature of 4°C. If "Blue-Ice" is not available, use ice cubes or block of ice. Transfer to a freezer for temporary storage at –20°C.

(7) Samples should be sent to the laboratory within 24-48 hours, if possible, and held at –20°C prior to extraction. Maximum holding time prior to extraction and analysis is 14 days.

(8) Mark the location of the sample sites using stakes and flagging distances/directions to permanent landmarks, etc. so the stations can be relocated for subsequent sampling programs.

ANIMALS

7.0
ANIMALS

PURPOSE

Several species of animals live in or on the intertidal habitats and do not move far (or at all); i.e., clams, mussels, snails, some crabs and shrimp. These animals bioaccumulate petroleum hydrocarbons, as well as other organic and inorganic compounds, to concentrations greater than that of the sediment or water in which they live. The extent to which the animals in oiled areas have bioaccumulated a higher concentration of petroleum hydrocarbons compared to animals in unaffected areas may be used as an qualitative index of exposure and possible impacts to them as well as to the animals that feed on them. This information is important in assessing injuries to natural resources to evaluate recovery, and in evaluating the restoration alternatives during the NRDA.

SAMPLING PRIORITIES

OILED AND UNOILED AREAS

Samples should be obtained from the potentially oiled and reference areas in the following sequence of decreasing priority (see also Figure 2-1).

(1) Areas that have not been oiled but are likely to be within 24-48 hours.

(2) Areas that have not been oiled, but may be 2-5 days hence.

(3) Reference areas that are unlikely to be oiled.

Priority category (1) is the critical sampling effort and must be completed before oil reaches the area. Priority categories (2) and (3) may be left to incoming Chevron EFT and consultants, assuming they will arrive within 48 hours. Also, sampling of animals in oiled areas can be left for a few days.

HABITATS

Within each of the potentially oiled areas, especially priority category (1), habitats should generally be sampled in the following sequence of decreasing priority. Field judgment may modify this sequence; for example, if oil will reach a sand beach within 3 hours and a wetland after 12 hours, then the sand beach could be sampled first.

(1) Wetlands, mangroves.

(2) Tidal mudflats.

(3) Intertidal and shallow subtidal seagrass beds.

(4) Sand/gravel beaches.

(5) Rocky shores.

(6) Marina floats, pier pilings, etc.

ANIMALS

Sampling should emphasize large, sedentary or sessile animals with the priority sequence as follows:

(1) Mussels.

(2) Clams.

(3) Other bivalves (e.g., oysters).

(4) Snails.

(5) Sand crabs and other burrowing crabs.

(6) Ghost shrimp and other burrowing shrimp.

Mussels, clams, and other bivalves are much preferred because they do not quickly alter the bioaccumulated petroleum hydrocarbons and there is a large amount of scientific study and data on these animals.

SAMPLING METHODS

NOTIFICATION OF AGENCIES

Prior to sampling, notify the state and federal fish and wildlife agencies responsible for managing the biota that Chevron first responders want to sample. The appropriate agencies will usually be the federal NOAA and/or USFWS and the state fish, game and wildlife or habitat protection agency. Often only a valid sports fishing license is required, however, in some instances a "scientific collector's" permit and/or explicit, site/incident specific permission may be required.

SAMPLE LOCATIONS AND STATIONS IN A HABITAT

In each habitat, sample at least 3 stations if practical. These stations should be more or less equally spaced in the habitat, however ready access to the habitat may suggest alternative sample stations. The stations should be adjacent to the locations for sediment and possibly water samples (see Sections 6.0 and 5.0, respectively).

At each station, collect at least 3 samples, if practical. These should be within the same general area (e.g., within a 100-ft. diameter), preferably in the mid/high-intertidal zone.

A sample should consist of at least 10, and preferably up to 25 individual animals. If the animals are small (<0.5 in), collect up to 50 for a sample, if practical.

Remove the animals from the rocky shore or surface of the sediment, and rinse the debris and sediment from them using (in order of preference) distilled water, clean tap water or clean seawater. For some clams, sand crabs, and other burrowing animals, remove them by shovel, clam gun or hand, and rinse the sediment from them.

Place rinsed animals in heavy duty aluminum foil, preferably pre-rinsed or washed with (in order of preference) Alconox detergent, distilled water or clean tap water, and wrap them in several layers.

Place a sample tag with the following information on each sample: sample number (each sample must have a unique number), sample type, common name, species and genus (if known to the sample collector) analysis to be performed, location, time and date of collection, and collector's name. Store the sample in a cooler at 4°C. Transport as soon as practical (and within 12 hours) to the analytical laboratory or a secure freezer where the samples can be stored at –20°C until a decision about subsequent analyses can be made.

LOGISTIC SUPPORT FOR CHEVRON EFT AND CONSULTANTS

8.0

LOGISTIC SUPPORT FOR CHEVRON EFT AND CONSULTANTS

Chevron's first-responders are likely to be based at the facility from which the oil is spilled. They will generally be more familiar with the locally available logistic support, sources of equipment materials and supplies, and reliability of suppliers than will be the specialized consultants who will arrive within a day or two following Chevron's call-out and authorization to proceed. Therefore, the Chevron first-responders can notify the local suppliers and providers of logistic support to be prepared to mobilize very quickly once the consultants and contractors arrive and determine what will be required to implement the field sampling and laboratory analysis programs.

The first-responder's actions, in approximately chronological order, are:

(1) Contact one of the previously identified Chevron EFT members to describe the status of spilled oil, resources and habitats at risk, and impacts so far.

(2) Request recommendations from the EFT member regarding logistics to mobilize, and equipment and supplies to order or have on hand.

(3) Contact consultants directly (with agreement from EFT member) to confirm or to determine the logistics, and equipment and supplies that are likely to required immediately upon their arrival.

(4) If (1) through (3) are not practical or contacts cannot be made quickly, then either alert or mobilize the major sampling and observation equipment required to collect the samples described previously in Sections 3.0-7.0. These include:

- 1 helicopter for reconnaissance and for aerial video and photographic documentation of distribution of oil. (A fixed wing aircraft can be used, but it is much more limited and difficult.)

- 1 or 2 boats of sufficient size and stability to operate in the oiled or potentially-oiled habitats, and with deck and cabin space for sample collecting and processing, lifting gear (optional), and with a captain knowledgeable of local conditions.

- 3 vehicles, preferably a car, van and a 4-wheel drive pickup. If use of a vehicle on the beach is allowed, substitute a beach vehicle for the car.

(5) Identify, and obtain or initiate mobilization of other logistic support, supplies and equipment including:

- Global positioning system (GPS) or other reliable system, for sample station location.

- Bottles, coolers, sample types, chain-of-custody forms, and sample handling directions from local analytical chemistry laboratory.

- Cellular phones, 2-way hand held radios and/or other appropriate means of communications.

- Hand-held video camera or camcorder with a case of new video tapes.

- Topographic maps, NOAA hydrographic charts, and local street/road maps for the affected areas.

- 2 or more telephones on separate phone lines with speaker and conferencing capabilities.

- Source of recent aerial photographs of the area. (Actual photographs will be even better).

- Reliable aerial photographic firm that has color and infrared film.

APPENDIX A. SAMPLES OF FORMS AND DATA SHEETS

Appendix A: Samples of Forms and Data Sheets

General Oil Spill and Environmental Information on Marine Releases
Natural Resource and Human Use Data for Marine Releases
Chain of Custody Record

GENERAL OIL SPILL AND ENVIRONMENTAL INFORMATION ON MARINE RELEASES

INCIDENT DATA

Apparent source: _____

Time and date: _____

Location: _____

Is spill continuing? Yes _____ No _____

Volume of discharge: Known _____ (barrels)

Estimate _____ (barrels)

Loss rate if continuing: _____

Size and location of slick: (plot on chart)

Observed rate and direction of slick movement: _____

Oil type: _____

Slick type: Continuous_____ Windrows_____ Other (specify)_____

Estimated average thickness: _____

Emulsification: _____

METEOROLOGIC DATA

Air temperature: _____

Wind: Speed_____ Direction _____

Precipitation: _____

Visibility: _____

Sky conditions: _____

Forecast: _____

OCEANOGRAPHIC DATA

Water temperature: _____

Currents: Type_____ Speed_____ Direction_____

Sea state: _____

Average wave height (crest to trough): _____

HYDROLOGIC DATA (near shore)

Wave height: _____ (m)

Currents:

Tidal (ebb): Velocity_____ Direction_____ Duration_____

Tidal (flood): Velocity_____ Direction_____ Duration_____

Slack water:_____

Longshore currents: Velocity_____ Direction_____

Tidal range: _____ Rising_____ Falling_____

Tubidity: _____

ADDITIONAL INFORMATION

_____

_____

_____

NATURAL RESOURCE AND HUMAN USE DATA FOR MARINE RELEASES

OFFSHORE AREAS

Sensitive Marine Resources

Seabirds: Present_____ Species_____ Number_____

Waterfowl: Present_____ Species_____ Number_____

Marine mammals: Present_____ Species_____ Number_____

Other (specify): _____

_____

Commercial Use

Industrial (specify type, location): _____

Finfish (specify type, location): _____

Shellfish (specify type, location): _____

Other (specify type, location): _____

Recreational/Navigational use: _____

Other special features: _____

_____

NEARSHORE/ONSHORE AREAS

Sensitive Marine Resources

Shorebirds: Present_____ Species_____ Number_____

Waterfowl: Present_____ Species_____ Number_____ Nesting Area_____

Marine mammals: Present_____ Species_____ Number_____

Estuaries: _____

Wetlands: _____

Coral reefs: _____

Rare, endangered, unique species; associations (specify species/type): _____

_____

Other (specify): _____

Commercial Use

Industrial (specify type, location): _____

Finfishery (specify type, location): _____

Shellfishery (specify type, location): _____

Other: _____

Recreational Use

Harbors: _____

Boating: _____

Tourism: _____

Beach uses: _____

Other (specify): _____

_____

CHAIN OF CUSTODY RECORD

(Use ball point pen only)

Page ___ of ___

Cooler No. _____

Project No: _____ *Client _____

Contact: _____ *Site Address _____

*Check for confidentiality

Sample ID	Date	Time	Type	Matrix	Preservative	Containers Type	Containers No.	Analyses	Special Instructions / Comments
						Total			

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
_____ (Printed Name) _____ (Signature)				_____ (Printed Name) _____ (Signature)			
_____ (Printed Name) _____ (Signature)				_____ (Printed Name) _____ (Signature)			

Shipper _____

Shipping Notes _____

Airbill No. _____

Matrix:

F = Fish, S = Soil/Sediment, G = Gas, Ws = Waste, P = Product, Wt = Water, R = Rinsate, Wp = Wipe, HW = Hazardous Waste

Container Type: Vol/material

P = Plastic, G = Glass – Amber, Clear, T = Tube, B = Bag

(e.g. 1L/P, 6"/T, 40 ml/G Clear, 1 L/G – Amber)

Lab Name: _____

Lab Address: _____

APPENDIX B. GENERAL LIST OF SAMPLING EQUIPMENT AND SUPPLIES

Appendix B: General List of Sampling Equipment and Supplies

The following lists identify some of the items that are necessary or desirable for ephemeral data sampling activities. The lists are not necessarily complete for each geographic location or oil spill. The first responders are encouraged to review the lists as a pre-spill planning action and modify the lists as appropriate. Also, after responding to an actual spill or to a spill drill, the first responders are encouraged to review the lists and modify them based on the field experience gained for their site(s).

Personal Items
Water Sampling Kits
Water and Sediment Sampling Equipment Kit
Station Location and Characterization Kit

PERSONAL ITEMS

These items should be maintained by each person and the items with a shelf life (e.g., batteries) replaced as necessary.

1 pr.—Safety shoes
2 pr.—Safety glasses
Appropriate clothing to protect from cold, wind, rain, sunburn, etc.
Sunscreen
Media Interview Guide Card
Watch
Chevron ID badge
Business cards
Change for phone and parking
Cellular phone and/or pager if available

WATER SAMPLING KITS

Each Rubbermaid 80-quart cooler may contain the following items. This cooler provides enough supplies for 2 or 3 sample stations. The cooler can be taken on the sampling platform (usually a boat).

8—2500 ml. wide mouth amber-glass bottles
Reagent grade 6N HCl
8—Foam transport sleeves for 32 oz. bottles
12—40 ml. VOA vials with HCl
1—Foam transport blocks for VOA vials
1—Small rubber mat (for kneeling on in slippery areas)
1—Gallon-size zip lock bag containing 8 pairs nitrile gloves
1—Gallon-size zip lock bag containing:
- 2—Chain-of-Custody forms
- 2—Sheets of sample container labels for amber bottles
- 3—Sheets of sample container labels for vials
- 2—Custody seal labels
- 6—Empty gallon-size zip lock bags
- 1—Sampling instruction sheet (2 sided and laminated)
- 1—List of vendors
- 1—Safety data info (MSDS for HCl)
- 1—Fine point black sharpie marker
- 1—Medium point Papermate pen

1—Laminated kit inventory list (located in pocket adhered to inside of cooler)
1—Copy of Guidance Manual
1—Additional 80-quart cooler with frozen "Blue Ice" for storing samples in the field.

WATER AND SEDIMENT SAMPLING EQUIPMENT KIT

The water and sediment sampling equipment kit in a Rubbermaid Actionpacker storage container contains the items listed below. This kit supplements the water sampling kit described on the previous page with additional items that may be required for sampling efforts.

2—Rubbermaid mini buckets
3—Spools nylon twine (375 ft.)
1—Utility knife
1—Small hand held shovel
12—Disposable plastic/wooden scoops
2—Stainless steel scoops
1—Bottle Fast Orange Hand Cleaner (15 fl. oz.)
2—All weather disposable cameras (27 exp.)
2—Rolls paper towels
1—Box/33-gallon plastic garbage bags
1—Box/20-gallon size heavy duty zip lock bags
1—Box/20-gallon size regular zip lock bags
1—Box/20-quart size heavy duty zip lock bags
1—Box/50 disposable nitrile gloves size-large
1—Box/100 disposable nitrile gloves size-large
1—Box with 36 leftover nitrile gloves from sampling kits
2—Rolls of duct tape (2" x 20 yds.)
1—Small jar of Alconox soap
1—Non-breakable 1-gallon container of methanol or methylene chloride
4—Small empty jars
1—Sentry First Aid Kit
2—Bottle brushes
1—Current tide book
1—Flashlight with extra batteries and bulbs
1—Roll of Neon Orange flagging tape
1—Metal clipboard w/one inch storage area
1—Mini cassette recorder w/three blank tapes (batteries included)
1—Green plastic file box containing:
    12—Chain-of-Custody forms
    8—Blank Fed Ex labels w/plastic pockets
    2—Packs I-CHEM sample container labels (stock #503)
    1—Pack I-CHEM custody seal (stock #500)
    1—Narrow ruled canary tablet
    1—Pad grid paper
    2—"Rite-in-Rain" field notebooks

1—Ream waterproof paper
1—Local map
1—Bound copy of Standard Operating Procedures
1—Box/12 pin flags (assorted colors)
6—manila file folders and 2 manila accordion file folders
2—Uniball Micro pens – blue and black
2—Papermate pens – blue and black
1—Yellow highliter pen
2—Rolling writer pens – black and blue
2—Sharpie markers – fine point, black and x-fine point black
2—Large felt-tip waterproof markers
1—Laminated kit inventory list (located in pocket adhered to inside of container)
1—Copy of Guidance Manual

STATION LOCATION AND CHARACTERIZATION KIT

This list is primarily for beach and shoreline sample stations. Additional items such as wooden or rebar stakes and other items easily obtained at local stores or the Chevron facility are not necessarily listed here.

1—Compass
1—Can fluorescent spray paint
1—"Rite-in-Rain" field notebook
10—Plastic stakes
1—Roll fluorescent flagging tape
2—Disposable cameras – panorama view (ASA 400 if possible)
2—Disposable cameras – standard view (ASA 400 if possible)
1–Video camera (if available)
1—100-foot fiberglass tape
2—Waterproof pens
2—Pencils
Local street maps (e.g., Thomas Guide) and 7.5' USGS topographic map of region
Small sledge hammer to drive in stakes

APPENDIX C. CHECKLIST FOR FIELD SAMPLING

Appendix C: Checklist for Field Sampling to Collect NRDA Ephemeral Samples

The checklists provided here summarize the priority activities, general requirements and the major steps for field sampling and sample handling for: (a) oil and spilled oil; (b) distribution and amount of oil; and (c) water, sediment and biological samples in unoiled and oiled areas. More detail is provided in Sections 3.0-7.0 of the manual. Depending upon site and spill-specific conditions, each checklist may be subject to change based on the best judgment of the on-scene first-responders.

PRIORITY OF ACTIVITIES

- Contact Chevron EFT and/or consultants for advice.
- Assign a person to full-time documentation activities
- Compile information on site and spill characteristics
- Collect source oil and spilled oil samples.
- Photo and video document distribution and amount of oil.
- Collect water, beach sediment and biological samples.
- Obtain logistic support and equipment for incoming consultants.

GENERAL REQUIREMENTS

- Follow written sampling protocols and document deviations from protocols.
- Decontaminate all sampling equipment between samples.

- Mark and document sample station locations.
- Complete documentation in field as program proceeds.
- Process and store samples to prevent cross-contamination.
- Store and transport samples as described in sampling protocols.
- Transport samples to secure storage or to laboratory as soon as practical.
- Maintain unbroken chain-of-custody of samples or data.
- Document all field activities, observations, samples, data collected, and similar information, and provide original of documents to documentation specialist.

SOURCE OIL AND SPILL OIL

- Collect "neat" oil from the source, leading edge of oil slick on water, and oiled beaches in that order, if conditions and safety permit.
- Collect three replicate samples at each station, if practical.
- Sampler may be a scoop, bomb sampler, spoon or similar device.
- Use clean sampling equipment and clean it between samples.
- Collect 100-ml or enough to fill sample container.
- Use sample containers provided by laboratory or use cleaned glass jar with air-tight lid.
- Keep sample on "Blue-Ice" at 4°C in field and store at –20°C.

DISTRIBUTION AND AMOUNT OF OIL

- Use commercial aerial photography or photogrammetry survey firm to obtain color and infra-red (if available) photographs.

- Obtain complete coverage of oil on water twice per day; include oil on shoreline if time permits.

- Specify 60% forward and 30% side overlap of 9" x 9" format at a scale of 1" = 500' over water and 1" = 200' for shoreline.

- Document date, time, and location (via GPS if possible) of each frame or, at minimum, of the beginning and end of the flight line.

- If time and resources, permit, conduct aerial video survey from a helicopter at 750-1,000' elevation to document amount of oil on the water surface.

- Document time, date, and location of video tape records.

WATER SAMPLING

- Sample in priority order in: the sensitive areas potentially affected with hours to 1-2 days; oiled areas (main slick and edge of slick); and reference areas.

- Collect three replicate samples at 1-m below water surface at each station and at least once per day.

- If available, use a "Sub-surface Grab Sampler" or equivalent which meets the requirements specified in Section 5.0. If not, use available commercial oceanographic water samplers.

- Wash sampler with solvent or detergent before each sample.

- Collect at least 1-liter of water per sample to be divided for separate TPH/PAH and volatile organic analyses.

- Follow detailed procedures in manual for subdividing the sample for these 2 analyses.

SEDIMENT SAMPLING

- Sample in priority order in: beach areas potentially affected within hours to 1-2 days; areas that may be oiled in 2-5 days; and reference areas.

- Within these areas, sample habitats in priority order: wetlands and mangroves, tidal mudflats, and sand/gravel beaches.

- Samples collected once, preferably on first day.

- Sample stations to be located at same tidal elevation.

- Collect at least three replicate samples within a 5-m diameter.

- Use core, preferably stainless steel, to obtain sample 10-cm long with 2.5 to 5.0 cm diameter. In gravel/cobble, dig out sample to 10-cm depth.

- Sample to be placed in cleaned jar or retained in core and frozen on dry ice if possible.

BIOLOGICAL (ANIMAL) SAMPLING

- Sample in priority order: the areas potentially affected within hours to 1-2 days; areas potentially oiled in 2-5 days; and reference areas.

- Within these areas, sample habitats in priority order: wetlands and mangroves, tidal mudflats, intertidal and shallow subtidal seagrass beds, sand/gravel beaches, rocky shores, and man-made structures.

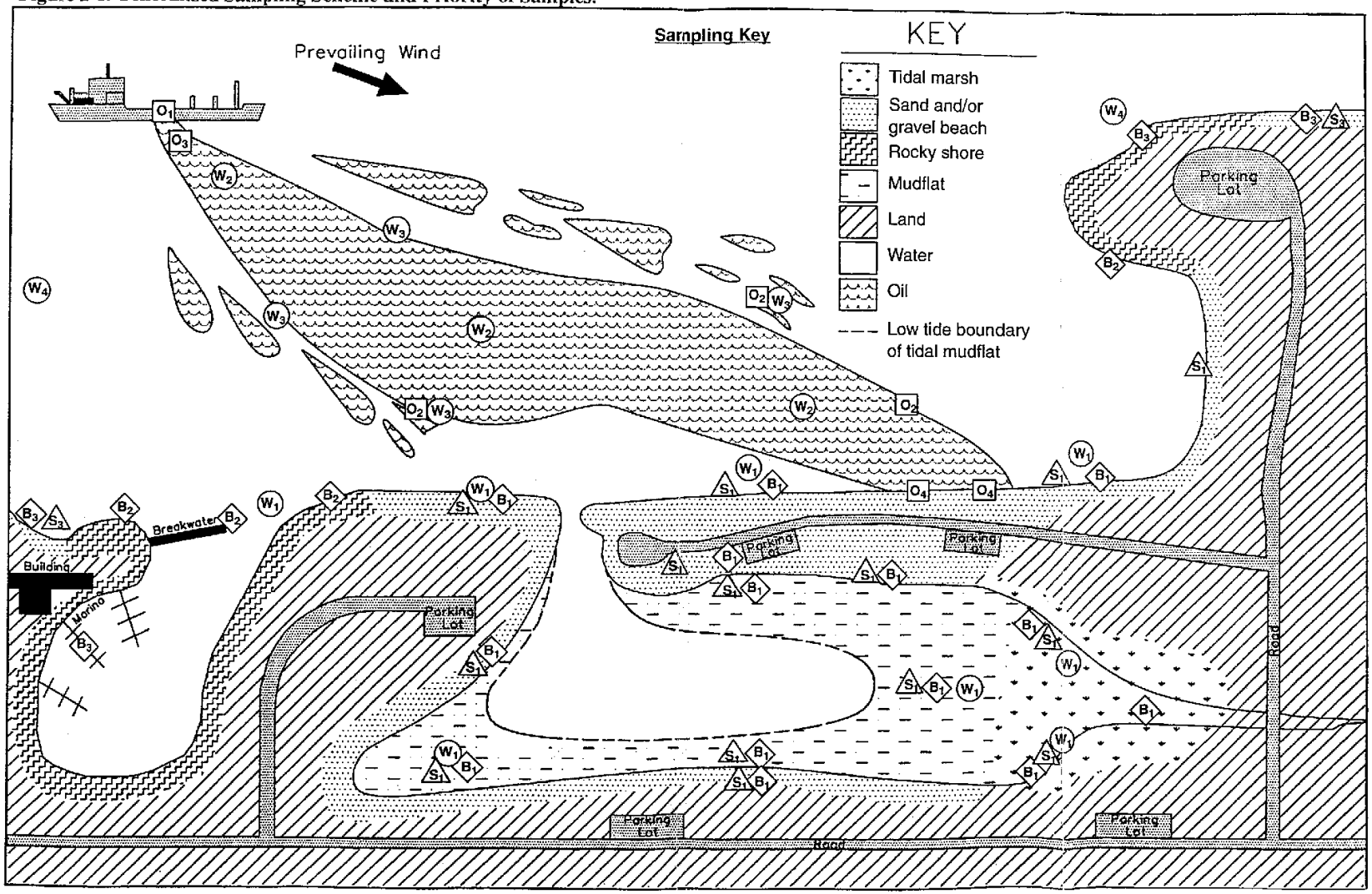
- Within habitats, preference for animals to sample is mussels or clams first, other bivalves next, then burrowing crabs, and burrowing shrimp.

- In each habitat, sample 3 stations, more or less equally-spread in the habitat if practical.

- Collect 1 and preferably 3 samples per station, within a 100-ft. diameter in the mid to lower-high intertidal zone, if practical.

- Collect 10-25 animals per sample, rinse with distilled water, and wrap in aluminum foil.

Figure 2-1. Generalized Sampling Scheme and Priority of Samples.



Key to Figure 2-1 – Generalized Sampling Scheme and Priority of Samples

W = Water Samples

- W_1 = sensitive areas about to be oiled
- W_2 = main slick
- W_3 = edge of slick
- W_4 = reference areas

S = Sediment Samples

- S_1 = beaches about to be oiled
- S_2 = oiled areas (may be left to Chevron EFT or consultants)
- S_3 = reference areas (may be left to Chevron EFT or consultants)

O = Oil Samples

- O_1 = source oil
- O_2 = fresh oil at leading edge of main slick
- O_3 = fresh oil near source in main slick
- O_4 = beached oil (may be left to Chevron EFT or consultants)

B = Biological Samples

- B_1 = areas about to be oiled immediately
- B_2 = areas potentially oiled in next few days
- B_3 = reference areas (may be left to Chevron EFT or consultants)

SPILL HISTORY

SECTION 8 SPILL HISTORY

Spill History can be located on the Company Web Site.

SPILL IMPACT

SECTION 9 SPILL IMPACT

SPILL IMPACT CONSIDERATIONS 1

Site Conditions 1

Trajectory Analysis 1

Information to Provide to Consultants 1

Sources of Trajectory Analysis 2

National Oceanic and Atmospheric Administration 3

Weather Forecasts 3

Surveillance Methods 3

Environmental/Socio-Economic Sensitivities 3

Staging Areas 5

Wildlife Protection 6

SPILL IMPACT CONSIDERATIONS

There are numerous factors that must be considered by the Incident Commander and the Response Teams when planning spill response activities. This Section provides summary information on the various planning concerns and Environmental Sensitivity Maps which demonstrate these spill impact considerations for the Response Area. Additional information on these factors is provided in the Company Core Plan.

Site Conditions

The pipeline segments in this Response Zone traverse several different types of terrain including shorelines, open water, tidally affected marshlands/wetlands and mangroves. The spill site may have a number of characteristics that require special consideration when developing an action plan for spill response. The Environmental Sensitivity Maps in this State Appendix Plan should be referenced for an overview of the terrain surrounding the site and the potentially effected sensitivities.

Trajectory Analysis

Immediately upon being notified of a spill to water, consider the following variables:

- current wind information
- known currents
- spill size
- expected duration

If appropriate, contact a third party to perform a detailed trajectory analysis.

Once the potential areas of impact are determined, use the environmental sensitivity maps to identify areas of special biological sensitivity to determine the appropriate response mode. Upon activation of the proper equipment, deploy as appropriate to effectively respond to site-specific circumstances.

Information to Provide to Consultants

Trajectory will initially need the following information (typically provided by the Planning Section):

- Location where spill occurred (geographic or LORAN C coordinates)
- Time of spill
- Speed and direction of the wind and current at the time of the spill
- Present wind and current information and present location of leading edges of spill (assumes a few hours between time of spill and notification of consultant)
- Approximate API gravity of the product

With this information and with periodic updates from field personnel (company, contract and agency) of the input variables (such as wind, sea state and spill size), trajectory consultants can help predict spill movement. They can also simulate trajectories based upon worst case current and wind predictions. Trajectories and mapping can be faxed or sent via email to COMPANY, or if needed, provided live in the Unified Command Post.

Sources of Trajectory Analysis

The following sources can provide trajectories for predicting oil spill movement. Company and the Federal or State On-Scene Coordinator can use these predictions for containment, cleanup and protection operations.

The Response Group's main contact:
Roy Barrett
16151 Cairnway Drive, Suite 200
Houston, TX

Business: 281-861-6870
Cell: (b) (6)
Fax: 281-861-6880
rbarrett@responsegroupinc.com

S. L. Ross Environmental Research, Ltd.
717 Belfast Road, Suite 200
Ottawa, Ontario Canada K1G0Z4

Continental Shelf Associates, Inc.

Continental Shelf Associates, Inc. (CSA), an environmental consulting firm has offices in the following locations:

Corporate headquarters:
759 Parkway Street
Jupiter, FL 33477

Field Office:
3300 High Court
Wheat Ridge, CO 80003

CSA's computer model is a modification of the USCG Water Port Model. The real-time methodology used for predicting spill movement is as follows:

The model predicts the trajectory of an oil spill based on winds and currents acting on the centroid of the spill. Effects of weathering (spreading, evaporation, dissolution, emulsification, sedimentation, dispersion, biodegradation and autoxidation) are not modeled. The model assumes that, in the absence of wind, the oil slick will be transported at the same speed and in the same direction as the current. In the absence of a current, the slick will be transported in the same direction as the sustained wind but at a speed of approximately 3.5% of the wind speed. When both wind and current are present, the trajectory of the oil slick at any given time will be the vector sum of the wind and current forcing functions.

National Oceanic and Atmospheric Administration

The National Oceanic and Atmospheric Administration (NOAA) scientific support coordinator (SSC) is officed at the USCG. The coordinator is in New Orleans, LA:

If unavailable, contact NOAA directly in Seattle, WA:

Weather Forecasts

Expected weather conditions can be obtained from the National Weather Service or from one of the following private sources.

A. H. Glenn and Associates
New Orleans, LA

ALERT Weather Services, Inc.
Lafayette, LA

Ed Roy Limited
World Wide Web access: http://www.nor.chevron.com/Weather
Lafayette, LA

National Weather Service
Slidell, LA

Surveillance Methods

If weather permits, conduct aerial surveillance using Company-owned or leased helicopters or seaplanes based along the Gulf Coast. Conduct surface surveillance using crewboat, supply or utility vessels that may be charted.

Environmental/Socio-Economic Sensitivities

Environmental and socio-economic sensitivities are of extreme importance when planning a response effort. The protection of the public and the environment, as well as the various socio-economic sensitivities, must be promptly addressed in order to mitigate the extent of damage and minimize the overall impact of the clean-up effort.

All environmental and socio-economic sensitivities are worthy of protection but must be prioritized during a response effort.

The Environmental Sensitivity Maps detail the location of the environmental and socio-economic sensitivities in each Response Zone. The following describes a number of the sensitivities which may be impacted by a spill and that should be considered in planning the response operations:

Water Intake Points:

- Commercial/Industrial, municipal and private water intakes are subject to impact.
- These areas may need to be boomed off or otherwise protected to minimize impact.
- Claims due to safety/health, loss of use and damage may occur from these points.

Major Recreational Areas:

- A discharge effecting these areas may pose a public safety/health risk during a response effort.
- Shoreline access for personnel and equipment deployment (boats, boom, etc.) is typically available in these areas.

Marinas:

- These areas have a high degree of public exposure (personal and property) and should be boomed for protection.
- Boat and other water deployed equipment can often be deployed in these areas.

Environmental:

- Environmentally sensitive areas are prevalent throughout any marine and/or terrestrial environment and may be effected by any spill incident.
- Environmentally sensitive areas subjected to stress and sudden change can be severely damaged. All means of exclusion/diversion should be utilized during a response effort to minimize the impact on these areas.
- Critical areas to protect are identified on the Environmental Sensitivity Maps. The areas are classified as being of high, moderate and low sensitivity to oil impact. Federal and state authorities may further clarify these categories at the time of the response. The categories are defined as follows:

High Sensitivity
• Areas which are high in productivity, extremely sensitive, or inhabited by threatened/endangered species. • Areas which consist of shallow seagrass flats, mangroves, tidally influenced marshes/wetlands and sheltered tidal flats with vegetated margins. • Areas which are abundant in many species and are very difficult to clean and rehabilitate.

Moderate Sensitivity
• Areas which are less sensitive and are able to partially resist the effects of oil. • Areas which consist of the riparian zone along freshwater rivers with saltwedge, oyster reefs, exposed tidal flats, dredged spoil deposits and partially exposed bay margins.

Low Sensitivity
• Areas of low productivity and/or high energy along with man-made structures. • Areas which consist of sand-shell substrate, fine-grained sand, seawalls, jetties, bulkheads, revetments and erosional scarps.

Historical Areas:

- These areas typically have high visibility.
- Properties listed in the National Register of Historic Places & Natural Landmarks have been considered for inclusion on the Environmental Sensitivity Maps (Note: No historic areas have been identified in this region).

Residential Areas:

- These are areas at high public impact and may warrant evacuation in extreme cases.
- Cleanup must be performed with extreme caution due to extensive public exposure.
- These areas can result in claims due to safety/health, loss of use and damage may occur from these areas.

State and National Wildlife Management Areas and Refuges:

- These areas have a high degree of exposure to threatened/endangered species and many other types of wildlife.
- Cleanup efforts are delicate and of very high priority in these areas.

Staging Areas

Personnel and equipment staging areas will be required for the response operation. Potential staging areas have been identified on the Environmental Sensitivity Maps. The following qualities should be evaluated when establishing staging/access areas:

- Access to waterborne equipment launching facilities.
- Access to public services utilities (electricity, potable water, public phone, rest room and wash room facilities, etc.)
- Access to open space for staging/deployment of heavy equipment and personnel.
- Access to the environmental and socio-economically sensitive areas that are projected for impact.

Wildlife Protection

The areas adjacent to the facilities covered by this plan have an abundance of marine and terrestrial life that could be potentially affected by an oil spill. The U.S. Fish and Wildlife Service and the Louisiana Wildlife and Fisheries Department authorities will provide guidance and resources in the rehabilitation and protection of wildlife.

Regional Response Manual

Further detailed information regarding spill assessment, resource identification, wildlife rehabilitation and dispersant use can be located in the Regional Oil Spill Response Plan Section of this State Appendix Plan.

REGIONAL OIL SPILL RESPONSE PLAN

SECTION 10 REGIONAL OIL SPILL RESPONSE PLAN

GULF OF MEXICO REGIONAL OIL SPILL RESPONSE PLAN..... 1

GULF OF MEXICO REGIONAL OIL SPILL RESPONSE PLAN

For Company BSEE Regulated Facilities & ROW information as well as Chevron Gulf of Mexico Emergency telephone number contacts, refer to the Gulf of Mexico Regional Oil Spill Response Plan on the Company web site.

LOUISIANA SENSITIVE INFORMATION/MAPS

SECTION 11A SENSITIVE INFORMATION/MAPS

LOUISIANA SENSITIVE INFORMATION & MAPS

Captain of the Port (COTP)

Vermilion Parish

Iberia Parish

St. Mary Parish

Terrebone Parish

La Fourche Parish

Jefferson Parish

Plaquemines Parish

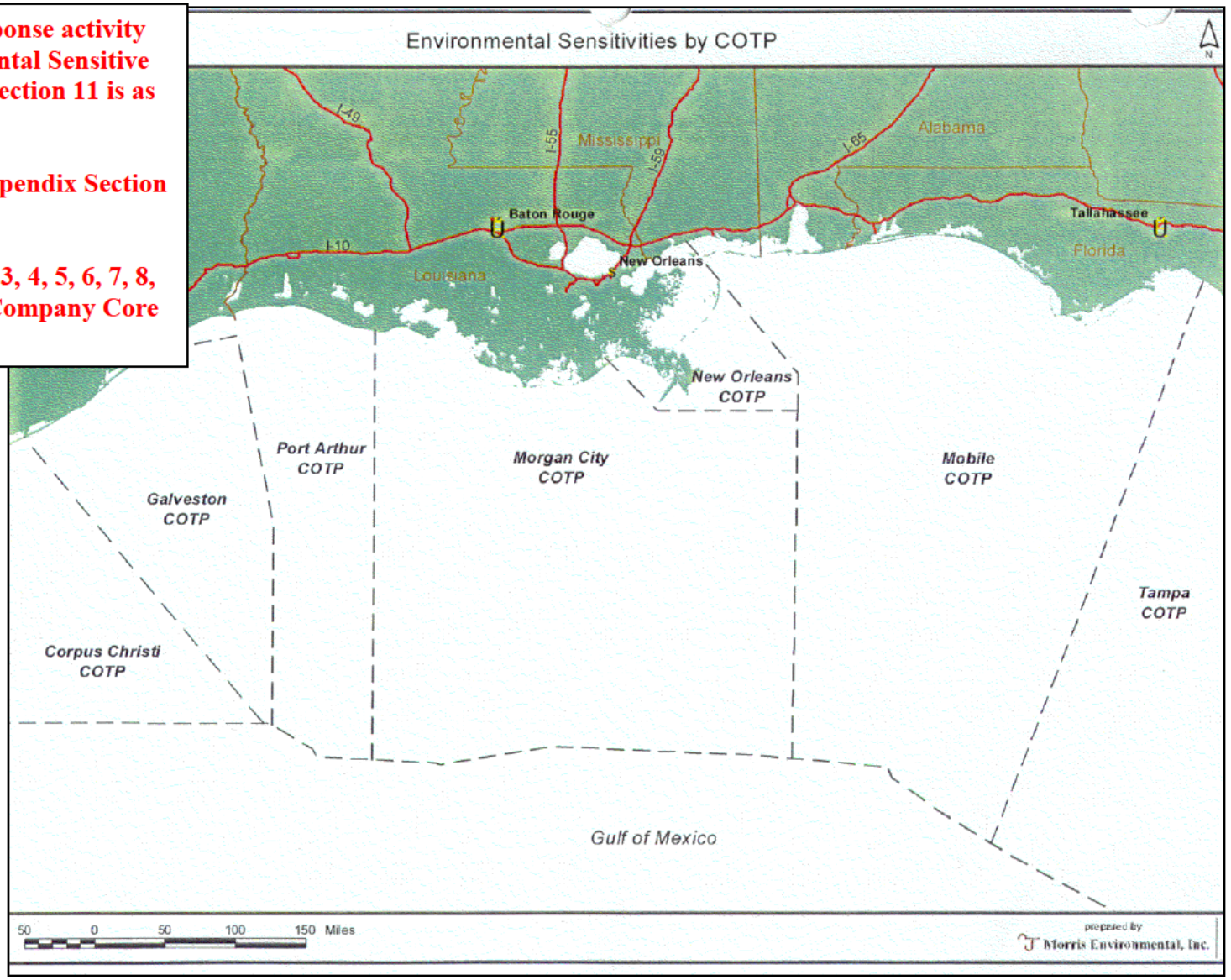
St. Bernard Parish

Captain of the Port

The anticipated response activity for each Environmental Sensitive Map area listed in Section 11 is as follows:

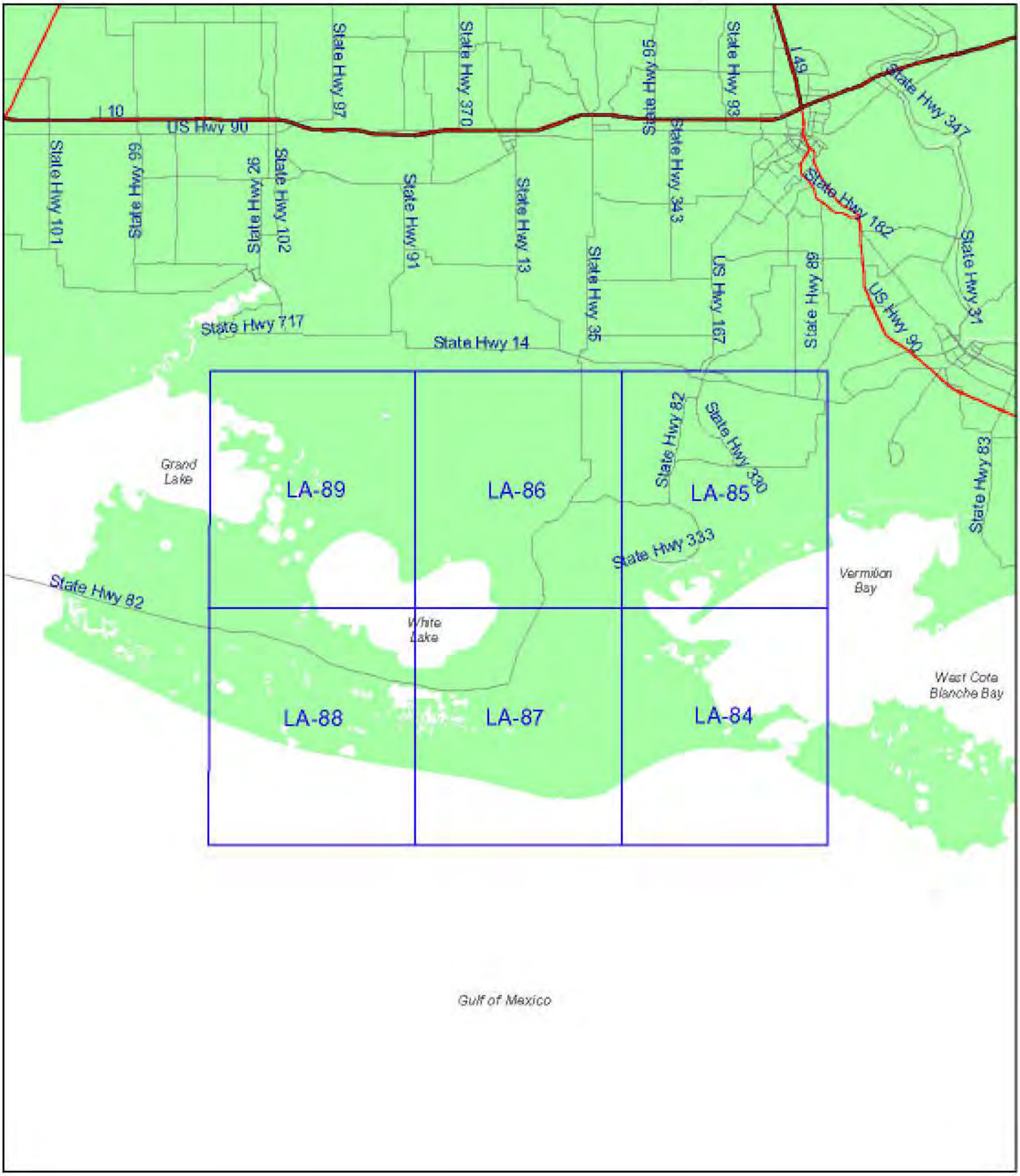
Implement State Appendix Section 2, Notifications.

Implement Sections 3, 4, 5, 6, 7, 8, 9, 10 and 11 of the Company Core Plan.



PHMSA 000118775

Vermilion Parish Overview Map



N

0 10 20 Miles

Data Source: RPI International, Inc.

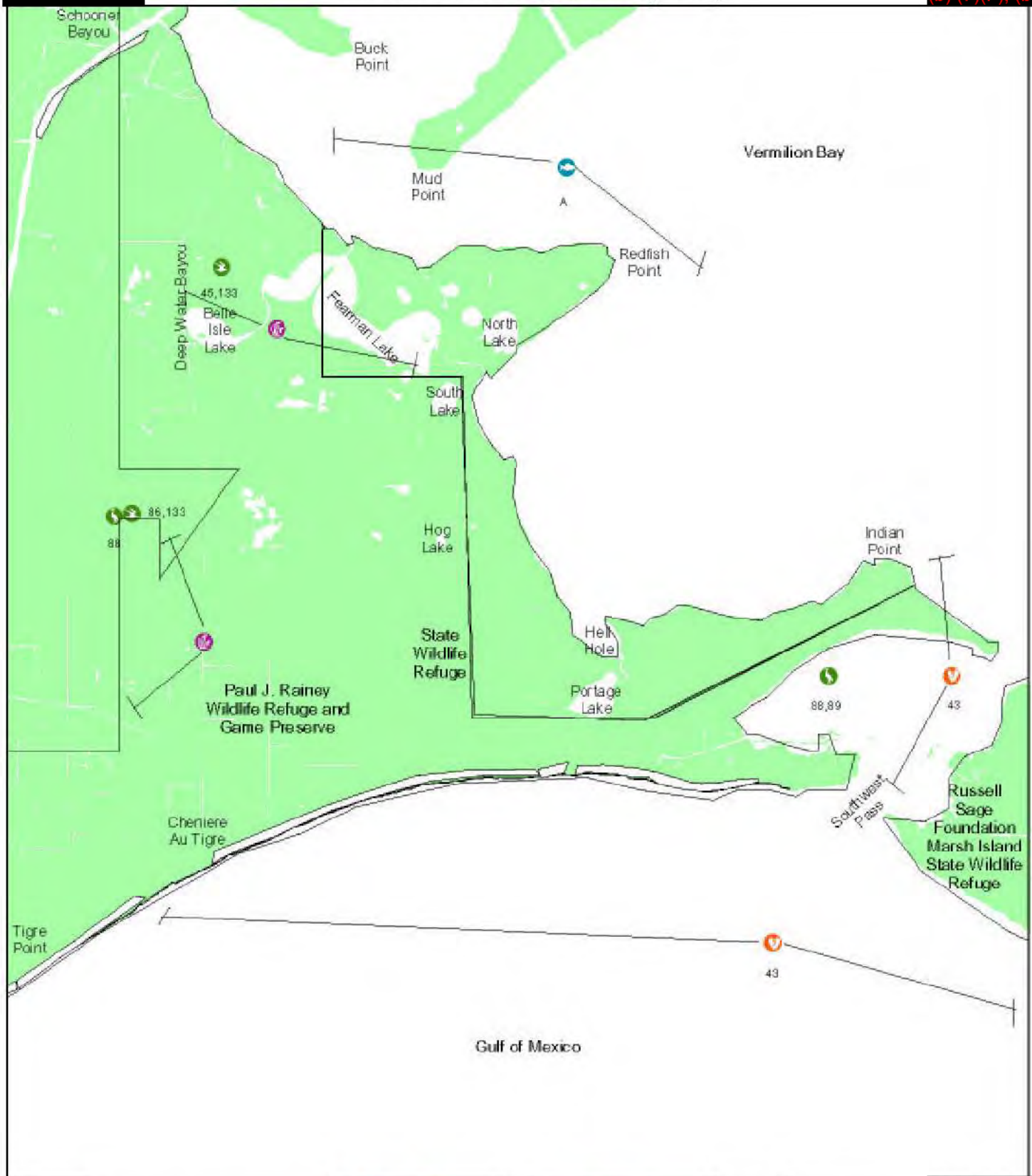
prepared by

Morris Environmental, Inc.

(b) (7)(F), (b) (3)

Environmental Sensitivity Map

(b) (7)(F), (b)



(b) (7)(F), (b)

82
Common Throughout Vermilion Bay

B
Common Throughout Gulf of Mexico

49 50,51 77,107 E 1,5,6,8,118,121, 168,173,179
Common Throughout Area

D,141,210 C,93 3 8,37,38,43,44
Common Throughout Wetlands

(b) (7)(F), (b)

N

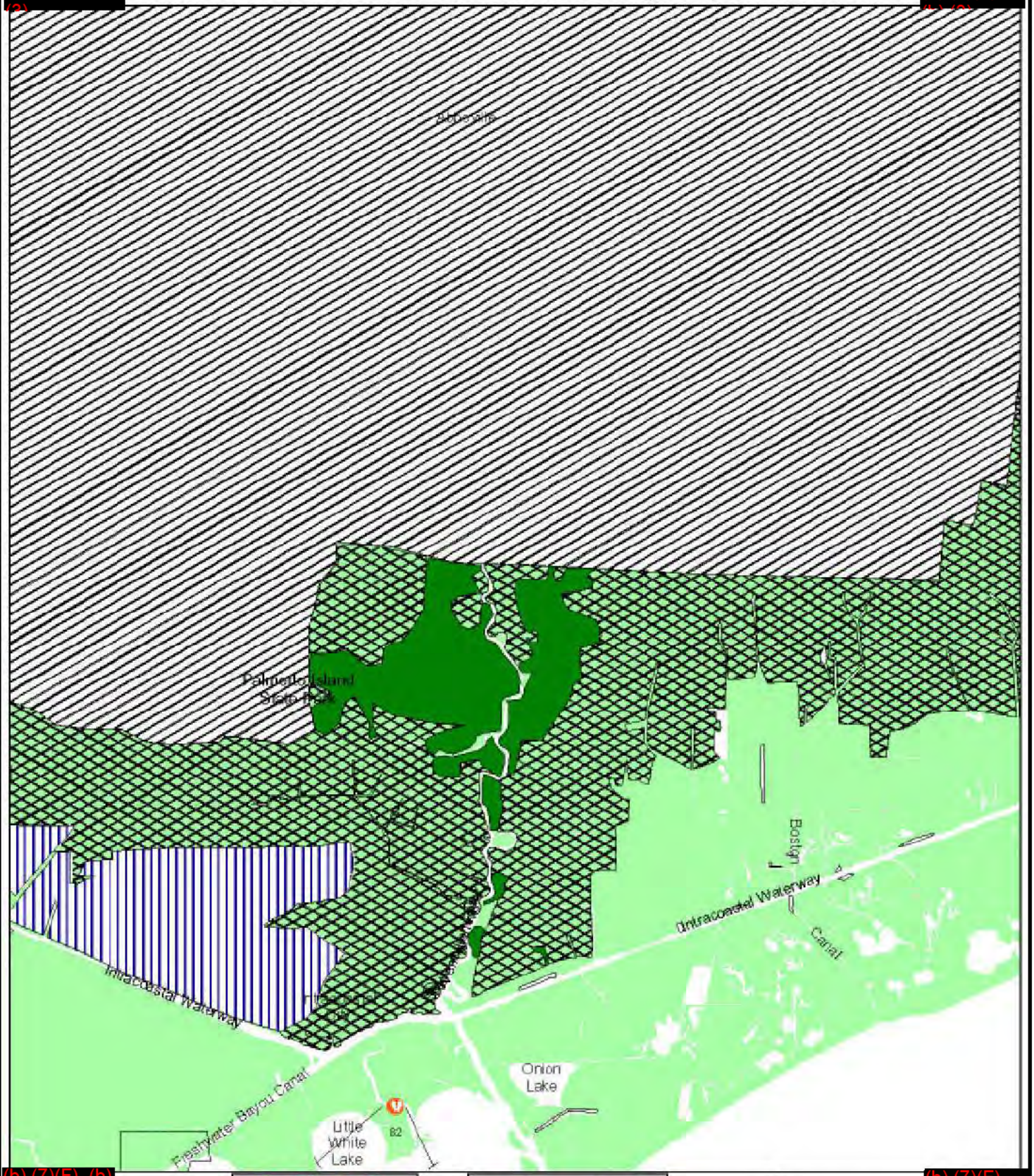
Data Source: RPI International, Inc.
prepared by
Morris Environmental, Inc.

0 2 4 Miles

Environmental Sensitivity Map

(b) (7)(F), (b) (2)

(b) (7)(F), (b) (2)



(b) (7)(F), (b) (2)

(b) (7)(F), (b) (2)

89
Common Throughout Channels

49 82 50,51 A
77 E,14 1,5,6,8,118,121, 168,173,179
Common Throughout Area

D,141,210 C,93,116,184,212
3 8,37,38,43,44 84 21,34
Common Throughout Wetlands

N

Data Source: RPI International, Inc.

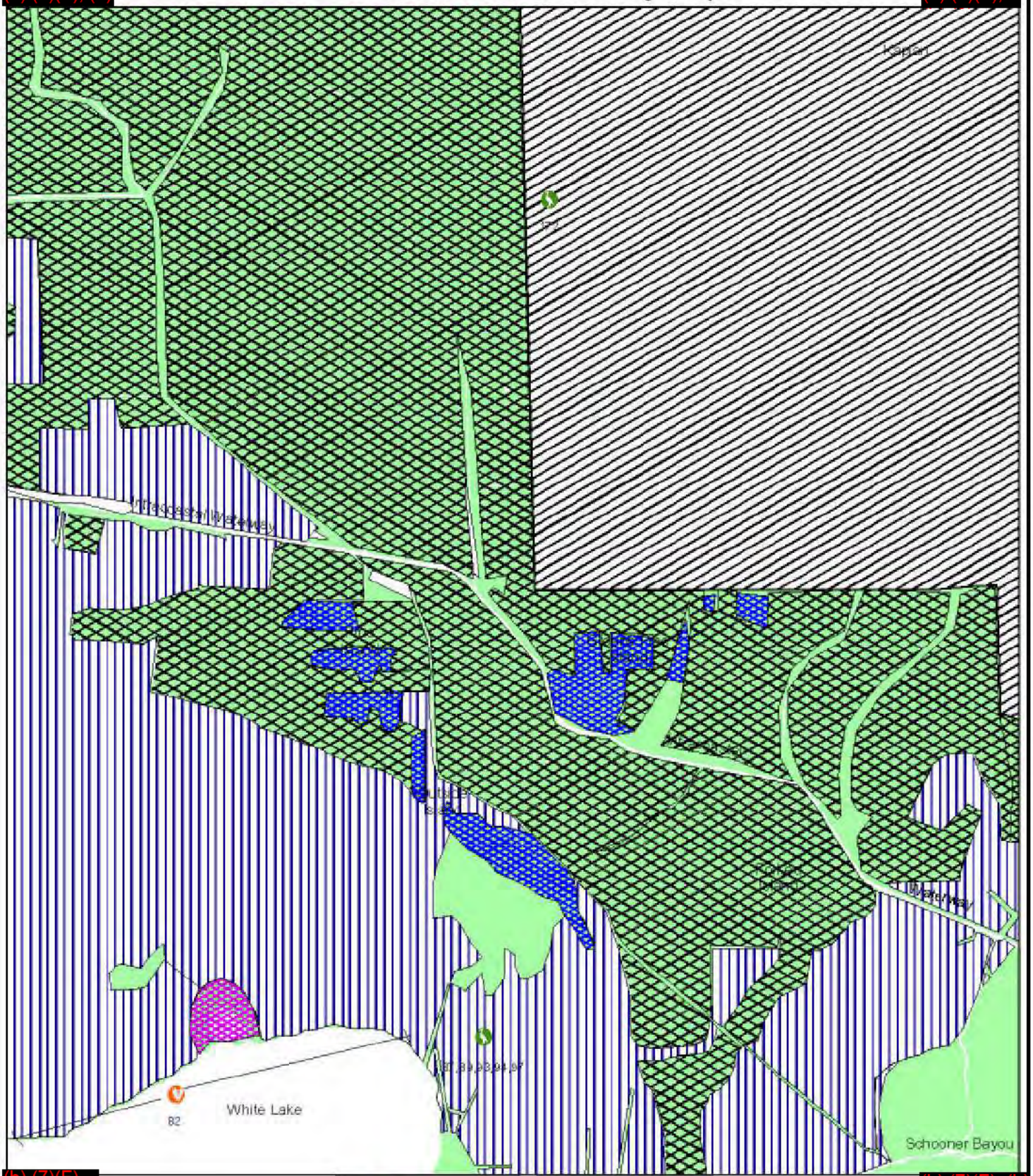
prepared by
Morris Environmental, Inc.

0 2 4 Miles

Environmental Sensitivity Map

(b) (7)(F), (b)

(b) (7)(F),



(b) (7)(F),

(b) (7)(F), (b)

83
Common Throughout Channels

E,14 A
Common Throughout Areas

D,141,210,214 C,93,116,184,212
3 8,37,38,43,44 84
Common Throughout Wetlands

1,5,6,8,121,168,179 21,34,180
49 82 50,51
Common in White Lake

N

Data Source: RPI International, Inc.

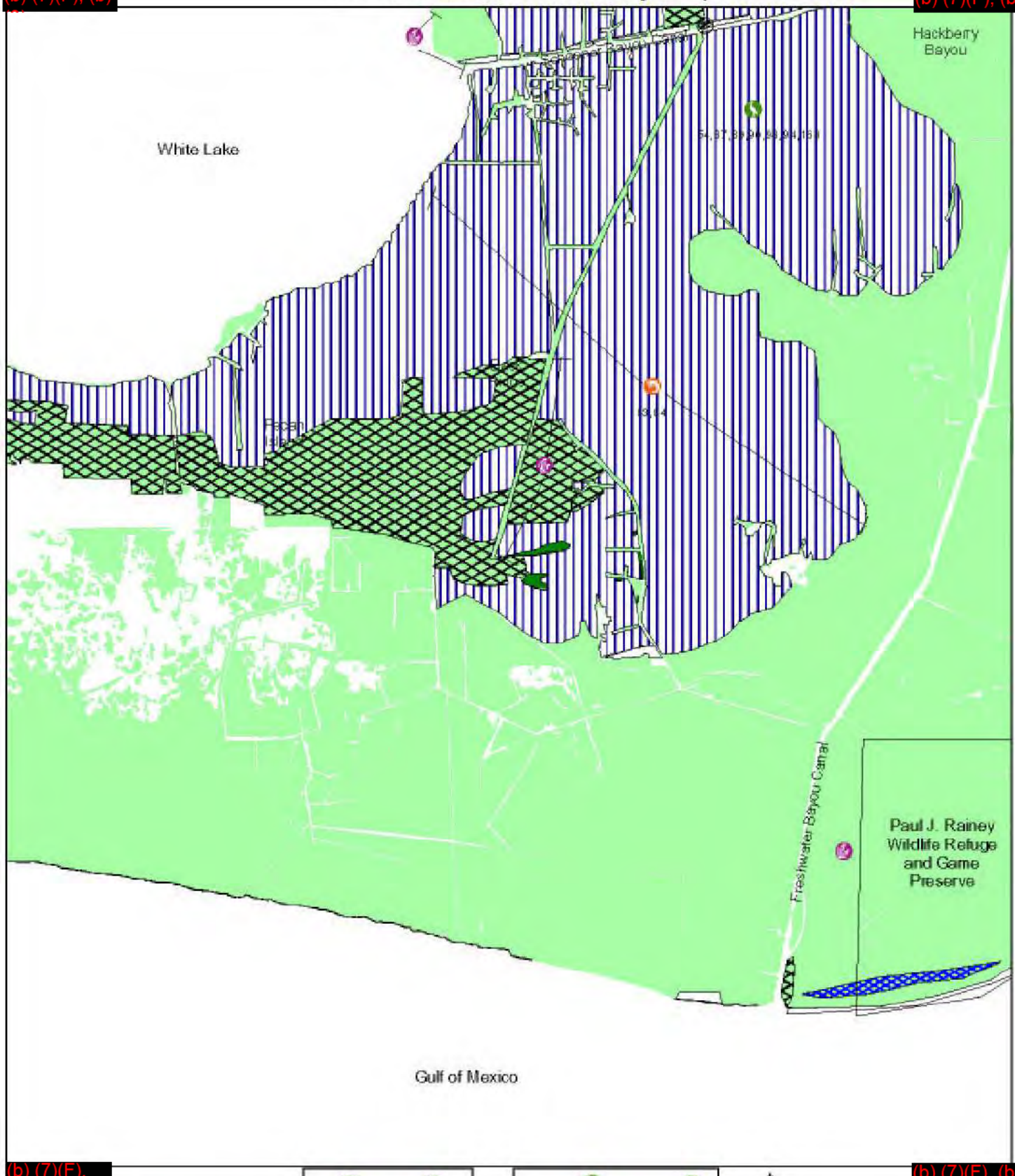
prepared by
Morris Environmental, Inc.

0 2 4 Miles

Environmental Sensitivity Map

(b) (7)(F), (b)

(b) (7)(F), (b)



(b) (7)(F),

(b) (7)(F), (b)

B
Common Throughout Gulf of Mexico

A 82 21,34,180
Common Throughout White Lake

D,141,210,214 C,93,118
3 8,37,38,43,44 A
Common Throughout Wetlands

1,5,6,8,118,121,168,173,179 E,14
49 50,51 77,107
Common Throughout Area

N

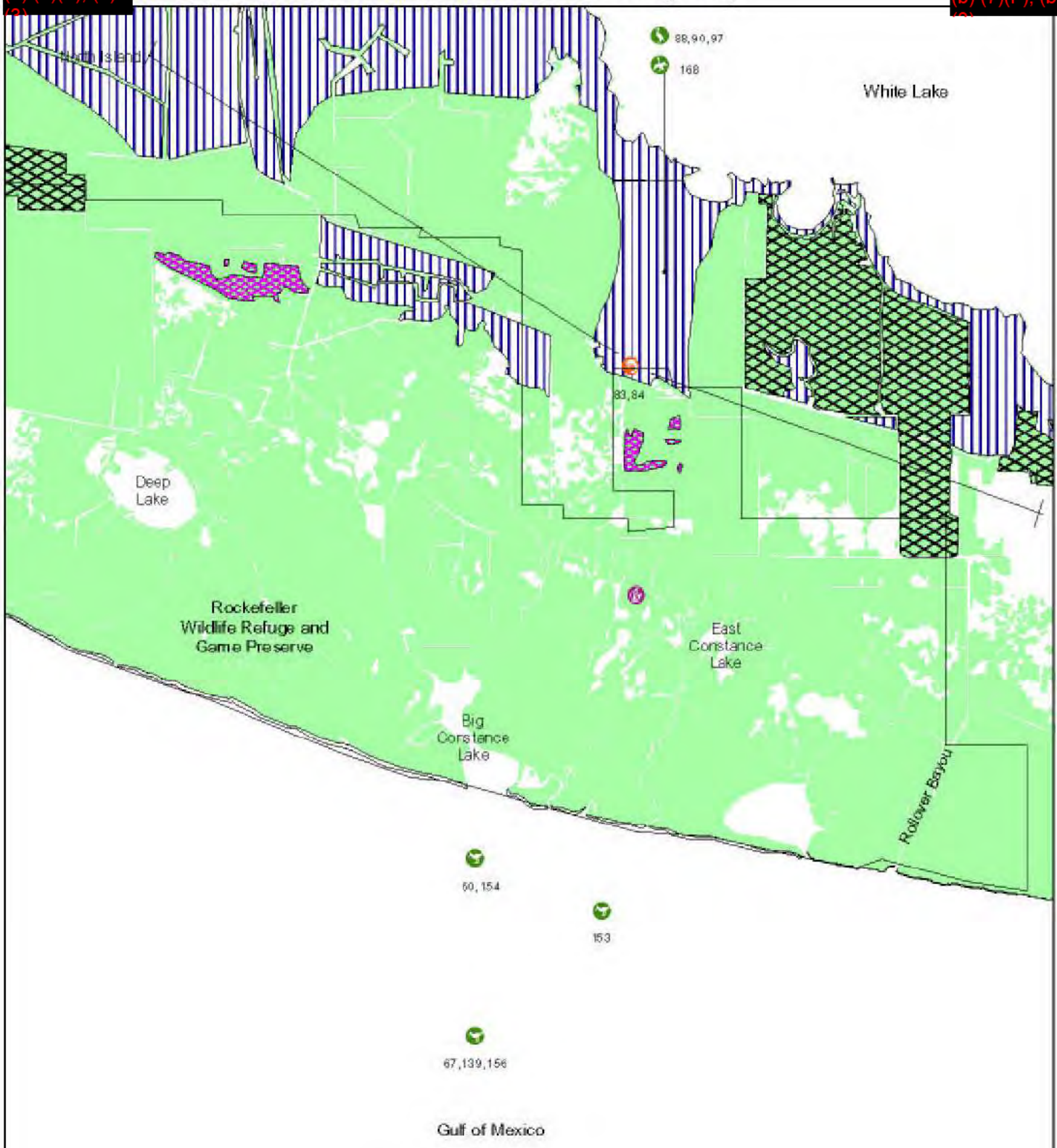
Data Source: RPI International, Inc.
prepared by
Morris Environmental, Inc.

0 2 4 Miles

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

B
Common Throughout Gulf of Mexico

A 82 21,34,180
Common Throughout White Lake

D,141,210,214 77,107 C,93,116
3 8,37,38,43,44 A
Common Throughout Wetlands

49 50,51 E,14
1,5,6,8,118,121,168,173,179
Common Throughout Area

N

Data Source: RPI International, Inc.

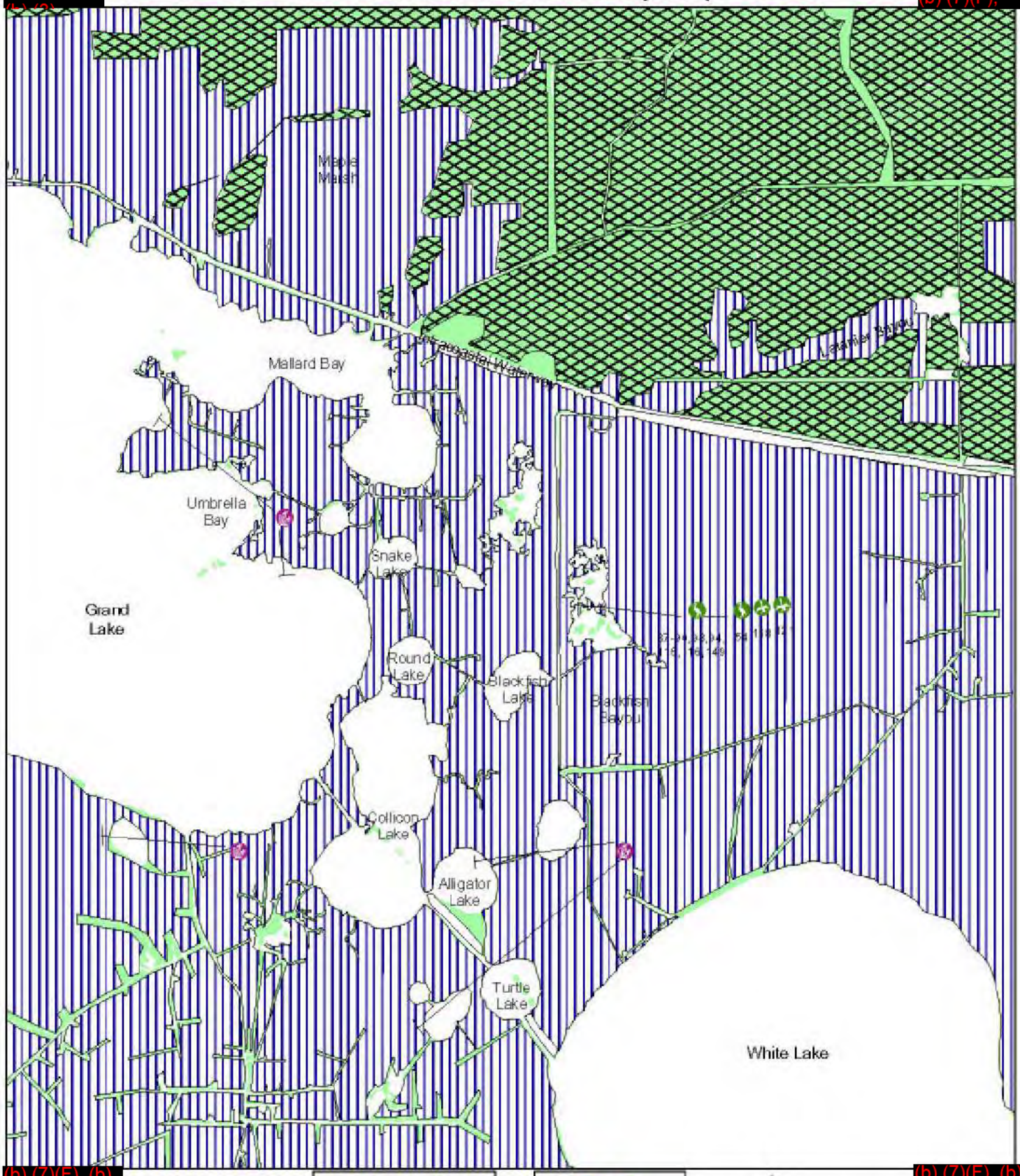
prepared by Morris Environmental, Inc.

0 2 4 Miles

Environmental Sensitivity Map

(b) (7)(F),

(b) (7)(F),



(b) (7)(F), (b)

(b) (7)(F), (b)

49 50,51,83 82 21,34,180
Common Throughout Lakes and Channels

0,141,210 C,93,116,184,212
3 8,37,38,43,44 84
Common Throughout Wetlands

A E,14
1,5,8,8,121,168,179
Common Throughout Area

N

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

0 2 4 Miles

FWSA00018782

LOUISIANA ENVIRONMENTAL SENSITIVITIES

SHORELINE INDEX

SENSITIVITY

	1	DEVELOPED/UNFORESTED UPLAND
	2	SAND BEACH/SPOIL BANKS
	2	SAND BEACH
	3	TIDAL MUDFLATS
	4	FRESHWATER FLAT
	5a	SALT MARSH
	5b	FRESH MARSH
	6	SWAMP
	7	MANGROVES

UNRANKED

	OYSTER REEFS
	FORESTED UPLAND
	UNCLASSIFIED

BIOLOGICAL RESOURCES

- OYSTERS/CLAMS
- CRABS
- SHRIMP/CRAYFISH
- ALLIGATORS
- SEA TURTLES
- FISH
- AQUATIC VEGETATION
- SHOREBIRDS
- RAPTORS
- WATERFOWL
- WADING BIRDS
- SEABIRDS
- DIVING BIRDS
- COASTAL MAMMALS

REFUGE/PARK BOUNDARIES

KEY TO WILDLIFE SYMBOLS

123 Number = Species (from regional lists)

Range

SPILL RESPONSE ACCESS

BOAT RAMP

MARINA

SPECIES LIST AND ASSEMBLAGES WITH SEASONAL DISTRIBUTION AND BREEDING SEASON

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
BIRDS						
Wading Birds Assemblage C						
54, 87, 88, 89, 90, 91, 94, 97, 115, 120, 125, 132, 149, 178, 185, 187, 188, 189, 192						
Wading Birds						
54	Great blue heron	Ardea hrodias	*	*	°	°
87	Little blue heron	Egretta caerulea	*	*	°	°
88	Great egret	Casmeridius albus	*	*	°	°
89	Snowy egret	Egretta thula	*	*	°	°
90	Black-crowned night heron	Nycticorax nycticorax	*	*	°	°
91	Glossy ibis	Plegadis falcinelius	*	°	°	°
93	Cattle egret	Bulbulcus ibis	*	*	°	°
94	Tricolor heron	Egretta tricolor	*	*	°	°
97	Green heron	Butorides striatus	*	*	°	
115	White ibis	Eudocimus albus	*	*	°	°
116	Roseate spoonbill	Ajaia ajaja	*	*	°	°
120	Yellow-crowned night heron	Nyctanassa violacea	*	*	°	°
125	Clapper rail	Rallus longirostris	*	*	°	°
132	Wood stork	Mycteria americana		°		
149	White-faced ibis	Plegadis chihi	*	*	°	°
163	Reddish egret	Egretta rufescens	°	*	°	
178	Least bittern	Ixobryrychus exilis	°	*	°	
184	King rail	Rallus elegans	*	*	°	°
185	American bittern	Botaurus lentiginosus	°	°	°	°
187	Virginia rail	Rallus limicola	°		°	°
188	Sora	Porzana carolina	°		°	°
189	Yellow rail	Coturnicops noveboracensis	°		°	°
192	Common gallinule	Gallinula chloropus	*	*	°	°
212	Purple gallinule	Porphyrula martinica	*	*	°	°
172	Sandhill crane	Grus canadensis	°	°	°	°
Water fowl Assemblage E						
15, 16, 17, 18, 20, 22, 23, 26, 33, 121, 124, 148, 162, 169, 190, 198, 211						
Waterfowl						
12	Canada goose	Branta canadensis			°	°
14	White-fronted goose	Anser albifons	°		°	°
15	Snow goose	Chen caerulescens	°		°	°
16	Mallard	Anas platyrhynshos	*		°	°
17	Pintail	Anas acuta	*		°	°
18	Green-winged teal	Anas crecca	°	°	°	°
20	Northern shoveler	Anas clupeata	°		°	°
21	Canvasback	Aythya valisineria	°		°	°
22	Greater scaup	Aythya affinis	°		°	°
23	Lesser scaup	Aythya affinis	°	°	°	°
24	Common goldeneye	Bucephala clangula	°		°	°
26	Bufflehead	Bucephala albeola	°		°	°
33	Red-breasted merganser	Mergus serrator	°		°	°
34	American coot	Fuleca americana	°		°	°
124	Redhead	Aythya americana	°		°	°
148	Ruddy duck	Oxyura jamaicensis	°		°	°
162	Gadwall	Anas strepera	°		°	°
169	American wigeon	Anas americana	°		°	°
180	Ring-necked duck	Aythya collaris	°		°	°
186	Black duck	Anas rubipes	°		°	°
190	Blue-winged teal	Anas discors	°	*	°	
191	Wood duck	Aix sponsa	°	°	°	°
198	Hooded merganser	Lophodytes cucullatus	°		°	°
211	Mottled duck	Anas fulvigula	*	°	°	°

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
Shorebirds Assemblage D						
52, 56, 58, 59, 61, 62, 64, 65, 66, 142, 153, 155, 156, 196						
Shorebirds						
52	Wilsons phalarope	Steganopus tricolor	°	°	°	
55	Whimbrel	Numenius phaeopus	°	°	°	°
56	Spotted sandpiper	Actitis macularia	°	°	°	
58	Greater yellowlegs	Tringa melanaleuca	°	°	°	°
59	Lesser yellowlegs	Tringa flavipes	°	°	°	°
60	Red knot	Calidris canutus	°	°	°	
61	Pectoral sandpiper	Calidris melanotos	°	°	°	
62	Least sandpiper	Calidris minutilla	°	°	°	°
63	Dunlin	Calidris alpina	°		°	°
64	Short-billed dowitcher	Limnodromus griseus	°	°	°	°
65	Long-billed dowitcher	Limnodromus Scolopaceus	°	°	°	
66	Western sandpiper	Caladris mauri	°	°	°	°
67	Sanderling	Caladris alba	°	°	°	°
71	Black-bellied plover	Pluvialis squatarola	°		°	°
73	Ruddy turnstone	Arenaria interpres	°	°	°	
139	Snowy plover	Charadrius alexandrinus	°	°	°	°
141	American avocet	Recurvirostra americana	°	°	°	°
142	Black-necked stilt	Himantopus mexicanus	*	*	°	°
152	American oystercatcher	Haemetopus palliatus	°	°		
153	Piping plover	Charadrius melodus	°	°	°	
154	Wilson's plover	Charadrius wilsonia	*	*	°	
155	Willet	Catoptrophorus semipalmatus	*	*	°	°
156	Semipalmated plover	Calidris pusilla	°	°	°	°
196	Common snipe	Capella gallinago	°		°	°
209	Long-billed curlew	Namenius americanus	°	°	°	°
210	marbled godwit	Limosa fedoa	°	°	°	°
213	Stilt sandpiper	Calidris himantopus	°	°	°	
214	Solitary sandpiper	Tringa solitara	°	°	°	
Seabirds						
38	Herring gull	Larus argentatus	°		°	°
40	Ring-billed gull	Larus delawarebsus	°	°	°	°
42	Bonapartes gull	Larus philadelphia	°	°	°	°
45	Common tern	Sterna hirundo	°	°	°	°
86	Least tern	Sterna antillarum	*	*	°	°
98	Laughing gull	Larus articilla	*	*	°	°
133	Black skimmer	Rynshops niger	*	*	°	°
134	Gull-billed tern	Gelochilidon nilotica	°	*	°	°
135	Sandwich tern	Sterna sandvicensis	°	*	°	°
136	Caspian tern	Sterna caspia	*	*	°	
137	Royal tern	Sterna maxima	*	*	°	°
138	Forsters tern	Sterna fosteri	*	*	°	°
Raptors						
76	Bald eagle	Haliaeetus leucocephalus	*		°	*
77	Osprey	Pandion haliaetus	*		°	*
107	Peregrine falcon	Falco peregrinus	°		°	°
182	American kestrel	Falco sparverius	°		°	°
Diving Birds						
1	Common loon	Gavia immer	°		°	°
5	Horned grebe	Podiceps auritus	°		°	°
6	Eared grebe	Podiceps nigricollis	°		°	°
8	Double-crested commorant	Phalacrocorax nigricollis	°		°	°
118	Brown pelican	Pelecanus occidentalis	°	°	°	*
121	Anhinga	Anhinga anhinga	*	*	°	°
168	Olivaceous cormarant	Phalacrocorax olivaceus	*	°	°	°
173	White pelican	Pelecanus erythrorhynchos	°	°	°	°
179	Pied-billed grebe	Podilymbus podiceps	*	°	°	°

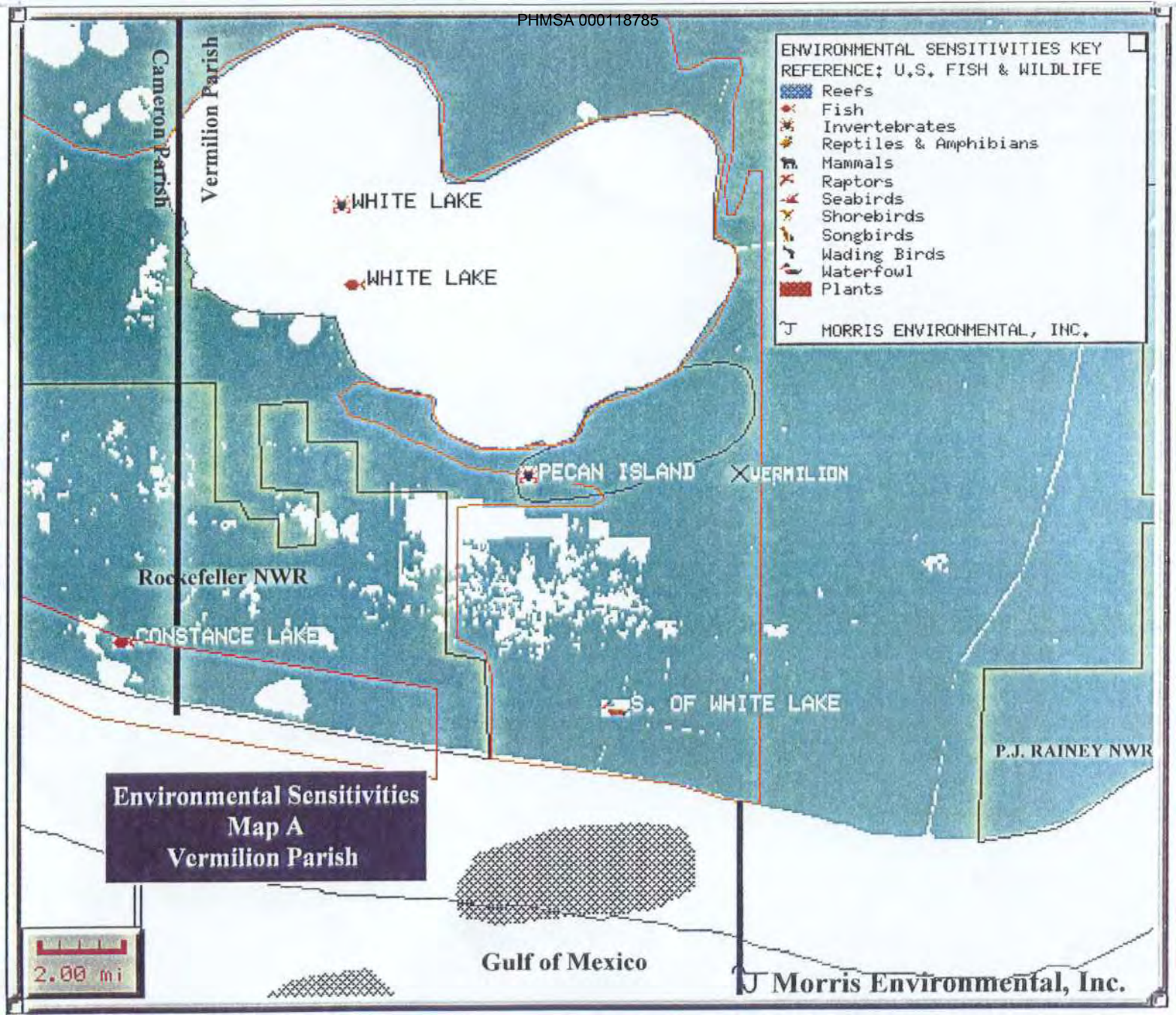
[#][Sp = spring, Su = summer, F = fall, W = winter, ° = present, * = breeding season].
Underlined species numbers indicate threatened or endangered status.

SPECIES LIST AND ASSEMBLAGES WITH SEASONAL DISTRIBUTION AND BREEDING SEASON

Species No.	Common Name	Scientific Name	Seasonality# Sp	Su	F	W
REPTILES						
Alligators						
3	American alligator	Alligator mississippiensis	°	*	*	°
Sea Turtles						
2	Green sea turtle	Chelonia mydas mydas	*	*		
4	Kemp's ridley sea turtle	Lepidochelys kempi	*	*		
5	Leatherback sea turtle	Dermochelys coriacea	*	*		
6	Loggerhead sea turtle	Caretta caretta	*	*		
9	Hawksbill sea turtle	Eretmochelys imbricata imbicata	*	*		
FISHES						
Fish Assemblage A						
	107, 109, 111, 113, 121, 122, 123, 124, 137, 163, 179, 181, 182, 200, 201, 201, 202, 203, 204, 205, 206, 213, 214					
Fish Assemblage B						
	107, 109, 111, 113, 116, 121, 122, 123, 124, 137, 207, 213, 214, 215, 217					
Fish Assemblage F						
	163, 179, 181, 200, 201, 202, 203, 204, 205, 206					
Freshwater Fish						
163	Gizzard shad	Dorosoma cepedianum	*	*	°	°
179	Largemouth bass	Micropterus saloides	*	°	°	°
181	Black crappie	Pomoxis nigromaculatus	*	°	°	°
182	Bluegill	Lepomis macrochirus	°	°	°	°
200	Blue catfish	Ictalurus furcatus	*	*	°	°
201	Channel catfish	Ictalurus punctatus	*	*	°	°
202	White crappie	Pomoxis annularis	°	°	°	°
203	Warmouth	Chaenobryttus gulosus	°	°	°	°
204	Redear sunfish	Lepomis microlophus	°	°	°	°
205	Freshwater drum	Aplodinotus grunnies	°	°	°	°
206	Spotted sunfish	Lepomis punctatus miniatus	°	°	°	°

Species No.	Common Name	Scientific Name	Seasonality# Sp	Su	F	W
Marine Fish						
102	Atlantic sturgeon		°	*	°	°
107	Spotted seatrout	Cynoscion nebulosus	°	°	*	*
109	Red drum	Sciaenops ocellatus	°	°	°	*
111	Southern flounder	Paraichthys lethostigma	°	°	°	*
113	Bay anchovy	Anchoa mitchilli	*	*	*	*
116	Striped mullet	Mugil cephalus	°	°	*	*
121	Spot	Leiostomus xanthurus	°	°	°	*
122	Black drum	Pogonias cromis	*	°	°	*
123	Atlantic croaker	Micropogonias undultus	°	°	°	*
124	Southern kingfish	Menticirrhus americanus	°	°	°	°
127	Spanish Mackerel	Scomberomorus maculatus		°	°	
137	Sheepshead	Coryphaena hipporus	*	°	°	°
207	Sea catfish	Galeichthyes felis	°	*	°	°
213	Gulf menhaden	Brevoortia patronus	°	°	°	*
214	Gulf kingfish	Menticirrhus littoralis	°	°	°	°
215	Sand seatrout	Cynoscion arenarius	°	*	°	°
217	Gafftopsail catfish	Bagre marinus	°	*	°	°
INVERTRBRATES						
Shellfish						
43	Eastern oyster	Crassostrea virginica	*	*	*	°
49	Blue crab	Callinectes sapidus	°	*	°	°
50	White shrimp	Panaeus setiferus	°	°	°	°
51	Brown shrimp	Penaeus aztecus	°	°	°	°
82	Brackish-water clam		°	°	°	°
83	River crayfish	Procambarus acutus	°	°	°	*
84	Red swamp crayfish	Procambarus clarkii	°	°	°	*
MAMMALS						
Coastal/Terrestrial						
8	River otter	Lutra canade	°	°	°	°
36	Beaver	Caston canadensis	°	°	°	°
37	Muskrat	Ondatra zibethicus	°	°	°	°
38	Mink	Mustela vison	°	°	°	°
43	Nutria	Myocastor coypus	°	°	°	°
44	Northern raccoon	Procyon lotor	°	°	°	°

#[Sp = spring, Su = summer, F = fall, W = winter, ° = present, * = breeding season].
Underlined species numbers indicate threatened or endangered status.


ENVIRONMENTAL SENSITIVITIES KEY
REFERENCE: U.S. FISH & WILDLIFE
Reefs
Fish
Invertebrates
Reptiles & Amphibians
Mammals
Raptors
Seabirds
Shorebirds
Songbirds
Wading Birds
Waterfowl
Plants
MORRIS ENVIRONMENTAL, INC.
Cameron Parish
Vermilion Parish
WHITE LAKE
WHITE LAKE
PECAN ISLAND
VERMILION
Rockefeller NWR
CONSTANCE LAKE
S. OF WHITE LAKE
P.J. RAINEY NWR
Environmental Sensitivities
Map A
Vermilion Parish
2.00 mi
Gulf of Mexico
Morris Environmental, Inc.

(b) (7)(F), (b) (3)
2.00 mi
Morris Environmental, Inc.

Environmental Sensitivities

Name : PAUL J. RAINEY BIRD SANCUTARY
Description: BIRD SANCUTARY THAT IS PRIVATELY OWNED AND IS ONLY ACCESSIBLE BY BOAT.
AUDUBON SOCIETY-LONNY LEGER
CONTACT: TIM VINCEIT
PHONE: 337-893-3426
SENSITIVE SPECIES INCLUDE WATERFOWL, SONGBIRDS, WADING BIRDS, AND SHOREBIRDS.

Name : LOUISIANA SWR
Description: STATE REFUGE
MGT AREAS
LOUISIANA STATE WILDLIFE REFUGE
MANAGER: DAVE SOILEAU
PHONE: 337-373-0032 FAX 337-373-0181
13,000 ACRES, ACCESS BY BOAT ONLY.
SENSITIVE SPECIES INCLUDE WATERFOWL, WADING BIRDS, AND SHOREBIRDS.

Name : RUSSELL SAGE SWR
Description: STATE REFUGE
MGT AREAS
RUSSELL SAGE STATE WILDLIFE REFUGE
MANAGER: DAVE SOILEAU
PHONE: 337-373-0032 FAX 337-373-0181
86,000 ACRES, ACCESS BY BOAT ONLY.
SENSITIVE SPECIES INCLUDE WATERFOWL, WADING BIRDS, AND SHOREBIRDS.

Name : ROCKEFELLER NWR
Description: REFUGE
ROCKEFELLER NATIONAL WILDLIFE REFUGE.
MANAGER: GUTHRIE PERRY
PHONE: 337-538-2276 FAX 337-491-2595
84,000 ACRES, ACCESS BY BOAT ONLY.
SENSITIVE SPECIES INCLUDE WATERFOWL, WADING BIRDS, SHOREBIRDS, AND SNIPE.

Name : S. OF WHITE LAKE
Description: DUCKS AND GEESE
ADULT CONCENTRATION AND MIGRATORY AREA FOR DABBLING DUCKS DURING THE SPRING.AREA UTILIZED BY SNOW GEESE DURING THE SPRING.

Name : BIG ISLAND LAKE
Description: LEAST TERN
BREEDING AREA FOR LEAST TERN.

Name : RAINEY SWR
Description: SHRIMP AND BLUE CRAB
NURSERY AND SPORT FISHING AREA FOR WHITE AND BROWN SHRIMP. NURSERY AND SPORT FISHING AREA FOR BLUE CRAB DURING THE WINTER.

Name : VERMILLION BAY
Description: BRACKISH WATER CLAM
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR BRACKISH-WATER CLAM.

Name : SW. PASS
Description: SHRIMP AND BLUE CRAB
MIGRATORY AREA FOR SHRIMP AND BLUE CRAB DURING THE SPRING, FALL, AND SUMMER.

Name : S. OF RAINEY SWR
Description: SHRIMP
COMMERCIAL HARVESTING AREA FOR WHITE AND BROWN SHRIMP.

Name : SW. POINT
Description: EASTERN OYSTER
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTERS.

Name : MUD POINT
Description: BRACKISH WATER CLAM
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR BRACKISH-WATER CLAM.

Name : WHITE LAKE
Description: VARIETY OF SPECIES
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR BRACKISH-WATER CLAM, WHITE SHRIMP, BROWN SHRIMP, AND BLUE CRAB.

Name : PECAN ISLAND
Description: CRAYFISH
BREEDING, NURSERY, COMMERCIAL HARVESTING, AND SPORT FISHING AREA FOR CRAYFISH.

Name : RAINEY SWR
Description: VARIETY OF FISH
NURSERY AND SPORT FISHING AREA FOR

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SPOTTED SEATROUT AND SOUTHERN FLOUNDER. NURSERY AND SPORT FISHING AREA FOR RED DRUM DURING THE WINTER.

Name : SW. PASS
Description: VARIETY OF FISH MIGRATORY AREA FOR SPOTTED SEATROUT AND SOUTHERN FLOUNDER DURING THE SPRING AND SUMMER. MIGRATORY AREA FOR GULF MENHADEN DURING THE SPRING, FALL, AND SUMMER.

Name : S. OF RAINEY SWR
Description: VARIETY OF FISH COMMERCIAL HARVESTING AREA FOR ATLANTIC CROAKER, SPOT, AND SILVER SEATROUT.

Name : WHITE LAKE
Description: VARIETY OF FISH BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR BLUE AND CHANNEL CATFISH, WHITE AND BLACK CRAPPIE, LARGEMOUTH BASS, WARMOUTH, BLUEGILL, REDEAR SUNFISH, AND YELLOW BASS. COMMERCIAL HARVESTING AREA FOR GAR.

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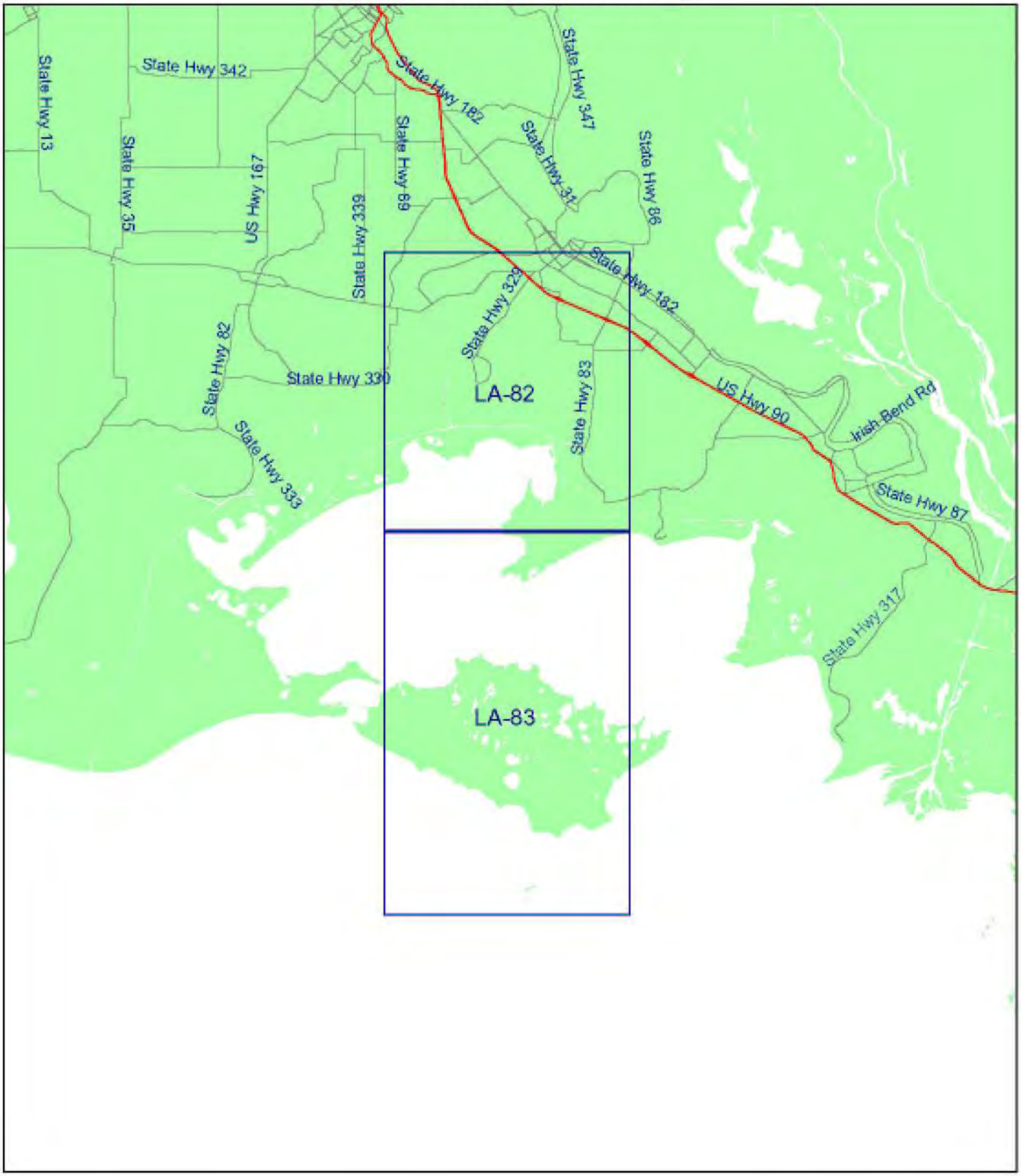
PHMSA 000118780

Iberia Parish Overview Map



Data Source: RPI International, Inc.

prepared by

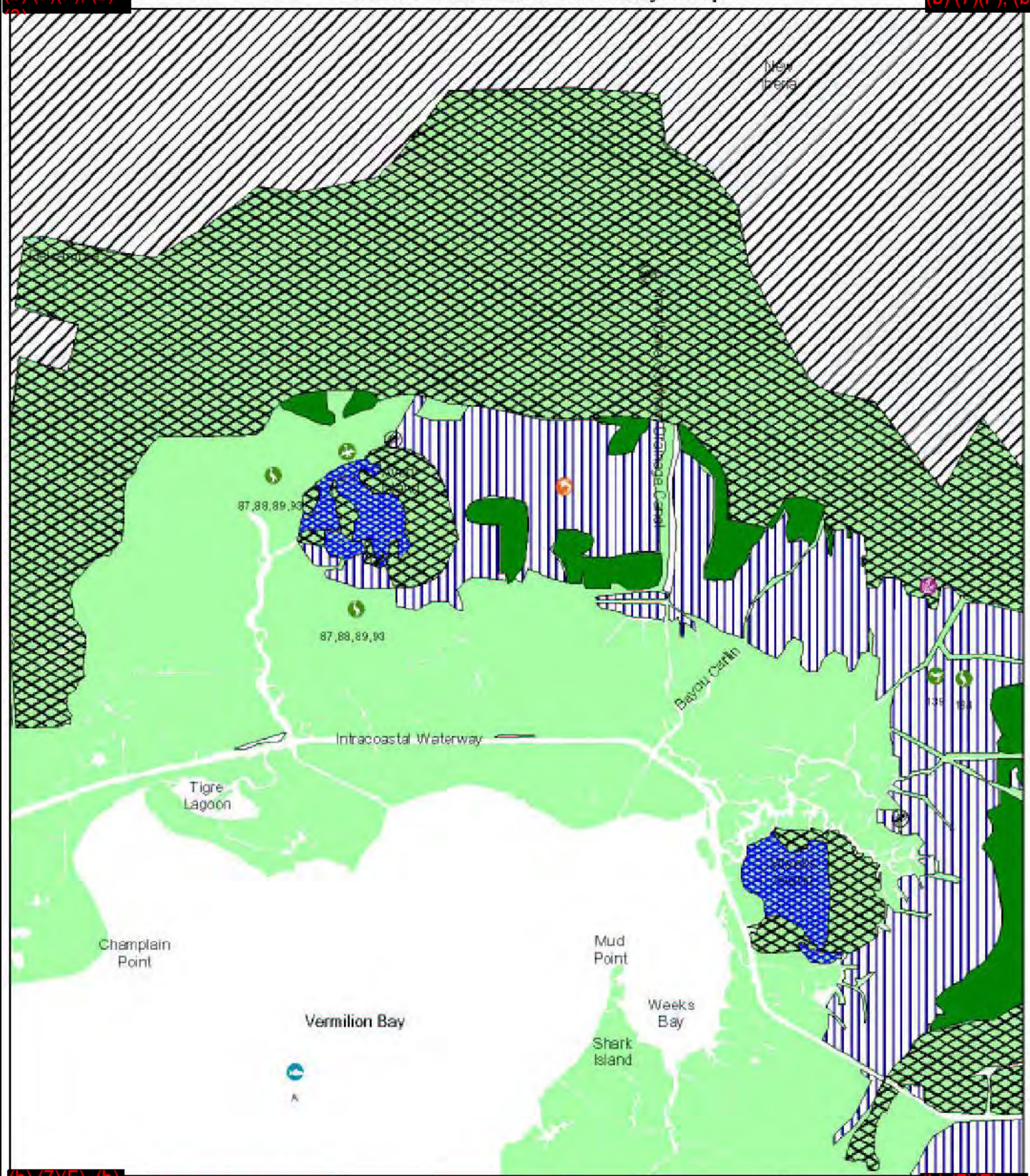
Morris Environmental, Inc.

Environmental Sensitivity Map

LA-82

(b) (7)(F), (b)

(b) (7)(F), (b)



(b) (7)(F), (b)

(b) (7)(F),

49 43,82 50,51
76,77,107 E 1,5,6,8,118,121, 168,173,179
Common Throughout Area

D C
3 8,37,38,43,44 A
Common Throughout Wetlands, Ponds, and Riverine Water Bodies

N

Data Source: RPI International, Inc.

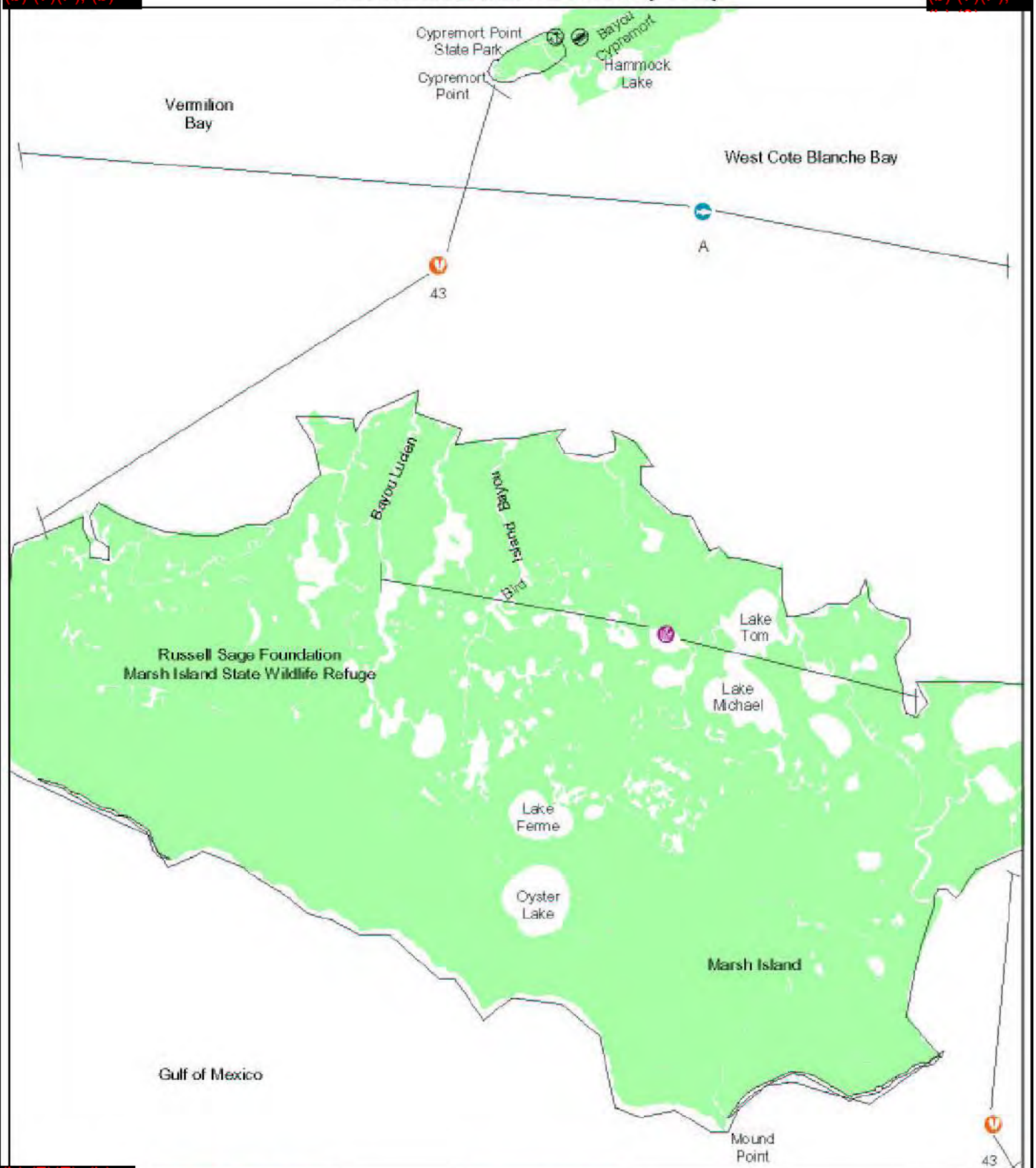
prepared by: Morris Environmental, Inc.

0 2 4 Miles

Environmental Sensitivity Map

(b) (7)(F), (b)

(b) (7)(F),



(b) (7)(F), (b)

49 43,82 50,51
77,107 1,5,6,8,118,121, 168,173,179
Common Throughout Area

D,141 C,118 E
3 8,37,38,43,44
Common Throughout Wetlands

(b) (7)(F), (b)

N

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

0 2 4 Miles

PHMSA-09118792

LOUISIANA ENVIRONMENTAL SENSITIVITIES

SHORELINE INDEX

SENSITIVITY

1	DEVELOPED/UNFORESTED UPLAND
2	SAND BEACH/SPOIL BANKS
2	SAND BEACH
3	TIDAL MUDFLATS
4	FRESHWATER FLAT
5a	SALT MARSH
5b	FRESH MARSH
6	SWAMP
7	MANGROVES

UNRANKED

- OYSTER REEFS
- FORESTED UPLAND
- UNCLASSIFIED

BIOLOGICAL RESOURCES

- OYSTERS/CLAMS
- CRABS
- SHRIMP/CRAYFISH
- ALLIGATORS
- SEA TURTLES
- FISH
- AQUATIC VEGETATION
- SHOREBIRDS
- RAPTORS
- WATERFOWL
- WADING BIRDS
- SEABIRDS
- DIVING BIRDS
- COASTAL MAMMALS

REFUGE/PARK BOUNDARIES

KEY TO WILDLIFE SYMBOLS

123 Number = Species (from regional lists)

Range

SPILL RESPONSE ACCESS

BOAT RAMP

MARINA

SPECIES LIST AND ASSEMBLAGES WITH SEASONAL DISTRIBUTION AND BREEDING SEASON

BIRDS

Wading Birds Assemblage C

54, 87, 88, 89, 90, 91, 94, 97, 115, 120, 125, 132, 149, 178, 185, 187, 188, 189, 192

Wading Birds

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
54	Great blue heron	Ardea hrodias	*	*	°	°
87	Little blue heron	Egretta caerulea	*	*	°	°
88	Great egret	Casmeridius albus	*	*	°	°
89	Snowy egret	Egretta thula	*	*	°	°
90	Black-crowned night heron	Nycticorax nycticorax	*	*	°	°
91	Glossy ibis	Plegadis falcinelius	*	°	°	°
93	Cattle egret	Bulbulcus ibis	*	*	°	°
94	Tricolor heron	Egretta tricolor	*	*	°	°
97	Green heron	Butorides striatus	*	*	°	
115	White ibis	Eudocimus albus	*	*	°	°
116	Roseate spoonbill	Ajaia ajaja	*	*	°	°
120	Yellow-crowned night heron	Nyctanassa violacea	*	*	°	°
125	Clapper rail	Rallus longirostris	*	*	°	°
132	Wood stork	Mycteria americana		°		
149	White-faced ibis	Plegadis chihi	*	*	°	°
163	Reddish egret	Egretta rufescens	°	*	°	
178	Least bittern	Ixobryrychus exilis	°	*	°	
184	King rail	Rallus elegans	*	*	°	°
185	American bittern	Botaurus lentiginosus	°	°	°	°
187	Virginia rail	Rallus limicola	°		°	°
188	Sora	Porzana carolina	°		°	°
189	Yellow rail	Coturnicops noveboracensis	°		°	°
192	Common gallinule	Gallinula chloropus	*	*	°	°
212	Purple gallinule	Porphyrula martinica	*	*	°	°
172	Sandhill crane	Grus canadensis	°	°	°	°

Water fowl Assemblage E

15, 16, 17, 18, 20, 22, 23, 26, 33, 121, 124, 148, 162, 169, 190, 198, 211

Waterfowl

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
12	Canada goose	Branta canadensis			°	°
14	White-fronted goose	Anser albifons	°		°	°
15	Snow goose	Chen caerulescens	°		°	°
16	Mallard	Anas platyrhynshos	*		°	°
17	Pintail	Anas acuta	*		°	°
18	Green-winged teal	Anas crecca	°	°	°	°
20	Northern shoveler	Anas clupeata	°		°	°
21	Canvasback	Aythya valisineria	°		°	°
22	Greater scaup	Aythya affinis	°		°	°
23	Lesser scaup	Aythya affinis	°	°	°	°
24	Common goldeneye	Bucephala clangula	°		°	°
26	Bufflehead	Bucephala albeola	°		°	°
33	Red-breasted merganser	Mergus serrator	°		°	°
34	American coot	Fuleca americana	°		°	°
124	Redhead	Aythya americana	°		°	°
148	Ruddy duck	Oxyura jamaicensis	°		°	°
162	Gadwall	Anas strepera	°		°	°
169	American wigeon	Anas americana	°		°	°
180	Ring-necked duck	Aythya collaris	°		°	°
186	Black duck	Anas rubipes	°		°	°
190	Blue-winged teal	Anas discors	°	*	°	
191	Wood duck	Aix sponsa	°	°	°	°
198	Hooded merganser	Lophodytes cucullatus	°		°	°
211	Mottled duck	Anas fulvigula	*	°	°	°

Shorebirds Assemblage D

52, 56, 58, 59, 61, 62, 64, 65, 66, 142, 153, 155, 156, 196

Shorebirds

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
52	Wilsons phalarope	Steganopus tricolor	°	°	°	
55	Whimbrel	Numenius phaeopus	°	°	°	°
56	Spotted sandpiper	Actitis macularia	°	°	°	
58	Greater yellowlegs	Tringa melanaleuca	°	°	°	°
59	Lesser yellowlegs	Tringa flavipes	°	°	°	°
60	Red knot	Calidris canutus	°	°	°	
61	Pectoral sandpiper	Calidris melanotos	°	°	°	
62	Least sandpiper	Calidris minutilla	°	°	°	°
63	Dunlin	Calidris alpina	°		°	°
64	Short-billed dowitcher	Limnodromus griseus	°	°	°	°
65	Long-billed dowitcher	Limnodromus Scolopaceus	°	°	°	
66	Western sandpiper	Caladris mauri	°	°	°	°
67	Sanderling	Caladris alba	°	°	°	°
71	Black-bellied plover	Pluvialis squatarola	°		°	°
73	Ruddy turnstone	Arenaria interpres	°	°	°	
139	Snowy plover	Charadrius alexandrinus	°	°	°	°
141	American avocet	Recurvirostra americana	°	°	°	°
142	Black-necked stilt	Himantopus mexicanus	*	*	°	°
152	American oystercatcher	Haemetopus palliatus	°	°		
153	Piping plover	Charadrius melodus	°	°	°	
154	Wilson's plover	Charadrius wilsonia	*	*	°	
155	Willet	Catoptrophorus semipalmatus	*	*	°	°
156	Semipalmated plover	Calidris pusilla	°	°	°	°
196	Common snipe	Capella gallinago	°		°	°
209	Long-billed curlew	Namenius americanus	°	°	°	°
210	marbled godwit	Limosa fedoa	°	°	°	°
213	Stilt sandpiper	Calidris himantopus	°	°	°	
214	Solitary sandpiper	Tringa solitara	°	°	°	

Seabirds

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
38	Herring gull	Larus argentatus	°		°	°
40	Ring-billed gull	Larus delawarebsus	°	°	°	°
42	Bonapartes gull	Larus philadelphia	°	°	°	°
45	Common tern	Sterna hirundo	°	°	°	°
86	Least tern	Sterna antillarum	*	*	°	°
98	Laughing gull	Larus articilla	*	*	°	°
133	Black skimmer	Rynshops niger	*	*	°	°
134	Gull-billed tern	Gelochilidon nilotica	°	*	°	°
135	Sandwich tern	Sterna sandvicensis	°	*	°	°
136	Caspian tern	Sterna caspia	*	*	°	
137	Royal tern	Sterna maxima	*	*	°	°
138	Forsters tern	Sterna fosteri	*	*	°	°

Raptors

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
76	Bald eagle	Haliaeetus leucocephalus	*		°	*
77	Osprey	Pandion haliaetus	*		°	*
107	Peregrine falcon	Falco peregrinus	°		°	°
182	American kestrel	Falco sparverius	°		°	°

Diving Birds

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
1	Common loon	Gavia immer	°		°	°
5	Horned grebe	Podiceps auritus	°		°	°
6	Eared grebe	Podiceps nigricollis	°		°	°
8	Double-crested commorant	Phalacrocorax nigricollis	°		°	°
118	Brown pelican	Pelecanus occidentalis	°	°	°	*
121	Anhinga	Anhinga anhinga	*	*	°	°
168	Olivaceous cormarant	Phalacrocorax olivaceus	*	°	°	°
173	White pelican	Pelecanus erythrorhynchos	°	°	°	°
179	Pied-billed grebe	Podilymbus podiceps	*	°	°	°

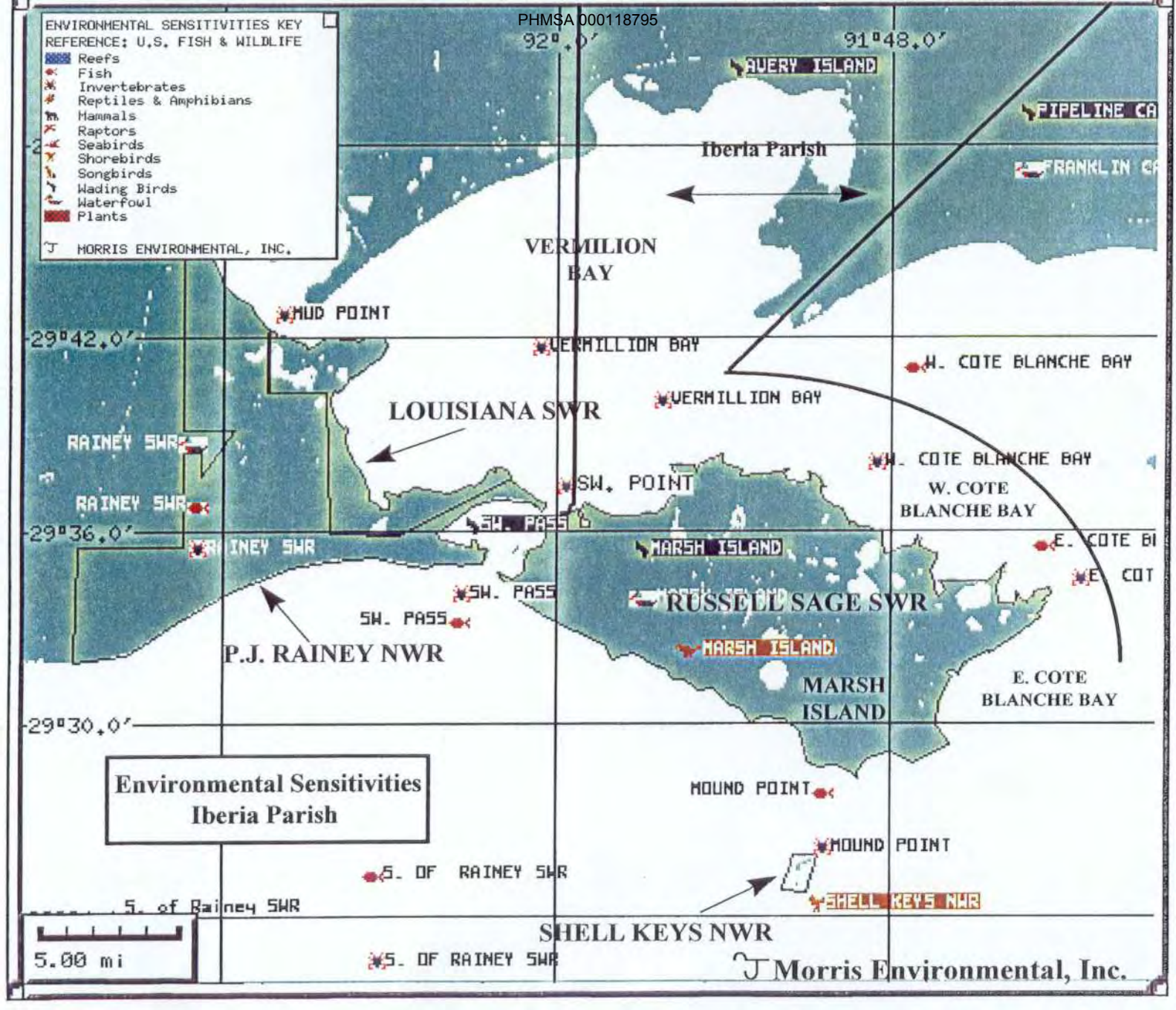
[#][Sp = spring, Su = summer, F = fall, W = winter, ° = present, * = breeding season].
Underlined species numbers indicate threatened or endangered status.

SPECIES LIST AND ASSEMBLAGES WITH SEASONAL DISTRIBUTION AND BREEDING SEASON

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
REPTILES						
Alligators						
3	American alligator	Alligator mississippiensis	°	*	*	°
Sea Turtles						
2	Green sea turtle	Chelonia mydas mydas	*	*		
4	Kemp's ridley sea turtle	Lepidochelys kempi	*	*		
5	Leatherback sea turtle	Dermochelys coriacea	*	*		
6	Loggerhead sea turtle	Caretta caretta	*	*		
9	Hawksbill sea turtle	Eretmochelys imbricata imbicata	*	*		
FISHES						
Fish Assemblage A	107, 109, 111, 113, 121, 122, 123, 124, 137, 163, 179, 181, 182, 200, 201, 201, 202, 203, 204, 205, 206, 213, 214					
Fish Assemblage B	107, 109, 111, 113, 116, 121, 122, 123, 124, 137, 207, 213, 214, 215, 217					
Fish Assemblage F	163, 179, 181, 200, 201, 202, 203, 204, 205, 206					
Freshwater Fish						
163	Gizzard shad	Dorosoma cepedianum	*	*	°	°
179	Largemouth bass	Micropterus saloides	*	°	°	°
181	Black crappie	Pomoxis nigromaculatus	*	°	°	°
182	Bluegill	Lepomis macrochirus	°	°	°	°
200	Blue catfish	Ictalurus furcatus	*	*	°	°
201	Channel catfish	Ictalurus punctatus	*	*	°	°
202	White crappie	Pomoxis annularis	°	°	°	°
203	Warmouth	Chaenobryttus gulosus	°	°	°	°
204	Redear sunfish	Lepomis microlophus	°	°	°	°
205	Freshwater drum	Aplodinotus grunnies	°	°	°	°
206	Spotted sunfish	Lepomis punctatus miniatus	°	°	°	°

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
Marine Fish						
102	Atlantic sturgeon		°	*	°	°
107	Spotted seatrout	Cynoscion nebulosus	°	°	*	*
109	Red drum	Sciaenops ocellatus	°	°	°	*
111	Southern flounder	Paraichthys lethostigma	°	°	°	*
113	Bay anchovy	Anchoa mitchilli	*	*	*	*
116	Striped mullet	Mugil cephalus	°	°	*	*
121	Spot	Leiostomus xanthurus	°	°	°	*
122	Black drum	Pogonias cromis	*	°	°	*
123	Atlantic croaker	Micropogonias undultus	°	°	°	*
124	Southern kingfish	Menticirrhus americanus	°	°	°	°
127	Spanish Mackerel	Scomberomorus maculatus		°	°	
137	Sheepshead	Coryphaena hipporus	*	°	°	°
207	Sea catfish	Galeichthyes felis	°	*	°	°
213	Gulf menhaden	Brevoortia patronus	°	°	°	*
214	Gulf kingfish	Menticirrhus littoralis	°	°	°	°
215	Sand seatrout	Cynoscion arenarius	°	*	°	°
217	Gafftopsail catfish	Bagre marinus	°	*	°	°
INVERTRBRATES						
Shellfish						
43	Eastern oyster	Crassostrea virginica	*	*	*	°
49	Blue crab	Callinectes sapidus	°	*	°	°
50	White shrimp	Panaeus setiferus	°	°	°	°
51	Brown shrimp	Penaeus aztecus	°	°	°	°
82	Brackish-water clam		°	°	°	°
83	River crayfish	Procambarus acutus	°	°	°	*
84	Red swamp crayfish	Procambarus clarkii	°	°	°	*
MAMMALS						
Coastal/Terrestrial						
8	River otter	Lutra canade	°	°	°	°
36	Beaver	Caston canadensis	°	°	°	°
37	Muskrat	Ondatra zibethicus	°	°	°	°
38	Mink	Mustela vison	°	°	°	°
43	Nutria	Myocastor coypus	°	°	°	°
44	Northern raccoon	Procyon lotor	°	°	°	°

[#][Sp = spring, Su = summer, F = fall, W = winter, ° = present, * = breeding season].
Underlined species numbers indicate threatened or endangered status.


ENVIRONMENTAL SENSITIVITIES KEY
REFERENCE: U.S. FISH & WILDLIFE
Reefs
Fish
Invertebrates
Reptiles & Amphibians
Mammals
Raptors
Seabirds
Shorebirds
Songbirds
Wading Birds
Waterfowl
Plants
MORRIS ENVIRONMENTAL, INC.
92°.0'
91°48.0'
AVERY ISLAND
PIPELINE CA
Iberia Parish
FRANKLIN CA
VERMILION BAY
MUD POINT
29°42.0'
VERMILLION BAY
W. COTE BLANCHE BAY
LOUISIANA SWR
VERMILLION BAY
RAINEY SWR
W. COTE BLANCHE BAY
SW. POINT
RAINEY SWR
W. COTE BLANCHE BAY
29°36.0'
SW. PASS
MARSH ISLAND
E. COTE BI
RAINEY SWR
E. COT
SW. PASS
RUSSELL SAGE SWR
SW. PASS
P.J. RAINEY NWR
MARSH ISLAND
MARSH ISLAND
E. COTE BLANCHE BAY
29°30.0'
Environmental Sensitivities
Iberia Parish
MOUND POINT
MOUND POINT
S. OF RAINEY SWR
S. of Rainey SWR
SHELL KEYS NWR
SHELL KEYS NWR
5.00 mi
S. OF RAINEY SWR
Morris Environmental, Inc.

Iberia Parish
Environmental Sensitivities

Name : RUSSELL SAGE SWR
Description: STATE REFUGE
RUSSELL SAGE STATE WILDLIFE REFUGE
MANAGER: EDMOND MOUTON
PHONE: 337-373-0174 FAX: 337-373-0181
72,000 ACRES, ACCESS BY BOAT ONLY.
SENSITIVE SPECIES INCLUDE WATERFOWL, WADING BIRDS, AND SHOREBIRDS.

Name : SHELL KEYS FWR
Description: FEDERAL REFUGE
SHELL KEYS FEDERAL WILDLIFE REFUGE
MANAGER: JAMES HARRIS
PHONE: 504-646-7555 FAX: 504-646-7588
10 ACRES, ACCESS BY BOAT ONLY.
SENSITIVE SPECIES INCLUDE TERNS, PELICANS, AND SHOREBIRDS.

Name : AVERY ISLAND
Description: ANHINGA
BREEDING AREA FOR ANHINGA DURING THE SPRING.

Name : AVERY ISLAND
Description: EGRET AND HERONS
BREEDING AREA FOR ANHINGA DURING THE SPRING.

Name : CYPREMORT POINT
Description: STATE PARK
CYPREMORT POINT STATE PARK.

Name : E. COTE BLANCHE BAY
Description: BRACKISH WATER CLAM
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR BRACKISH-WATER CLAM.

Name : E. COTE BLANCHE BAY
Description: VARIETY OF FISH
ADULT CONCENTRATION AND SPORT FISHING AREA FOR SPOTTED SEATROUT, SAND SEATROUT, ATLANTIC CROAKER, AND RED DRUM.

Name : MARSH ISLAND
Description: DUCKS AND GEESE
AREA IS UTILIZED BY DABBLING DUCKS AND GEESE DURING THE WINTER.

Name : MARSH ISLAND
Description: SHOREBIRDS
ADULT CONCENTRATION AND MIGRATORY AREA FOR SHOREBIRDS.

Name : MOUND POINT
Description: VARIETY OF FISH
ADULT CONCENTRATION AND SPORT FISHING AREA FOR SPOTTED SEATROUT, SAND SEATROUT, ATLANTIC CROAKER, AND RED DRUM.

Name : SW. PASS
Description: SHRIMP AND BLUE CRAB
MIGRATORY AREA FOR SHRIMP AND BLUE CRAB DURING THE SPRING, FALL, AND SUMMER.

Name : SW. PASS
Description: VARIETY OF FISH
MIGRATORY AREA FOR SPOTTED SEATROUT AND SOUTHERN FLOUNDER DURING THE SPRING AND SUMMER. MIGRATORY AREA FOR GULF MENHADEN DURING THE SPRING, FALL, AND SUMMER.

Name : SW. POINT
Description: EASTERN OYSTER
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTERS.

Name : VERMILLION BAY
Description: BRACKISH WATER CLAM
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR BRACKISH-WATER CLAM.

Name : VERMILLION BAY
Description: EASTERN OYSTER
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTERS.

Name : W. COTE BLANCHE BAY
Description: EASTERN OYSTER
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTERS.

Name : W. COTE BLANCHE BAY
Description: VARIETY OF FISH
MIGRATORY AREA FOR SPOTTED SEATROUT AND SOUTHERN FLOUNDER DURING THE SPRING AND SUMMER. MIGRATORY AREA FOR GULF MENHADEN DURING THE SPRING, FALL, AND SUMMER.

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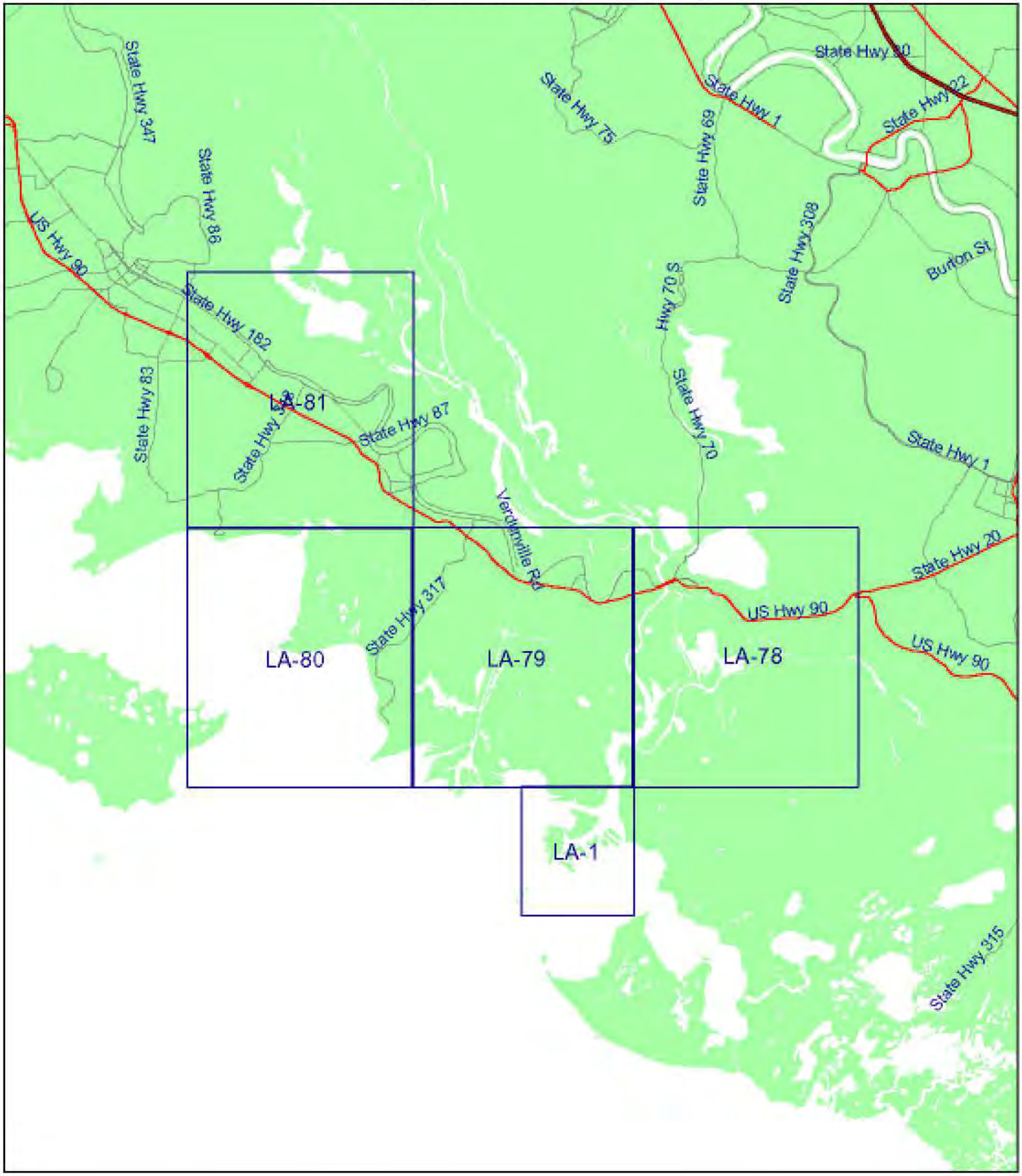
St. Mary Parish Overview Map



Data Source: RPI International, Inc.

powered by

Morris Environmental, Inc.

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F),

East Bay

Little Hog Bayou

Pass

Shell Island

Little Bay

Lower Atchafalaya River

Dead Island Bayou

Atchafalaya Delta Wildlife Management Area

87,89-91,94, 115,120,149

21

Plumb Island Point

87,89-91,94, 115,120,149

Atchafalaya Bay

(b) (7)(F), (b) (3)

1,8,173,179
Common in Atchafalaya Bay

D 8,37,38,43,44 3
Common Throughout Nearshore Area

A,B E 76,77,107,182
49 50,51 C
Common Throughout Area

N

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

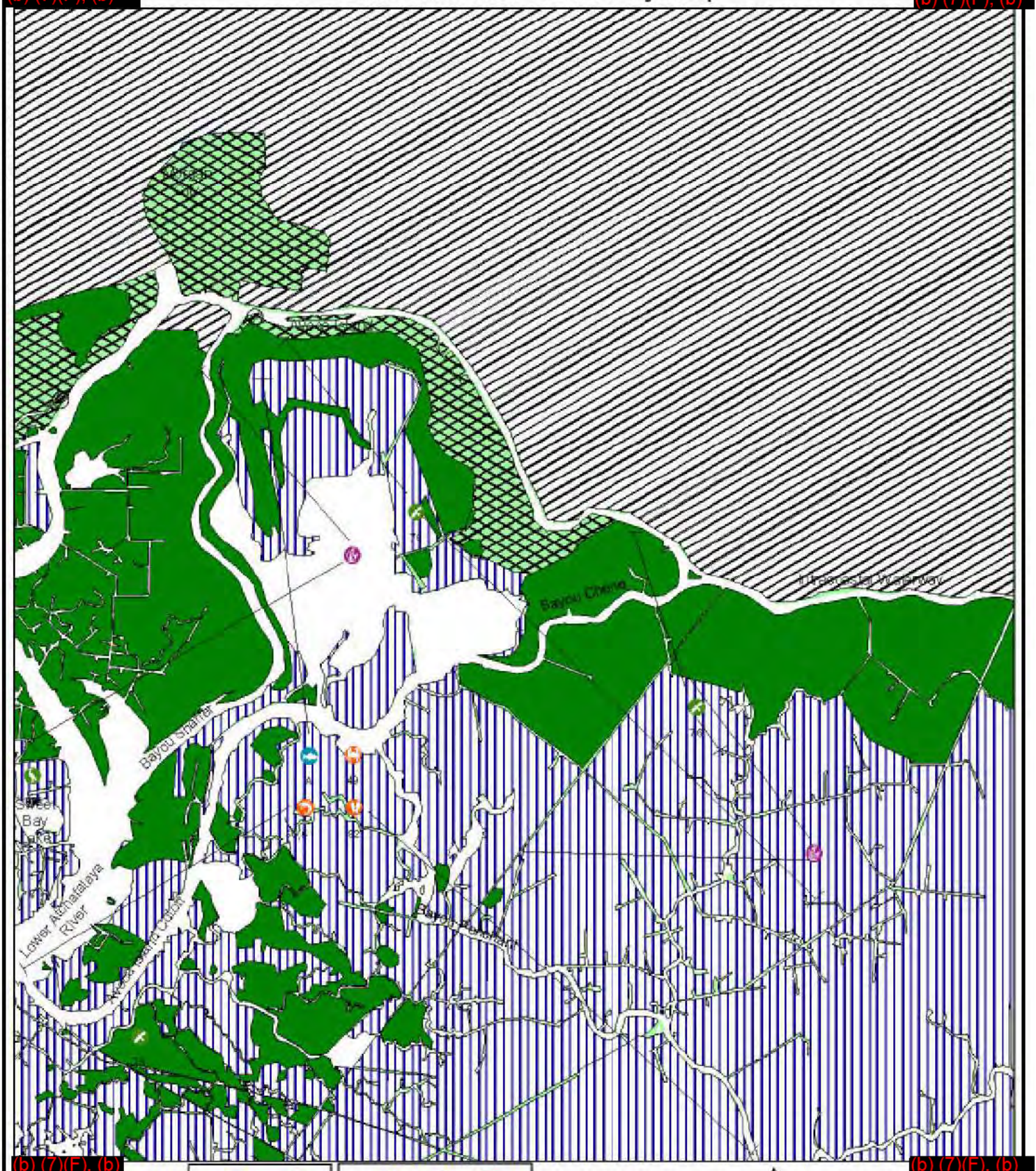
0 1 2 Miles

(b) (7)(F), (b) (3)

Environmental Sensitivity Map

(b) (7)(F), (b)

(b) (7)(F), (b)



(b) (7)(F), (b)

(b) (7)(F), (b)

83
Common Throughout Channels

76, 77, 107, 182 E,21,34
1,5,6,8,121,173,179
Common Throughout Area

C,184,212 214D 84
3 8,37,38,43,44
Common Throughout Wetlands

191
Common Throughout Swamps

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

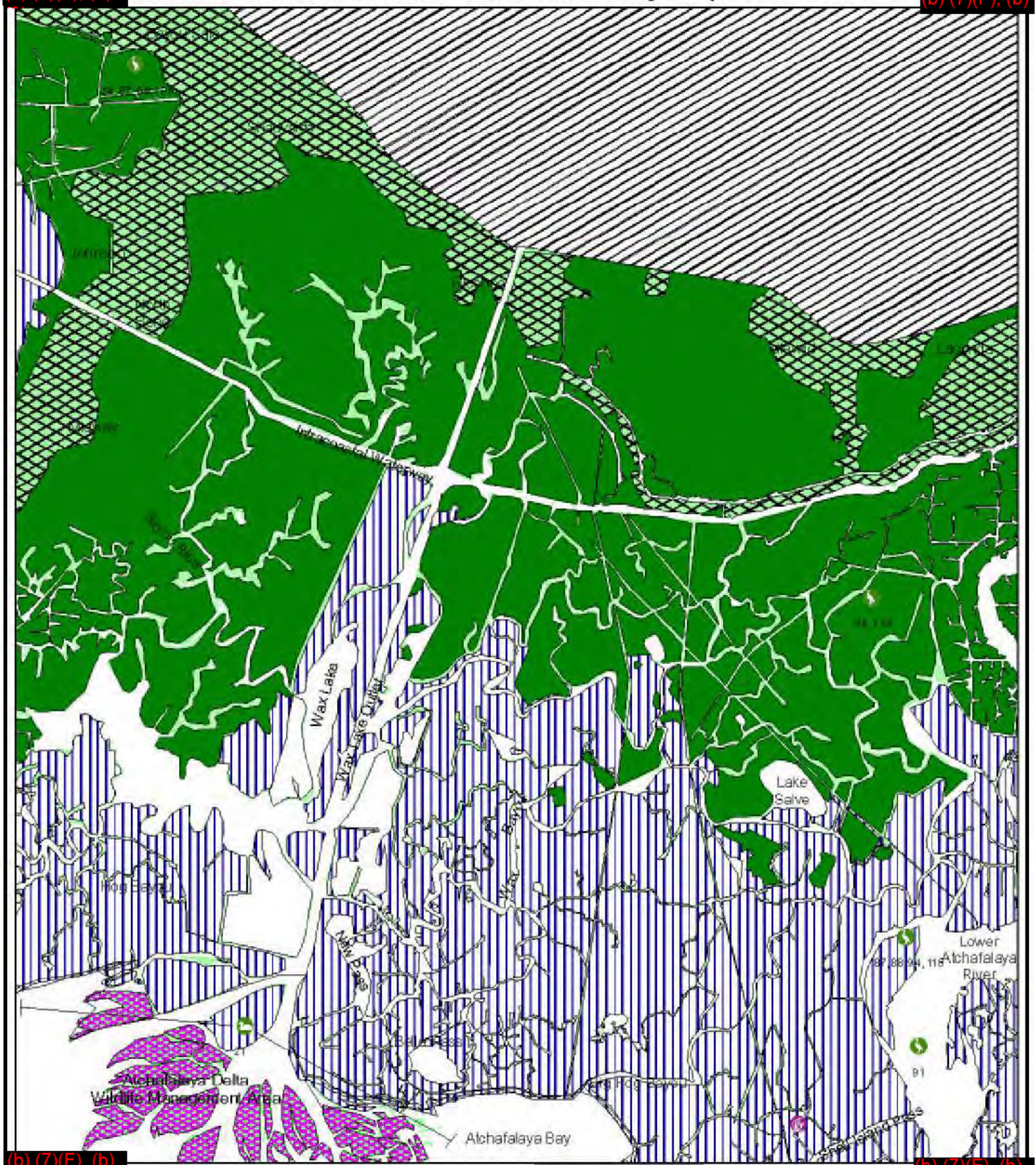
N

0 2 4 Miles

Environmental Sensitivity Map

(b) (7)(F), (b)

(b) (7)(F), (b)



(b) (7)(F), (b) (3)

83
Common Throughout Channels

76,77,107,182 E 82 49 50,51
1,5,6,8,118,121,173,179 C,184,212 A
Common Throughout Area

214,D 3 8,38 84
Common Throughout Wetlands

(b) (7)(F), (b)

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

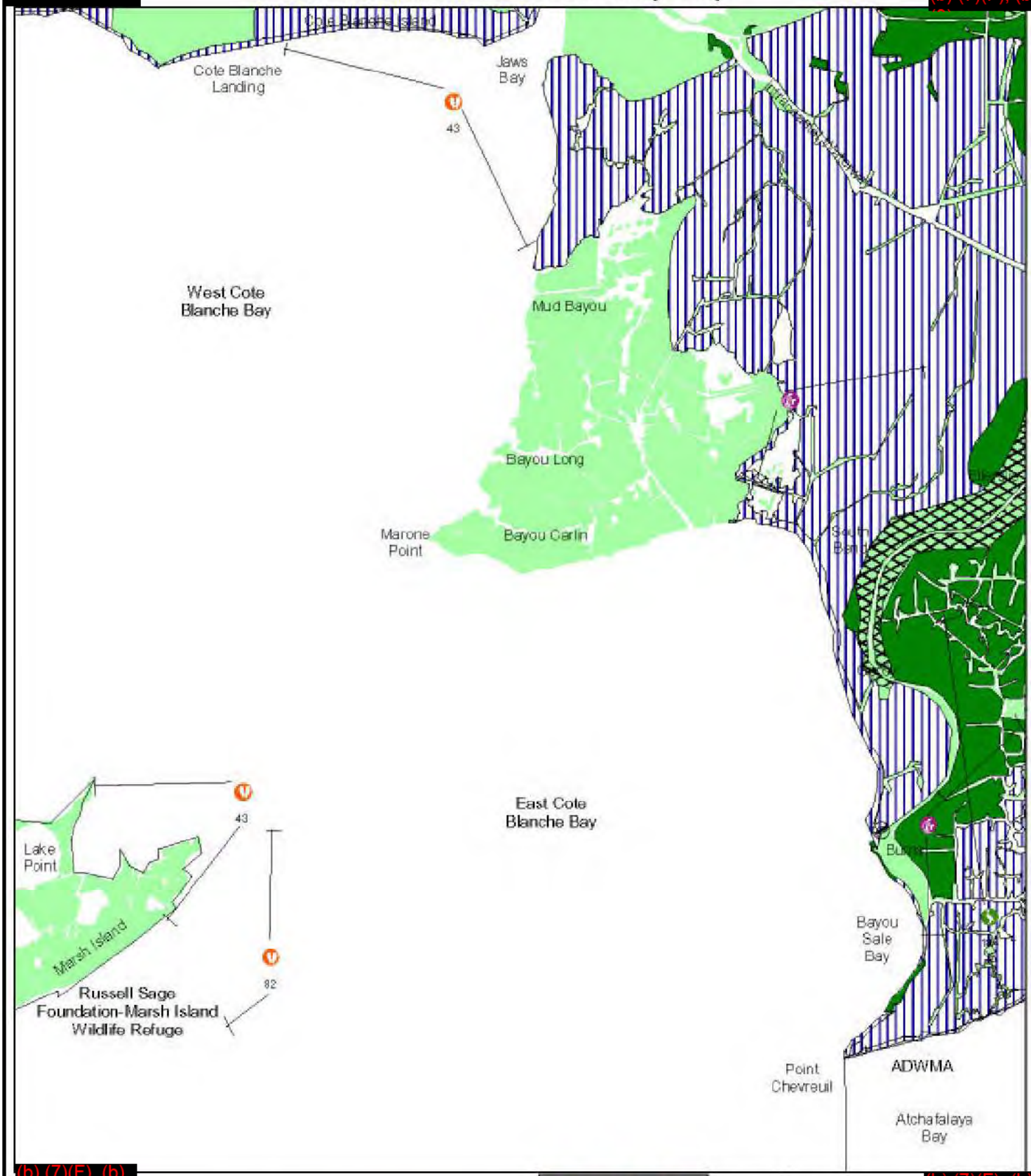
N

0 2 4 Miles

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F), (b)



(b) (7)(F), (b)

(b) (7)(F), (b)

1,5,6,8,118,121,168,173,179
Common Throughout Major Water Bodies

76,77,107,132 43,82 49 50,51
Common Throughout Area

141,D C E
3 8,37,38,43,44 84
Common Throughout Wetlands

N

Data Source: RPI International, Inc.

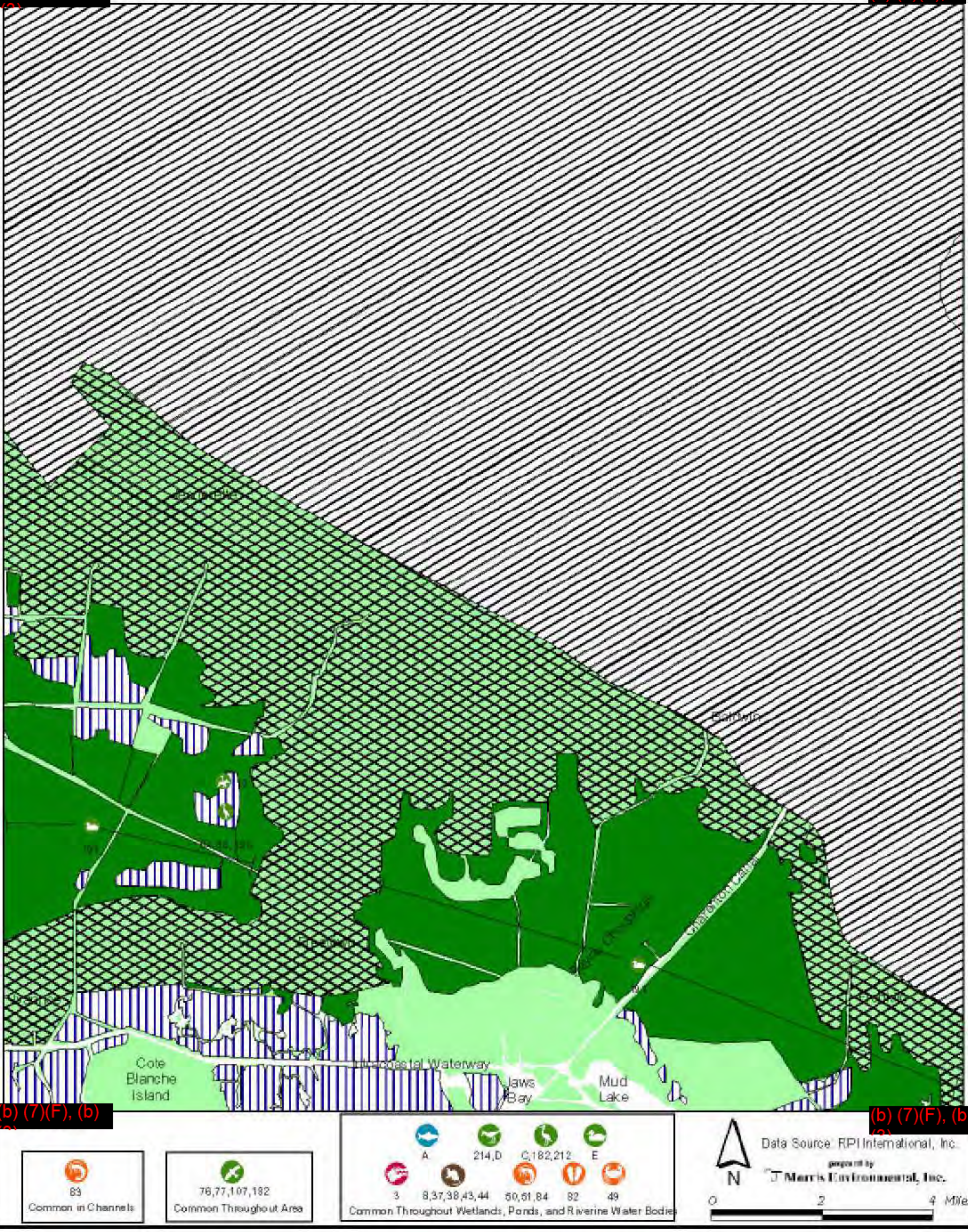
prepared by
Morris Environmental, Inc.

0 2 4 Miles

Environmental Sensitivity Map

[redacted] (b) (7)(F), (b)

[redacted] (b) (7)(F),



[redacted] (b) (7)(F), (b)

[redacted] (b) (7)(F), (b)

PHMSA 00118803

LOUISIANA ENVIRONMENTAL SENSITIVITIES

SHORELINE INDEX

SENSITIVITY

1	DEVELOPED/UNFORESTED UPLAND
2	SAND BEACH/SPOIL BANKS
2	SAND BEACH
3	TIDAL MUDFLATS
4	FRESHWATER FLAT
5a	SALT MARSH
5b	FRESH MARSH
6	SWAMP
7	MANGROVES

UNRANKED

- OYSTER REEFS
- FORESTED UPLAND
- UNCLASSIFIED

BIOLOGICAL RESOURCES

- OYSTERS/CLAMS
- CRABS
- SHRIMP/CRAYFISH
- ALLIGATORS
- SEA TURTLES
- FISH
- AQUATIC VEGETATION
- SHOREBIRDS
- RAPTORS
- WATERFOWL
- WADING BIRDS
- SEABIRDS
- DIVING BIRDS
- COASTAL MAMMALS

REFUGE/PARK BOUNDARIES

KEY TO WILDLIFE SYMBOLS

123 Number = Species (from regional lists)

Range

SPILL RESPONSE ACCESS

BOAT RAMP

MARINA

SPECIES LIST AND ASSEMBLAGES WITH SEASONAL DISTRIBUTION AND BREEDING SEASON

FIGURE 3.0.3.1-4

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
BIRDS						
Wading Birds Assemblage C						
54, 87, 88, 89, 90, 91, 94, 97, 115, 120, 125, 132, 149, 178, 185, 187, 188, 189, 192						
Wading Birds						
54	Great blue heron	Ardea hrodias	*	*	°	°
87	Little blue heron	Egretta caerulea	*	*	°	°
88	Great egret	Casmeridius albus	*	*	°	°
89	Snowy egret	Egretta thula	*	*	°	°
90	Black-crowned night heron	Nycticorax nycticorax	*	*	°	°
91	Glossy ibis	Plegadis falcinelius	*	°	°	°
93	Cattle egret	Bulbulcus ibis	*	*	°	°
94	Tricolor heron	Egretta tricolor	*	*	°	°
97	Green heron	Butorides striatus	*	*	°	
115	White ibis	Eudocimus albus	*	*	°	°
116	Roseate spoonbill	Ajaia ajaja	*	*	°	°
120	Yellow-crowned night heron	Nyctanassa violacea	*	*	°	°
125	Clapper rail	Rallus longirostris	*	*	°	°
132	Wood stork	Mycteria americana		°		
149	White-faced ibis	Plegadis chihi	*	*	°	°
163	Reddish egret	Egretta rufescens	°	*	°	
178	Least bittern	Ixobryrychus exilis	°	*	°	
184	King rail	Rallus elegans	*	*	°	°
185	American bittern	Botaurus lentiginosus	°	°	°	°
187	Virginia rail	Rallus limicola	°		°	°
188	Sora	Porzana carolina	°		°	°
189	Yellow rail	Coturnicops noveboracensis	°		°	°
192	Common gallinule	Gallinula chloropus	*	*	°	°
212	Purple gallinule	Porphyrula martinica	*	*	°	°
172	Sandhill crane	Grus canadensis	°	°	°	°
Water fowl Assemblage E						
15, 16, 17, 18, 20, 22, 23, 26, 33, 121, 124, 148, 162, 169, 190, 198, 211						
Waterfowl						
12	Canada goose	Branta canadensis			°	°
14	White-fronted goose	Anser albifons	°		°	°
15	Snow goose	Chen caerulescens	°		°	°
16	Mallard	Anas platyrhynshos	*		°	°
17	Pintail	Anas acuta	*		°	°
18	Green-winged teal	Anas crecca	°	°	°	°
20	Northern shoveler	Anas clupeata	°		°	°
21	Canvasback	Aythya valisineria	°		°	°
22	Greater scaup	Aythya affinis	°		°	°
23	Lesser scaup	Aythya affinis	°	°	°	°
24	Common goldeneye	Bucephala clangula	°		°	°
26	Bufflehead	Bucephala albeola	°		°	°
33	Red-breasted merganser	Mergus serrator	°		°	°
34	American coot	Fuleca americana	°		°	°
124	Redhead	Aythya americana	°		°	°
148	Ruddy duck	Oxyura jamaicensis	°		°	°
162	Gadwall	Anas strepera	°		°	°
169	American wigeon	Anas americana	°		°	°
180	Ring-necked duck	Aythya collaris	°		°	°
186	Black duck	Anas rubipes	°		°	°
190	Blue-winged teal	Anas discors	°	*	°	
191	Wood duck	Aix sponsa	°	°	°	°
198	Hooded merganser	Lophodytes cucullatus	°		°	°
211	Mottled duck	Anas fulvigula	*	°	°	°

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
Shorebirds Assemblage D						
52, 56, 58, 59, 61, 62, 64, 65, 66, 142, 153, 155, 156, 196						
Shorebirds						
52	Wilsons phalarope	Steganopus tricolor	°	°	°	
55	Whimbrel	Numenius phaeopus	°	°	°	°
56	Spotted sandpiper	Actitis macularia	°	°	°	
58	Greater yellowlegs	Tringa melanaleuca	°	°	°	°
59	Lesser yellowlegs	Tringa flavipes	°	°	°	°
60	Red knot	Calidris canutus	°	°	°	
61	Pectoral sandpiper	Calidris melanotos	°	°	°	
62	Least sandpiper	Calidris minutilla	°	°	°	°
63	Dunlin	Calidris alpina	°		°	°
64	Short-billed dowitcher	Limnodromus griseus	°	°	°	°
65	Long-billed dowitcher	Limnodromus Scolopaceus	°	°	°	
66	Western sandpiper	Caladris mauri	°	°	°	°
67	Sanderling	Caladris alba	°	°	°	°
71	Black-bellied plover	Pluvialis squatarola	°		°	°
73	Ruddy turnstone	Arenaria interpres	°	°	°	
139	Snowy plover	Charadrius alexandrinus	°		°	°
141	American avocet	Recurvirostra americana	°		°	°
142	Black-necked stilt	Himantopus mexicanus	*	*	°	°
152	American oystercatcher	Haemetopus palliatus	°	°		
153	Piping plover	Charadrius melodus	°	°	°	
154	Wilson's plover	Charadrius wilsonia	*	*	°	
155	Willet	Catoptrophorus semipalmatus	*	*	°	°
156	Semipalmated plover	Calidris pusilla	°	°	°	°
196	Common snipe	Capella gallinago	°		°	°
209	Long-billed curlew	Namenius americanus	°	°	°	°
210	marbled godwit	Limosa fedoa	°	°	°	°
213	Stilt sandpiper	Calidris himantopus	°	°	°	
214	Solitary sandpiper	Tringa solitara	°	°	°	
Seabirds						
38	Herring gull	Larus argentatus	°		°	°
40	Ring-billed gull	Larus delawarebsus	°	°	°	°
42	Bonapartes gull	Larus philadelphia	°	°	°	°
45	Common tern	Sterna hirundo	°	°	°	°
86	Least tern	Sterna antillarum	*	*	°	°
98	Laughing gull	Larus articilla	*	*	°	°
133	Black skimmer	Rynshops niger	*	*	°	°
134	Gull-billed tern	Gelochilidon nilotica	°	*	°	°
135	Sandwich tern	Sterna sandvicensis	°	*	°	°
136	Caspian tern	Sterna caspia	*	*	°	
137	Royal tern	Sterna maxima	*	*	°	°
138	Forsters tern	Sterna fosteri	*	*	°	°
Raptors						
76	Bald eagle	Haliaeetus leucocephalus	*		°	*
77	Osprey	Pandion haliaetus	*		°	*
107	Peregrine falcon	Falco peregrinus	°		°	°
182	American kestrel	Falco sparverius	°		°	°
Diving Birds						
1	Common loon	Gavia immer	°		°	°
5	Horned grebe	Podiceps auritus	°		°	°
6	Eared grebe	Podiceps nigricollis	°		°	°
8	Double-crested commorant	Phalacrocorax nigricollis	°		°	°
118	Brown pelican	Pelecanus occidentalis	°	°	°	*
121	Anhinga	Anhinga anhinga	*	*	°	°
168	Olivaceous cormarant	Phalacrocorax olivaceus	*	°	°	°
173	White pelican	Pelecanus erythrorhynchos	°	°	°	°
179	Pied-billed grebe	Podilymbus podiceps	*	°	°	°

[#][Sp = spring, Su = summer, F = fall, W = winter, ° = present, * = breeding season].
Underlined species numbers indicate threatened or endangered status.

SPECIES LIST AND ASSEMBLAGES WITH SEASONAL DISTRIBUTION AND BREEDING SEASON

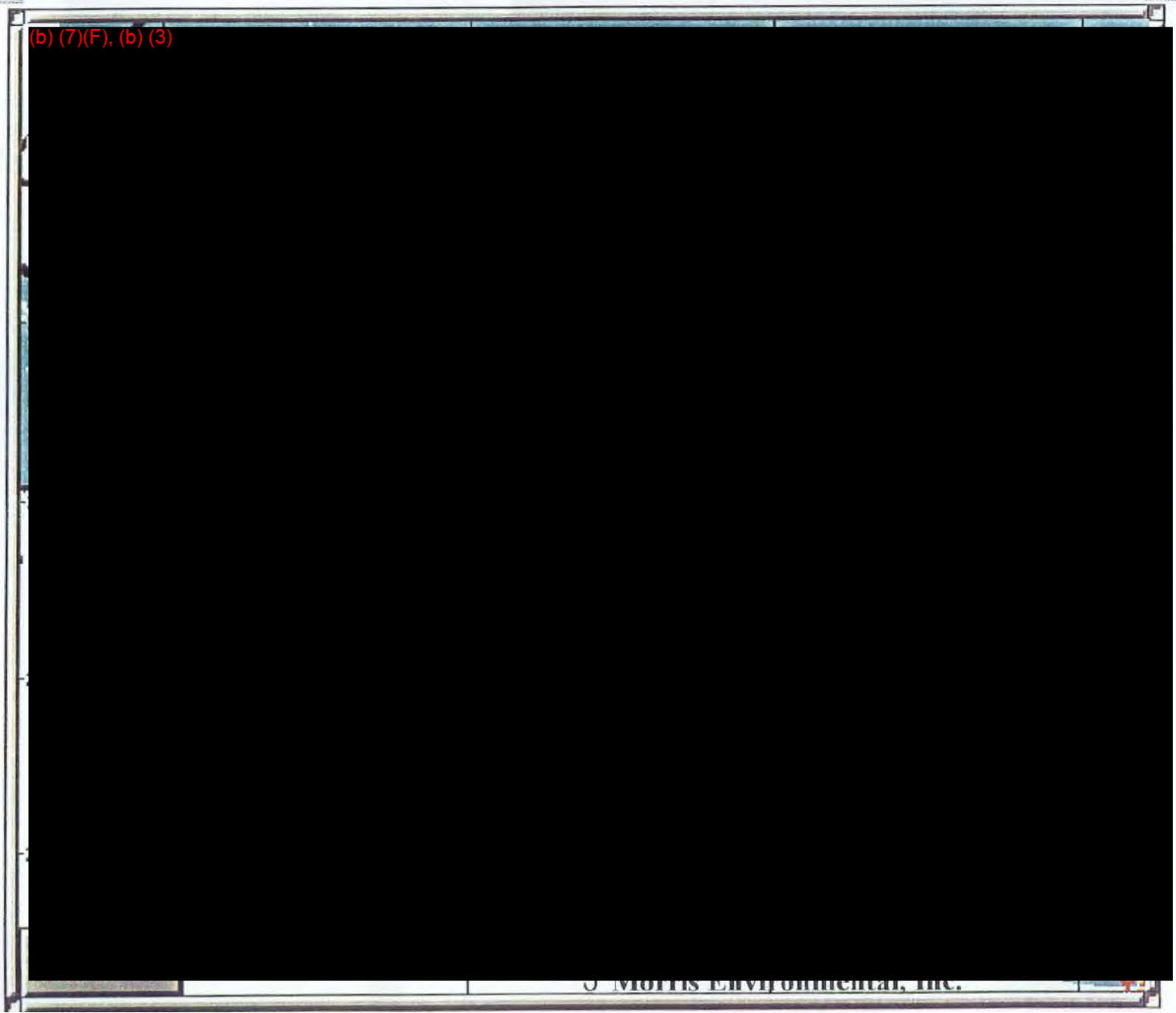
Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
REPTILES						
Alligators						
3	American alligator	Alligator mississippiensis	°	*	*	°
Sea Turtles						
2	Green sea turtle	Chelonia mydas mydas	*	*		
4	Kemp's ridley sea turtle	Lepidochelys kempi	*	*		
5	Leatherback sea turtle	Dermochelys coriacea	*	*		
6	Loggerhead sea turtle	Caretta caretta	*	*		
9	Hawksbill sea turtle	Eretmochelys imbricata imbicata	*	*		
FISHES						
Fish Assemblage A						
	107, 109, 111, 113, 121, 122, 123, 124, 137, 163, 179, 181, 182, 200, 201, 201, 202, 203, 204, 205, 206, 213, 214					
Fish Assemblage B						
	107, 109, 111, 113, 116, 121, 122, 123, 124, 137, 207, 213, 214, 215, 217					
Fish Assemblage F						
	163, 179, 181, 200, 201, 202, 203, 204, 205, 206					
Freshwater Fish						
163	Gizzard shad	Dorosoma cepedianum	*	*	°	°
179	Largemouth bass	Micropterus saloides	*	°	°	°
181	Black crappie	Pomoxis nigromaculatus	*	°	°	°
182	Bluegill	Lepomis macrochirus	°	°	°	°
200	Blue catfish	Ictalurus furcatus	*	*	°	°
201	Channel catfish	Ictalurus punctatus	*	*	°	°
202	White crappie	Pomoxis annularis	°	°	°	°
203	Warmouth	Chaenobryttus gulosus	°	°	°	°
204	Redear sunfish	Lepomis microlophus	°	°	°	°
205	Freshwater drum	Aplodinotus grunnies	°	°	°	°
206	Spotted sunfish	Lepomis punctatus miniatus	°	°	°	°

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
Marine Fish						
102	Atlantic sturgeon		°	*	°	°
107	Spotted seatrout	Cynoscion nebulosus	°	°	*	*
109	Red drum	Sciaenops ocellatus	°	°	°	*
111	Southern flounder	Paraichthys lethostigma	°	°	°	*
113	Bay anchovy	Anchoa mitchilli	*	*	*	*
116	Striped mullet	Mugil cephalus	°	°	*	*
121	Spot	Leiostomus xanthurus	°	°	°	*
122	Black drum	Pogonias cromis	*	°	°	*
123	Atlantic croaker	Micropogonias undultus	°	°	°	*
124	Southern kingfish	Menticirrhus americanus	°	°	°	°
127	Spanish Mackerel	Scomberomorus maculatus		°	°	
137	Sheepshead	Coryphaena hipporus	*	°	°	°
207	Sea catfish	Galeichthyes felis	°	*	°	°
213	Gulf menhaden	Brevoortia patronus	°	°	°	*
214	Gulf kingfish	Menticirrhus littoralis	°	°	°	°
215	Sand seatrout	Cynoscion arenarius	°	*	°	°
217	Gafftopsail catfish	Bagre marinus	°	*	°	°
INVERTRBRATES						
Shellfish						
43	Eastern oyster	Crassostrea virginica	*	*	*	°
49	Blue crab	Callinectes sapidus	°	*	°	°
50	White shrimp	Panaeus setiferus	°	°	°	°
51	Brown shrimp	Penaeus aztecus	°	°	°	°
82	Brackish-water clam		°	°	°	°
83	River crayfish	Procambarus acutus	°	°	°	*
84	Red swamp crayfish	Procambarus clarkii	°	°	°	*
MAMMALS						
Coastal/Terrestrial						
8	River otter	Lutra canade	°	°	°	°
36	Beaver	Caston canadensis	°	°	°	°
37	Muskrat	Ondatra zibethicus	°	°	°	°
38	Mink	Mustela vison	°	°	°	°
43	Nutria	Myocastor coypus	°	°	°	°
44	Northern raccoon	Procyon lotor	°	°	°	°

[#][Sp = spring, Su = summer, F = fall, W = winter, ° = present, * = breeding season].
Underlined species numbers indicate threatened or endangered status.

Back

Next Page



Environmental Sensitivities

Name : ATCHAFALAYA WMA
Description: VARIETY OF BIRD
BREEDING AND ADULT CONCENTRATION AREA FOR WADING BIRDS SUCH AS HERONS, EGRET, AND RAILS.

Name : BELLE ISLE POINT
Description: DABBLING DUCK
BREEDING AREA FOR DABBLING DUCKS DURING THE SPRING.

Name : SALE BAYOU
Description: ANHINGA
BREEDING AREA FOR ANHINGA DURING THE SPRING.

Name : EAST BAY
Description: DABBLING DUCKS
WINTERING AREA FOR DABBLING DUCKS.

Name : ATCHAFALAYA WMA
Description: NUTRIA
ATCHAFALAYA DELTA WILDLIFE MANAGEMENT AREA IS UTILIZED BY NUTRIA.

Name : HOG BAYOU
Description: BLACK BEAR
ADULT CONCENTRATION AREA FOR BLACK BEAR WHICH IS AN UNUSUAL DISTRIBUTION.

Name : ATCHAFALAYA RIVER
Description: SHRIMP AND BLUE CRAB
MIGRATORY AREA FOR SHRIMP AND BLUE CRAB
DURING THE SPRING, FALL, AND WINTER.

Name : ATCHAFALAYA BAY
Description: BRACKISH WATER CLAM
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR BRACKISH-WATER CLAM.

Name : ATCHAFALAYA RIVER
Description: SHRIMP AND BLUE CRAB
BREEDING, NURSERY, COMMERCIAL HARVESTING AND SPORT FISHING FOR CRAWFISH, BROWN SHRIMP AND BLUE CRAB.

Name : ATCHAFALAYA RIVER #1
Description: VARIETY OF FISH
BREEDING, NURSERY, AND SPORT FISHING FOR WHITE AND BLACK CRAPPIE, LARGEMOUTH BASS, SPOTTED BASS, GREEN SUNFISH, LONGEAR SUNFISH, WARMOUTH, SPOTTED SUNFISH, WHITE AND YELLOW BASS.

Name : ATCHAFALAYA RIVER #2
Description: VARIETY OF FISH
BREEDING, NURSERY, COMMERCIAL HARVESTING, AND SPORT FISHING FOR BLUE AND CHANNEL CATFISH, GARS, BUFFALOS, FRESHWATER DRUM, BOWFIN, CARP, AND FLATHEAD CATFISH.

Name : W. COTE BLANCHE BAY
Description: VARIETY OF FISH
MIGRATORY AREA FOR SPOTTED SEATROUT AND SOUTHERN FLOUNDER DURING THE SPRING AND SUMMER. MIGRATORY AREA FOR GULF MENHADEN DURING THE SPRING, FALL, AND SUMMER.

Name : ATCHAFALAYA RIVER
Description: VARIETY OF FISH
MIGRATORY AREA FOR DRUM DURING THE FALL AND SPRING. MIGRATORY AREA FOR SOUTHERN FLOUNDER AND GULF MENHADEN DURING THE SPRING, FALL, AND WINTER.

Name : ATCHAFALAYA WMA
Description:
ATCHAFALAYA DELTA WILDLIFE MGT. AREA
MANAGER: DANIEL BREAUX
PHONE: 504-646-7555 FAX: 985-464-7555
137,000 ACRES, ACCESS BY BOAT ONLY.
SENSITIVE SPECIES INCLUDE WADING BIRDS, SHOREBIRDS, AND WATERFOWL.

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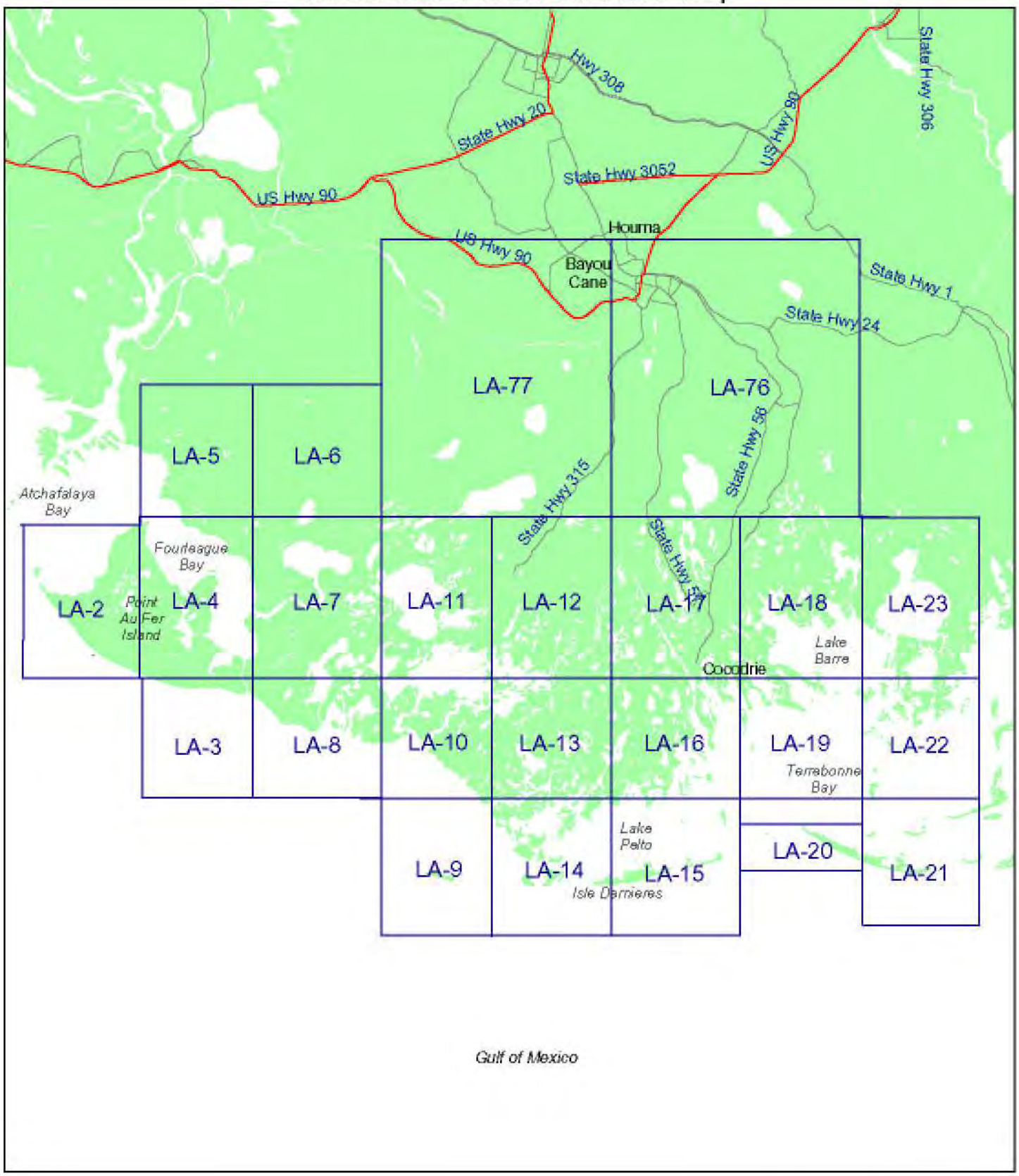
Terrebonne Parish Overview Map



Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F), (b)

(b) (7)(F), (b) (3)

(b) (7)(F), (b)

1,5,8,118,173,179
Common Throughout Atchafalaya Bay and Gulf of Mexico

C D 8,37,38,43,44 3
Common Throughout Wetlands

A,B E 76,77,107,182
49 50,51 43
Common Throughout Area

N

Data Source: RPI International, Inc.

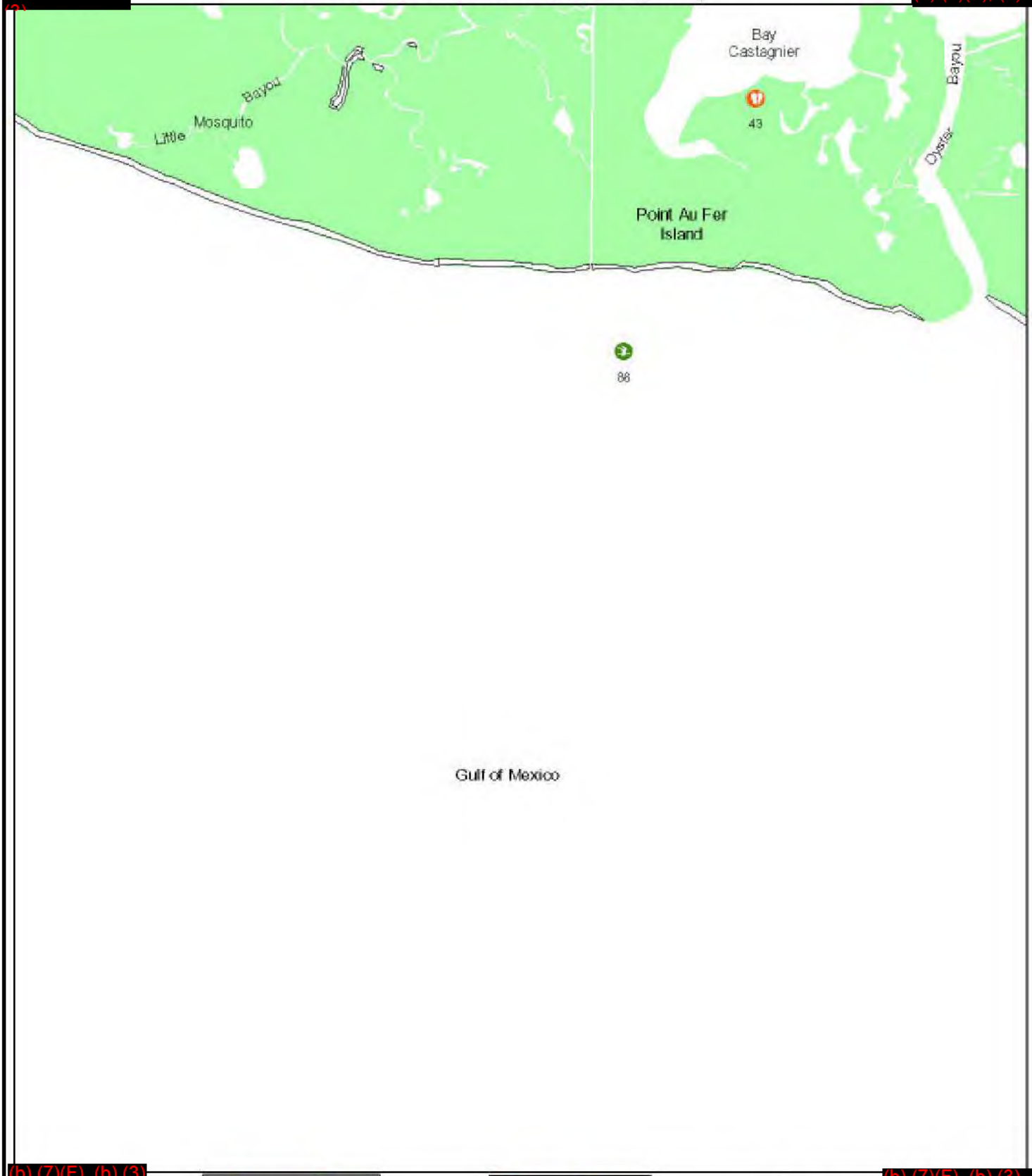
prepared by
J. Morris Environmental, Inc.

0 1 2 Miles

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

E 76,77,107,182

Common Ecological Wetlands

B 1,5,8,118,173,179

Common Ecological Sites

N

Data Source: RPI International, Inc.

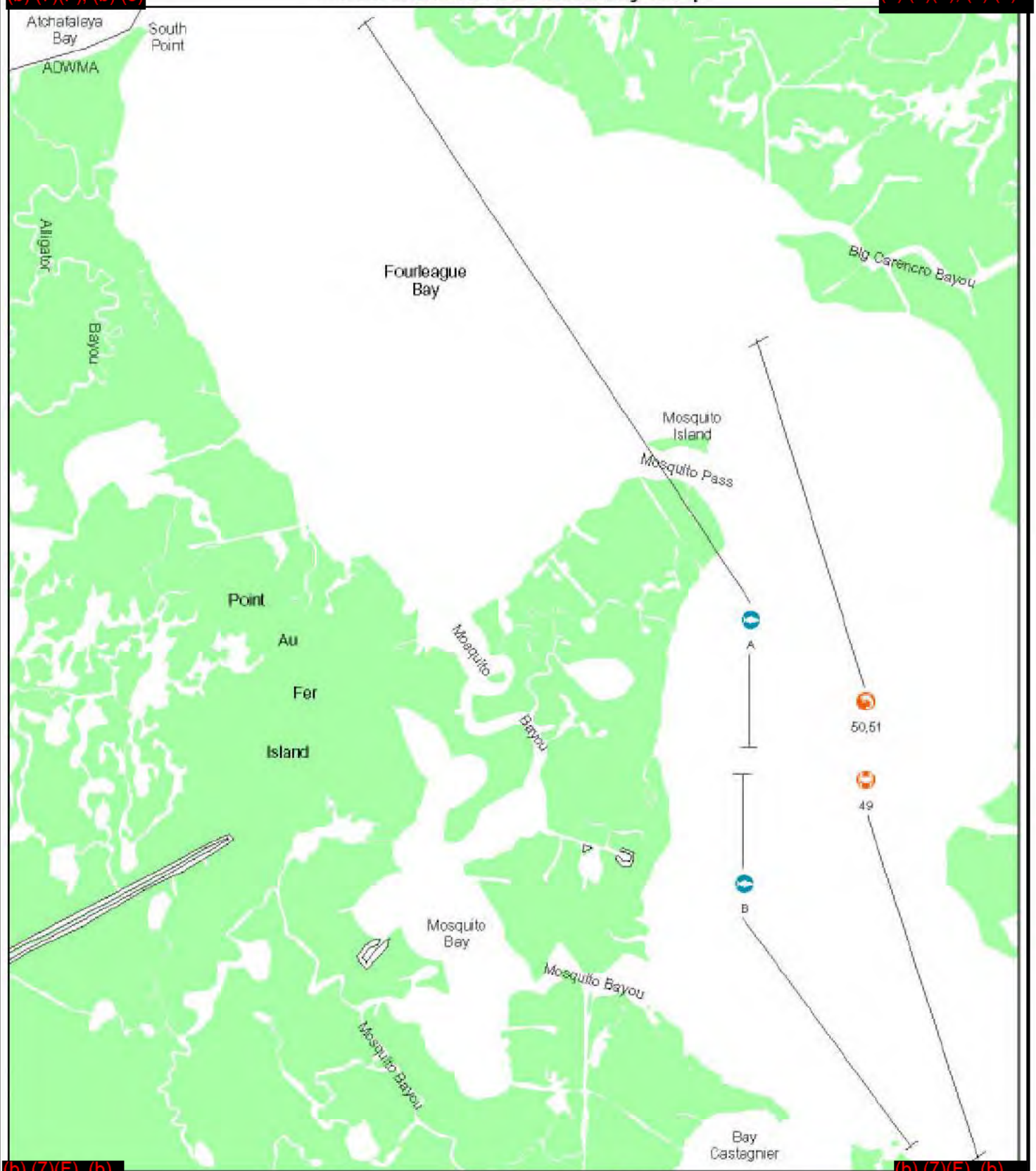
prepared by

J. Morris Environmental, Inc.

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

C D 8,37,38,43,44 3
Common Throughout Wetlands

74,77,107,182 E 1,5,8,118,173,179
49 50,51 43
Common Throughout Area

N

Data Source: RPI International, Inc.

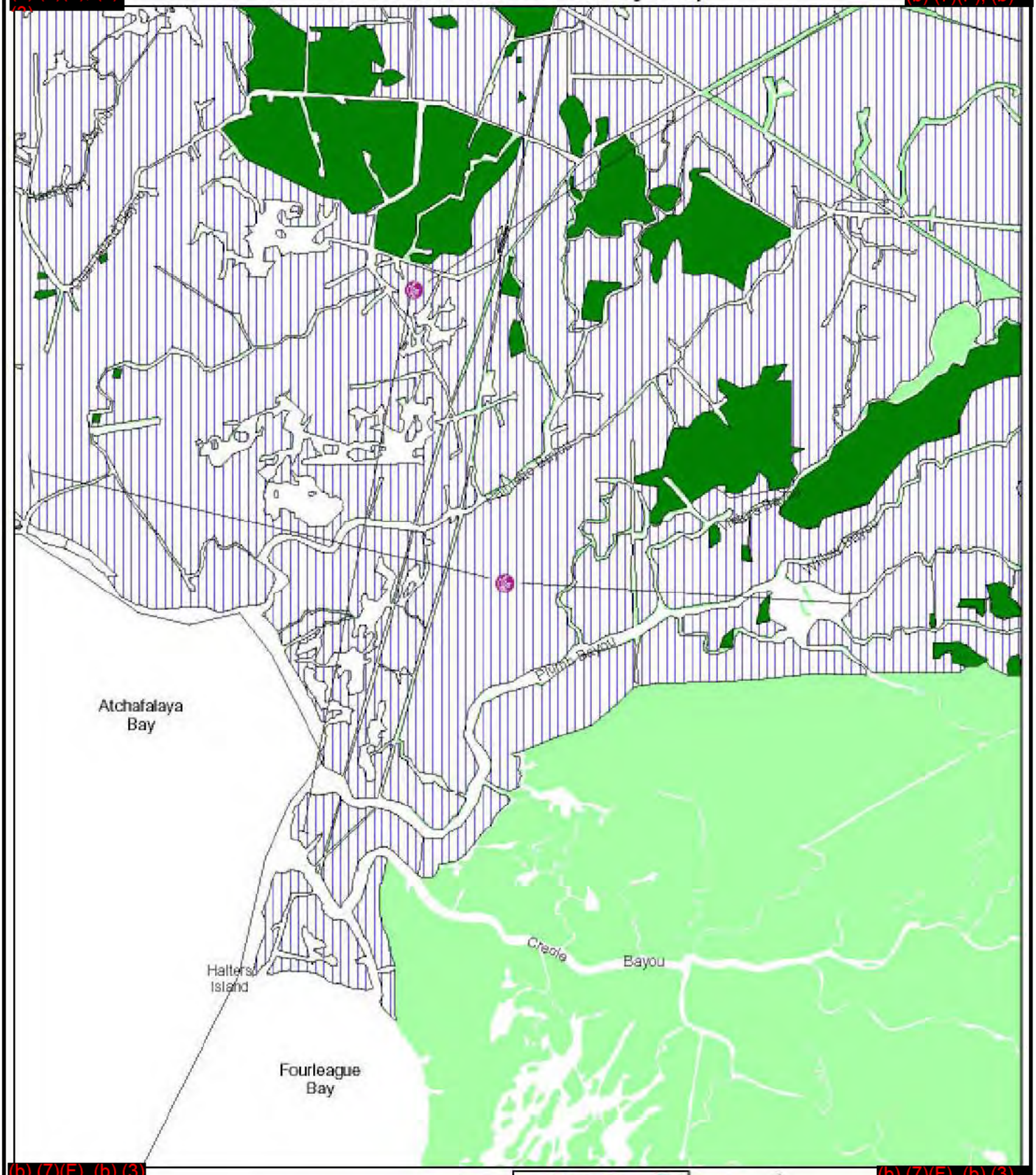
prepared by
Morris Environmental, Inc.

0 1 2 Miles

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

1,5,8,118, 173, 179
Common Throughout Atchafalaya Bay and Fourleague Bay

C D 8,37,38,43,44 3
Common Throughout Wetlands

76,77,107,182 E A
49 50,51 43
Common Throughout Area

N

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

0 1 2 Miles

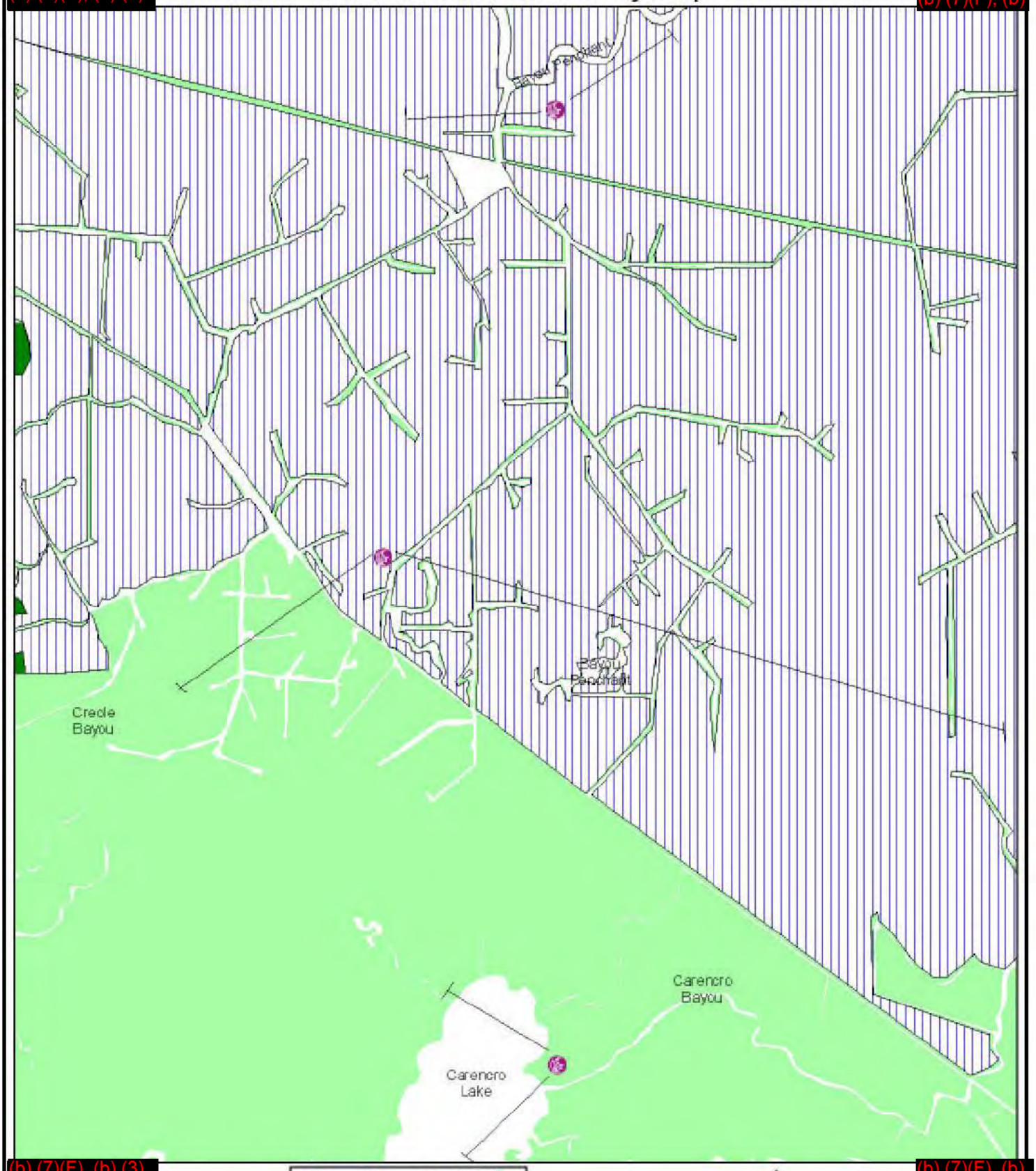
PHMSA 00118813

Environmental Sensitivity Map

LA-6

(b) (7)(F), (b) (3)

(b) (7)(F), (b)



(b) (7)(F), (b) (3)

(b) (7)(F), (b)

C 76,77,107,182 E D A

49 50,51 3 8,37,38,43,44

Common Throughout Area

N

Data Source: RPI International, Inc.

prepared by

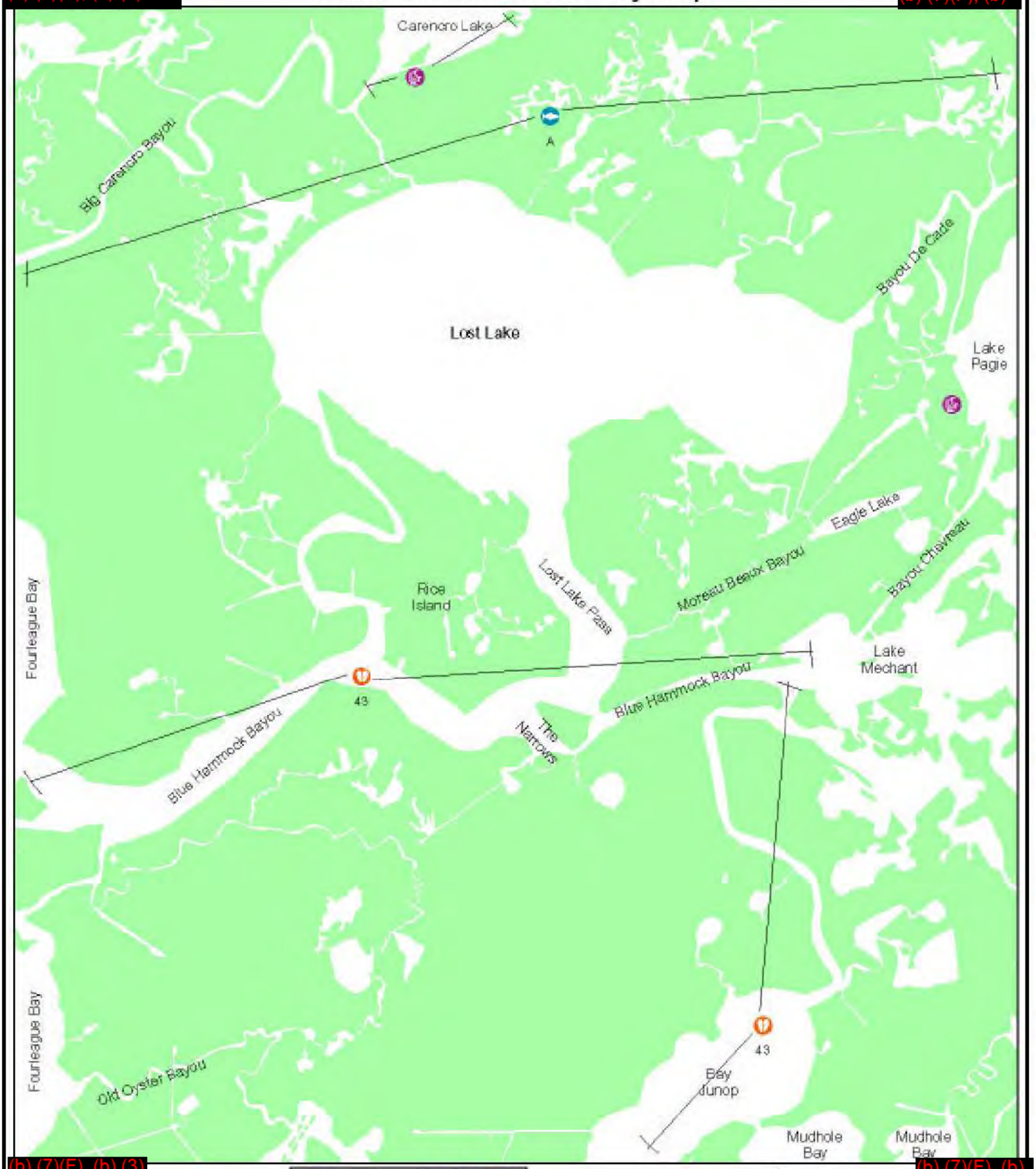
J Morris Environmental, Inc.

0 1 2 Miles

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F), (b)



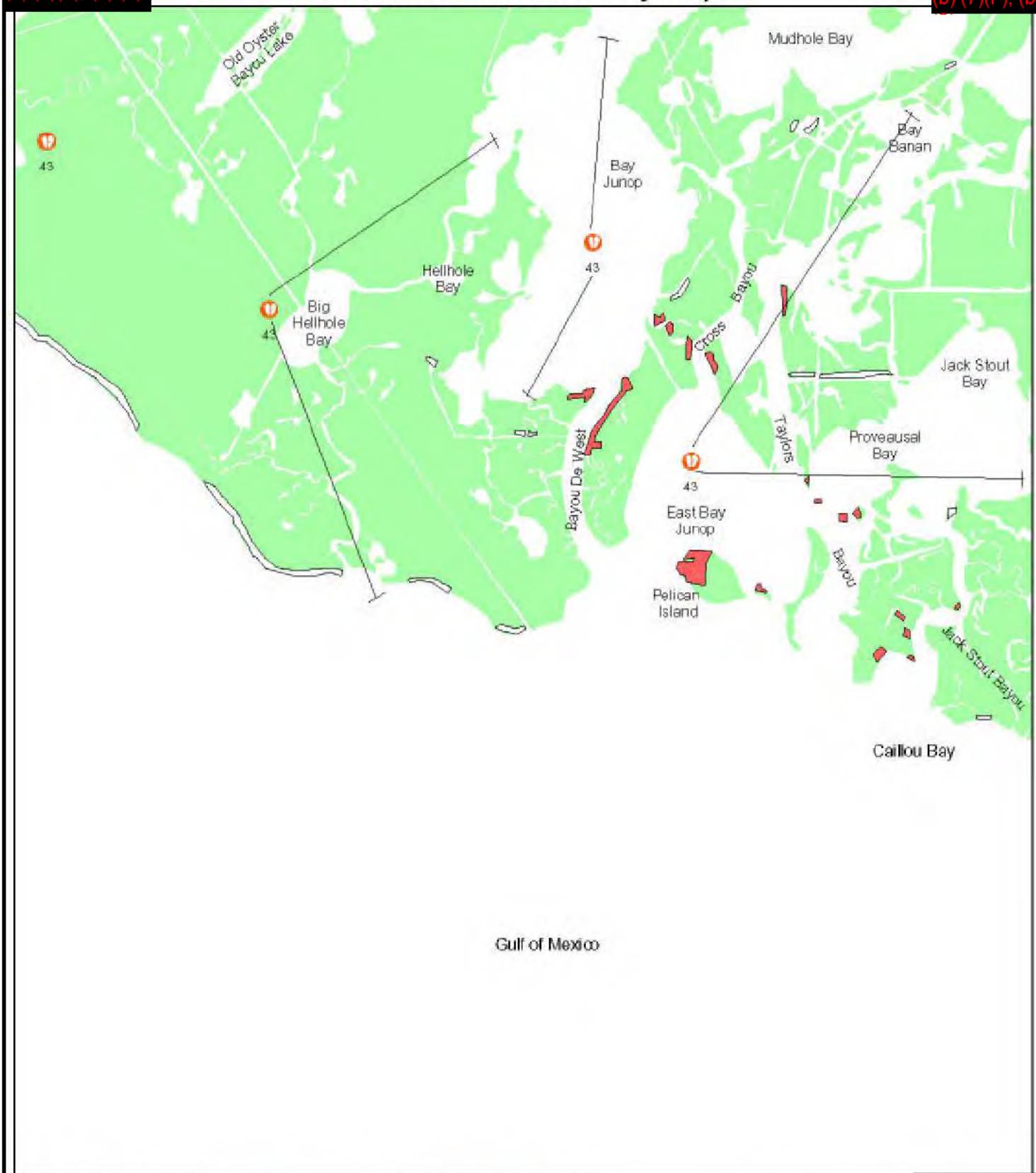
(b) (7)(F), (b) (3)

(b) (7)(F), (b)

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F), (b)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

1,5,8,118,173,179

43 49 50,51 B

Common Throughout Area

76,77,107,182 C D

E 3 8,37,38,43,44

Common Throughout Wetlands

N

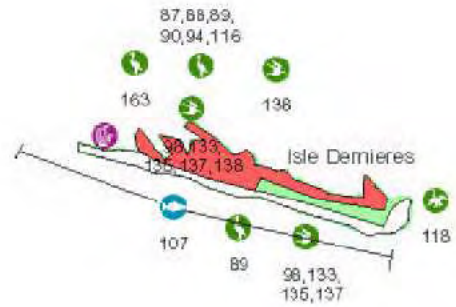
Data Source: RPI International, Inc.

prepared by

J. Morris Environmental, Inc.

0 1 2 Miles

Environmental Sensitivity Map



Grand Pass
Des Ilettes

Caillou Bay

Gulf of Mexico

1,5,8,118,173,179 22,23,33,124,190,198
49 50,51 B
Common Throughout Area

43 C D
Common in Nearshore Area

N

Data Source: RPI International, Inc.
prepared by
J. Morris Environmental, Inc.

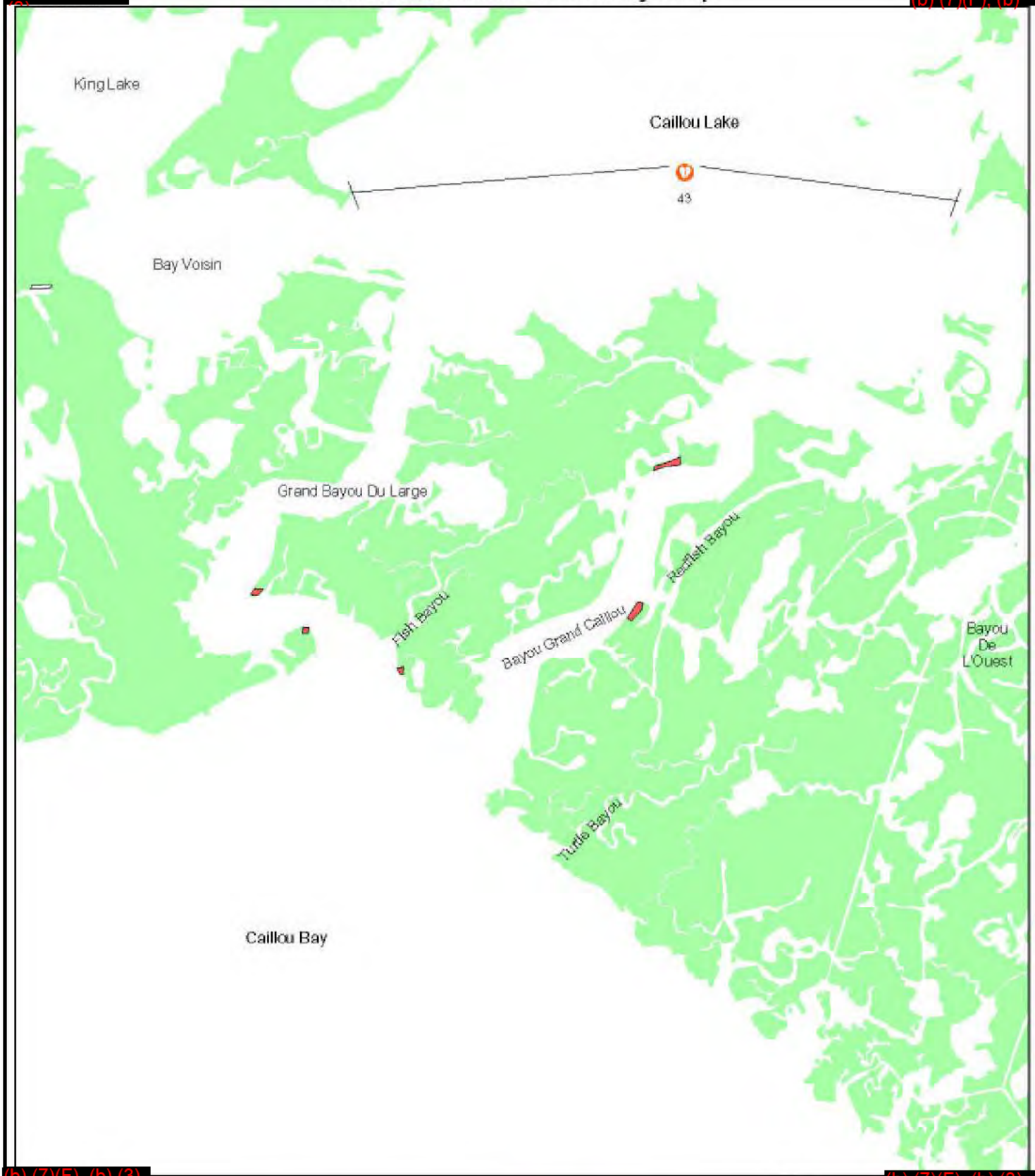
0 1 2 Miles

(b) (7)(F), (b)

Environmental Sensitivity Map

LA-10

(b) (7)(F), (b)



(b) (7)(F), (b) (3)

43 49 50,51 E B
Common Throughout Area

C 8,37,38,43,44
Common Throughout Wetlands

D 1,5,8,118,173,179
Common Along Caillou Lake and Caillou Bay

N

Data Source: RPI International, Inc.

prepared by
J Morris Environmental, Inc.

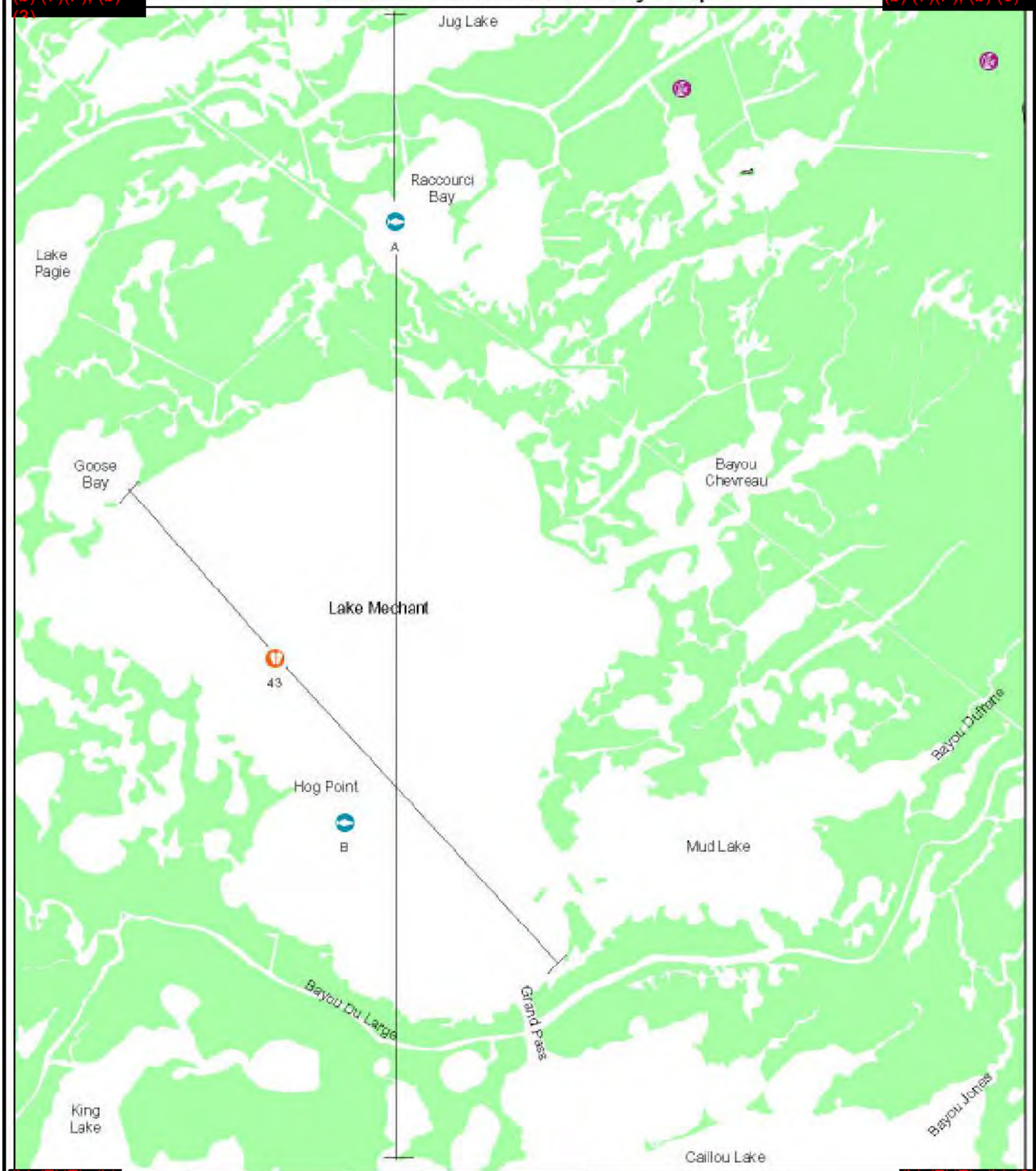
0 1 2 Miles

(b) (7)(F), (b) (3)

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

E 76,77,107,182 C
43 49 50,51
Common Throughout Area

62,64,66,155,156,196
3 8,37,38,43,44
Common in Nearshore Areas

N

Data Source: RPI International, Inc.

prepared by
J Morris Environmental, Inc.

0 1 2 Miles

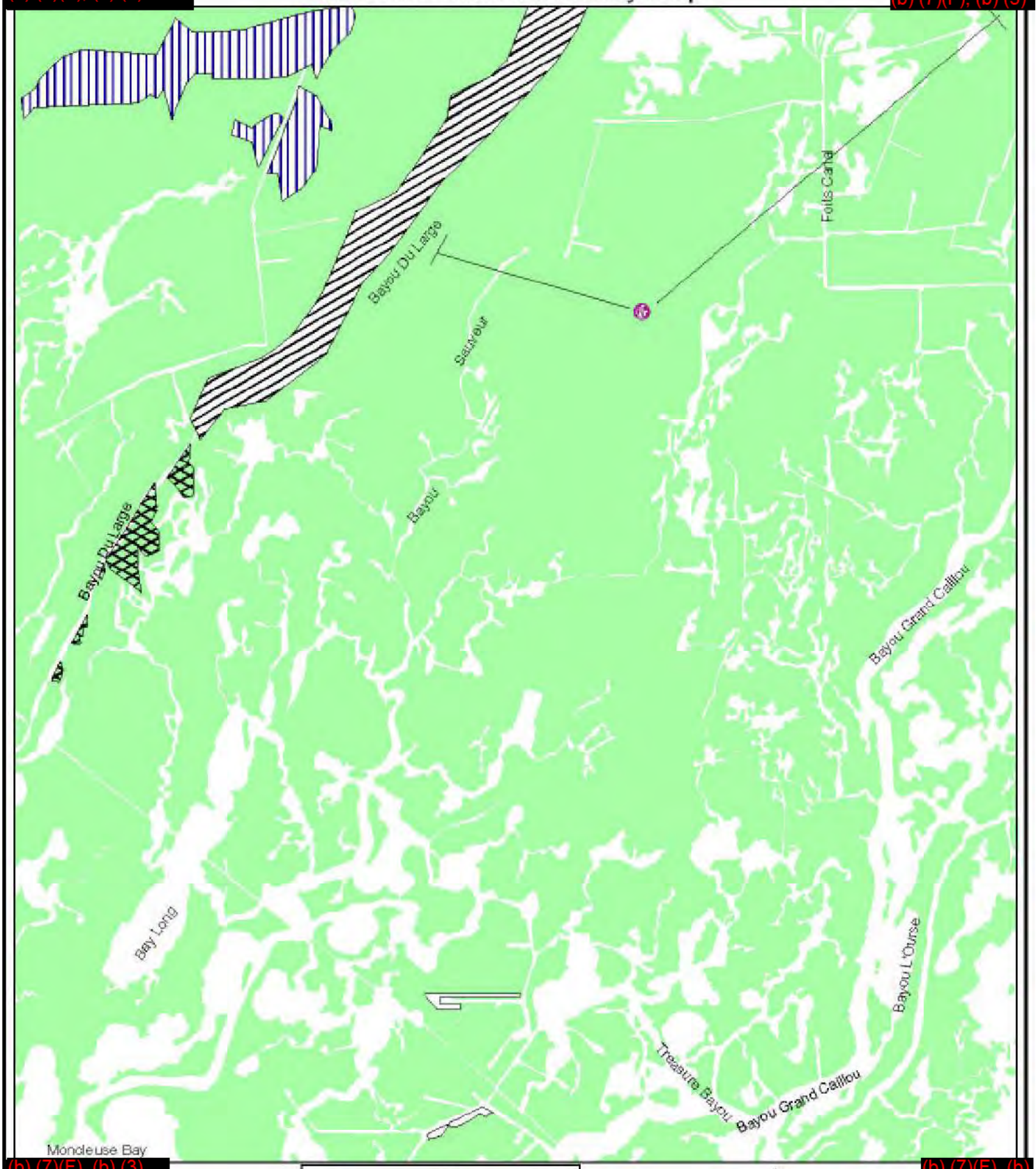
PHMSA 00118819

Environmental Sensitivity Map

LA-12

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

(b) (7)(F), (b)

76,77,107,182 62,64,66,155,156,196 E C

3 43 49 50,51 8,37,38,43,44 B

Common Throughout Area

N

Data Source: RPI International, Inc.

prepared by

Morris Environmental, Inc.

0 1 2 Miles

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F),

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

76,77,107,182 D E C B

3 43 49 50,51 8,37,38,43,44

Common Throughout Area

N

Data Source: RPI International, Inc.

prepared by

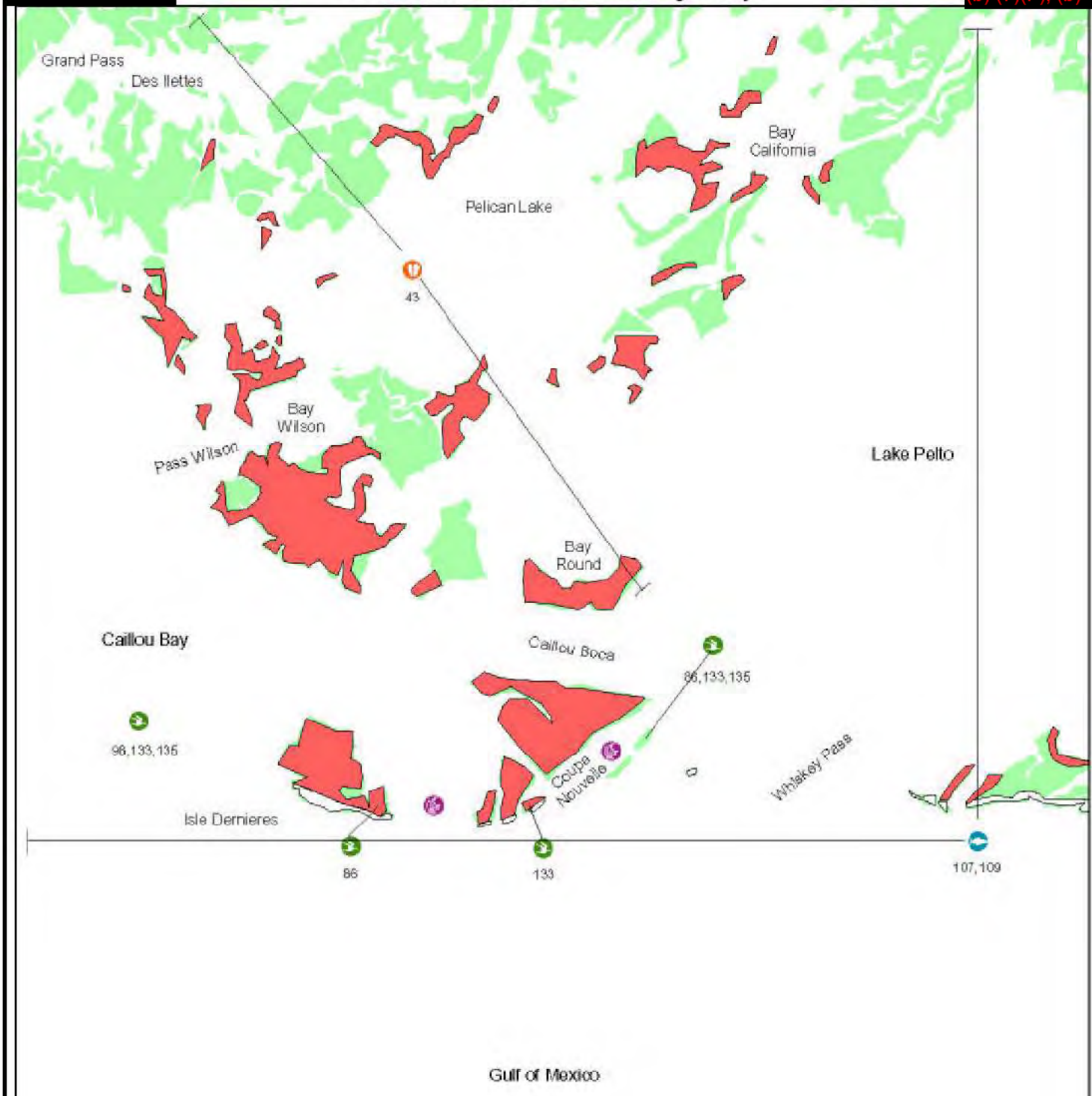
J. Morris Environmental, Inc.

0 1 2 Miles

(b) (7)(F), (b) (3)

Environmental Sensitivity Map

(b) (7)(F), (b)



(b) (7)(F), (b) (3)

1,5,8,118,173,179 D E C
43 49 50,51 B
Common Throughout Area

N

Data Source: RPI International, Inc.
prepared by
Morris Environmental, Inc.

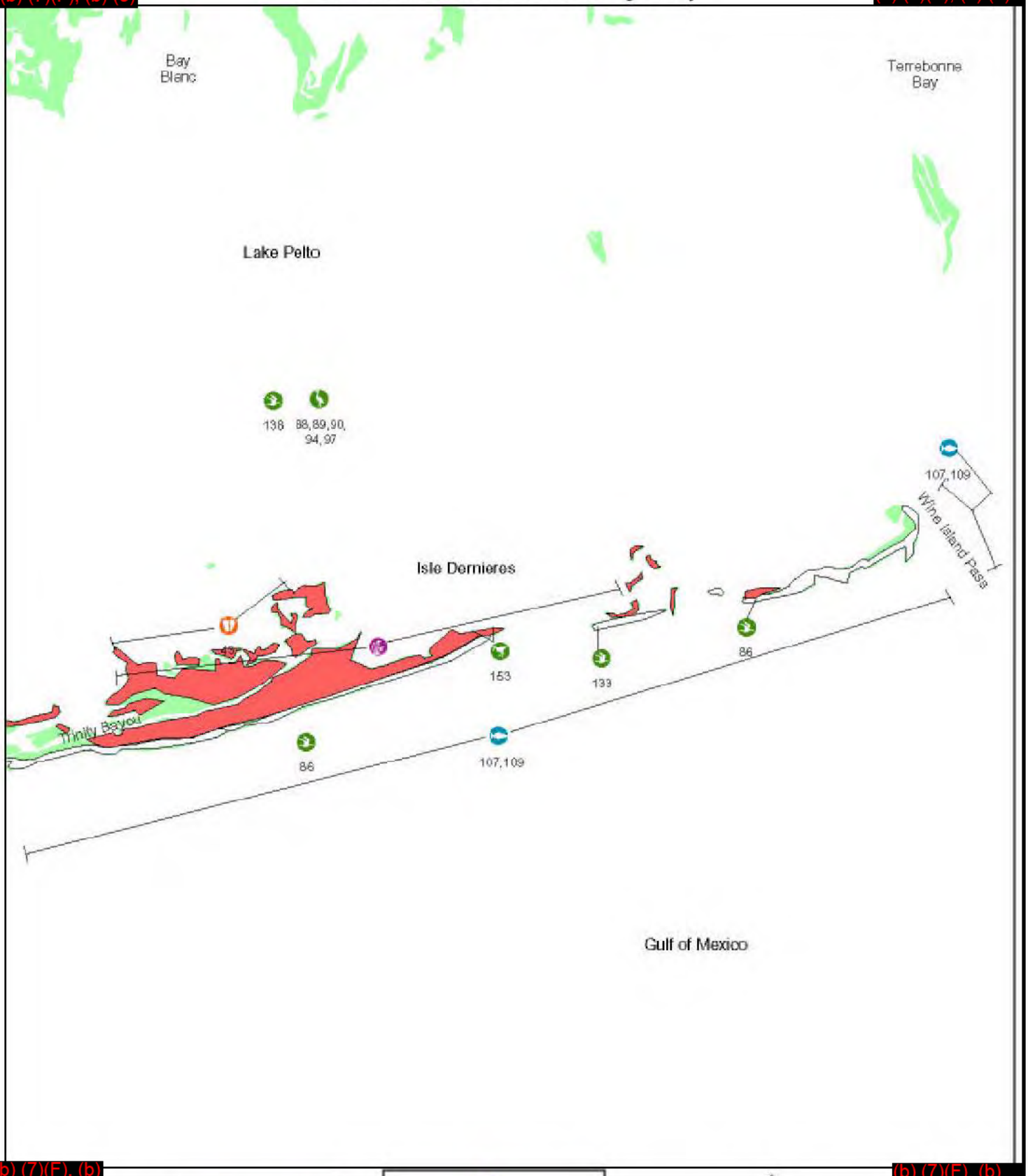
0 1 2 Miles

(b) (7)(F), (b)

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

C D
Common in Nearshore Area

22,23,26,33,124,148,190,198
1,5,8,118,173 43 49 50,51 B
Common Throughout Area

N

Data Source: RPI International, Inc.

prepared by
J Morris Environmental, Inc.

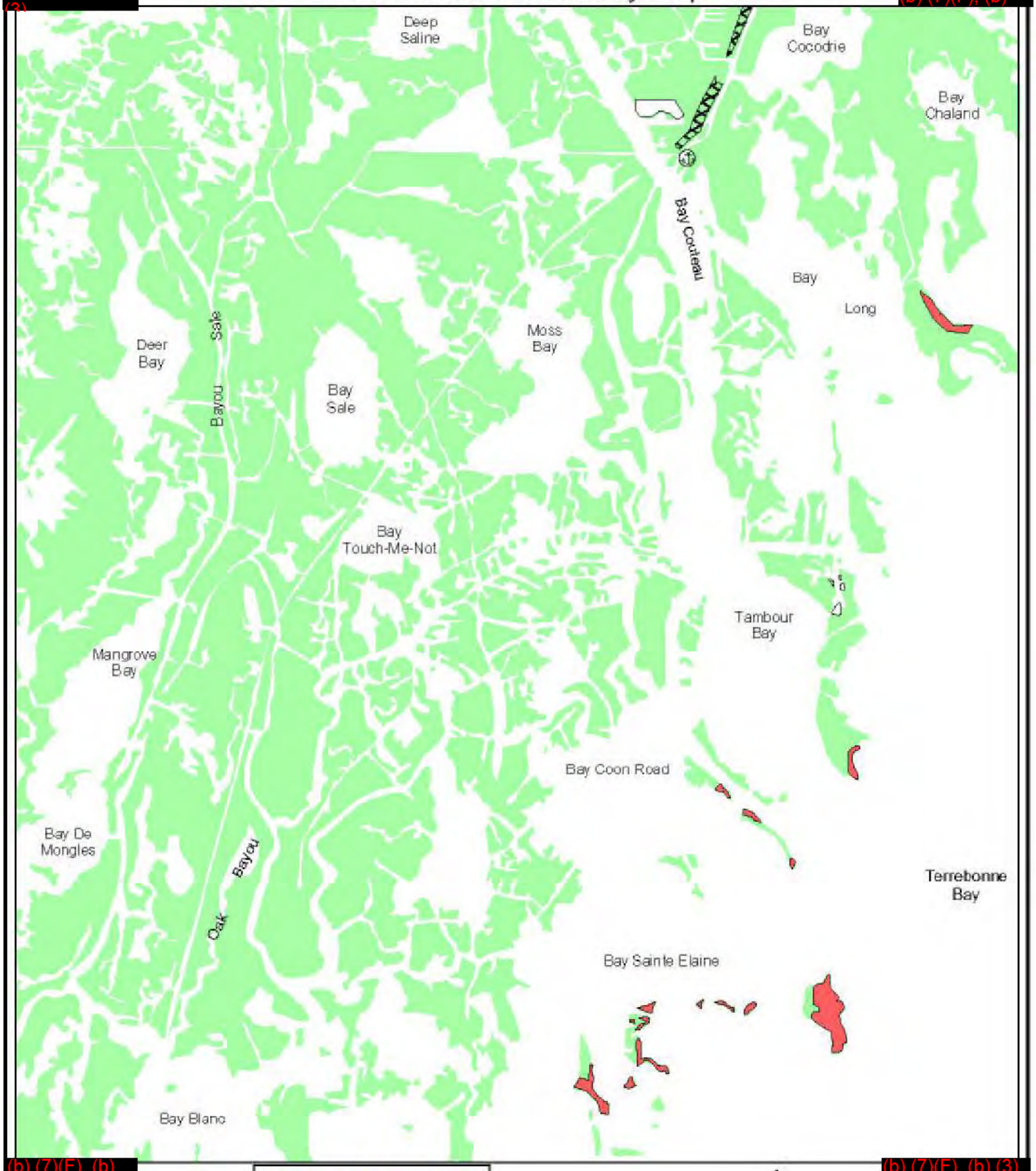
0 1 2 Miles

(b) (7)(F), (b) (3)

Environmental Sensitivity Map

LA-16

(b) (7)(F), (b)



(b) (7)(F), (b)

(b) (7)(F), (b) (3)

76,77,107,182 E C B D

43 50,51 49 8,37,38,43,44

Common Throughout Area

N

Data Source: RPI International, Inc.

prepared by

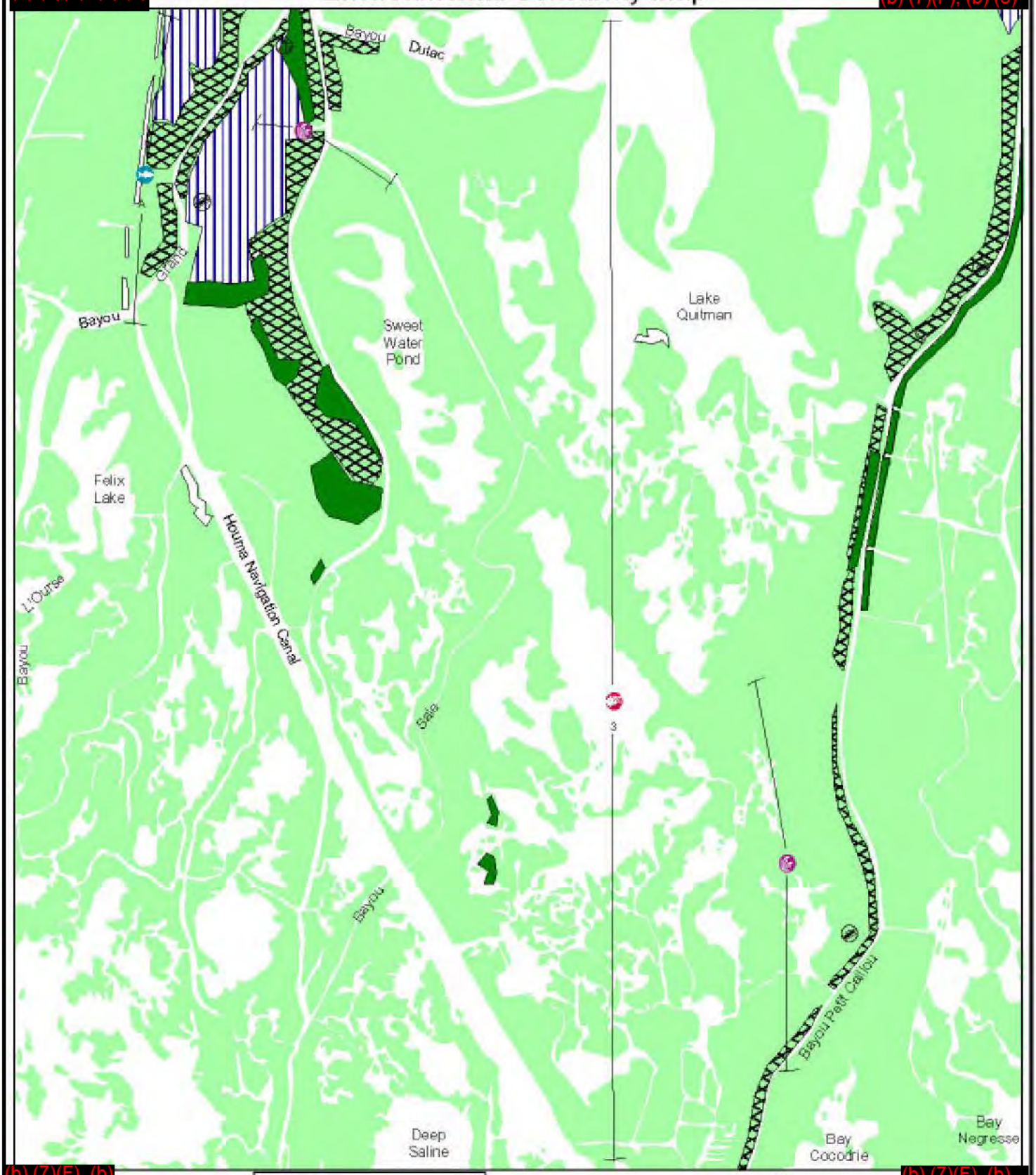
Morris Environmental, Inc.

0 1 2 Miles

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

76,77,107,182 E C B

43 49 50,51 8,37,38,43,44

Common Throughout Area

N

Data Source: RPI International, Inc.

prepared by

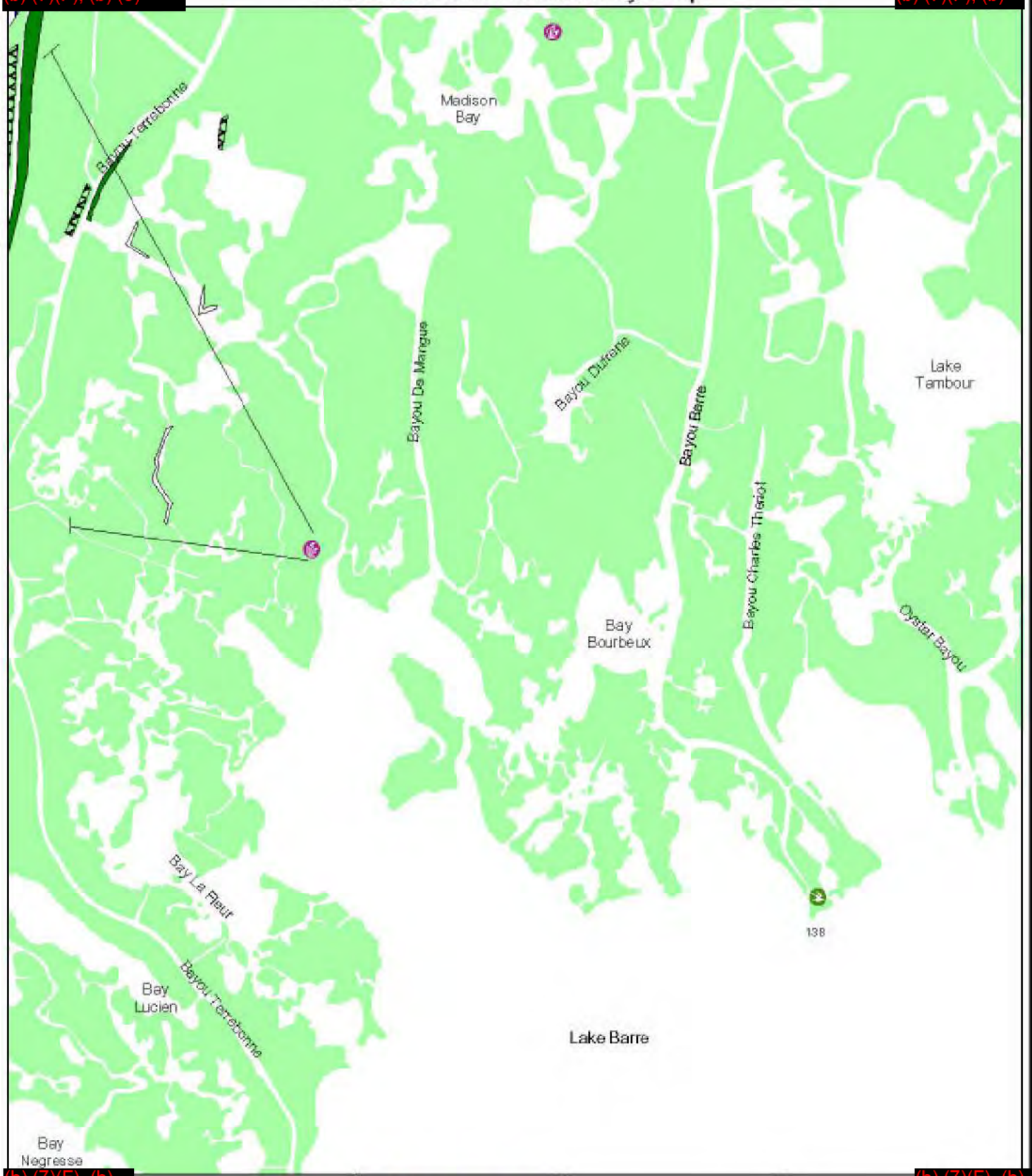
Morris Environmental, Inc.

0 1 2 Miles

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F), (b)



(b) (7)(F), (b)

(b) (7)(F), (b) (3)

C D 8,37,38,43,44
Common Throughout Wetlands

76,77,107,182 E 1,5,8,118,173,179
43 49 50,51 B
Common Throughout Area

N

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

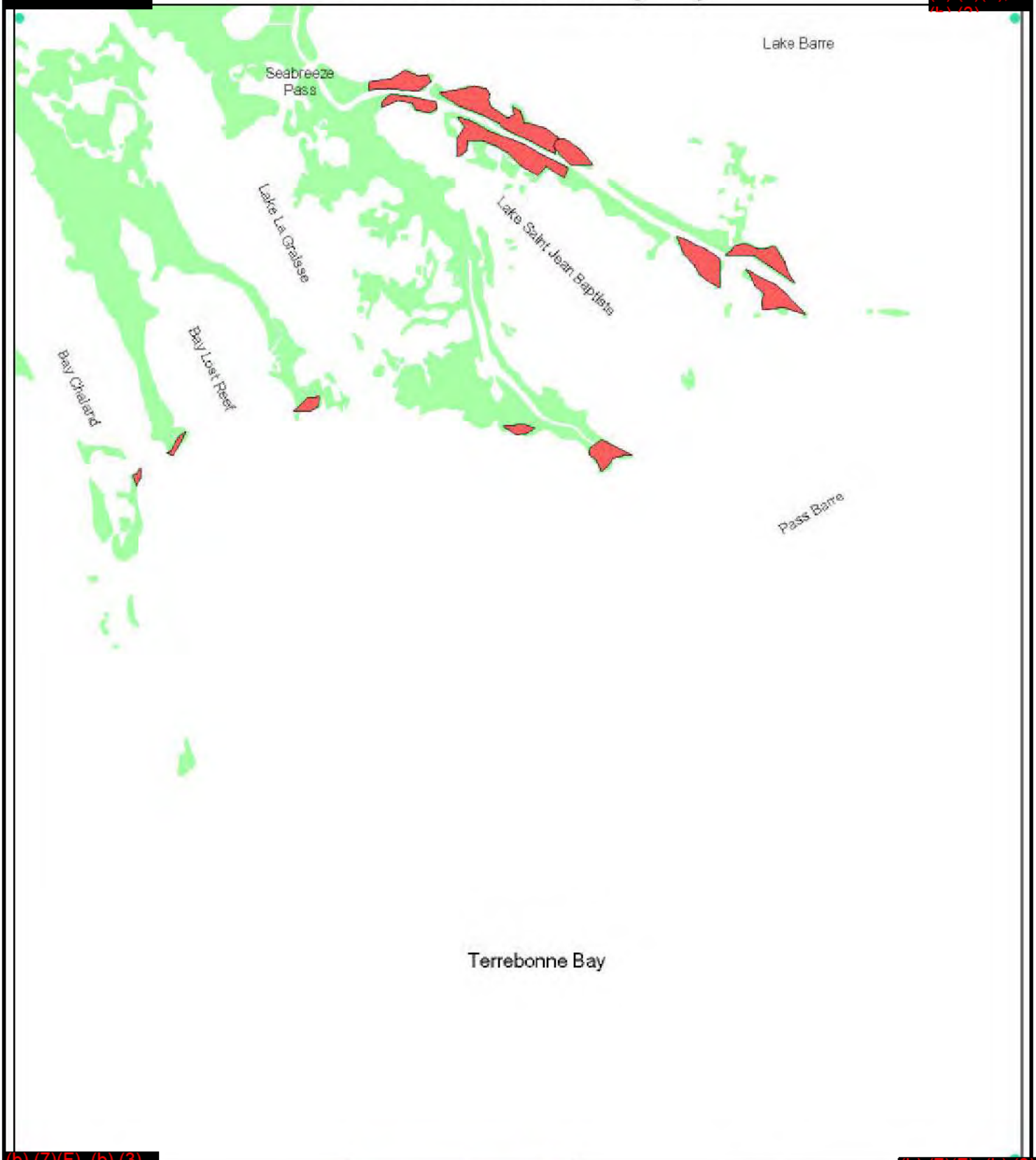
0 1 2 Miles

(b) (7)(F), (b) (3)

Environmental Sensitivity Map

LA 19

(b) (7)(F),



(b) (7)(F), (b) (3)

C 22, 23, 26, 33, 124, 148, 198 D

1, 5, 8 118, 173 43 49 50,51 B

Common Throughout Nearshore Area

N

Data Source: RPI International, Inc.

prepared by

J. Morris Environmental, Inc.

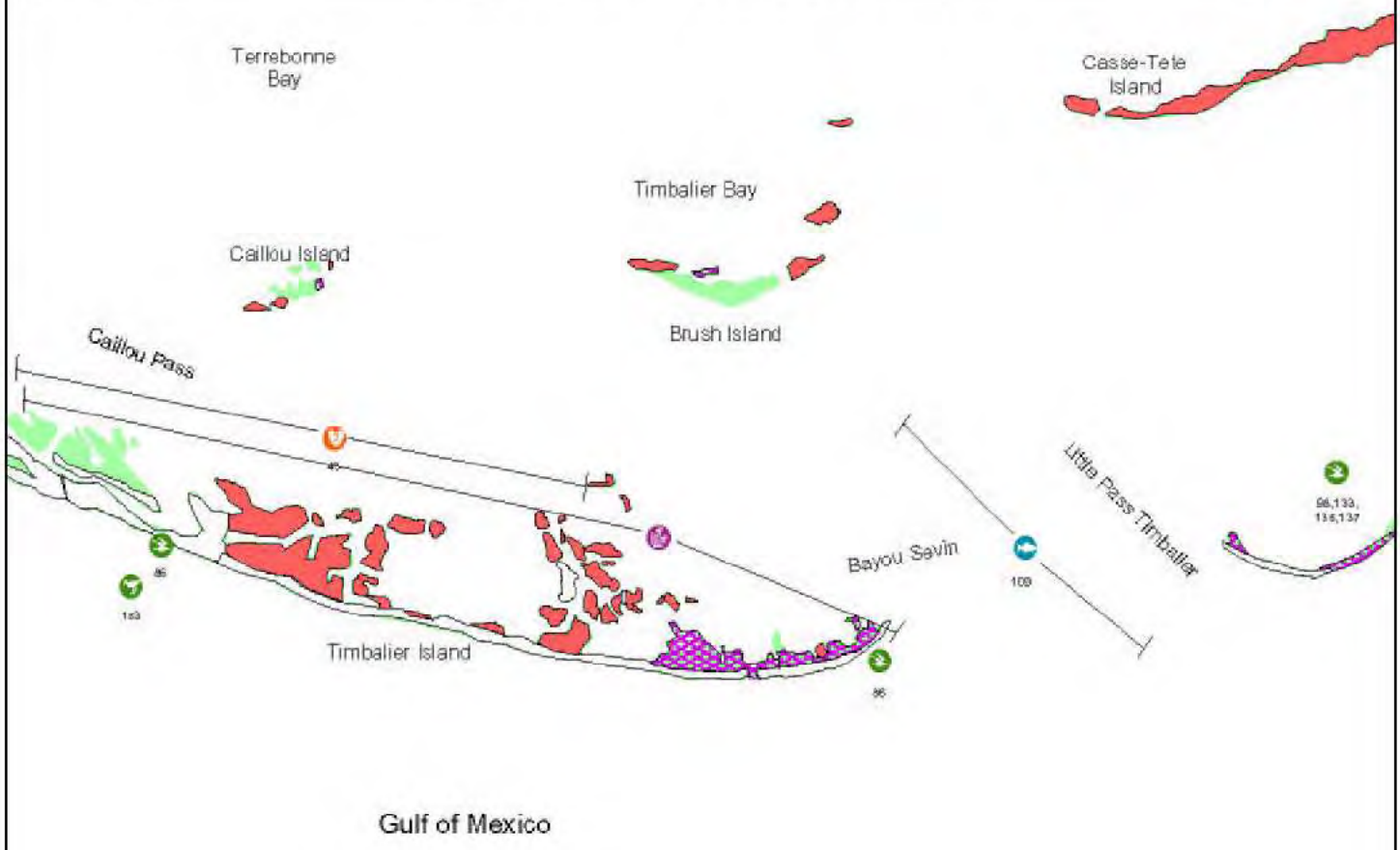
0 1 2 Miles

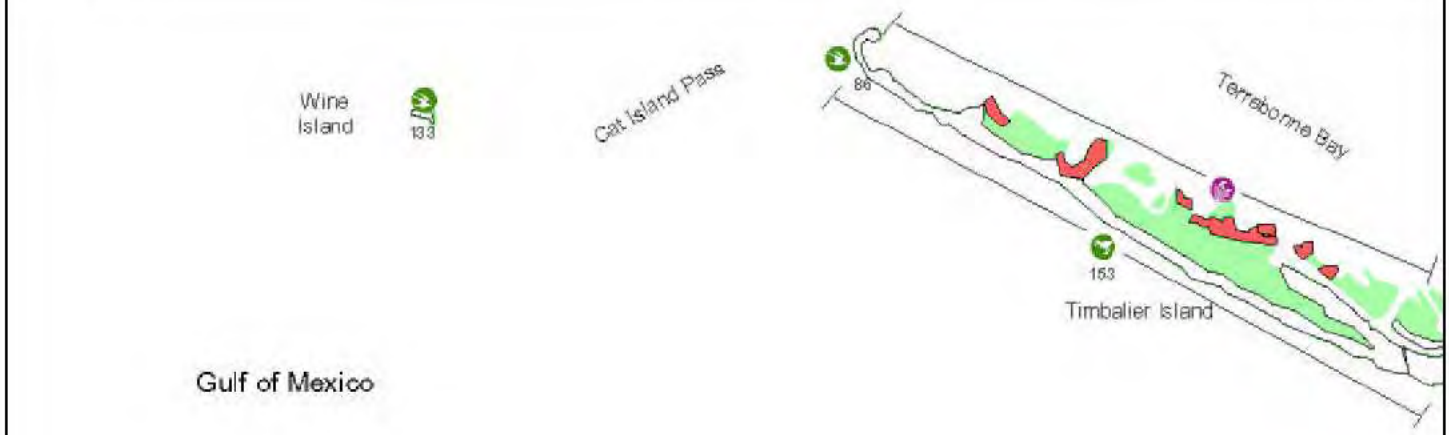
(b) (7)(F), (b) (3)

PHMSA 00011882

Environmental Sensitivity Map

LA-20(bottom) LA-21(top)





C D
Common Throughout Nearshore Area

1, 5, 8 22, 23, 26, 33, 124, 148, 198
118, 173, 179 43 49 50,51 B
Common Throughout Area

N

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

0 1 2 Miles

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

C D
Common Throughout Nearshore Area

C 76, 77, 107, 182 8, 37, 38, 43, 44
Common Throughout Wetlands

1, 5, 8, 118, 173, 179 E
43 49 50,51 B
Common Throughout Area

N

Data Source: RPI International, Inc.

prepared by
J Morris Environmental, Inc.

0 1 2 Miles

Environmental Sensitivity Map

LA-23

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

1, 5, 8 — 118, 173, 179
Common Throughout Major Water Bodies

C — D — 8, 37, 38, 43, 44
Common Throughout Wetlands

76, 77, 107, 182 — E
43 — 49 — 50,51 — B
Common Throughout Area

N

Data Source: RPI International, Inc.

prepared by
J Morris Environmental, Inc.

0 — 1 — 2 Miles

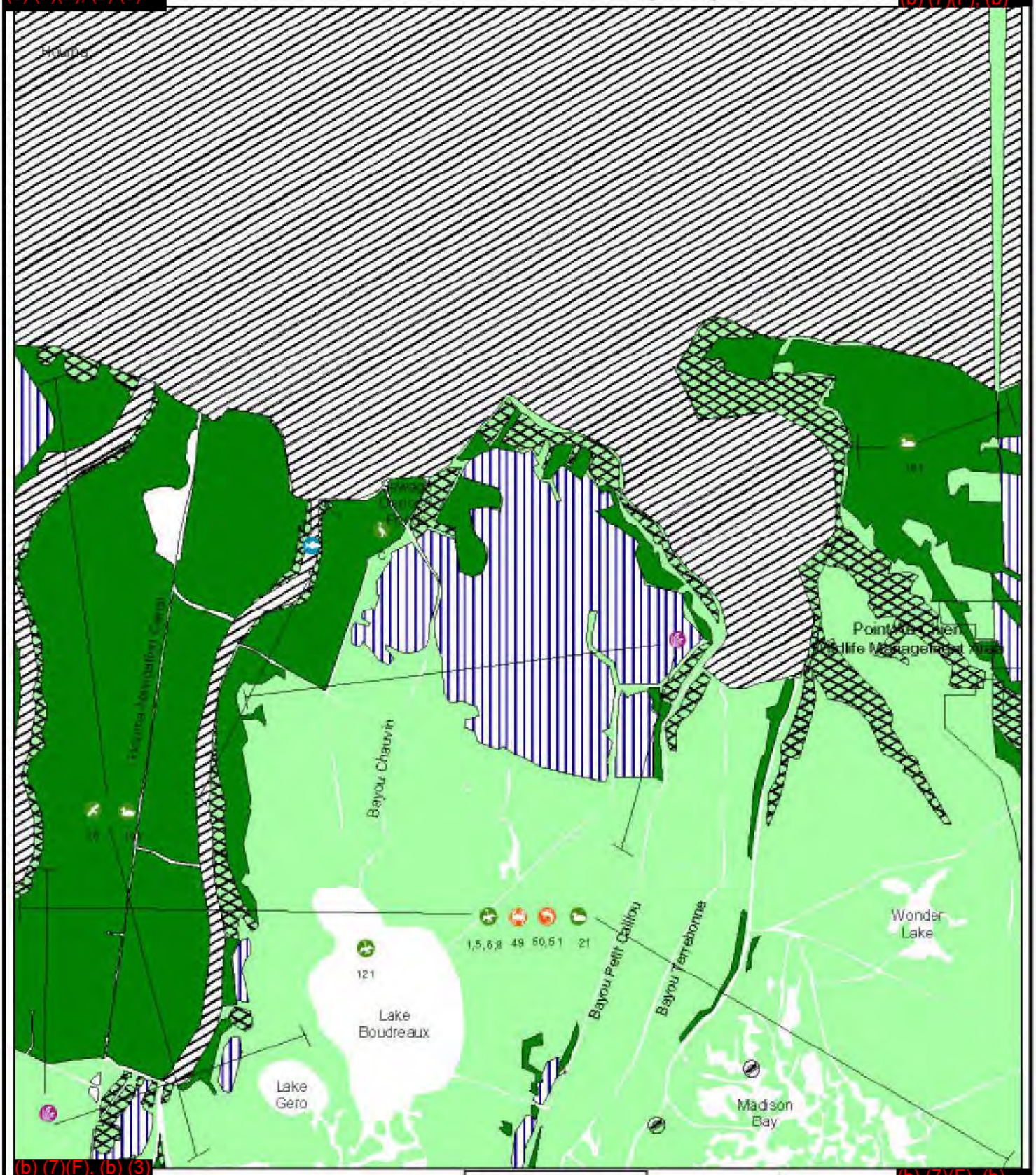
(b) (7)(F), (b) (3)

Environmental Sensitivity Map

LA-76

(b) (7)(F), (b) (3)

(b) (7)(F), (b)



(b) (7)(F), (b) (3)

(b) (7)(F), (b)

83
Common Throughout Channels

76,77,107,182 A E
Common Throughout Area
(unless otherwise specified on map)

D C,184,212
3 8,37,38,43,44 84
Common Throughout Wetlands

N

Data Source: RPI International, Inc.

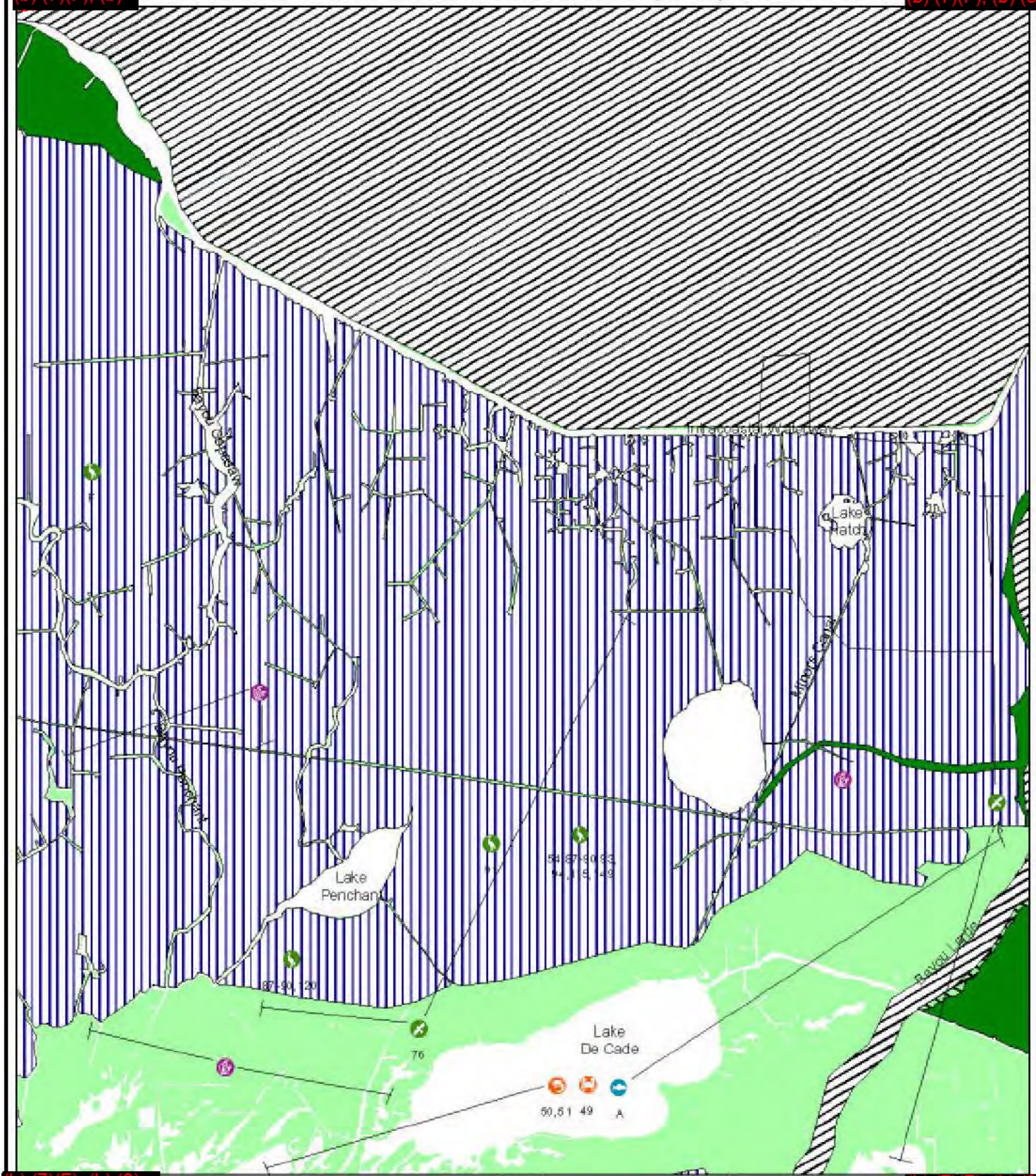
prepared by
Morris Environmental, Inc.

0 2 4 Miles

Environmental Sensitivity Map

(b) (7)(F), (b)

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

83
Common Throughout Channels

191
Common Throughout Swamps

1,5,6,8,121,173,179
76,77,107,182
E,21,34
Common Throughout Area

D,214
C,184,212
3
8,37,38,43,44
84
Common Throughout Wetlands

N

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

0 2 4 Miles

EHMSA00043882

LOUISIANA ENVIRONMENTAL SENSITIVITIES

SHORELINE INDEX

SENSITIVITY

1	DEVELOPED/UNFORESTED UPLAND
2	SAND BEACH/SPOIL BANKS
2	SAND BEACH
3	TIDAL MUDFLATS
4	FRESHWATER FLAT
5a	SALT MARSH
5b	FRESH MARSH
6	SWAMP
7	MANGROVES

UNRANKED

- OYSTER REEFS
- FORESTED UPLAND
- UNCLASSIFIED

BIOLOGICAL RESOURCES

- OYSTERS/CLAMS
- CRABS
- SHRIMP/CRAYFISH
- ALLIGATORS
- SEA TURTLES
- FISH
- AQUATIC VEGETATION
- SHOREBIRDS
- RAPTORS
- WATERFOWL
- WADING BIRDS
- SEABIRDS
- DIVING BIRDS
- COASTAL MAMMALS

REFUGE/PARK BOUNDARIES

KEY TO WILDLIFE SYMBOLS

123 Number = Species (from regional lists)

Range

SPILL RESPONSE ACCESS

BOAT RAMP

MARINA

SPECIES LIST AND ASSEMBLAGES WITH SEASONAL DISTRIBUTION AND BREEDING SEASON

FWMSA 0001 18833

BIRDS

Wading Birds Assemblage C

54, 87, 88, 89, 90, 91, 94, 97, 115, 120, 125, 132, 149, 178, 185, 187, 188, 189, 192

Wading Birds

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
54	Great blue heron	Ardea hrodias	*	*	°	°
87	Little blue heron	Egretta caerulea	*	*	°	°
88	Great egret	Casmeridius albus	*	*	°	°
89	Snowy egret	Egretta thula	*	*	°	°
90	Black-crowned night heron	Nycticorax nycticorax	*	*	°	°
91	Glossy ibis	Plegadis falcinelius	*	°	°	°
93	Cattle egret	Bulbulcus ibis	*	*	°	°
94	Tricolor heron	Egretta tricolor	*	*	°	°
97	Green heron	Butorides striatus	*	*	°	
115	White ibis	Eudocimus albus	*	*	°	°
116	Roseate spoonbill	Ajaia ajaja	*	*	°	°
120	Yellow-crowned night heron	Nyctanassa violacea	*	*	°	°
125	Clapper rail	Rallus longirostris	*	*	°	°
132	Wood stork	Mycteria americana		°		
149	White-faced ibis	Plegadis chihi	*	*	°	°
163	Reddish egret	Egretta rufescens	°	*	°	
178	Least bittern	Ixobryrychus exilis	°	*	°	
184	King rail	Rallus elegans	*	*	°	°
185	American bittern	Botaurus lentiginosus	°	°	°	°
187	Virginia rail	Rallus limicola	°		°	°
188	Sora	Porzana carolina	°		°	°
189	Yellow rail	Coturnicops noveboracensis	°		°	°
192	Common gallinule	Gallinula chloropus	*	*	°	°
212	Purple gallinule	Porphyrula martinica	*	*	°	°
172	Sandhill crane	Grus canadensis	°	°	°	°

Water fowl Assemblage E

15, 16, 17, 18, 20, 22, 23, 26, 33, 121, 124, 148, 162, 169, 190, 198, 211

Waterfowl

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
12	Canada goose	Branta canadensis			°	°
14	White-fronted goose	Anser albifons	°		°	°
15	Snow goose	Chen caerulescens	°		°	°
16	Mallard	Anas platyrhynshos	*		°	°
17	Pintail	Anas acuta	*		°	°
18	Green-winged teal	Anas crecca	°	°	°	°
20	Northern shoveler	Anas clupeata	°		°	°
21	Canvasback	Aythya valisineria	°		°	°
22	Greater scaup	Aythya affinis	°		°	°
23	Lesser scaup	Aythya affinis	°	°	°	°
24	Common goldeneye	Bucephala clangula	°		°	°
26	Bufflehead	Bucephala albeola	°		°	°
33	Red-breasted merganser	Mergus serrator	°		°	°
34	American coot	Fuleca americana	°		°	°
124	Redhead	Aythya americana	°		°	°
148	Ruddy duck	Oxyura jamaicensis	°		°	°
162	Gadwall	Anas strepera	°		°	°
169	American wigeon	Anas americana	°		°	°
180	Ring-necked duck	Aythya collaris	°		°	°
186	Black duck	Anas rubipes	°		°	°
190	Blue-winged teal	Anas discors	°	*	°	
191	Wood duck	Aix sponsa	°	°	°	°
198	Hooded merganser	Lophodytes cucullatus	°		°	°
211	Mottled duck	Anas fulvigula	*	°	°	°

Shorebirds Assemblage D

52, 56, 58, 59, 61, 62, 64, 65, 66, 142, 153, 155, 156, 196

Shorebirds

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
52	Wilsons phalarope	Steganopus tricolor	°	°	°	
55	Whimbrel	Numenius phaeopus	°	°	°	°
56	Spotted sandpiper	Actitis macularia	°	°	°	
58	Greater yellowlegs	Tringa melanaleuca	°	°	°	°
59	Lesser yellowlegs	Tringa flavipes	°	°	°	°
60	Red knot	Calidris canutus	°	°	°	
61	Pectoral sandpiper	Calidris melanotos	°	°	°	
62	Least sandpiper	Calidris minutilla	°	°	°	°
63	Dunlin	Calidris alpina	°		°	°
64	Short-billed dowitcher	Limnodromus griseus	°	°	°	°
65	Long-billed dowitcher	Limnodromus Scolopaceus	°	°	°	
66	Western sandpiper	Caladris mauri	°	°	°	°
67	Sanderling	Caladris alba	°	°	°	°
71	Black-bellied plover	Pluvialis squatarola	°		°	°
73	Ruddy turnstone	Arenaria interpres	°	°	°	
139	Snowy plover	Charadrius alexandrinus	°	°	°	°
141	American avocet	Recurvirostra americana	°	°	°	°
142	Black-necked stilt	Himantopus mexicanus	*	*	°	°
152	American oystercatcher	Haemetopus palliatus	°	°		
153	Piping plover	Charadrius melodus	°	°	°	
154	Wilson's plover	Charadrius wilsonia	*	*	°	
155	Willet	Catoptrophorus semipalmatus	*	*	°	°
156	Semipalmated plover	Calidris pusilla	°	°	°	°
196	Common snipe	Capella gallinago	°		°	°
209	Long-billed curlew	Namenius americanus	°	°	°	°
210	marbled godwit	Limosa fedoa	°	°	°	°
213	Stilt sandpiper	Calidris himantopus	°	°	°	
214	Solitary sandpiper	Tringa solitara	°	°	°	

Seabirds

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
38	Herring gull	Larus argentatus	°		°	°
40	Ring-billed gull	Larus delawarebsus	°	°	°	°
42	Bonapartes gull	Larus philadelphia	°	°	°	°
45	Common tern	Sterna hirundo	°	°	°	°
86	Least tern	Sterna antillarum	*	*	°	°
98	Laughing gull	Larus articilla	*	*	°	°
133	Black skimmer	Rynshops niger	*	*	°	°
134	Gull-billed tern	Gelochilidon nilotica	°	*	°	°
135	Sandwich tern	Sterna sandvicensis	°	*	°	°
136	Caspian tern	Sterna caspia	*	*	°	
137	Royal tern	Sterna maxima	*	*	°	°
138	Forsters tern	Sterna fosteri	*	*	°	°

Raptors

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
76	Bald eagle	Haliaeetus leucocephalus	*		°	*
77	Osprey	Pandion haliaetus	*		°	*
107	Peregrine falcon	Falco peregrinus	°		°	°
182	American kestrel	Falco sparverius	°		°	°

Diving Birds

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
1	Common loon	Gavia immer	°		°	°
5	Horned grebe	Podiceps auritus	°		°	°
6	Eared grebe	Podiceps nigricollis	°		°	°
8	Double-crested commorant	Phalacrocorax nigricollis	°		°	°
118	Brown pelican	Pelecanus occidentalis	°	°	°	*
121	Anhinga	Anhinga anhinga	*	*	°	°
168	Olivaceous cormarant	Phalacrocorax olivaceus	*	°	°	°
173	White pelican	Pelecanus erythrorhynchos	°	°	°	°
179	Pied-billed grebe	Podilymbus podiceps	*	°	°	°

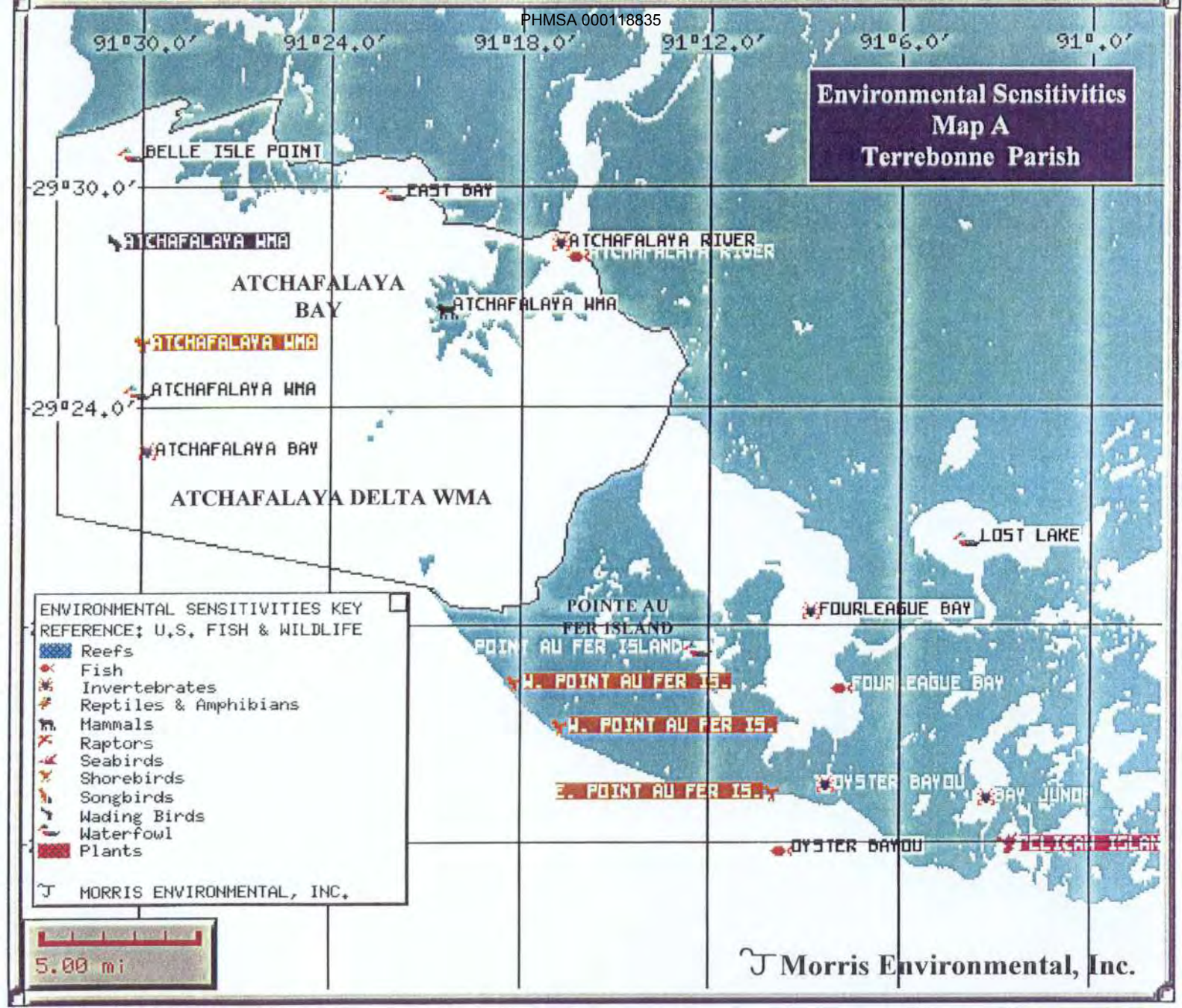
[#][Sp = spring, Su = summer, F = fall, W = winter, ° = present, * = breeding season].
Underlined species numbers indicate threatened or endangered status.

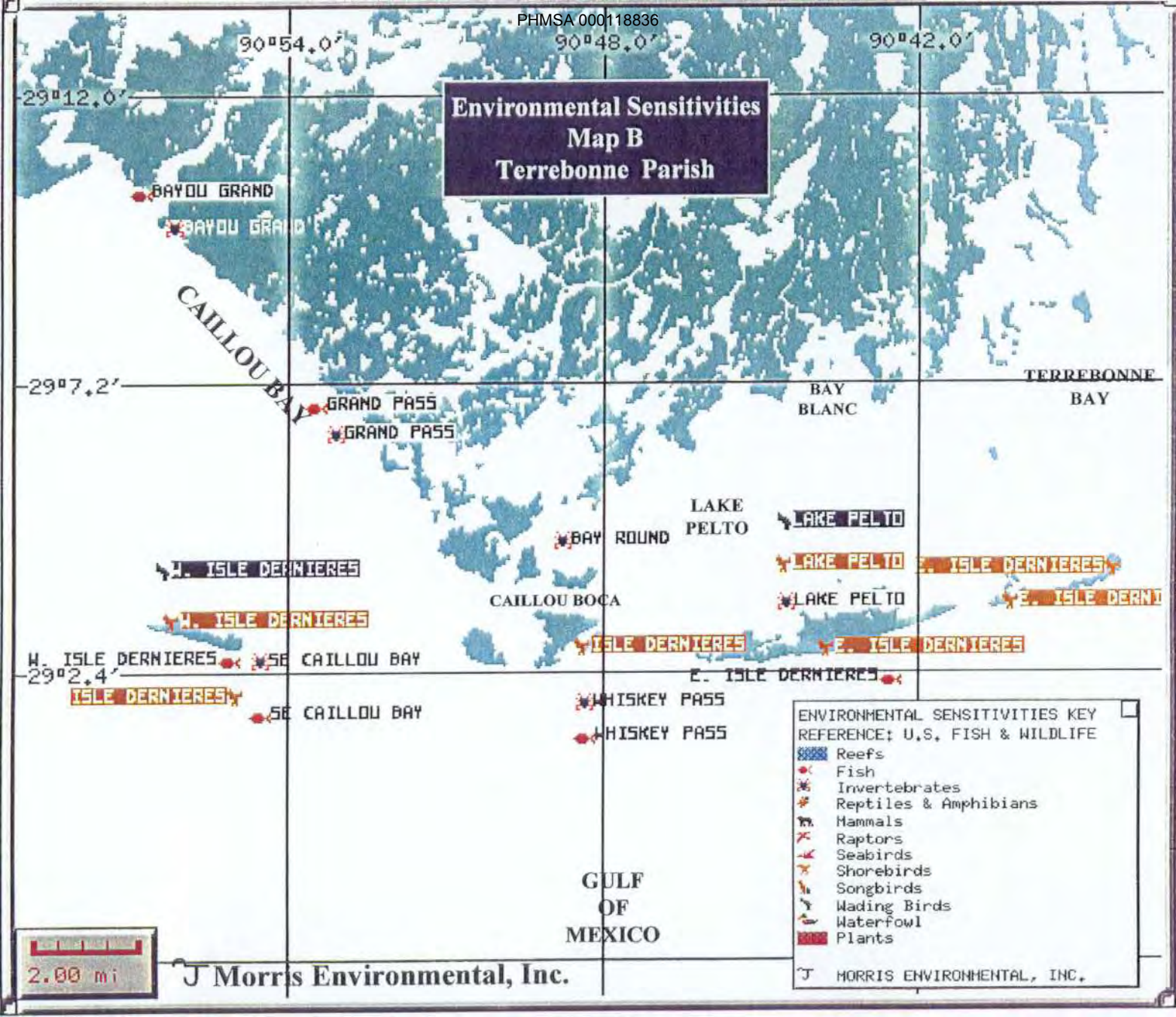
SPECIES LIST AND ASSEMBLAGES WITH SEASONAL DISTRIBUTION AND BREEDING SEASON

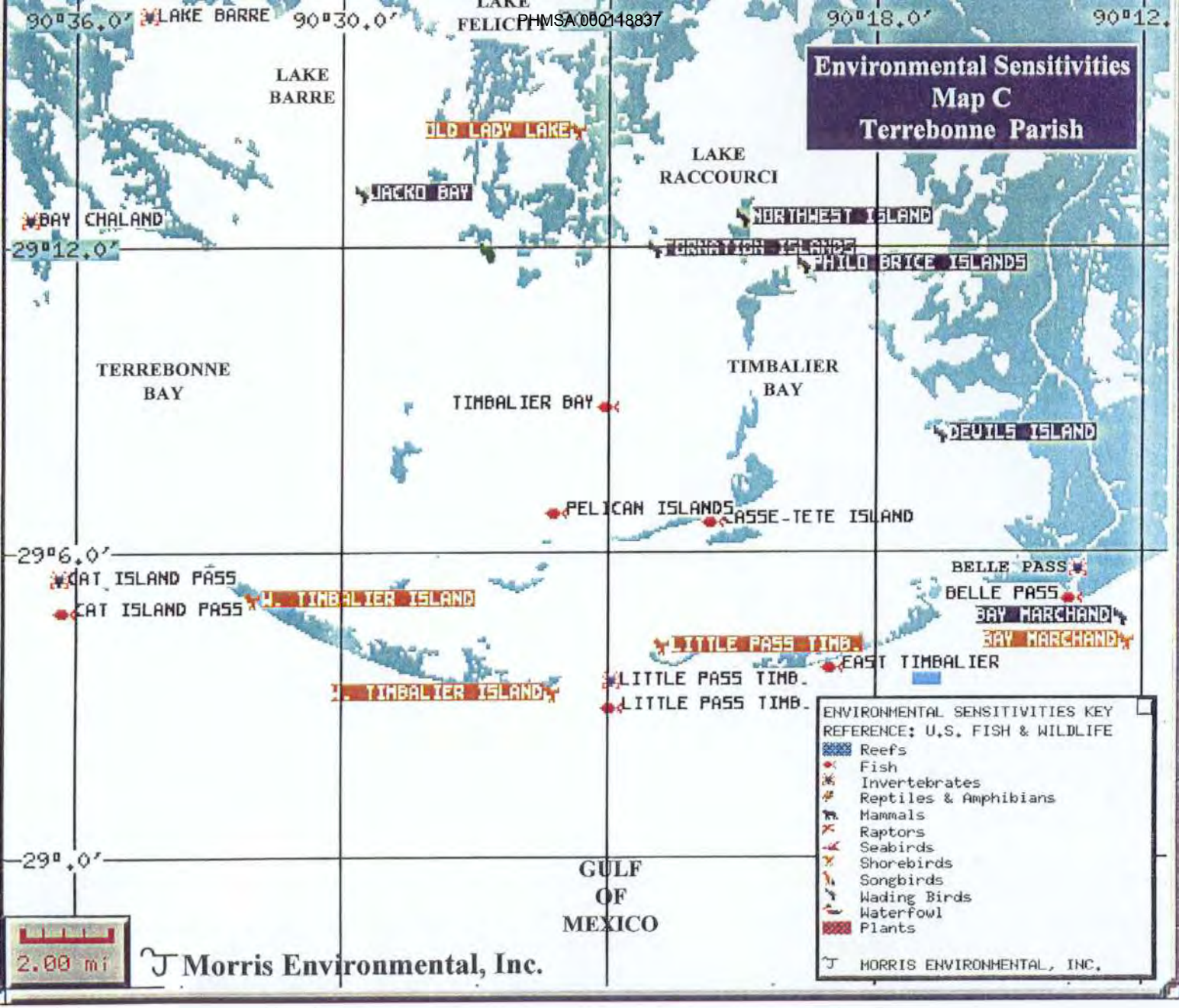
Species No.	Common Name	Scientific Name	Seasonality# Sp	Su	F	W
REPTILES						
Alligators						
3	American alligator	Alligator mississippiensis	°	*	*	°
Sea Turtles						
2	Green sea turtle	Chelonia mydas mydas	*	*		
4	Kemp's ridley sea turtle	Lepidochelys kempi	*	*		
5	Leatherback sea turtle	Dermochelys coriacea	*	*		
6	Loggerhead sea turtle	Caretta caretta	*	*		
9	Hawksbill sea turtle	Eretmochelys imbricata imbicata	*	*		
FISHES						
Fish Assemblage A						
	107, 109, 111, 113, 121, 122, 123, 124, 137, 163, 179, 181, 182, 200, 201, 201, 202, 203, 204, 205, 206, 213, 214					
Fish Assemblage B						
	107, 109, 111, 113, 116, 121, 122, 123, 124, 137, 207, 213, 214, 215, 217					
Fish Assemblage F						
	163, 179, 181, 200, 201, 202, 203, 204, 205, 206					
Freshwater Fish						
163	Gizzard shad	Dorosoma cepedianum	*	*	°	°
179	Largemouth bass	Micropterus saloides	*	°	°	°
181	Black crappie	Pomoxis nigromaculatus	*	°	°	°
182	Bluegill	Lepomis macrochirus	°	°	°	°
200	Blue catfish	Ictalurus furcatus	*	*	°	°
201	Channel catfish	Ictalurus punctatus	*	*	°	°
202	White crappie	Pomoxis annularis	°	°	°	°
203	Warmouth	Chaenobryttus gulosus	°	°	°	°
204	Redear sunfish	Lepomis microlophus	°	°	°	°
205	Freshwater drum	Aplodinotus grunnies	°	°	°	°
206	Spotted sunfish	Lepomis punctatus miniatus	°	°	°	°

Species No.	Common Name	Scientific Name	Seasonality# Sp	Su	F	W
Marine Fish						
102	Atlantic sturgeon		°	*	°	°
107	Spotted seatrout	Cynoscion nebulosus	°	°	*	*
109	Red drum	Sciaenops ocellatus	°	°	°	*
111	Southern flounder	Paraichthys lethostigma	°	°	°	*
113	Bay anchovy	Anchoa mitchilli	*	*	*	*
116	Striped mullet	Mugil cephalus	°	°	*	*
121	Spot	Leiostomus xanthurus	°	°	°	*
122	Black drum	Pogonias cromis	*	°	°	*
123	Atlantic croaker	Micropogonias undultus	°	°	°	*
124	Southern kingfish	Menticirrhus americanus	°	°	°	°
127	Spanish Mackerel	Scomberomorus maculatus		°	°	
137	Sheepshead	Coryphaena hipporus	*	°	°	°
207	Sea catfish	Galeichthyes felis	°	*	°	°
213	Gulf menhaden	Brevoortia patronus	°	°	°	*
214	Gulf kingfish	Menticirrhus littoralis	°	°	°	°
215	Sand seatrout	Cynoscion arenarius	°	*	°	°
217	Gafftopsail catfish	Bagre marinus	°	*	°	°
INVERTRBRATES						
Shellfish						
43	Eastern oyster	Crassostrea virginica	*	*	*	°
49	Blue crab	Callinectes sapidus	°	*	°	°
50	White shrimp	Panaeus setiferus	°	°	°	°
51	Brown shrimp	Penaeus aztecus	°	°	°	°
82	Brackish-water clam		°	°	°	°
83	River crayfish	Procambarus acutus	°	°	°	*
84	Red swamp crayfish	Procambarus clarkii	°	°	°	*
MAMMALS						
Coastal/Terrestrial						
8	River otter	Lutra canade	°	°	°	°
36	Beaver	Caston canadensis	°	°	°	°
37	Muskrat	Ondatra zibethicus	°	°	°	°
38	Mink	Mustela vison	°	°	°	°
43	Nutria	Myocastor coypus	°	°	°	°
44	Northern raccoon	Procyon lotor	°	°	°	°

#[Sp = spring, Su = summer, F = fall, W = winter, ° = present, * = breeding season].
Underlined species numbers indicate threatened or endangered status.


Environmental Sensitivities
Map A
Terrebonne Parish
91°30.0′
91°24.0′
91°18.0′
91°12.0′
91°6.0′
91°.0′
29°30.0′
29°24.0′
BELLE ISLE POINT
EAST BAY
ATCHAFALAYA WMA
ATCHAFALAYA RIVER
ATCHAFALAYA BAY
ATCHAFALAYA WMA
ATCHAFALAYA WMA
ATCHAFALAYA WMA
ATCHAFALAYA BAY
ATCHAFALAYA DELTA WMA
LOST LAKE
POINTE AU FER ISLAND
POINT AU FER ISLAND
FOURLEAGUE BAY
W. POINT AU FER IS.
FOURLEAGUE BAY
W. POINT AU FER IS.
E. POINT AU FER IS.
OYSTER BAYOU
OYSTER BAYOU
ENVIRONMENTAL SENSITIVITIES KEY
REFERENCE: U.S. FISH & WILDLIFE
Reefs
Fish
Invertebrates
Reptiles & Amphibians
Mammals
Raptors
Seabirds
Shorebirds
Songbirds
Wading Birds
Waterfowl
Plants
MORRIS ENVIRONMENTAL, INC.
5.00 mi
Morris Environmental, Inc.


Environmental Sensitivities
Map B
Terrebonne Parish
90°54.0'
90°48.0'
90°42.0'
29°12.0'
29°7.2'
29°2.4'
BAYOU GRAND
BAYOU GRAND
CAILLOU BAY
GRAND PASS
GRAND PASS
BAY BLANC
TERREBONNE BAY
LAKE PELTO
BAY ROUND
LAKE PELTO
LAKE PELTO
LAKE PELTO
W. ISLE DERNIERES
W. ISLE DERNIERES
CAILLOU BOCA
E. ISLE DERNIERES
E. ISLE DERNIERES
E. ISLE DERNI
ISLE DERNIERES
E. ISLE DERNIERES
W. ISLE DERNIERES
SE CAILLOU BAY
E. ISLE DERNIERES
ISLE DERNIERES
SE CAILLOU BAY
WHISKEY PASS
WHISKEY PASS
GULF OF MEXICO
ENVIRONMENTAL SENSITIVITIES KEY
REFERENCE: U.S. FISH & WILDLIFE
Reefs
Fish
Invertebrates
Reptiles & Amphibians
Mammals
Raptors
Seabirds
Shorebirds
Songbirds
Wading Birds
Waterfowl
Plants
MORRIS ENVIRONMENTAL, INC.
2.00 mi
Morris Environmental, Inc.


Environmental Sensitivities
Map C
Terrebonne Parish
90°36.0'
90°30.0'
90°18.0'
90°12.
LAKE BARRE
LAKE FELICITY
LAKE BARRE
OLD LADY LAKE
JACKO BAY
LAKE RACCOURCI
BAY CHALAND
NORTHWEST ISLAND
TURNATION ISLANDS
PHILO BRICE ISLANDS
29°12.0'
TERREBONNE BAY
TIMBALIER BAY
TIMBALIER BAY
DEVILS ISLAND
PELICAN ISLANDS
ASSE-TETE ISLAND
29°6.0'
CAT ISLAND PASS
CAT ISLAND PASS
W. TIMBALIER ISLAND
BELLE PASS
BELLE PASS
BAY MARCHAND
BAY MARCHAND
LITTLE PASS TIMB.
EAST TIMBALIER
LITTLE PASS TIMB.
E. TIMBALIER ISLAND
LITTLE PASS TIMB.
29°0.0'
GULF OF MEXICO
ENVIRONMENTAL SENSITIVITIES KEY
REFERENCE: U.S. FISH & WILDLIFE
Reefs
Fish
Invertebrates
Reptiles & Amphibians
Mammals
Raptors
Seabirds
Shorebirds
Songbirds
Wading Birds
Waterfowl
Plants
MORRIS ENVIRONMENTAL, INC.
2.00 mi
Morris Environmental, Inc.

Terrebonne Parish
Environmental Sensitivities

Name : POINT AU CHIEN WMA
Description: Wildlife Mgt. Area
POINTE AU CHIEN WILDLIFE MGT. AREA
MANAGER: MARK CASTILLE
PHONE: (504) 594-5494
35,000 ACRES, ACCESS BY BOAT AND CAR.
SENSITIVE SPECIES INCLUDE WATERFOWL.

Name : POINT AU CHIEN WMA
Description: BALD EAGLE
BALD EAGLES ARE ON THE RARE, THREATENED, AND ENDANGERED SPECIES LIST.

Name : BAY CHALAND
Description: EASTERN OYSTER
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTER.

Name : BAY COUNANT
Description: EASTERN OYSTER
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTER.

Name : BAY JUNOP
Description: EASTERN OYSTER
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTER.

Name : BAY LE PEUR
Description: FORSTERS TERN
BREEDING AREA FOR FORSTERS TERN DURING THE SPRING.

Name : BAY MARCHAND
Description: VARIETY OF BIRDS
ADULT CONCENTRATION AREA FOR HERONS, EGRETS, AND RAILS.

Name : BAY MARCHAND
Description: VARIETY OF BIRDS
ADULT CONCENTRATION AREA FOR GULLS, SANDPIPERS, AND PLOVERS. BREEDING AREA FOR WILSON'S PLOVER DURING THE SPRING.

Name : BAY ROUND
Description: EASTERN OYSTER
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTER.

Name : BAYOU GRAND
Description: SHRIMP AND BLUE CRAB
MIGRATORY AREA FOR SHRIMP AND BLUE CRAB DURING THE SPRING, FALL, AND WINTER.

Name : BAYOU GRAND
Description: VARIETY OF FISH
MIGRATORY AREA FOR DRUM DURING THE FALL AND SPRING. MIGRATORY AREA FOR SOUTHERN FLOUNDER AND GULF MENHADEN DURING THE SPRING, FALL AND WINTER.

Name : BAYOU LAFOURCHE
Description: VARIETY OF BIRD
BREEDING AREA FOR HERONS, EGRETS, AND WHITE IBIS.

Name : BELLE PASS
Description: SHRIMP AND BLUE CRAB
MIGRATORY AREA FOR SHRIMP AND BLUE CRAB DURING THE SPRING, FALL, AND WINTER.

Name : BELLE PASS
Description: VARIETY OF FISH
MIGRATORY AREA FOR SOUTHERN FLOUNDER AND GULF MENHADEN DURING THE SPRING, FALL, AND WINTER. MIGRATORY AREA FOR DRUM DURING THE SPRING AND FALL.

Name : BRUSLE LAKE
Description: DABBLING DUCKS
ADULT CONCENTRATION AND MIGRATORY AREA FOR DABBLING DUCKS.

Name : CAILLOU BAY
Description: SHRIMP AND BLUE CRAB
MIGRATORY AREA FOR SHRIMP AND BLUE CRAB DURING THE SPRING, FALL, AND WINTER.

Name : CAILLOU BAY
Description: VARIETY OF FISH
MIGRATORY AREA FOR DRUM DURING THE FALL AND SPRING. MIGRATORY AREA FOR SOUTHERN FLOUNDER AND GULF MENHADEN DURING THE SPRING, FALL AND WINTER.

Environmental Sensitivities

Name : CAILLOU LAKE
Description: EASTERN OYSTER
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTER.

Name : CAT ISLAND PASS
Description: SHRIMP AND BLUE CRAB
MIGRATORY AREA FOR SHRIMP AND BLUE CRAB DURING THE SPRING, FALL, AND WINTER.

Name : CAT ISLAND PASS
Description: VARIETY OF FISH
MIGRATORY AREA FOR DRUM DURING THE FALL AND SPRING. MIGRATORY AREA FOR SOUTHERN FLOUNDER AND GULF MENHADEN DURING THE SPRING, FALL, AND WINTER.

Name : DEVILS ISLAND
Description: VARIETY OF BIRDS
BREEDING AREA FOR HERONS, EGRETS, REDDISH EGRETS, AND BLACK-CROWNED NIGHT HERON DURING THE SPRING.

Name : E. ISLE DERNIERES
Description: GULLS AND TERNS
BREEDING AREA FOR GULLS AND TERNS IN THE SPRING.

Name : E. ISLE DERNIERES
Description: LEAST TERN
BREEDING AREA FOR LEAST TERN DURING THE SPRING.

Name : E. ISLE DERNIERES
Description: SPOTTED SEATROUT
ADULT CONCENTRATION AND SPORT FISHING AREA FOR SPOTTED SEATROUT.

Name : E. POINT AU FER IS.
Description: LEAST TERN
BREEDING AREA FOR LEAST TERN DURING THE SPRING.

Name : EAST TIMBALIER
Description: SPOTTED SEATROUT
ADULT CONCENTRATION AND SPORT FISHING AREA FOR SPOTTED SEATROUT.

Name : FOURLEAGUE BAY
Description: SHRIMP AND BLUE CRAB
MIGRATORY AREA FOR SHRIMP AND BLUE CRAB DURING THE SPRING, FALL, AND WINTER.

Name : FOULEAGUE BAY
Description: VARIETY OF FISH
MIGRATORY AREA FOR DRUM DURING THE FALL AND SPRING. MIGRATORY AREA FOR SOUTHERN FLOUNDER AND GULF MENHADEN DURING THE SPRING, FALL, AND WINTER.

Name : GRAND BAYOU
Description: DABBLING DUCKS
ADULT CONCENTRATION AND MIGRATORY AREA FOR DABBLING DUCKS. SPORT HUNTING AREA FOR WATERFOWL.

Name : GRAND BAYOU
Description: VARIETY OF FISH
SPORT FISHING AREA FOR SPOTTED SEATROUT, RED DRUM, BLUE CATFISH, WHITE CRAPPIE, BLACK CRAPPIE, LARGEMOUTH BASS, WARMOUTH, BLUEGILL, AND REDEAR SUNFISH.

Name : GRAND CUT
Description: EASTERN OYSTER
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTERS.

Name : GRAND PASS
Description: SHRIMP AND BLUE CRAB
MIGRATORY AREA FOR SHRIMP AND BLUE CRAB DURING THE SPRING, FALL, AND WINTER.

Name : GRAND PASS
Description: VARIETY OF FISH
MIGRATORY AREA FOR DRUM DURING THE FALL AND SPRING. MIGRATORY ARA FOR SOUTHERN FLOUNDER AND GULF MENHADEN DURING THE SPRING, FALL, AND WINTER.

Name : ISLE DERNIERES
Description: BLACK SKIMMER
BREEDING AREA FOR BLACK SKIMMER DURING THE SPRING.

Name : ISLE DERNIERES
Description: LEAST TERN
BREEDING AREA FOR LEAST TERN DURING THE SPRING.

Name : JACKO BAY
Description: HERONS AND EGRETS
BREEDING AREA FOR HERON AND EGRET DURING THE SPRING.

BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTER.

Name : LAKE PELTO
Description: HERON AND EGRETS
BREEDING AREA FOR HERONS AND EGRETS DURING THE SPRING.

Name : LAKE PELTO
Description: FORSTER'S TERN
BREEDING AREA FOR FORSTER'S TERN DURING THE SPRING.

Name : LOST LAKE
Description: DABBLING DUCKS
WINTERING AREA FOR DABBLING DUCKS.

Name : MADISON BAY
Description: EASTERN OYSTER
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTERS.

Name : OYSTER BAYOU
Description: SHRIMP AND BLUE CRAB
MIGRATORY AREA FOR SHRIMP AND BLUE CRAB DURING THE SPRING, FALL, AND WINTER.

Name : OYSTER BAYOU
Description: VARIETY OF FISH
MIGRATORY AREA FOR DRUM DURING THE FALL AND SPRING. MIGRATORY AREA FOR SOUTHERN FLOUNDER AND GULF MENHADEN DURING THE SPRING, FALL, AND WINTER.

Name : POINTE AU CHIEN WMA
Description: VARIETY OF BIRDS
HERONS, EGRETS, AND RAILS UTILIZE THE POINTE AU CHIEN WILDLIFE MANAGEMENT AREA.

Name : POINT AU CHIEN WMA
Description: VARIETY OF MAMMALS
SPORT HUNTING ARA FOR WHITETAILED DEER, MINK, RIVER OTTER, NUTRIA, MUSKRAT, RACCOON, AND ESTERN COTTONTAIL.

Name : POINTE AU CHIEN WMA
Description: COMMON SNIPE
THIS AREA IS UTILIZED BY THE COMMON SNIPE.

Name : POINT AU FER ISLAND
Description: VARIETY OF BIRDS
ADULT CONCENTRATION ARA FOR DABBLING DUCKS AND GEESE DURING THE WINTER.

Name : SE CAILLOU BAY
Description: SHRIMP AND BLUE CRAB
MIGRATORY ARA FOR SHRIMP AND BLUE CRAB DURING THE SPRING, FALL, AND WINTER.

Name : SE CAILLOU BAY
Description: VARIETY OF FISH
MIGRATORY AREA FOR DRUM DURING THE FALL AND SPRING. MIGRATORY AREA FOR SOUTHERN FLOUNDER AND GULF MENHADEN DURING THE SPRING, FALL, AND WINTER.

Name : W. ISLE DERNIERES
Description: SPOTTED SEATROUT
ADULT CONCENTRATION AND SPORT FISHING AREA FOR SPOTTED SEATROUT.

Name : W. ISLE DERNIERES
Description: VARIETY OF BIRDS
BREEDING AREA FOR REDDISH EGRET, ROSEATE SPOONBILL, GREAT EGRET, SNOWY EGRET, LOUISIANA HERON, AND BLACK-CROWNED NIGHT HERON DURING THE SPRING.

Name : W. ISLE DERNIERES
Description: VARIETY OF BIRDS
BREEDING AREA FOR ROYAL TERN, SANDWICH TERN, BLACK SKIMMER, AND LAUGHING GULL DURING THE SPRING.

Name : W. TIMBALIER ISLAND
Description: JACANA
BREEDING AREA FOR JACANA DURING THE SPRING.

Name : W. TIMBALIER ISLAND
Description: LEAST TERN
BREEDING AREA FOR LEAST TERN DURING THE SPRING.

Name : WHISKEY PASS
Description: SPRING AND BLUE CRAB
MIGRATORY AREA FOR SHRIMP AND BLUE CRAB DURING THE SPRING, FALL, AND WINTER.

Name : WHISKEY PASS
Description: VARIETY OF FISH
MIGRATORY ARA FOR DRUM DURING THE FALL AND SPRING. MIGRATORY AREA FOR SOUTHERN FLOUNDER AND GULF MENHADEN

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DURING THE SPRING, FALL, AND WINTER.

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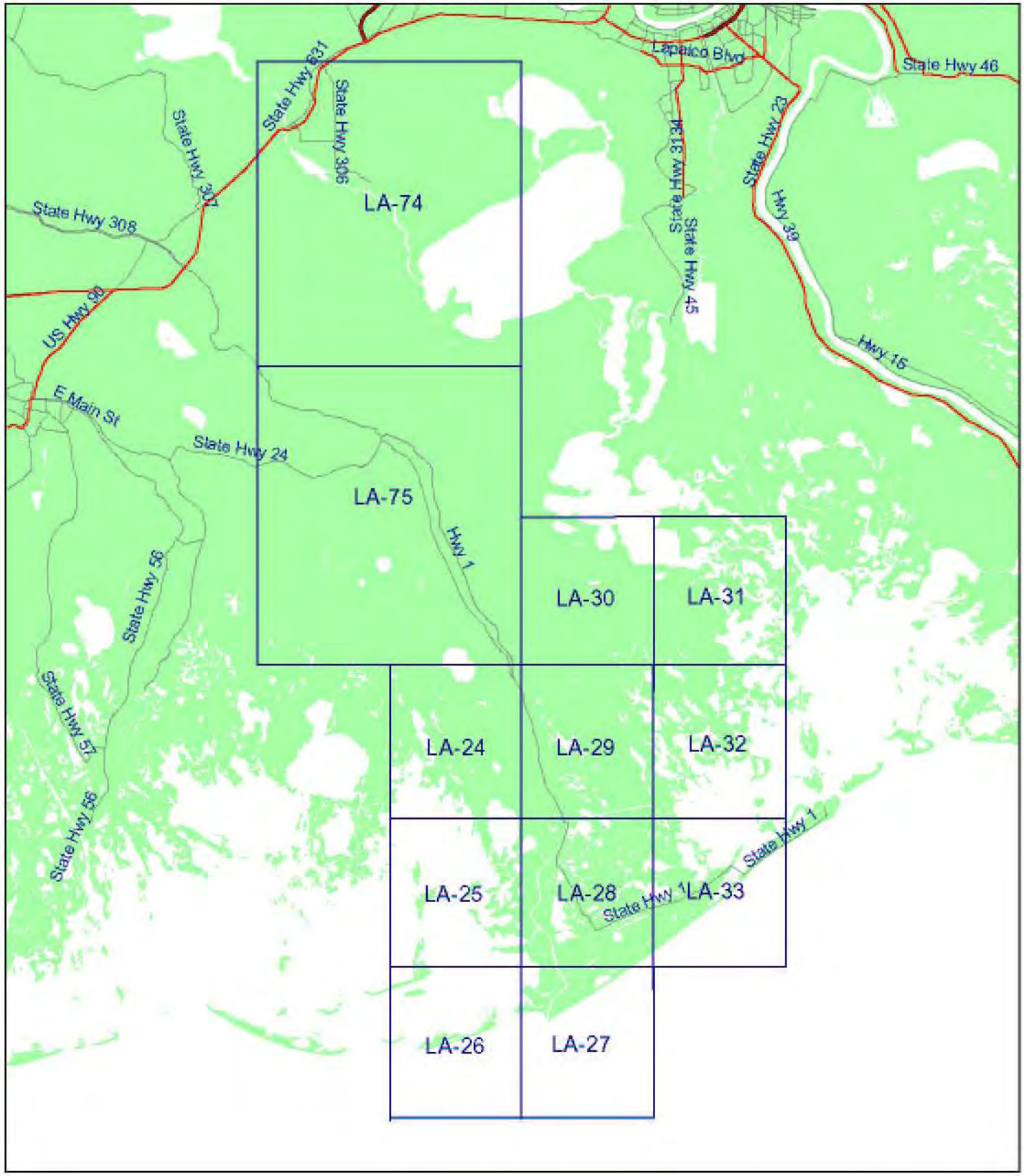
Lafourche Parish Overview Map

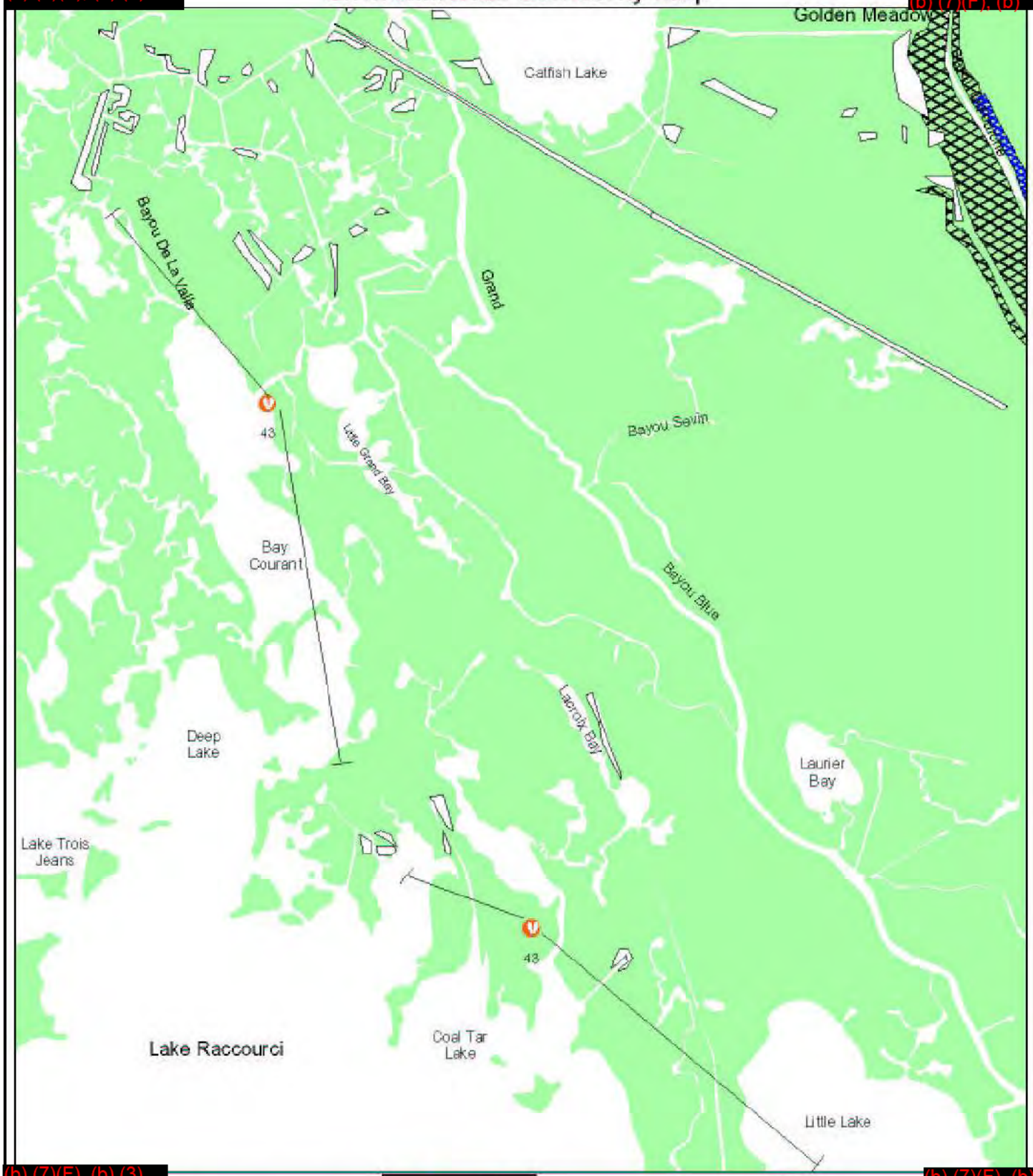


(b) (7)(F), (b) (3)

Environmental Sensitivity Map

LA-24

(b) (7)(F), (b)



(b) (7)(F), (b) (3)

1, 5, 8 118, 173, 179
Common Throughout Major Water Bodies

C D 8, 37, 38, 43, 44
Common Throughout Wetlands

76, 77, 107, 182 E
43 49 50,51 B
Common Throughout Area

N

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

0 1 2 Miles

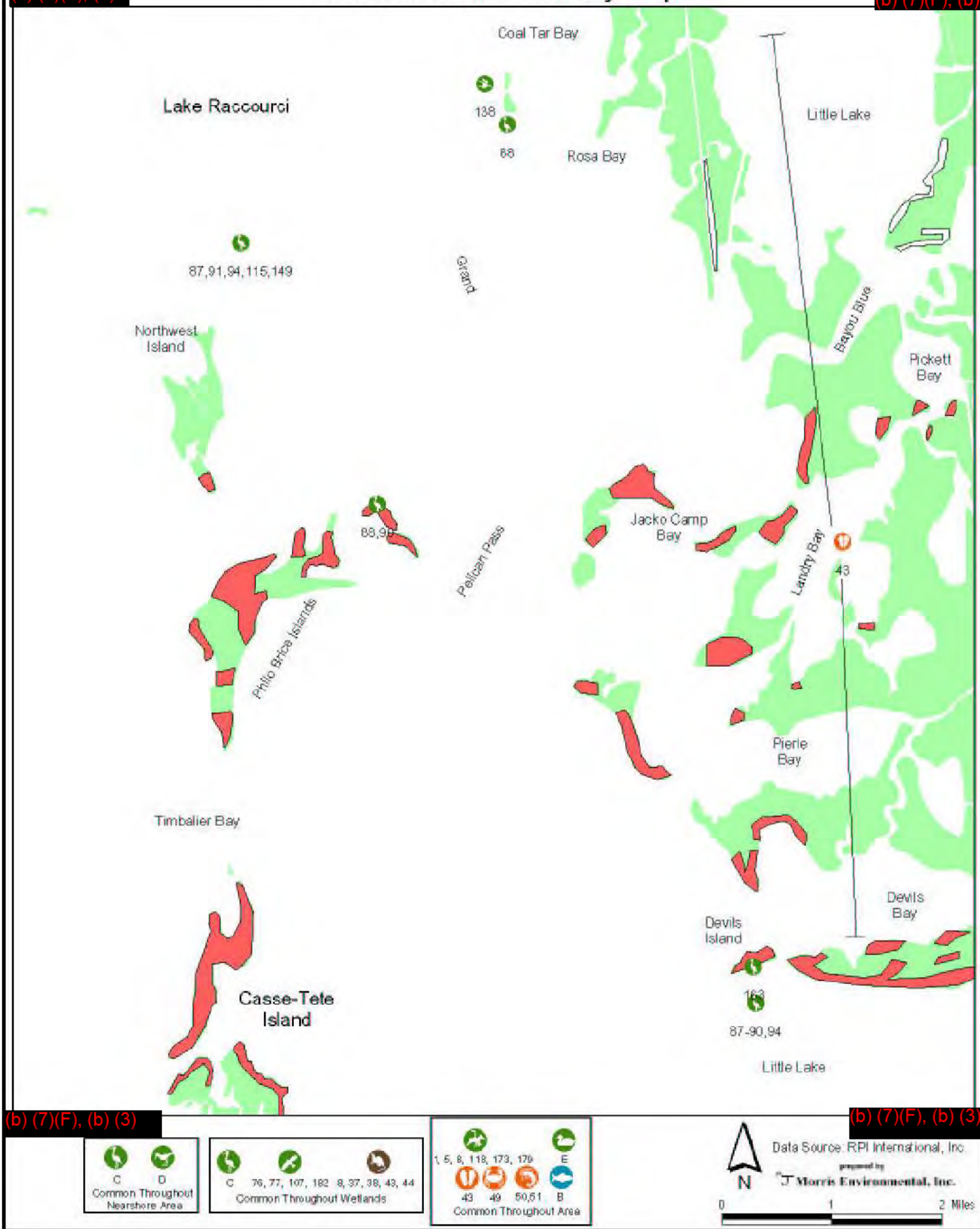
(b) (7)(F), (b)

(b) (7)(F), (b)

Environmental Sensitivity Map

LA-25

(b) (7)(F), (b)



(b) (7)(F), (b) (3)

C D
Common Throughout Nearshore Area

C 76, 77, 107, 182 8, 37, 38, 43, 44
Common Throughout Wetlands

1, 5, 8, 118, 173, 179 E
43 49 50,51 B
Common Throughout Area

(b) (7)(F), (b) (3)

N

Data Source: RPI International, Inc.

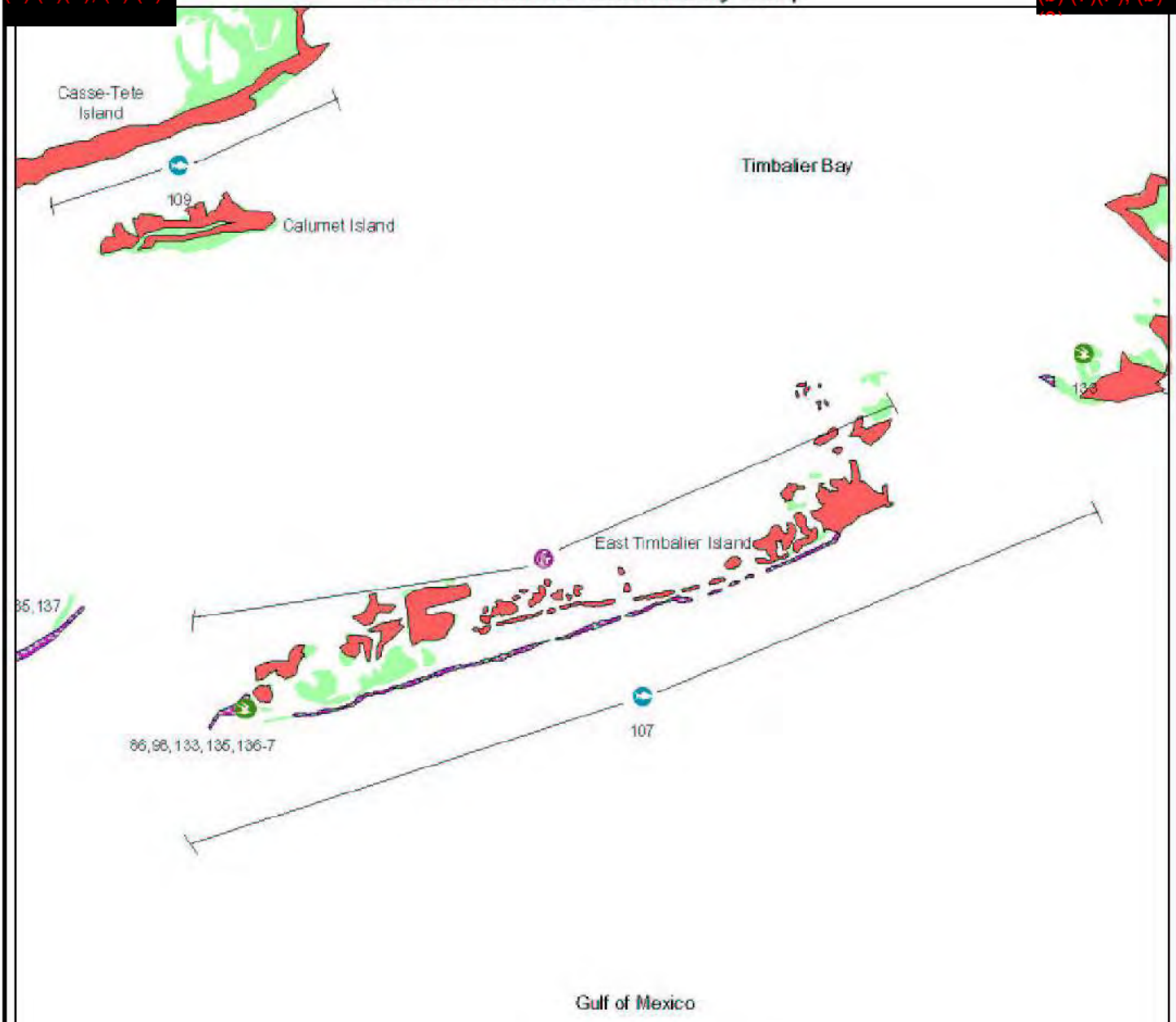
prepared by
J Morris Environmental, Inc.

0 1 2 Miles

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F), (b)



(b) (7)(F), (b) (3)

(b) (7)(F), (b)

C D
Common Throughout Nearshore Area

C 76, 77, 107, 182 8, 37, 38, 43, 44
Common Throughout Wetlands

1, 5, 8, 118, 173, 179 E
43 49 50, 51 B
Common Throughout Area

N

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

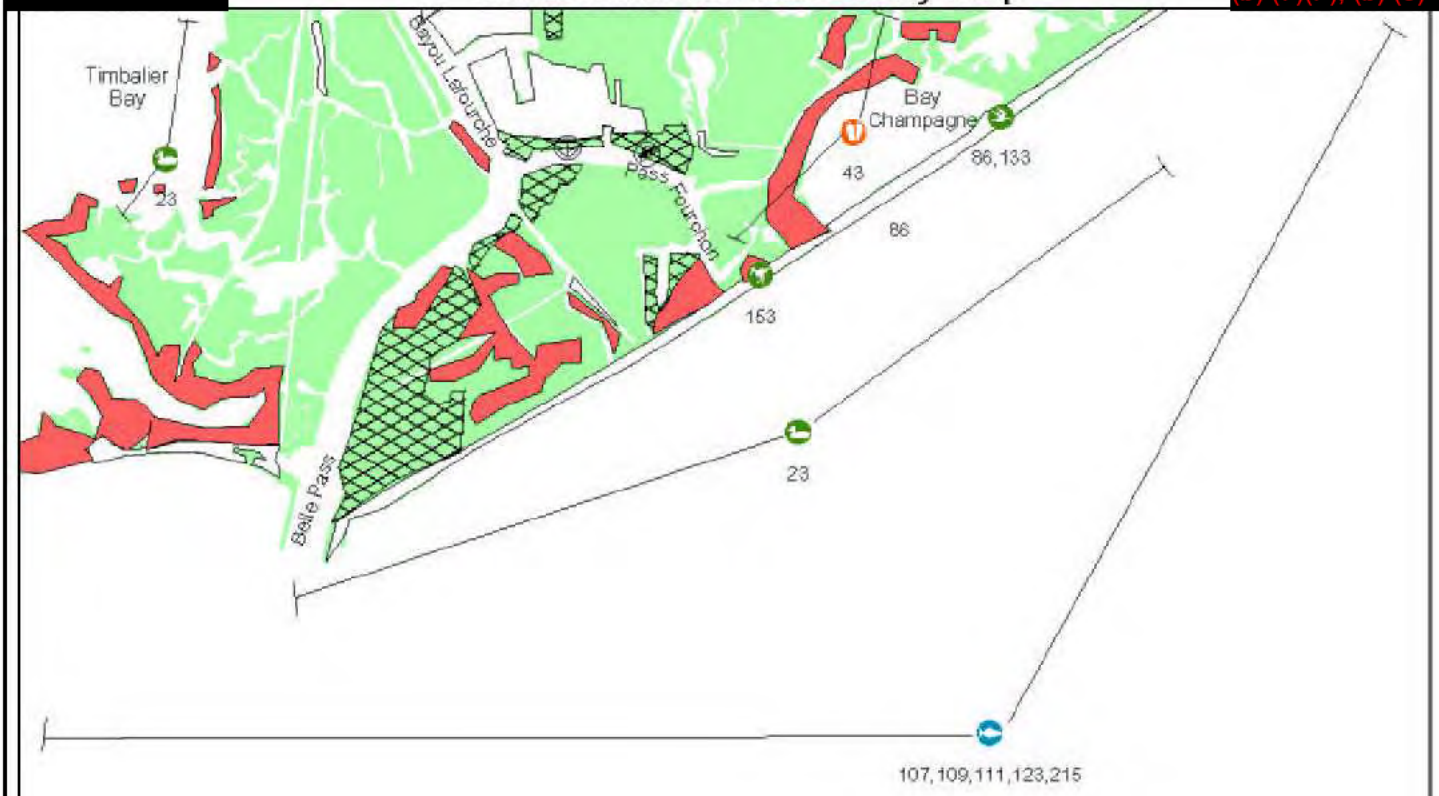
0 1 2 Miles

(b) (7)(F), (b) (3)

Environmental Sensitivity Map

LA-27

(b) (7)(F), (b) (3)



Gulf of Mexico

(b) (7)(F), (b) (3)

D
Common Throughout Nearshore Areas

C 76, 77, 107, 182 118 8, 37, 38, 43, 44
Common Throughout Wetlands

B E
43 50,51 49
Common Throughout Area

(b) (7)(F), (b) (3)

N

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

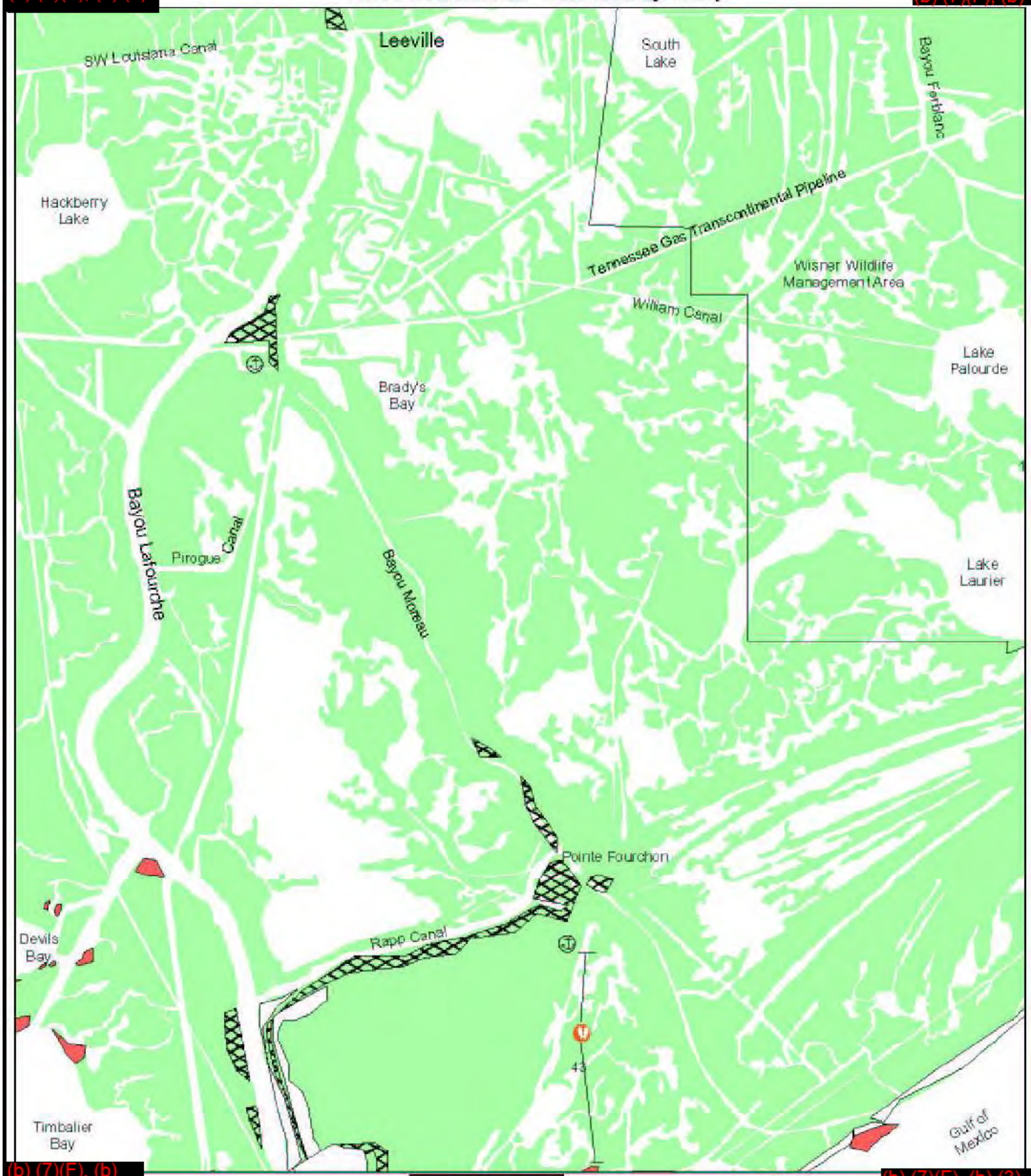
0 2 4 Miles

Environmental Sensitivity Map

LA-28

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

D
Common Throughout Nearshore Areas

C 76, 77, 107, 182 8, 37, 38, 43, 44
Common Throughout Wetlands

1, 5, 8 118, 173, 179 E
43 49 50,51 B
Common Throughout Area

N

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

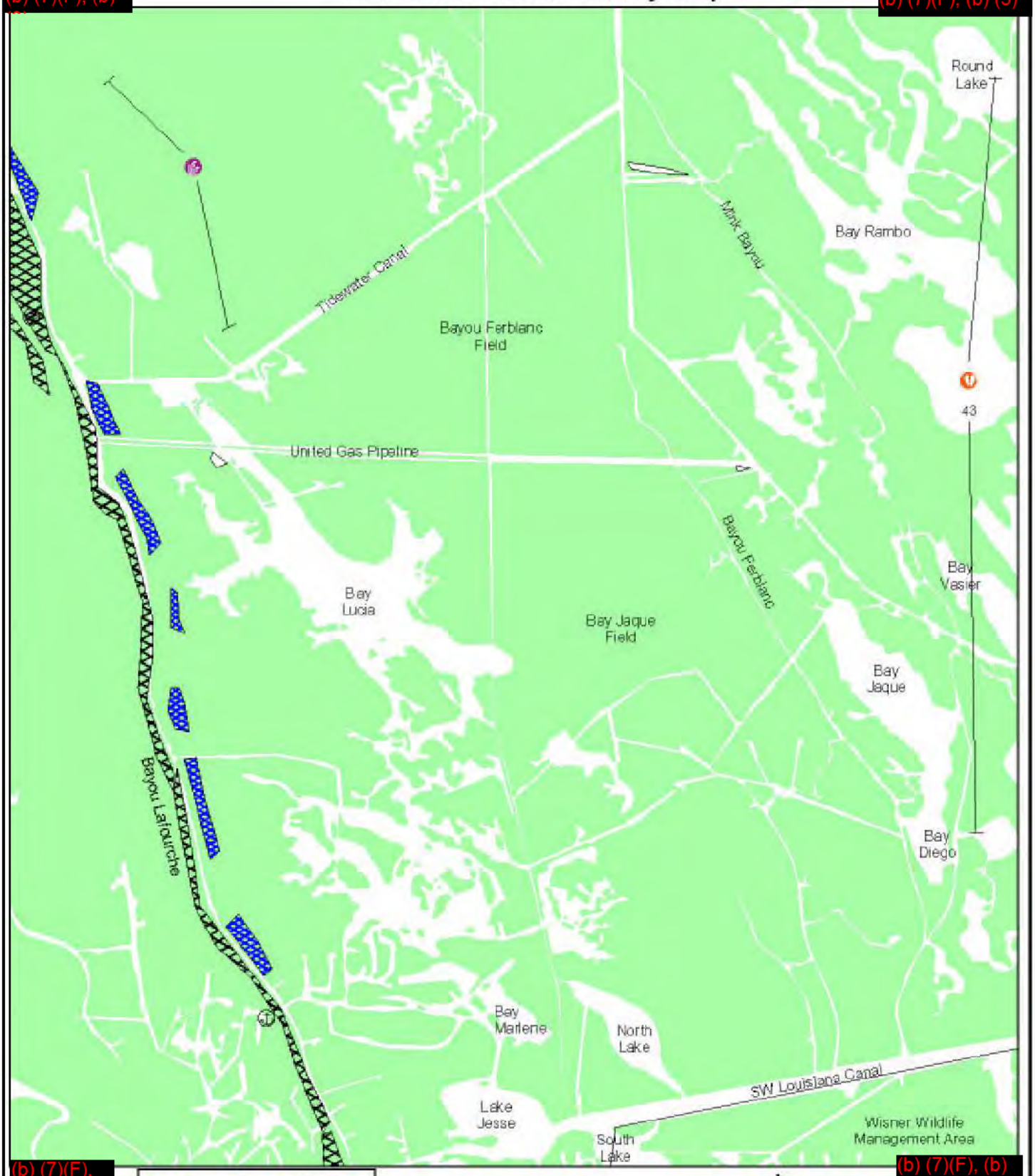
0 1 2 Miles

Environmental Sensitivity Map

LA-29

(b) (7)(F), (b)

(b) (7)(F), (b) (3)



(b) (7)(F), (b)

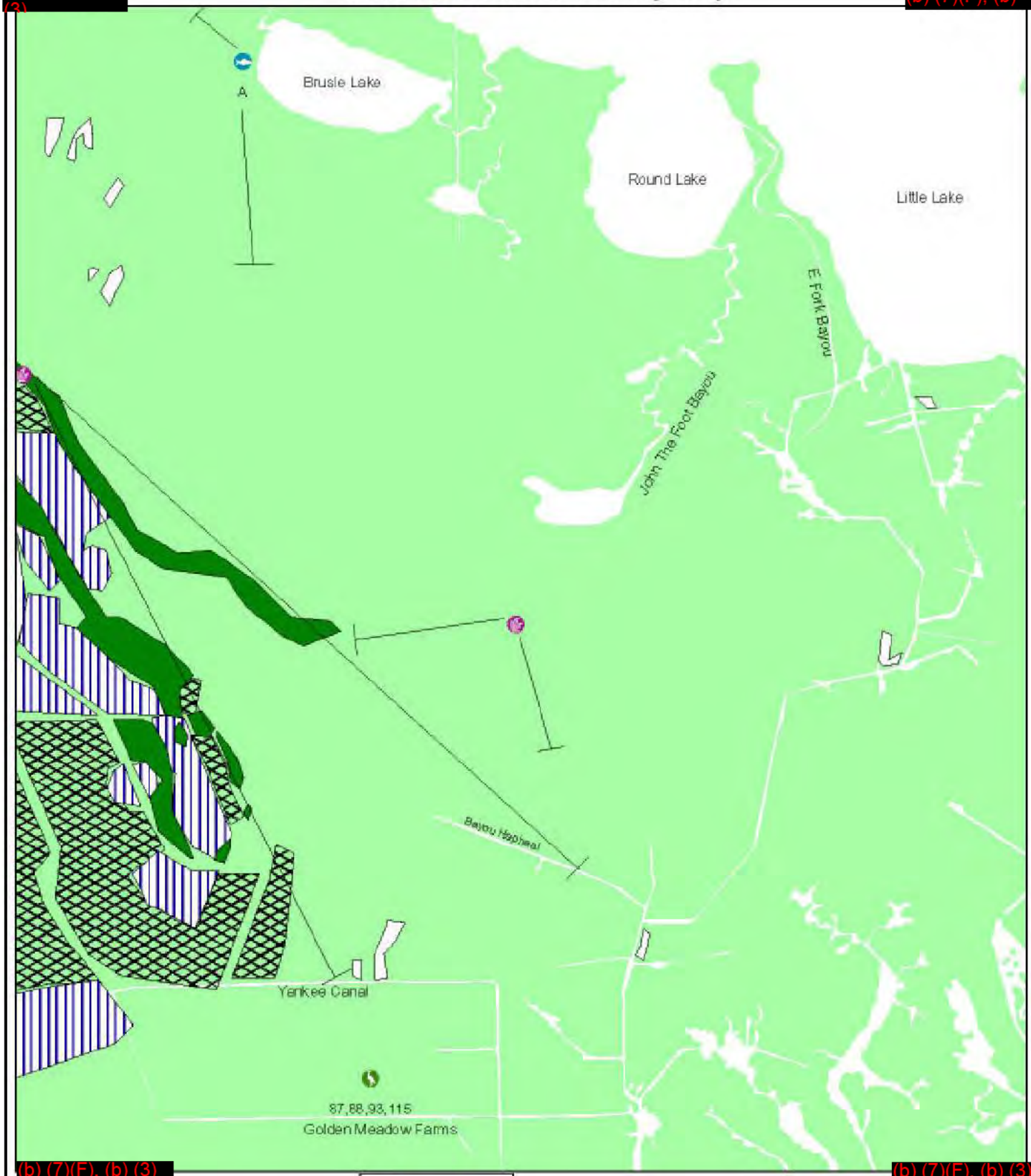
(b) (7)(F), (b)

Environmental Sensitivity Map

LA-30

(b) (7)(F), (b) (3)

(b) (7)(F), (b)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

D
Common Throughout Nearshore Areas

C 3 8, 37, 38, 43, 44
Common Throughout Wetlands

76,77,107,182 E
43 49 50,51 B
Common Throughout Area

N

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

0 1 2 Miles

Environmental Sensitivity Map

LA-31

(b) (7)(F), (b)

(b) (7)(F),

(b) (7)(F), (b) (3)

8,37,38,43,44 C C
Common Throughout Wetlands

76,77,182 E
43 49 50,51 B
Common Throughout Area

(b) (7)(F), (b)

N

Data Source: RPI International, Inc.

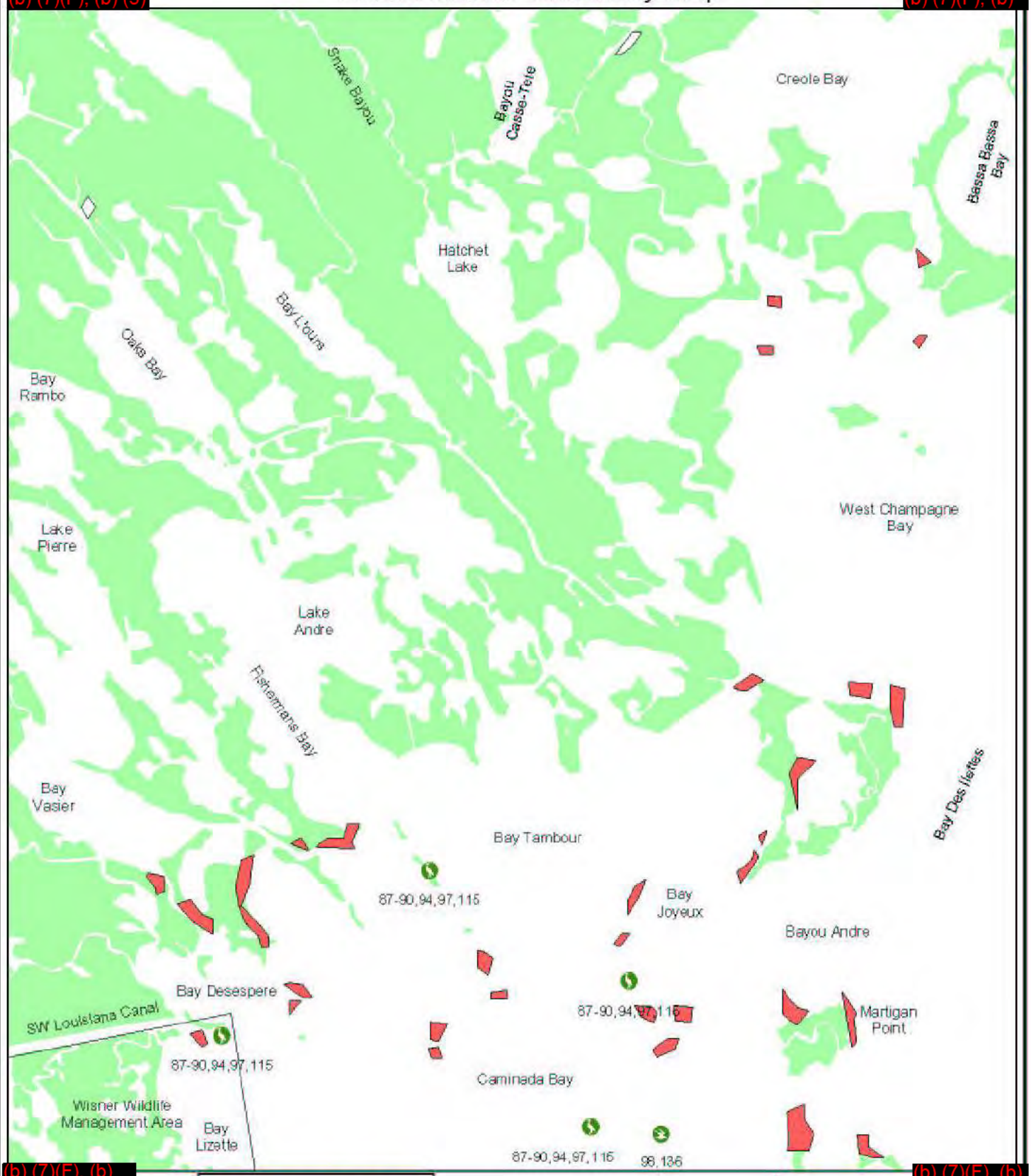
prepared by
Morris Environmental, Inc.

0 1 2 Miles

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F), (b)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

8, 37, 38, 43, 44
Common Throughout Mainland Wetlands

D 43 118, 173, 179 E C
76,77,107,182 49 60,61 B 1, 5, 8
Common Throughout Area

N

Data Source: RPI International, Inc.

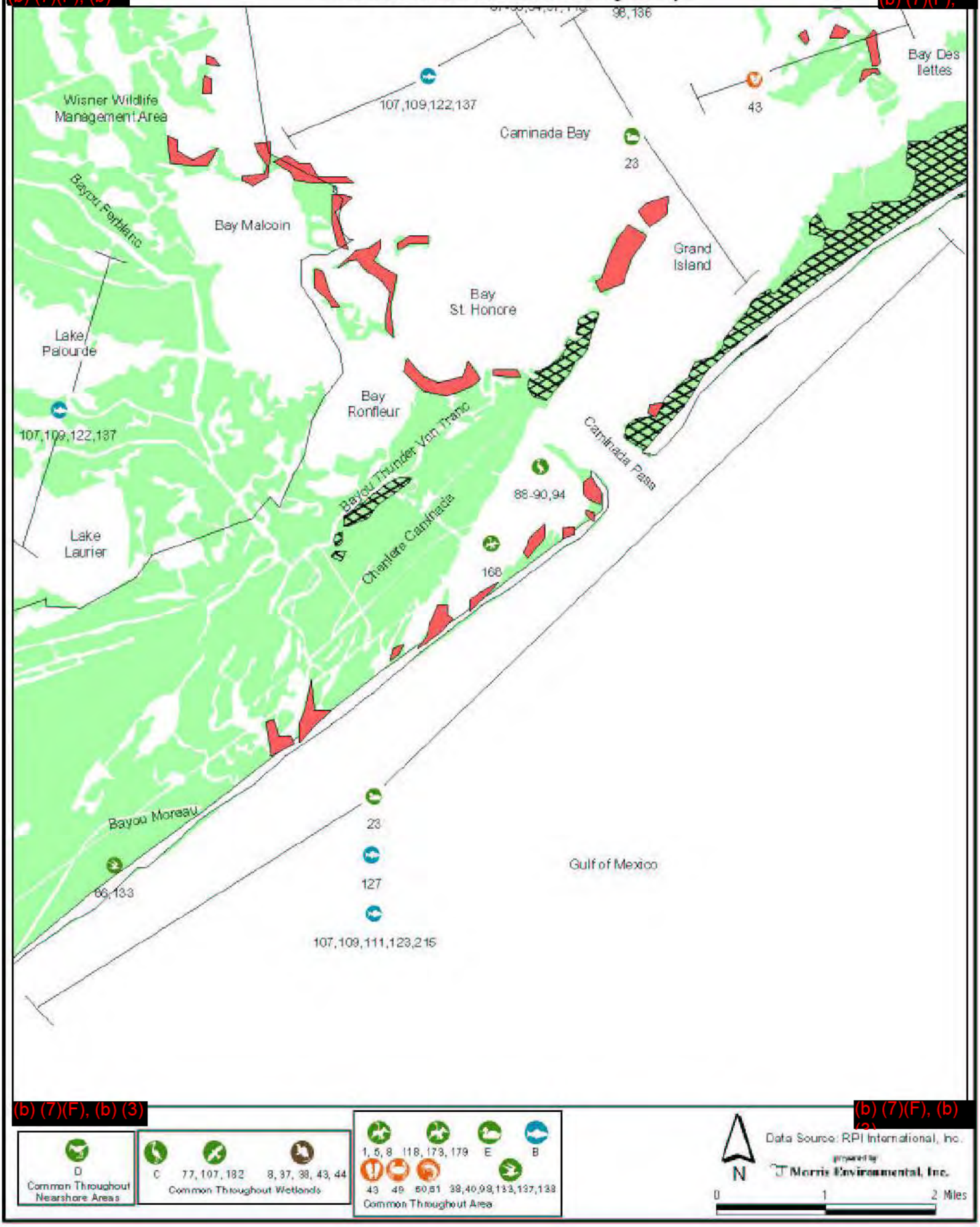
prepared by
Morris Environmental, Inc.

0 1 2 Miles

Environmental Sensitivity Map

(b) (7)(F), (b)

(b) (7)(F),



(b) (7)(F), (b) (3)

D
Common Throughout Nearshore Areas

C 77, 107, 182 8, 37, 38, 43, 44
Common Throughout Wetlands

1, 5, 8 118, 173, 179 E B
43 49 50,51 38,40,98,133,137,138
Common Throughout Area

N

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

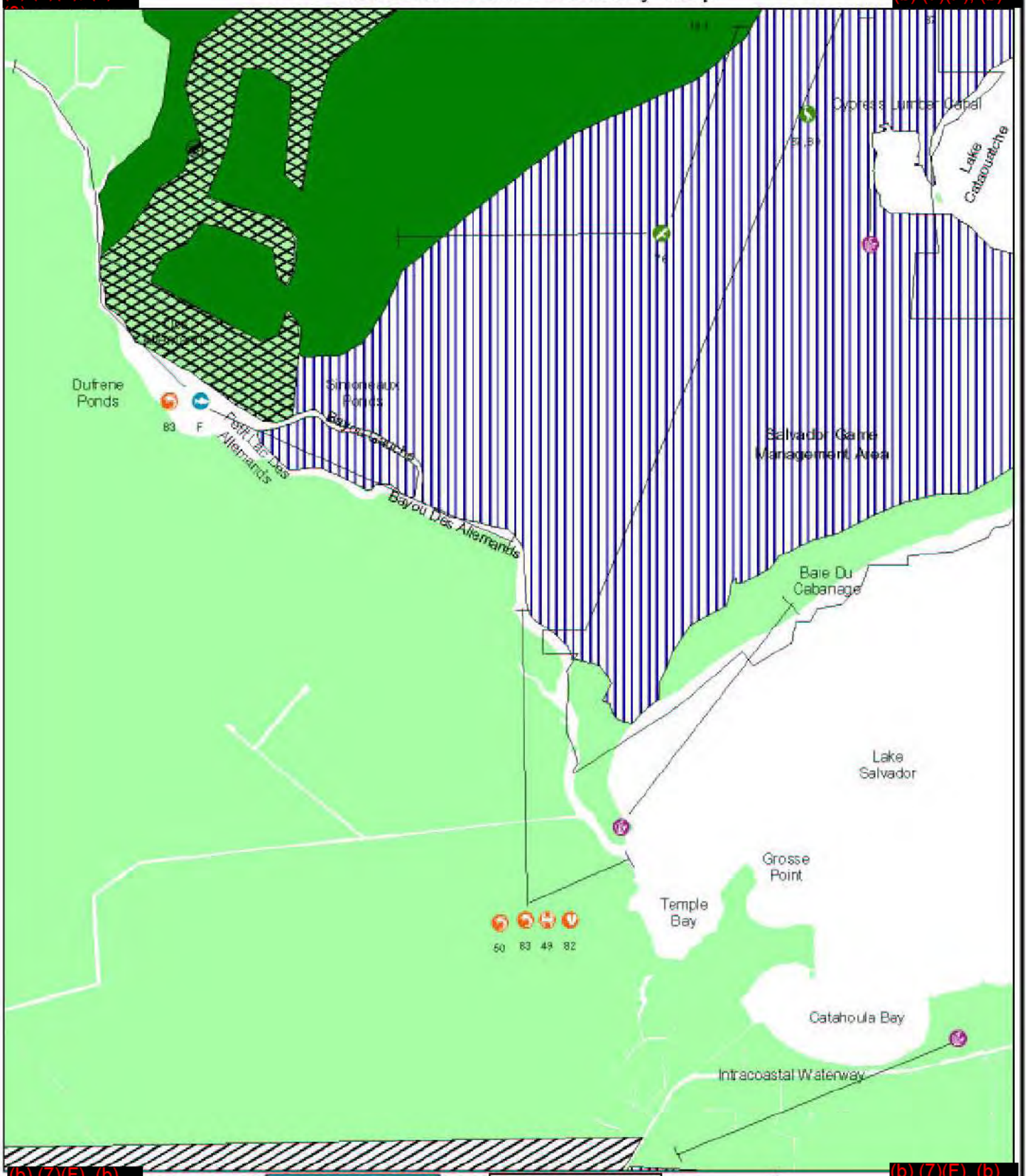
0 1 2 Miles

(b) (7)(F), (b) (3)

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

A 49 50,83 82
Common Throughout Lakes Catouatche and Salvador

76,77,107,182 E,34,189
1,5,6,8,121,173,179 C,184,212
Common Throughout Area

84 D,214
3 8,37, 38, 45, 44
Common Throughout Wetlands

(b) (7)(F), (b) (3)

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

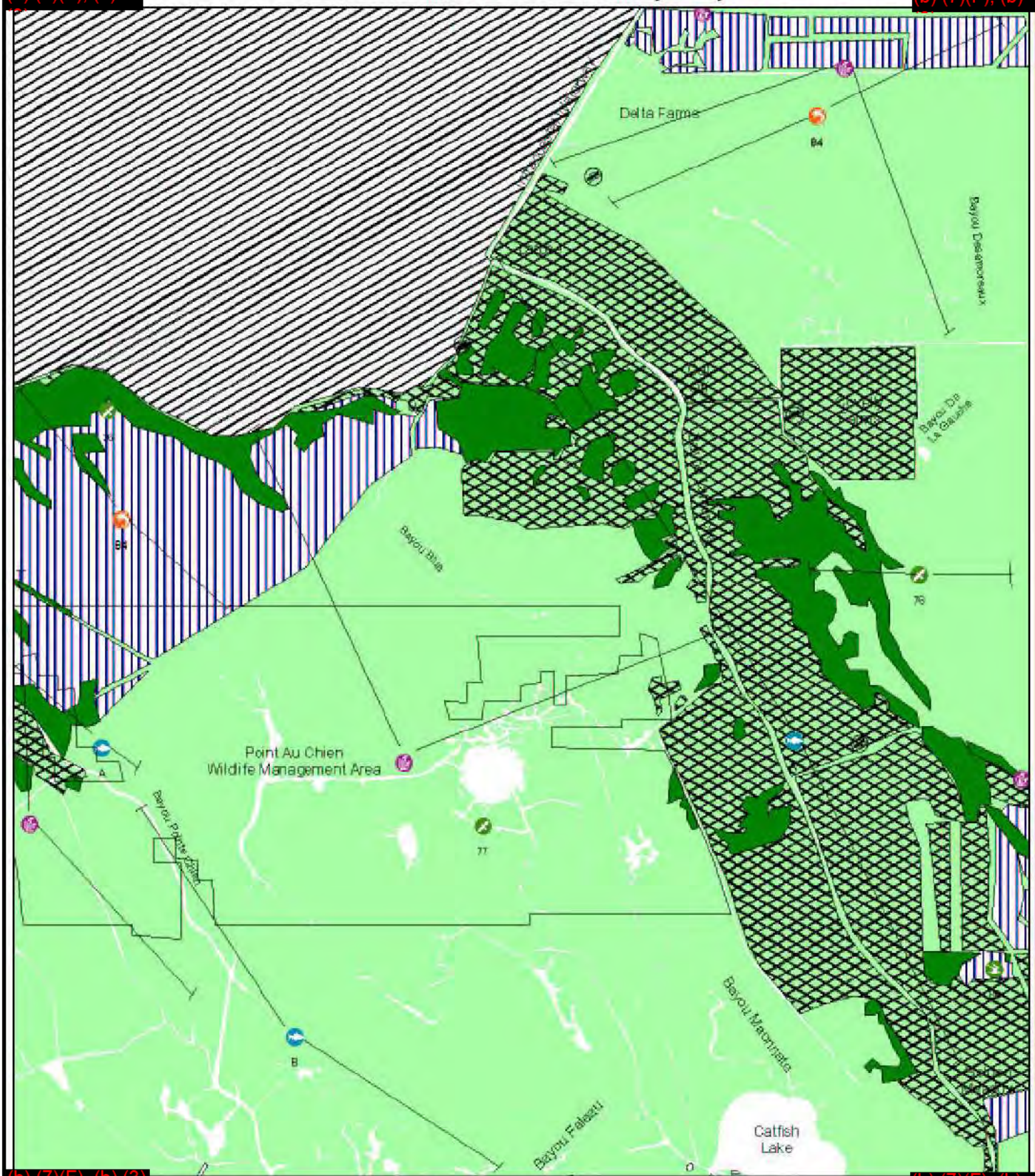
N

0 2 4 Miles

Environmental Sensitivity Map

(b) (7)(F), (b)

(b) (7)(F), (b)



(b) (7)(F), (b) (3)

(b) (7)(F), (b)

83
Common Throughout Channels

76, 77, 107, 182
E
49
50,51
Common Throughout Area

76, 77, 107, 182
214
E
3
8, 37, 38, 43, 44
Common Throughout Wetlands

N

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

0 2 4 Miles

LOUISIANA ENVIRONMENTAL SENSITIVITIES

SHORELINE INDEX

SENSITIVITY

1	DEVELOPED/UNFORESTED UPLAND
2	SAND BEACH/SPOIL BANKS
2	SAND BEACH
3	TIDAL MUDFLATS
4	FRESHWATER FLAT
5a	SALT MARSH
5b	FRESH MARSH
6	SWAMP
7	MANGROVES

UNRANKED

- OYSTER REEFS
- FORESTED UPLAND
- UNCLASSIFIED

BIOLOGICAL RESOURCES

- OYSTERS/CLAMS
- CRABS
- SHRIMP/CRAYFISH
- ALLIGATORS
- SEA TURTLES
- FISH
- AQUATIC VEGETATION
- SHOREBIRDS
- RAPTORS
- WATERFOWL
- WADING BIRDS
- SEABIRDS
- DIVING BIRDS
- COASTAL MAMMALS

REFUGE/PARK BOUNDARIES

KEY TO WILDLIFE SYMBOLS

123 Number = Species (from regional lists)

Range

SPILL RESPONSE ACCESS

BOAT RAMP

MARINA

SPECIES LIST AND ASSEMBLAGES WITH SEASONAL DISTRIBUTION AND BREEDING SEASON

FHWA-600N8856

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
BIRDS						
Wading Birds Assemblage C						
54, 87, 88, 89, 90, 91, 94, 97, 115, 120, 125, 132, 149, 178, 185, 187, 188, 189, 192						
Wading Birds						
54	Great blue heron	Ardea hrodias	*	*	°	°
87	Little blue heron	Egretta caerulea	*	*	°	°
88	Great egret	Casmeridius albus	*	*	°	°
89	Snowy egret	Egretta thula	*	*	°	°
90	Black-crowned night heron	Nycticorax nycticorax	*	*	°	°
91	Glossy ibis	Plegadis falcinelius	*	°	°	°
93	Cattle egret	Bulbulcus ibis	*	*	°	°
94	Tricolor heron	Egretta tricolor	*	*	°	°
97	Green heron	Butorides striatus	*	*	°	
115	White ibis	Eudocimus albus	*	*	°	°
116	Roseate spoonbill	Ajaia ajaja	*	*	°	°
120	Yellow-crowned night heron	Nyctanassa violacea	*	*	°	°
125	Clapper rail	Rallus longirostris	*	*	°	°
132	Wood stork	Mycteria americana		°		
149	White-faced ibis	Plegadis chihi	*	*	°	°
163	Reddish egret	Egretta rufescens	°	*	°	
178	Least bittern	Ixobryrychus exilis	°	*	°	
184	King rail	Rallus elegans	*	*	°	°
185	American bittern	Botaurus lentiginosus	°	°	°	°
187	Virginia rail	Rallus limicola	°		°	°
188	Sora	Porzana carolina	°		°	°
189	Yellow rail	Coturnicops noveboracensis	°		°	°
192	Common gallinule	Gallinula chloropus	*	*	°	°
212	Purple gallinule	Porphyrula martinica	*	*	°	°
172	Sandhill crane	Grus canadensis	°	°	°	°
Water fowl Assemblage E						
15, 16, 17, 18, 20, 22, 23, 26, 33, 121, 124, 148, 162, 169, 190, 198, 211						
Waterfowl						
12	Canada goose	Branta canadensis			°	°
14	White-fronted goose	Anser albifons	°		°	°
15	Snow goose	Chen caerulescens	°		°	°
16	Mallard	Anas platyrhynshos	*		°	°
17	Pintail	Anas acuta	*		°	°
18	Green-winged teal	Anas crecca	°	°	°	°
20	Northern shoveler	Anas clupeata	°		°	°
21	Canvasback	Aythya valisineria	°		°	°
22	Greater scaup	Aythya affinis	°		°	°
23	Lesser scaup	Aythya affinis	°	°	°	°
24	Common goldeneye	Bucephala clangula	°		°	°
26	Bufflehead	Bucephala albeola	°		°	°
33	Red-breasted merganser	Mergus serrator	°		°	°
34	American coot	Fuleca americana	°		°	°
124	Redhead	Aythya americana	°		°	°
148	Ruddy duck	Oxyura jamaicensis	°		°	°
162	Gadwall	Anas strepera	°		°	°
169	American wigeon	Anas americana	°		°	°
180	Ring-necked duck	Aythya collaris	°		°	°
186	Black duck	Anas rubipes	°		°	°
190	Blue-winged teal	Anas discors	°	*	°	
191	Wood duck	Aix sponsa	°	°	°	°
198	Hooded merganser	Lophodytes cucullatus	°		°	°
211	Mottled duck	Anas fulvigula	*	°	°	°

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
Shorebirds Assemblage D						
52, 56, 58, 59, 61, 62, 64, 65, 66, 142, 153, 155, 156, 196						
Shorebirds						
52	Wilsons phalarope	Steganopus tricolor	°	°	°	
55	Whimbrel	Numenius phaeopus	°	°	°	°
56	Spotted sandpiper	Actitis macularia	°	°	°	
58	Greater yellowlegs	Tringa melanaleuca	°	°	°	°
59	Lesser yellowlegs	Tringa flavipes	°	°	°	°
60	Red knot	Calidris canutus	°	°	°	
61	Pectoral sandpiper	Calidris melanotos	°	°	°	
62	Least sandpiper	Calidris minutilla	°	°	°	°
63	Dunlin	Calidris alpina	°		°	°
64	Short-billed dowitcher	Limnodromus griseus	°	°	°	°
65	Long-billed dowitcher	Limnodromus Scolopaceus	°	°	°	
66	Western sandpiper	Caladris mauri	°	°	°	°
67	Sanderling	Caladris alba	°	°	°	°
71	Black-bellied plover	Pluvialis squatarola	°		°	°
73	Ruddy turnstone	Arenaria interpres	°	°	°	
139	Snowy plover	Charadrius alexandrinus	°	°	°	°
141	American avocet	Recurvirostra americana	°	°	°	°
142	Black-necked stilt	Himantopus mexicanus	*	*	°	°
152	American oystercatcher	Haemetopus palliatus	°	°		
153	Piping plover	Charadrius melodus	°	°	°	
154	Wilson's plover	Charadrius wilsonia	*	*	°	
155	Willet	Catoptrophorus semipalmatus	*	*	°	°
156	Semipalmated plover	Calidris pusilla	°	°	°	°
196	Common snipe	Capella gallinago	°		°	°
209	Long-billed curlew	Namenius americanus	°	°	°	°
210	marbled godwit	Limosa fedoa	°	°	°	°
213	Stilt sandpiper	Calidris himantopus	°	°	°	
214	Solitary sandpiper	Tringa solitara	°	°	°	
Seabirds						
38	Herring gull	Larus argentatus	°		°	°
40	Ring-billed gull	Larus delawarebsus	°	°	°	°
42	Bonapartes gull	Larus philadelphia	°	°	°	°
45	Common tern	Sterna hirundo	°	°	°	°
86	Least tern	Sterna antillarum	*	*	°	°
98	Laughing gull	Larus articilla	*	*	°	°
133	Black skimmer	Rynshops niger	*	*	°	°
134	Gull-billed tern	Gelochilidon nilotica	°	*	°	°
135	Sandwich tern	Sterna sandvicensis	°	*	°	°
136	Caspian tern	Sterna caspia	*	*	°	
137	Royal tern	Sterna maxima	*	*	°	°
138	Forsters tern	Sterna fosteri	*	*	°	°
Raptors						
76	Bald eagle	Haliaeetus leucocephalus	*		°	*
77	Osprey	Pandion haliaetus	*		°	*
107	Peregrine falcon	Falco peregrinus	°		°	°
182	American kestrel	Falco sparverius	°		°	°
Diving Birds						
1	Common loon	Gavia immer	°		°	°
5	Horned grebe	Podiceps auritus	°		°	°
6	Eared grebe	Podiceps nigricollis	°		°	°
8	Double-crested commorant	Phalacrocorax nigricollis	°		°	°
118	Brown pelican	Pelecanus occidentalis	°	°	°	*
121	Anhinga	Anhinga anhinga	*	*	°	°
168	Olivaceous cormarant	Phalacrocorax olivaceus	*	°	°	°
173	White pelican	Pelecanus erythrorhynchos	°	°	°	°
179	Pied-billed grebe	Podilymbus podiceps	*	°	°	°

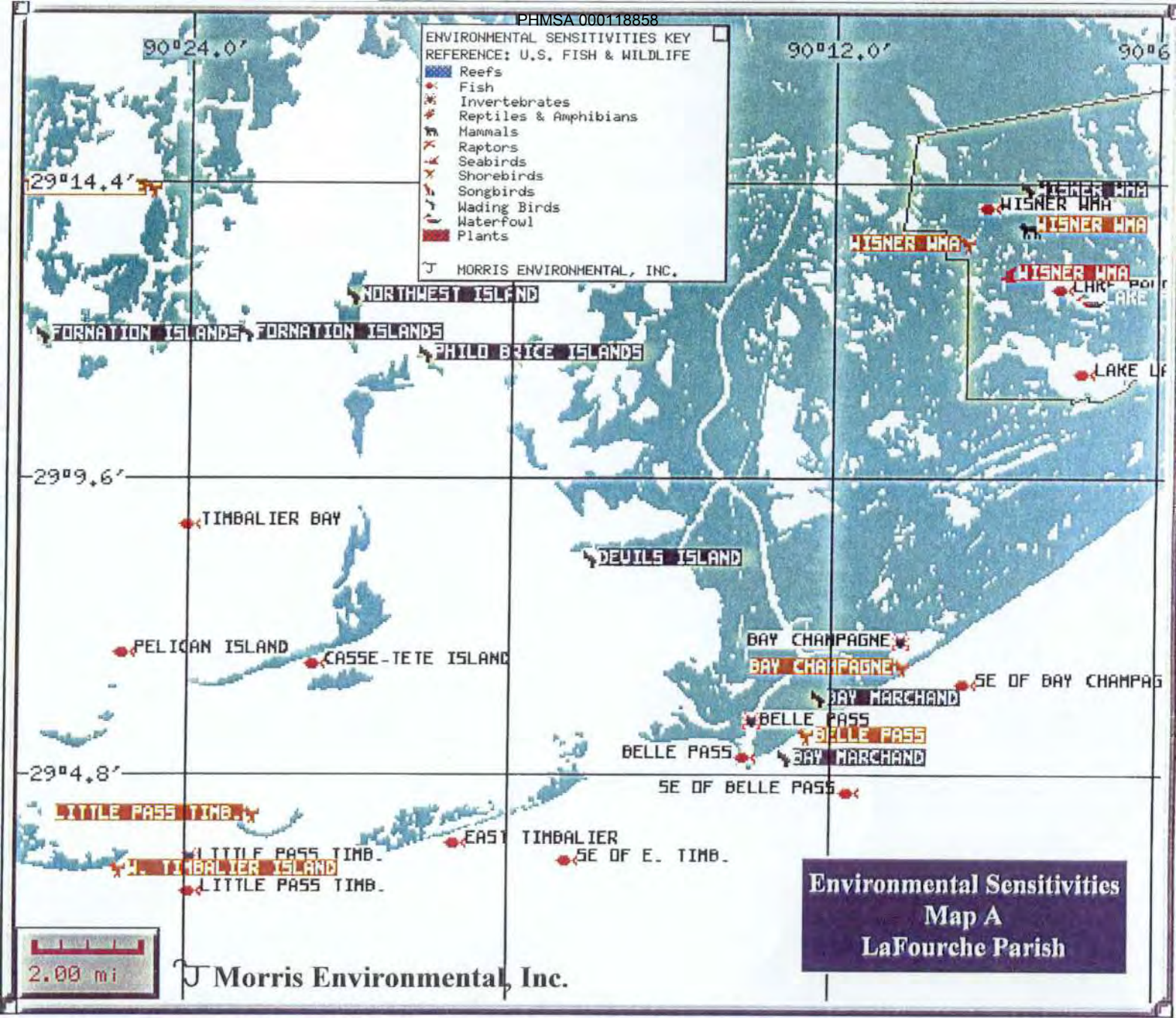
[#][Sp = spring, Su = summer, F = fall, W = winter, ° = present, * = breeding season].
Underlined species numbers indicate threatened or endangered status.

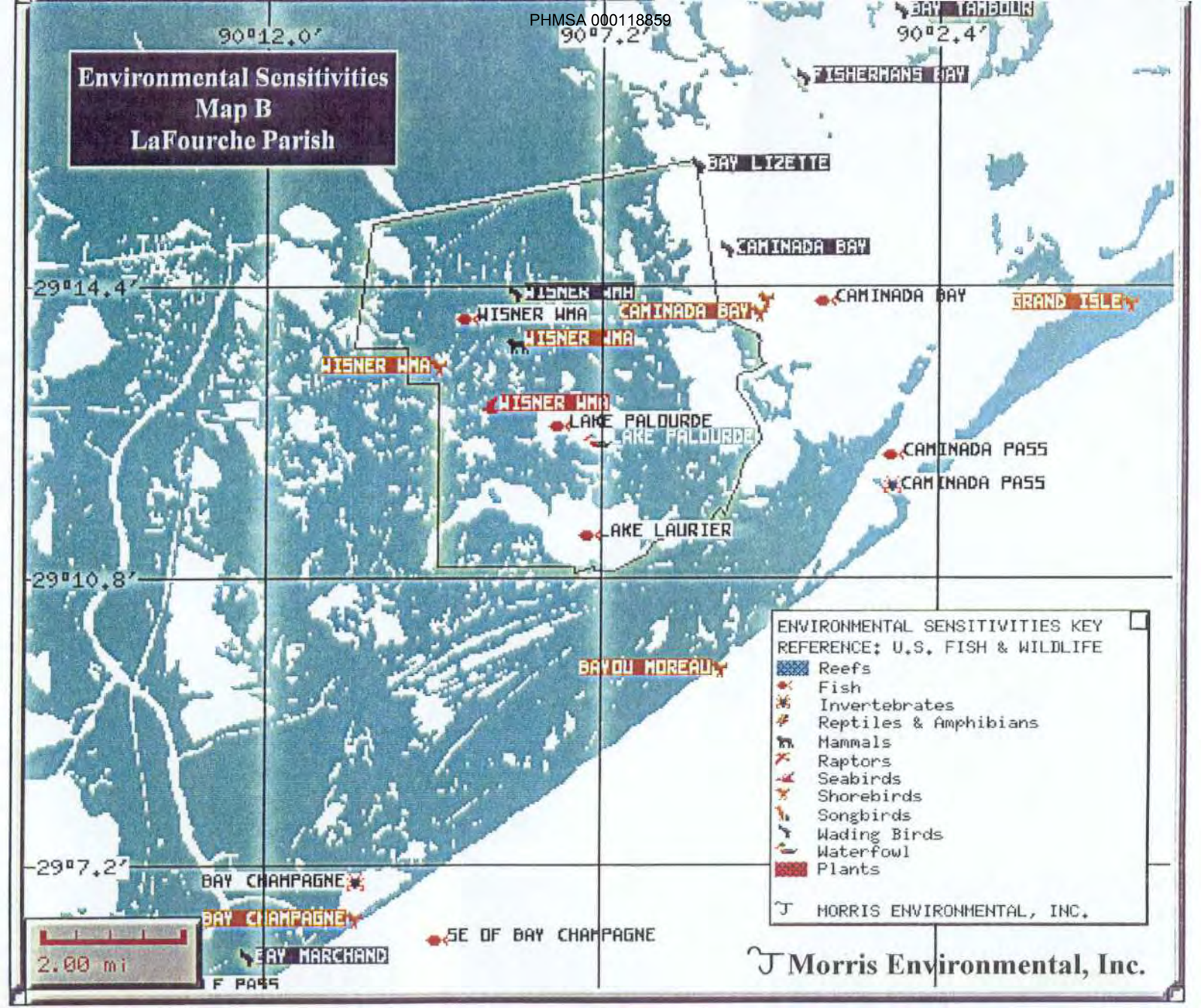
SPECIES LIST AND ASSEMBLAGES WITH SEASONAL DISTRIBUTION AND BREEDING SEASON

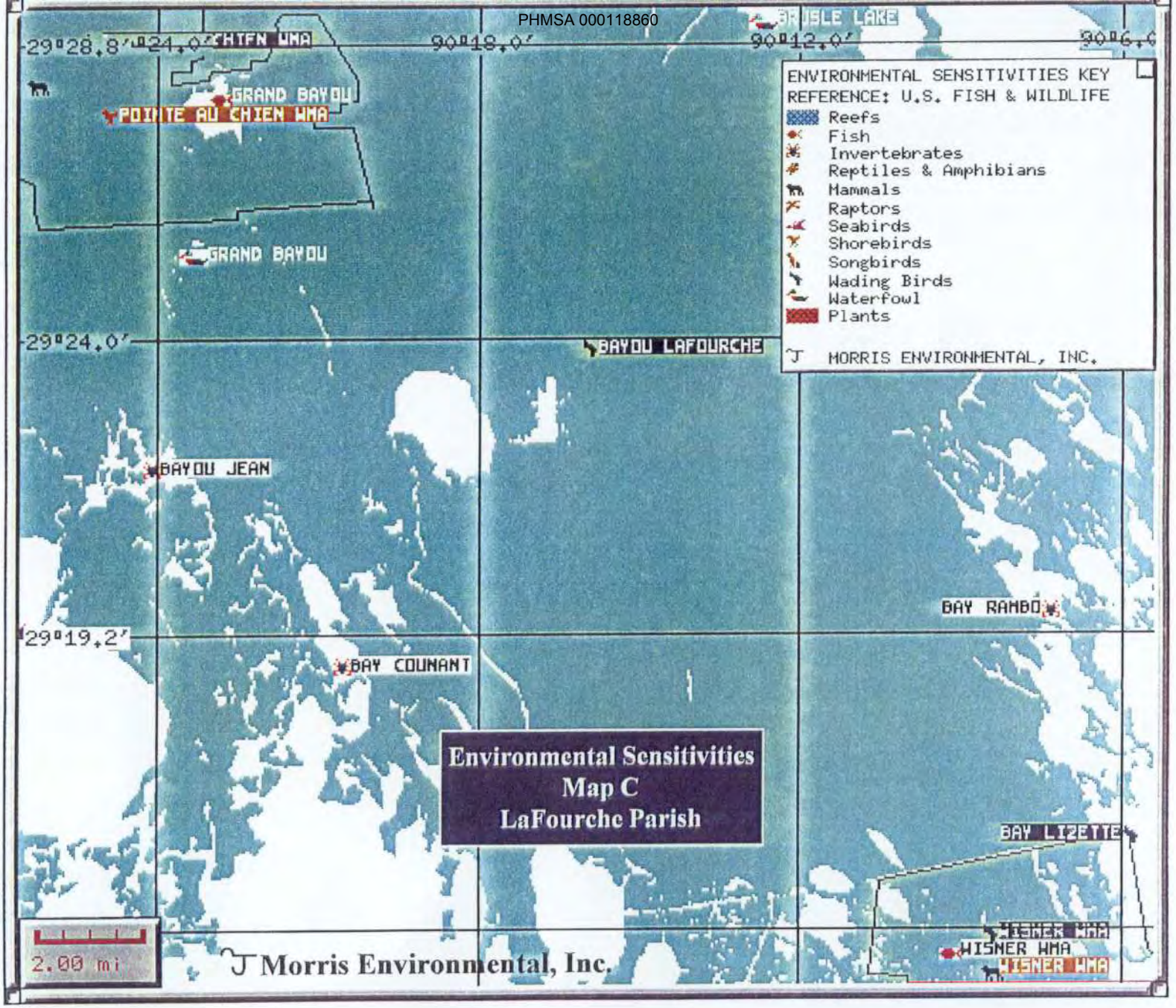
FHWA 0001857

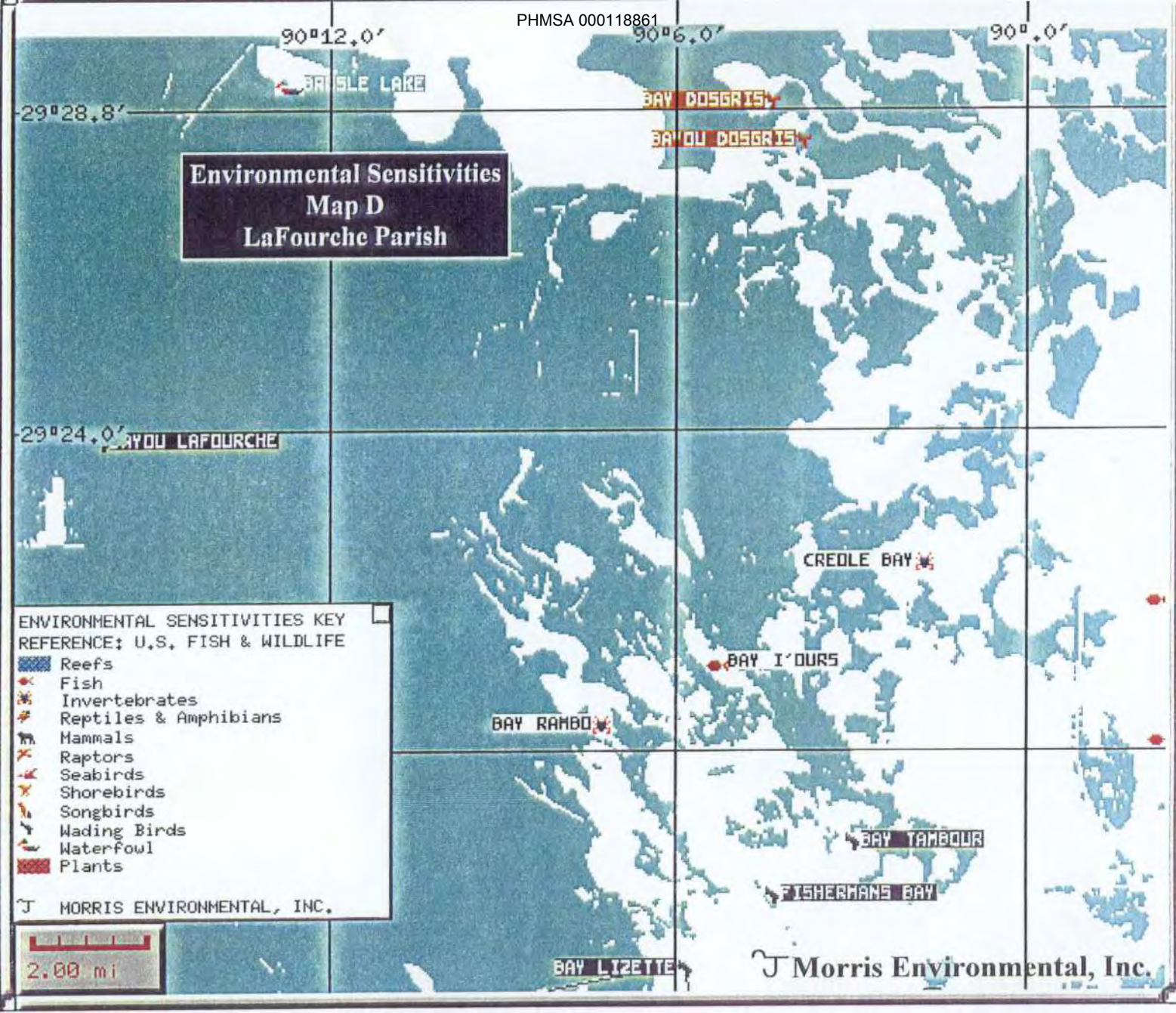
Species No.	Common Name	Scientific Name	Seasonality# Sp	Su	F	W
REPTILES						
Alligators						
3	American alligator	Alligator mississippiensis	°	*	*	°
Sea Turtles						
2	Green sea turtle	Chelonia mydas mydas	*	*		
4	Kemp's ridley sea turtle	Lepidochelys kempi	*	*		
5	Leatherback sea turtle	Dermochelys coriacea	*	*		
6	Loggerhead sea turtle	Caretta caretta	*	*		
9	Hawksbill sea turtle	Eretmochelys imbricata imbicata	*	*		
FISHES						
Fish Assemblage A	107, 109, 111, 113, 121, 122, 123, 124, 137, 163, 179, 181, 182, 200, 201, 201, 202, 203, 204, 205, 206, 213, 214					
Fish Assemblage B	107, 109, 111, 113, 116, 121, 122, 123, 124, 137, 207, 213, 214, 215, 217					
Fish Assemblage F	163, 179, 181, 200, 201, 202, 203, 204, 205, 206					
Freshwater Fish						
163	Gizzard shad	Dorosoma cepedianum	*	*	°	°
179	Largemouth bass	Micropterus saloides	*	°	°	°
181	Black crappie	Pomoxis nigromaculatus	*	°	°	°
182	Bluegill	Lepomis macrochirus	°	°	°	°
200	Blue catfish	Ictalurus furcatus	*	*	°	°
201	Channel catfish	Ictalurus punctatus	*	*	°	°
202	White crappie	Pomoxis annularis	°	°	°	°
203	Warmouth	Chaenobryttus gulosus	°	°	°	°
204	Redear sunfish	Lepomis microlophus	°	°	°	°
205	Freshwater drum	Aplodinotus grunnies	°	°	°	°
206	Spotted sunfish	Lepomis punctatus miniatus	°	°	°	°
Marine Fish						
102	Atlantic sturgeon		°	*	°	°
107	Spotted seatrout	Cynoscion nebulosus	°	°	*	*
109	Red drum	Sciaenops ocellatus	°	°	°	*
111	Southern flounder	Paraichthys lethostigma	°	°	°	*
113	Bay anchovy	Anchoa mitchilli	*	*	*	*
116	Striped mullet	Mugil cephalus	°	°	*	*
121	Spot	Leiostomus xanthurus	°	°	°	*
122	Black drum	Pogonias cromis	*	°	°	*
123	Atlantic croaker	Micropogonias undultus	°	°	°	*
124	Southern kingfish	Menticirrhus americanus	°	°	°	°
127	Spanish Mackerel	Scomberomorus maculatus		°	°	
137	Sheepshead	Coryphaena hipporus	*	°	°	°
207	Sea catfish	Galeichthyes felis	°	*	°	°
213	Gulf menhaden	Brevoortia patronus	°	°	°	*
214	Gulf kingfish	Menticirrhus littoralis	°	°	°	°
215	Sand seatrout	Cynoscion arenarius	°	*	°	°
217	Gafftopsail catfish	Bagre marinus	°	*	°	°
INVERTRBRATES						
Shellfish						
43	Eastern oyster	Crassostrea virginica	*	*	*	°
49	Blue crab	Callinectes sapidus	°	*	°	°
50	White shrimp	Panaeus setiferus	°	°	°	°
51	Brown shrimp	Penaeus aztecus	°	°	°	°
82	Brackish-water clam		°	°	°	°
83	River crayfish	Procambarus acutus	°	°	°	*
84	Red swamp crayfish	Procambarus clarkii	°	°	°	*
MAMMALS						
Coastal/Terrestrial						
8	River otter	Lutra canade	°	°	°	°
36	Beaver	Caston canadensis	°	°	°	°
37	Muskrat	Ondatra zibethicus	°	°	°	°
38	Mink	Mustela vison	°	°	°	°
43	Nutria	Myocastor coypus	°	°	°	°
44	Northern raccoon	Procyon lotor	°	°	°	°

#[Sp = spring, Su = summer, F = fall, W = winter, ° = present, * = breeding season].
Underlined species numbers indicate threatened or endangered status.


ENVIRONMENTAL SENSITIVITIES KEY
REFERENCE: U.S. FISH & WILDLIFE
Reefs
Fish
Invertebrates
Reptiles & Amphibians
Mammals
Raptors
Seabirds
Shorebirds
Songbirds
Wading Birds
Waterfowl
Plants
MORRIS ENVIRONMENTAL, INC.
90°24.0'
90°12.0'
29°14.4'
29°9.6'
29°4.8'
NORTHWEST ISLAND
FORNATION ISLANDS
FORNATION ISLANDS
PHILO BRICE ISLANDS
WISNER WMA
WISNER WMA
WISNER WMA
WISNER WMA
LAKE
LAKE
TIMBALIER BAY
DEVILS ISLAND
PELICAN ISLAND
CASSE-TETE ISLAND
BAY CHAMPAGNE
BAY CHAMPAGNE
SE OF BAY CHAMPAG
BAY MARCHAND
BELLE PASS
BELLE PASS
BELLE PASS
BAY MARCHAND
SE OF BELLE PASS
LITTLE PASS TIMB.
EAST TIMBALIER
LITTLE PASS TIMB.
SE OF E. TIMB.
TIMBALIER ISLAND
LITTLE PASS TIMB.
2.00 mi
Morris Environmental, Inc.
Environmental Sensitivities
Map A
LaFourche Parish


Environmental Sensitivities
Map B
LaFourche Parish
90°12.0'
90°7.2'
90°2.4'
29°14.4'
29°10.8'
29°7.2'
BAY TAMBOUR
FISHERMANS BAY
BAY LIZETTE
CAMINADA BAY
CAMINADA BAY
GRAND ISLE
WISNER WMA
WISNER WMA
CAMINADA BAY
WISNER WMA
WISNER WMA
WISNER WMA
LAKE PALOURDE
LAKE PALOURDE
CAMINADA PASS
CAMINADA PASS
LAKE LAURIER
BAYOU MOREAU
BAY CHAMPAGNE
BAY CHAMPAGNE
SE OF BAY CHAMPAGNE
BAY MARCHAND
F PASS
2.00 mi
ENVIRONMENTAL SENSITIVITIES KEY
REFERENCE: U.S. FISH & WILDLIFE
Reefs
Fish
Invertebrates
Reptiles & Amphibians
Mammals
Raptors
Seabirds
Shorebirds
Songbirds
Wading Birds
Waterfowl
Plants
MORRIS ENVIRONMENTAL, INC.
Morris Environmental, Inc.


29°28.8'
90°24.0'
CHIEN WMA
90°18.0'
BRISLE LAKE
90°12.0'
90°6.0'
ENVIRONMENTAL SENSITIVITIES KEY
REFERENCE: U.S. FISH & WILDLIFE
Reefs
Fish
Invertebrates
Reptiles & Amphibians
Mammals
Raptors
Seabirds
Shorebirds
Songbirds
Wading Birds
Waterfowl
Plants
MORRIS ENVIRONMENTAL, INC.
GRAND BAYOU
POINTE AU CHIEN WMA
GRAND BAYOU
29°24.0'
BAYOU LAFOURCHE
BAYOU JEAN
BAY RAMBO
29°19.2'
BAY COUMANT
Environmental Sensitivities
Map C
LaFourche Parish
BAY LIZETTE
WISNER WMA
WISNER WMA
WISNER WMA
2.00 mi
Morris Environmental, Inc.


90°12.0'
90°6.0'
90°.0'
29°28.8'
29°24.0'
BAYOU LAFOURCHE
BAY DOSGRIS
BAYOU DOSGRIS
Environmental Sensitivities
Map D
LaFourche Parish
CREOLE BAY
BAY I'OURS
BAY RAMBO
BAY TAMBOUR
FISHERMANS BAY
BAY LIZETTE
ENVIRONMENTAL SENSITIVITIES KEY
REFERENCE: U.S. FISH & WILDLIFE
Reefs
Fish
Invertebrates
Reptiles & Amphibians
Mammals
Raptors
Seabirds
Shorebirds
Songbirds
Wading Birds
Waterfowl
Plants
MORRIS ENVIRONMENTAL, INC.
2.00 mi
Morris Environmental, Inc.

Environmental Sensitivities

Name : WISNER WMA
Description:
AREAS WISNER WMA
MANAGER: DAVE SOILEAU
PHONE: 337-373-0032 FAX: 337-373-0181
21,621 ACRES, ACCESS BY BOAT ONLY.
SENSITIVE SPECIES INCLUDE BROWN PELICAN, WADING BIRDS, WATERFOWL, AND SHOREBIRDS.

Name : WISNER WMA
Description: BROWN PELICAN
BROWN PELICANS ARE ON THE RARE, THREATENED, AND ENDANGERED SPECIES LIST.

Name : WISNER WMA
Description: HERONS AND EGRETS
WISNER WILDLIFE MANAGEMENT AREA CONTAINS HERONS, EGRETS, AND RAILS.

Name : WISNER WMA
Description: WISNER WMA
WISNER WILDLIFE MANAGEMENT AREA HUNTING AREA FOR RIVER OTTER, NUTRIA, MUSKRAT, RACCOON, AND EASTERN COTTONTAIL

Name : WISNER WMA
Description: WISNER WMA
WISNER WILDLIFE MANAGEMENT AREA SPORT FISHING AREA FOR SPOTTED SEATROUT, ATLANTIC CROAKER, RED DRUM, BLACK DRUM, SHEEPHEAD, AND SOUTHERN FLOUNDER.

Name : BAY CHAMPAGNE
Description: EASTERN OYSTER
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTERS.

Name : BAY CHAMPAGNE
Description: LEAST TERN
BREEDING GROUND FOR LEAST TERN DURING THE SPRING.

Name : BAY LIZETTE
Description: HERONS AND EGRETS
IS THE BREEDING AREA FOR HERONS AND EGRETS DURING THE SPRING.

Name : BAY MARCHAND
Description: VARIETY OF BIRDS
ADULT CONCENTRATION AREA FOR HERONS, EGRETS, AND RAILS.

Name : BAYOU MOREAU
Description: TERN AND SKIMMER
BREEDING AREA FOR LEAST TERN AND BLACK SKIMMER DURING THE SPRING.

Name : BELLE PASS
Description: SHRIMP AND BLUE CRAB
MIGRATORY AREA FOR SHRIMP AND BLUE CRAB DURING THE SPRING, FALL, AND WINTER.

Name : BELLE PASS
Description: VARIETY OF BIRDS
ADULT CONCENTRATION AREA FOR GULLS, SANDPIPERS, AND PLOVERS. BREEDING AREA FOR WILSON'S PLOVER DURING THE SPRING.

Name : BELLE PASS
Description: VARIETY OF FISH
MIGRATORY AREA FOR SOUTHERN FLOUNDER
AND GULF MENHADEN DURING THE SPRING, FALL, AND WINTER. MIGRATORY AREA FOR DRUM DURING THE SPRING AND FALL.

Name : CAMINADA BAY
Description: FORSTERS TERN
BREEDING AREA FOR FORSTERS TERN DURING THE SPRING.

Name : CAMINADA BAY
Description: SPOTTED SEATROUT
IS THE ADULT CONCENTRATION AND SPORT FISHING AREA FOR SPOTTED SEATROUT.

Name : CAMINADA BAY
Description: VARIETY OF BIRDS
IS THE BREEDING AREA FOR
HERONS AND EGRETS DURING THE SPRING.

Name : CAMINADA PASS
Description: SHRIMP AND BLUE CRAB
MIGRATORY AREA FOR SHRIMP AND BLUE CRAB DURING THE SPRING, FALL, AND SUMMER.

Name : CAMINADA PASS
Description: VARIETY OF FISH
MIGRATORY AREA FOR SOUTHERN FLOUNDER
AND GULF MENHADEN DURING THE SPRING,FALL, AND WINTER.MIGRATORY AREA FOR DRUM DURING THE SPING AND FALL.

Name : CASSE-TETE ISLAND

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Lafourche Parish
Environmental Sensitivities

Description: RED DRUM
ADULT CONCENTRATION AND SPORT FISHING AREA FOR RED DRUM.

Name : DEVILS ISLAND
Description: VARIETY OF BIRDS
BREEDING AREA FOR HERONS, EGRETS, REDDISH EGRETS, AND BLACK-CROWNED NIGHT HERON DURING THE SPRING.

Name : EAST TIMBALIER
Description: SPOTTED SEATROUT
ADULT CONCENTRATION AND SPORT FISHING AREA FOR SPOTTED SEATROUT.

Name : FORNATION ISLANDS
Description: HERONS AND EGRETS
BREEDING AREA FOR HERONS AND EGRETS DURING THE SPRING.

Name : LAKE LAURIER
Description: RED DRUM AND TROUT
ADULT CONCENTRATION AND SPORT FISHING AREA FOR RED DRUM AND SPOTTED SEATROUT.

Name : LAKE PALOURDE
Description: RED DRUM AND TROUT
ADULT CONCENTRATION AND SPORT FISHING AREA FOR RED DRUM AND SPOTTED TROUT.

Name : LITTLE PASS TIMB.
Description: SHRIMP AND BLUE CRAB
MIGRATORY AREA FOR SHRIMP AND BLUE CRAB DURING THE SPRING, FALL, AND WINTER.

Name : LITTLE PASS TIMB.
Description: VARIETY OF BIRDS
BREEDING AREA FOR LEAST TERN, ROYAL TERN, SANDWICH TERN, GULL-BILLED TERN, AND BLACK SKIMMER DURING THE SPRING.

Name : LITTLE PASS TIMB.
Description: VARIETY OF FISH
ADULT CONCENTRATION AND COMMERCIAL AREA FOR TARPON. MIGRATORY AREA FOR SOUTHERN FLOUNDER AND GULF MENGADEN DURING THE SPRING, FALL, AND WINTER. MIGRATORY AREA FOR DRUM DURING THE SPRING AND FALL.

Name : NORTHWEST ISLAND
Description: VARIETY OF BIRDS
BREEDING AREA FOR WHITE IBIS, GREAT EGRET, SNOWY EGRET, LOUISIANA HERON, BLACK-CROWNED NIGHT HERON, LITTLE BLUE HERON, AND IBISES DURING THE SPRING.

Name : PELICAN ISLAND
Description: SPOTTED SEATROUT
ADULT CONCENTRATION AND SPORT FISHING AREA FOR SPOTTED SEATROUT.

Name : PHILO BRICE ISLANDS
Description: HERONS AND EGRETS
BREEDING AREA FOR GREAT EGRETS AND BLACK-CROWNED NIGHT HERONS DURING THE SPRING.

Name : SE OF BAY CHAMPAGNE
Description: VARIETY OF FISH
ADULT CONCENTRATION AND SPORT FISHING AREA FOR SPOTTED SEATROUT, SAND SEATROUT, ATLANTIC CROAKER, RED DRUM, COBIA, AND ATLANTIC SPADEFISH.

Name : SE OF BELLE PASS
Description: VARIETY OF FISH
ADULT CONCENTRATION AND SPORT FISHING AREA FOR SPOTTED SEATROUT, SAND SEATROUT, ATLANTIC CROAKER, RED DRUM, COBIA, AND ATLANTIC SPADEFISH.

Name : SE OF E. TIMB.
Description: SPOTTED SEATROUT
ADULT CONCENTRATION AND SPORT FISHING AREA FOR SPOTTED SEATROUT.

Name : TIMBALIER BAY
Description: SPOTTED SEATROUT
ADULT CONCENTRATION AND SPORT FISHING AREA FOR SPOTTED SEATROUT.

Name : W. TIMBALIER ISLAND
Description: JACANA
BREEDING AREA FOR JACANA DURING THE SPRING.

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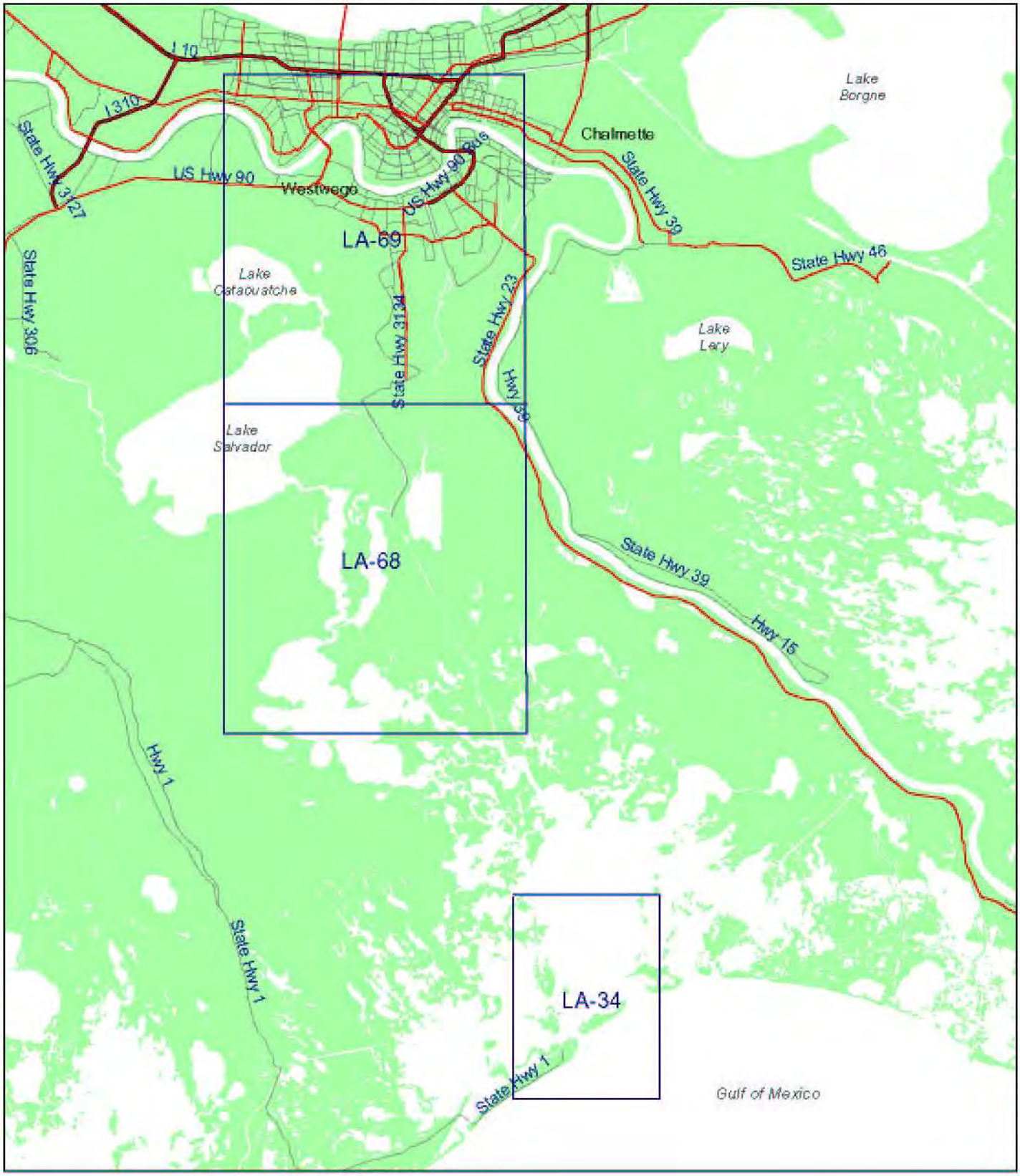
Jefferson Parish Overview Map

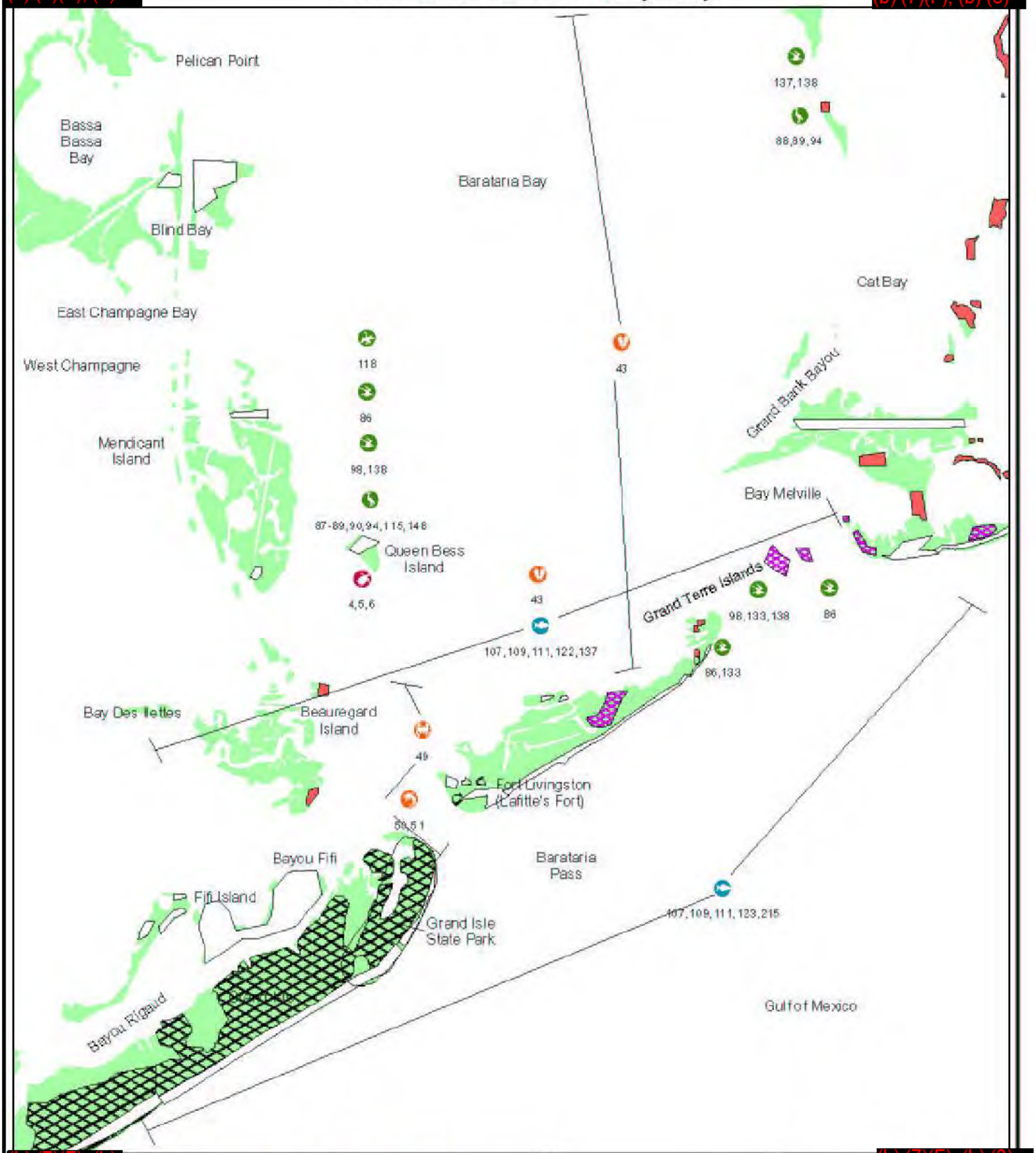


Environmental Sensitivity Map

LA-34

(b) (7)(F), (b)

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

1, 5, 8 C 118, 173, 179 E D 76, 77 38, 40, 98, 133, 137, 138

43 49 50,51 B 8, 37, 38, 43, 44

Common Throughout Area

Data Source: RPI International, Inc.

prepared by Morris Environmental, Inc.

N

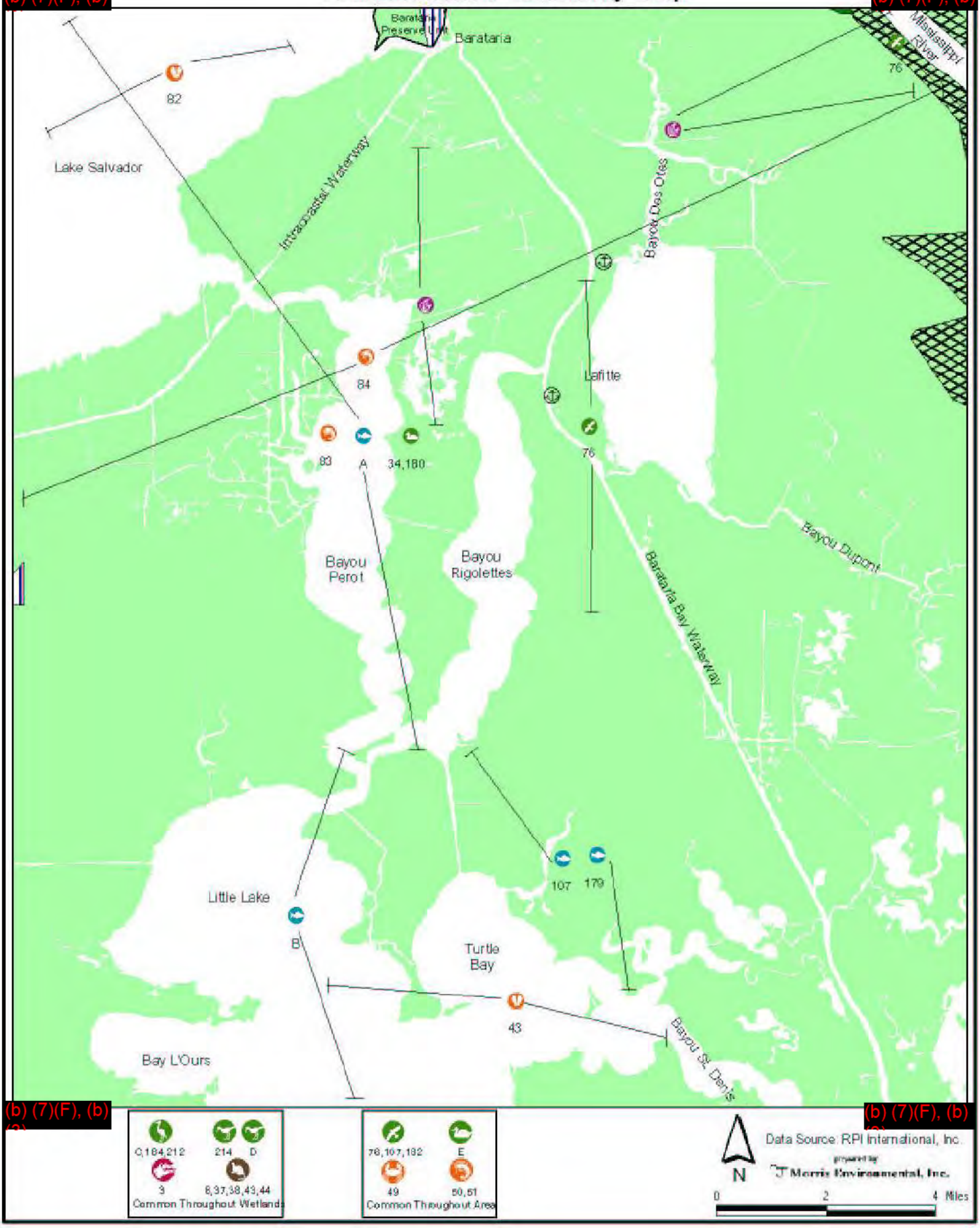
0 1 2 Miles

Environmental Sensitivity Map

LA-68

(b) (7)(F), (b)

(b) (7)(F), (b)



(b) (7)(F), (b)

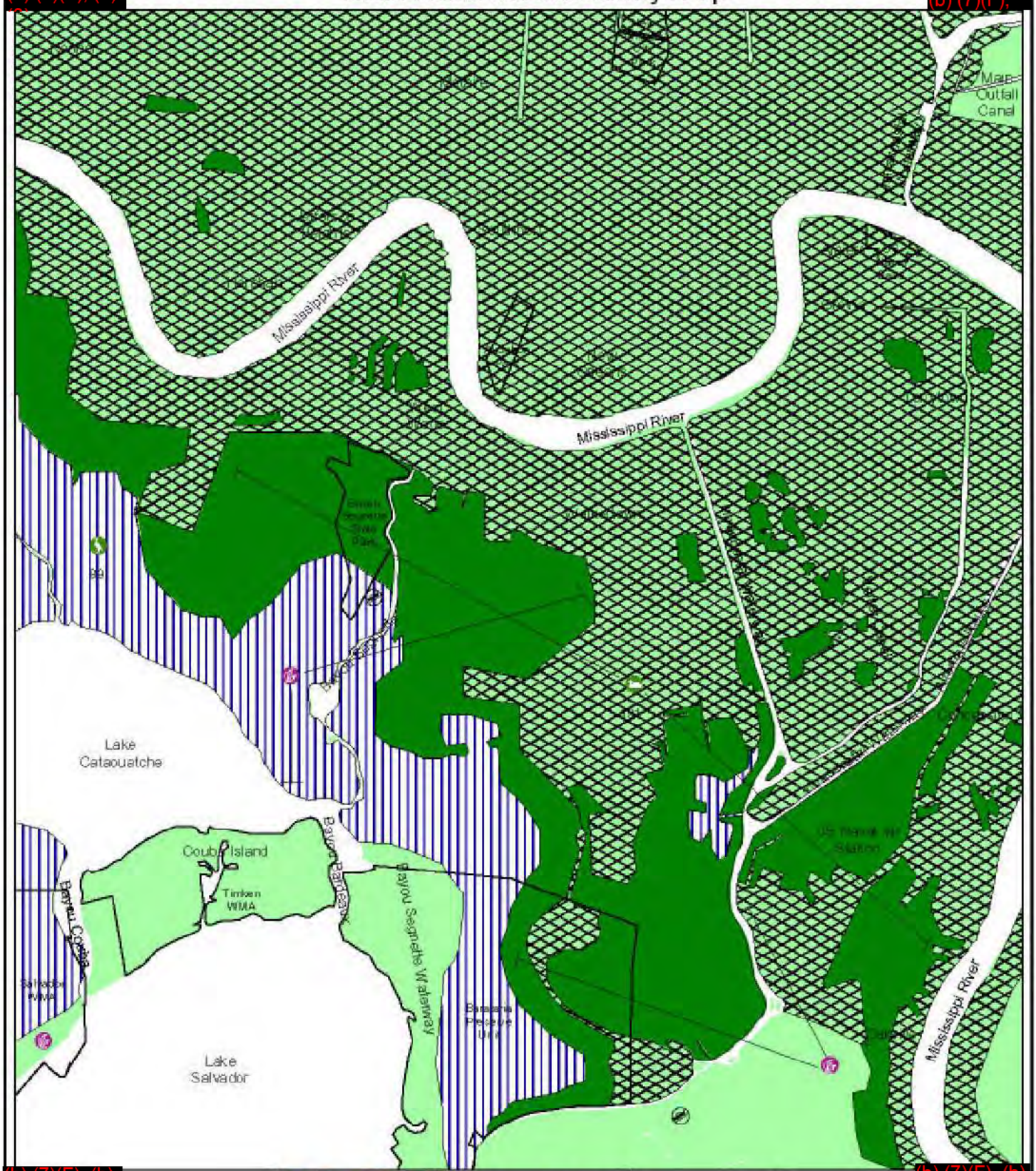
(b) (7)(F), (b)

Environmental Sensitivity Map

LA-69

(b) (7)(F), (b)

(b) (7)(F),



(b) (7)(F), (b)

(b) (7)(F), (b)

76,77,107,182
Common Throughout Area

F 93
Common in Mississippi River and other Channels

A 49 50 82 83
34,180 1,5,6,8 121,173,179
Common Throughout Lakes Cataouatche and Salvador

C,184,212 141 E D
84 8,37,38,43,44 3
Common Throughout Wetlands

N

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

0 2 4 Miles

LOUISIANA ENVIRONMENTAL SENSITIVITIES

SHORELINE INDEX

SENSITIVITY

1	DEVELOPED/UNFORESTED UPLAND
2	SAND BEACH/SPOIL BANKS
2	SAND BEACH
3	TIDAL MUDFLATS
4	FRESHWATER FLAT
5a	SALT MARSH
5b	FRESH MARSH
6	SWAMP
7	MANGROVES

UNRANKED

- OYSTER REEFS
- FORESTED UPLAND
- UNCLASSIFIED

BIOLOGICAL RESOURCES

- OYSTERS/CLAMS
- CRABS
- SHRIMP/CRAYFISH
- ALLIGATORS
- SEA TURTLES
- FISH
- AQUATIC VEGETATION
- SHOREBIRDS
- RAPTORS
- WATERFOWL
- WADING BIRDS
- SEABIRDS
- DIVING BIRDS
- COASTAL MAMMALS

REFUGE/PARK BOUNDARIES

KEY TO WILDLIFE SYMBOLS

123 Number = Species (from regional lists)

Range

SPILL RESPONSE ACCESS

BOAT RAMP

MARINA

SPECIES LIST AND ASSEMBLAGES WITH SEASONAL DISTRIBUTION AND BREEDING SEASON

Species No.	Common Name	Scientific Name	Seasonality* Sp	Su	F	W
BIRDS						
Wading Birds Assemblage C						
54, 87, 88, 89, 90, 91, 94, 97, 115, 120, 125, 132, 149, 178, 185, 187, 188, 189, 192						
Wading Birds						
54	Great blue heron	Ardea hrodias	*	*	°	°
87	Little blue heron	Egretta caerulea	*	*	°	°
88	Great egret	Casmeridius albus	*	*	°	°
89	Snowy egret	Egretta thula	*	*	°	°
90	Black-crowned night heron	Nycticorax nycticorax	*	*	°	°
91	Glossy ibis	Plegadis falcinelius	*	°	°	°
93	Cattle egret	Bulbulcus ibis	*	*	°	°
94	Tricolor heron	Egretta tricolor	*	*	°	°
97	Green heron	Butorides striatus	*	*	°	
115	White ibis	Eudocimus albus	*	*	°	°
116	Roseate spoonbill	Ajaia ajaja	*	*	°	°
120	Yellow-crowned night heron	Nyctanassa violacea	*	*	°	°
125	Clapper rail	Rallus longirostris	*	*	°	°
132	Wood stork	Mycteria americana		°		
149	White-faced ibis	Plegadis chihi	*	*	°	°
163	Reddish egret	Egretta rufescens	°	*	°	
178	Least bittern	Ixobryrychus exilis	°	*	°	
184	King rail	Rallus elegans	*	*	°	°
185	American bittern	Botaurus lentiginosus	°	°	°	°
187	Virginia rail	Rallus limicola	°		°	°
188	Sora	Porzana carolina	°		°	°
189	Yellow rail	Coturnicops noveboracensis	°		°	°
192	Common gallinule	Gallinula chloropus	*	*	°	°
212	Purple gallinule	Porphyrula martinica	*	*	°	°
172	Sandhill crane	Grus canadensis	°	°	°	°
Water fowl Assemblage E						
15, 16, 17, 18, 20, 22, 23, 26, 33, 121, 124, 148, 162, 169, 190, 198, 211						
Waterfowl						
12	Canada goose	Branta canadensis			°	°
14	White-fronted goose	Anser albifons	°		°	°
15	Snow goose	Chen caerulescens	°		°	°
16	Mallard	Anas platyrhynshos	*		°	°
17	Pintail	Anas acuta	*		°	°
18	Green-winged teal	Anas crecca	°	°	°	°
20	Northern shoveler	Anas clupeata	°		°	°
21	Canvasback	Aythya valisineria	°		°	°
22	Greater scaup	Aythya affinis	°		°	°
23	Lesser scaup	Aythya affinis	°	°	°	°
24	Common goldeneye	Bucephala clangula	°		°	°
26	Bufflehead	Bucephala albeola	°		°	°
33	Red-breasted merganser	Mergus serrator	°		°	°
34	American coot	Fuleca americana	°		°	°
124	Redhead	Aythya americana	°		°	°
148	Ruddy duck	Oxyura jamaicensis	°		°	°
162	Gadwall	Anas strepera	°		°	°
169	American wigeon	Anas americana	°		°	°
180	Ring-necked duck	Aythya collaris	°		°	°
186	Black duck	Anas rubipes	°		°	°
190	Blue-winged teal	Anas discors	°	*	°	
191	Wood duck	Aix sponsa	°	°	°	°
198	Hooded merganser	Lophodytes cucullatus	°		°	°
211	Mottled duck	Anas fulvigula	*	°	°	°

Species No.	Common Name	Scientific Name	Seasonality* Sp	Su	F	W
Shorebirds Assemblage D						
52, 56, 58, 59, 61, 62, 64, 65, 66, 142, 153, 155, 156, 196						
Shorebirds						
52	Wilsons phalarope	Steganopus tricolor	°	°	°	
55	Whimbrel	Numenius phaeopus	°	°	°	°
56	Spotted sandpiper	Actitis macularia	°	°	°	
58	Greater yellowlegs	Tringa melanaleuca	°	°	°	°
59	Lesser yellowlegs	Tringa flavipes	°	°	°	°
60	Red knot	Calidris canutus	°	°	°	
61	Pectoral sandpiper	Calidris melanotos	°	°	°	
62	Least sandpiper	Calidris minutilla	°	°	°	°
63	Dunlin	Calidris alpina	°		°	°
64	Short-billed dowitcher	Limnodromus griseus	°	°	°	°
65	Long-billed dowitcher	Limnodromus Scolopaceus	°	°	°	
66	Western sandpiper	Caladris mauri	°	°	°	°
67	Sanderling	Caladris alba	°	°	°	°
71	Black-bellied plover	Pluvialis squatarola	°		°	°
73	Ruddy turnstone	Arenaria interpres	°	°	°	
139	Snowy plover	Charadrius alexandrinus	°	°	°	°
141	American avocet	Recurvirostra americana	°	°	°	°
142	Black-necked stilt	Himantopus mexicanus	*	*	°	°
152	American oystercatcher	Haemetopus palliatus	°	°		
153	Piping plover	Charadrius melodus	°	°	°	
154	Wilson's plover	Charadrius wilsonia	*	*	°	
155	Willet	Catoptrophorus semipalmatus	*	*	°	°
156	Semipalmated plover	Calidris pusilla	°	°	°	°
196	Common snipe	Capella gallinago	°		°	°
209	Long-billed curlew	Namenius americanus	°	°	°	°
210	marbled godwit	Limosa fedoa	°	°	°	°
213	Stilt sandpiper	Calidris himantopus	°	°	°	
214	Solitary sandpiper	Tringa solitara	°	°	°	
Seabirds						
38	Herring gull	Larus argentatus	°		°	°
40	Ring-billed gull	Larus delawarebsus	°	°	°	°
42	Bonapartes gull	Larus philadelphia	°	°	°	°
45	Common tern	Sterna hirundo	°	°	°	°
86	Least tern	Sterna antillarum	*	*	°	°
98	Laughing gull	Larus articilla	*	*	°	°
133	Black skimmer	Rynshops niger	*	*	°	°
134	Gull-billed tern	Gelochilidon nilotica	°	*	°	°
135	Sandwich tern	Sterna sandvicensis	°	*	°	°
136	Caspian tern	Sterna caspia	*	*	°	
137	Royal tern	Sterna maxima	*	*	°	°
138	Forsters tern	Sterna fosteri	*	*	°	°
Raptors						
76	Bald eagle	Haliaeetus leucocephalus	*		°	*
77	Osprey	Pandion haliaetus	*		°	*
107	Peregrine falcon	Falco peregrinus	°		°	°
182	American kestrel	Falco sparverius	°		°	°
Diving Birds						
1	Common loon	Gavia immer	°		°	°
5	Horned grebe	Podiceps auritus	°		°	°
6	Eared grebe	Podiceps nigricollis	°		°	°
8	Double-crested commorant	Phalacrocorax nigricollis	°		°	°
118	Brown pelican	Pelecanus occidentalis	°	°	°	*
121	Anhinga	Anhinga anhinga	*	*	°	°
168	Olivaceous cormarant	Phalacrocorax olivaceus	*	°	°	°
173	White pelican	Pelecanus erythrorhynchos	°	°	°	°
179	Pied-billed grebe	Podilymbus podiceps	*	°	°	°

*[Sp = spring, Su = summer, F = fall, W = winter, ° = present, * = breeding season].
Underlined species numbers indicate threatened or endangered status.

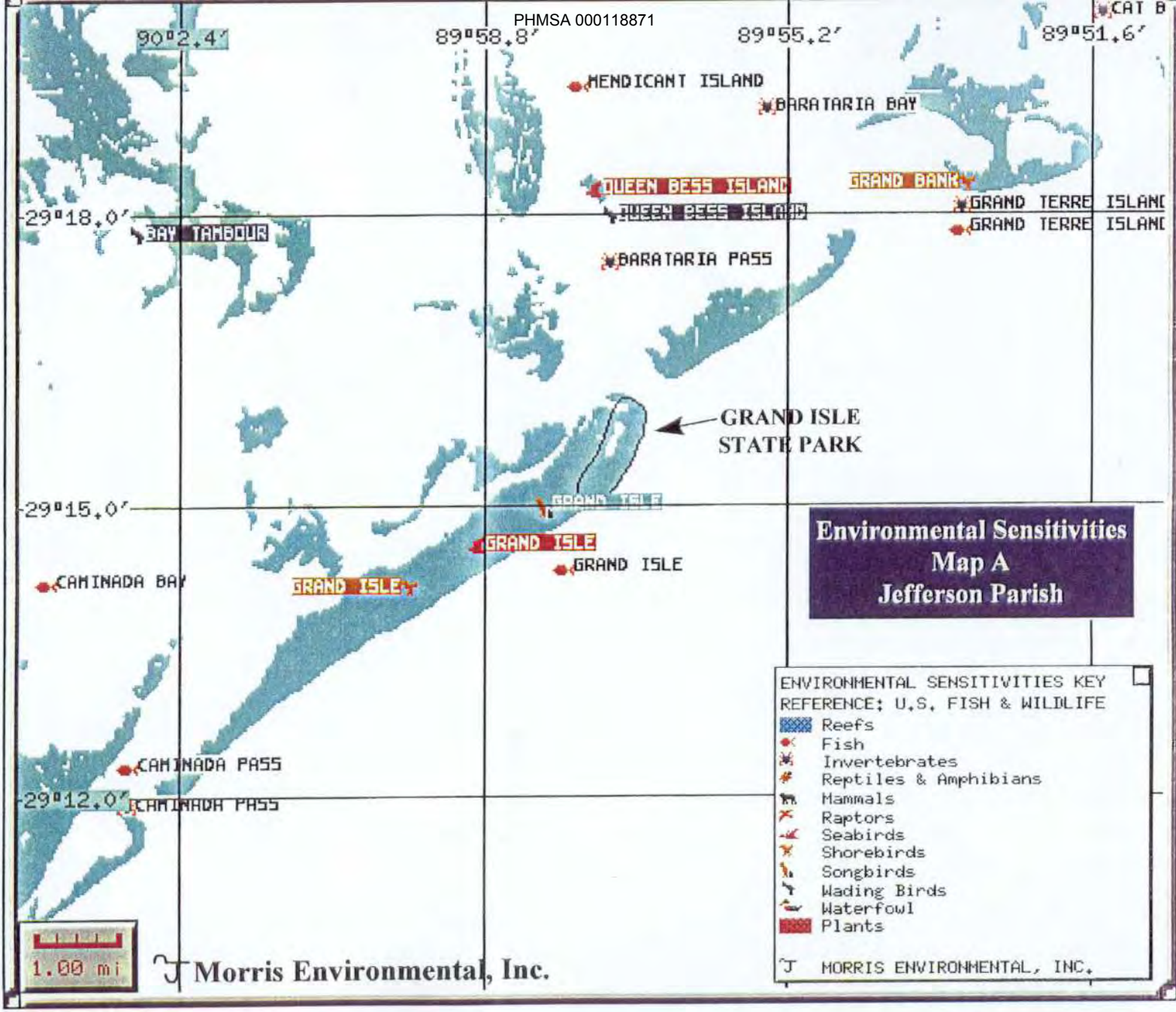
PHMSA 00011870

SPECIES LIST AND ASSEMBLAGES WITH SEASONAL DISTRIBUTION AND BREEDING SEASON

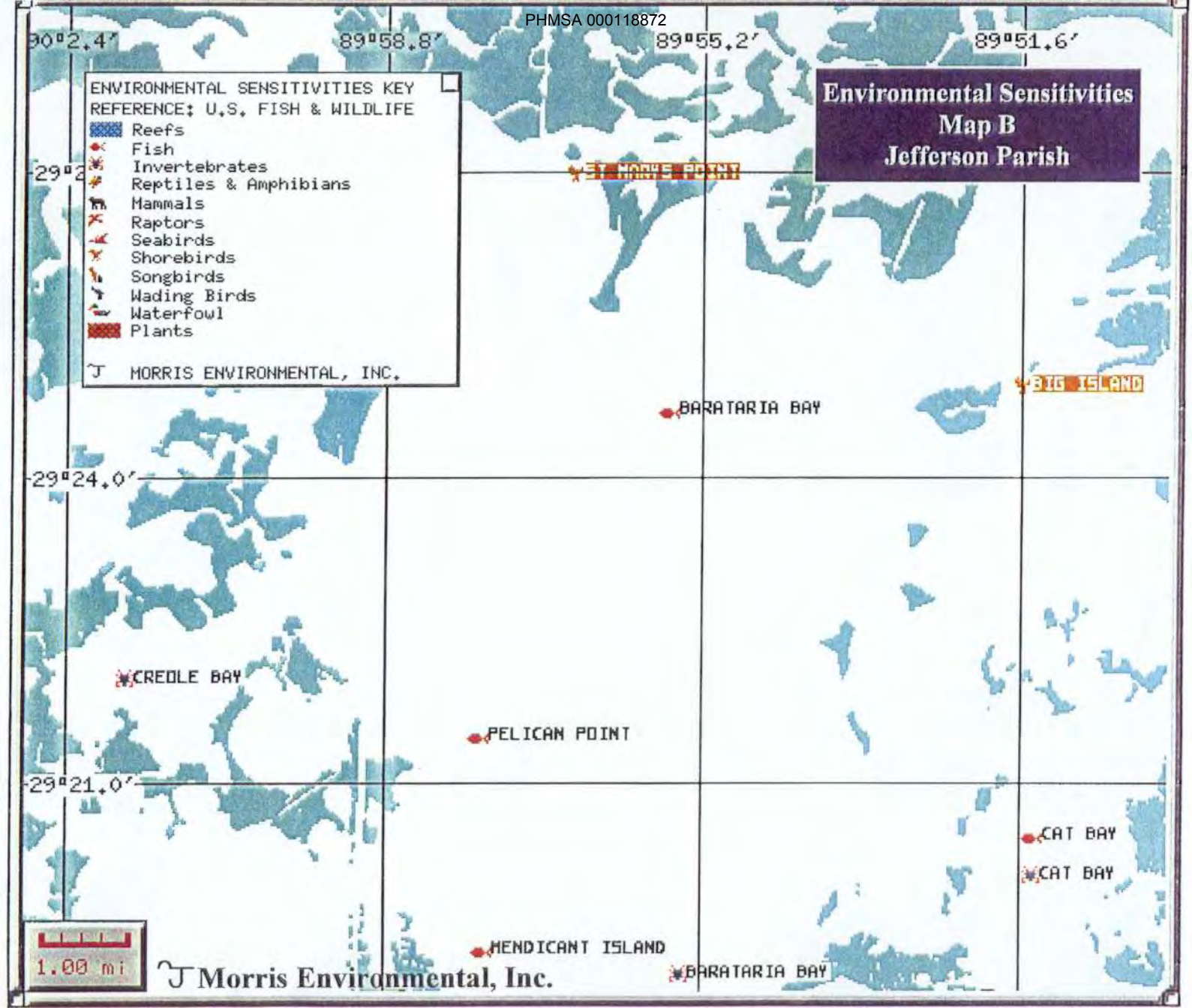
Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
REPTILES						
Alligators						
3	American alligator	Alligator mississippiensis	°	*	*	°
Sea Turtles						
2	Green sea turtle	Chelonia mydas mydas	*	*		
4	Kemp's ridley sea turtle	Lepidochelys kempi	*	*		
5	Leatherback sea turtle	Dermochelys coriacea	*	*		
6	Loggerhead sea turtle	Caretta caretta	*	*		
9	Hawksbill sea turtle	Eretmochelys imbricata imbicata	*	*		
FISHES						
Fish Assemblage A						
	107, 109, 111, 113, 121, 122, 123, 124, 137, 163, 179, 181, 182, 200, 201, 201, 202, 203, 204, 205, 206, 213, 214					
Fish Assemblage B						
	107, 109, 111, 113, 116, 121, 122, 123, 124, 137, 207, 213, 214, 215, 217					
Fish Assemblage F						
	163, 179, 181, 200, 201, 202, 203, 204, 205, 206					
Freshwater Fish						
163	Gizzard shad	Dorosoma cepedianum	*	*	°	°
179	Largemouth bass	Micropterus saloides	*	°	°	°
181	Black crappie	Pomoxis nigromaculatus	*	°	°	°
182	Bluegill	Lepomis macrochirus	°	°	°	°
200	Blue catfish	Ictalurus furcatus	*	*	°	°
201	Channel catfish	Ictalurus punctatus	*	*	°	°
202	White crappie	Pomoxis annularis	°	°	°	°
203	Warmouth	Chaenobryttus gulosus	°	°	°	°
204	Redear sunfish	Lepomis microlophus	°	°	°	°
205	Freshwater drum	Aplodinotus grunnies	°	°	°	°
206	Spotted sunfish	Lepomis punctatus miniatus	°	°	°	°

Species No.	Common Name	Scientific Name	Seasonality[#] Sp	Su	F	W
Marine Fish						
102	Atlantic sturgeon		°	*	°	°
107	Spotted seatrout	Cynoscion nebulosus	°	°	*	*
109	Red drum	Sciaenops ocellatus	°	°	°	*
111	Southern flounder	Paraichthys lethostigma	°	°	°	*
113	Bay anchovy	Anchoa mitchilli	*	*	*	*
116	Striped mullet	Mugil cephalus	°	°	*	*
121	Spot	Leiostomus xanthurus	°	°	°	*
122	Black drum	Pogonias cromis	*	°	°	*
123	Atlantic croaker	Micropogonias undultus	°	°	°	*
124	Southern kingfish	Menticirrhus americanus	°	°	°	°
127	Spanish Mackerel	Scomberomorus maculatus		°	°	
137	Sheepshead	Coryphaena hipporus	*	°	°	°
207	Sea catfish	Galeichthyes felis	°	*	°	°
213	Gulf menhaden	Brevoortia patronus	°	°	°	*
214	Gulf kingfish	Menticirrhus littoralis	°	°	°	°
215	Sand seatrout	Cynoscion arenarius	°	*	°	°
217	Gafftopsail catfish	Bagre marinus	°	*	°	°
INVERTRBRATES						
Shellfish						
43	Eastern oyster	Crassostrea virginica	*	*	*	°
49	Blue crab	Callinectes sapidus	°	*	°	°
50	White shrimp	Panaeus setiferus	°	°	°	°
51	Brown shrimp	Penaeus aztecus	°	°	°	°
82	Brackish-water clam		°	°	°	°
83	River crayfish	Procambarus acutus	°	°	°	*
84	Red swamp crayfish	Procambarus clarkii	°	°	°	*
MAMMALS						
Coastal/Terrestrial						
8	River otter	Lutra canade	°	°	°	°
36	Beaver	Caston canadensis	°	°	°	°
37	Muskrat	Ondatra zibethicus	°	°	°	°
38	Mink	Mustela vison	°	°	°	°
43	Nutria	Myocastor coypus	°	°	°	°
44	Northern raccoon	Procyon lotor	°	°	°	°

[#][Sp = spring, Su = summer, F = fall, W = winter, ° = present, * = breeding season].
Underlined species numbers indicate threatened or endangered status.


90°2.4′
89°58.8′
89°55.2′
89°51.6′
MENDICANT ISLAND
BARATARIA BAY
QUEEN BESS ISLAND
GRAND BANK
GRAND TERRE ISLAND
29°18.0′
BAY TAMBOUR
BARATARIA PASS
GRAND ISLE
STATE PARK
29°15.0′
GRAND ISLE
GRAND ISLE
CAMINADA BAY
GRAND ISLE
CAMINADA PASS
29°12.0′
CAMINADA PASS
Environmental Sensitivities
Map A
Jefferson Parish
ENVIRONMENTAL SENSITIVITIES KEY
REFERENCE: U.S. FISH & WILDLIFE
Reefs
Fish
Invertebrates
Reptiles & Amphibians
Mammals
Raptors
Seabirds
Shorebirds
Songbirds
Wading Birds
Waterfowl
Plants
MORRIS ENVIRONMENTAL, INC.
1.00 mi
Morris Environmental, Inc.

PHMSA 000118872



Jefferson Parish
Environmental Sensitivities

Name : GRAND ISLE ST PARK
Description: STATE PARK
GRAND ISLE STATE PARK
MANAGER: STEVE REFWEBER
PHONE: (504)787-2559 FAX #(504)787-3783
140 ACRES, ACCESS BY CAR AND BOAT ONLY.
SENSITIVE SPECIES INCLUDE WATERFOWL, WADING BIRDS, AND SHOREBIRDS.

Name : GRAND ISLE
Description: BROWN PELICAN
GRAND ISLE IS UTILIZED BY THE MAGNIFICENT FRIGATE-BIRD DURING THE SUMMER.

Name : QUEEN BESS ISLAND
Description: BROWN PELICANS
QUEENS BESS ISLAND IS THE BREEDING AREA FOR BROWN PELICANS WHICH ARE ON THE RARE, THREATENED, AND ENDANGERED SPECIES LIST.

Name : BARATARIA BAY
Description: EASTERN OYSTERS
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTER.

Name : BAY TAMBOUR
Description: HERONS AND EGRETS
BREEDING AREA FOR HERONS AND EGRETS DURING THE SPRING.

Name : CAMINADA PASS
Description: SHRIMP AND BLUE CRAB
MIGRATORY AREA FOR SHRIMP AND BLUE CRAB DURING THE SPRING, FALL, AND SUMMER.

Name : CAMINADA PASS
Description: VARIETY OF FISH
MIGRATORY AREA FOR SOUTHERN FLOUNDER AND GULF MENHADEN DURING THE SPRING,FALL, AND WINTER.MIGRATORY AREA FOR DRUM DURING THE SPING AND FALL.

Name : GRAND BANK
Description: BLACK SKIMMER
BREEDING AREA FOR BLACK SKIMMERS

Name : GRAND ISLE
Description: VARIETY OF BIRDS
MIGRATORY AND ADULT CONCENTRATION AREA FOR SONGBIRDS AND OTHERS.

Name : GRAND ISLE
Description: VARIETY OF FISH
ADULT CONCENTRATION AND SPORT FISHING AREA FOR SPOTTED SEATROUT AND SPANISH MACKREL. COMMERCIAL HARVESTING AREA FOR SPANISH MACKREL.

Name : GRAND TERRE ISLAND
Description: SHRIMP AND B. CRAB
MIGRATORY AREA FOR SHRIMP AND BLUE CRAB DURING THE SPRING, FALL, AND SUMMER

Name : GRAND TERRE ISLANDS
Description: VARIETY OF FISH
MIGRATORY AREA FOR SOUTHERN FLOUNDER, DRUM, AND GULF MENHADEN DURING THE SPRING, FALL, AND SUMMER

Name : MENDICANT ISLAND
Description: SPOTTED SEATROUT
SPORT FISHING AREA FOR SPOTTED SEATROUT

Name : QUEEN BESS ISLAND
Description: VARIETY OF BIRDS
QUEEN BESS ISLAND IS THE BREEDING GROUND FOR WHITE IBIS, GREAT EGRETS, SNOWY EGRET, LOUISIANA HERONS, AND BLACK-CROWNED NIGHT HERON.

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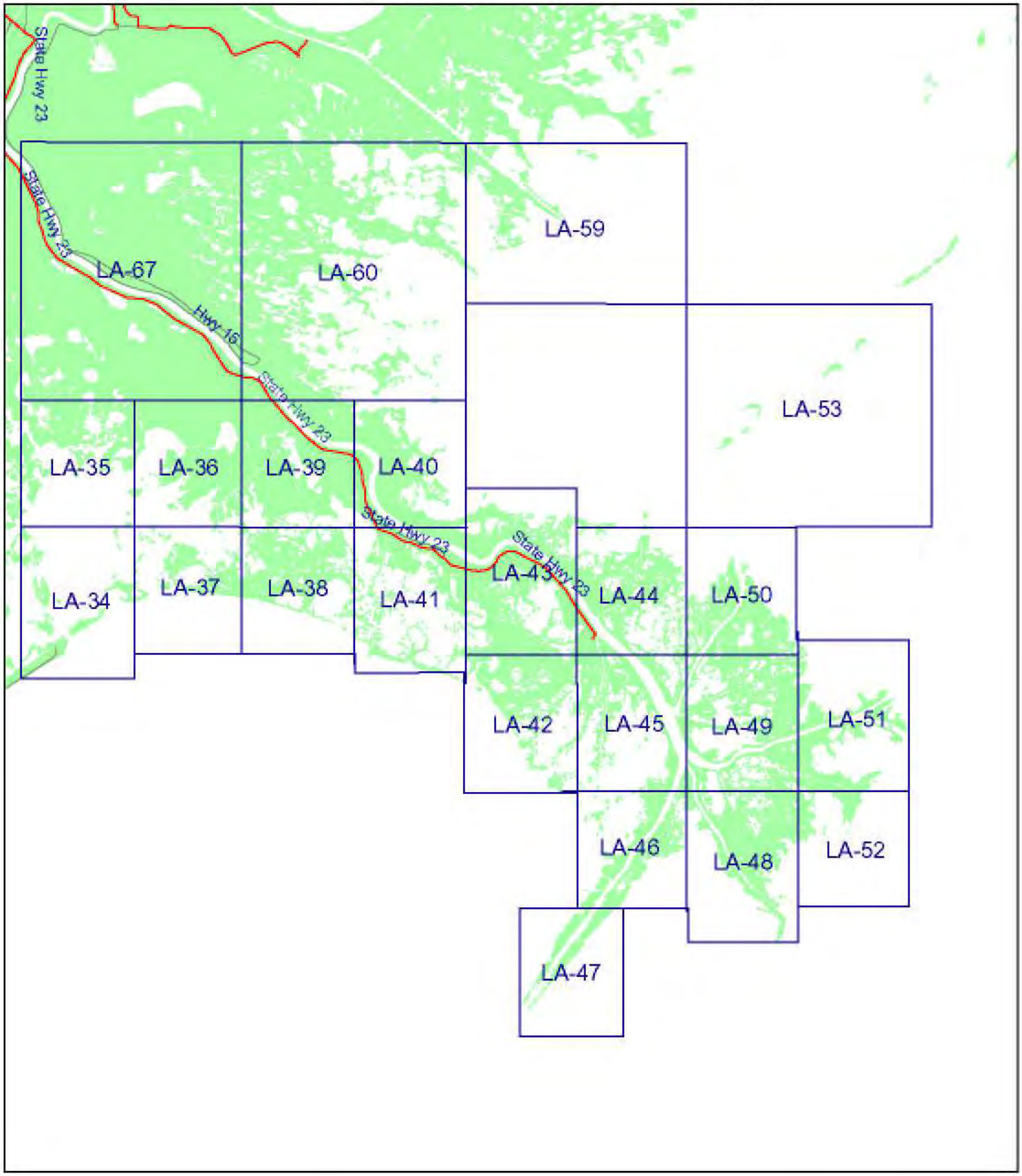
Plaquemines Parish Overview Map



N

0 10 20 Miles

Data Source: RPI International, Inc.

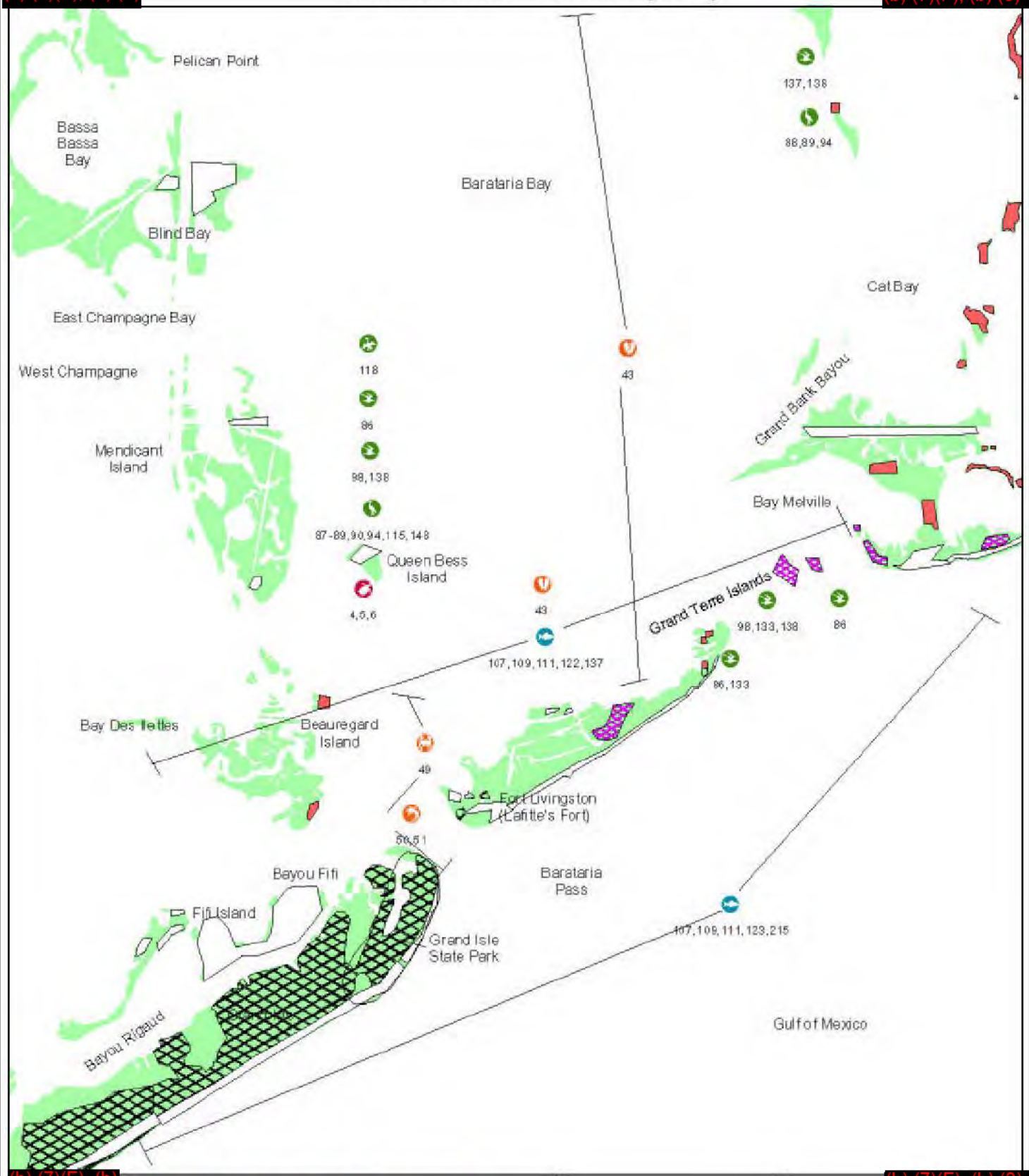
prepared by

Morris Environmental, Inc.

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)



(b) (7)(F), (b)

(b) (7)(F), (b) (3)

1, 5, 8 C 118, 173, 179 E D 76, 77 38, 40, 98, 133, 137, 138

43 49 50, 51 B 8, 37, 38, 43, 44

Common Throughout Area

N

Data Source: RPI International, Inc.

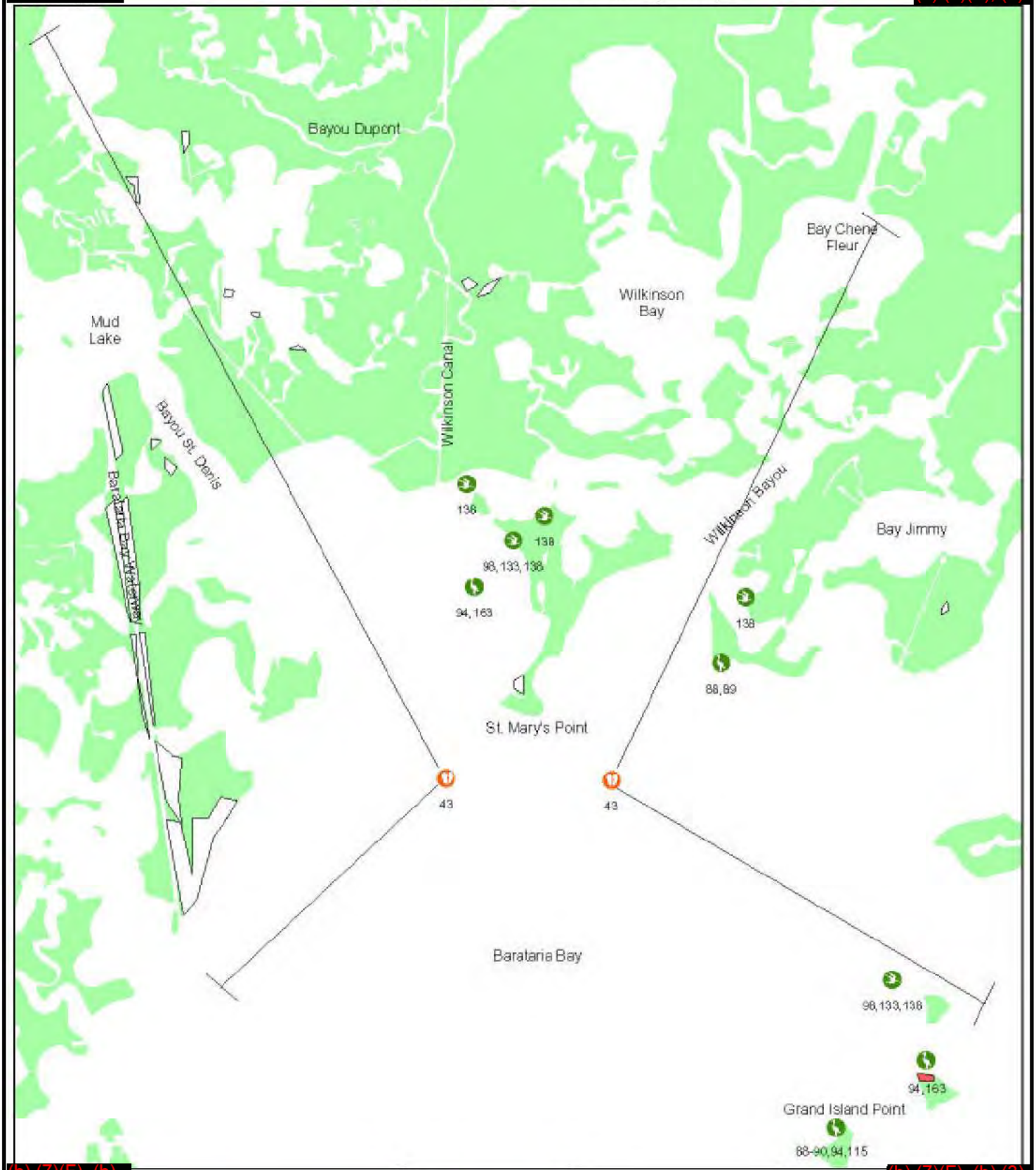
prepared by Morris Environmental, Inc.

0 1 2 Miles

(b) (7)(F), (b)

Environmental Sensitivity Map

(b) (7)(F), (b)



(b) (7)(F), (b)

(b) (7)(F), (b) (3)

D
Common Throughout Nearshore Areas

C 76, 77, 107, 182 8, 37, 38, 43, 44 E
Common Throughout Wetlands

1, 5, 8, 118, 173, 179 22,23
43 49 50,51 B
Common Throughout Area

N

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

0 1 2 Miles

(b) (7)(F), (b) (3)

Environmental Sensitivity Map

(b) (7)(F),

(b) (7)(F), (b) (3)

D
Common Throughout
Nearshore Area

C
Common Throughout Wetlands
8, 37, 38, 43, 44

43
49
50,51
B
1,6,8,118,173,179
76,77,107,182
E
Common Throughout Area

(b) (7)(F), (b)

N

Data Source: RPI International, Inc.

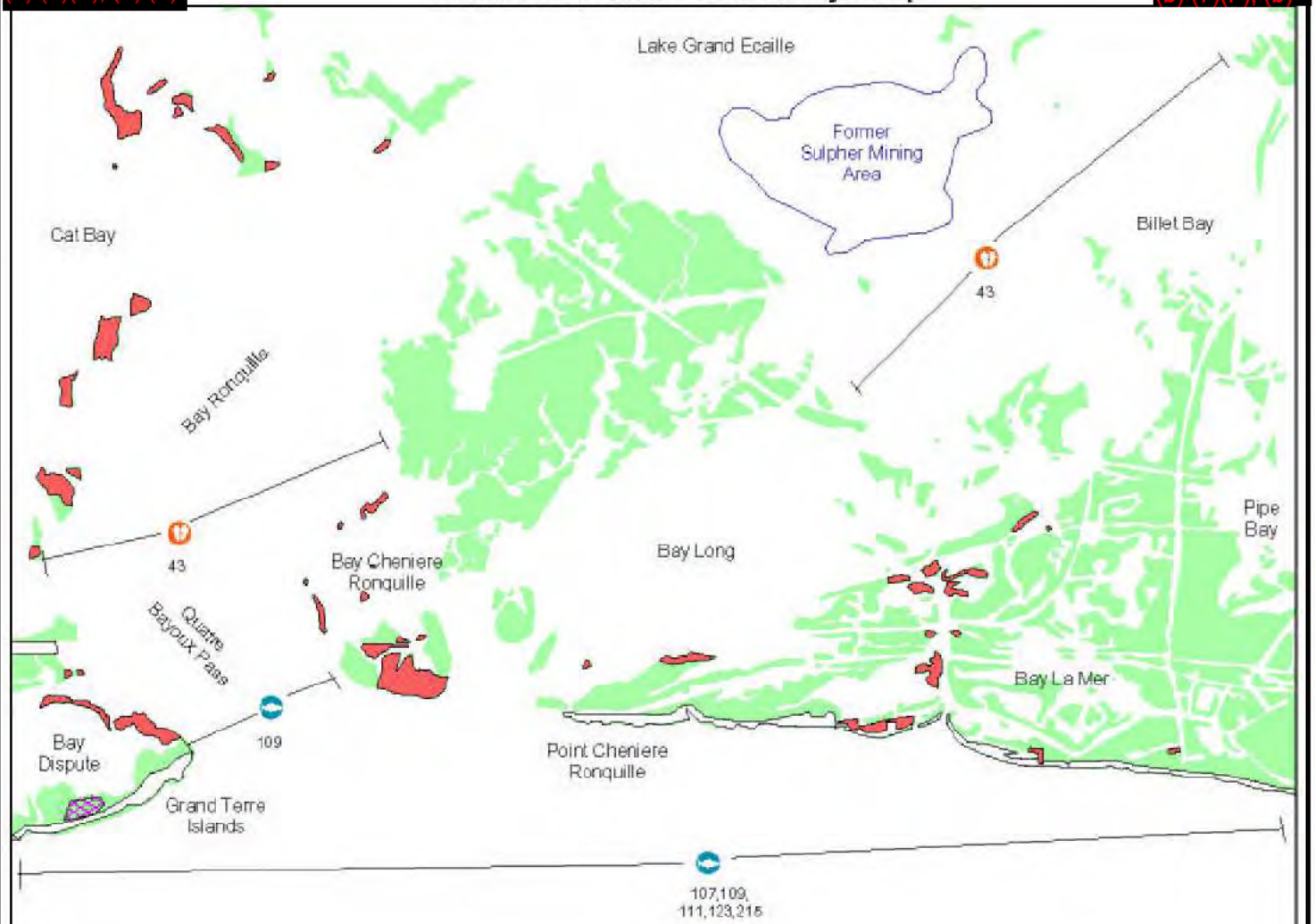
prepared by
Morris Environmental, Inc.

0 1 2 Miles

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F), (b)



Gulf of Mexico

(b) (7)(F), (b)

(b) (7)(F), (b)

D C 8, 37, 38, 43, 44
Common Throughout Wetlands

43 49 50,51 B
1,5,8,118,173,179 76 E
Common Throughout Area

N

Data Source: RPI International, Inc.

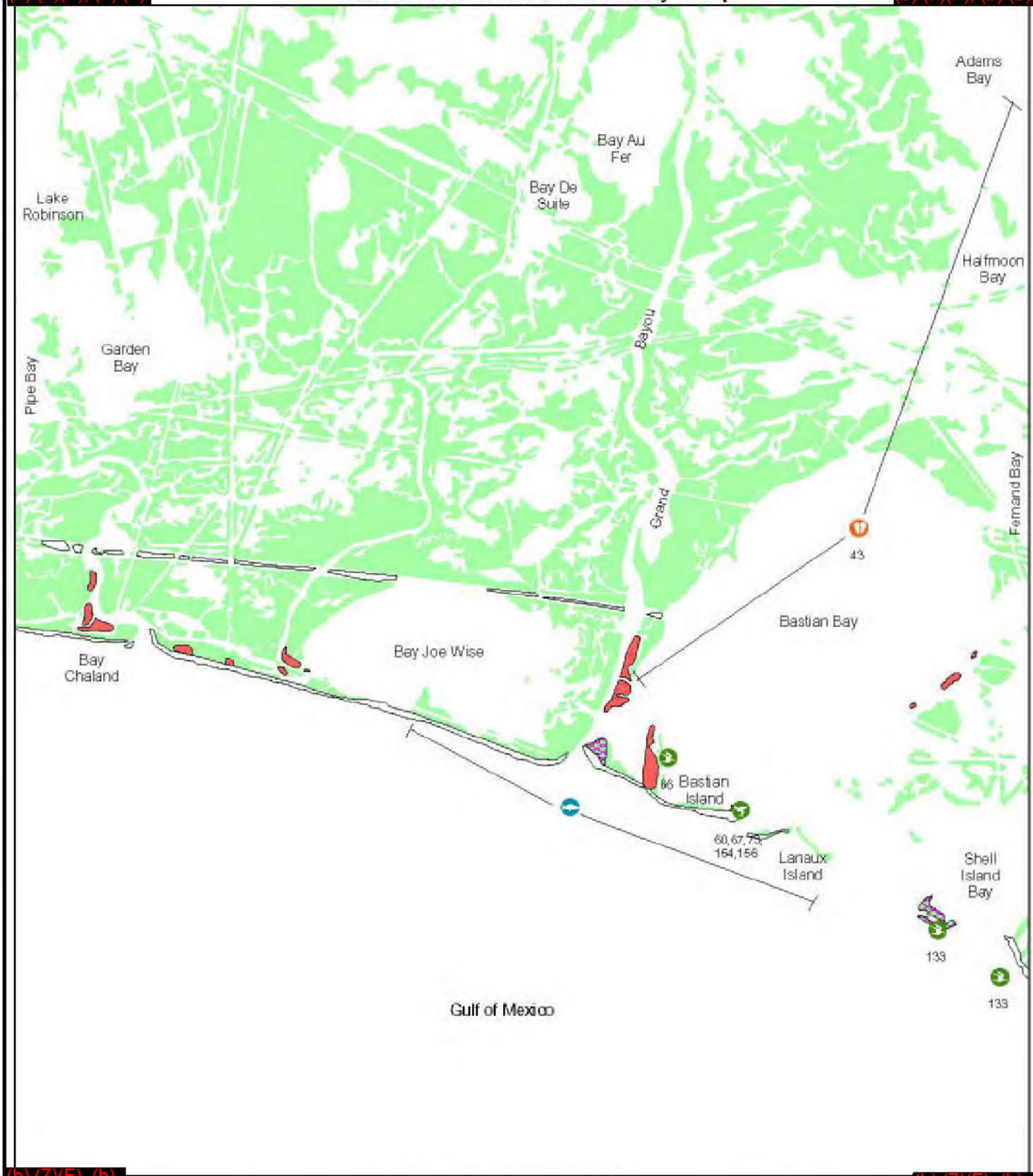
prepared by
Morris Environmental, Inc.

0 1 2 Miles

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

3 E C 8, 37, 38, 43, 44
Common Throughout Wetlands

43 49 50,51 B
1,5,8,118,173,179 D 22,23
Common Throughout Area

N

Data Source: RPI International, Inc.

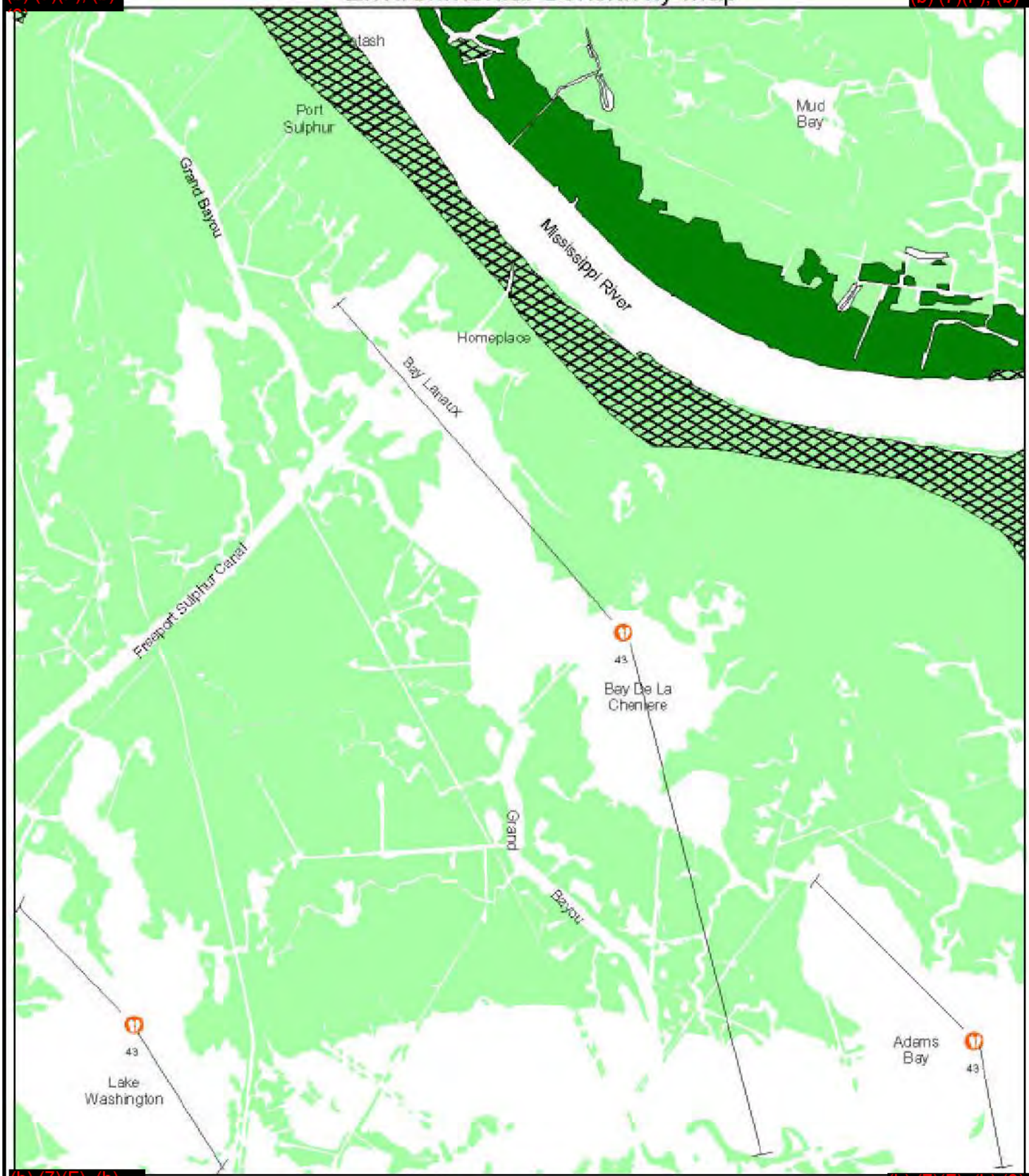
prepared by
J. Morris Environmental, Inc.

0 1 2 Miles

Environmental Sensitivity Map

(b) (7)(F), (b)

(b) (7)(F), (b)



(b) (7)(F), (b)

(b) (7)(F), (b) (3)

A
Common Throughout River

43 B
Common Throughout Non-Riverine Waterbodies

3 49 50,51 C
76,77,107,182 D E 8,37,38,43,44
Common Throughout Area

N

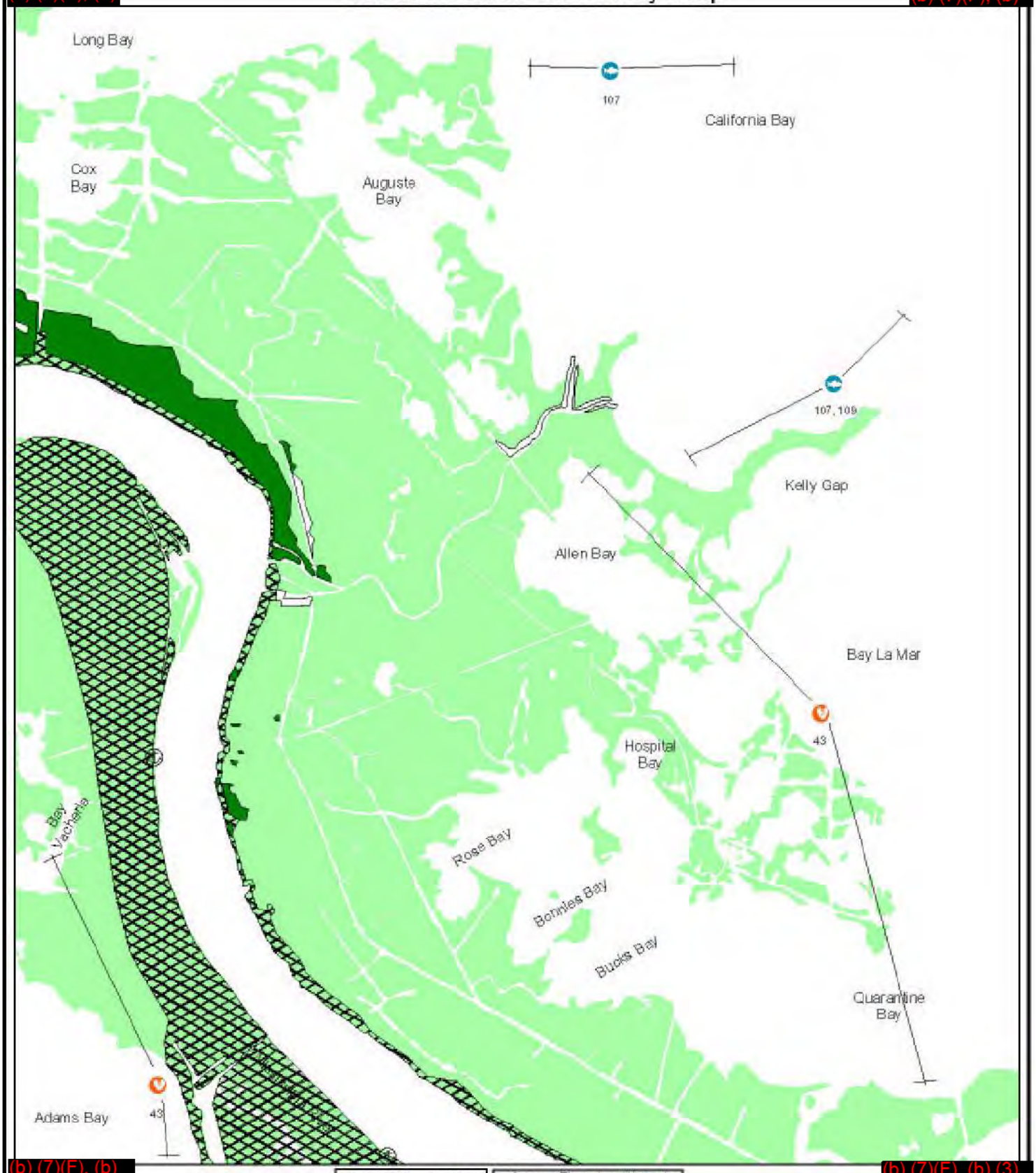
Data Source: RPI International, Inc.
prepared by
Morris Environmental, Inc.

0 1 2 Miles

Environmental Sensitivity Map

(b) (7)(F), (b)

(b) (7)(F), (b)



(b) (7)(F), (b)

(b) (7)(F), (b) (3)

Common Throughout River

A

Common Throughout Non-Riverine Water Bodies

B

Common Throughout Area

1, 5, 8 118, 173, 179 22, 23

D 43 49 50,51

Common Throughout Wetlands

3 C E 76, 77

8,37,38,43,44

N

Data Source: RPI International, Inc.

prepared by

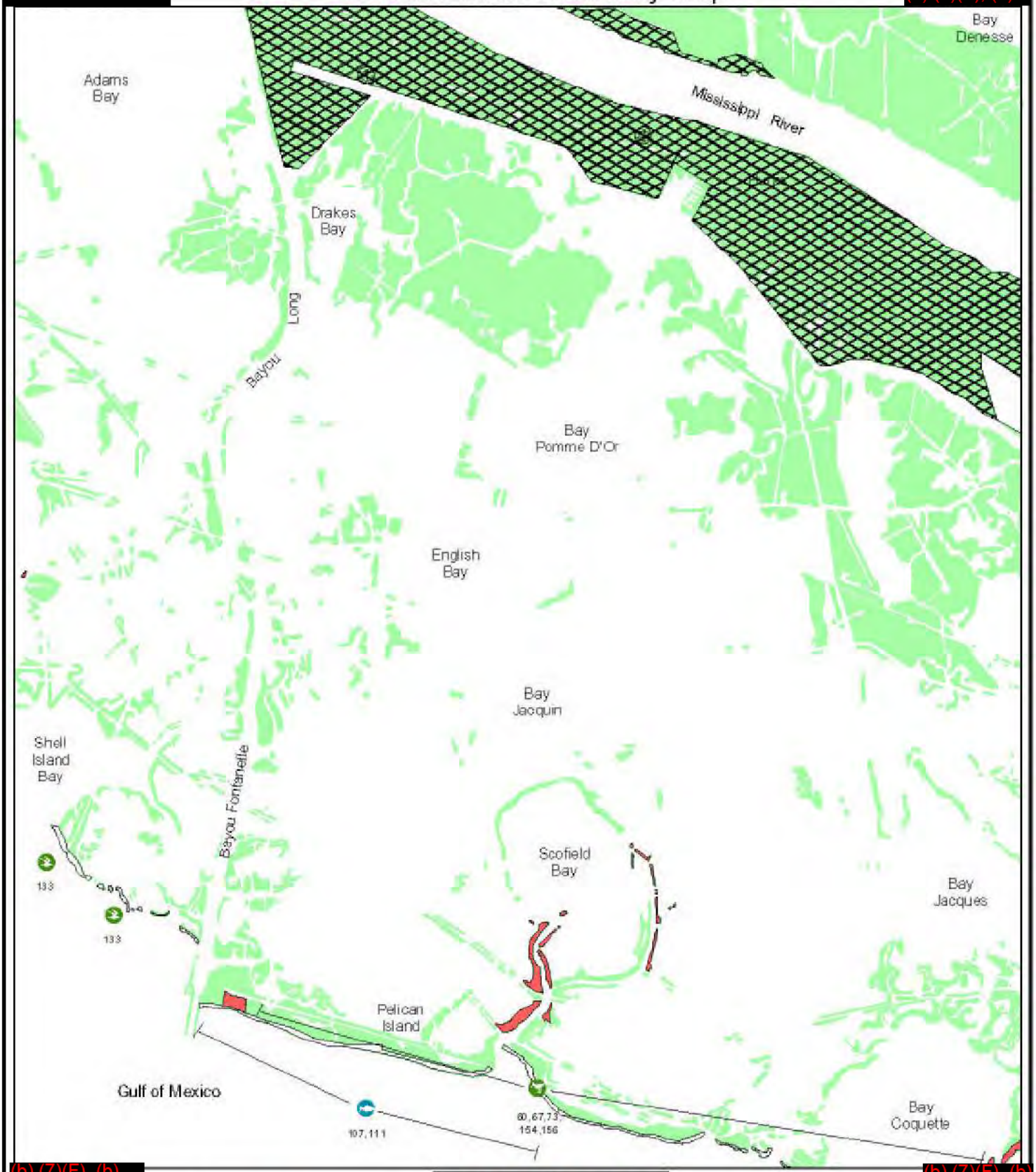
Morris Environmental, Inc.

0 1 2 Miles

(b) (7)(F), (b) (3)

Environmental Sensitivity Map

(b) (7)(F), (b)



(b) (7)(F), (b)

A
Common Throughout River

B
Common Throughout Non-Riverine Waterbodies

3 49 50,51 1,6,8,179
43 D E 8,37,38,43,44 C
Common Throughout Area

N

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

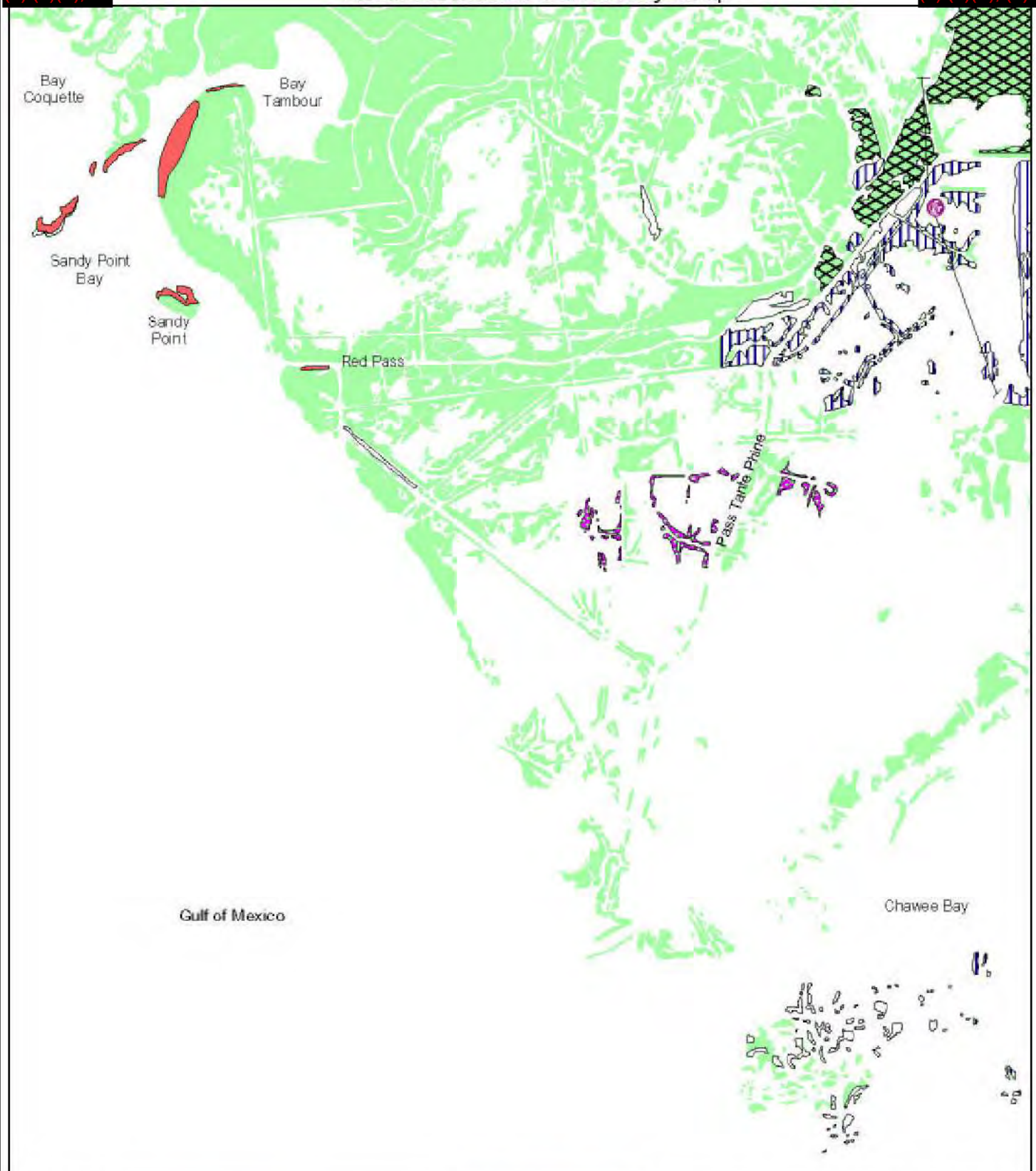
0 1 2 Miles

(b) (7)(F), (b)

Environmental Sensitivity Map

(b) (7)(F),

(b) (7)(F), (b)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

3 8,37,38,43,44 E C
Common Throughout Wetlands

1,5,8,118,173,179 49 50,51
43 D 22,23 B 76,77
Common Throughout Area

N

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

0 1 2 Miles

Environmental Sensitivity Map

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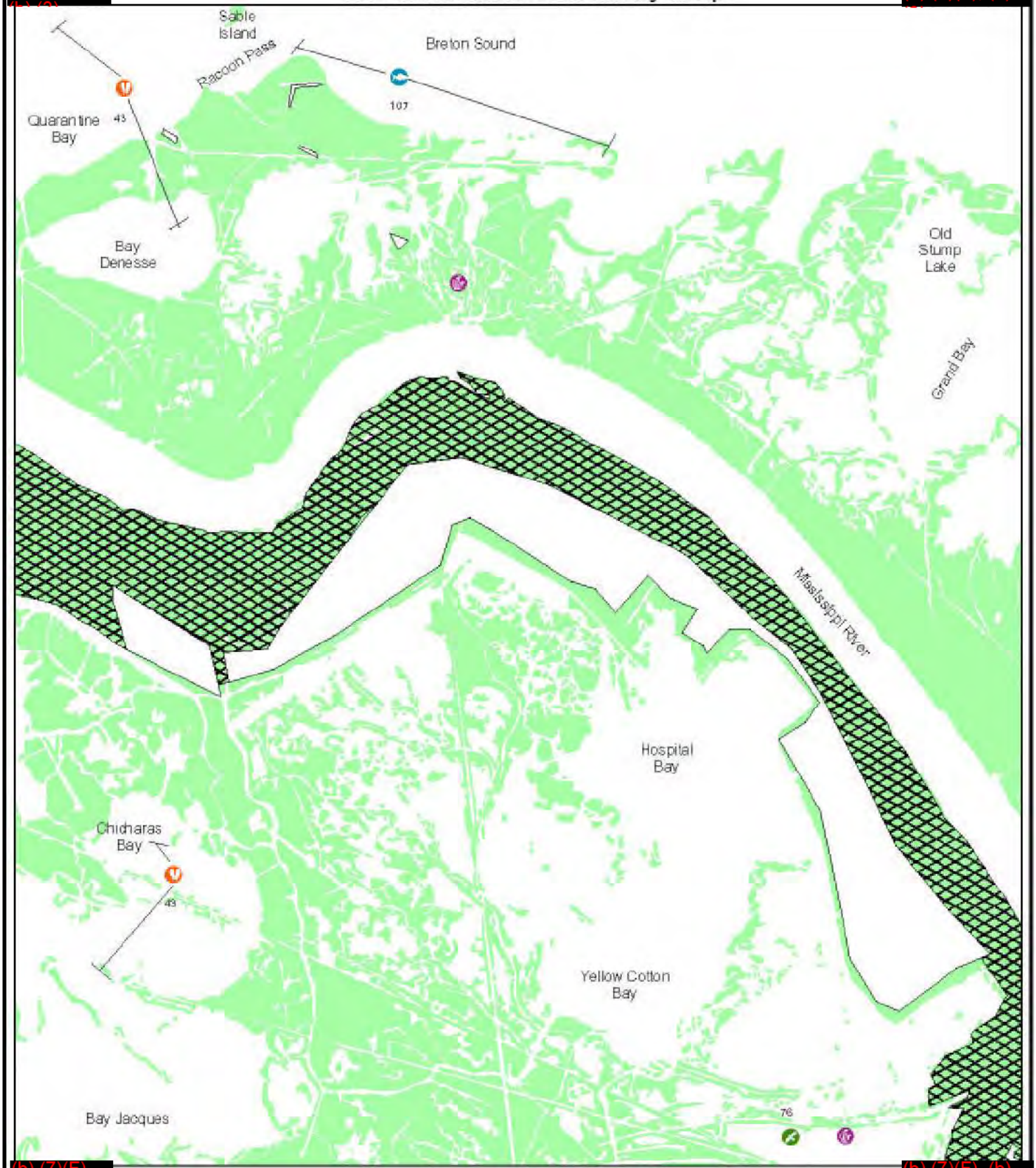


Common Along Breton Sound

1, 5, 8 — 118, 173, 179

Common Throughout Non-Riverine Water Bodies

43 — A

Common Throughout Area

76, 77 — 22, 23 — 49 — 50, 51

Common Throughout Wetlands

3 — C — E — 196 — 8, 37, 38, 43, 44 — 62, 155, 156, 66

Data Source: RPI International, Inc.

prepared by Morris Environmental, Inc.

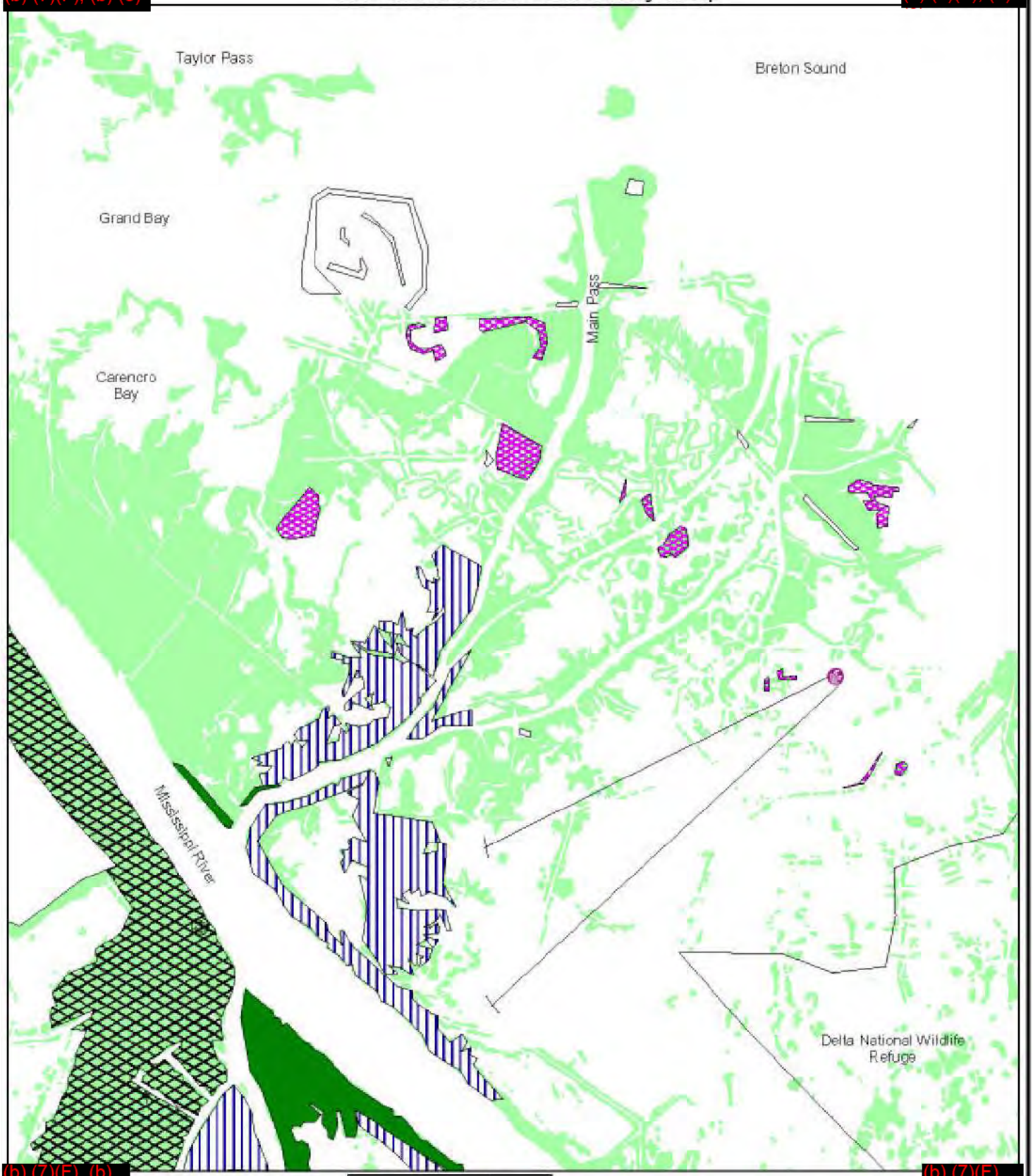
N

0 1 2 Miles

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F), (b)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

Common Throughout Area

76, 77 1, 5, 8 118, 173, 179 22, 23

49 50,51 43 A

Common Throughout Wetlands

3 9,37,38,43,44 C E D

N

0 1 2 Miles

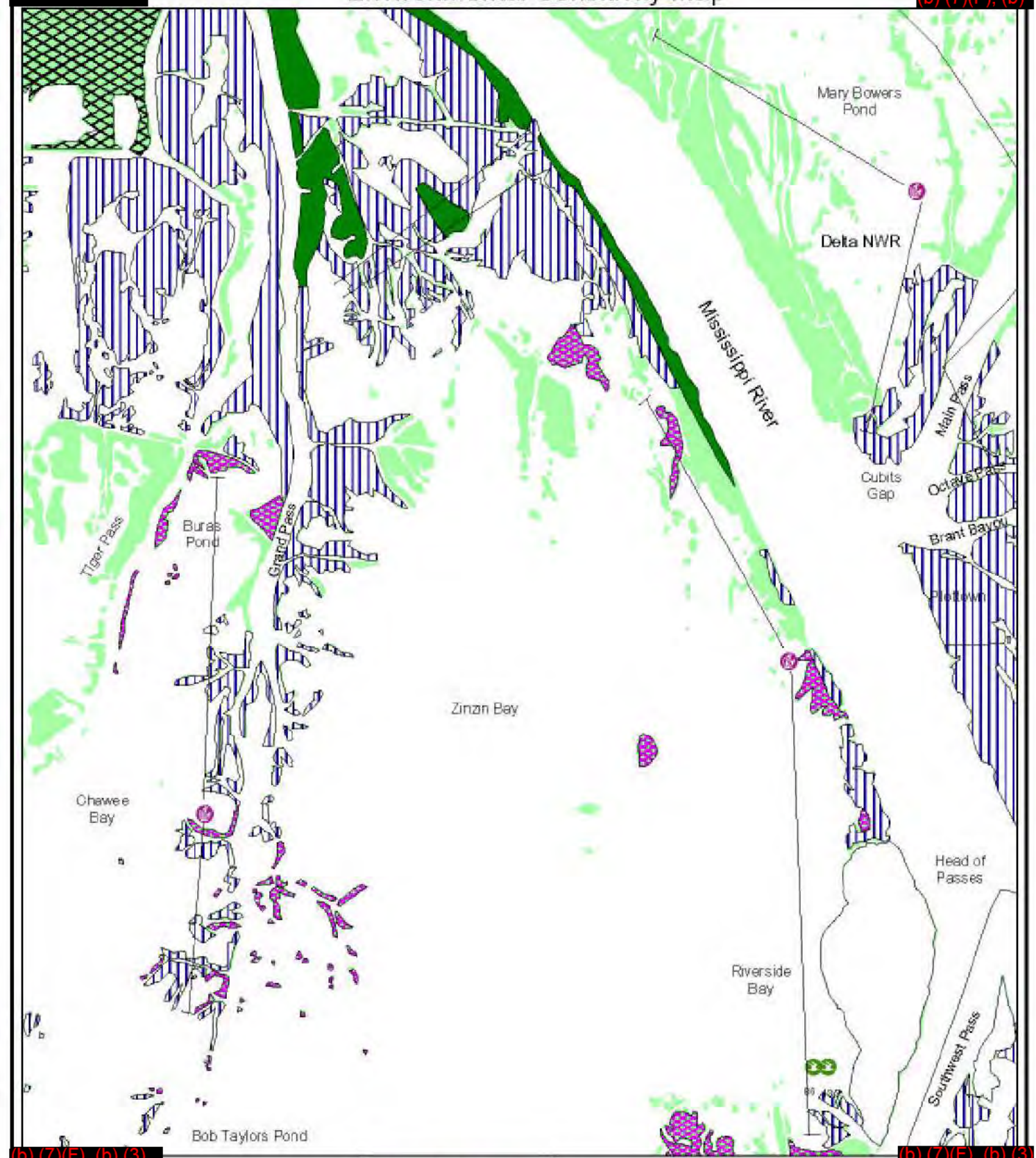
Data Source: RPI International, Inc.

prepared by: Morris Environmental, Inc.

(b) (7)(F), (b) (3)

Environmental Sensitivity Map

(b) (7)(F), (b)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

Common Throughout Area

22,23 76,77 D A

60,61 49 43 1,5,8,118,173,179

Common Throughout Wetlands

3 8,37,38,43,44 C E

N

0 1 2 Miles

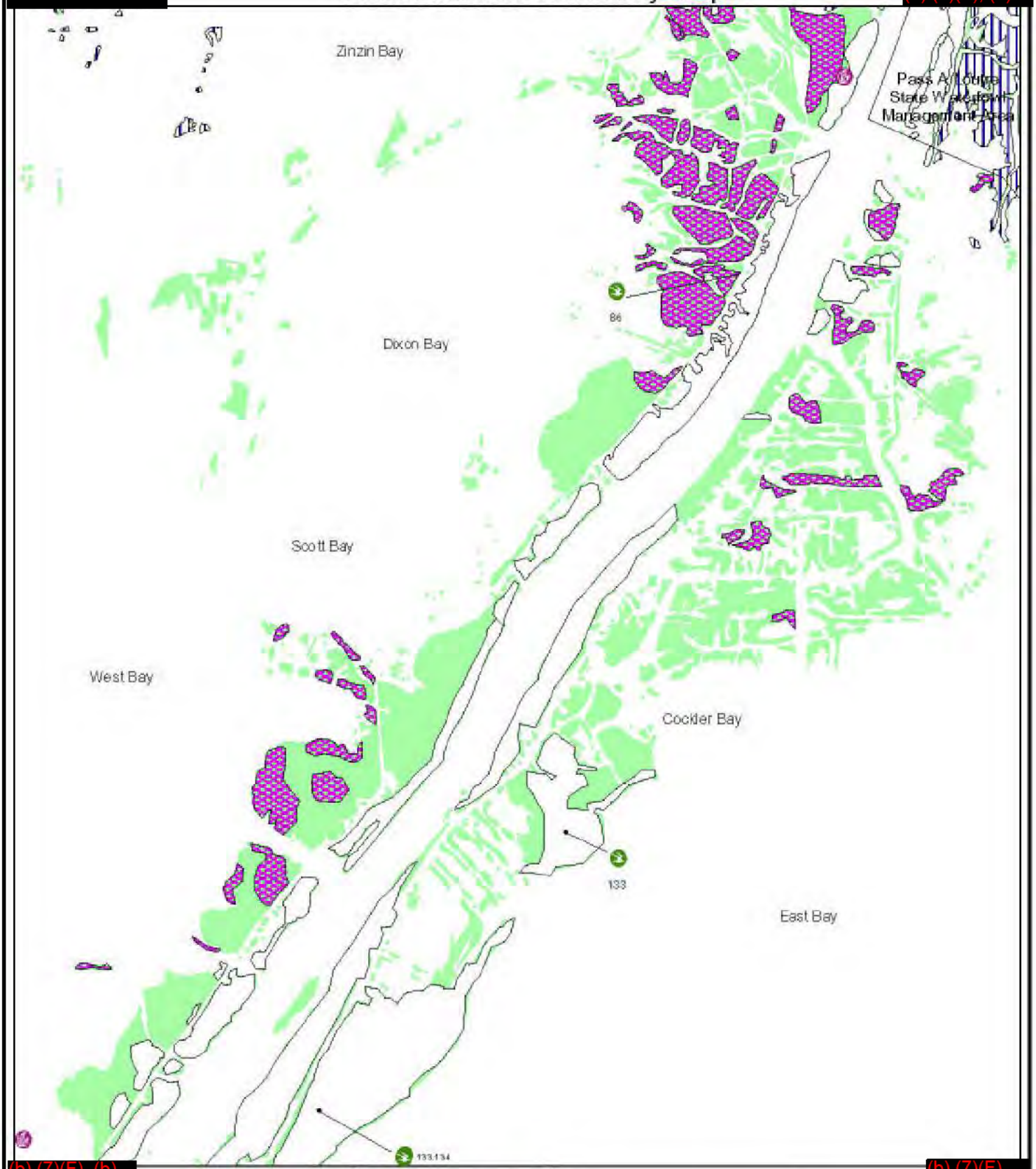
Data Source: RPI International, Inc.

prepared by Morris Environmental, Inc.

(b) (7)(F), (b) (3)

Environmental Sensitivity Map

(b) (7)(F), (b)



(b) (7)(F), (b) (3)

(b) (7)(F),

Common Throughout Area

22,23 76,77 D A

50,51 49 43 1,5,8,118,173,179

Common Throughout Wetlands

3 8,37,38,43,44 C E

N

0 1 2 Miles

Data Source: RPI International, Inc.

prepared by

Morris Environmental, Inc.

(b) (7)(F), (b) (3)

Environmental Sensitivity Map

(b) (7)(F), (b)

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

N

0 1 2 Miles

Common Throughout Area

22,23 D A

50,51 49 43 1,5,8,118,173,179

Common Throughout Wetlands

C

Data Source: RPI International, Inc.

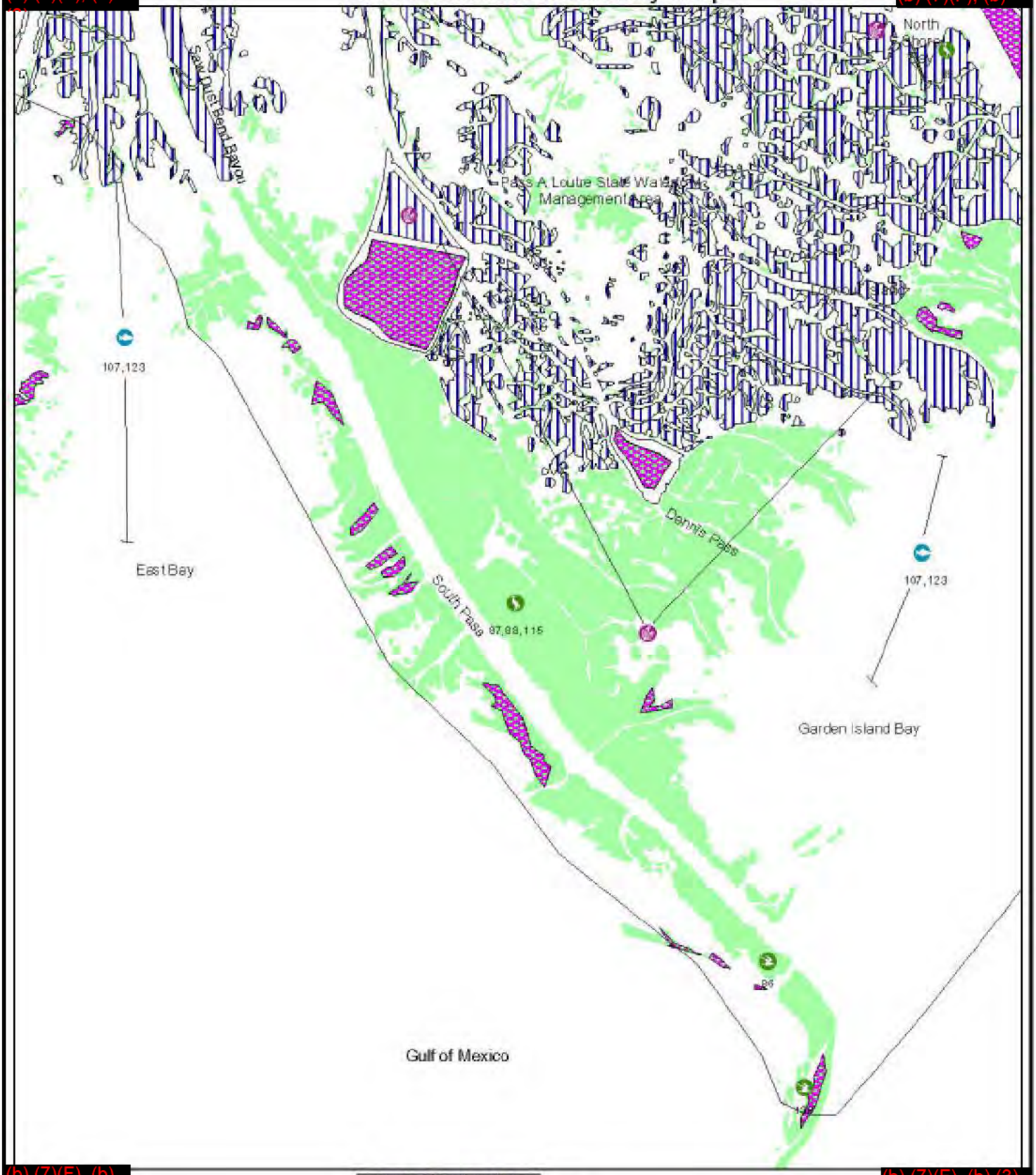
prepared by

Morris Environmental, Inc.

Environmental Sensitivity Map

(b) (7)(F), (b)

(b) (7)(F), (b)



(b) (7)(F), (b)

(b) (7)(F), (b) (3)

N

0 1 2 Miles

Common Throughout Area

22,23 76 D 1, 5, 8

60, 61 49 43 118, 173, 179 A

Common Throughout Wetlands

3 8,37,38,43,44 C E

Data Source: RPI International, Inc.

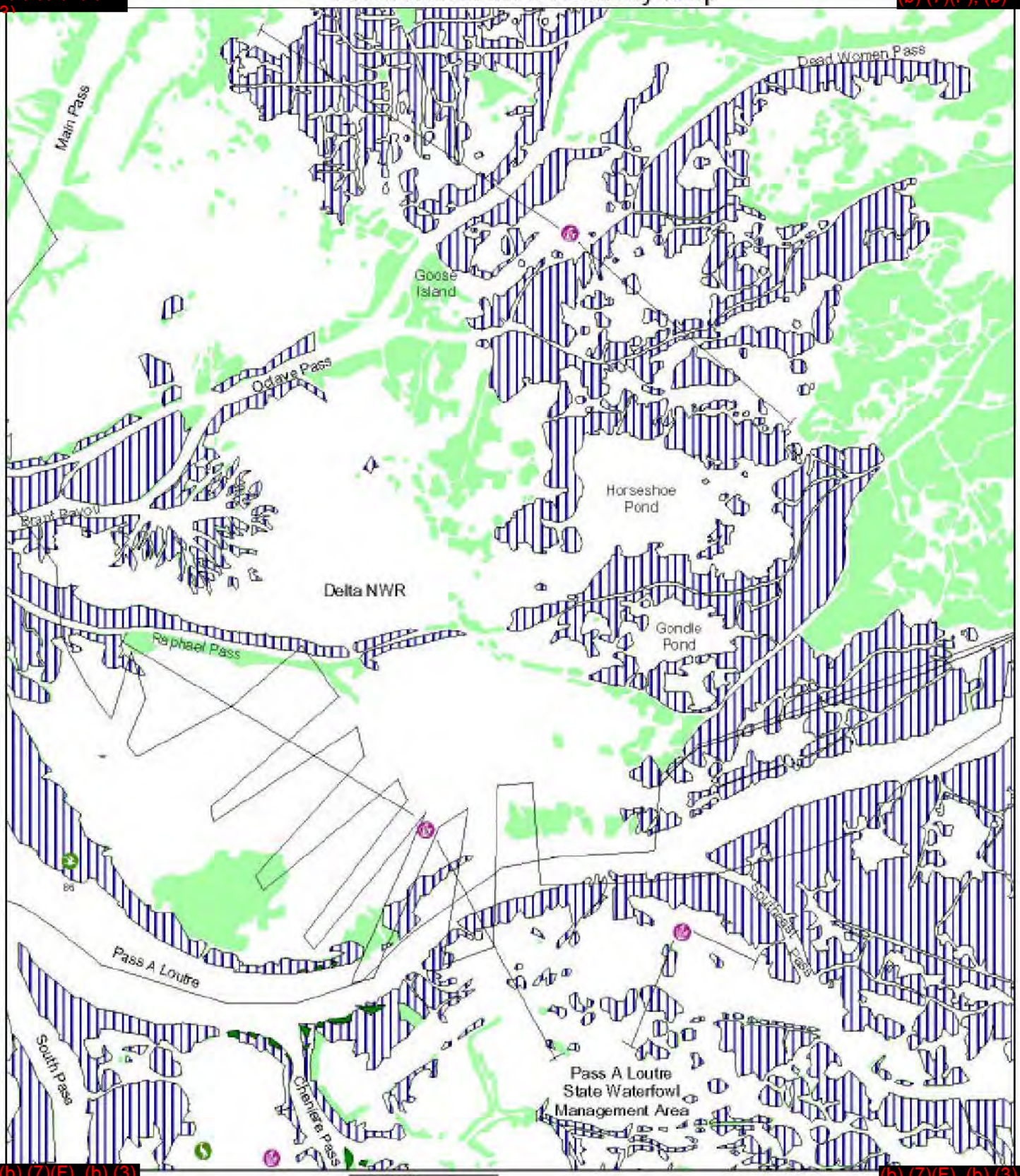
prepared by

Morris Environmental, Inc.

(b) (7)(F), (b) (3)

Environmental Sensitivity Map

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

Common Throughout Area

22,23 76,77 D

50,51 49 43 A

Common Throughout Wetlands

3 8,37,38,43,44 C E

N

0 1 2 Miles

Data Source: RPI International, Inc.

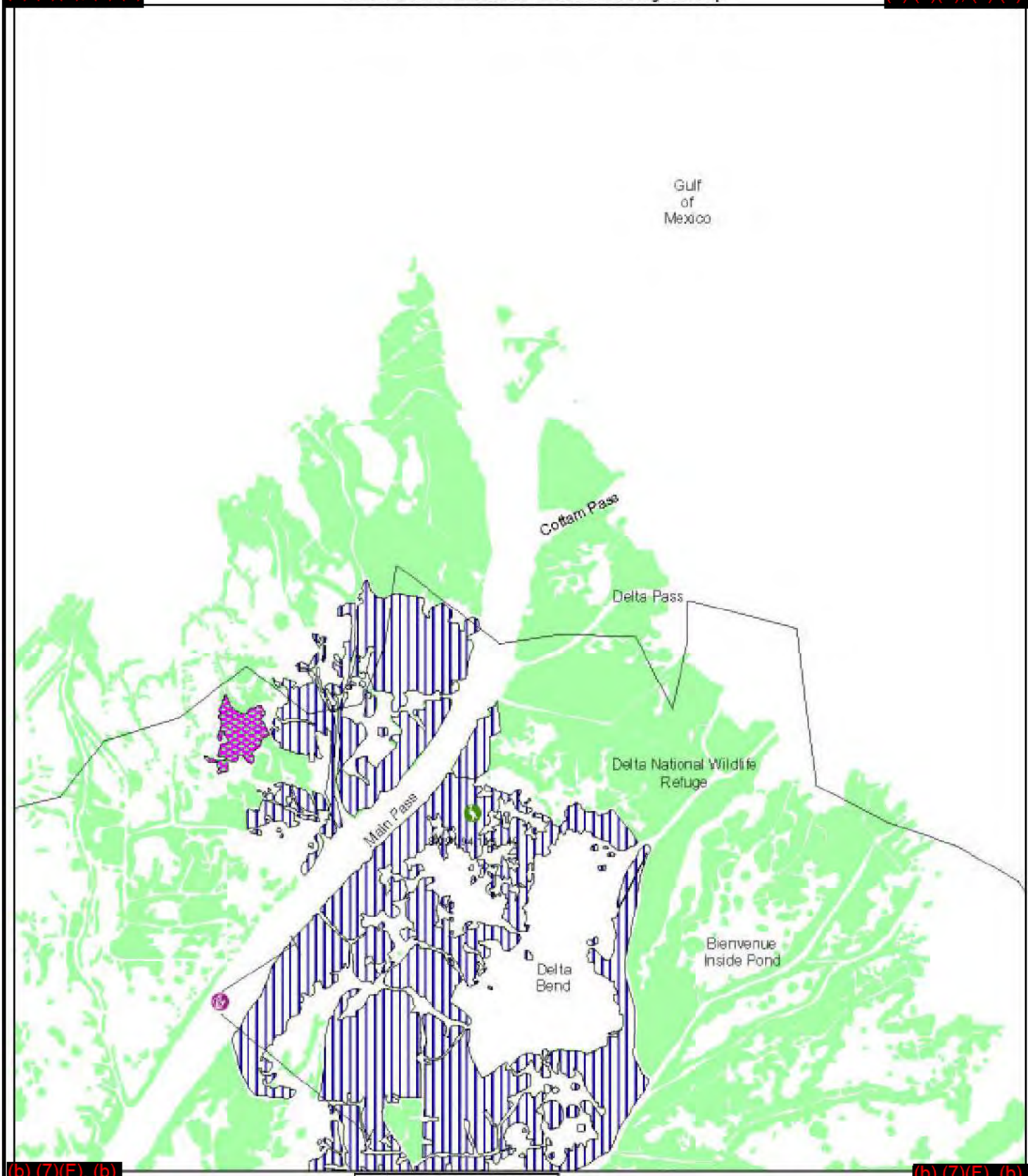
prepared by

Morris Environmental, Inc.

(b) (7)(F), (b) (3)

Environmental Sensitivity Map

(b) (7)(F), (b) (3)



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(b) (7)(F), (b) (3)

Common Throughout Area

78, 77 1, 5, 8 118, 173, 179 22, 23

D 49 50,51 43 A

Common Throughout Wetlands

3 8,37,38,43,44 C E

N

0 1 2 Miles

Data Source: RPI International, Inc.

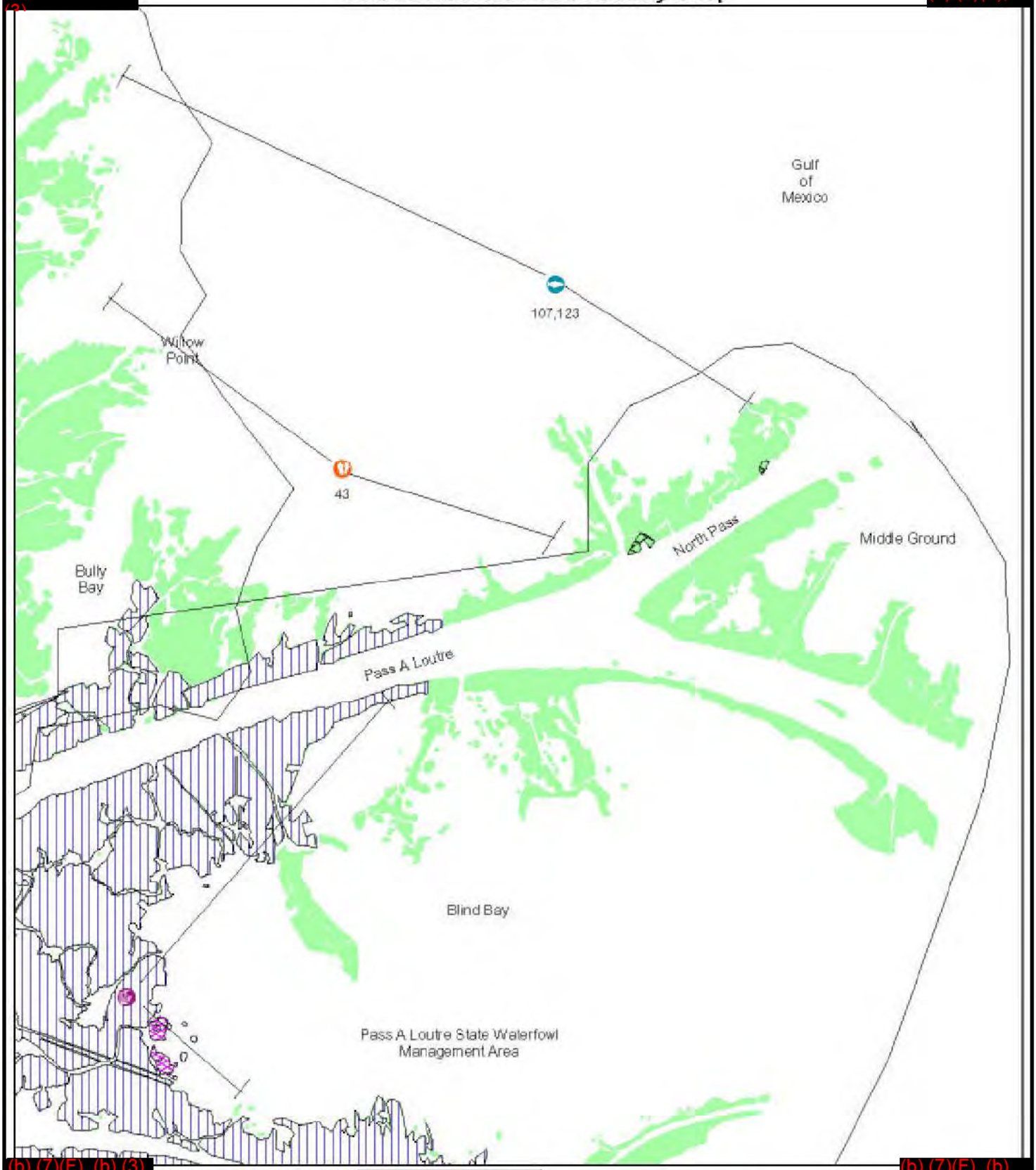
prepared by

Morris Environmental, Inc.

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F),



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

Common Throughout Area

E 76, 77 D 1, 5, 8 43

50, 51 49 22, 23 118, 173, 179 A

Common Throughout Wetlands

3 8,37,38,43,44 C

N

0 1 2 Miles

Data Source: RPI International, Inc.

prepared by

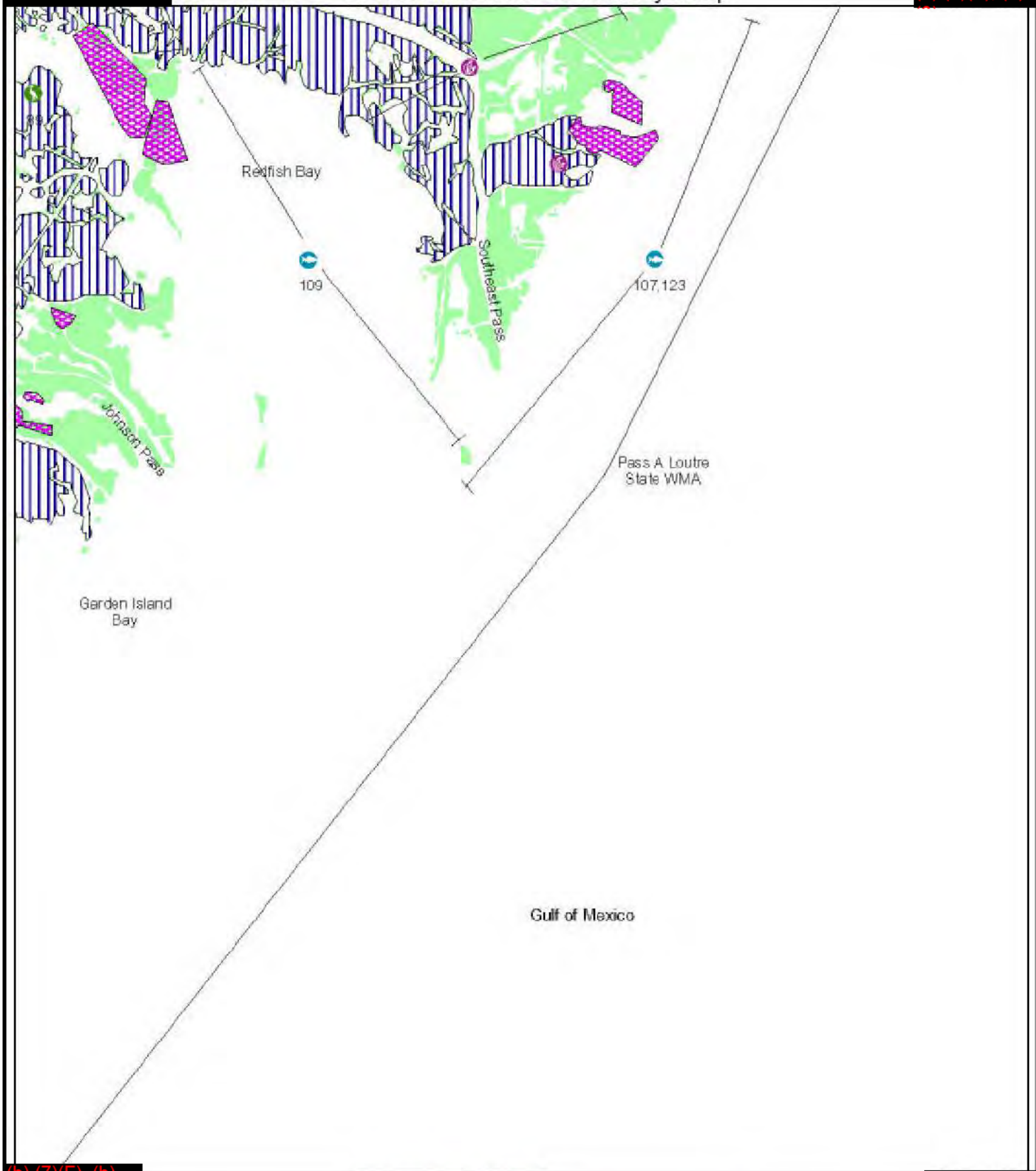
Morris Environmental, Inc.

(b) (7)(F), (b) (3)

Environmental Sensitivity Map

LA-52

(b) (7)(F), (b)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

N

0 1 2 Miles

Common Throughout Area

E 76, 77 D 1, 5, 8 43

50, 51 49 22, 23 118, 173, 179 A

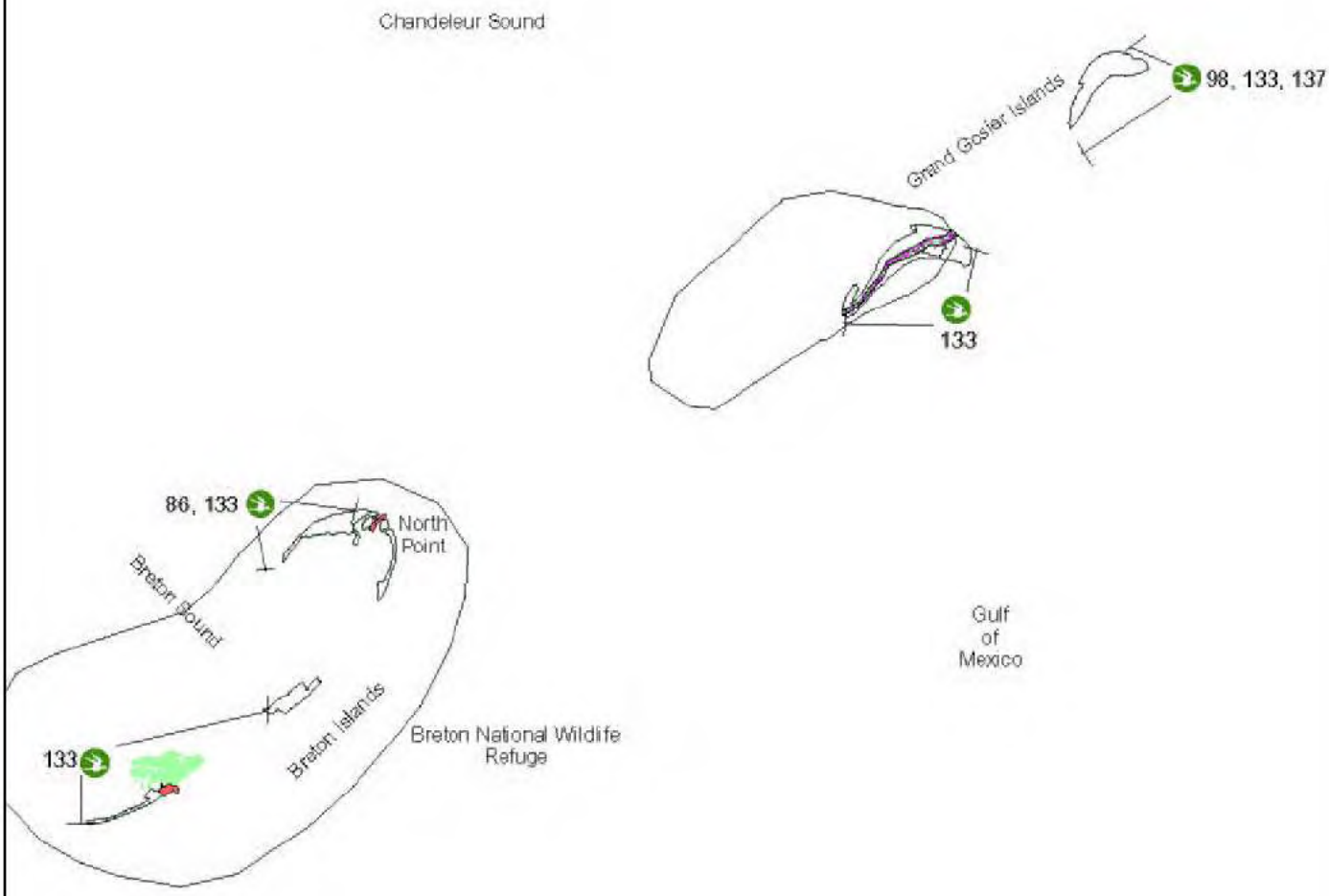
Common Throughout Wetlands

3 8,37,38,43,44 C

Data Source: RPI International, Inc.

prepared by

Morris Environmental, Inc.



N

0 1 2 Miles

163 152
Common Throughout Islands

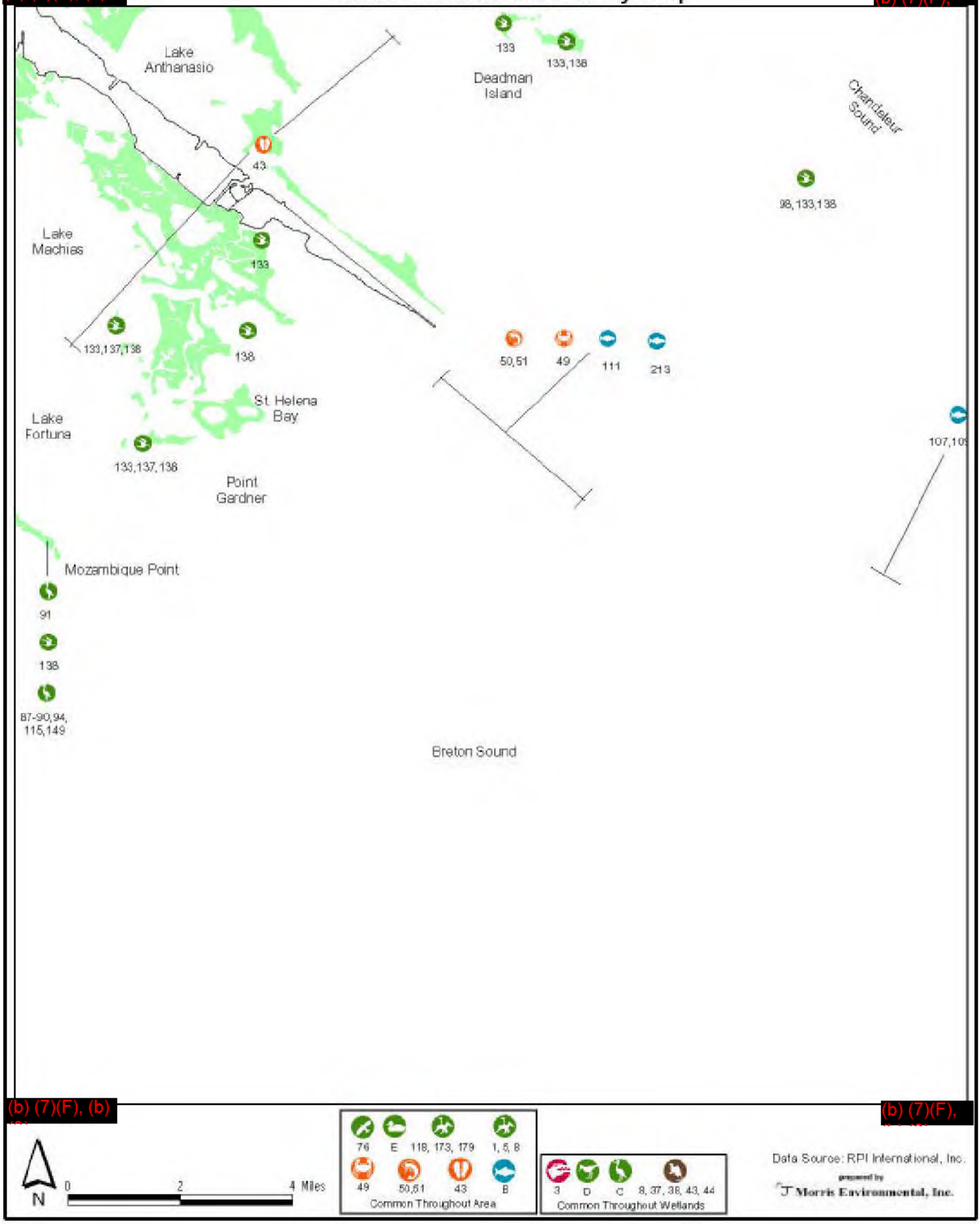
118, 173 119
49 50,51 B
Common Throughout Area

67, 73, 139 60, 154
Common Along Beaches

Data Source: RPI International, Inc.

prepared by
J Morris Environmental, Inc.

Environmental Sensitivity Map

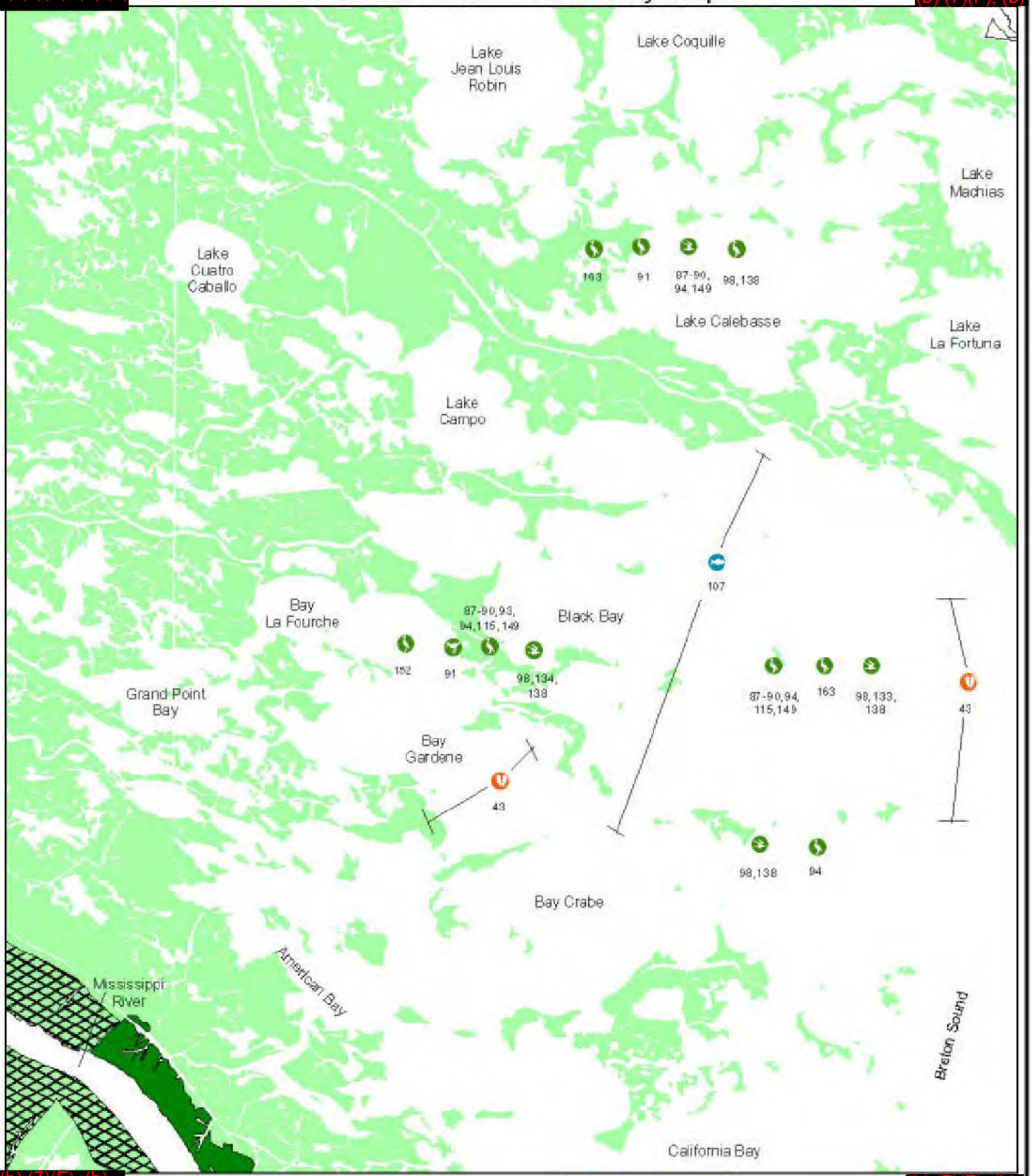


(b) (7)(F), (b) (3)

Environmental Sensitivity Map

LA-60

(b) (7)(F), (b)



(b) (7)(F), (b)

(b) (7)(F), (b)

N

0 2 4 Miles

49 50,51 76
Common Throughout Area

D C E B
3 43 8, 37, 38, 43, 44
Common Throughout Wetland

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

Environmental Sensitivity Map

(b) (7)(F), (b)

(b) (7)(F),

(b) (7)(F), (b)

(b) (7)(F), (b)

76 49 50,51
Common Throughout Area

D C E B
3 43 8,37,38,43,44
Common Throughout Wetlands

N

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

0 2 4 Miles

EPA/SA/100013888

LOUISIANA ENVIRONMENTAL SENSITIVITIES

SHORELINE INDEX

SENSITIVITY

1	DEVELOPED/UNFORESTED UPLAND
2	SAND BEACH/SPOIL BANKS
3	TIDAL MUDFLATS
4	FRESHWATER FLAT
5a	SALT MARSH
5b	FRESH MARSH
6	SWAMP
7	MANGROVES

UNRANKED

- OYSTER REEFS
- FORESTED UPLAND
- UNCLASSIFIED

BIOLOGICAL RESOURCES

- OYSTERS/CLAMS
- CRABS
- SHRIMP/CRAYFISH
- ALLIGATORS
- SEA TURTLES
- FISH
- AQUATIC VEGETATION
- SHOREBIRDS
- RAPTORS
- WATERFOWL
- WADING BIRDS
- SEABIRDS
- DIVING BIRDS
- COASTAL MAMMALS

REFUGE/PARK BOUNDARIES

KEY TO WILDLIFE SYMBOLS

123 Number = Species (from regional lists)

Range

SPILL RESPONSE ACCESS

BOAT RAMP

MARINA

SPECIES LIST AND ASSEMBLAGES WITH SEASONALITY, DISTRIBUTION AND BREEDING SEASON

FHMS 8001389

Species No.	Common Name	Scientific Name	Seasonality# Sp	Su	F	W
BIRDS						
Wading Birds Assemblage C						
54, 87, 88, 89, 90, 91, 94, 97, 115, 120, 125, 132, 149, 178, 185, 187, 188, 189, 192						
Wading Birds						
54	Great blue heron	Ardea hrodias	*	*	°	°
87	Little blue heron	Egretta caerulea	*	*	°	°
88	Great egret	Casmeridius albus	*	*	°	°
89	Snowy egret	Egretta thula	*	*	°	°
90	Black-crowned night heron	Nycticorax nycticorax	*	*	°	°
91	Glossy ibis	Plegadis falcinelius	*	°	°	°
93	Cattle egret	Bulbulcus ibis	*	*	°	°
94	Tricolor heron	Egretta tricolor	*	*	°	°
97	Green heron	Butorides striatus	*	*	°	
115	White ibis	Eudocimus albus	*	*	°	°
116	Roseate spoonbill	Ajaia ajaja	*	*	°	°
120	Yellow-crowned night heron	Nyctanassa violacea	*	*	°	°
125	Clapper rail	Rallus longirostris	*	*	°	°
132	Wood stork	Mycteria americana		°		
149	White-faced ibis	Plegadis chihi	*	*	°	°
163	Reddish egret	Egretta rufescens	°	*	°	
178	Least bittern	Ixobryrychus exilis	°	*	°	
184	King rail	Rallus elegans	*	*	°	°
185	American bittern	Botaurus lentiginosus	°	°	°	°
187	Virginia rail	Rallus limicola	°		°	°
188	Sora	Porzana carolina	°		°	°
189	Yellow rail	Coturnicops noveboracensis	°		°	°
192	Common gallinule	Gallinula chloropus	*	*	°	°
212	Purple gallinule	Porphyrula martinica	*	*	°	°
172	Sandhill crane	Grus canadensis	°	°	°	°
Water fowl Assemblage E						
15, 16, 17, 18, 20, 22, 23, 26, 33, 121, 124, 148, 162, 169, 190, 198, 211						
Waterfowl						
12	Canada goose	Branta canadensis			°	°
14	White-fronted goose	Anser albifons	°		°	°
15	Snow goose	Chen caerulescens	°		°	°
16	Mallard	Anas platyrhynshos	*		°	°
17	Pintail	Anas acuta	*		°	°
18	Green-winged teal	Anas crecca	°	°	°	°
20	Northern shoveler	Anas clupeata	°		°	°
21	Canvasback	Aythya valisineria	°		°	°
22	Greater scaup	Aythya affinis	°		°	°
23	Lesser scaup	Aythya affinis	°	°	°	°
24	Common goldeneye	Bucephala clangula	°		°	°
26	Bufflehead	Bucephala albeola	°		°	°
33	Red-breasted merganser	Mergus serrator	°		°	°
34	American coot	Fuleca americana	°		°	°
124	Redhead	Aythya americana	°		°	°
148	Ruddy duck	Oxyura jamaicensis	°		°	°
162	Gadwall	Anas strepera	°		°	°
169	American wigeon	Anas americana	°		°	°
180	Ring-necked duck	Aythya collaris	°		°	°
186	Black duck	Anas rubipes	°		°	°
190	Blue-winged teal	Anas discors	°	*	°	
191	Wood duck	Aix sponsa	°	°	°	°
198	Hooded merganser	Lophodytes cucullatus	°		°	°
211	Mottled duck	Anas fulvigula	*	°	°	°

Species No.	Common Name	Scientific Name	Seasonality# Sp	Su	F	W
Shorebirds Assemblage D						
52, 56, 58, 59, 61, 62, 64, 65, 66, 142, 153, 155, 156, 196						
Shorebirds						
52	Wilsons phalarope	Steganopus tricolor	°	°	°	
55	Whimbrel	Numenius phaeopus	°	°	°	°
56	Spotted sandpiper	Actitis macularia	°	°	°	
58	Greater yellowlegs	Tringa melanaleuca	°	°	°	°
59	Lesser yellowlegs	Tringa flavipes	°	°	°	°
60	Red knot	Calidris canutus	°	°	°	
61	Pectoral sandpiper	Calidris melanotos	°	°	°	
62	Least sandpiper	Calidris minutilla	°	°	°	°
63	Dunlin	Calidris alpina	°		°	°
64	Short-billed dowitcher	Limnodromus griseus	°	°	°	°
65	Long-billed dowitcher	Limnodromus Scolopaceus	°	°	°	
66	Western sandpiper	Caladris mauri	°	°	°	°
67	Sanderling	Caladris alba	°	°	°	°
71	Black-bellied plover	Pluvialis squatarola	°		°	°
73	Ruddy turnstone	Arenaria interpres	°	°	°	
139	Snowy plover	Charadrius alexandrinus	°	°	°	°
141	American avocet	Recurvirostra americana	°	°	°	°
142	Black-necked stilt	Himantopus mexicanus	*	*	°	°
152	American oystercatcher	Haemetopus palliatus	°	°		
153	Piping plover	Charadrius melodus	°	°	°	
154	Wilson's plover	Charadrius wilsonia	*	*	°	
155	Willet	Catoptrophorus semipalmatus	*	*	°	°
156	Semipalmated plover	Calidris pusilla	°	°	°	°
196	Common snipe	Capella gallinago	°		°	°
209	Long-billed curlew	Namenius americanus	°	°	°	°
210	marbled godwit	Limosa fedoa	°	°	°	°
213	Stilt sandpiper	Calidris himantopus	°	°	°	
214	Solitary sandpiper	Tringa solitara	°	°	°	
Seabirds						
38	Herring gull	Larus argentatus	°		°	°
40	Ring-billed gull	Larus delawarebsus	°	°	°	°
42	Bonapartes gull	Larus philadelphia	°	°	°	°
45	Common tern	Sterna hirundo	°	°	°	°
86	Least tern	Sterna antillarum	*	*	°	°
98	Laughing gull	Larus articilla	*	*	°	°
133	Black skimmer	Rynshops niger	*	*	°	°
134	Gull-billed tern	Gelochilidon nilotica	°	*	°	°
135	Sandwich tern	Sterna sandvicensis	°	*	°	°
136	Caspian tern	Sterna caspia	*	*	°	
137	Royal tern	Sterna maxima	*	*	°	°
138	Forsters tern	Sterna fosteri	*	*	°	°
Raptors						
76	Bald eagle	Haliaeetus leucocephalus	*		°	*
77	Osprey	Pandion haliaetus	*		°	*
107	Peregrine falcon	Falco peregrinus	°		°	°
182	American kestrel	Falco sparverius	°		°	°
Diving Birds						
1	Common loon	Gavia immer	°		°	°
5	Horned grebe	Podiceps auritus	°		°	°
6	Eared grebe	Podiceps nigricollis	°		°	°
8	Double-crested commorant	Phalacrocorax nigricollis	°		°	°
118	Brown pelican	Pelecanus occidentalis	°	°	°	*
121	Anhinga	Anhinga anhinga	*	*	°	°
168	Olivaceous cormarant	Phalacrocorax olivaceus	*	°	°	°
173	White pelican	Pelecanus erythrorhynchos	°	°	°	°
179	Pied-billed grebe	Podilymbus podiceps	*	°	°	°

#[Sp = spring, Su = summer, F = fall, W = winter, ° = present, * = breeding season].
Underlined species numbers indicate threatened or endangered status.

SPECIES LIST AND ASSEMBLAGES WITH SEASONAL DISTRIBUTION AND BREEDING SEASON

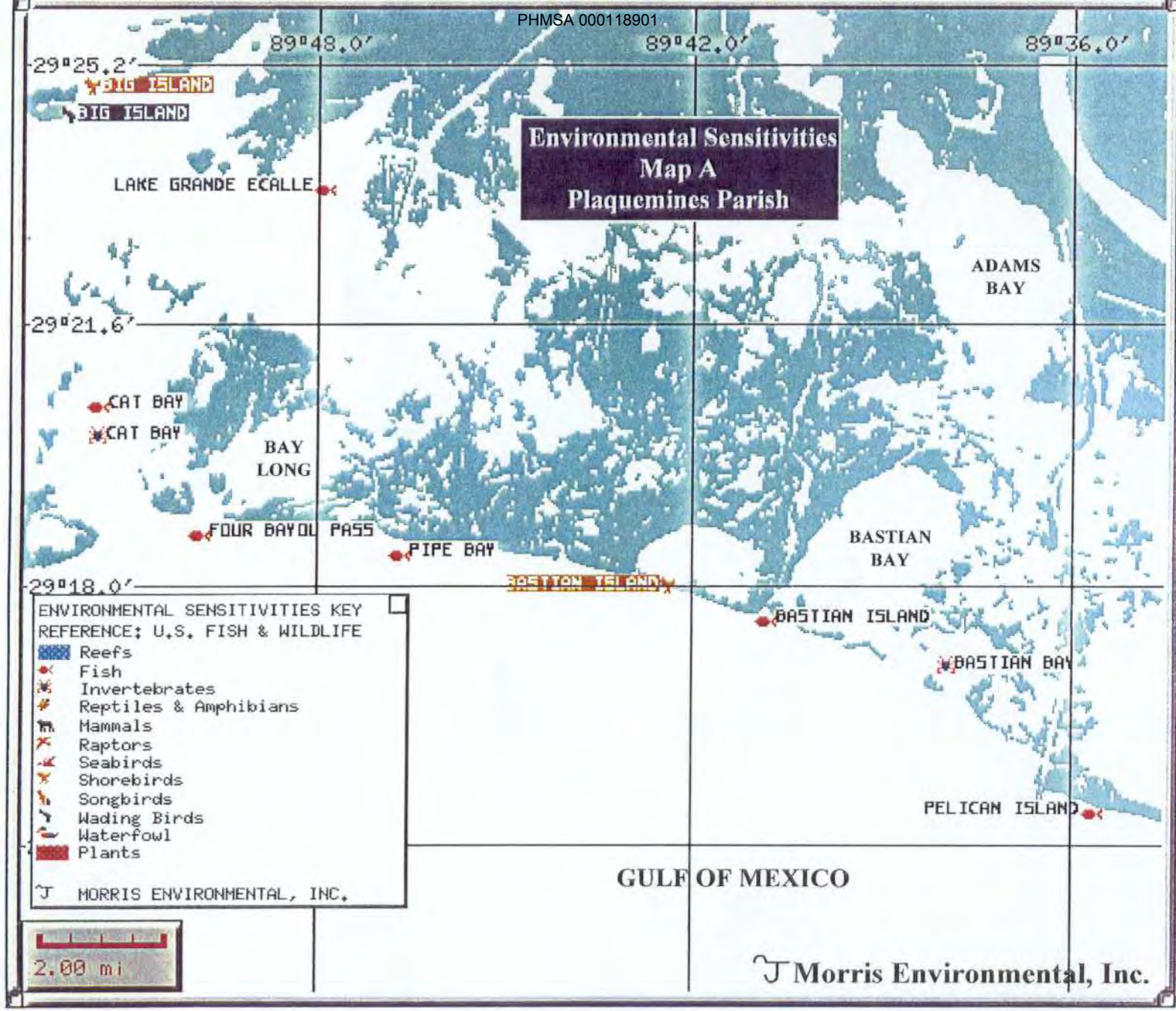
FHSMA000390

Species No.	Common Name	Scientific Name	Seasonality# Sp	Su	F	W
REPTILES						
Alligators						
3	American alligator	Alligator mississippiensis	°	*	*	°
Sea Turtles						
2	Green sea turtle	Chelonia mydas mydas	*	*		
4	Kemp's ridley sea turtle	Lepidochelys kempi	*	*		
5	Leatherback sea turtle	Dermochelys coriacea	*	*		
6	Loggerhead sea turtle	Caretta caretta	*	*		
9	Hawksbill sea turtle	Eretmochelys imbricata imbicata	*	*		
FISHES						
Fish Assemblage A						
	107, 109, 111, 113, 121, 122, 123, 124, 137, 163, 179, 181, 182, 200, 201, 201, 202, 203, 204, 205, 206, 213, 214					
Fish Assemblage B						
	107, 109, 111, 113, 116, 121, 122, 123, 124, 137, 207, 213, 214, 215, 217					
Fish Assemblage F						
	163, 179, 181, 200, 201, 202, 203, 204, 205, 206					
Freshwater Fish						
163	Gizzard shad	Dorosoma cepedianum	*	*	°	°
179	Largemouth bass	Micropterus saloides	*	°	°	°
181	Black crappie	Pomoxis nigromaculatus	*	°	°	°
182	Bluegill	Lepomis macrochirus	°	°	°	°
200	Blue catfish	Ictalurus furcatus	*	*	°	°
201	Channel catfish	Ictalurus punctatus	*	*	°	°
202	White crappie	Pomoxis annularis	°	°	°	°
203	Warmouth	Chaenobryttus gulosus	°	°	°	°
204	Redear sunfish	Lepomis microlophus	°	°	°	°
205	Freshwater drum	Aplodinotus grunnies	°	°	°	°
206	Spotted sunfish	Lepomis punctatus miniatus	°	°	°	°

Species No.	Common Name	Scientific Name	Seasonality# Sp	Su	F	W
Marine Fish						
102	Atlantic sturgeon		°	*	°	°
107	Spotted seatrout	Cynoscion nebulosus	°	°	*	*
109	Red drum	Sciaenops ocellatus	°	°	°	*
111	Southern flounder	Paraichthys lethostigma	°	°	°	*
113	Bay anchovy	Anchoa mitchilli	*	*	*	*
116	Striped mullet	Mugil cephalus	°	°	*	*
121	Spot	Leiostomus xanthurus	°	°	°	*
122	Black drum	Pogonias cromis	*	°	°	*
123	Atlantic croaker	Micropogonias undultus	°	°	°	*
124	Southern kingfish	Menticirrhus americanus	°	°	°	°
127	Spanish Mackerel	Scomberomorus maculatus		°	°	
137	Sheepshead	Coryphaena hipporus	*	°	°	°
207	Sea catfish	Galeichthyes felis	°	*	°	°
213	Gulf menhaden	Brevoortia patronus	°	°	°	*
214	Gulf kingfish	Menticirrhus littoralis	°	°	°	°
215	Sand seatrout	Cynoscion arenarius	°	*	°	°
217	Gafftopsail catfish	Bagre marinus	°	*	°	°
INVERTRBRATES						
Shellfish						
43	Eastern oyster	Crassostrea virginica	*	*	*	°
49	Blue crab	Callinectes sapidus	°	*	°	°
50	White shrimp	Panaeus setiferus	°	°	°	°
51	Brown shrimp	Penaeus aztecus	°	°	°	°
82	Brackish-water clam		°	°	°	°
83	River crayfish	Procambarus acutus	°	°	°	*
84	Red swamp crayfish	Procambarus clarkii	°	°	°	*
MAMMALS						
Coastal/Terrestrial						
8	River otter	Lutra canade	°	°	°	°
36	Beaver	Caston canadensis	°	°	°	°
37	Muskrat	Ondatra zibethicus	°	°	°	°
38	Mink	Mustela vison	°	°	°	°
43	Nutria	Myocastor coypus	°	°	°	°
44	Northern raccoon	Procyon lotor	°	°	°	°

#[Sp = spring, Su = summer, F = fall, W = winter, ° = present, * = breeding season].
Underlined species numbers indicate threatened or endangered status.

PHMSA 000118901



Plaquemine Parish
Environmental Sensitivites

Name : BASTIAN BAY
Description: EASTERN OYSTER
BREEDING, NURSERY, AND HARVESTING AREA FOR EASTERN OYSTERS

Name : BASTIAN ISLAND
Description: F. TERN, B. SKIMMER
BREEDING AREA FOR FORSTERS TERN AND BLACK SKIMMERS

Name : BASTIAN ISLAND
Description: VARIETY OF SPECIES
THIS AREA IS UTILIZED BY SPOTTED SEATROUT, RED DRUM AND SOUTHERN FLOUNDER.

Name : BIG ISLAND
Description: FORSTER'S TERNS
BREEDING GROUNDS FOR THE FORSTER'S TERN.

Name : BIG ISLAND
Description: GREAT- SNOWY EGRETS
BREEDING AREA FOR THE GREAT AND SNOWY EGRETS.

Name : CAT BAY
Description: SHRIMP & BLUE CRAB
MIGRATORY AREA FOR SHRIMP AND BLUE CRAB DURING THE SPRING, FALL, AND WINTER.

Name : CAT BAY
Description: VARIETY OF FISH
MIGRATORY AREA FOR DRUM IN THE SPRING AND SUMMER. MIGRATORY AREA FOR SOUTHERN FLOUNDER AND GULF MENHADEN IN THE SPRING, FALL AND WINTER.

Name : FOUR BAYOU PASS
Description: SPOTTED SEATROUT
SPORT FISHING AREA FOR SPOTTED SEATROUT

Name : LAKE GRANDE ECALLE
Description: SPOTTED SEATROUT
SPORT FISHING AREA FOR SPOTTED SEATROUT

Name : PELICAN ISLAND
Description: SEATROUT, FLOUNDER
THIS AREA IS UTILIZED BY SPOTTED SEATROUT AND SOUTHERN FLOUNDER.

Name : PIPE BAY
Description: VARIETY OF FISH
THIS AREA IS UTILIZED BY THE SPOTTED SEATROUT, RED DRUM AND SOUTHERN FLOUNDER.

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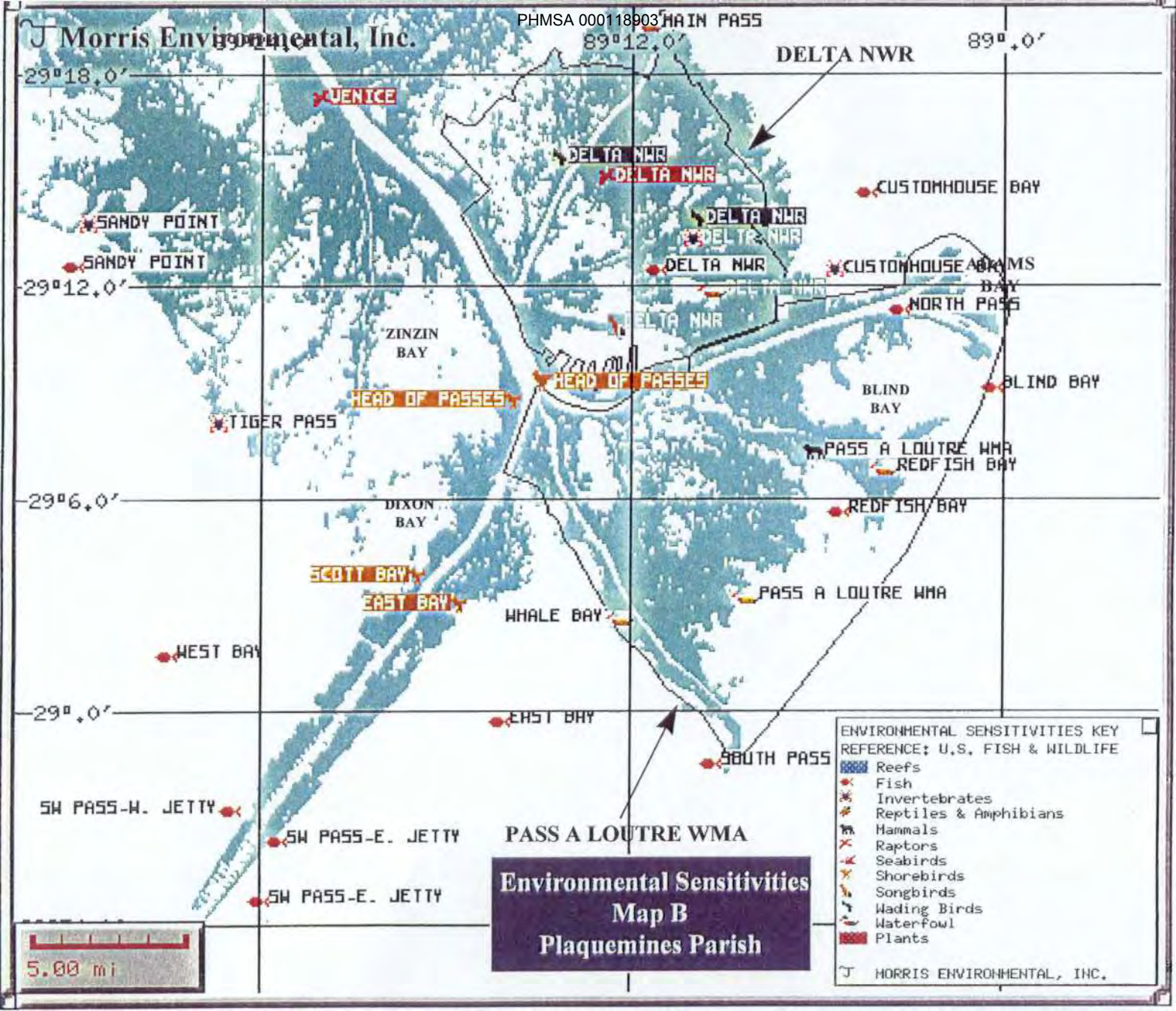
Morris Environmental, Inc.
89°12.0'
MAIN PASS
89°.0'
DELTA NWR
29°18.0'
VENICE
DELTA NWR
DELTA NWR
CUSTOMHOUSE BAY
SANDY POINT
DELTA NWR
DELTA NWR
SANDY POINT
DELTA NWR
CUSTOMHOUSE BAY
ADAMS BAY
29°12.0'
NORTH PASS
ZINZIN BAY
HEAD OF PASSES
HEAD OF PASSES
BLIND BAY
BLIND BAY
TIGER PASS
PASS A LOUTRE WMA
REDFISH BAY
29°6.0'
DIXON BAY
REDFISH BAY
SCOTT BAY
EAST BAY
PASS A LOUTRE WMA
WHALE BAY
WEST BAY
29°.0'
EAST BAY
SOUTH PASS
SW PASS-W. JETTY
SW PASS-E. JETTY
PASS A LOUTRE WMA
SW PASS-E. JETTY
Environmental Sensitivities
Map B
Plaquemines Parish
5.00 mi
ENVIRONMENTAL SENSITIVITIES KEY
REFERENCE: U.S. FISH & WILDLIFE
Reefs
Fish
Invertebrates
Reptiles & Amphibians
Mammals
Raptors
Seabirds
Shorebirds
Songbirds
Wading Birds
Waterfowl
Plants
MORRIS ENVIRONMENTAL, INC.

Plaquemine Parish
Environmental Sensitivities

Name : DELTA NWR
Description: NWR
DELTA NATIONAL WILDLIFE REFUGE
MANAGER: HOWARD POITEVINT
PHONE: (504)646-7555 & (504)534-2235
FAX 504-646-7588
48,800 ACRES, ACCESS BY BOAT ONLY.
SENSITIVE SPECIES INCLUDE WADING BIRDS, WATERFOWL, AND SHOREBIRDS.

Name : DELTA NWR
Description: BLUE CRAB
NURSERY AND SPORT FISHING AREA FOR BLUE CRAB.

Name : DELTA NWR
Description: VARIETY OF BIRDS
ADULT CONCENTRATION AREA FOR WATERFOWL DURING THE WINTER.

Name : DELTA NWR
Description: VARIETY OF BIRDS
BREEDING AREA FOR WHITE IBIS, GREAT EGRET, LOUISIANA HERON, AND LITTLE BLUE HERON.

Name : DELTA NWR
Description: VARIETY OF BIRDS
DELTA NATIONAL WILDLIFE REFUGE IS UTILIZED BY BIRD HAWKS AND OSPREY.

Name : DELTA NWR
Description: VARIETY OF BIRDS
DELTA NATIONAL WILDLIFE REFUGE IS UTILIZED BY HERON, EGRET, WHITE IBIS, LEAST BITTERN, AND GALLINULES.

Name : DELTA NWR
Description: VARIETY OF BIRDS
DELTA NATIONAL WILDLIFE REFUGE IS UTILIZED BY SONGBIRDS.
ADULT CONCENTRATION AND MIGRATORY AREA FOR WARBLERS.

Name : DELTA NWR
Description: VARIETY OF FISH
BREEDING AND SPORT FISHING AREA FOR SAND TROUT,ATLANTIC CROAKER,AND BLUE CRAB. BREEDING, NURSERY, AND SPORT FISHING AREA FOR WHITE & BLACK CRAPPIE, LARGEMOUTH BASS, WARMOUTH, BLUEGILL, SUNFISH, DRUM, AND BLACKMOUTH SHINER.

Name : PASS A LOUTRE WMA
Description: WMA
PASS A LOUTRE WMA
MANAGER: MIKE WINDOM
PHONE: 504-568-5886 FAX: 504-568-5619
ACCESS BY BOAT ONLY. SENSITIVE SPECIES INCLUDE WATERFOWL, WADING BIRDS, AND SHOREBIRDS.

Name : PASS A LOUTRE WMA
Description: DABBLING DUCK
ADULT CONCENTRATION AND MIGRATORY AREA FOR DABBLING DUCKS DURING THE WINTER.

Name : PASS A LOUTRE WMA
Description: MARSH DEER
UNUSUAL DISTRUBUTION AREA FOR MARSH DEER.

Name : BLIND BAY
Description: VARIETY OF FISH
SPORT FISHING AREA FOR SPOTTED SEATROUT, ATLANTIC CROAKER, AND TARPON.

Name : CUSTOMHOUSE BAY
Description: EASTERN OYSTERS
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTERS.

Name : CUSTOMHOUSE BAY
Description: VARIETY OF FISH
SPORT FISHING AREA FOR SPOTTED SEATROUT AND ATLANTIC CROAKER.

Name : EAST BAY
Description: BLACK SKIMMER
BREEDING AREA FOR BLACK SKIMMERS

Name : EAST BAY
Description: VARIETY OF SPECIES
SPOTTED SEATROUT, ATLANTIC CROAKER, RED SNAPPER, FLORIDA POMPANO, COBIA

Name : HEAD OF PASSES
Description: LEAST TERN
BREEDING AREA FOR LEAST TERN.

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Environmental Sensitivities

Name : HEAD OF PASSES
Description: SHOREBIRDS
BREEDING AND ADULT CONCENTRATION AREA FOR LEAST TERN AND BLACK SKIMMERS IN THE SPRING AND SUMMER

Name : MAIN PASS
Description: GEESE
ADULT CONCENTRATION AREA FOR GEESE DURING THE WINTER.

Name : NORTH PASS
Description: VARIETY OF FISH
SPORT FISHING AREA FOR SPOTTED SEATROUT, ATLANTIC CROAKER, AND TARPON.

Name : REDFISH BAY
Description: GEESE
ADULT CONCENTRATION AREA FOR GEESE DURING THE WINTER.

Name : REDFISH BAY
Description: RED DRUM
SPORT FISHING AREA FOR RED DRUM.

Name : SANDY POINT
Description: EASTERN OYSTERS
BREEDING, NURSERY, AND HARVESTING AREA FOR EASTERN OYSTERS

Name : SANDY POINT
Description: VARIETY OF SPECIES
SPOTTED SEATROUT
ATLANTIC CROAKER
RED DRUM

Name : SOUTH PASS
Description: VARIETY OF FISH
SPORT FISHING AREA FOR SPOTTED SEATROUT, ATLANTIC CROAKER, RED DRUM, AND TARPON.

Name : SCOTT BAY
Description: BLACK SKIMMER
BREEDING AREA FOR BLACK SKIMMERS

Name : SW PASS-E. JETTY
Description: RED DRUM
SPORT FISHING AREA FOR RED DRUM.

Name : SW PASS-W. JETTY
Description: SPOTTED SEATROUT
SPORT FISHING AREA FOR SPOTTED SEATROUT.

Name : TIGER PASS
Description: EASTERN OYSTER
BREEDING,NURSERY, AND HARVESTING AREA FOR EASTERN OYSTERS

Name : VENICE
Description: OSPREY
BREEDING AREA FOR OSPREY

Name : WEST BAY
Description: SEATROUT, CROAKER
SPOTTED SEATROUT
ATLANTIC CROAKER

Name : WHALE BAY
Description: VARIETY OF DUCKS
ADULT CONCENTRATION AREA FOR DABBLING DUCKS, DIVING DUCKS, AND GEESE DURING THE WINTER.

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Plaquemine Parish
Environmental Sensitivities

Name : BRETON ISLAND
Description: BRETON NWR
BRETON NATIONAL WILDLIFE REFUGE
MANAGER: HOWARD POITEVINT
PHONE: (504)646-7555 & (504)534-2235
FAX: (504) 646-7588
6,923 ACRES, ACCESS BY BOAT ONLY.
SENSITIVE SPECIES INCLUDE WADING BIRDS, WATERFOWL, AND SHOREBIRDS.

Name : BAY CRABE
Description: EASTERN OYSTERS
BREEDING, NURSERY, SPORT FISHING, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTERS.

Name : BELLE ISLE
Description: EASTERN OYSTERS
BREEDING, NURSERY, SPORT FISHING, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTERS.

Name : BELLE ISLE
Description: SPOTTED SEATROUT
SPORT FISHING AREA FOR SPOTTED SEATROUT.

Name : BLACK BAY
Description: EASTERN OYSTERS
BREEDING, NURSERY, SPORT FISHING, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTERS.

Name : BLACK BAY
Description: SPOTTED SEATROUT
SPORT FISHING AREA FOR SPOTTED SEATROUT.

Name : BLACK BAY
Description: VARIETY OF BIRDS
BREEDING AREA FOR FORSTER'S TERN, BLACK SKIMMER, AND LAUGHING GULL.

Name : BLACK BAY
Description: VARIETY OF BIRDS
BREEDING AREA FOR WHITE-FACED IBIS, WHITE IBIS, GREAT EGRET, SNOWY EGRET, LOUISIANA HERON, AND BLACK CROWNED NIGHT HERON.

Name : BRETON ISLAND
Description: BLACK SKIMMER
BREEDING AREA FOR BLACK SKIMMER.

Name : CALIFORNIA BAY
Description: SEATROUT & DRUM
SPORT FISHING AREA FOR SPOTTED SEATROUT AND RED DRUM.

Name : GARDNER ISLAND
Description: SHRIMP & CRAB
MIGRATORY AREA FOR SHRIMP AND BLUE CRAB DURING THE SPRING, FALL, AND WINTER.

Name : GARDNER ISLAND
Description: VARIETY OF FISH
MIGRATORY AREA FOR DRUM DURING THE SPRING AND SUMMER. MIGRATORY AREA FOR SOUTHERN FLOUNDER AND GULF MENHADEN DURING THE SPRING, FALL, AND WINTER.

Name : LAKE CALEBASSE
Description: VARIETY OF BIRDS
BREEDING AREA FOR GREAT EGRET AND SNOWY EGRET.

Name : LAKE MACHIAS
Description: EASTERN OYSTERS
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTERS.

Name : LAKE SECOND TREES
Description: WADING BIRDS
BREEDING AREA FOR WADING BIRDS.

Name : LITTLE COQUILLE BAY
Description: SPOTTED SEATROUT
SPORT FISHING AREA FOR SPOTTED SEATROUT.

Name : LONG BAY
Description: SPOTTED SEATROUT
SPORT FISHING AREA FOR SPOTTED SEATROUT.

Name : LONG BAY
Description: VARIETY OF FISH
SPORT FISHING AREA FOR SPOTTED SEATROUT, RED DRUM, BLACK DRUM, AND SHEEPHEAD.

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Name : MOZAMBIQUE POINT
Description: EASTERN OYSTERS
BREEDING, NURSERY, SPORT FISHING, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTERS.

Name : MISS. RIVER
Description: VARIETY OF MAMMAL
HUNTING AREA FOR WHITETAILED DEER, MARSH RABBIT, AND TREE SQUIRRELS.

Name : N. OF MAIN PASS
Description: VARIETY OF FISH
SPORT FISHING AREA FOR SPOTTED SEATROUT, ATLANTIC CROAKER, COBIA, KING MACKREL, AND SEA BASS.

Name : NORTH POINT
Description: BLACK SKIMMER
BREEDING AREA FOR BLACK SKIMMER.

Name : QUARANTINE BAY
Description: EASTERN OYSTER
BREEDING, NURSERY, SPORT FISHING, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTERS.

Name : QUARANTINE BAY
Description: VARIETY OF DUCKS
HUNTING AREA FOR DABBLING AND DIVING DUCKS.

Name : RACCOON ISLAND
Description: EGRET & HERON
BREEDING AREA FOR EGRET AND HERON.

Name : TAYLOR PASS
Description: GEESE
ADULT CONCENTRATION AREA FOR GEESE DURING THE WINTER.

Name : TELEGRAPH POINT
Description: EASTERN OYSTERS
BREEDING, NURSERY, SPORT FISHING, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTERS.

Name : TELEGRAPH POINT
Description: SPOTTED SEATROUT
SPORT FISHING AREA FOR SPOTTED SEATROUT.

Name : W. OF BRETON ISLAND
Description: VARIETY OF FISH
SPORT FISHING AREA FOR SPOTTED SEATROUT, RED DRUM, AND SOUTHERN FLOUNDER.

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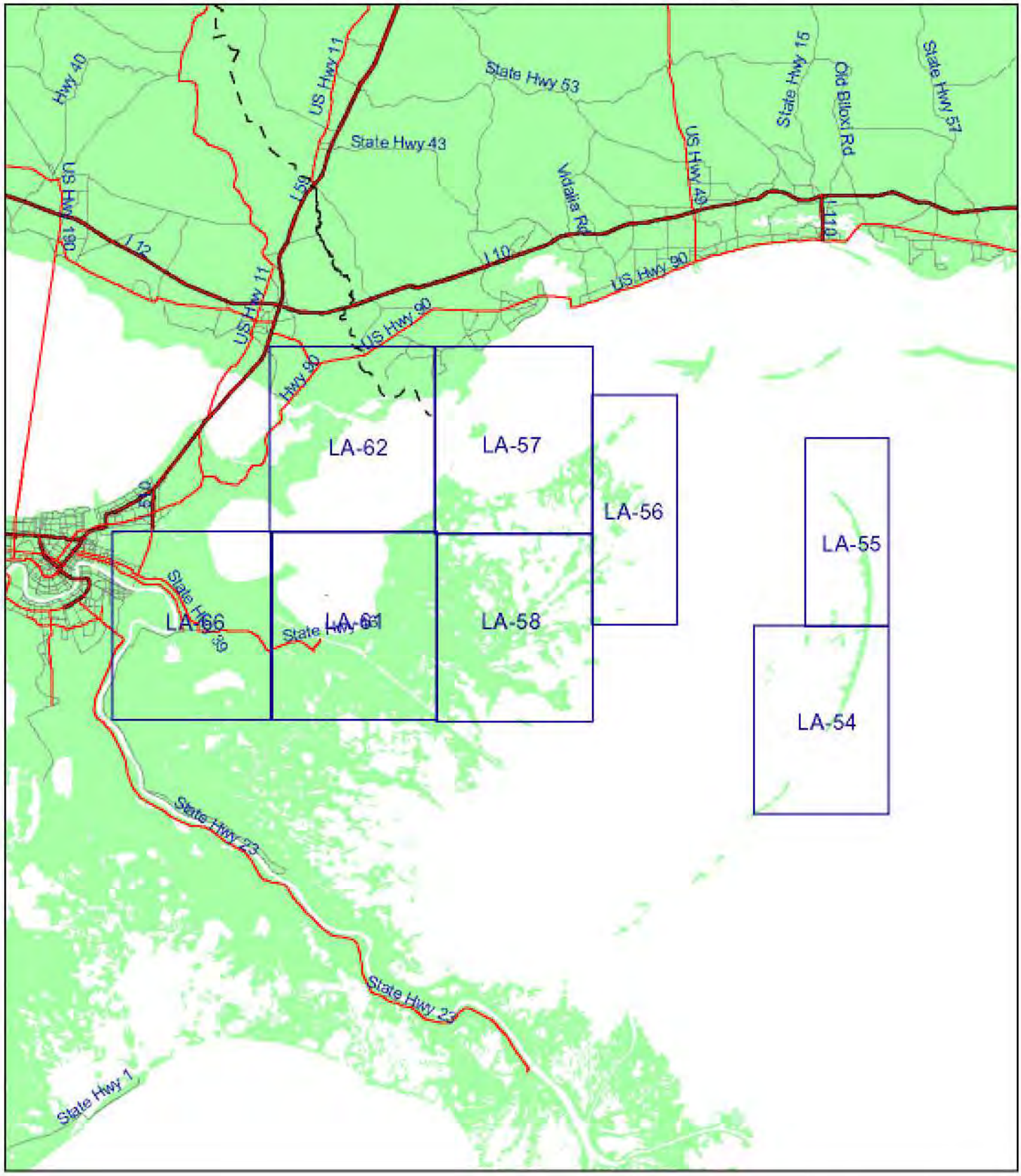
St. Bernard Parish Overview Map



Data Source: RPI International, Inc.

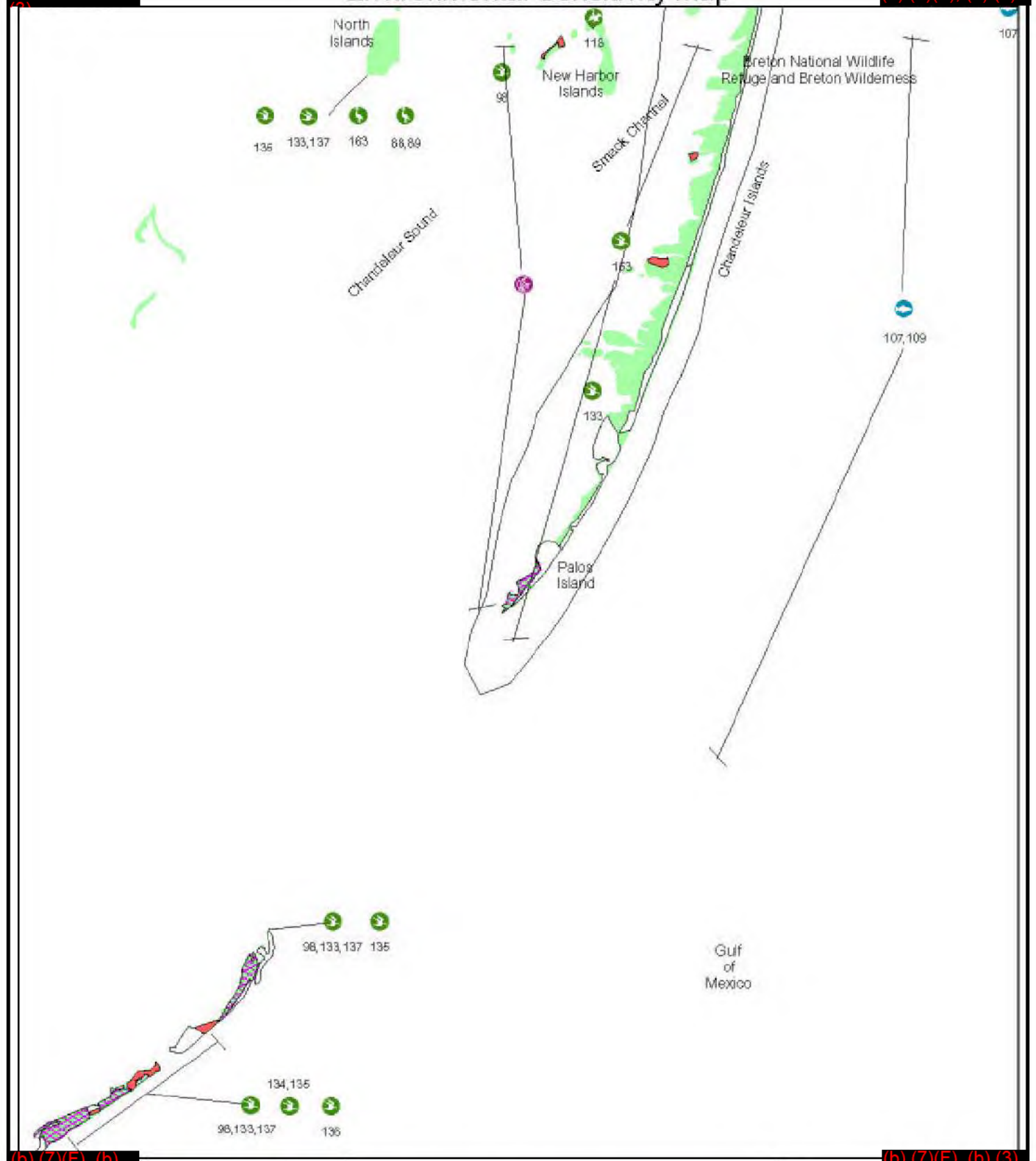
prepared by

Morris Environmental, Inc.

(b) (7)(F), (b) (3)

Environmental Sensitivity Map

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

Common Throughout Area

118, 173 — 22, 23, 26, 33, 124, 148, 198

119 — 49 — 50, 51 — B

Common Throughout Chandeleur Island Beaches

76, 73, 139 — 60, 154

Common Throughout Chandeleur Islands Curlew Islands, and North Islands

77, 107 — D — 152 — 169 — C — 163

N

Data Source: RPI International, Inc.

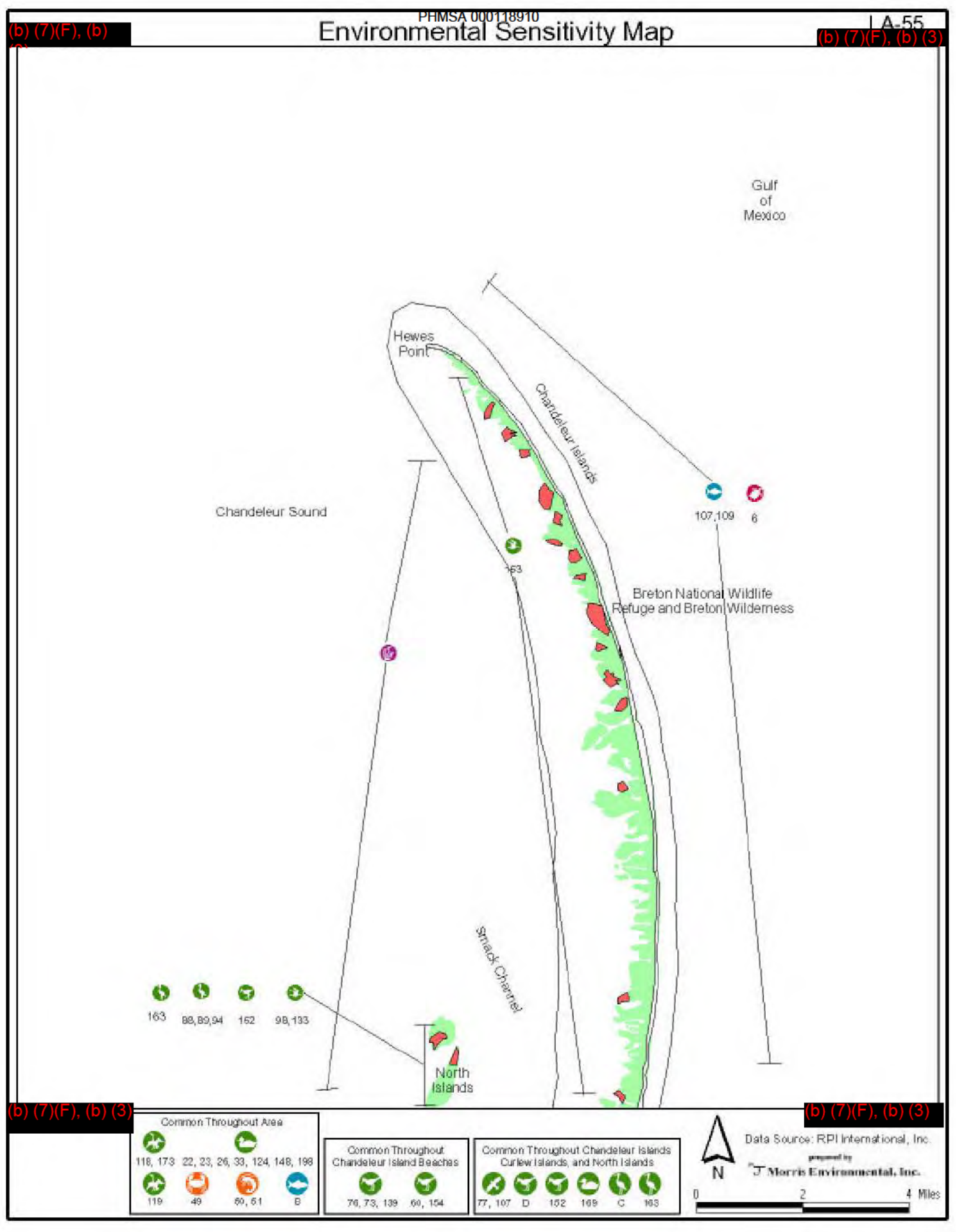
prepared by

J. Morris Environmental, Inc.

0 — 2 — 4 Miles

(b) (7)(F), (b) (3)

Environmental Sensitivity Map



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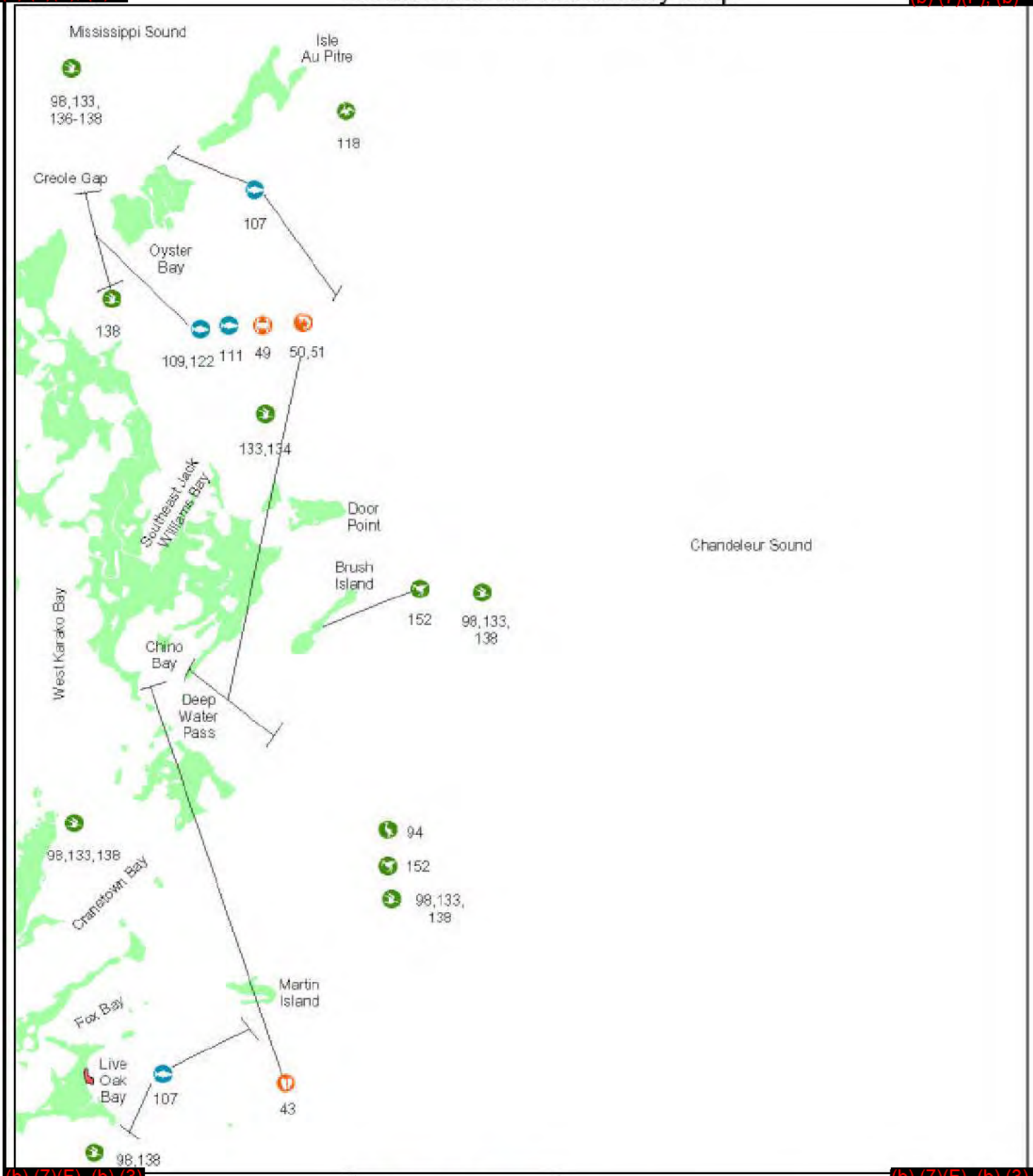
(b) (7)(F), (b)

Environmental Sensitivity Map

LA-56

(b) (7)(F), (b)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

N

0 2 4 Miles

Common Throughout Area

118, 173, 179 43

1, 5, 8 49 50, 51 B

Common Throughout Wetlands

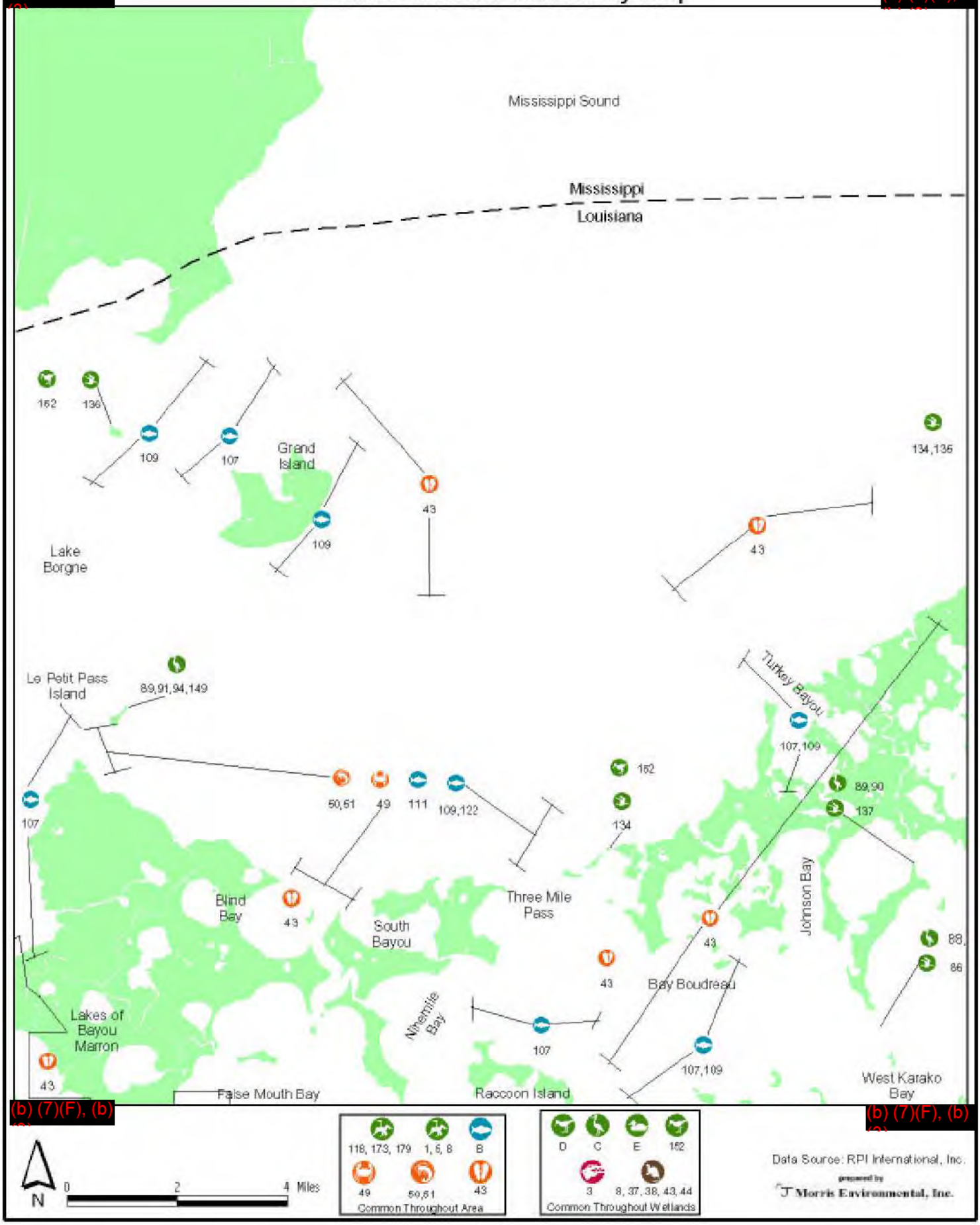
3 D 152 E C 8, 38

Data Source: RPI International, Inc.

prepared by

Morris Environmental, Inc.

Environmental Sensitivity Map



Environmental Sensitivity Map

(b) (7)(F),

(b) (7)(F),

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

N

0 2 4 Miles

76 E 118, 173, 179 1, 5, 8

49 50,51 43 B

Common Throughout Area

3 D C 8, 37, 38, 43, 44

Common Throughout Wetlands

Data Source: RPI International, Inc.

prepared by

Morris Environmental, Inc.

Environmental Sensitivity Map

LA-61

(b) (7)(F), (b)

(b) (7)(F), (b)

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F), (b)

(b) (7)(F), (b) (3)

(b) (7)(F), (b)

76 1,6,8,118,173,179
B 49 50,51
Common Throughout Area

D C E
3 8,37,38,43,44
Common Throughout Wetlands

43
Common Throughout Lake Borgne, The Rigolets, and Little Lake

N

Data Source: RPI International, Inc.

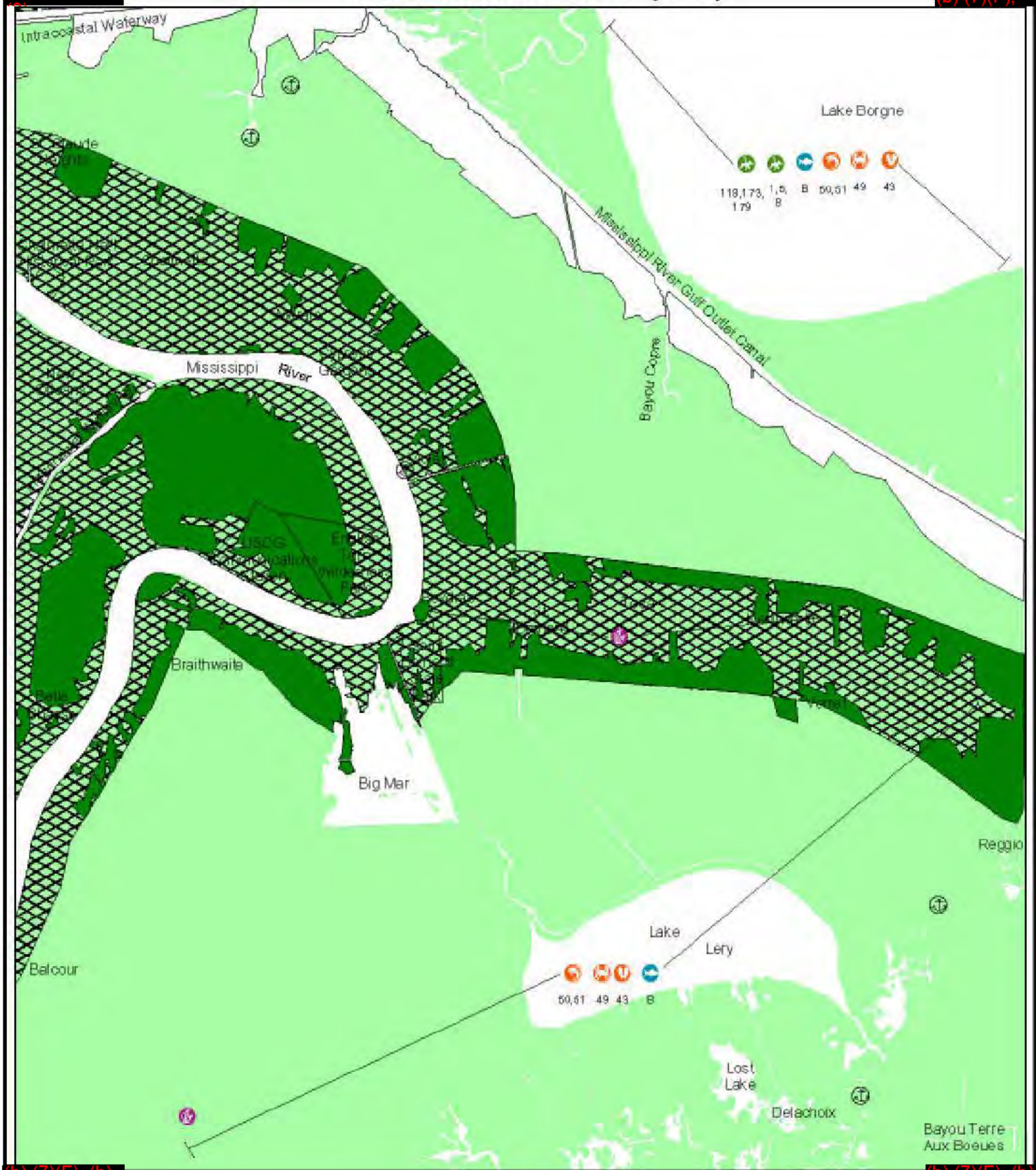
prepared by
Morris Environmental, Inc.

0 2 4 Miles

Environmental Sensitivity Map

(b) (7)(F), (b) (3)

(b) (7)(F),



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

84
Common Throughout Freshwater Swamps

F
Common in Mississippi River

93

76
Common Throughout Area

E

D

C

3

8,37,38,43,44
Common Throughout Wetlands

N

Data Source: RPI International, Inc.

prepared by
Morris Environmental, Inc.

0 2 4 Miles

LOUISIANA ENVIRONMENTAL SENSITIVITIES

SHORELINE INDEX

SENSITIVITY

1	DEVELOPED/UNFORESTED UPLAND
2	SAND BEACH/SPOIL BANKS
2	SAND BEACH
3	TIDAL MUDFLATS
4	FRESHWATER FLAT
5a	SALT MARSH
5b	FRESH MARSH
6	SWAMP
7	MANGROVES

UNRANKED

- OYSTER REEFS
- FORESTED UPLAND
- UNCLASSIFIED

BIOLOGICAL RESOURCES

- OYSTERS/CLAMS
- CRABS
- SHRIMP/CRAYFISH
- ALLIGATORS
- SEA TURTLES
- FISH
- AQUATIC VEGETATION
- SHOREBIRDS
- RAPTORS
- WATERFOWL
- WADING BIRDS
- SEABIRDS
- DIVING BIRDS
- COASTAL MAMMALS

REFUGE/PARK BOUNDARIES

KEY TO WILDLIFE SYMBOLS

123 Number = Species (from regional lists)

Range

SPILL RESPONSE ACCESS

BOAT RAMP

MARINA

Species No.	Common Name	Scientific Name	Seasonality# Sp	Su	F	W
BIRDS						
Wading Birds Assemblage C						
54, 87, 88, 89, 90, 91, 94, 97, 115, 120, 125, 132, 149, 178, 185, 187, 188, 189, 192						
Wading Birds						
54	Great blue heron	Ardea hrodias	*	*	°	°
87	Little blue heron	Egretta caerulea	*	*	°	°
88	Great egret	Casmeridius albus	*	*	°	°
89	Snowy egret	Egretta thula	*	*	°	°
90	Black-crowned night heron	Nycticorax nycticorax	*	*	°	°
91	Glossy ibis	Plegadis falcinelius	*	°	°	°
93	Cattle egret	Bulbulcus ibis	*	*	°	°
94	Tricolor heron	Egretta tricolor	*	*	°	°
97	Green heron	Butorides striatus	*	*	°	
115	White ibis	Eudocimus albus	*	*	°	°
116	Roseate spoonbill	Ajaia ajaja	*	*	°	°
120	Yellow-crowned night heron	Nyctanassa violacea	*	*	°	°
125	Clapper rail	Rallus longirostris	*	*	°	°
132	Wood stork	Mycteria americana		°		
149	White-faced ibis	Plegadis chihi	*	*	°	°
163	Reddish egret	Egretta rufescens	°	*	°	
178	Least bittern	Ixobryrychus exilis	°	*	°	
184	King rail	Rallus elegans	*	*	°	°
185	American bittern	Botaurus lentiginosus	°	°	°	°
187	Virginia rail	Rallus limicola	°		°	°
188	Sora	Porzana carolina	°		°	°
189	Yellow rail	Coturnicops noveboracensis	°		°	°
192	Common gallinule	Gallinula chloropus	*	*	°	°
212	Purple gallinule	Porphyrula martinica	*	*	°	°
172	Sandhill crane	Grus canadensis	°	°	°	°
Water fowl Assemblage E						
15, 16, 17, 18, 20, 22, 23, 26, 33, 121, 124, 148, 162, 169, 190, 198, 211						
Waterfowl						
12	Canada goose	Branta canadensis			°	°
14	White-fronted goose	Anser albifons	°		°	°
15	Snow goose	Chen caerulescens	°		°	°
16	Mallard	Anas platyrhynshos	*		°	°
17	Pintail	Anas acuta	*		°	°
18	Green-winged teal	Anas crecca	°	°	°	°
20	Northern shoveler	Anas clupeata	°		°	°
21	Canvasback	Aythya valisineria	°		°	°
22	Greater scaup	Aythya affinis	°		°	°
23	Lesser scaup	Aythya affinis	°	°	°	°
24	Common goldeneye	Bucephala clangula	°		°	°
26	Bufflehead	Bucephala albeola	°		°	°
33	Red-breasted merganser	Mergus serrator	°		°	°
34	American coot	Fuleca americana	°		°	°
124	Redhead	Aythya americana	°		°	°
148	Ruddy duck	Oxyura jamaicensis	°		°	°
162	Gadwall	Anas strepera	°		°	°
169	American wigeon	Anas americana	°		°	°
180	Ring-necked duck	Aythya collaris	°		°	°
186	Black duck	Anas rubipes	°		°	°
190	Blue-winged teal	Anas discors	°	*	°	
191	Wood duck	Aix sponsa	°	°	°	°
198	Hooded merganser	Lophodytes cucullatus	°		°	°
211	Mottled duck	Anas fulvigula	*	°	°	°

Species No.	Common Name	Scientific Name	Seasonality# Sp	Su	F	W
Shorebirds Assemblage D						
52, 56, 58, 59, 61, 62, 64, 65, 66, 142, 153, 155, 156, 196						
Shorebirds						
52	Wilsons phalarope	Steganopus tricolor	°	°	°	
55	Whimbrel	Numenius phaeopus	°	°	°	°
56	Spotted sandpiper	Actitis macularia	°	°	°	
58	Greater yellowlegs	Tringa melanaleuca	°	°	°	°
59	Lesser yellowlegs	Tringa flavipes	°	°	°	°
60	Red knot	Calidris canutus	°	°	°	
61	Pectoral sandpiper	Calidris melanotos	°	°	°	
62	Least sandpiper	Calidris minutilla	°	°	°	°
63	Dunlin	Calidris alpina	°		°	°
64	Short-billed dowitcher	Limnodromus griseus	°	°	°	°
65	Long-billed dowitcher	Limnodromus Scolopaceus	°	°	°	
66	Western sandpiper	Caladris mauri	°	°	°	°
67	Sanderling	Caladris alba	°	°	°	°
71	Black-bellied plover	Pluvialis squatarola	°		°	°
73	Ruddy turnstone	Arenaria interpres	°	°	°	
139	Snowy plover	Charadrius alexandrinus	°	°	°	°
141	American avocet	Recurvirostra americana	°	°	°	°
142	Black-necked stilt	Himantopus mexicanus	*	*	°	°
152	American oystercatcher	Haemetopus palliatus	°	°		
153	Piping plover	Charadrius melodus	°	°	°	
154	Wilson's plover	Charadrius wilsonia	*	*	°	
155	Willet	Catoptrophorus semipalmatus	*	*	°	°
156	Semipalmated plover	Calidris pusilla	°	°	°	°
196	Common snipe	Capella gallinago	°		°	°
209	Long-billed curlew	Namenius americanus	°	°	°	°
210	marbled godwit	Limosa fedoa	°	°	°	°
213	Stilt sandpiper	Calidris himantopus	°	°	°	
214	Solitary sandpiper	Tringa solitara	°	°	°	
Seabirds						
38	Herring gull	Larus argentatus	°		°	°
40	Ring-billed gull	Larus delawarebsus	°	°	°	°
42	Bonapartes gull	Larus philadelphia	°	°	°	°
45	Common tern	Sterna hirundo	°	°	°	°
86	Least tern	Sterna antillarum	*	*	°	°
98	Laughing gull	Larus articilla	*	*	°	°
133	Black skimmer	Rynshops niger	*	*	°	°
134	Gull-billed tern	Gelochilidon nilotica	°	*	°	°
135	Sandwich tern	Sterna sandvicensis	°	*	°	°
136	Caspian tern	Sterna caspia	*	*	°	
137	Royal tern	Sterna maxima	*	*	°	°
138	Forsters tern	Sterna fosteri	*	*	°	°
Raptors						
76	Bald eagle	Haliaeetus leucocephalus	*		°	*
77	Osprey	Pandion haliaetus	*		°	*
107	Peregrine falcon	Falco peregrinus	°		°	°
182	American kestrel	Falco sparverius	°		°	°
Diving Birds						
1	Common loon	Gavia immer	°		°	°
5	Horned grebe	Podiceps auritus	°		°	°
6	Eared grebe	Podiceps nigricollis	°		°	°
8	Double-crested commorant	Phalacrocorax nigricollis	°		°	°
118	Brown pelican	Pelecanus occidentalis	°	°	°	*
121	Anhinga	Anhinga anhinga	*	*	°	°
168	Olivaceous cormarant	Phalacrocorax olivaceus	*	°	°	°
173	White pelican	Pelecanus erythrorhynchos	°	°	°	°
179	Pied-billed grebe	Podilymbus podiceps	*	°	°	°

#[Sp = spring, Su = summer, F = fall, W = winter, ° = present, * = breeding season].
Underlined species numbers indicate threatened or endangered status.

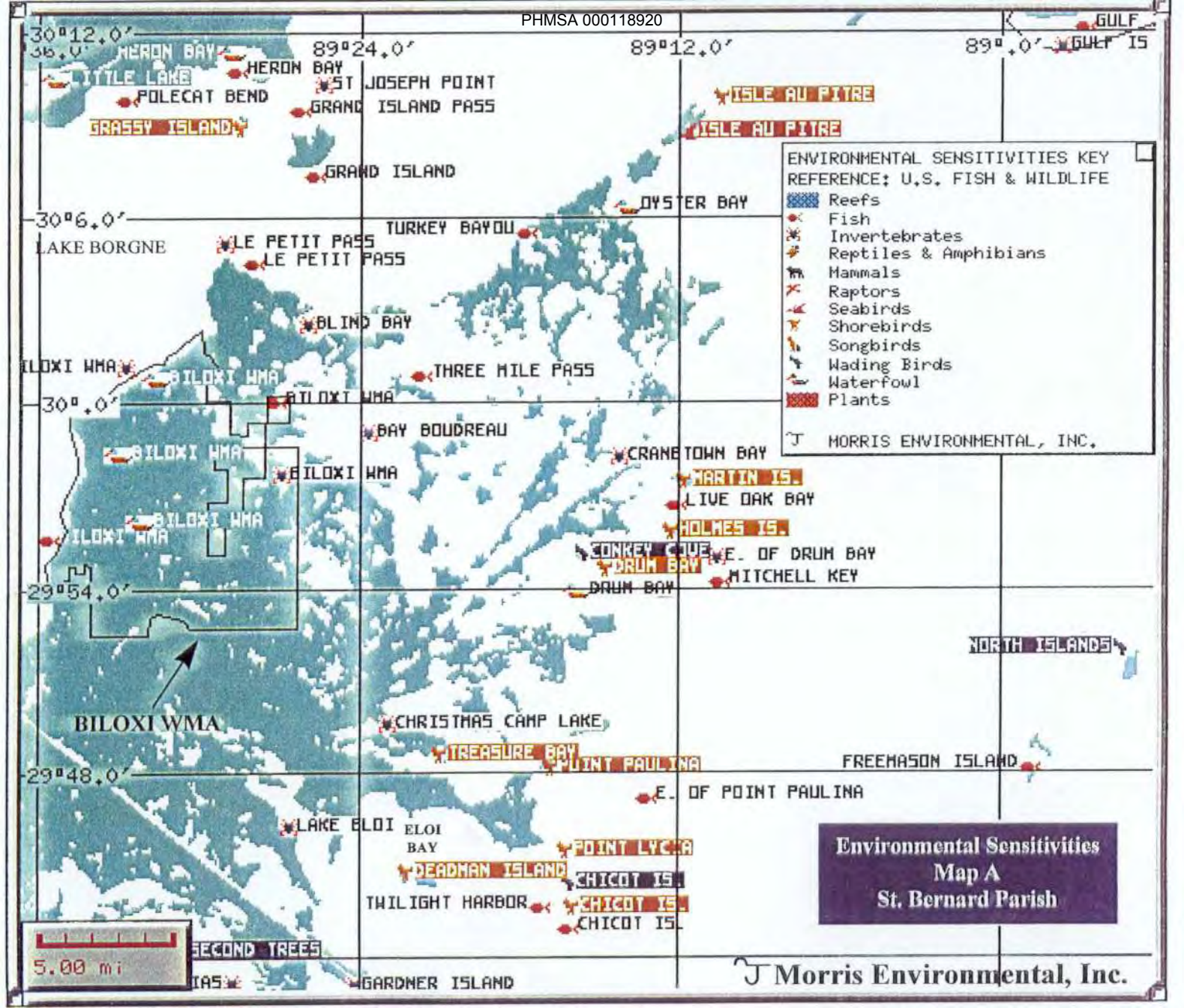
SPECIES LIST AND ASSEMBLAGES WITH SEASONAL DISTRIBUTION AND BREEDING SEASON

PHMSA 00003819

Species No.	Common Name	Scientific Name	Seasonality# Sp	Su	F	W
REPTILES						
Alligators						
3	American alligator	Alligator mississippiensis	°	*	*	°
Sea Turtles						
2	Green sea turtle	Chelonia mydas mydas	*	*		
4	Kemp's ridley sea turtle	Lepidochelys kempi	*	*		
5	Leatherback sea turtle	Dermochelys coriacea	*	*		
6	Loggerhead sea turtle	Caretta caretta	*	*		
9	Hawksbill sea turtle	Eretmochelys imbricata imbicata	*	*		
FISHES						
Fish Assemblage A						
	107, 109, 111, 113, 121, 122, 123, 124, 137, 163, 179, 181, 182, 200, 201, 201, 202, 203, 204, 205, 206, 213, 214					
Fish Assemblage B						
	107, 109, 111, 113, 116, 121, 122, 123, 124, 137, 207, 213, 214, 215, 217					
Fish Assemblage F						
	163, 179, 181, 200, 201, 202, 203, 204, 205, 206					
Freshwater Fish						
163	Gizzard shad	Dorosoma cepedianum	*	*	°	°
179	Largemouth bass	Micropterus saloides	*	°	°	°
181	Black crappie	Pomoxis nigromaculatus	*	°	°	°
182	Bluegill	Lepomis macrochirus	°	°	°	°
200	Blue catfish	Ictalurus furcatus	*	*	°	°
201	Channel catfish	Ictalurus punctatus	*	*	°	°
202	White crappie	Pomoxis annularis	°	°	°	°
203	Warmouth	Chaenobryttus gulosus	°	°	°	°
204	Redear sunfish	Lepomis microlophus	°	°	°	°
205	Freshwater drum	Aplodinotus grunnies	°	°	°	°
206	Spotted sunfish	Lepomis punctatus miniatus	°	°	°	°

Species No.	Common Name	Scientific Name	Seasonality# Sp	Su	F	W
Marine Fish						
102	Atlantic sturgeon		°	*	°	°
107	Spotted seatrout	Cynoscion nebulosus	°	°	*	*
109	Red drum	Sciaenops ocellatus	°	°	°	*
111	Southern flounder	Paraichthys lethostigma	°	°	°	*
113	Bay anchovy	Anchoa mitchilli	*	*	*	*
116	Striped mullet	Mugil cephalus	°	°	*	*
121	Spot	Leiostomus xanthurus	°	°	°	*
122	Black drum	Pogonias cromis	*	°	°	*
123	Atlantic croaker	Micropogonias undultus	°	°	°	*
124	Southern kingfish	Menticirrhus americanus	°	°	°	°
127	Spanish Mackerel	Scomberomorus maculatus		°	°	
137	Sheepshead	Coryphaena hipporus	*	°	°	°
207	Sea catfish	Galeichthyes felis	°	*	°	°
213	Gulf menhaden	Brevoortia patronus	°	°	°	*
214	Gulf kingfish	Menticirrhus littoralis	°	°	°	°
215	Sand seatrout	Cynoscion arenarius	°	*	°	°
217	Gafftopsail catfish	Bagre marinus	°	*	°	°
INVERTRBRATES						
Shellfish						
43	Eastern oyster	Crassostrea virginica	*	*	*	°
49	Blue crab	Callinectes sapidus	°	*	°	°
50	White shrimp	Panaeus setiferus	°	°	°	°
51	Brown shrimp	Penaeus aztecus	°	°	°	°
82	Brackish-water clam		°	°	°	°
83	River crayfish	Procambarus acutus	°	°	°	*
84	Red swamp crayfish	Procambarus clarkii	°	°	°	*
MAMMALS						
Coastal/Terrestrial						
8	River otter	Lutra canade	°	°	°	°
36	Beaver	Caston canadensis	°	°	°	°
37	Muskrat	Ondatra zibethicus	°	°	°	°
38	Mink	Mustela vison	°	°	°	°
43	Nutria	Myocastor coypus	°	°	°	°
44	Northern raccoon	Procyon lotor	°	°	°	°

#[Sp = spring, Su = summer, F = fall, W = winter, ° = present, * = breeding season].
Underlined species numbers indicate threatened or endangered status.


30°12.0'
89°24.0'
89°12.0'
89°0.0'
HERON BAY
HERON BAY
LITTLE LAKE
POLECAT BEND
GRASSY ISLAND
ST JOSEPH POINT
GRAND ISLAND PASS
GRAND ISLAND
ISLE AU PITRE
ISLE AU PITRE
GULF
GULF IS
DYSTER BAY
30°6.0'
LAKE BORGNE
TURKEY BAYOU
LE PETIT PASS
LE PETIT PASS
BLIND BAY
THREE MILE PASS
BILOXI WMA
BILOXI WMA
BILOXI WMA
BILOXI WMA
BILOXI WMA
BILOXI WMA
BILOXI WMA
30°0.0'
BAY BOUDREAU
CRANETOWN BAY
MARTIN IS.
LIVE OAK BAY
HOLMES IS.
CONKEY COVE
DRUM BAY
E. OF DRUM BAY
MITCHELL KEY
DRUM BAY
29°54.0'
NORTH ISLANDS
BILOXI WMA
CHRISTMAS CAMP LAKE
TREASURE BAY
POINT PAULINA
FREEMASON ISLAND
29°48.0'
E. OF POINT PAULINA
LAKE ELOI
ELOI BAY
POINT LYCHA
DEADMAN ISLAND
CHICOT IS.
TWILIGHT HARBOR
CHICOT IS.
CHICOT ISL
SECOND TREES
GARDNER ISLAND
5.00 mi
ENVIRONMENTAL SENSITIVITIES KEY
REFERENCE: U.S. FISH & WILDLIFE
Reefs
Fish
Invertebrates
Reptiles & Amphibians
Mammals
Raptors
Seabirds
Shorebirds
Songbirds
Wading Birds
Waterfowl
Plants
MORRIS ENVIRONMENTAL, INC.
Environmental Sensitivities
Map A
St. Bernard Parish
Morris Environmental, Inc.

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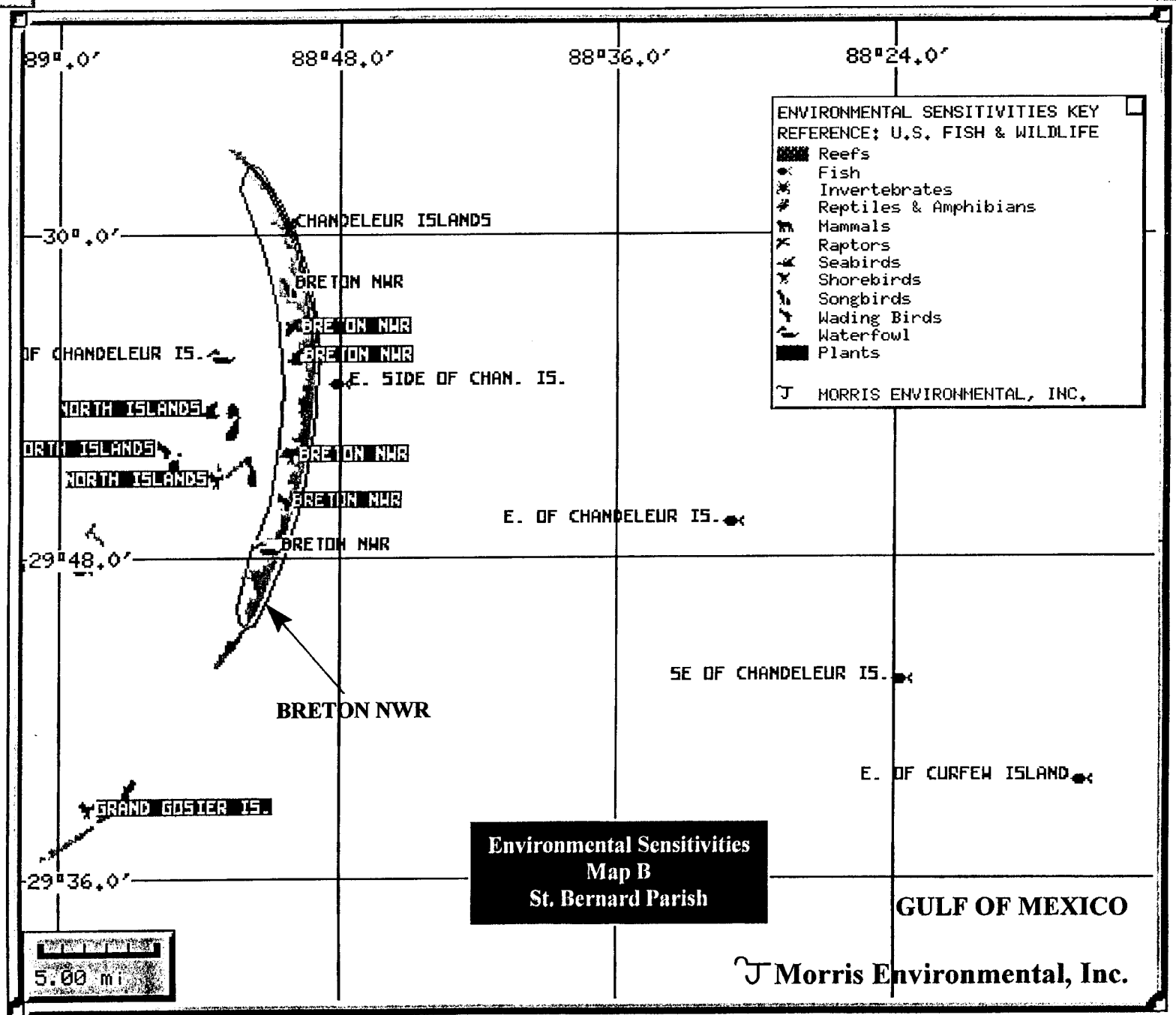

St. Bernard Parish
Environmental Sensitivities

Name : BILOXI WMA
Description: WMA
BILOXI WILDLIFE MANAGEMENT AREA
MANAGER: DAVE JOHN
PHONE:(504) 556-9890 FAX:(504) 568-5619
39,583 ACRES, ACCESS BY BOAT ONLY.
SENSITIVE SPECIES INCLUDE WATERFOWL, AND WADING BIRDS.

Name : BILOXI WMA
Description: DABBLING DUCK
BILOXI WILDLIFE MANAGEMENT AREA IS UTILIZED BY DABBLING DUCKS.

Name : BILOXI WMA
Description: EASTERN OYSTER
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTER.

Name : BILOXI WMA
Description: RED DRUM
SPORT FISHING AREA FOR RED DRUM.

Name : BILOXI WMA
Description: VARIETY OF FISH
SPORT FISHING AREA FOR SPOTTED SEATROUT,RED DRUM, BLACK DRUM, AND SHEEPHEAD.

Name : BILOXI WMA
Description: WATERFOWL
HUNTING AREA FOR WATERFOWL.

Name : BRETON NWR
Description: NATIONAL WILDLIFE REFUGE
BRETON NATIONAL WILDLIFE REFUGE
MANAGER: HOWARD POITEVINT
PHONE: (504)646-7555
6,923 ACRES, ACCESS BY BOAT ONLY.
SENSITIVE SPECIES INCLUDE WADING BIRDS, WATERFOWL, AND SHOREBIRDS.

Name : BRETON NWR
Description: SHOREBIRDS
ADULT CONCENTRATION AREA FOR SHOREBIRDS.

Name : BRETON NWR
Description: SONGBIRDS
ADULT CONCENTRATION AND MIGRATORY AREA FOR SONGBIRDS AND WARBLERS.

Name : BRETON NWR
Description: VARIETY OF BIRDS
BREEDING AREA FOR BROWN PELICAN WHICH ARE ON THE RARE, THREATENED, AND ENDANGERED SPECIES LIST. BRETON NWR IS UTILIZED BY MAGNIFICENT FRIGATE-BIRD AND WHITE PELICAN.

Name : BRETON NWR
Description: VARIETY OF BIRDS
BRETON NATIONAL WILDLIFE REFUGE IS UTILIZED BY HERON, EGRET, WHITE IBIS, AND LEAST BITTERN.

Name : BRETON NWR
Description: VARIETY OF BIRDS
MIGRATORY AREA FOR PEREGRINE FALCON WHICH ARE ON THE RARE, THREATENED, AND ENDANGERED SPECIES LIST. BRETON NWR IS UTILIZED BY BIRD HAWKS AND OSPREY.

Name : BRETON NWR
Description: WATERFOWL
ADULT CONCENTRATION AREA FOR WATERFOWL.

Name : CHANDELEUR ISLANDS
Description: SEA TURTLE
BREEDING AREA FOR LOGGERHEAD SEA TURTLES DURING THE SPRING AND SUMMER. LOGGERHEAD TURTLES ARE ON THE RARE, THREATENED, AND ENDANGERED SPECIES.

Name : ISLE AU PITRE
Description: BROWN PELICAN
BREEDING AREA FOR BROWN PELICAN WHICH ARE ON THE RARE, THREATENED, AND ENDANGERED SPECIES LIST.

Name : NORTH ISLANDS
Description: BROWN PELICAN
BREEDING AREA FOR BROWN PELICANS WHICH ARE ON THE RARE, THREATENED, AND ENDANGERED SPECIES LIST.

Name : BAY BOUDREAU
Description: EASTERN OYSTER
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTER.

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St. Bernard Parish
Environmental Sensitivities

Name : BLIND BAY
Description: BRACKISH-WATER CLAM
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR BRACKISH-WATER CLAM.

Name : CHICOT IS.
Description: RED DRUM
SPORT FISHING AREA FOR SPOTTED SEATROUT.

Name : CHICOT IS.
Description: VARIETY OF BIRDS
BREEDING AREA FOR FORSTER'S TERN AND LAUGHING GULLS.

Name : CHICOT IS.
Description: VARIETY OF BIRDS
BREEDING AREA FOR GREAT EGRET AND SNOWY EGRET.

Name : CHRISTMAS CAMP LAKE
Description: EASTERN OYSTERS
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTERS.

Name : CONKEY COVE
Description: VARIETY OF BIRDS
BREEDING AREA FOR EGRET, HERON, WHITE FACED IBIS, AND WHITE IBIS.

Name : CRANETOWN BAY
Description: EASTERN OYSTERS
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTER.

Name : DEADMAN ISLAND
Description: BLACK SKIMMER
BREEDING AREA FOR BLACK SKIMMER.

Name : DRUM BAY
Description: BLACK SKIMMER
BREEDING AREA FOR BLACK SKIMMER.

Name : DRUM BAY
Description: GEESE
ADULT CONCENTRATION AREA FOR GEESE DURING THE WINTER.

Name : E. OF CHANDELEUR IS.
Description: VARIETY OF FISH
SPORT FISHING AND COMMERCIAL HARVESTING AREA FOR RED SNAPPER AND COBIA. SPORT FISHING AREA FOR KING MACKREL, RED GROUPER, AND GAG.

Name : E. OF CURFEW ISLAND
Description: VARIETY OF FISH
SPORT FISHING AND COMMERCIAL HARVESTING AREA FOR RED SNAPPER AND COBIA. SPORT FISHING AREA FOR KING MACKREL, RED GROUPER, AND GAG.

Name : E. OF DRUM BAY
Description: EASTERN OYSTERS
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTERS.

Name : E. OF POINT PAULINA
Description: SPOTTED SEATROUT
SPORT FISHING AREA FOR SPOTTED SEATROUT.

Name : E. SIDE OF CHAN. IS.
Description: VARIETY OF FISH
SPORT FISHING AREA FOR SPOTTED SEATROUT, RED DRUM, BLUEFISH, COBIA, AND SPANISH MACKREL.

Name : FREEMASON ISLAND
Description: TROUT & DRUM
SPORT FISHING AREA FOR SPOTTED SEATROUT AND RED DRUM.

Name : GRAND GOSIER IS.
Description: LAUGHING GULL
BREEDING AREA FOR LAUGHING GULL.

Name : GRAND ISLAND
Description: RED DRUM
SPORT FISHING AREA FOR RED DRUM.

Name : GRAND ISLAND PASS
Description: SPOTTED SEATROUT
SPORT FISHING AREA FOR SPOTTED SEATROUT.

Name : GRASSY ISLAND
Description: VARIETY OF BIRD
BREEDING AREA FOR FORESTER'S, GULL-BILLED TERN AND BLACK SKIMMER.

Name : HERON BAY
Description: ATLANTIC STURGEON
MIGRATORY AREA FOR ATLANTIC STURGEON DURING THE SPRING, SUMMER AND FALL.

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Name : HOLMES IS.
Description: VARIETY OF BIRDS
BREEDING AREA FOR FORSTER'S TERN, BLACK SKIMMER, LAUGHING GULL, AND SNOWY EGRET.

Name : ISLE AU PITRE
Description: VARIETY OF BIRD
BREEDING AREA FOR ROYAL TERN, FORSTER'S TERN, SANDWICHE TERN, GULL-BILLED TERN, AND LAUGHING GULL.

Name : LAKE ELOI
Description: EASTERN OYSTERS
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTERS.

Name : LE PETIT PASS
Description: SHRIMP & CRAB
MIGRATORY AREA FOR SHRIMP AND BLUE CRAB DURING THE SPRING, FALL, AND WINTER.

Name : LE PETIT PASS
Description: VARIETY OF FISH
MIGRATORY AREA FOR DRUM, SOUTHERN FLOUNDER, AND GULF MENHADEN DURING THE SPRING, FALL, AND WINTER.

Name : LITTLE LAKE
Description: VARIETY OF BIRDS
ADULT CONCENTRATION AREA FOR DABBLING DUCK AND GEESE. BREEDING AREA FOR TEAL.

Name : LIVE OAK BAY
Description: SPOTTED SEATROUT
SPORT FISHING AREA FOR SPOTTED SEATROUT.

Name : MARTIN IS.
Description: VARIETY OF BIRDS
BREEDING AREA FOR BLACK SKIMMER AND LAUGHING GULL.

Name : MITCHELL KEY
Description: SPOTTED SEATROUT
SPORT FISHING AREA FOR SPOTTED SEATROUT.

Name : N. OF BILOXI WMA
Description: EASTERN OYSTER
BREEDING, NURSERY, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTER.

Name : NORTH ISLANDS
Description: SHOREBIRDS
BREEDING AREA FOR SHOREBIRDS.

Name : NORTH ISLANDS
Description: WADING BIRDS
BREEDING AREA FOR WADING BIRDS.

Name : OYSTER BAY
Description: GEESE
ADULT CONCENTRATION AREA FOR GEESE DURING THE WINTER.

Name : POINT LYCIA
Description: VARIETY OF BIRDS
BREEDING AREA FOR FORSTER'S TERN, LAUGHING GULLS, AND BLACK SKIMMER.

Name : POINT PAULINA
Description: FORSTER'S TERN
BREEDING AREA FOR FORSTER'S TERN.

Name : POLECAT BEND
Description: TROUT AND DRUM
SPORT FISHING AREA FOR SPOTTED SEATROUT AND RED DRUM.

Name : SE OF CHANDELEUR IS.
Description: VARIETY OF FISH
SPORT FISHING AND COMMERCIAL HARVESTING AREA FOR RED SNAPPER AND COBIA. SPORT FISHING AREA FOR KING MACKREL, RED GROUPER, AND GAG.

Name : ST JOSEPH POINT
Description: EASTERN OYSTER
BREEDING, NURSERY, SPORT FISHING, AND COMMERCIAL HARVESTING AREA FOR EASTERN OYSTERS.

Name : THREE MILE PASS
Description: SPOTTED SEATROUT
SPORT FISHING AREA FOR SPOTTED SEATROUT.

Name : TREASURE BAY
Description: FORSTER'S TERN
BREEDING AREA FOR FORSTER'S TERN.

Name : TURKEY BAYOU
Description: VARIETY OF FISH
SPORT FISHING FOR SPOTTED SEATROUT AND RED DRUM.

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Name : TWILIGHT HARBOR
Description: TROUT & SHEEPHEAD
SPORT FISHING AREA FOR SPOTTED
SEATROUT AND SHEEPHEAD.

Name : W. OF CHANDELEUR IS.
Description: DIVING DUCK
ADULT CONCENTRATION AREA FOR DIVING
DUCKS DURING THE WINTER.

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MIDSTREAM ASSETS (NATURAL GASOLINE PIPELINES) SENSITIVE INFORMATION/MAPS

SECTION 11B MIDSTREAM ASSETS SENSITIVE INFORMATION/MAPS

MIDSTREAM ASSETS (NATURAL GASOLINE PIPELINES) SENSITIVE INFORMATION/MAPS 1

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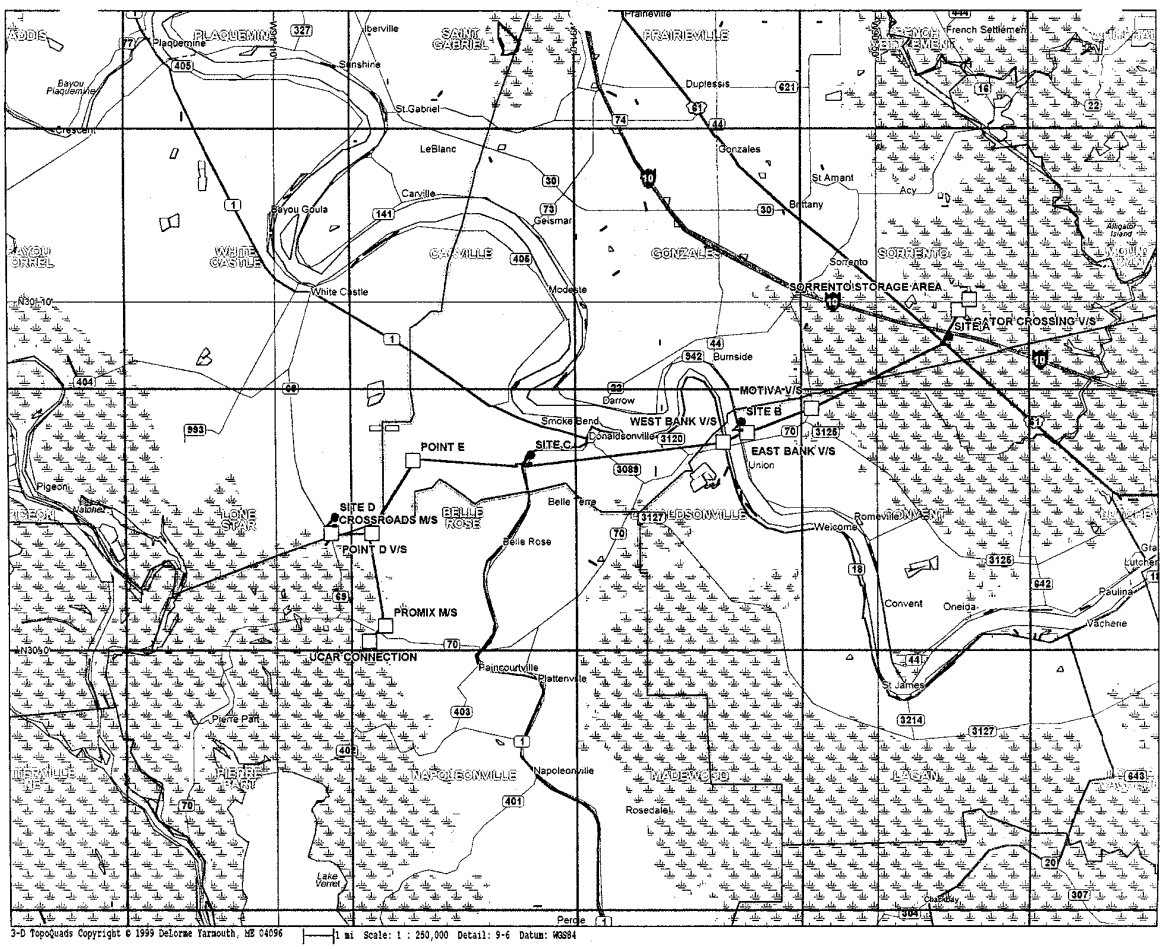
MIDSTREAM ASSETS (NATURAL GASOLINE PIPELINES) SENSITIVE INFORMATION/MAPS

Response Area 1 AC01A-Sorrento to Crossroads M/S, 6" Natural Gasoline Pipeline

Environmental Sensitivity

Environmental Sensitivity
The AC-O1A pipeline crosses several types of ecological areas as it spans from Sorrento to Grand Bayou. These areas range from developed upland to cypress tupelo swamp areas. This pipeline section also includes (3) significant water crossings. These are the Mississippi River, Bayou Lafourche, and Grand Bayou. Four areas of concern have been identified in this response area. They are detailed individually in the following sections and are identified on the map on the following page.

Primary Environmentally Sensitive Areas	
Site A	Sorrento Wetland Area
Site B	Mississippi River
Site C	Bayou Lafourche
Site D	Grand Bayou


PLAQUEMINE
SAINT GABRIEL
PRAIRIEVILLE
GARYVILLE
GONZALES
SORRENTO
SORRENTO STORAGE AREA
GATOR CROSSING V/S
SITE A
MOTIVA V/S
SITE B
WEST BANK V/S
EAST BANK V/S
POINT E
SITE C
SITE D
CROSSROADS M/S
POINT D V/S
PROMIX M/S
UCAR CONNECTION
BELLE ROSE
LONE STAR
WHITE CASTLE
BAYOU ORTEL
NAPOLEONVILLE
MADEWOOD
LABADIEVILLE
PIERRE PART
PAINCOURTVILLE
PLATTENVILLE
GEISMAR
DUPLESSIS
LEBLANC
CARVILLE
BAYOU GOULA
SUNSHINE
IBERVILLE
PLAQUEMINE
BURNSIDE
DARROW
SMOKE BEND
CONSTANTINVILLE
BELLE TERRE
ROMEVILLE
WELCOME
CONVENT
ONEIDA
PAULINA
VACHERIE
ST JAMES
ROSEDALE
LAKE VERRET
PERCE
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096
1 mi Scale: 1 : 250,000 Detail: 9-6 Datum: WGS84

Site A – The Sorrento Swamp Area

This site is a freshwater cypress/tupelo swamp area located immediately to the east and west of where the pipeline crosses Louisiana Hwy 61. The site coordinates of this area are (b) (7)(F), (b) (3) [redacted]

The Environmental Sensitivity Index, produced by RPI International, Inc., describes the area as follows:

SWAMP:

- A freshwater wetland having varying water depths with vegetation ranging from shrubs and scrubs to poorly drained forested wetlands. Major vegetative types include Bald Cypress, Tupelo, and Black Willow.
- Alligators, many types of birds, and mammals use swamp areas during feeding and breeding activities.

Predicted Natural Gasoline Impact:

- Small amounts of spilled Natural Gasoline can spread throughout the swamp area to a limited extent.
- Large spills will cover more area and can persist since water flushing rates are very low
- Natural Gasoline will adhere to swamp vegetation.
- During wet cycles, the roots of the swamp forest trees are not exposed; thus, a lesser degree of impact to the trees is expected. Any underbrush vegetation would be more severely impacted.

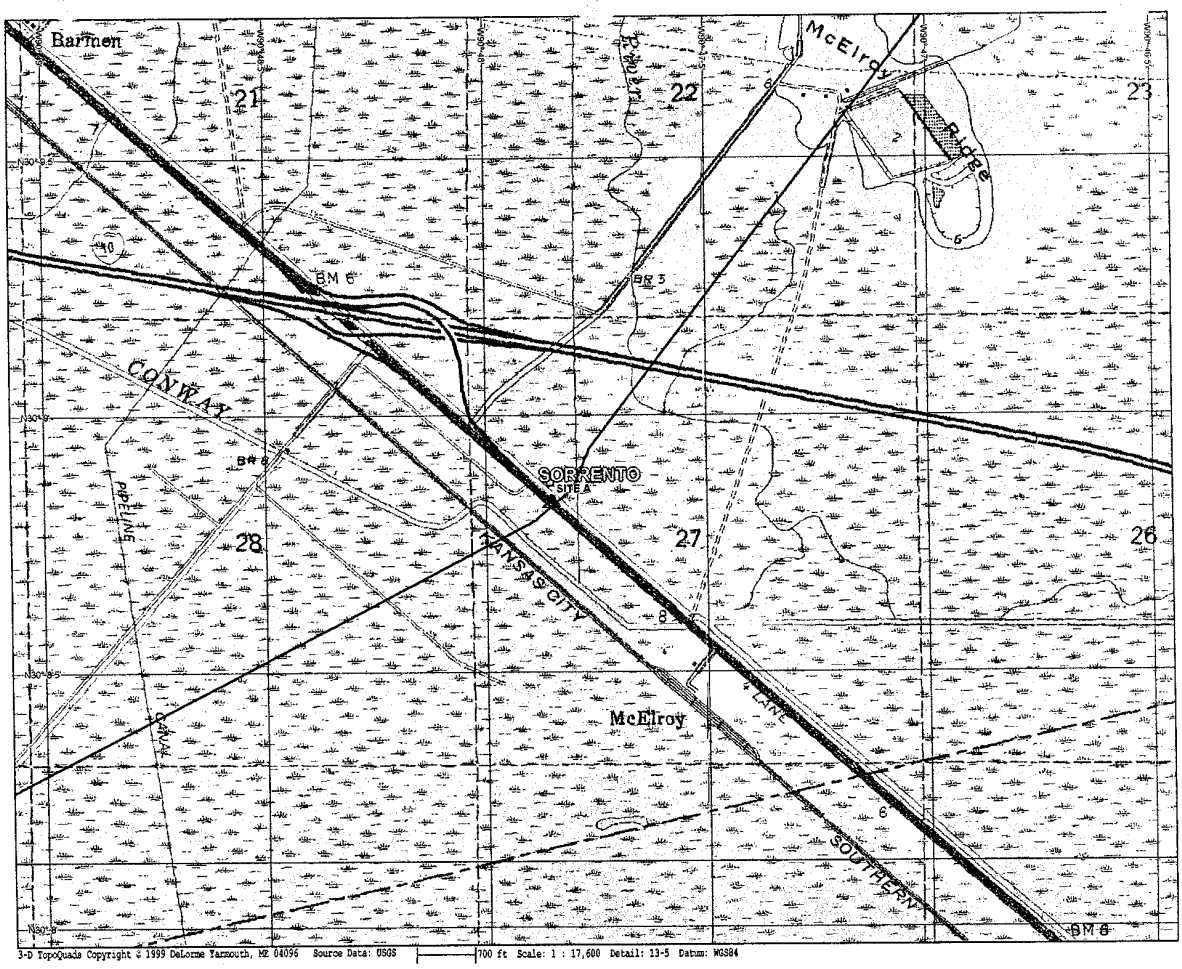
Recommended Response Activity:

- Passive remediation to no cleanup recommended in light to moderate accumulations. This will include placement of absorbent materials around the impacted area in order to remove the Natural Gasoline as it is slowly released.
- In larger accumulations, strategic booming methods may be highly effective in trapping accumulations of Natural Gasoline that can be reclaimed through the use of skimmers and vacuums.
- In all circumstances, special attention must be paid to the impact response personnel and equipment will potentially have on the area they are attempting to mitigate. As light an impact as possible must be made by these resources as they are attempting to mitigate the incident. Any clean-up method used on an actual incident should be decided upon in conjunction with the Federal On-Scene Coordinator.

Impact Distances:

Due to the isolation of the Sorrento swamp area, the distance the spilled product will potentially travel will be less than the standard 15 miles described by the federal environmental code. Additionally, the likelihood of a spill in this area reaching the closest navigable waterway, Bayou Conway, is remote.

Sorrento Swamp Area


Barmen
21
22
23
McElroy Ridge
BM 6
BM 5
CONWAY
SORRENTO
SITE A
28
27
26
TRANSCITY
McElroy
SOUTHERN
BM 8
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
700 ft Scale: 1 : 17,600 Detail: 13-5 Datum: WGS84

Site B- Mississippi River

At this site, the pipeline crosses the Mississippi River just north of the Louisiana Hwy 70 bridge known as the Sunshine Bridge. The coordinates for this site are (b) (7)(F), (b) (3) [redacted]

Spoil Bank/Batcher:
The U.S. Army Corp of Engineers maintains an extensive levee system around the Mississippi River. Because of this levee system, spills occurring in the river have limited environmental impact beyond the impact to the spoil bank/batcher area. The height of impact along the banks of the river will depend upon the water level of the river at the time of the incident.

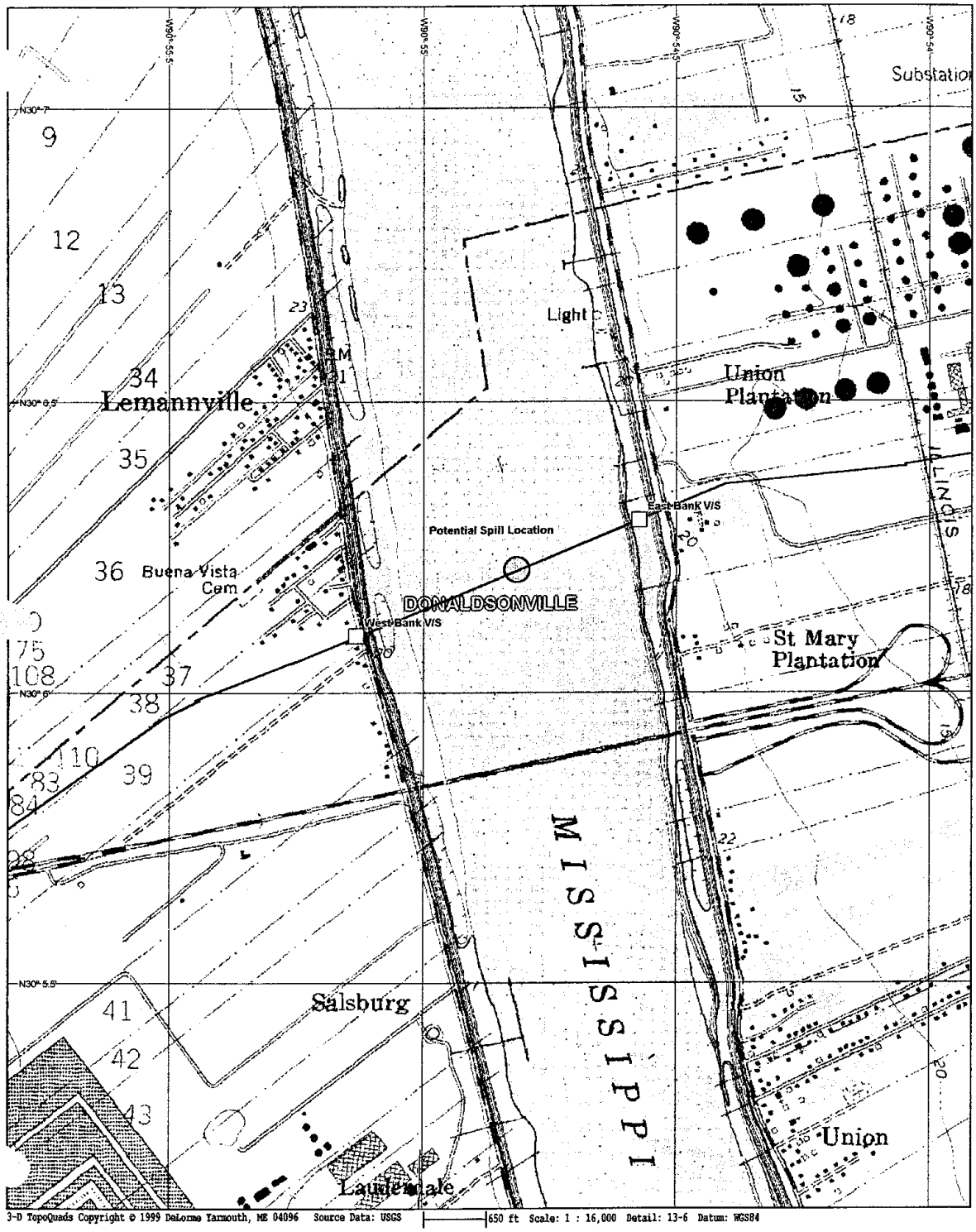
Predicted Natural Gasoline Impact:
As mentioned above, the height of impact of Natural Gasoline will be determined by the water level in the river at the time of impact. Because of the strong flow of the river, the Natural Gasoline slick may be stretched over many miles of bank area. Typically, the Natural Gasoline will accumulate in the bends south of the spill site where the current slows slightly. The most significant impacts can be expected in these areas.

Recommended Response Activity:
Spills directly into the Mississippi River require substantial resources to mitigate the incident. In many cases, containment boom can be deployed in the river bends to trap accumulated products against the banks to be removed by skimmer systems.

In areas where the banks have been impacted, pressure washing of the bank may be required to remove traces of the spilled product. This is to be done only when deemed necessary by the Federal On-Scene Coordinator.

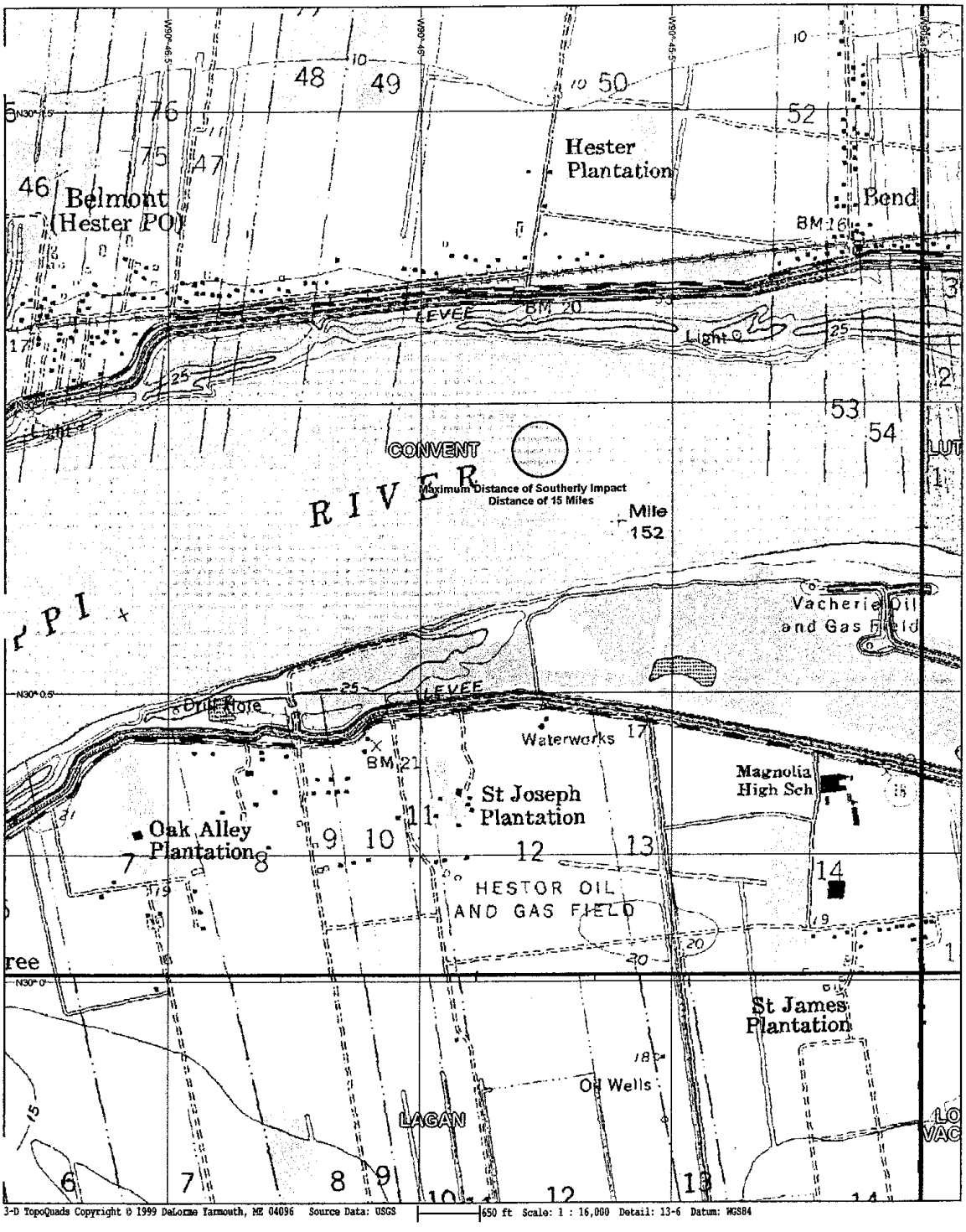
Impact Distances:
Due to the significant flow of the Mississippi River, there is no northerly impact component to consider. The standard 15 mile impact distance to the south puts the maximum impact distance at mile marker 152 near Oak Alley Plantation. This location is illustrated on the maps following this page.

Mississippi River Crossing


Substation
Light
Union Plantation
Lemannville
Potential Spill Location
East Bank V/S
West Bank V/S
DONALDSONVILLE
Buena Vista Cem
St Mary Plantation
MISSISSIPPI
Salsburg
Lauderdale
Union
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
650 ft Scale: 1 : 16,000 Detail: 13-6 Datum: WGS84

(b) (7)(F), (b) (3)

[redacted]


Hester Plantation
Belmont (Hester PO)
Bend
BM 16
LEVEE
BM 20
Light
CONVENT
RIVER
Maximum Distance of Southerly Impact Distance of 15 Miles
Mile 152
Vacherie Oil and Gas Field
Drill Hole
Waterworks
BM 21
St Joseph Plantation
Magnolia High Sch
Oak Alley Plantation
HESTOR OIL AND GAS FIELD
St James Plantation
Oil Wells
LAGAN
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
650 ft Scale: 1 : 16,000 Detail: 13-6 Datum: WGS84

Site C- Bayou Lafourche

At this site, the pipeline crosses Bayou Lafourche. The coordinates for this site are (b) (7)(F), (b) (3) [redacted]

Spoil Bank/Batcher:
A levee system exists for much of the length of Bayou Lafourche. Because of this levee system, spills occurring in Bayou Lafourche at this site will have little impact beyond its banks. Further along the river, many canals and other outlets exist off of Bayou Lafourche that may potentially be impacted by a spill. These areas including areas of swamp shoreline.

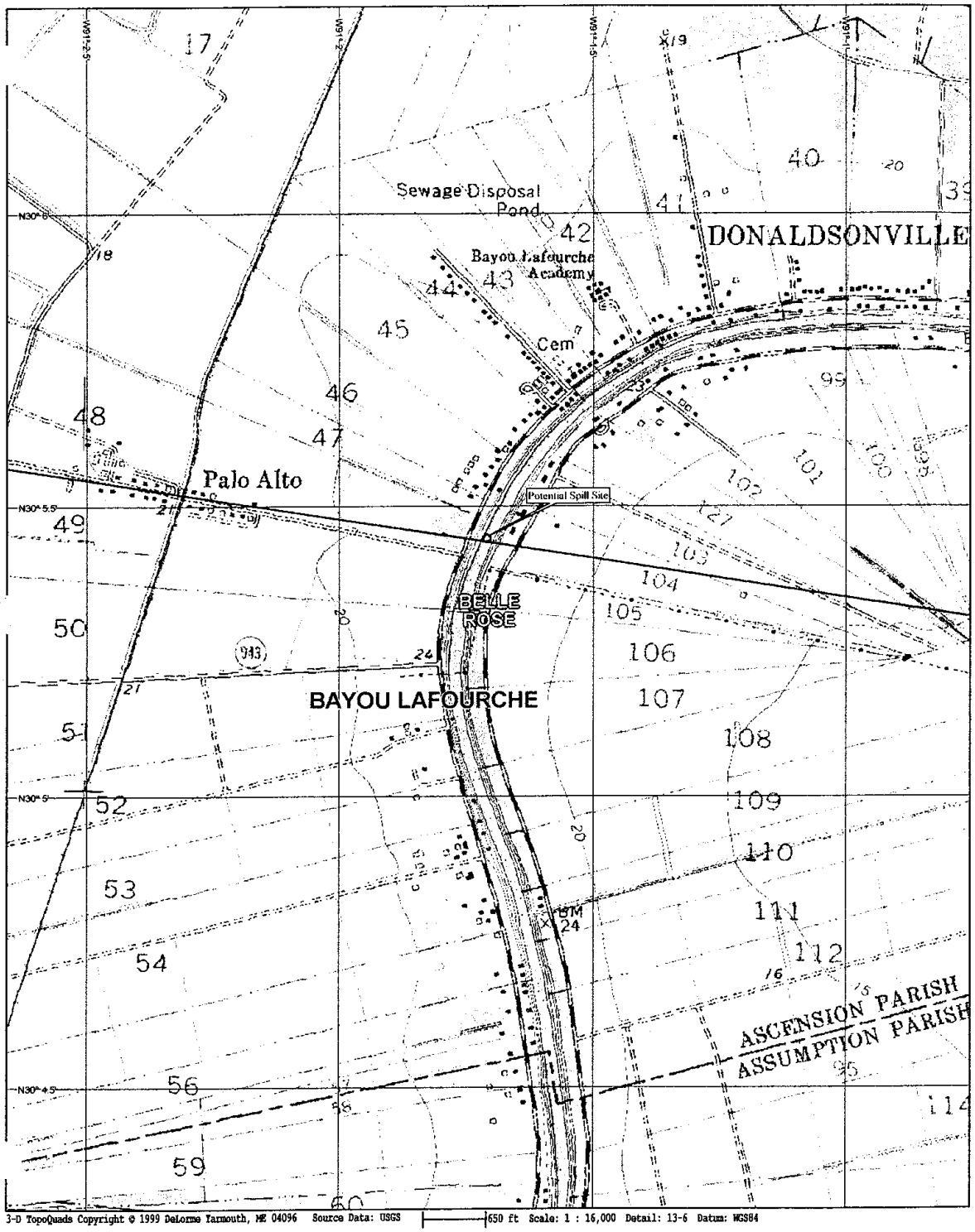
Bayou Lafourche is home to many species of plants and animals typical of southern Louisiana bayous and swamp areas. In particular, Bayou Lafourche contains a significant population of freshwater fish species. Some of the predominate species include: large mouth bass, blue catfish, and freshwater drum. Fauna such as the American alligator and various water fowl species can be expected in the swamp areas along the bayou.

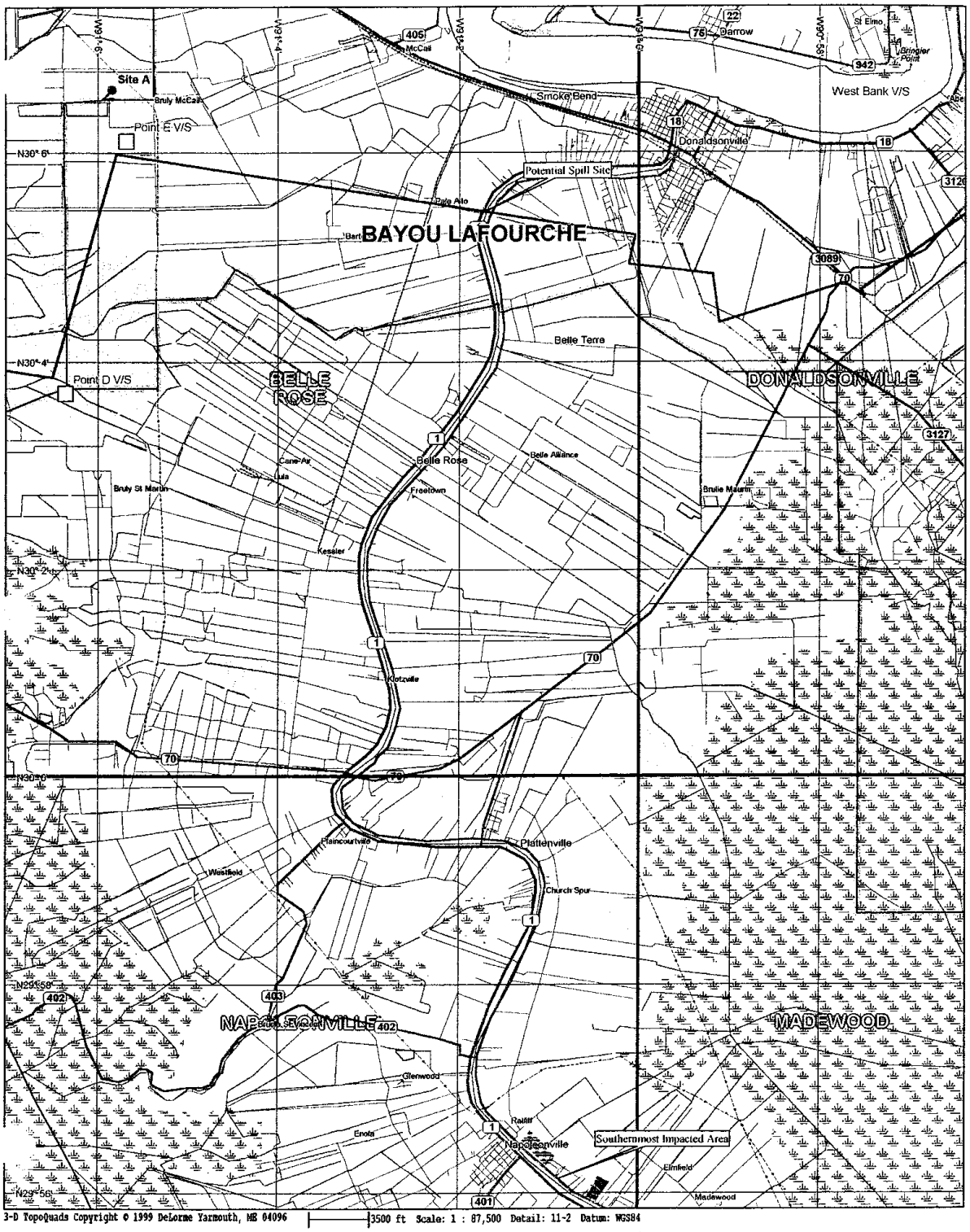
Predicted Natural Gasoline Impact:
Any Natural Gasoline spilled would be expected to impact the banks of Bayou Lafourche. Spills in this area would involve substantial impacts to aquatic vegetation such as the water hyacinth prevalent in the area. Impacts in this region will generate substantial amounts of biotic wastes and possibly result in damage to freshwater fisheries via toxicity and oxygen depletion.

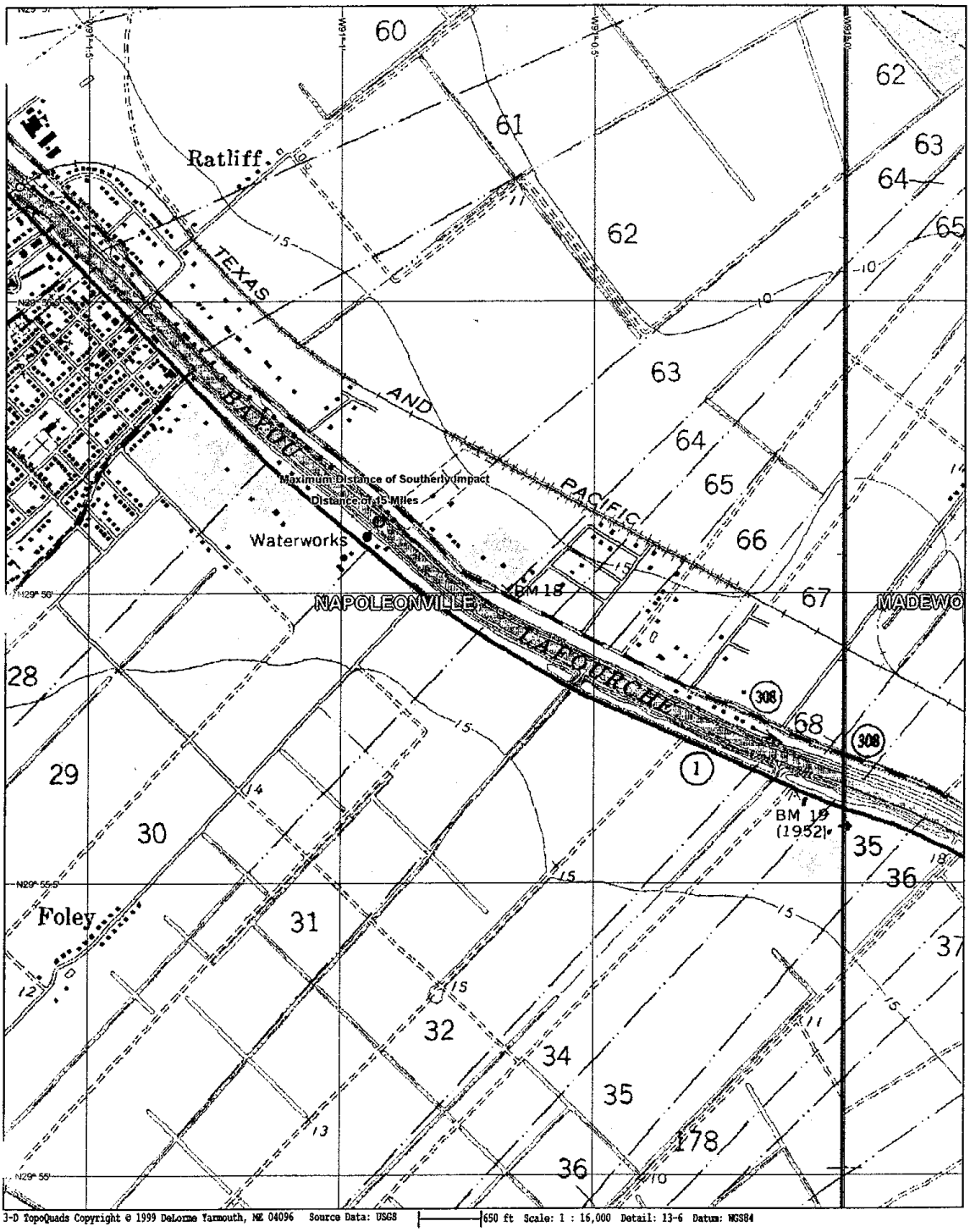
Recommended Response Activity:
Response to incidents in Bayou Lafourche will concentrate on containment and recovery of the product. Flat bottom boats should be used to deploy containment boom in order to confine and contain the incident. Once the spill is sufficiently contained, drum skimmer units can be used to recover the free product in the water. Removal of the impacted vegetation is generally a labor-intensive process in these areas.

Impact Distances:
Because of the flow of Bayou Lafourche, there will normally be no northerly impact distance to consider. Maximum flow to the south will be at the standard (15) mile distance from the site. This area will be near Nepoleonville, LA. This site is demonstrated on the maps following this page.

Bayou Lafourche Crossing


Sewage Disposal Pond
DONALDSONVILLE
Bayou Lafourche Academy
Cem
Palo Alto
Potential Spill Site
BELLE ROSE
BAYOU LAFOURCHE
ASCENSION PARISH
ASSUMPTION PARISH
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
650 ft Scale: 1 : 16,000 Detail: 13-6 Datum: WGS84


Site A
Bruly McCall
Point E V/S
Point D V/S
N30° 6'
N30° 4'
N30° 2'
N30° 0'
N29° 58'
N29° 56'
W91° 5'
W91° 4'
W91° 3'
W90° 58'
W90° 56'
405
McCall
Smoke Bend
22
76
Darrow
St Elmo
Bringier Point
942
West Bank V/S
18
Donaldsonville
Potential Spill Site
Gale Arlo
BAYOU LAFOURCHE
3089
70
Belle Terre
BELLE ROSE
DONALDSONVILLE
3127
Belle Rose
Belle Alliance
Cane Ax
Lula
Bruly St Martin
Freetown
Brulie Maurin
Kessler
1
Kotzville
Plattenville
Paincourtville
Westfield
Church Spur
403
402
NAPOLEONVILLE
MADEWOOD
Glenwood
Enola
Raillir
Napoleonville
Southernmost Impacted Area
Elmfield
Madewood
401
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096
3500 ft Scale: 1 : 87,500 Detail: 11-2 Datum: WGS84


Ratliff
TEXAS
AND
PACIFIC
Maximum Distance of Southerly Impact
Distance of 15 Miles
Waterworks
BM 18
NAPOLEONVILLE
LAFOURCHE
MADEWO
BM 19
(1952)
Foley
60
61
62
63
64
65
66
67
68
28
29
30
31
32
34
35
36
37
178
308
1
N29° 56'
N29° 55'
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
650 ft Scale: 1 : 16,000 Detail: 13-6 Datum: WGS84

Site D- Grand Bayou

This site is located where the pipeline crosses Grand Bayou approximately 100 ft to the east of Louisiana Hwy 69. The coordinates of this site are (b) (7)(F), (b) (3) [redacted]

Spoil Bank/Batcher:
No levee system exists for Grand Bayou, so spills at this site have a potential for affecting the swamp areas that exist on either side of the bayou.

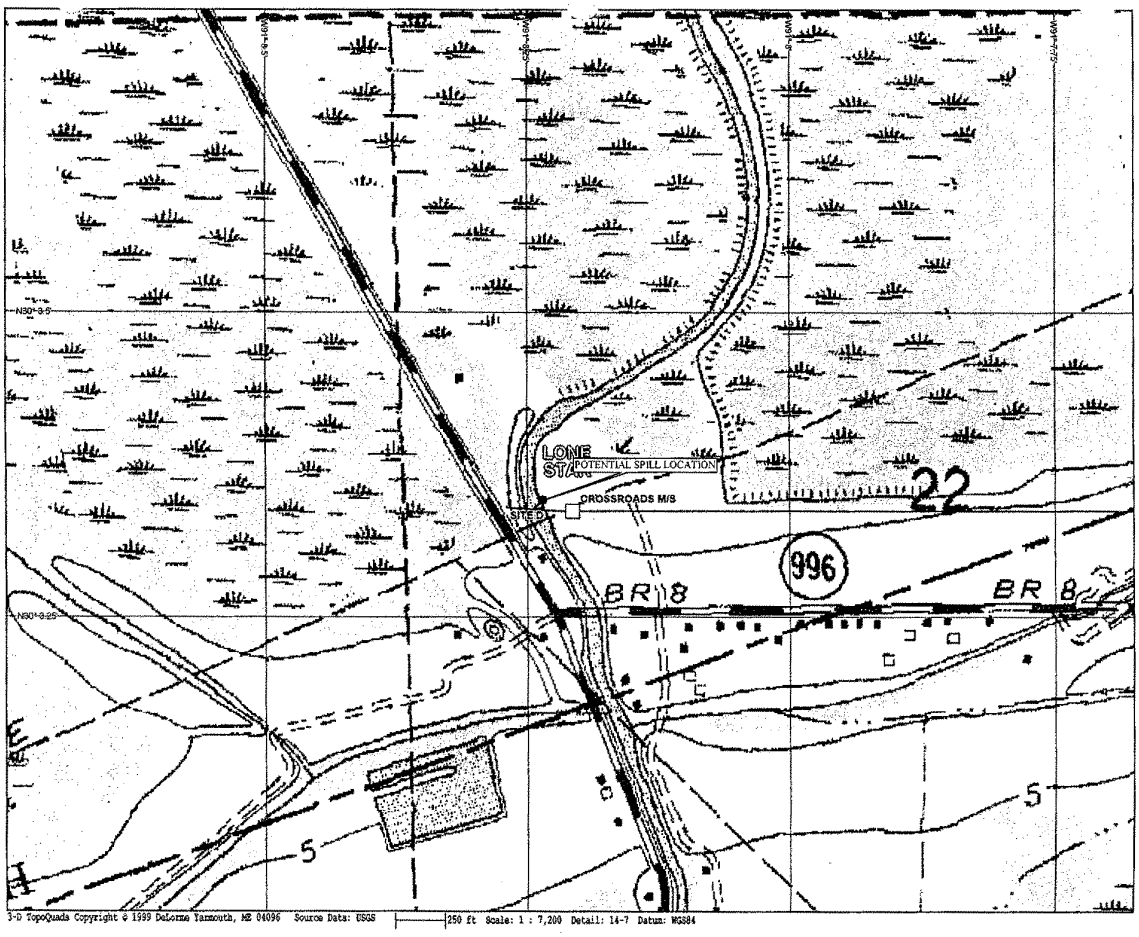
Grand Bayou is home to many species of plants and animals typical of southern Louisiana bayous and swamp areas. In particular, Grand Bayou contains a significant population of freshwater fish species. Some of the predominate species include: large mouth bass, blue catfish, and freshwater drum. Fauna such as the American alligator and various water fowl can be expected in the swamp areas along the bayou.

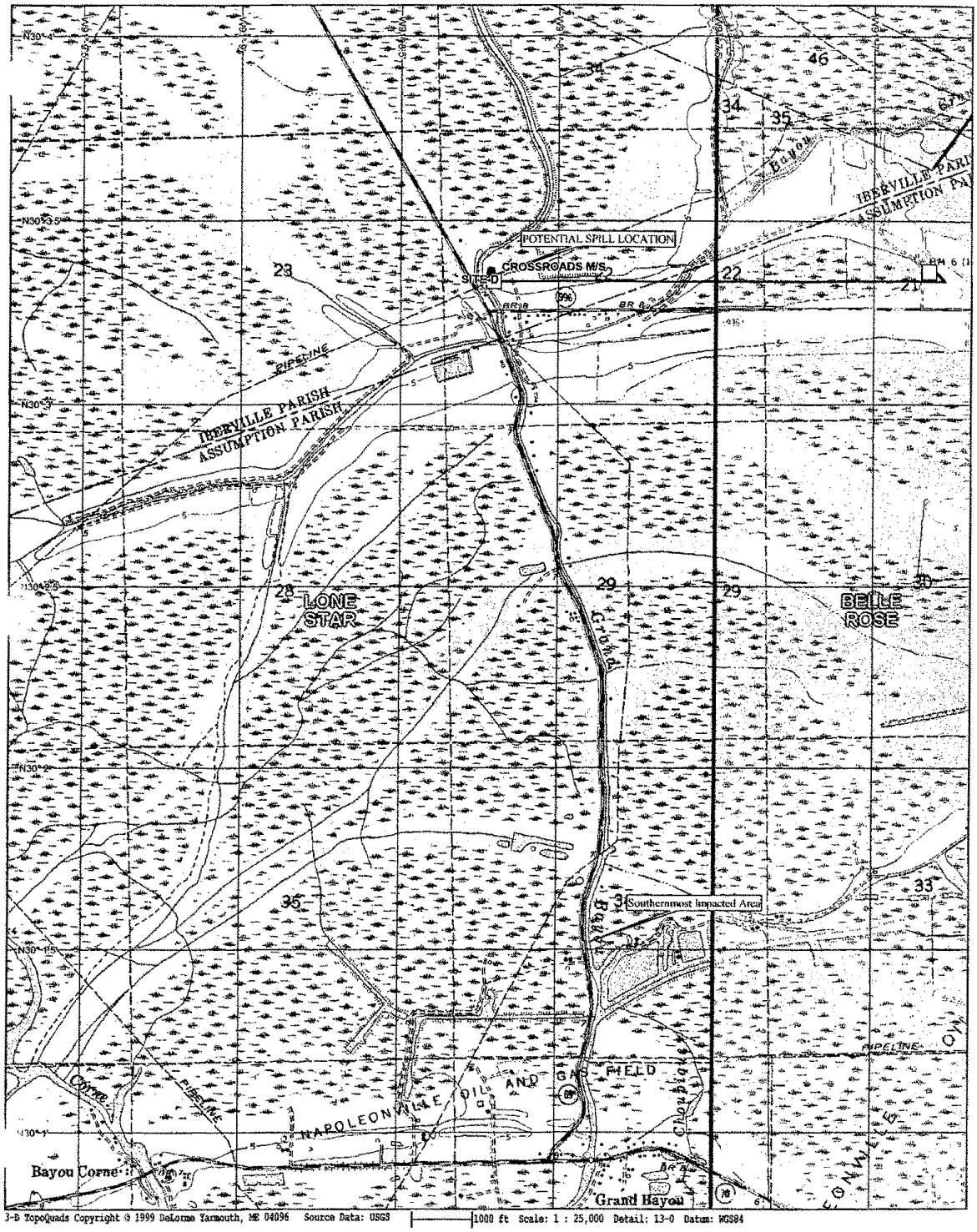
Predicted Natural Gasoline Impact:
Any Natural Gasoline spilled would be expected to impact the banks of Grand Bayou. Spills in this area would involve substantial impacts to aquatic vegetation such as the water hyacinth prevalent in the area. Impacts in this region will generate substantial amounts of biotic wastes and possibly result in damage to freshwater fisheries via toxicity and oxygen depletion.

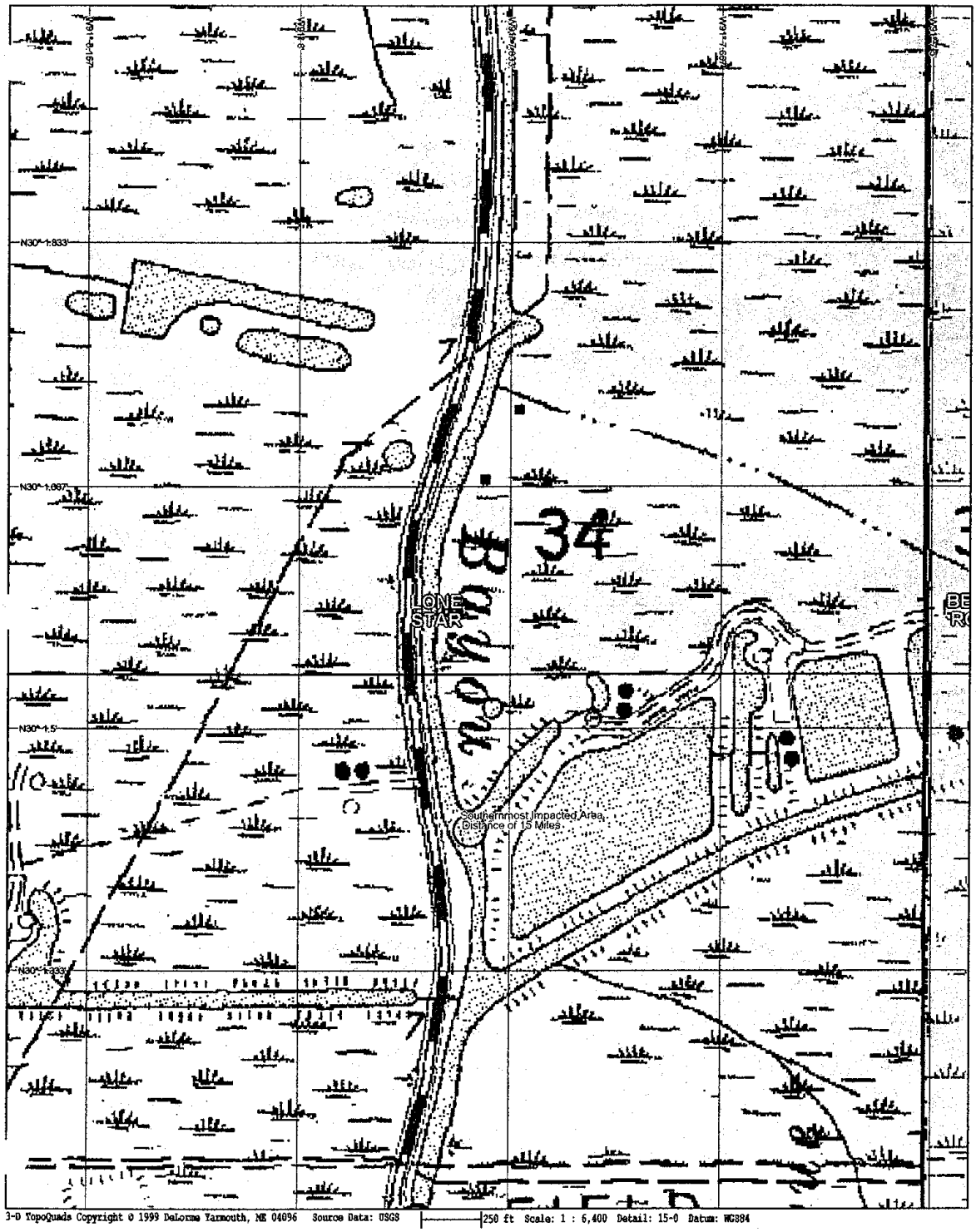
Recommended Response Activity:
Response to incidents in Grand Bayou will concentrate on containment and recovery of the product. Flat bottom boats should be used to deploy containment boom in order to confine and contain the incident. Once the spill is sufficiently contained, drum skimmer units can be used to recover the free product in the water. Removal of the impacted vegetation is generally a labor-intensive process in these areas.

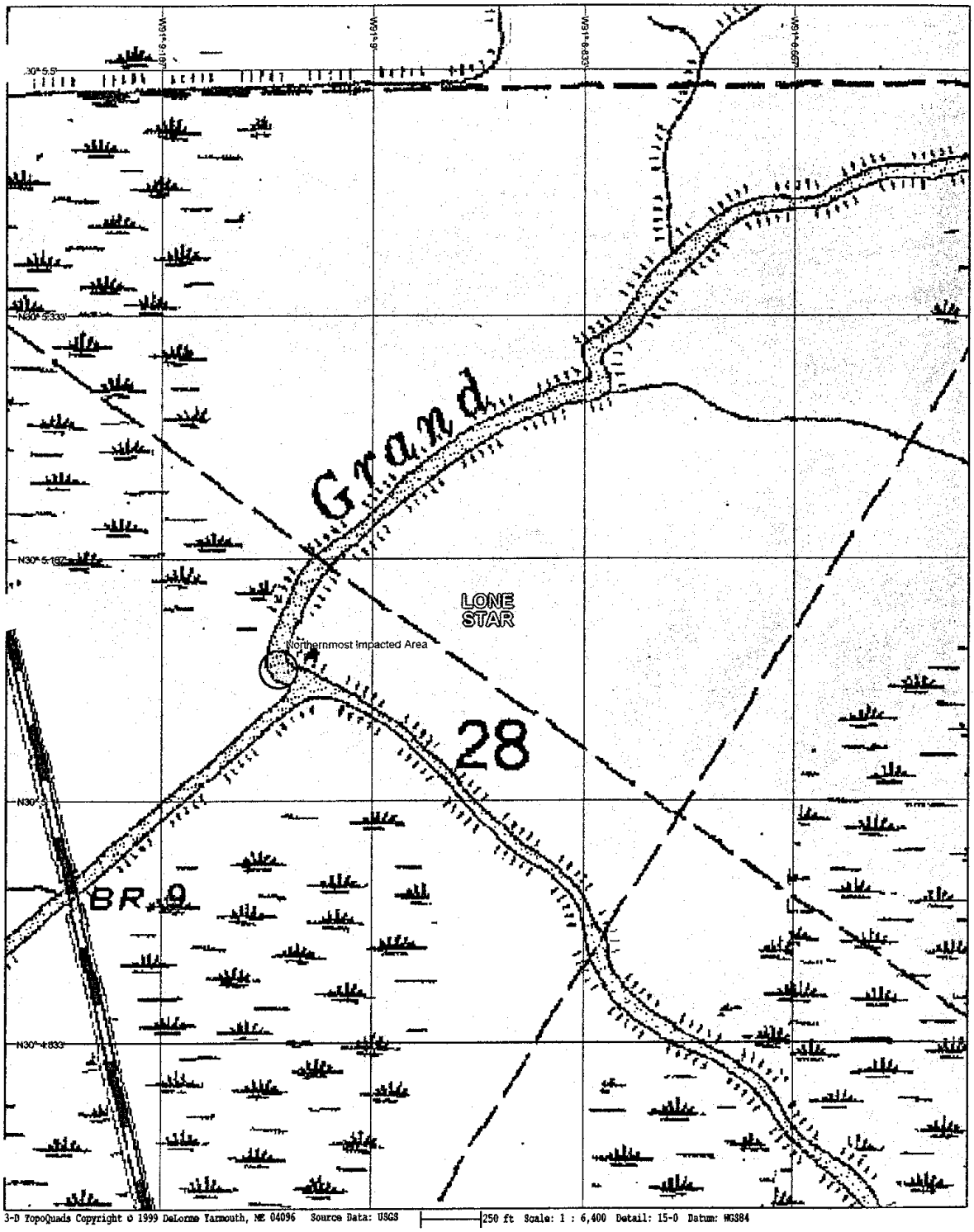
Impact Distances:
Due to the weak flow of water within Grand Bayou, spills in the area can be expected to have the potential for both a northerly and southerly area of impact. The southernmost impacted area has been calculated at a distance of 15 miles and is located near the Napoleonville Oil and Gas Field. To the north, the impact is less than the standard 15 miles due to a substantial bend in Grand Bayou that would be a natural collection spot for any product moving northerly. These locations are indicated on the maps following this page.

Grand Bayou Crossing


LONE
POTENTIAL SPILL LOCATION
CROSSROADS M/S
SITE D
22
996
BR 8
BR 8
5
5
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
250 ft Scale: 1 : 7,200 Detail: 14-7 Datum: WGS84


POTENTIAL SPILL LOCATION
CROSSROADS M/S
SITE-D
IBERVILLE PARISH
ASSUMPTION PARISH
PIPELINE
LONE STAR
BELLE ROSE
Southernmost Impacted Area
NAPOLEONVILLE OIL AND GAS FIELD
Bayou Corne
Grand Bayou
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
1000 ft Scale: 1 : 25,000 Detail: 13-0 Datum: WGS84

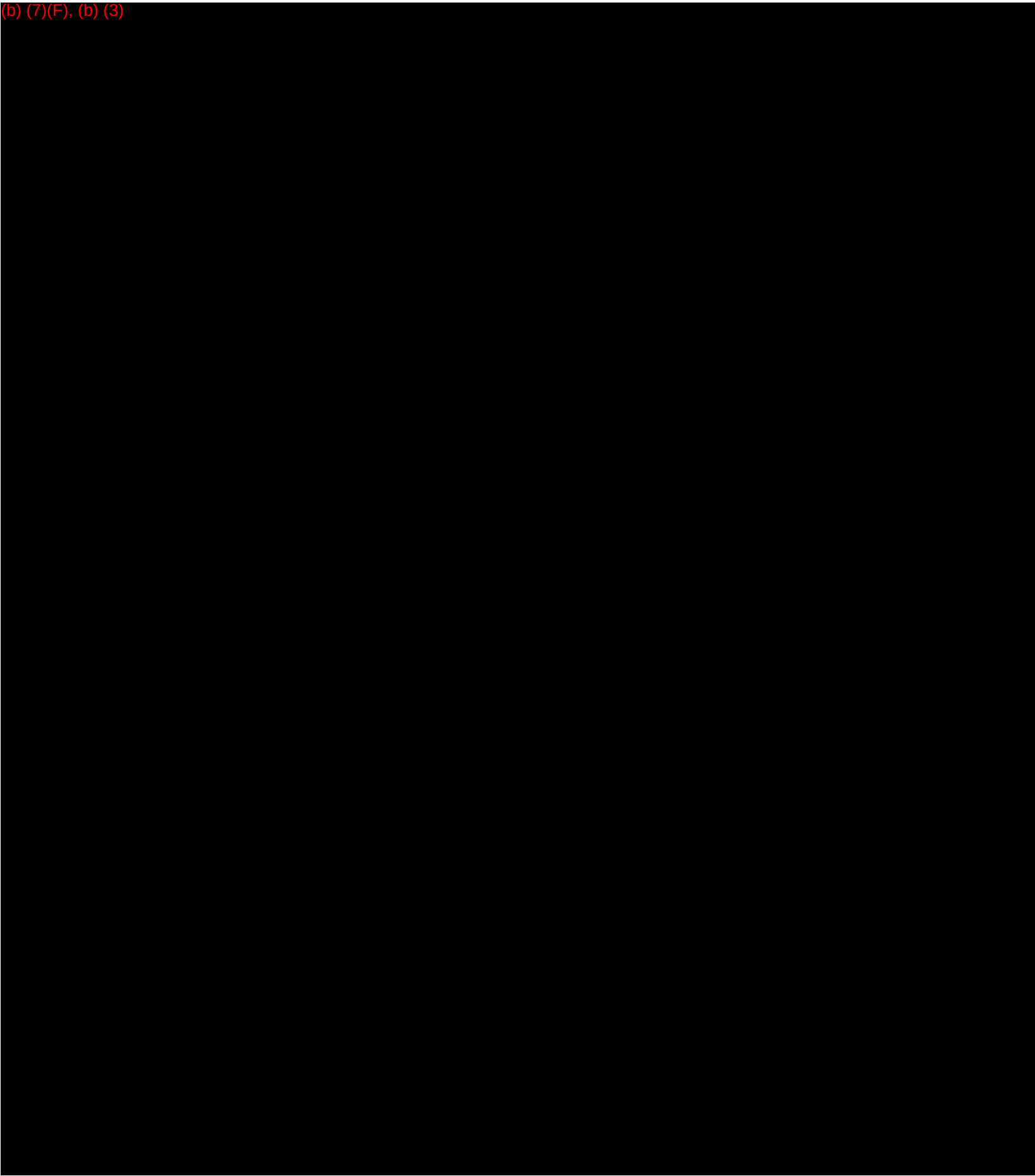

W91°5'0"
W91°4'30"
W91°4'0"
W91°3'30"
N30°1'30"
N30°1'0"
N30°0'30"
34
LONE STAR
Southernmost Impacted Area
Distance of 15 Miles
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
250 ft Scale: 1 : 6,400 Detail: 15-0 Datum: WGS84


Grand
LONE
STAR
Northernmost Impacted Area
28
BR 9
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
250 ft Scale: 1 : 6,400 Detail: 15-0 Datum: WGS84

Primary Economically Sensitive Areas	
Site Location	**Description**
LA Hwy 308/ Bayou Lafourche/ LA Hwy 1 Crossing	The pipeline crosses Bayou Lafourche and the two highways just north of Belle Terre
Texas and Pacific Railroad Crossing	The pipeline crosses the T&P Railroad near Palo Alto and again near Donaldsonville
LA Hwy 18/ Mississippi River/ LA Hwy 44 Crossing	The pipeline crosses the Mississippi River and the two highways near Salsberg
Missouri Pacific Railroad Crossing	The pipeline crosses the Missouri Pacific near Lemanville
Louisiana and Pacific Railroad Crossing	The pipeline crosses the L&P near the crossing of Interstate 10 and LA Hwy 61
LA Hwy 61 Crossing	The pipeline crosses LA Hwy 61 near the crossing of LA Hwy 61 and Interstate 10
Interstate 10 Crossing	The pipeline crosses Interstate 10 near the crossing of LA Hwy 61 and Interstate 10
LA Hwy 70 Crossing	The pipeline crosses LA Hwy 70 just past the Promix M/S in route to the inactive UCAR connection

Water Intakes Potentially Affected By Spills From This Pipeline Segment

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

[redacted]

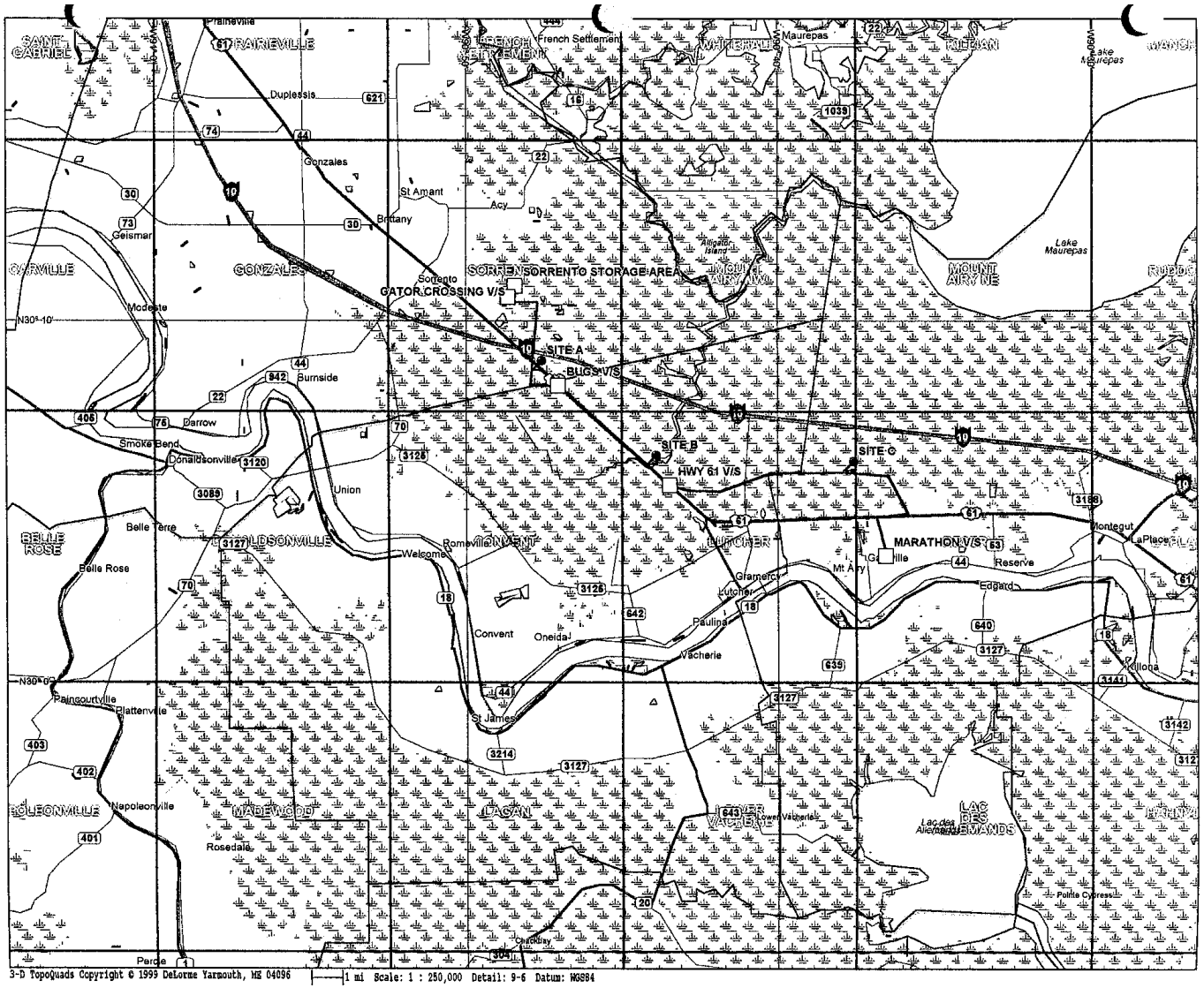
(b) (7)(F), (b) (3)

[redacted]

Response Area 2 SS-01B-Sorrento to Marathon V/S, 6" Natural Gasoline Pipeline

Environmental Sensitivity
The SS-O1B pipeline crosses several types of ecological areas as it spans from the (b) (3), (b) (7)(F) These areas range from developed upland to cypress tupelo swamp areas. This pipeline section also includes (2) significant water crossings. These are the Blind River and the Hope Canal. Three areas of concern have been identified in this response zone. They are detailed individually in the following sections and are identified on the map on the following page.

Primary Environmentally Sensitive Areas	
Site A	Sorrento Wetland Area
Site B	Blind River
Site C	Hope Canal


SAINT GABRIEL
RAINEVILLE
Duplessis
Gonzales
St Amant
Brittany
Acy
Geismar
GARVILLE
GONZALES
Sorrento
GATOR CROSSING V/S
SORRENTO STORAGE AREA
Modeste
SITE A
BUGS V/S
Burnside
Darrow
Smoke Bend
Donaldsonville
SITE B
HWY 61 V/S
SITE C
Union
Belle Terre
BELLE ROSE
Belle Rose
DONALDSONVILLE
Romeville
CONVENT
Welcome
Convent
Oneida
Paulina
Vacherie
St James
Gramercy
Lutcher
Edgard
MARATHON V/S
Reserve
Montegut
LaPlace
Killona
Paincourtville
Plattenville
Napoleonville
EDGEONVILLE
MADEWOOD
LAGAN
Rosedale
Pierre
French Settlement
Maurepas
Lake Maurepas
MOUNT AIRY NE
Alligator Island
Lac des Allemands
LAC DES ALLEMANDS
Pointe Cyprees
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096
1 mi Scale: 1 : 250,000 Detail: 9-6 Datum: WGS84

Site A- The Sorrento Swamp Area

This site is a freshwater cypress/tupelo swamp area located immediately to the east and west of where the pipeline crosses Louisiana Hwy 61. The site coordinates of this area are (b) (7)(F), (b) (3) [redacted]

The Environmental Sensitivity Index, produced by RPI International, Inc., describes the area as follows:

Swamp:

- A freshwater wetland having varying water depths with vegetation ranging from shrubs and scrubs to poorly drained forested wetlands. Major vegetative types include Bald Cypress, Tupelo, and Black Willow.
- Alligators, many types of birds, and mammals use swamp areas during feeding and breeding activities.

Predicted Natural Gasoline Impact:

- Small amounts of spilled Natural Gasoline can spread throughout the swamp area to a limited extent.
- Large spills will cover more area and can persist since water flushing rates are very low
- Natural Gasoline will adhere to swamp vegetation.
- During wet cycles, the roots of the swamp forest trees are not exposed; thus, a lesser degree of impact to the trees is expected. Any underbrush vegetation would be more severely impacted.

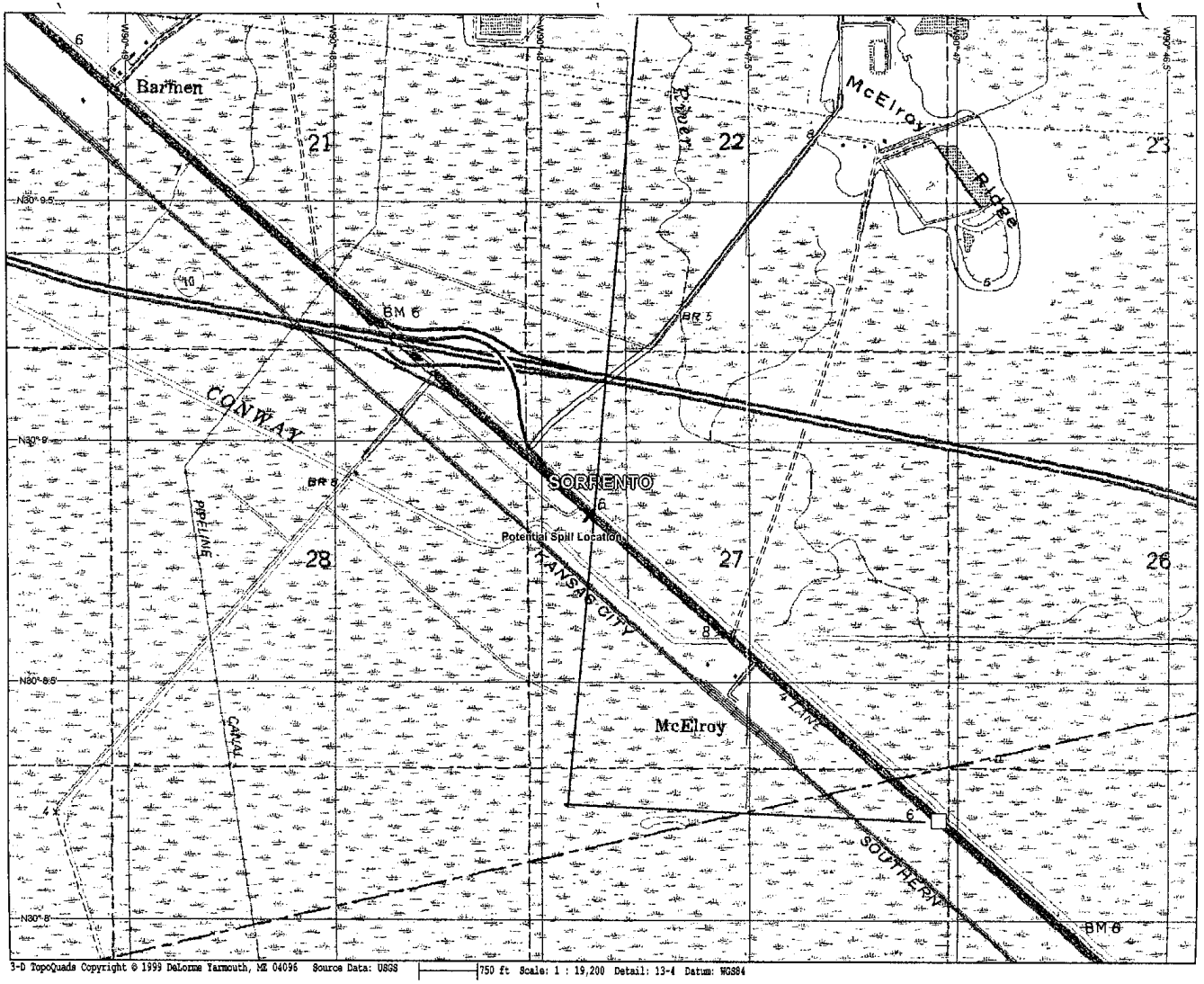
Recommended Response Activity:

- Passive remediation to no cleanup recommended in light to moderate accumulations. This will include placement of absorbent materials around the impacted area in order to remove the Natural Gasoline as it is slowly released.
- In larger accumulations, strategic booming methods may be highly effective in trapping accumulations of Natural Gasoline that can be reclaimed through the use of skimmers and vacuums.
- In all circumstances, special attention must be paid to the impact response personnel and equipment will potentially have on the area they are attempting to mitigate. As light an impact as possible must be made by these resources as they are attempting to mitigate the incident. Any clean-up method used on an actual incident should be decided upon in conjunction with the Federal On-Scene Coordinator.

Impact Distances:

Due to the isolation of the Sorrento swamp area, the distance the spilled product will potentially travel will be less than the standard 15 miles described by the federal environmental code. Additionally, the likelihood of a spill in this area reaching the closest navigable waterway, Bayou Conway, is remote.

Sorrento Swamp Area


Barmen
McElroy
Ridge
BM 6
CONLEY
SORRENTO
Potential Spill Locations
PIPELINE
CANAL
KANSAS CITY
McElroy
SOUTHERN
BM 8
21
22
23
27
28
26
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
750 ft Scale: 1 : 19,200 Detail: 13-4 Datum: WGS84

Site B - Blind River

This site is located where the pipeline crosses Blind River approximately 200 ft to the west of Louisiana Hwy 61. The coordinates of this site are (b) (7)(F), (b) (3)

Spoil Bank/Batcher:
No levee system exists for Blind River, so spills at this site have a potential for affecting the swamp areas that exist on either side of the river as well as the aquatic vegetation present in Blind River.

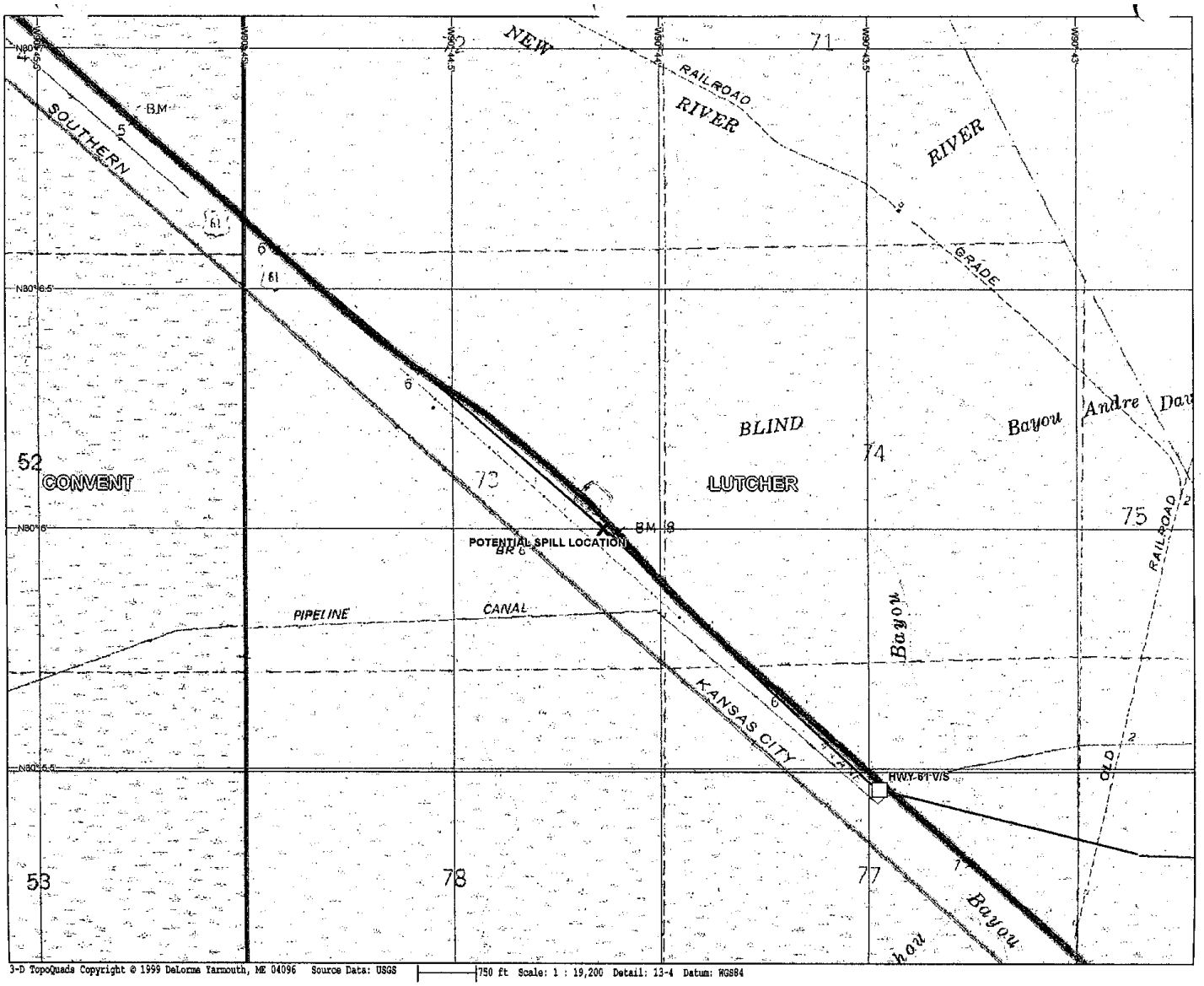
Blind River is home to many species of plants and animals typical of southern Louisiana bayous and swamp areas. In particular, Blind River contains a significant population of freshwater fish species. Some of the predominate species include: large mouth bass, blue catfish, and freshwater drum. Fauna such as the American alligator and various water fowl can be expected in the swamp areas along the bayou.

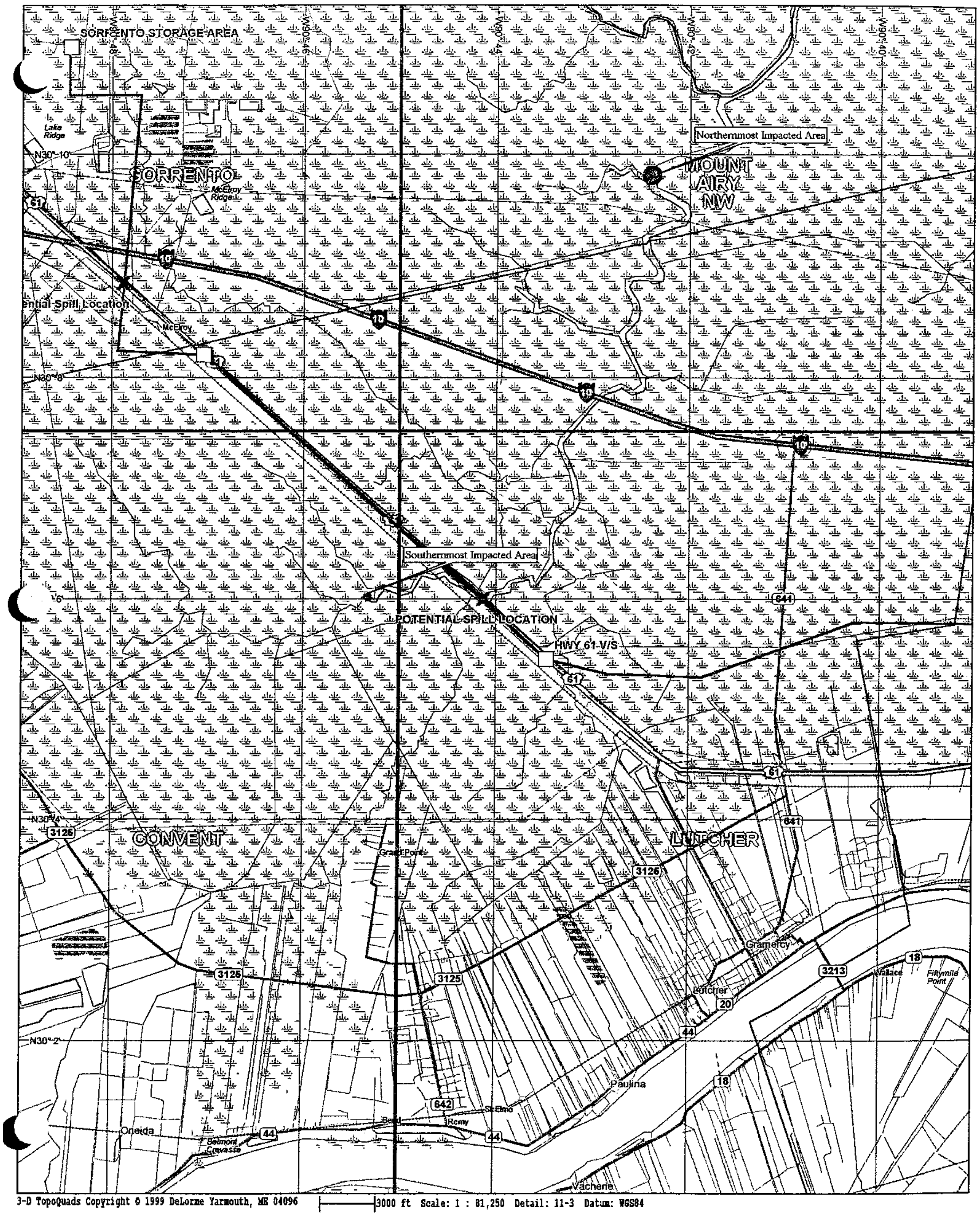
Predicted Natural Gasoline Impact:
Any Natural Gasoline spilled would be expected to impact the banks of Blind River. Spills in this area would involve substantial impacts to aquatic vegetation such as the water hyacinth prevalent in the area. Impacts in this region will generate substantial amounts of biotic wastes and possibly result in damage to freshwater fisheries via toxicity and oxygen depletion.

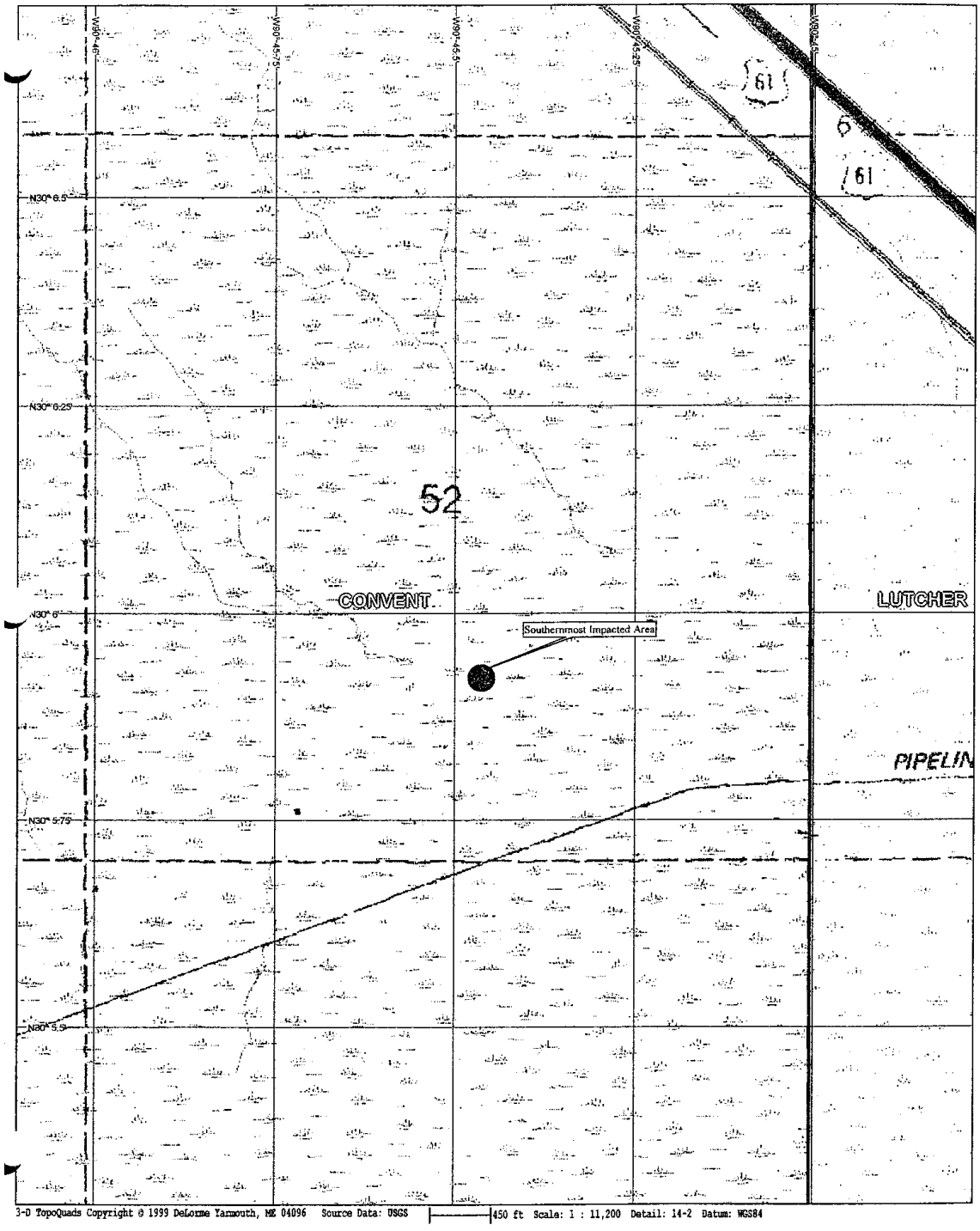
Recommended Response Activity:
Response to incidents in Blind River will concentrate on containment and recovery of the product. Flat bottom boats should be used to deploy containment boom in order to confine and contain the incident. Once the spill is sufficiently contained, drum skimmer units can be used to recover the free product in the water. Removal of the impacted vegetation is generally a labor-intensive process in these areas.

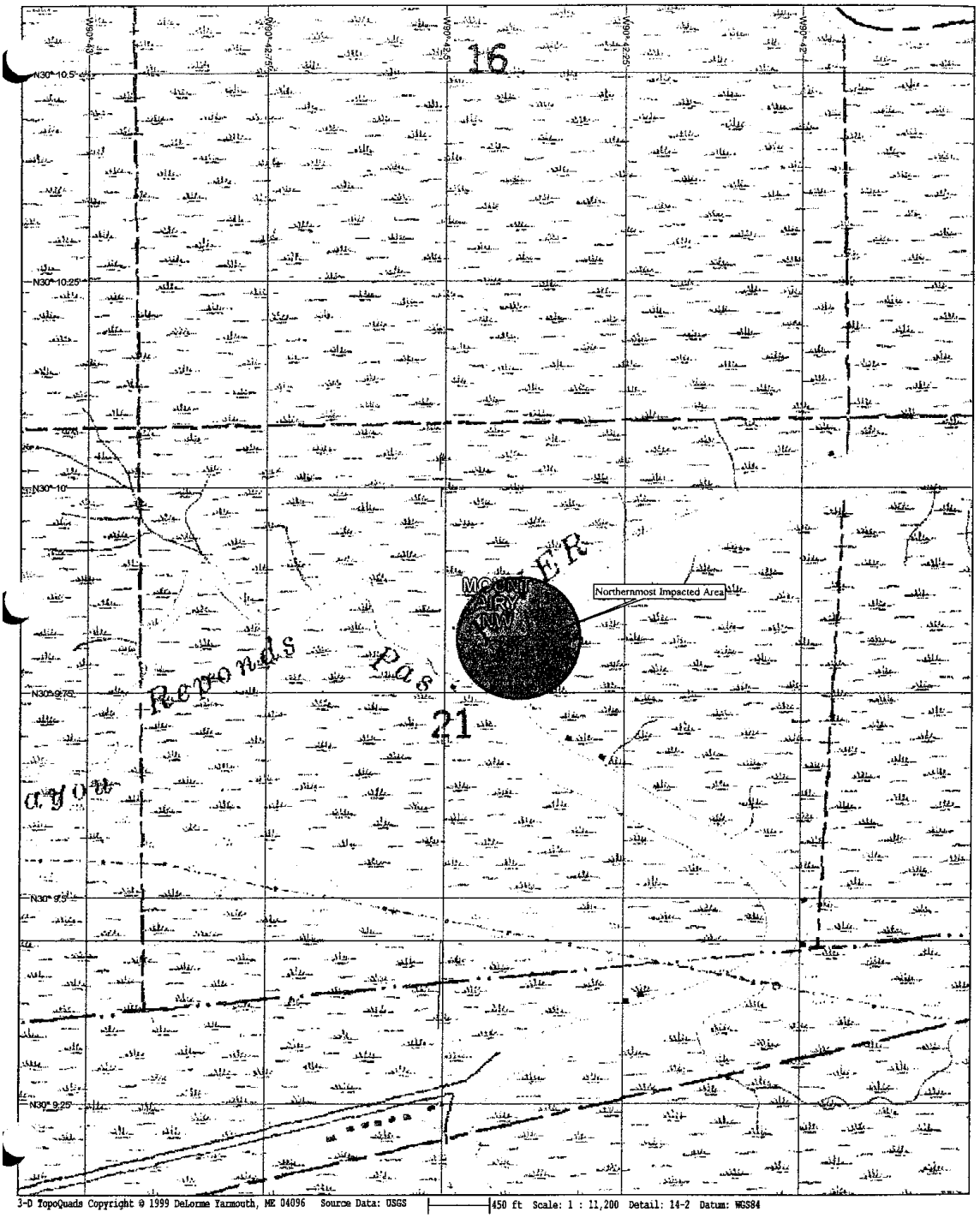
Impact Distances:
Due to the weak flow of water within Blind River, spills in the area can be expected to have the potential for both a northerly and southerly area of impact. The southernmost impacted area has been calculated at a distance of approximately 7 miles due to the significant bends in the river. To the north, the impact is less than the standard 15 miles due to the substantial bend in Blind River at Bayou Reponds Pass that would be a natural collection spot for any product moving northerly. These locations are indicated on the maps following this page.

Blind River Crossing


NEW
RAILROAD
RIVER
RIVER
SOUTHERN
BM
GRADE
BLIND
Bayou
Andre Dav
52
CONVENT
73
74
LUTCHER
75
POTENTIAL SPILL LOCATION
BM
PIPELINE
CANAL
Bayou
KANSAS CITY
HWY-61-V/S
OLD
RAILROAD
53
78
77
Bayou
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
750 ft Scale: 1 : 19,200 Detail: 13-4 Datum: WGS84


SORRENTO STORAGE AREA
Northernmost Impacted Area
SORRENTO
MOUNT AIRY NW
Potential Spill Location
Southernmost Impacted Area
POTENTIAL SPILL LOCATION
HWY 61 V/S
CONVENT
LUTCHER
Gramercy
Paulina
Oneida
Vacherie
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 3000 ft Scale: 1 : 81,250 Detail: 11-3 Datum: WGS84


W90° 46'
W90° 45.75'
W90° 45.5'
W90° 45.25'
W90° 45'
61
6
61
N30° 6.5'
N30° 6.25'
52
CONVENT
LUTCHER
N30° 6'
Southernmost Impacted Area
PIPELIN
N30° 5.75'
N30° 5.5'
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
450 ft Scale: 1 : 11,200 Detail: 14-2 Datum: WGS84


Northernmost Impacted Area
16
21
N30° 10.5'
N30° 10.25'
N30° 10'
N30° 9.75'
N30° 9.5'
N30° 9.25'
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
450 ft Scale: 1 : 11,200 Detail: 14-2 Datum: WGS84

Site C- Hope Canal

This site is a canal running through a freshwater cypress/tupelo swamp area located to the north of LA Hwy 61. The site coordinates of this area are (b) (7)(F), (b) (3)

The Environmental Sensitivity Index, produced by RPI International, Inc., describes the area as follows:

Swamp:

- A freshwater wetland having varying water depths with vegetation ranging from shrubs and scrubs to poorly drained forested wetlands. Major vegetative types include Bald Cypress, Tupleo, and Black Willow.
- Alligators, many types of birds, and mammals use swamp areas during feeding and breeding activities.

Predicted Natural Gasoline Impact:

- Small amounts of spilled Natural Gasoline can spread throughout the swamp area to a limited extent.
- Large spills will cover more area and can persist since water flushing rates are very low
- Natural Gasoline will adhere to swamp vegetation.
- During wet cycles, the roots of the swamp forest trees are not exposed; thus, a lesser degree of impact to the trees is expected. Any underbrush vegetation would be more severely impacted.

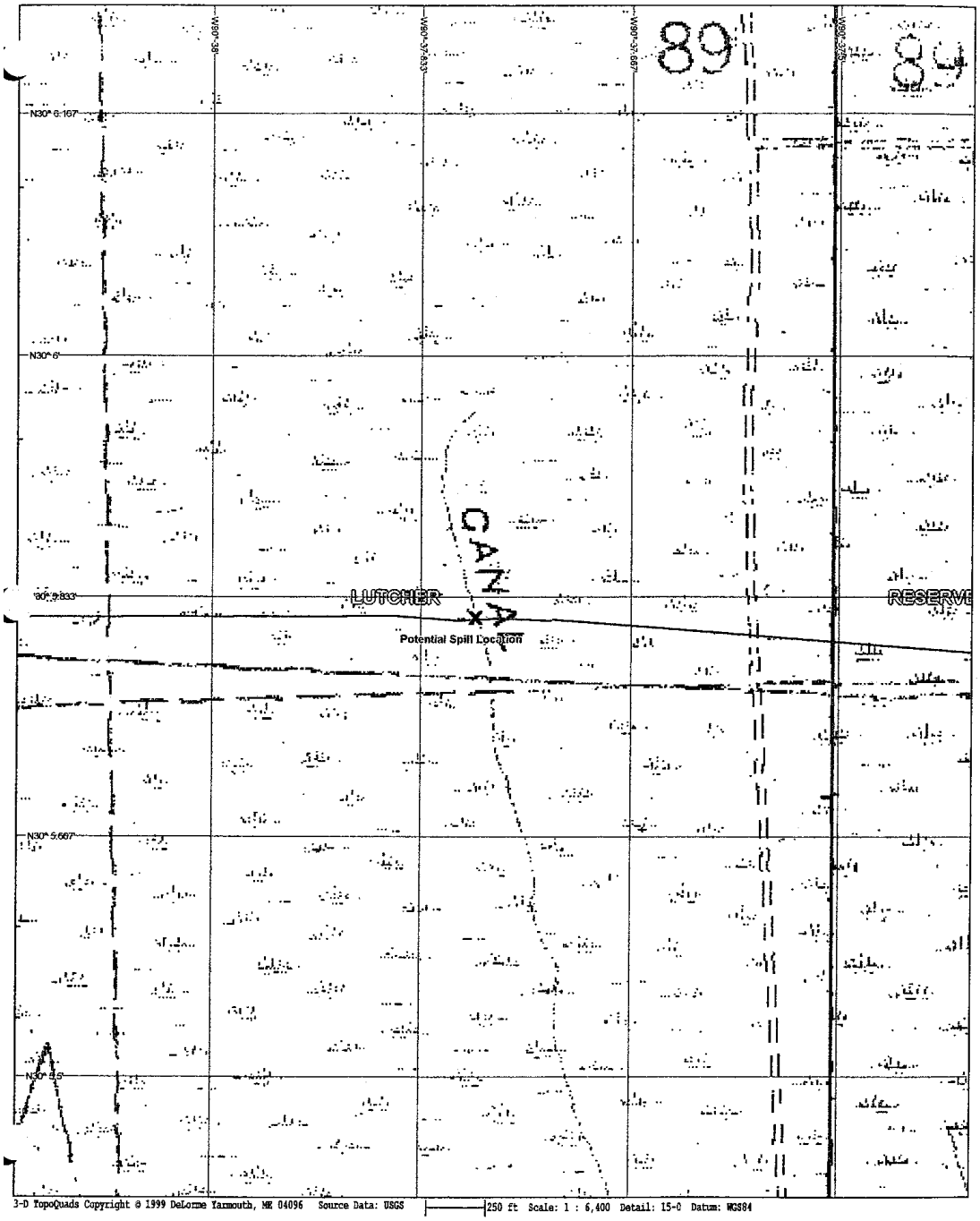
Recommended Response Activity:

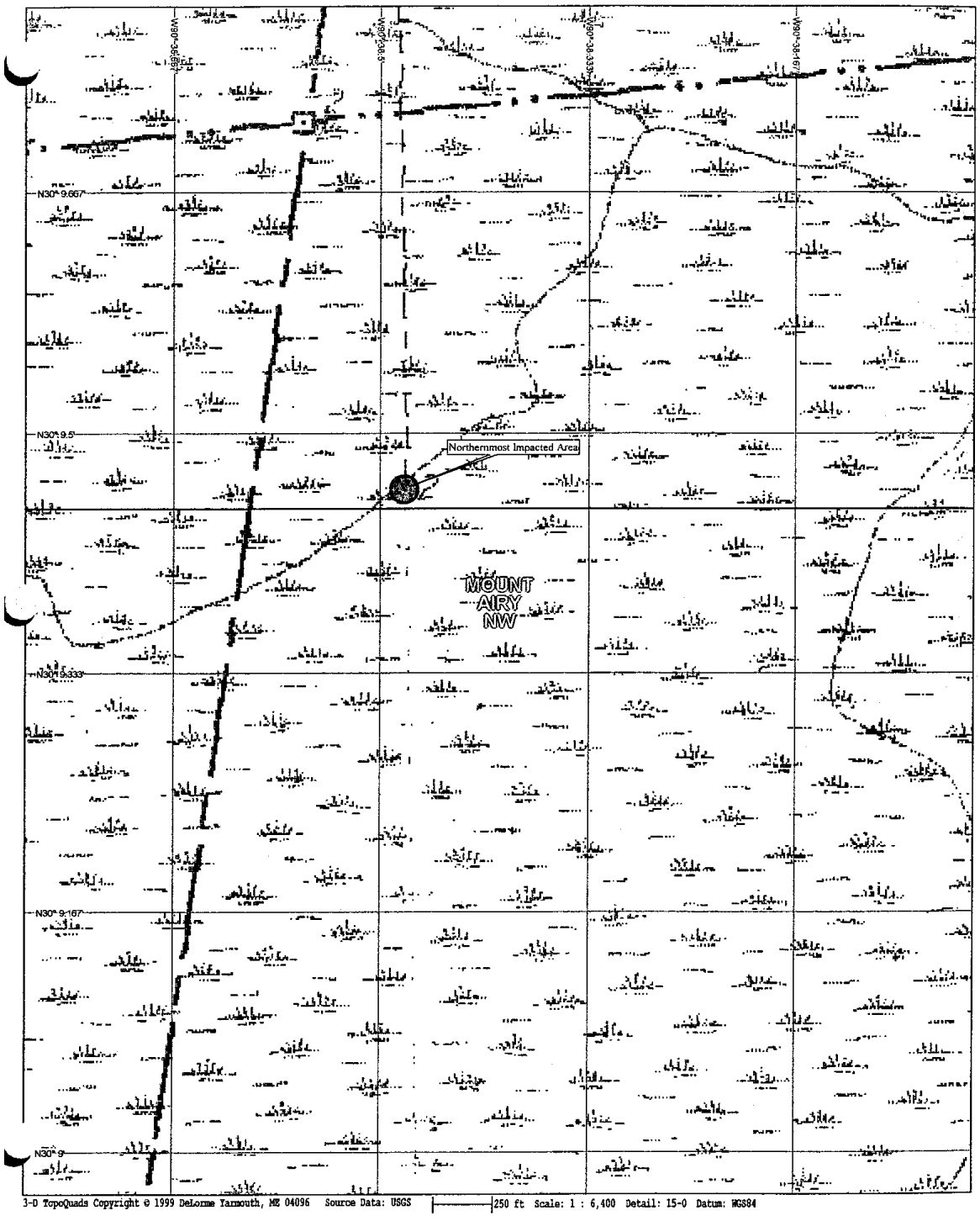
- Passive remediation to no cleanup recommended in light to moderate accumulations. This will include placement of absorbent materials around the impacted area in order to remove the Natural Gasoline as it is slowly released.
- In larger accumulations, strategic booming methods may be highly effective in trapping accumulations of Natural Gasoline that can be reclaimed through the use of skimmers and vacuums.
- In all circumstances, special attention must be paid to the impact response personnel and equipment will potentially have on the area they are attempting to mitigate. As light an impact as possible must be made by these resources as they are attempting to mitigate the incident. Any clean-up method used on an actual incident should be decided upon in conjunction with the Federal On-Scene Coordinator.

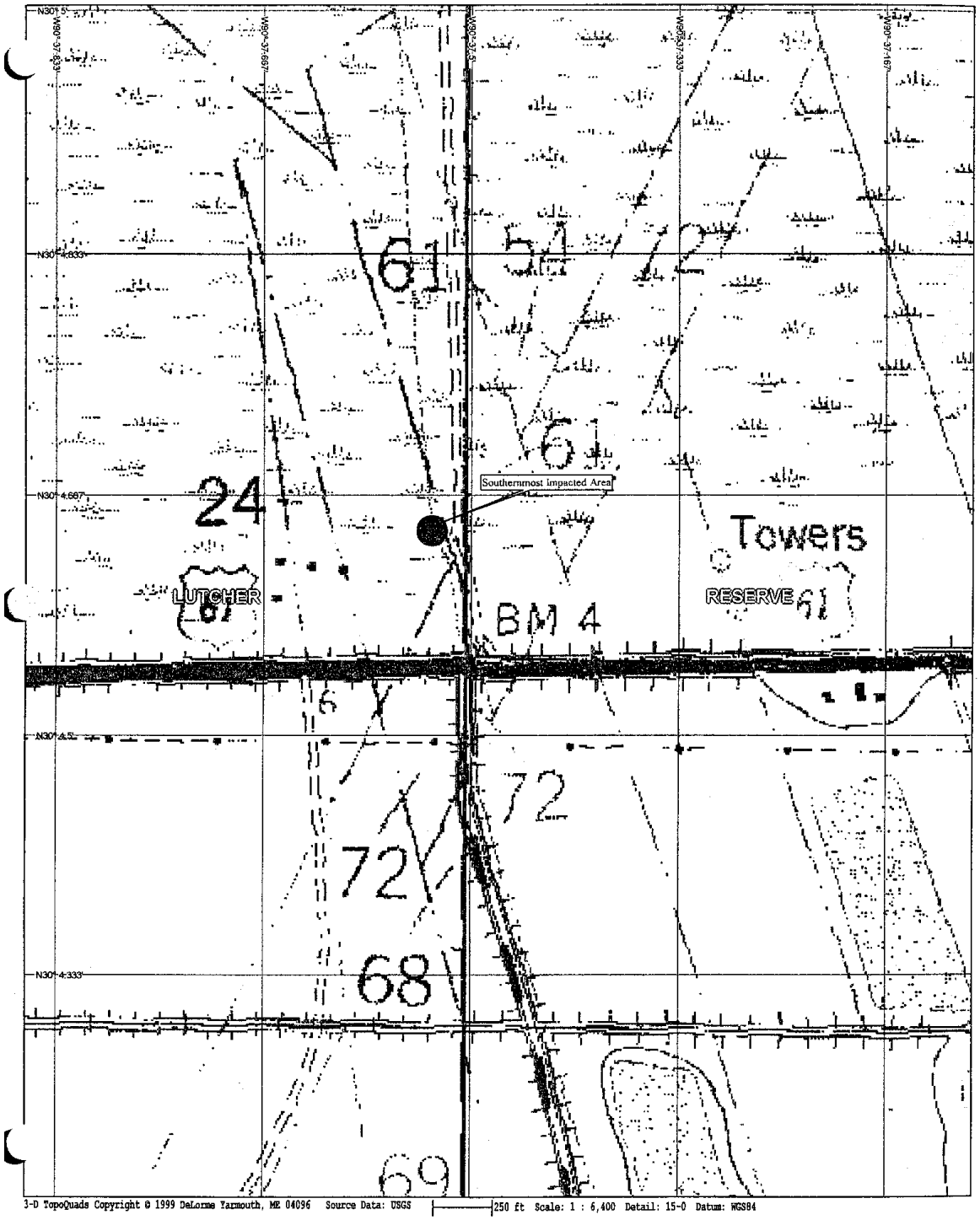
Impact Distances:

In the event of an incident, expected northerly migration of product will be north via the Hope Canal at a distance of 15 miles as indicated on the maps on the following pages. Due to natural obstructions and water depth, the southerly migration can be expected to be less than 15 miles to the south near the intersection with LA Hwy 61. This location is also indicated on the maps on the following pages.

Hope Canal Crossing


89
89
W90°-38'
W90°-37.833'
W90°-37.667'
W90°-37.5'
N30° 6.167'
N30° 6'
N30° 5.833'
N30° 5.667'
N30° 5.5'
LUTCHER
RESERVE
CANAL
Potential Spill Location
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
250 ft Scale: 1 : 6,400 Detail: 15-0 Datum: WGS84


W90°38.667
W90°38.5
W90°38.333
W90°38.167
N30°9.667
N30°9.5
N30°9.333
N30°9.167
N30°9
Northernmost Impacted Area
MOUNT AIRY NW
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
250 ft Scale: 1 : 6,400 Detail: 15-0 Datum: WGS84


Southernmost Impacted Area
Towers
RESERVE
LUTCHER
BM 4
61
24
72
68
69
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
250 ft Scale: 1 : 6,400 Detail: 15-0 Datum: WGS84

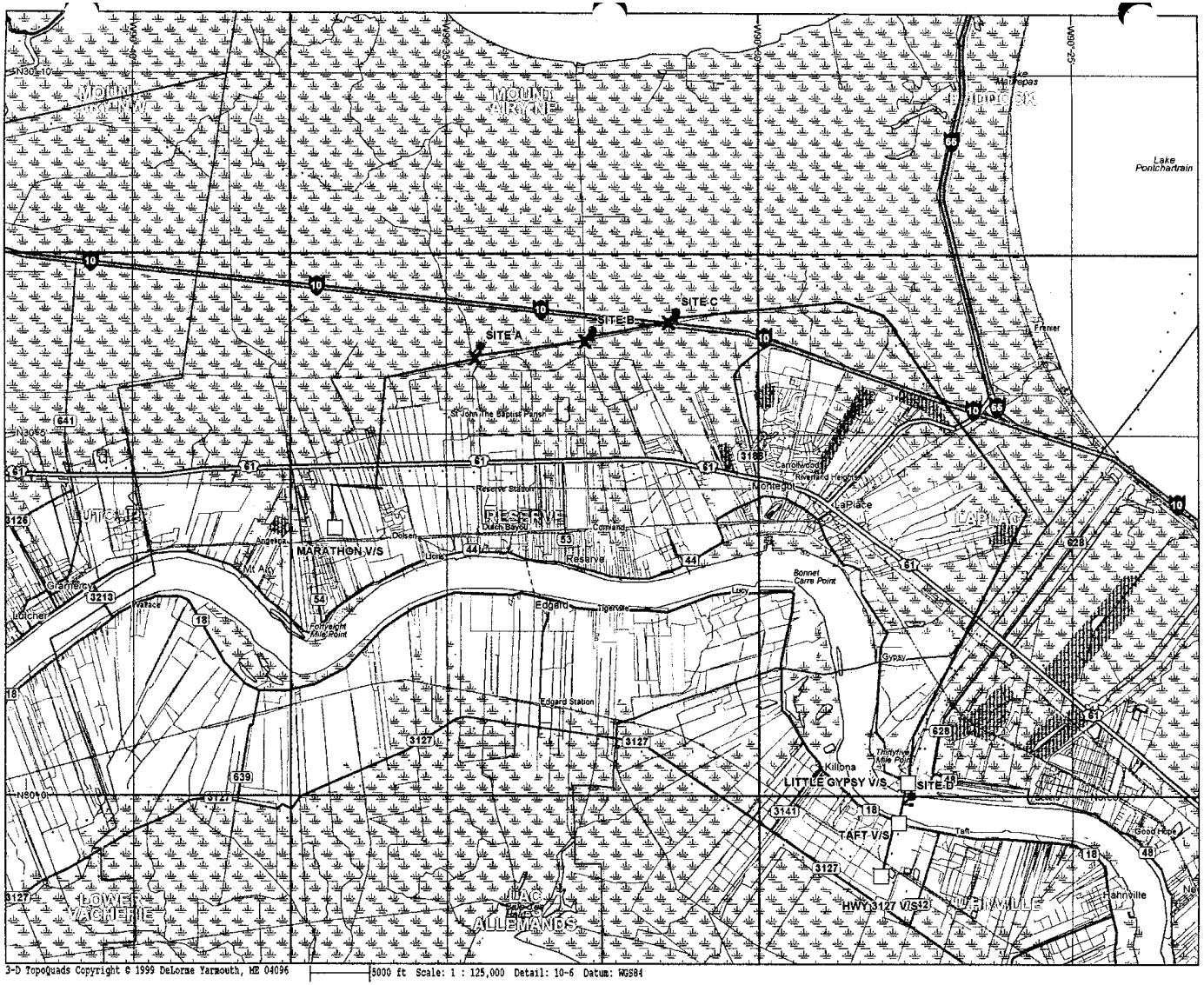
Primary Economically Sensitive Areas	
Site Location	**Description**
Interstate 10 Crossing	The pipeline crosses Interstate 10 near the crossing of Interstate 10 and LA Hwy 61.
LA Hwy 61Crossing	The pipeline crosses LA Hwy 61 (3) times in route from Sorrento To Marathon. These sites are: • 10 and LA Hwy 61 • (b) (3), (b) (7)(F) • thon bisects the highway
The Blind River Crossing	The pipeline crosses the Blind River where the river meets LA Hwy 61
Marathon Refinery	(b) (3), (b) (7)(F)

Water Intakes Potentially Affected By Spills From This Pipeline Segment
(b) (7)(F), (b) (3)

Response Area 3 SS-01A-Marathon V/S to Hwy 3127 V/S, 6" Natural Gasoline Pipeline

Environmental Sensitivity
The SS-O1A pipeline crosses several types of ecological (b) (3), (b) (7)(F) [redacted] These areas are predominately developed upland. This pipeline section also includes significant water crossings where it meets the Mississippi River, the Interstate 10 Waterway, the Reserve Relief Canal, and Mississippi Bayou. These crossings have been identified as areas of concern in this response zone. They are detailed individually in the following sections and are identified on the map on the following page.

Primary Environmentally Sensitive Areas	
Site A	Mississippi Bayou Crossing
Site B	Reserve Relief Canal
Site C	Interstate 10 Waterway
Site D	Mississippi River


SITE A
SITE B
SITE C
SITE D
MARATHON V/S
LITTLE GYPSY V/S
TAFT V/S
HWY 3127 V/S
MOUNT AIRY
LUTCHER
PIERRE PART
LAPLACE
LOWER YACHERIE
BAC DES ALLEMANDS
Lake Pontchartrain
Lake Maurepas
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096
5000 ft Scale: 1 : 125,000 Detail: 10-6 Datum: WGS84

Site A- Mississippi Bayou

This site is located where the pipeline crosses Mississippi Bayou south of Interstate 10 at (b) (7)(F), (b) (3)

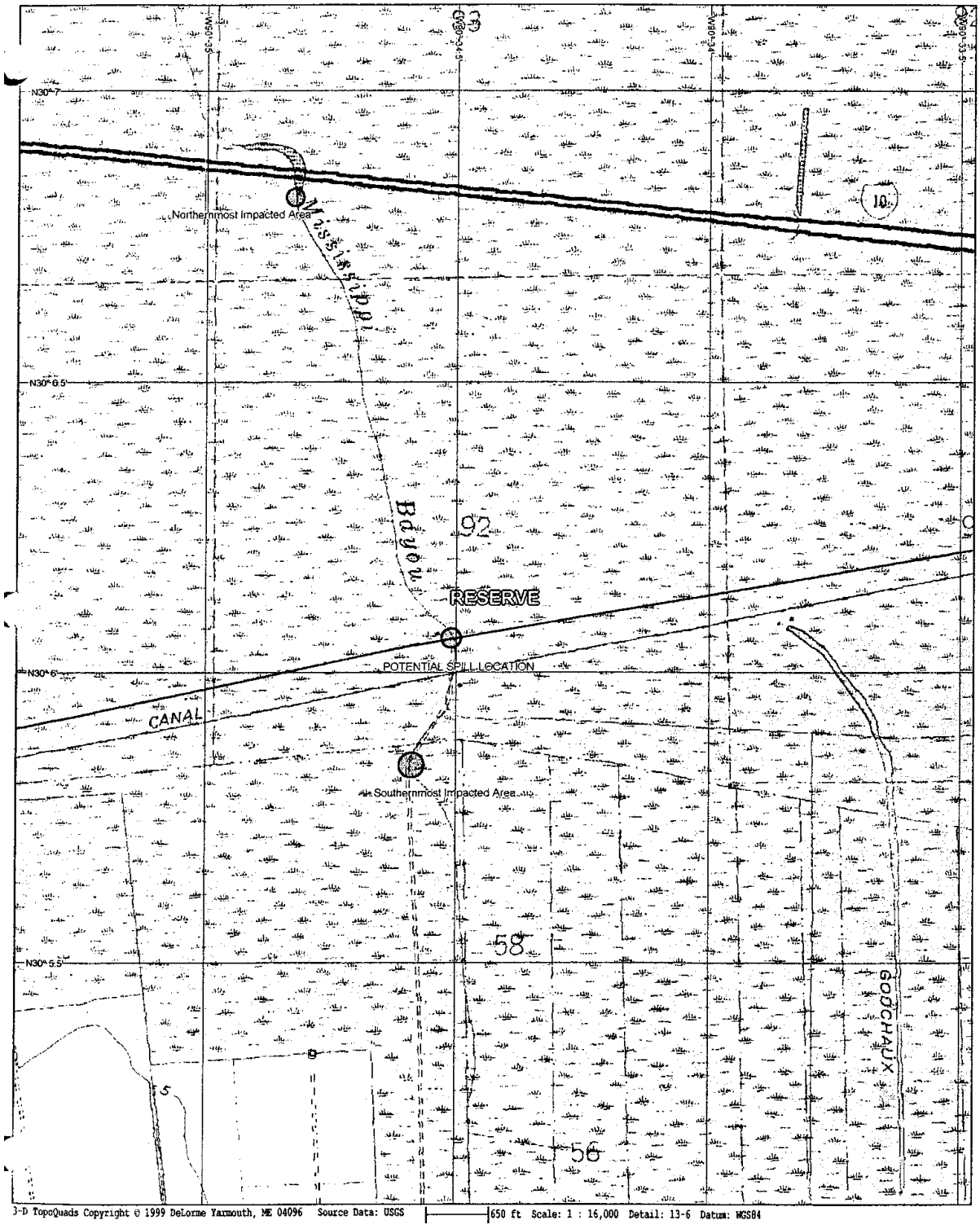
Spoil Bank/Batcher:
No levee system exists for Mississippi Bayou, so spills at this site have a potential for affecting the Cypress Tupelo swamp areas that exist on either side of the bayou as well as the aquatic vegetation present in Mississippi Bayou.

Mississippi Bayou is home to many species of plants and animals typical of southern Louisiana bayous and swamp areas. In particular, Mississippi Bayou contains a significant population of freshwater fish species. Some of the predominate species include: large mouth bass, blue catfish, and freshwater drum. Fauna such as the American alligator and various water fowl can be expected in the swamp areas along the bayou.

Predicted Natural Gasoline Impact:
Any Natural Gasoline spilled would be expected to impact the banks of Mississippi Bayou. Spills in this area would involve substantial impacts to aquatic vegetation such as the water hyacinth prevalent in the area. Impacts in this region will generate substantial amounts of biotic wastes and possibly result in damage to freshwater fisheries via toxicity and oxygen depletion.

Recommended Response Activity:
Response to incidents in Mississippi Bayou will concentrate on containment and recovery of the product. Flat bottom boats should be used to deploy containment boom in order to confine and contain the incident. Once the spill is sufficiently contained, drum skimmer units can be used to recover the free product in the water. Removal of the impacted vegetation is generally a labor-intensive process in these areas.

Impact Distances:
Due to the weak flow of water within Mississippi Bayou, spills in the area can be expected to have the potential for both a northerly and southerly area of impact. The southernmost impacted area has been calculated at a distance of approximately 0.5 miles due to the significant bends in the river and the low water level common in this end of the bayou. To the north, the impact is less than the standard 15 miles due to the termination of Mississippi Bayou 2.5 miles to the north that would be a natural collection spot for any product moving northerly. These locations are indicated on the maps following this page.


Northernmost Impacted Area
Bayou
RESERVE
POTENTIAL SPILL LOCATION
CANAL
Southernmost Impacted Area
GOODCHAUX
92
58
56
10
N30° 7
N30° 6.5
N30° 6
N30° 5.5
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
650 ft Scale: 1 : 16,000 Detail: 13-6 Datum: WGS84

Mississippi Bayou Area

Site B - Reserve Relief Canal

This site is located where the pipeline crosses the Reserve Relief Canal south of Interstate 10. The coordinates of this site are (b) (7)(F), (b) (3)

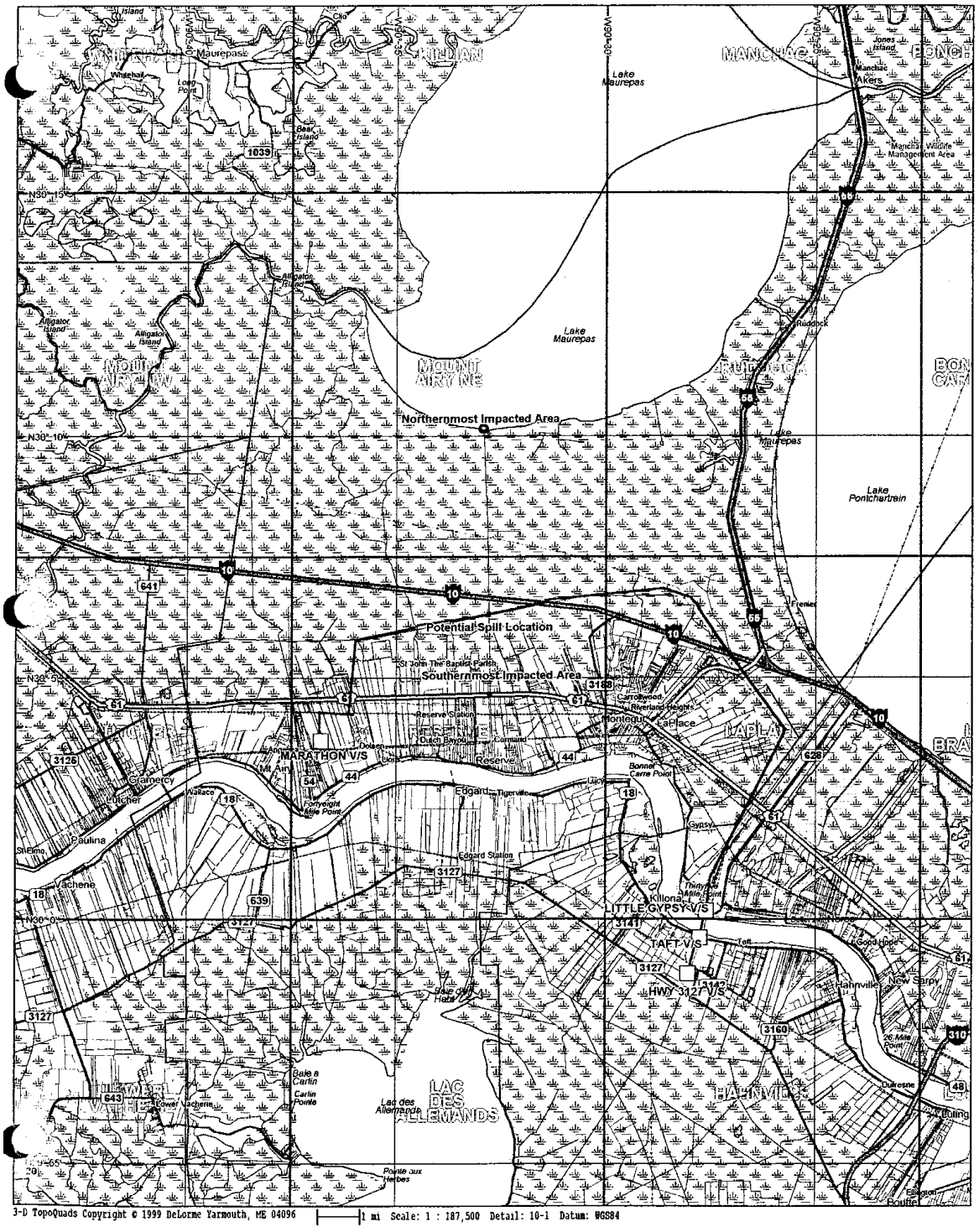
Spoil Bank/Batcher:
No levee system exists for the Reserve Relief Canal, so spills at this site have a potential for affecting the Cypress Tupelo swamp areas that exist on either side of the canal as well as the aquatic vegetation present in the Reserve Relief Canal.

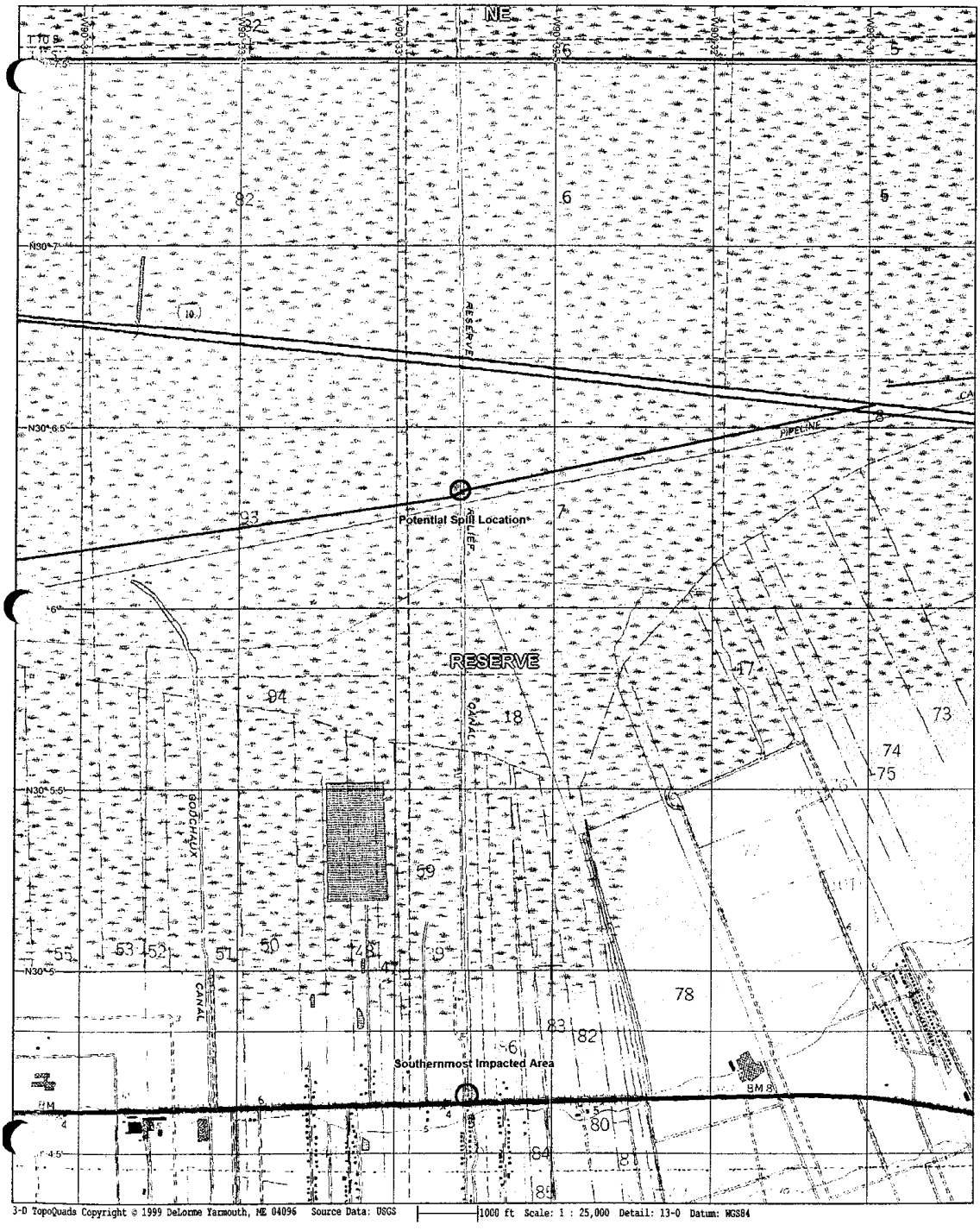
The Reserve Relief Canal is home to many species of plants and animals typical of southern Louisiana bayous and swamp areas. In particular, the Reserve Relief Canal contains a significant population of freshwater fish species. Some of the predominate species include: large mouth bass, blue catfish, and freshwater drum. Fauna such as the American alligator and various water fowl can be expected in the swamp areas along the bayou.

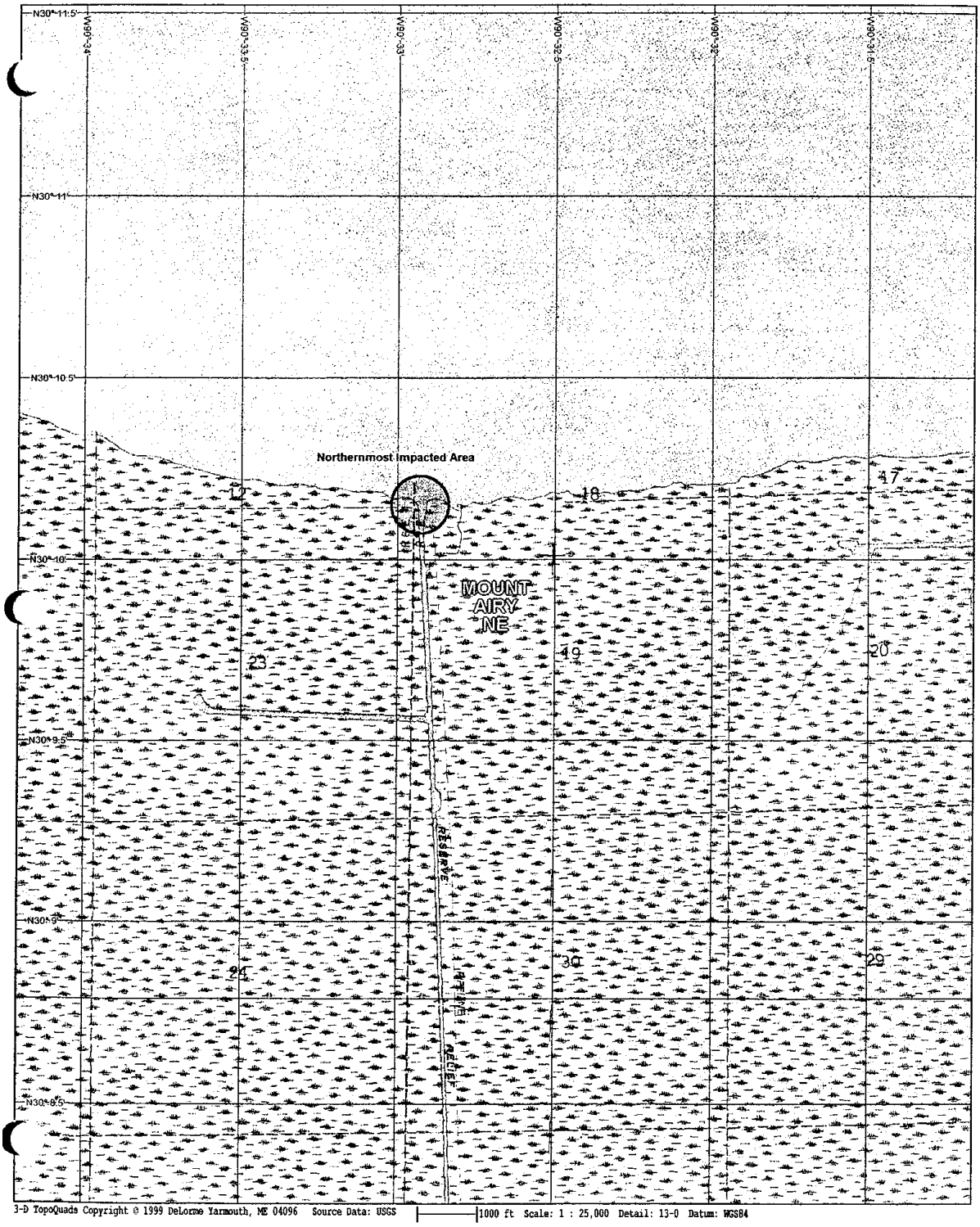
Predicted Natural Gasoline Impact:
Any Natural Gasoline spilled would be expected to impact the banks of the Reserve Relief Canal. Spills in this area would involve substantial impacts to aquatic vegetation such as the water hyacinth prevalent in the area. Impacts in this region will generate substantial amounts of biotic wastes and possibly result in damage to freshwater fisheries via toxicity and oxygen depletion.

Recommended Response Activity:
Response to incidents in the Reserve Relief Canal will concentrate on containment and recovery of the product. Flat bottom boats should be used to deploy containment boom in order to confine and contain the incident. Once the spill is sufficiently contained, drum skimmer units can be used to recover the free product in the water. Removal of the impacted vegetation is generally a labor-intensive process in these areas.

Impact Distances:
Due to the weak flow of water within the Reserve Relief Canal, spills in the area can be expected to have the potential for both a northerly and southerly area of impact. The southernmost impacted area has been calculated at a distance of approximately 2 miles due to the termination of the canal. To the north, the impact is less than the standard 15 miles where the canal empties into Lake Maurepaus approximately 4.5 miles to the north. These locations are indicated on the maps following this page.


Northernmost Impacted Area
Potential Spill Location
Southernmost Impacted Area
Lake Maurepas
Lake Pontchartrain
MARATHON V/S
LITTLE GYPSY V/S
TAFT V/S
HWY 3127 V/S
LAC DES ALLEMANDS
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096
1 mi Scale: 1 : 187,500 Detail: 10-1 Datum: WGS84


Potential Spill Location
Southernmost Impacted Area
RESERVE
CANAL
PIPELINE
BOUDREAUX
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
1000 ft Scale: 1 : 25,000 Detail: 13-0 Datum: WGS84


N30°11.5'
W90°34'
W90°33.5'
W90°33'
W90°32.5'
W90°32'
W90°31.5'
N30°11'
N30°10.5'
Northernmost Impacted Area
12
18
17
N30°10'
MOUNT AIRY NE
23
19
20
N30°9.5'
RESERVE
PIPE
REEF
N30°9'
24
30
29
N30°8.5'
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
1000 ft Scale: 1 : 25,000 Detail: 13-0 Datum: WGS84

The Reserve Relief Canal Area

Site C- Interstate 10 Waterway

This site is a canal running through a freshwater cypress/tupelo swamp area following the length of Interstate 10. The site coordinates of this area are (b) (7)(F), (b) (3) [redacted]

The Environmental Sensitivity Index, produced by RPI International, Inc., describes the area as follows:

Swamp:

- A freshwater wetland having varying water depths with vegetation ranging from shrubs and scrubs to poorly drained forested wetlands. Major vegetative types include Bald Cypress, Tupleo, and Black Willow.
- Alligators, many types of birds, and mammals use swamp areas during feeding and breeding activities.

Predicted Natural Gasoline Impact:

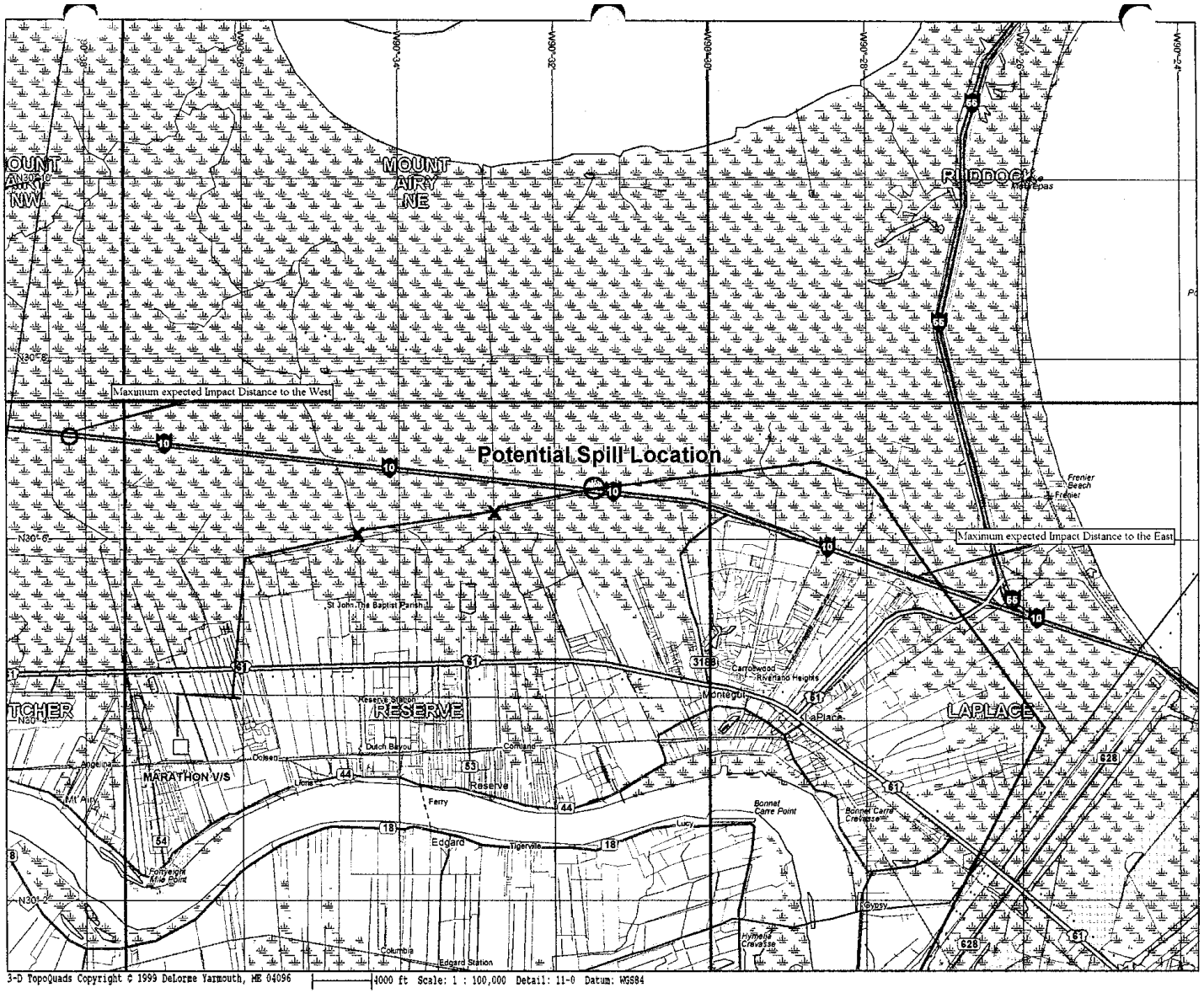
- Small amounts of spilled Natural Gasoline can spread throughout the swamp area to a limited extent.
- Large spills will cover more area and can persist since water flushing rates are very low
- Natural Gasoline will adhere to swamp vegetation.
- During wet cycles, the roots of the swamp forest trees are not exposed; thus, a lesser degree of impact to the trees is expected. Any underbrush vegetation would be more severely impacted.

Recommended Response Activity:

- Passive remediation to no cleanup recommended in light to moderate accumulations. This will include placement of absorbent materials around the impacted area in order to remove the Natural Gasoline as it is slowly released.
- In larger accumulations, strategic booming methods may be highly effective in trapping accumulations of Natural Gasoline that can be reclaimed through the use of skimmers and vacuums.
- In all circumstances, special attention must be paid to the impact response personnel and equipment will potentially have on the area they are attempting to mitigate. As light an impact as possible must be made by these resources as they are attempting to mitigate the incident. Any clean-up method used on an actual incident should be decided upon in conjunction with the Federal On-Scene Coordinator.

Impact Distances:

In the event of an incident, oil migration would be expected in all directions due to the lack of any current in this area. The slick would be expected to travel both east and west to a maximum distance of 15 miles. These locations are indicated on the maps on the following pages. Additionally, spills in this area traveling west have the potential for entering both Mississippi Bayou and the Reserve Relief Canal. These Scenarios are outlined in Sections 12 and 13 of this manual.


Maximum expected Impact Distance to the West
Potential Spill Location
Maximum expected Impact Distance to the East
MOUNT AIRY NE
MOUNT AIRY NW
RIVERSIDE
RESERVE
LAPLACE
MARATHON V/S
Edgard
Tigerville
Bonnet Carre Point
Bonnet Carre Crevasse
Frenier Beach
Frenier
Carrollwood
Riverland Heights
Montegut
Dutch Bayou
Ferry
Reserve
Lucy
Gypsy
Columbia
Edgard Station
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096
4000 ft Scale: 1 : 100,000 Detail: 11-0 Datum: WGS84

Interstate 10 Waterway Area

Site D- Mississippi River

At this site, the pipeline crosses the Mississippi River near Taft, LA. The coordinates for this site are (b) (7)(F), (b) (3)

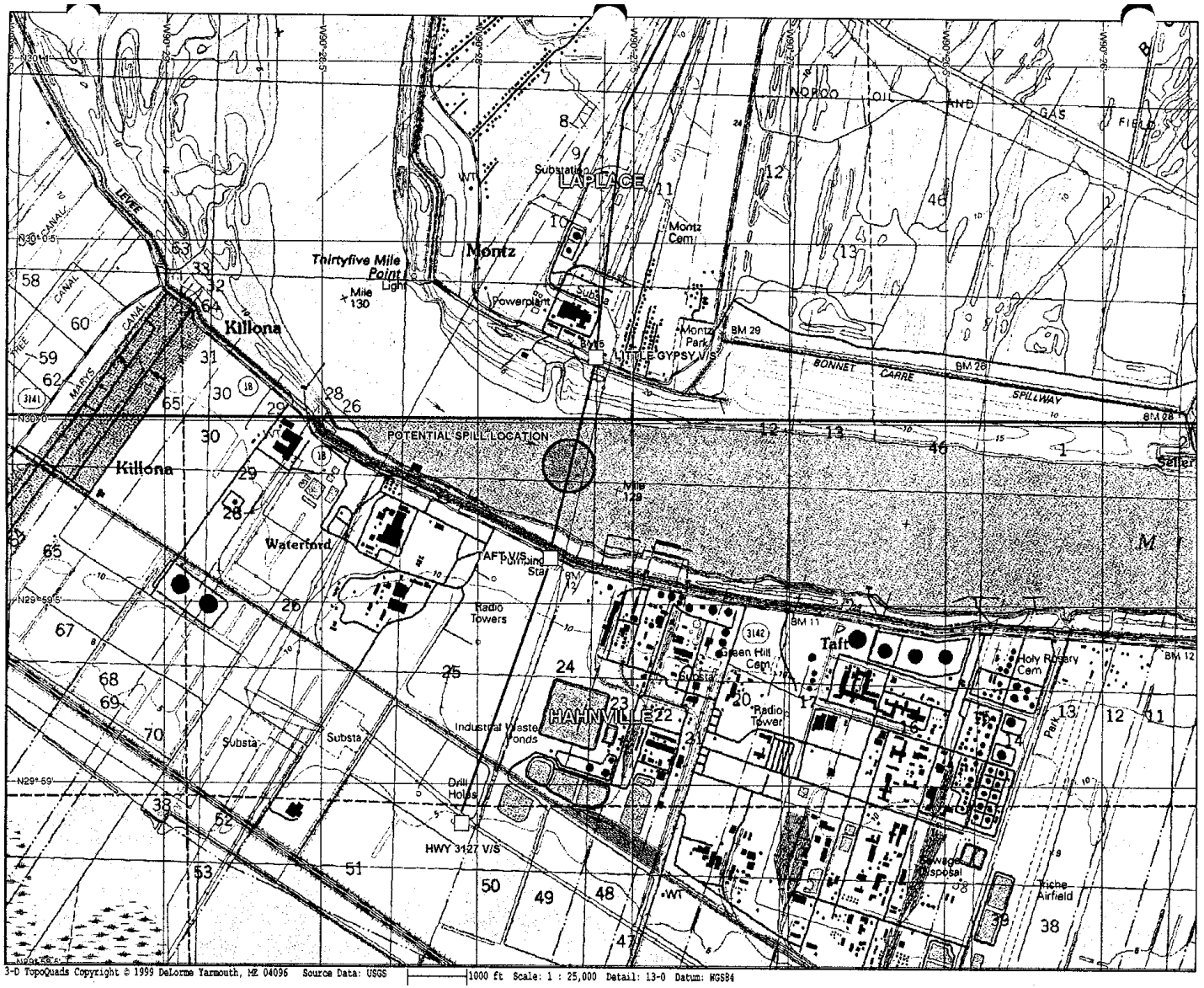
Spoil Bank/Batcher:
The U.S. Army Corp of Engineers maintains an extensive levee system around the Mississippi River. Because of this levee system, spills occurring in the river have limited environmental impact beyond the impact to the spoil bank/batcher area. The height of impact along the banks of the river will depend upon the water level of the river at the time of the incident.

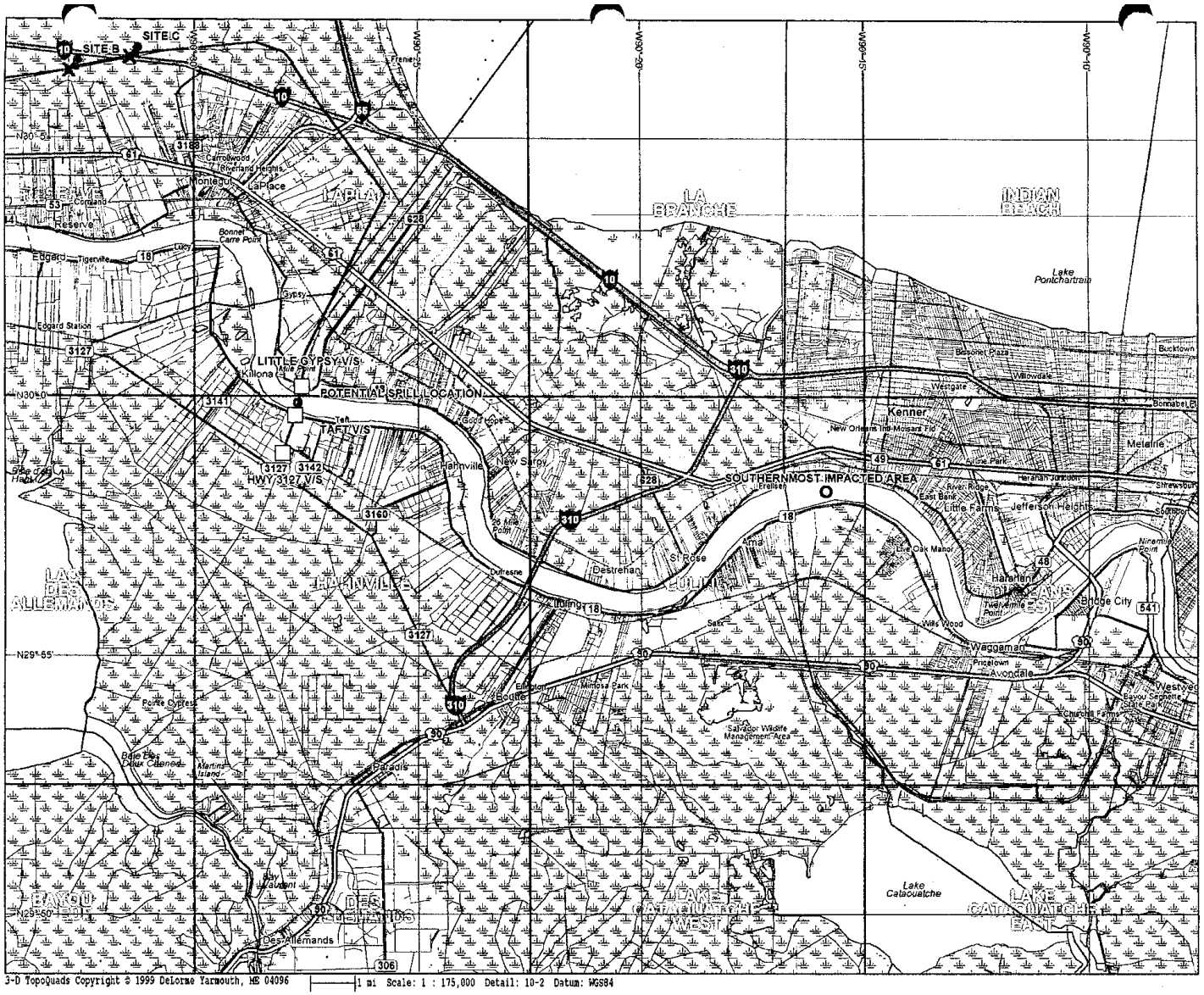
Predicted Natural Gasoline Impact:
As mentioned above, the height of impact of Natural Gasoline will be determined by the water level in the river at the time of impact. Because of the strong flow of the river, the Natural Gasoline slick may be stretched over many miles of bank area. Typically, the Natural Gasoline will accumulate in the bends south of the spill site where the current slows slightly. The most significant impacts can be expected in these areas.

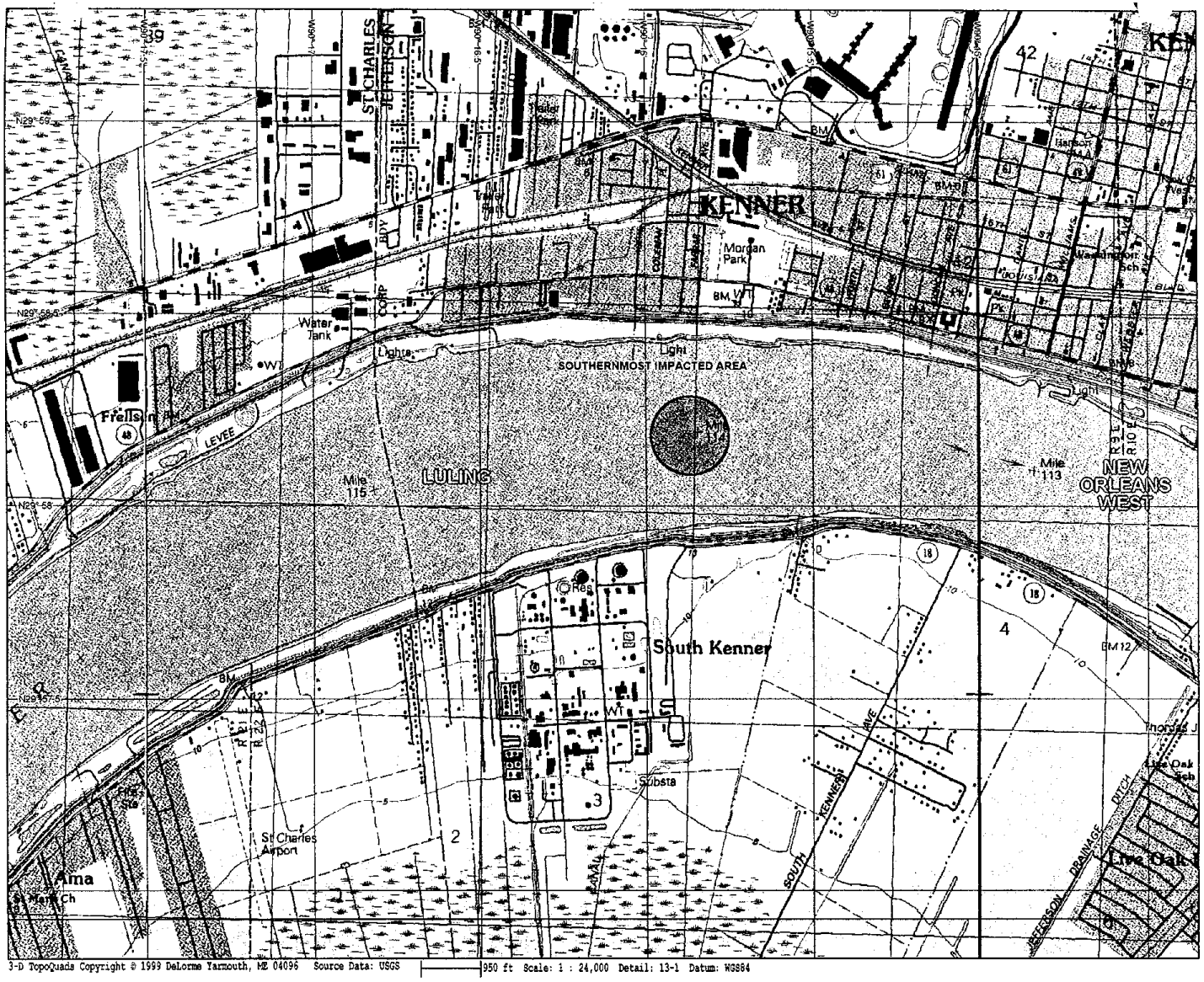
Recommended Response Activity:
Spills directly into the Mississippi River require substantial resources to mitigate the incident. In many cases, containment boom can be deployed in the river bends to trap accumulated products against the banks to be removed by skimmer systems.

In areas where the banks have been impacted, pressure washing of the bank may be required to remove traces of the spilled product. This is to be done only when deemed necessary by the Federal On-Scene Coordinator.

Impact Distances:
Due to the significant flow of the Mississippi River, there is no northerly impact component to consider. The standard 15 mile impact distance to the south puts the maximum impact distance at mile marker 114 near Kenner, LA. This location is illustrated on the maps following this page.


POTENTIAL SPILL LOCATION
LAPLACE
Montz
Killona
Waterford
Taft
HAHNVILLE
Thirtyfive Mile Point Light
Mile 130
Mile 129
Substation
Powerplant
Montz Cem.
Montz Park
BM 29
BM 28
BONNET CARRE SPILLWAY
TAFT V/S
Radio Towers
Green Hill Cem.
Holy Rosary Cem.
Radio Tower
Industrial Waste Ponds
Drill Holes
HWY 3127 V/S
Sewage Disposal
Triche Airfield
Substa
Substa
Substa
NORCO OIL AND GAS FIELD
LAKE
CANAL
MARYS
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
1000 ft Scale: 1 : 25,000 Detail: 13-0 Datum: WGS84


SITE C
SITE B
SITE A
LITTLE GYPSY V/S
POTENTIAL SPILL LOCATION
TAFT V/S
HWY 3127 V/S
SOUTHERNMOST IMPACTED AREA
LA BRANCHE
INDIAN BEACH
Lake Pontchartrain
Kenner
Metairie
Jefferson Heights
Harahan
Bridge City
Waggaman
Avondale
Westwego
Destrehan
St. Rose
Luling
Hahnville
New Sarpy
Boutte
Des Allemands
Lake Cataouatche
Salvador Wildlife Management Area
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096
1 mi Scale: 1 : 175,000 Detail: 10-2 Datum: WGS84


KENNER
Morgan Park
Water Tank
Lights
Light
SOUTHERNMOST IMPACTED AREA
Mile 114
Mile 115
Mile 113
LULING
NEW ORLEANS WEST
LEVEE
South Kenner
Res
Substa
St Charles Airport
Ama
St Mark Ch
Live Oak Sch
JEFFERSON DRAINAGE DITCH
SOUTH KENNER DRAINAGE DITCH
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
950 ft Scale: 1 : 24,000 Detail: 13-1 Datum: WGS84

Mississippi River Area

Primary Economically Sensitive Areas	
Site Location	**Description**
LA HWY 61	The pipeline crosses LA HWY 61 twice in route. These sites are: • Near Garyville, LA • Near Norco, LA
Interstate 10	The pipeline crosses Interstate 10 twice in route. These sites are: • Near the Reserve Relief Canal • North of LaPlace, LA
LA HWY 51	The pipeline crosses LA HWY 51 near the intersection with Interstate 10.
LA HWY 18	The pipeline crosses LA HWY 18 on the south shore of the Mississippi River near the city of Taft, LA
Kansas City Railroad	The pipeline crosses the Kansas City Railroad near Garyville, LA.
The Mississippi River	The pipeline crosses the Mississippi River near Thirty-five mile point.
Illinois Central Gulf Railroad	The pipeline crosses the Illinois Central Railroad near Norco, LA.
Missouri Pacific Railroad	The pipeline crosses the Missouri Pacific Railroad near Taft, LA.

Water Intakes Potentially Affected By Spills From

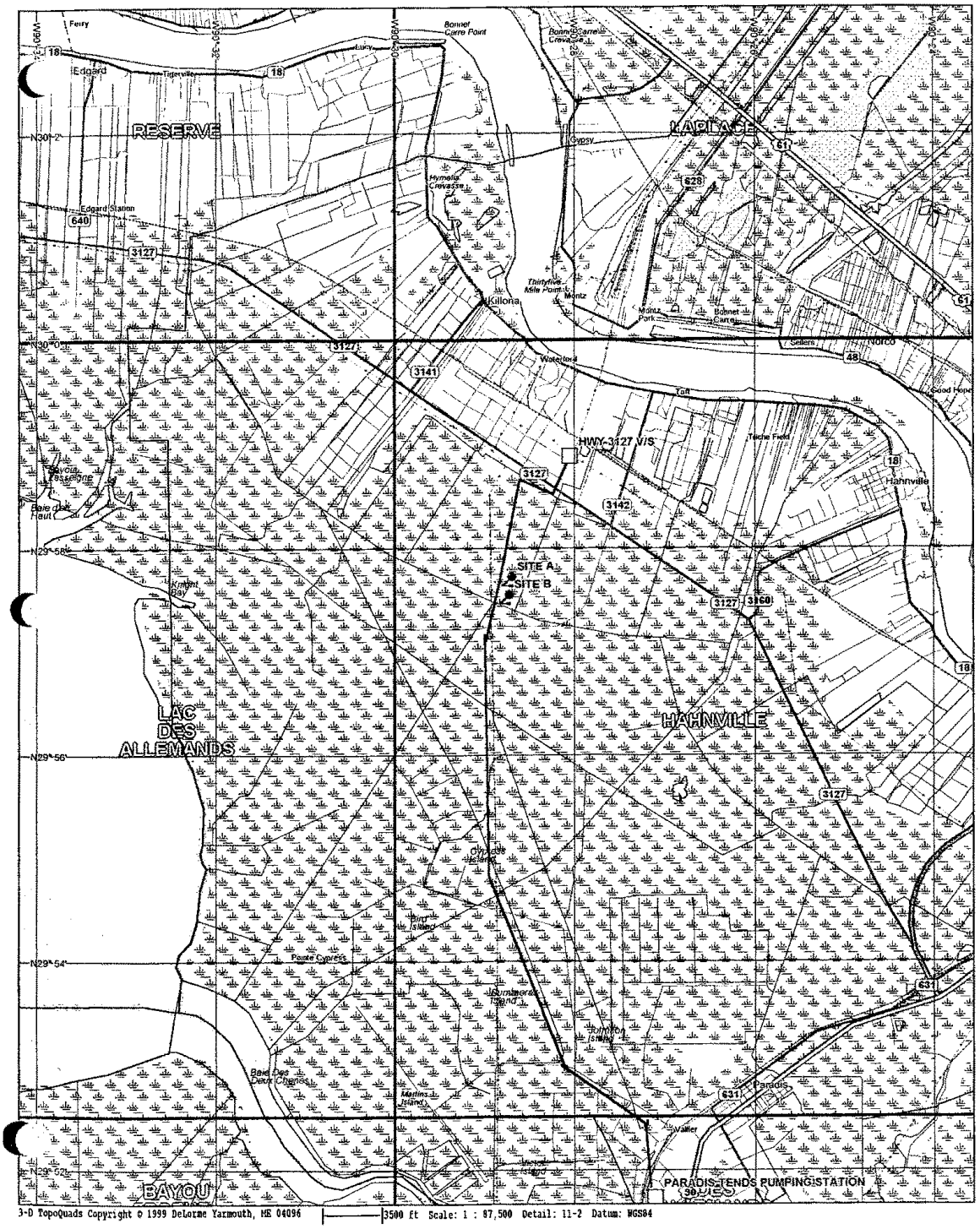
(b) (7)(F), (b) (3)

[redacted]

(b) (3), (b) (7)(F) [redacted]

Environmental Sensitivity
The PP-O1/PP-03 pipelines cross several types of ecological areas(b) (3), (b) (7)(F) [redacted] These areas are predominately cypress Tupelo swamp areas. This pipeline section also includes multiple water crossings where it meets the St. Charles Canal and Providence Canal. Two areas of concern have been identified in this response zone. They are detailed individually in the following sections and are identified on the map on the following page.

Primary Environmentally Sensitive Areas	
Site A	St. Charles Canal
Site B	Providence Canal


RESERVE
LAPLACE
HAHNVILLE
LAC DES ALLEMANDS
BAYOU
SITE A
SITE B
HWY-3127 VIS
PARADIS TENDS PUMPING STATION
Killona
Norco
Edgard
Ferry
Bonnet Carre Point
Gypsy
Montz
Sellers
Waterford
Toft
Good Hope
Hahnville
Paradis
Walker
Pointe Cypress
Bayou Des Deux Chenes
Merlins Island
Bird Island
Summers Island
Thornton Island
Oyster Bed Island
N30°2'
N30°0'
N29°58'
N29°56'
N29°54'
N29°52'
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096
3500 ft Scale: 1 : 87,500 Detail: 11-2 Datum: WGS84

Site A- St. Charles Canal

This site is a freshwater canal located in a cypress/tupelo swamp area located to the south of where the pipeline crosses Louisiana Hwy 3127 at (b) (7)(F), (b) (3)

The Environmental Sensitivity Index, produced by RPI International, Inc., describes the area as follows:
SWAMP:

- A freshwater wetland having varying water depths with vegetation ranging from shrubs and scrubs to poorly drained forested wetlands. Major vegetative types include Bald Cypress, Tupelo, and Black Willow.
- Alligators, many types of birds, and mammals use swamp areas during feeding and breeding activities.

Predicted Natural Gasoline Impact:

- Small amounts of spilled Natural Gasoline can spread throughout the swamp area to a limited extent.
- Large spills will cover more area and can persist since water flushing rates are very low
- Natural Gasoline will adhere to swamp vegetation.
- During wet cycles, the roots of the swamp forest trees are not exposed; thus, a lesser degree of impact to the trees is expected. Any underbrush vegetation would be more severely impacted.

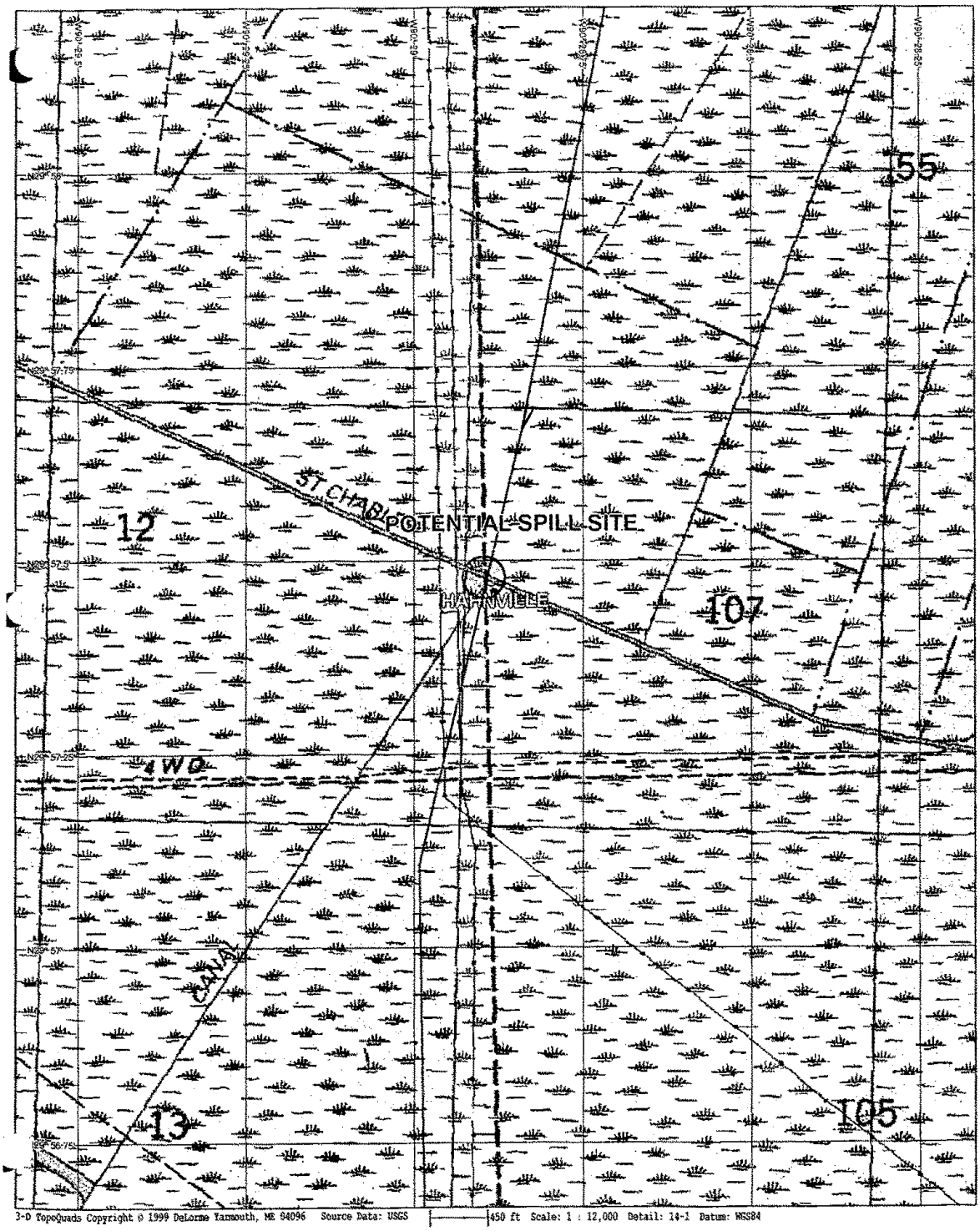
Recommended Response Activity:

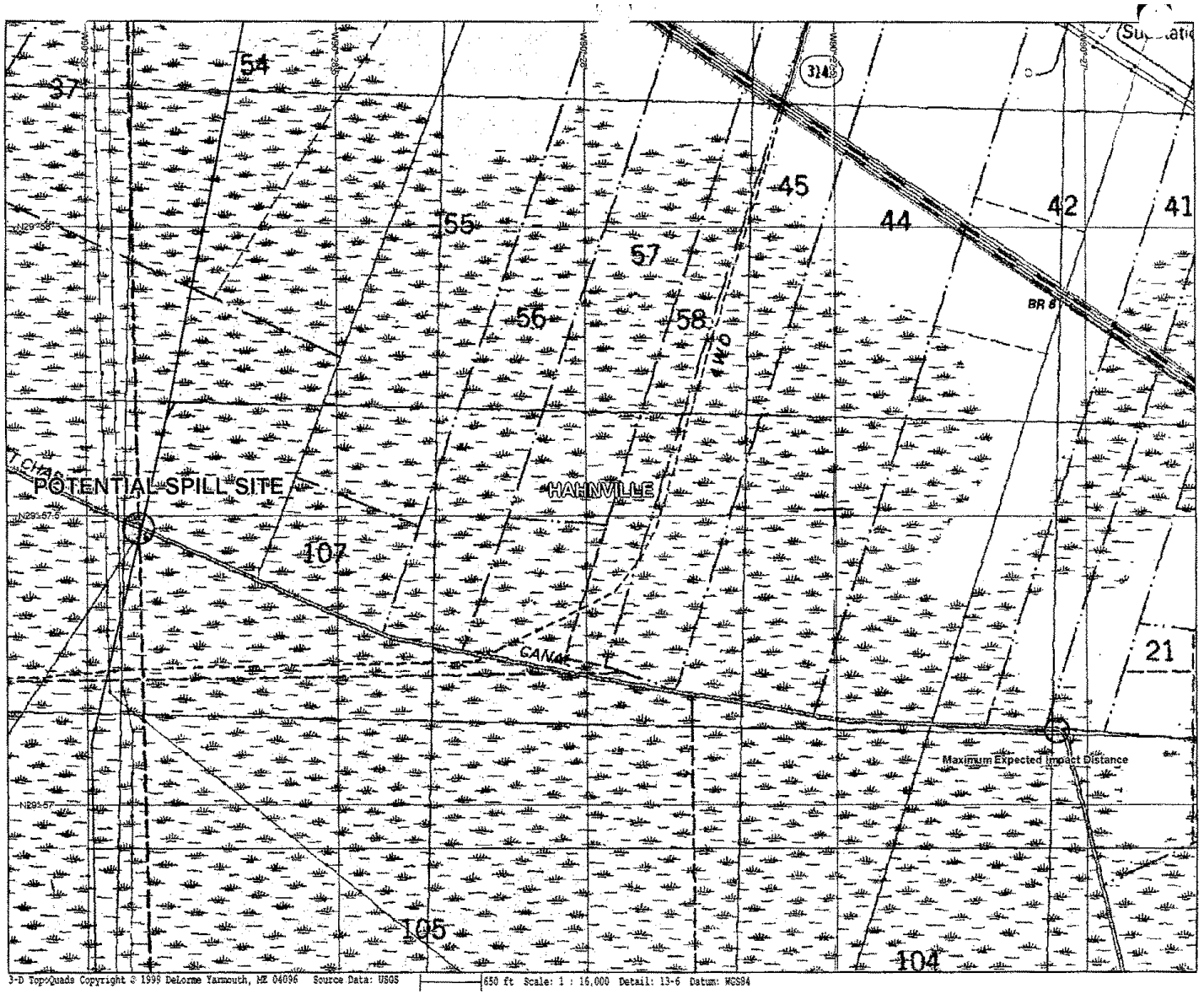
- Passive remediation to no cleanup recommended in light to moderate accumulations. This will include placement of absorbent materials around the impacted area in order to remove the Natural Gasoline as it is slowly released.
- In larger accumulations, strategic booming methods may be highly effective in trapping accumulations of Natural Gasoline that can be reclaimed through the use of skimmers and vacuums.
- In all circumstances, special attention must be paid to the impact response personnel and equipment will potentially have on the area they are attempting to mitigate. As light an impact as possible must be made by these resources as they are attempting to mitigate the incident. Any clean-up method used on an actual incident should be decided upon in conjunction with the Federal On-Scene Coordinator.

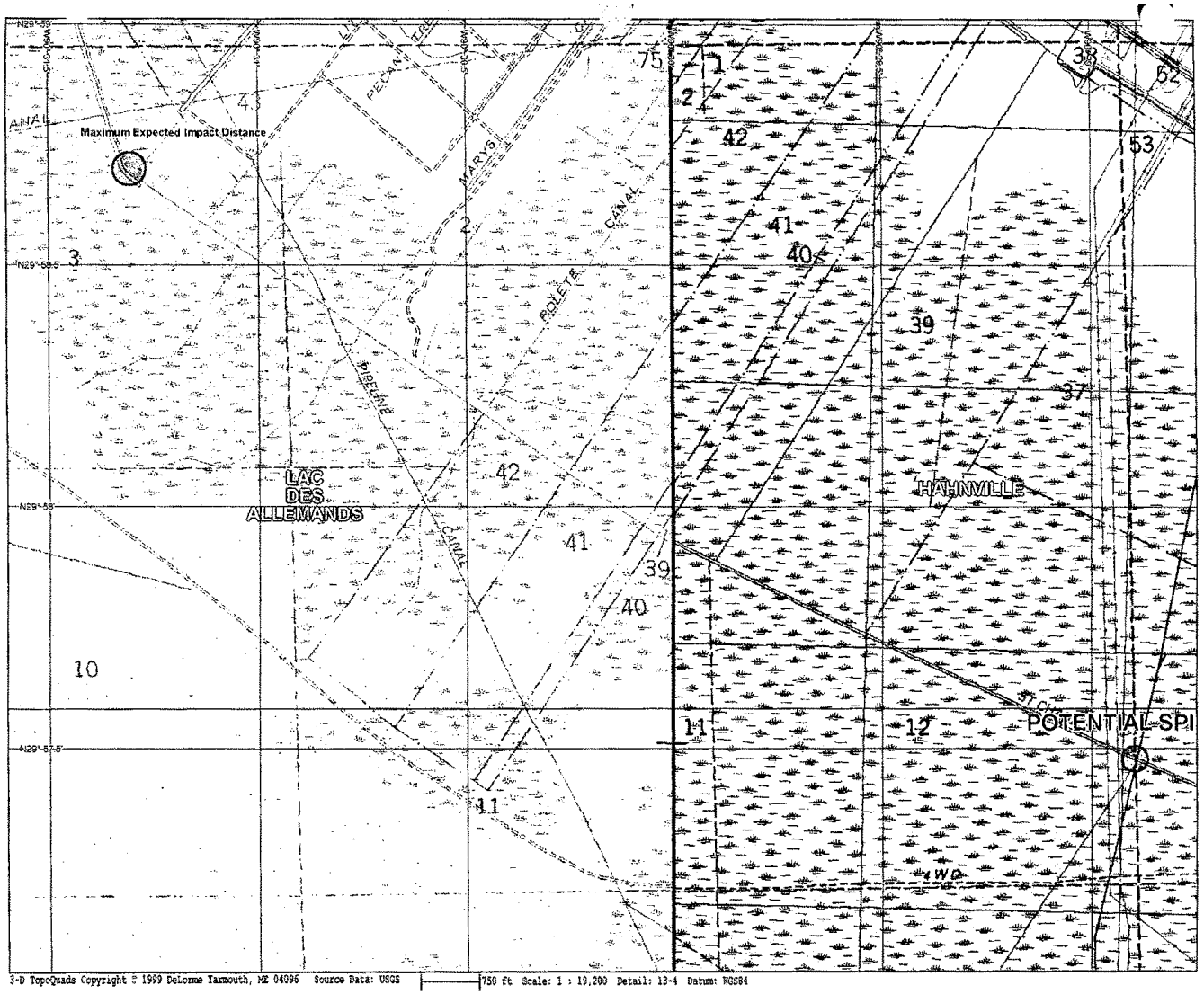
Impact Distances:

Due to a significant bend in the canal and the lack of any significant current, the distance of impact to the East and West are less than the 15 miles standard. These locations are indicated on the maps on the following pages. Additionally, spills at this location have the potential to travel southerly down the Providence canal. A discussion of this site is given in Section 10 of this plan.

St. Charles Canal Area


POTENTIAL SPILL SITE
HAHNVILLE
ST CHARLES
CANAL
55
12
107
13
105
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
450 ft Scale: 1 : 12,000 Detail: 14-1 Datum: WGS84


POTENTIAL SPILL SITE
HAHNVILLE
Maximum Expected Impact Distance
54
37
55
57
56
58
45
44
42
41
107
21
105
104
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
650 ft Scale: 1 : 16,000 Detail: 13-6 Datum: WGS84


Maximum Expected Impact Distance
LAC DES ALLEMANDS
HAHNVILLE
POTENTIAL SPI
PIPELINE
CANAL
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
750 ft Scale: 1 : 19,200 Detail: 13-4 Datum: WGS84

Site B – Providence Canal

This site is located where the pipeline crosses Providence Canal just south of where the pipeline crosses St. Charles Canal at (b) (7)(F), (b) (3) [redacted]

Spoil Bank/Batcher:
No levee system exists for Providence Canal, so spills at this site have a potential for affecting the Cypress Tupelo swamp areas that exist on either side of the canal as well as the aquatic vegetation present in Providence Canal.

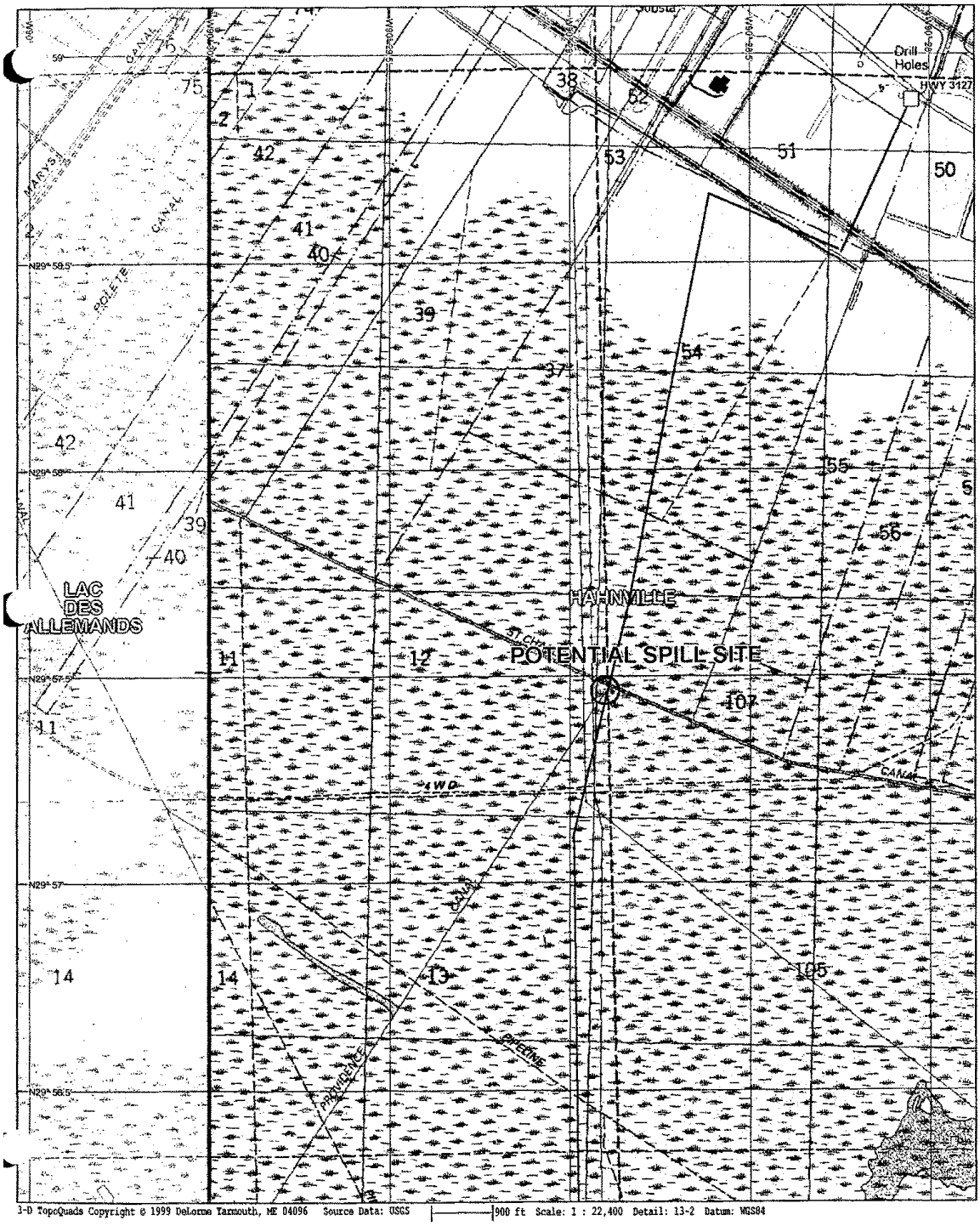
Providence Canal is home to many species of plants and animals typical of southern Louisiana bayous and swamp areas. In particular, Providence Canal contains a significant population of freshwater fish species. Some of the predominate species include: large mouth bass, blue catfish, and freshwater drum. Fauna such as the American alligator and various water fowl can be expected in the swamp areas along the bayou.

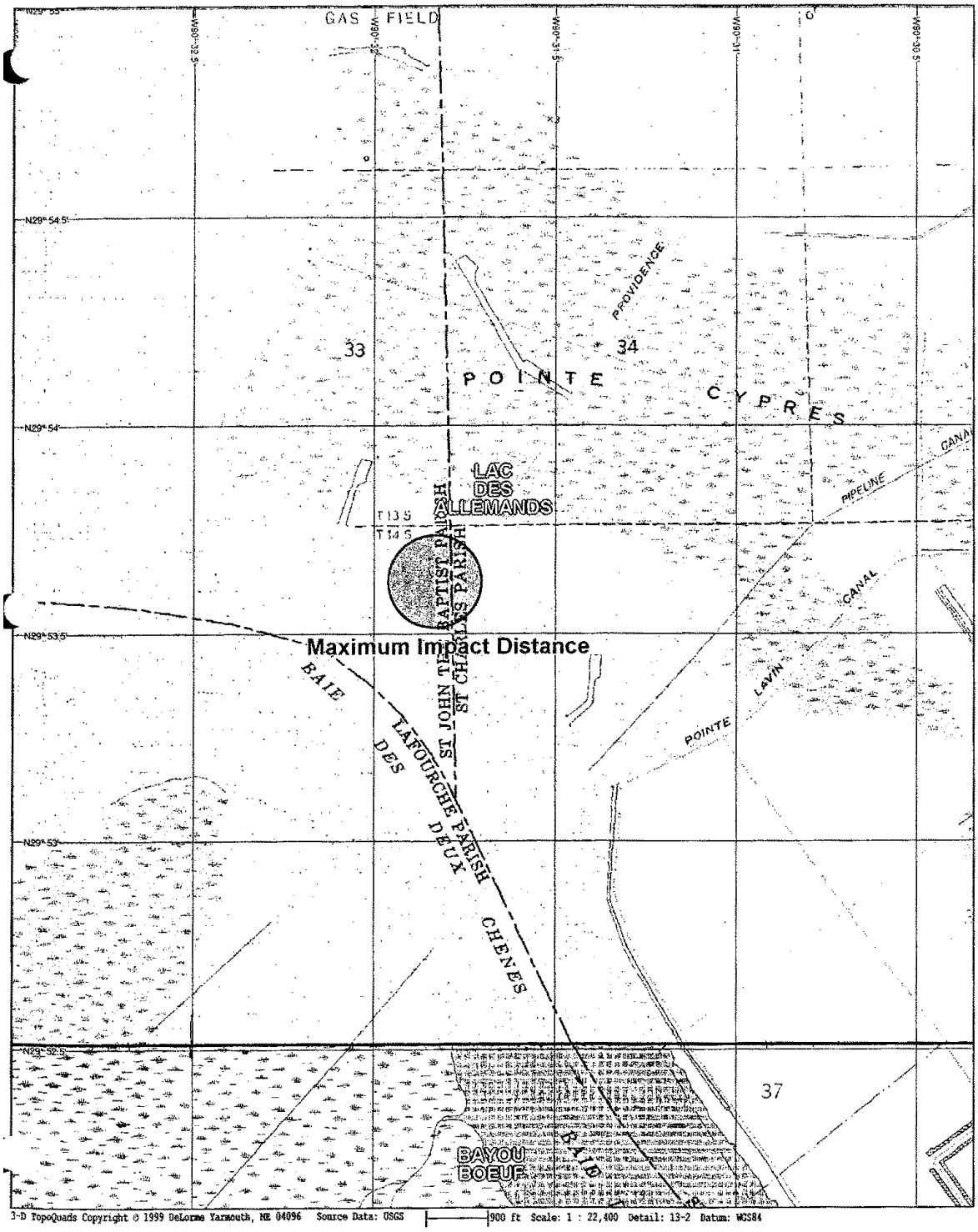
Predicted Natural Gasoline Impact:
Any Natural Gasoline spilled would be expected to impact the banks of Providence Canal. Spills in this area would involve substantial impacts to aquatic vegetation such as the water hyacinth prevalent in the area. Impacts in this region will generate substantial amounts of biotic wastes and possibly result in damage to freshwater fisheries via toxicity and oxygen depletion.

Recommended Response Activity:
Response to incidents in Providence Canal will concentrate on containment and recovery of the product. Flat bottom boats should be used to deploy containment boom in order to confine and contain the incident. Once the spill is sufficiently contained, drum skimmer units can be used to recover the free product in the water. Removal of the impacted vegetation is generally a labor-intensive process in these areas.

Impact Distances:
Spills occurring within Providence Canal have the potential of entering the St. Charles Canal to the North. The scenario for this case is described in Section 9 of this manual. The maximum expected impact distance to the south would be at the mouth of the canal where it opens into Lac Des Allemands. These locations are indicated on the maps on the following pages.

Providence Canal Area


LAC
DES
ALLEMANDS
HAHNVILLE
POTENTIAL SPILL SITE
Drill
Holes
HWY 3127
MARY'S
CANAL
PIPELINE
N29° 58.5'
N29° 58'
N29° 57.5'
N29° 57'
N29° 56.5'
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
900 ft Scale: 1 : 22,400 Detail: 13-2 Datum: WGS84


GAS FIELD
PROVIDENCE
33
34
POINTE
CYPRES
LAC
DES
ALLEMANDS
PIPELINE
CANAL
T13S
T14S
ST JOHN THE BAPTIST PARISH
ST CHARLES PARISH
Maximum Impact Distance
BAIE
DES
LAFOURCHE PARISH
DEUX
CHENES
LAVIN
POINTE
37
BAYOU
BOEUF
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
900 ft Scale: 1 : 22,400 Detail: 13-2 Datum: WGS84

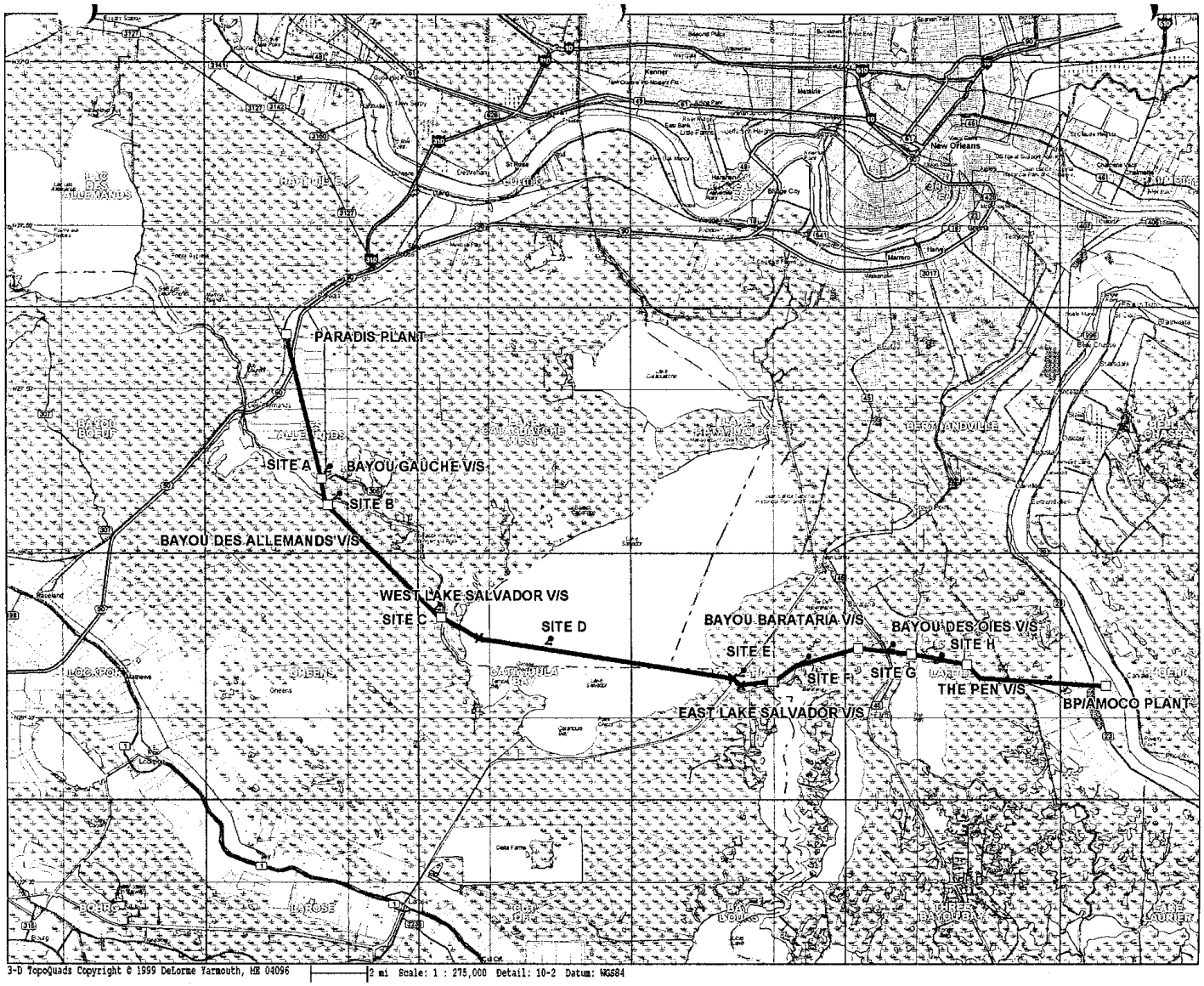
Primary Economically Sensitive Areas	
SITE LOCATION	**DESCRIPTION**
LA HWY 3127	The pipeline crosses LA HWY 3127 south of Waterford, LA.
City of Paradis, LA	The pipeline runs through the town of Paradis, LA

Water Intakes Potentially Affected By Spills From
(b) (7)(F), (b) (3) [redacted]

Response Area 5 BP-01-Paradis Tends Pumping Station to the BP/Amoco Plant; 6" Natural Gasoline Pipeline

Environmental Sensitivity
The BP-01 pipeline crosses several types of ecological areas as it spans from the Paradis TENDS Pumping Station to the BP/Amoco Plant. These areas are predominately freshwater lakes, cypress tupelo swamp, Intermediate/brackish, or saline marsh areas. This pipeline section also includes multiple water crossings where it meets Bayou Gauche, Bayou Des Allemands, Lake Salvador, Bayou Perot, The Intracoastal Waterway, the Barabay Property Canal, the Barataria Waterway, and the Pen. Eight areas of concern have been identified in this response zone. They are detailed individually in the following sections and are identified on the map on the following page.

Primary Environmentally Sensitive Areas	
Site A	Bayou Gauche / Mud Lake
Site B	Bayou Des Allemands
Site C	Gheens Foundation Property
Site D	Lake Salvador / Grosse Point
Site E	Bayou Perot / Intracoastal Waterway
Site F	Barabay Property
Site G	Barataria Waterway
Site H	The Pen


PARADIS PLANT
SITE A
BAYOU GAUCHE V/S
SITE B
BAYOU DES ALLEMANDS V/S
WEST LAKE SALVADOR V/S
SITE C
SITE D
BAYOU BARATARIA V/S
BAYOU DES OIES V/S
SITE H
SITE E
SITE F
SITE G
THE PEN V/S
BP/AMOCO PLANT
EAST LAKE SALVADOR V/S
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096
2 mi Scale: 1 : 275,000 Detail: 10-2 Datum: WGS84

Site A- Bayou Gauche / Mud Lake

This site is a freshwater bayou/lake area located where the pipeline crosses Bayou Gauche south of the town of Des Allemands, LA. The site coordinates of this area are (b) (7)(F), (b) (3) [redacted]. Additionally, this site is immediately to the west of Petit Lac Des Allemands (Mud Lake) and has the potential for contamination of the shallow water lake.

The Environmental Sensitivity Index, produced by RPI International, Inc., describes the area as follows:

Fresh Marsh/Fresh Lake:

- Fresh Marshes are found in the interior portions of southern Louisiana along freshwater ponds or lakes.
- These marshes have various types of vegetative cover, including floating aquatic mats, vascular submerged vegetation, deciduous scrubs and shrubs, and evergreen scrubs and shrubs.
- Alligators, birds and mammals extensively use fresh marshes for feeding and breeding purposes.
- The freshwater lake area adjacent to this location contains many species of freshwater marine animals. These include Largemouth Bass (Micropterus salmoides), Blue Catfish (Ictalarus furcatus), Channel Catfish (Ictalarus punctalus), and Freshwater Drum (Aplodinotus grunniens). Additionally, this area contains several species of shellfish including Blue Crab (Callinectes sapidus), River Crayfish (Procambarus clarkil), White Shrimp (Panaeus setiferus), and Brackish-water Clam (sp).

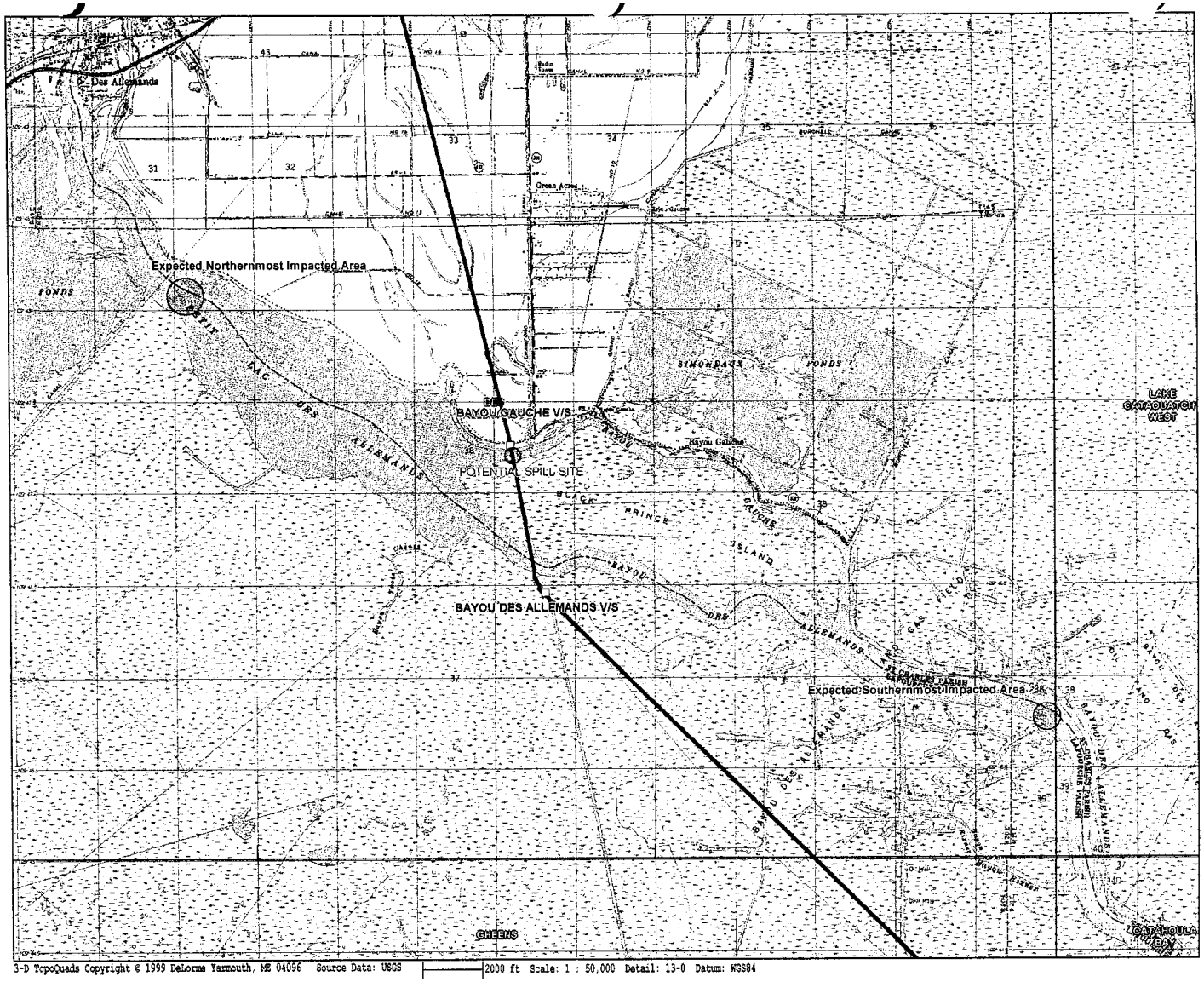
Predicted Natural Gasoline Impact:

- Small amounts of spilled Natural Gasoline are likely to contaminate the marsh fringe area only; natural removal by wave action in conjunction with passive remedial techniques can occur within months.
- Large spills will cover more area and can persist for decades.
- Natural Gasoline will adhere to marsh vegetation readily.
- Impacts to the marine environment will be minimized due to the lack of significant dispersion of spilled Natural Gasoline into the water table.

Recommended Response Activity:

- Marshes require the highest priority for shoreline protection
- Natural recovery is recommended when a small extent of marsh is affected or a small amount of Natural Gasoline impacts the marsh fringe.
- The preferred clean-up method is a combination of low pressure flushing, sorption, and vacuum pumping from boats.
- Any clean-up activities should be supervised closely to avoid excessive disturbances of the marsh surface or roots and should be conducted under the direction of federal and state agency direction.

Impact Distances:
Spills at this site have the potential for significant travel in multiple directions. Based on tidal movement and wind direction, spills at this location would be expected to travel northwesterly into Petit Lac Des Allemands via the mouth of Bayou Gauche. Furthermore, spills at this site would be expected to travel south via Bayou Gauche into Bayou Des Allemands. These impact areas are indicated on the map on the following page.


Des Allemands
Expected Northernmost Impacted Area
BAYOU GAUCHE V/S
POTENTIAL SPILL SITE
Bayou Gauche
BAYOU DES ALLEMANDS V/S
Expected Southernmost Impacted Area
LAKE CATAOUATCHE WEST
CATAHOULA BAY
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
2000 ft Scale: 1 : 50,000 Detail: 13-0 Datum: WGS84

Site B - Bayou Des Allemands

This site is a freshwater bayou area located where the pipeline crosses Bayou Des Allemands south of the town of Des Allemands, LA. The site coordinates of this area are (b) (7)(F), (b) (3) [redacted] Additionally, this site is immediately south of Petit Lac Des Allemands (Mud Lake) and has the potential for contamination of the shallow water lake.

The Environmental Sensitivity Index, produced by RPI International, Inc., describes the area as follows:
Fresh Marsh/Fresh Lake:

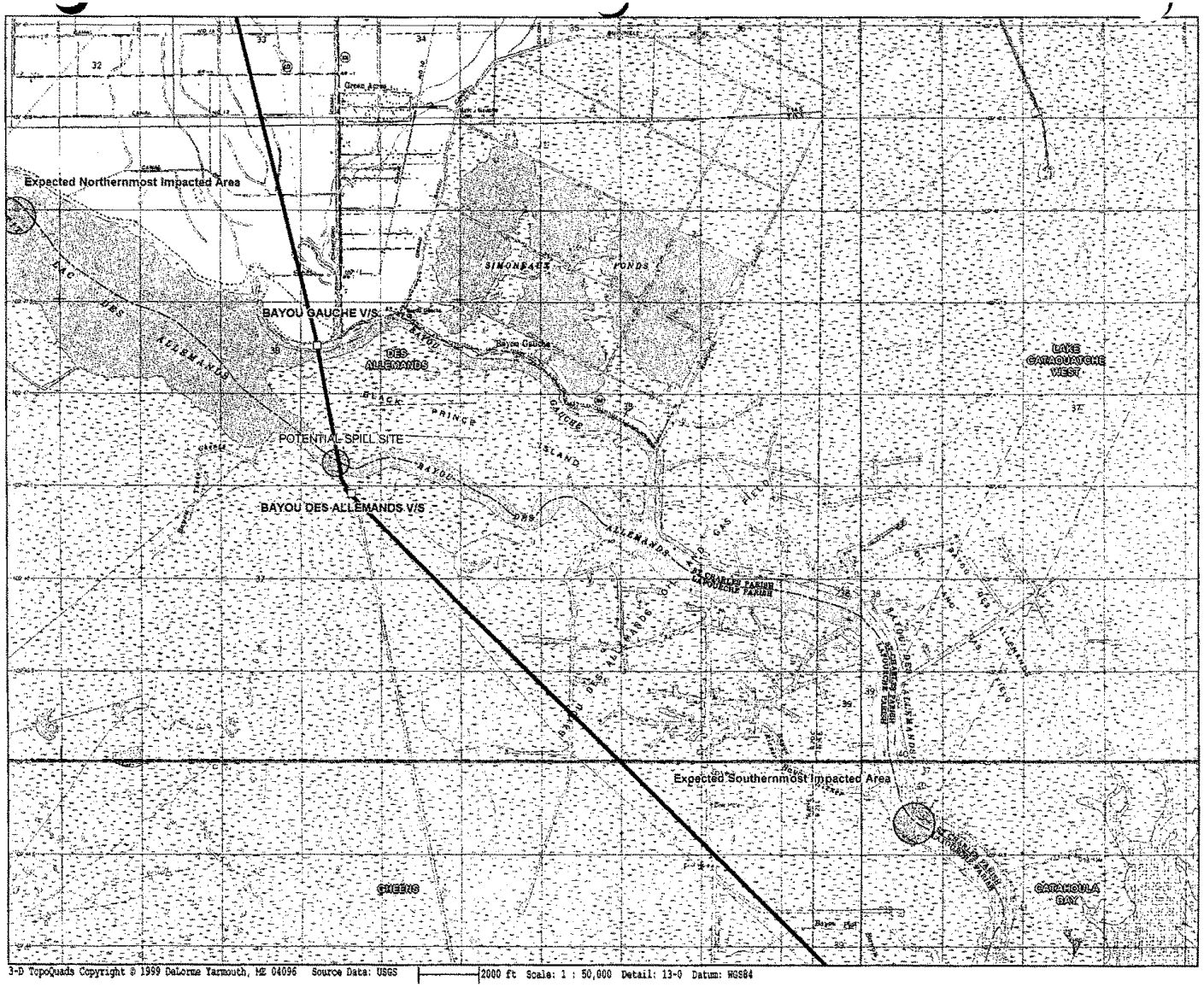
- Fresh Marshes are found in the interior portions of southern Louisiana along freshwater ponds or lakes.
- These marshes have various types of vegetative cover, including floating aquatic mats, vascular submerged vegetation, deciduous scrubs and shrubs, and evergreen scrubs and shrubs.
- Alligators, birds and mammals extensively use fresh marshes for feeding and breeding purposes.
- The freshwater lake area adjacent to this location contains many species of freshwater marine animals. These include Largemouth Bass (Micropterus salmoides), Blue Catfish (Ictalarus furcatus), Channel Catfish (Ictalarus punctalus), and Freshwater Drum (Aplodinotus grunniens). Additionally, this area contains several species of shellfish including Blue Crab (Callinectes sapidus), River Crayfish (Procambarus clarkil), White Shrimp (Panaeus setiferus), and Brackish-water Clam (sp).

Predicted Natural Gasoline Impact:

- Small amounts of spilled Natural Gasoline are likely to contaminate the marsh fringe area only; natural removal by wave action in conjunction with passive remedial techniques can occur within months.
- Large spills will cover more area and can persist for decades.
- Natural Gasoline will adhere to marsh vegetation readily.
- Impacts to the marine environment will be minimized due to the lack of significant dispersion of spilled Natural Gasoline into the water table.

Recommended Response Activity:

- Marshes require the highest priority for shoreline protection
- Natural recovery is recommended when a small extent of marsh is affected or a small amount of Natural Gasoline impacts the marsh fringe.
- The preferred clean-up method is a combination of low pressure flushing, sorption, and vacuum pumping from boats.
- Any clean-up activities should be supervised closely to avoid excessive disturbances of the marsh surface or roots and should be conducted under the direction of federal and state agency representatives.


Expected Northernmost Impacted Area
BAYOU GAUCHE V/S
POTENTIAL SPILL SITE
BAYOU DES ALLEMANDS V/S
Expected Southernmost Impacted Area
LAKE CATAOUATCHE WEST
CATAHOULA BAY
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
2000 ft Scale: 1 : 50,000 Detail: 13-0 Datum: WGS84

Site C- The Gheens Foundation

This site contains areas of fresh and intermediate marshes and is located where the pipeline crosses through the Gheens Foundation property south of the town of Des Allemands, LA. The reference site coordinates for this area are (b) (7)(F), (b) (3) [redacted]. Additionally, this site is located to the west of Bayou Des Allemands and has the potential for contamination of the freshwater bayou.

The Environmental Sensitivity Index, produced by RPI International, Inc., describes the area as follows:

Fresh Marsh/Fresh Bayou:

- Fresh Marshes are found in the interior portions of southern Louisiana along freshwater ponds or lakes.
- These marshes have various types of vegetative cover, including floating aquatic mats, vascular submerged vegetation, deciduous scrubs and shrubs, and evergreen scrubs and shrubs.
- Alligators, birds and mammals extensively use fresh marshes for feeding and breeding purposes.
- The freshwater Bayou area adjacent to this location contains many species of freshwater marine animals. These include Largemouth Bass (Micropterus salmoides), Blue Catfish (Ictalarus furcatus), Channel Catfish (Ictalarus punctalus), and Freshwater Drum (Aplodinotus grunniens). Additionally, this area contains several species of shellfish including Blue Crab (Callinectes sapidus), River Crayfish (Procambarus clarkil), White Shrimp (Panaeus setiferus), and Brackish-water Clam (sp).

Predicted Natural Gasoline Impact:

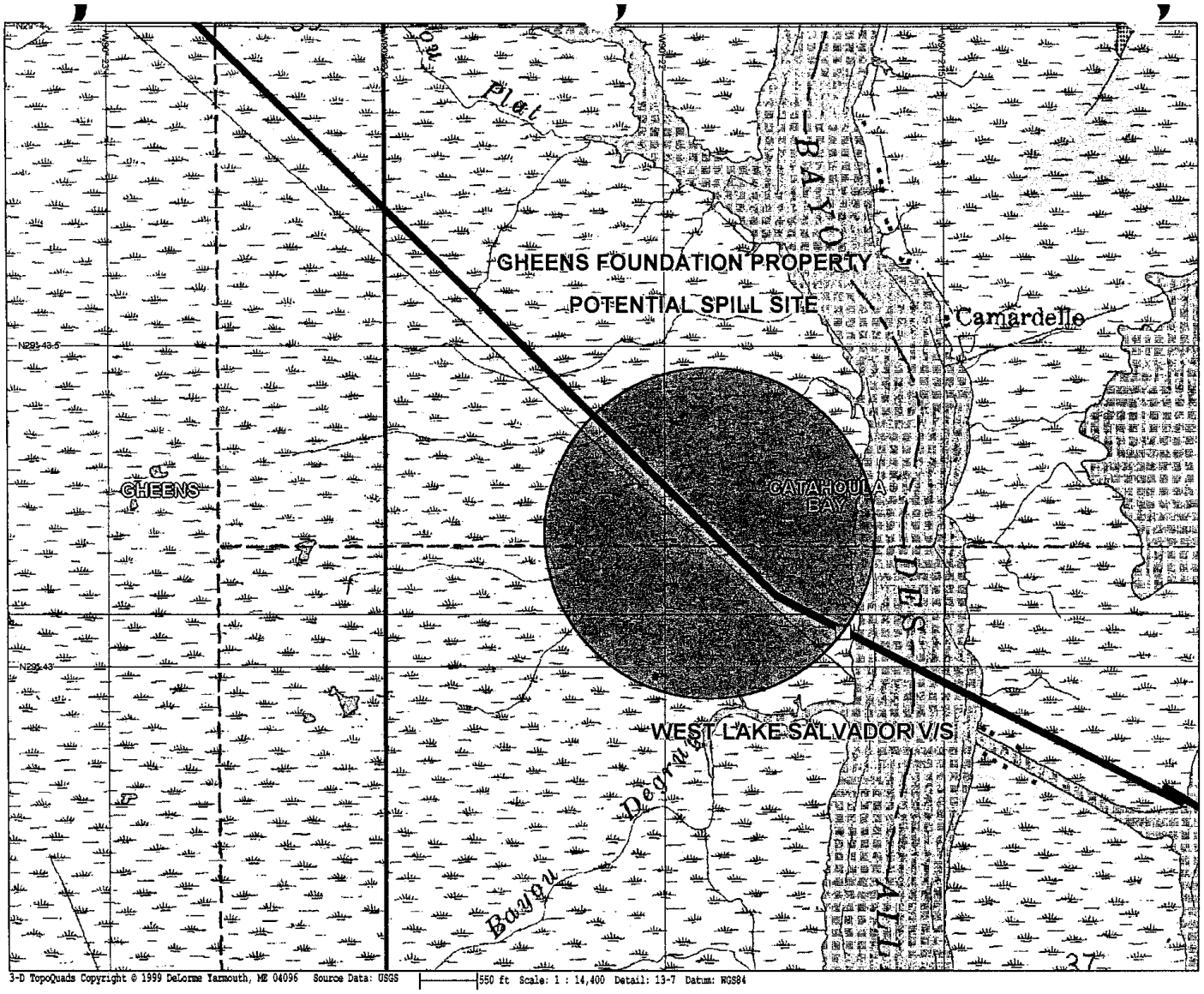
- Small amounts of spilled Natural Gasoline are likely to contaminate the marsh fringe area only; natural removal by wave action in conjunction with passive remediation techniques can occur within months.
- Large spills will cover more area and can persist for decades.
- Natural Gasoline will adhere to marsh vegetation readily.
- Impacts to the marine environment will be minimized due to the lack of significant dispersion of spilled Natural Gasoline into the water table.

Recommended Response Activity:

- Marshes require the highest priority for shoreline protection
- Natural recovery is recommended when a small extent of marsh is affected or a small amount of Natural Gasoline impacts the marsh fringe.
- The preferred clean-up method is a combination of low pressure flushing, sorption, and vacuum pumping from boats.
- Any clean-up activities should be supervised closely to avoid excessive disturbances of the marsh surface or roots and should be conducted under the direction of federal and state agency representatives.

Impact Distances:
Spills at this site have the potential for significant travel in multiple directions. Based on tidal movement and wind direction, spills at this location would be expected to travel north into Petit Lac Des Allemands via Bayou Des Allemands. Furthermore, spills at this site would be expected to travel south via Bayou Des Allemands. These impact areas are indicated on the map on the following page.

Impact Distances:
Spills at this site have the potential for significant travel in multiple directions across the marsh areas. Based on tidal movement and wind direction, spills at this location would be expected to travel in all directions within the Gheens Foundation property. Furthermore, spills at this site would have the potential to travel south via Bayou Des Allemands as described in the previous section of this response plan. These impact areas are indicated on the map on the following page.


GHEENS FOUNDATION PROPERTY
POTENTIAL SPILL SITE
Camardelle
GHEENS
CATAHOULA BAY
WEST LAKE SALVADOR V/S
Bayou Degray
Bayou Blue
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
550 ft Scale: 1 : 14,400 Detail: 13-7 Datum: WGS84

Site D- Lake Salvador / Grosse Point

This site is an inland lake area located where the pipeline crosses Lake Salvador south of the town of Des Allemands, LA. Some reference site coordinates for this area are (b) (7)(F), (b) (3) [redacted] The banks of Lake Salvador include areas of Fresh Marsh, Freshwater Swamp, Intermediate/Brackish to Salt Marsh. These areas are addressed separately below.

The Environmental Sensitivity Index, produced by RPI International, Inc., describes the area as follows:

Fresh Marsh:

- Fresh Marshes are found in the interior portions of southern Louisiana along freshwater ponds or lakes.
- These marshes have various types of vegetative cover, including floating aquatic mats, vascular submerged vegetation, deciduous scrubs and shrubs, and evergreen scrubs and shrubs.
- Alligators, birds and mammals extensively use fresh marshes for feeding and breeding purposes.
- The freshwater area adjacent to this location contains many species of freshwater marine animals. These include Largemouth Bass (Micropterus salmoides), Blue Catfish (Ictalarus furcatus), Channel Catfish (Ictalarus punctalus), and Freshwater Drum (Aplodinotus grunniens). Additionally, this area contains several species of shellfish including Blue Crab (Callinectes sapidus), River Crayfish (Procambarus clarkil), White Shrimp (Panaeus setiferus), and Brackish-water Clam (sp).

Salt Marsh:

- Salt marshes are wet grasslands vegetated by salt-tolerant species. This habitat includes all non-fresh species.
- Alligators, birds and mammals extensively use salt marshes for feeding and breeding purposes.
- Species found in or near the salt marsh areas include several species of shellfish including Blue Crab (Callinectes sapidus), River Crayfish (Procambarus clarkil), White Shrimp (Panaeus setiferus), and Brackish-water Clam (sp) along with water fowl including American Coot (Fulica Americana) and Ring-neck Duck (Aythya caollaris)
- Adjacent to these salt marsh areas, many species of marine fish populate the water areas. These species include Spotted Sea Trout (Cynoscion nebulosus), Red Drum (Schaienops ocellatus), Sheepshead (Coryphaena hippurus), and Sea Catfish (Galeichtheyes felis). Additionally, these areas contain several species of freshwater species described in other sections of this response plan.

Predicted Natural Gasoline Impact:

- Small amounts of spilled Natural Gasoline are likely to contaminate the marsh fringe area only; natural removal by wave action in conjunction with passive remediation techniques can occur within months.
- Large spills will cover more area and can persist for decades.

- Natural Gasoline will adhere to marsh vegetation readily.
- Impacts to the marine environment will be minimized due to the lack of significant dispersion of spilled Natural Gasoline into the water table.

Recommended Response Activity:

- Marshes require the highest priority for shoreline protection
- Natural recovery is recommended when a small extent of marsh is affected or a small amount of Natural Gasoline impacts the marsh fringe.
- The preferred clean-up method is a combination of low pressure flushing, sorption, and vacuum pumping from boats.
- Any clean-up activities should be supervised closely to avoid excessive disturbances of the marsh surface or roots and should be conducted under the direction of federal and state agency representatives.

Swamp:

- A freshwater wetland having varying water depths with vegetation ranging from shrubs and scrubs to poorly drained forested wetlands. Major vegetative types include Bald Cypress, Tupleo, and Black Willow.
- Alligators, many types of birds, and mammals use swamp areas during feeding and breeding activities.

Predicted Natural Gasoline Impact:

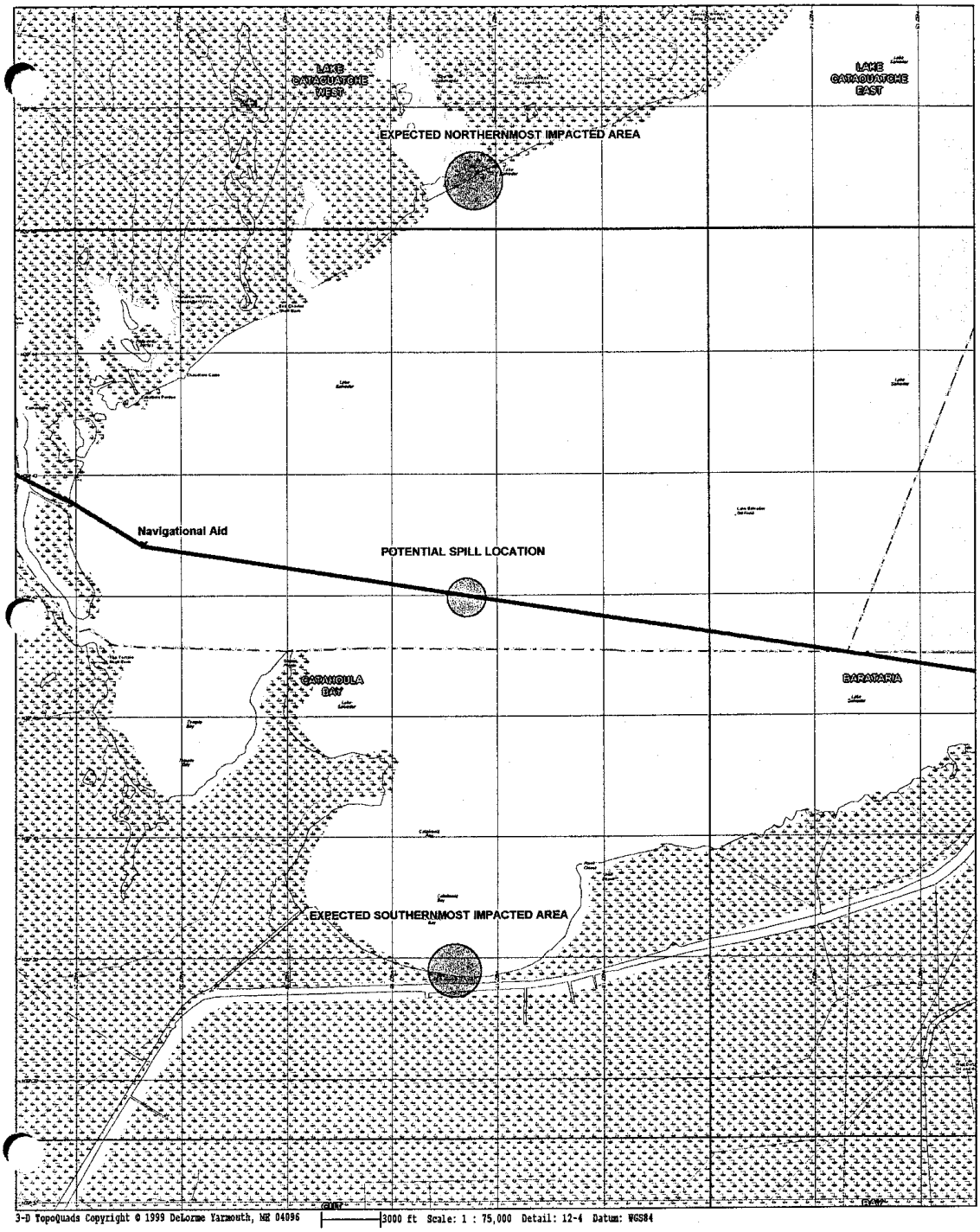
- Small amounts of spilled Natural Gasoline can spread throughout the swamp area to a limited extent.
- Large spills will cover more area and can persist since water flushing rates are very low.
- Natural Gasoline will adhere to swamp vegetation.
- During wet cycles, the roots of the swamp forest trees are not exposed; thus, a lesser degree of impact to the trees is expected. Any underbrush vegetation would be more severely impacted.

Recommended Response Activity:

- Passive remediation to no cleanup recommended in light to moderate accumulations. This will include placement of absorbent materials around the impacted area in order to remove the Natural Gasoline as it is slowly released.
- In larger accumulations, strategic booming methods may be highly effective in trapping accumulations of Natural Gasoline that can be reclaimed through the use of skimmers and vacuums.
- In all circumstances, consideration must be given to the impact response personnel and equipment will potentially have on the area they are attempting to mitigate. Minimization of the impact must be made by these resources as they are attempting to mitigate the incident. Any clean-up method used on an actual incident should be decided upon in conjunction with the Federal and State On-Scene Coordinators.

Impact Distances:

Based on tidal movement and wind direction, spills at this site have the potential for significant travel in multiple directions across Lake Slavador. The potential areas of impact include all areas of shoreline around Lake Salvador. To the north, the spill would be expected to reach the northern banks of Lake Salvador. To the south, the spill would be expected to reach the southern shore of Catahoula Bay as well as the Grosse Point Area. These impact areas are indicated on the map on the following page.


LAKE CATAOUATCHE WEST
LAKE CATAOUATCHE EAST
EXPECTED NORTHERNMOST IMPACTED AREA
Navigational Aid
POTENTIAL SPILL LOCATION
CATAHOULA BAY
CATAWATAHA
EXPECTED SOUTHERNMOST IMPACTED AREA
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096
3000 ft Scale: 1 : 75,000 Detail: 12-4 Datum: WGS84

Site E- Bayou Perot / Intracoastal Waterway

This site is a bayou/canal intersection running through a intermediate/brackish/salt marsh area located to the east of Lake Salvador. This site is located where the pipeline crosses the intersection of Bayou Perot and the Intracoastal Waterway. The site coordinates of this area are (b) (7)(F), (b) (3)

The Environmental Sensitivity Index, produced by RPI International, Inc., describes the area as follows:
Salt Marsh:

- Salt marshes are wet grasslands vegetated by salt-tolerant species. This habitat includes all non-fresh species.
- Alligators, birds and mammals extensively use salt marshes for feeding and breeding purposes.
- Species found in or near the salt marsh areas include several species of shellfish including Blue Crab (Callinectes sapidus), River Crayfish (Procambarus clarkil), White Shrimp (Panaeus setiferus), and Brackish-water Clam (sp) along with water fowl including American Coot (Fulica Americana) and Ring-neck Duck (Aythya caollaris)
- Adjacent to these salt marsh areas, many species of marine fish populate the water areas. These species include Spotted Sea Trout (Cynoscion nebulosus), Red Drum (Schaienops ocellatus), Sheepshead (Coryphaena hippurus), and Sea Catfish (Galeichtheyes felis). Additionally, these areas contain several species of freshwater species described in other sections of this response plan.

Predicted Natural Gasoline Impact:

- Small amounts of spilled Natural Gasoline are likely to contaminate the marsh fringe area only; natural removal by wave action in conjunction with passive remediation techniques can occur within months.
- Large spills will cover more area and can persist for decades.
- Natural Gasoline will adhere to marsh vegetation readily.
- Impacts to the marine environment will be minimized due to the lack of significant dispersion of spilled Natural Gasoline into the water table.

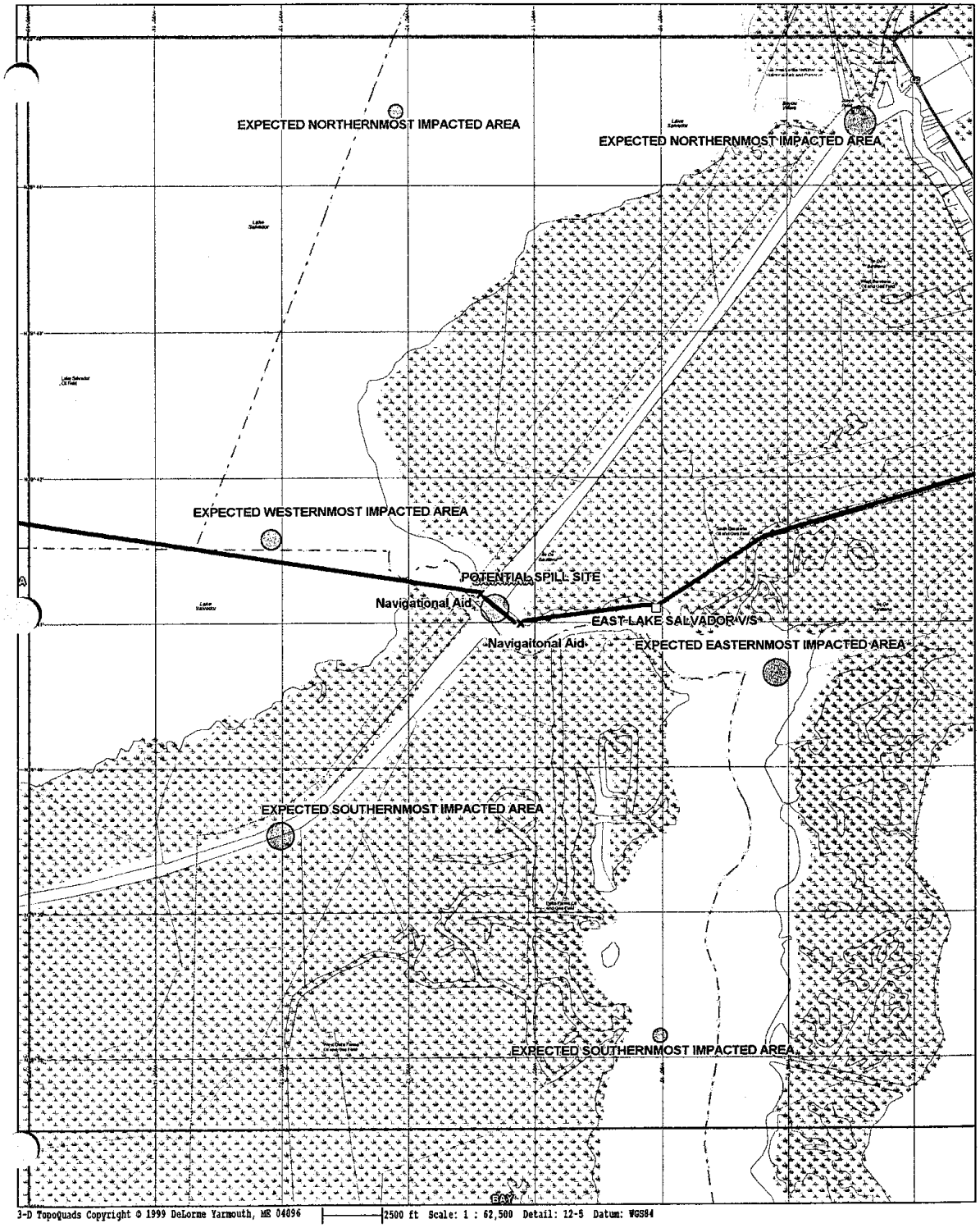
Recommended Response Activity:

- Marshes require the highest priority for shoreline protection
- Natural recovery is recommended when a small extent of marsh is affected or a small amount of Natural Gasoline impacts the marsh fringe.
- The preferred clean-up method is a combination of low pressure flushing, sorption, and vacuum pumping from boats.
- Any clean-up activities should be supervised closely to avoid excessive disturbances of the marsh surface or roots and should be conducted under the direction of federal and state agency representatives.

Additionally, spills in this area have the potential for escaping into Lake Salvador. In this event the spills would have the potential to affect the marine and fresh marsh environments described in the previous section of this response plan.

Impact Distances:

Based on tidal movement and wind direction, spills occurring in this area have the potential for migration in all directions. Any Natural Gasoline spilled would be expected to travel both north and south via the Intracoastal Waterway as well as east and west via Bayou Perot. Should the spill travel via Bayou Perot it could potentially impact Lake Salvador to the west. The areas are indicated on the map on the following page.


EXPECTED NORTHERNMOST IMPACTED AREA
EXPECTED NORTHERNMOST IMPACTED AREA
EXPECTED WESTERNMOST IMPACTED AREA
POTENTIAL SPILL SITE
Navigational Aid
EAST LAKE SALVADOR VIS
Navigational Aid
EXPECTED EASTERNMOST IMPACTED AREA
EXPECTED SOUTHERNMOST IMPACTED AREA
EXPECTED SOUTHERNMOST IMPACTED AREA
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096
2500 ft Scale: 1 : 62,500 Detail: 12-5 Datum: WGS84

Site F- Barabay Property

This site is a canal running through an Intermediate/Brackish/Salt Marsh area located where the pipeline crosses through the Barabay Property. The site coordinates of this area are (b) (7)(F), (b) (3) [redacted]

The Environmental Sensitivity Index, produced by RPI International, Inc., describes the area as follows:
Salt Marsh:

- Salt marshes are wet grasslands vegetated by salt-tolerant species. This habitat includes all non-fresh species.
- Alligators, birds and mammals extensively use salt marshes for feeding and breeding purposes.
- Species found in or near the salt marsh areas include several species of shellfish including Blue Crab (Callinectes sapidus), River Crayfish (Procambarus clarkil), White Shrimp (Panaeus setiferus), and Brackish-water Clam (sp) along with water fowl including American Coot (Fulica Americana) and Ring-neck Duck (Aythya caollaris)
- Adjacent to these salt marsh areas, many species of marine fish populate the water areas. These species include Spotted Sea Trout (Cynoscion nebulosus), Red Drum (Schaienops ocellatus), Sheepshead (Coryphaena hippurus), and Sea Catfish (Galeichtheyes felis). Additionally, these areas contain several species of freshwater species described in other sections of this response plan.

Predicted Natural Gasoline Impact:

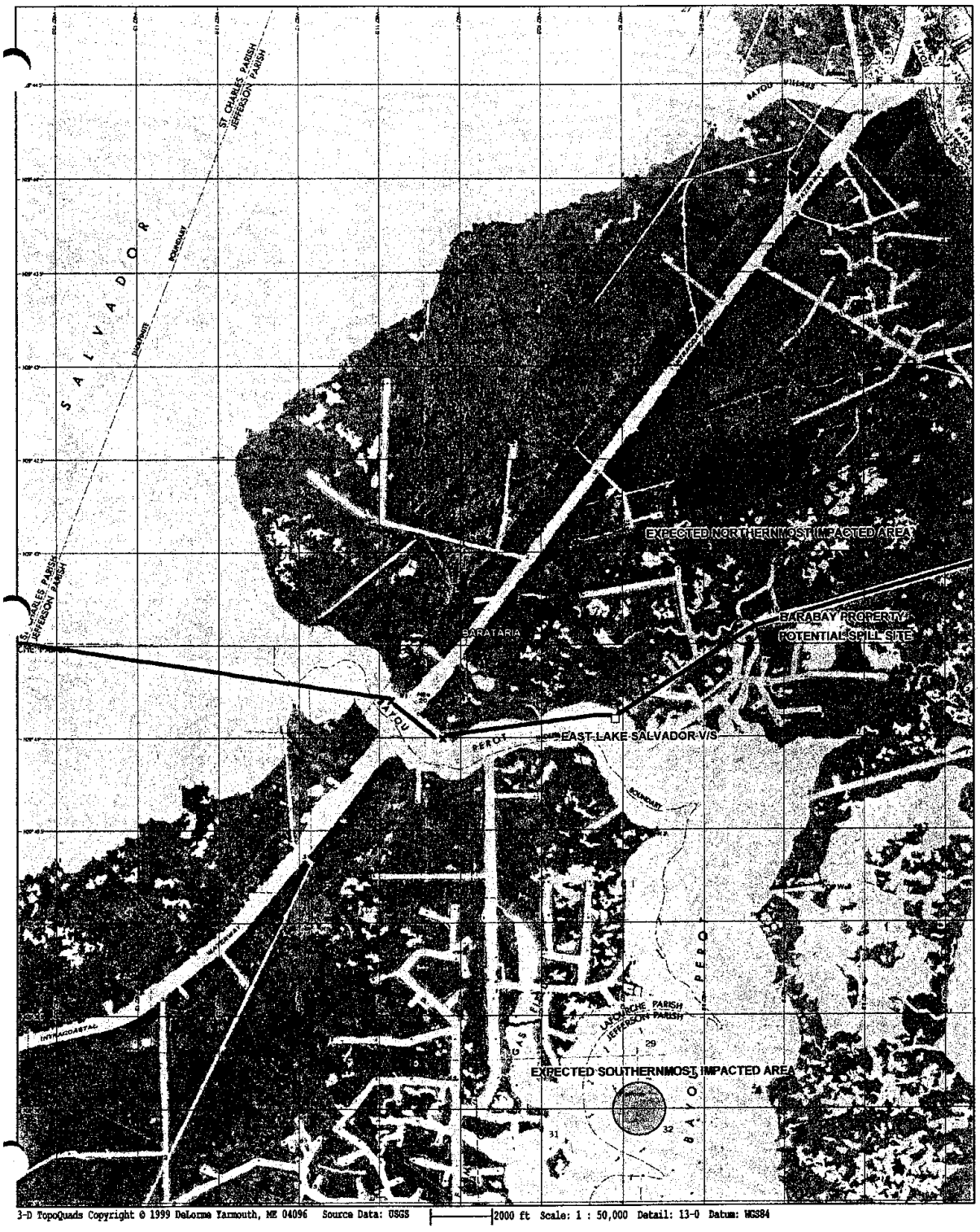
- Small amounts of spilled Natural Gasoline are likely to contaminate the marsh fringe area only; natural removal by wave action in conjunction with passive remediation methods can occur within months.
- Large spills will cover more area and can persist for decades.
- Natural Gasoline will adhere to marsh vegetation readily.
- Impacts to the marine environment will be minimized due to the lack of significant dispersion of spilled Natural Gasoline into the water table.

Recommended Response Activity:

- Marshes require the highest priority for shoreline protection
- Natural recovery is recommended when a small extent of marsh is affected or a small amount of Natural Gasoline impacts the marsh fringe.
- The preferred clean-up method is a combination of low pressure flushing, sorption, and vacuum pumping from boats.
- Any clean-up activities should be supervised closely to avoid excessive disturbances of the marsh surface or roots and should be conducted under the direction of federal and state agency representatives.

Impact Distances:

Based on tidal movements and wind direction, spills at this location have the potential for migration in all directions. A spill at this site would be expected to travel through the many access canals located within the Barabay Property depending upon the conditions at the time of the incident. Additionally, spills at this site would have the potential to reach Bayou Perot and could have the potential to impact the areas described in the previous section of this response plan. These areas are indicated on the map on the following page.


EXPECTED NORTHERNMOST IMPACTED AREA
BARABAY PROPERTY
POTENTIAL SPILL SITE
BARATARIA
EAST LAKE SALVADOR-V/S
EXPECTED SOUTHERNMOST IMPACTED AREA
ST CHARLES PARISH
JEFFERSON PARISH
LAFOURCHE PARISH
JEFFERSON PARISH
SALVADOR
PERDOT
BAYOU
INTRACOASTAL
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
2000 ft Scale: 1 : 50,000 Detail: 13-0 Datum: WGS84

Site G- Barataria Waterway

This site runs through a Intermediate/Brackish/Salt Marsh area located where the pipeline crosses through the Barataria Waterway. The site coordinates of this area are (b) (7)(F), (b) (3) [redacted].

The Environmental Sensitivity Index, produced by RPI International, Inc., describes the area as follows:
Salt Marsh:

- Salt marshes are wet grasslands vegetated by salt-tolerant species. This habitat includes all non-fresh species.
- Alligators, birds and mammals extensively use salt marshes for feeding and breeding purposes.
- Species found in or near the salt marsh areas include several species of shellfish including Blue Crab (Callinectes sapidus), River Crayfish (Procambarus clarkil), White Shrimp (Panaeus setiferus), and Brackish-water Clam (sp) along with water fowl including American Coot (Fulica Americana) and Ring-neck Duck (Aythya caollaris)
- Adjacent to these salt marsh areas, many species of marine fish populate the water areas. These species include Spotted Sea Trout (Cynoscion nebulosus), Red Drum (Schaienops ocellatus), Sheepshead (Coryphaena hippurus), and Sea Catfish (Galeichtheyes felis). Additionally, these areas contain several species of freshwater species described in other sections of this response plan.

Predicted Natural Gasoline Impact:

- Small amounts of spilled Natural Gasoline are likely to contaminate the marsh fringe area only; natural removal by wave action in conjunction with passive remediation techniques can occur within months.
- Large spills will cover more area and can persist for decades.
- Natural Gasoline will adhere to marsh vegetation readily.
- Impacts to the marine environment will be minimized due to the lack of significant dispersion of spilled Natural Gasoline into the water table.

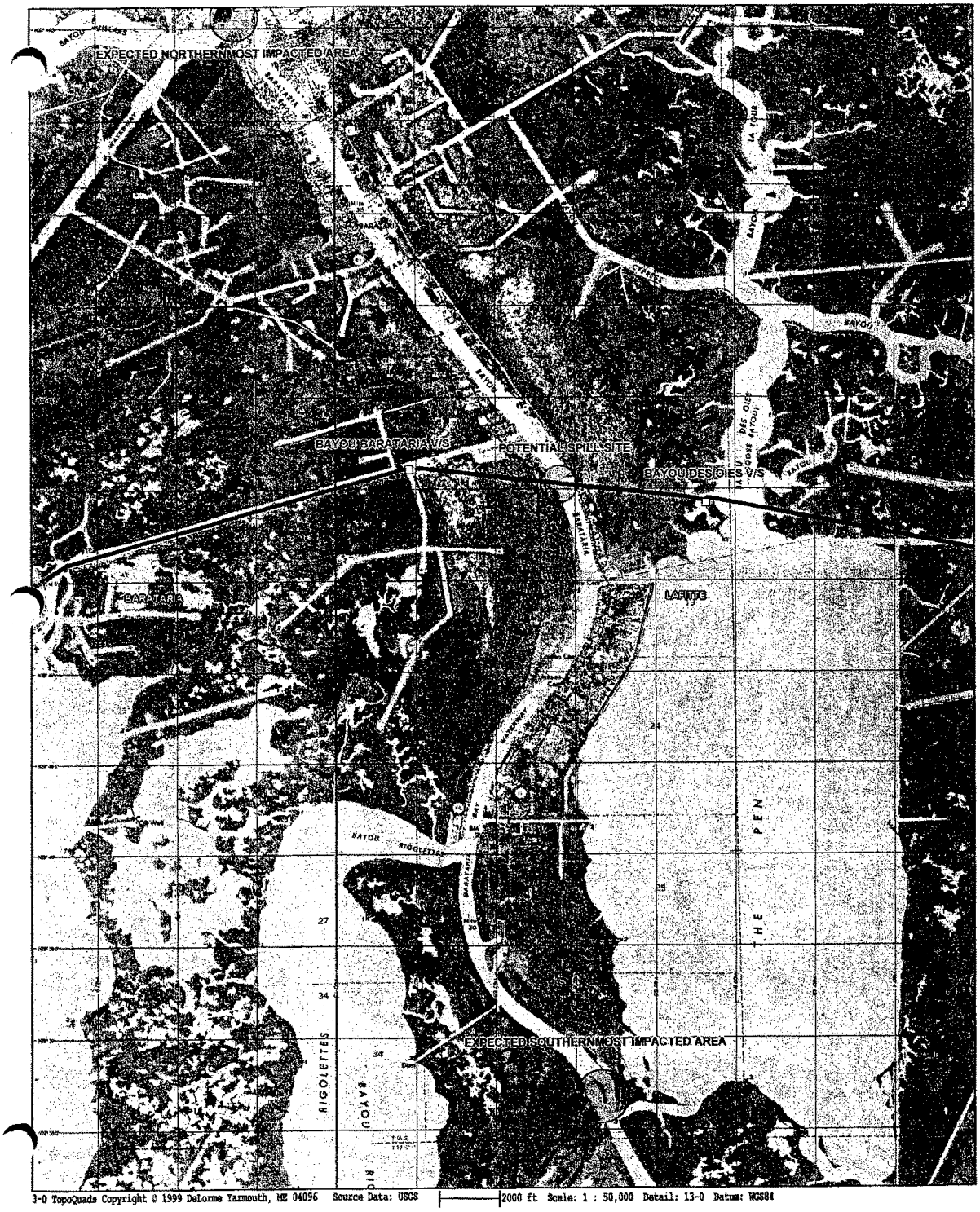
Recommended Response Activity:

- Marshes require the highest priority for shoreline protection
- Natural recovery is recommended when a small extent of marsh is affected or a small amount of Natural Gasoline impacts the marsh fringe.
- The preferred clean-up method is a combination of low pressure flushing, sorption, and vacuum pumping from boats.
- Any clean-up activities should be supervised closely to avoid excessive disturbances of the marsh surface or roots should be conducted under the direction of federal and state agency representatives.

Additionally, the area is highly developed in some places therefore impacts to residential or commercial areas are probable.

Impact Distances:

Based on tidal movements and wind direction, spills at this location have the potential to travel in both a northerly and southerly direction via the Barataria Waterway. Spills moving in a northerly direction have the potential to reach the Intracoastal Waterway while spills traveling southerly have the potential to reach The Pen. The scenarios for these occurrences are given in other parts of this response plan. Furthermore, the impact locations are given on the map on the following page.


EXPECTED NORTHERNMOST IMPACTED AREA
BAYOU BARATARIA V/S
POTENTIAL SPILL SITE
BAYOU DES OIES V/S
BARATARIA
LAFITTE
THE PEN
RIGOLETTES BAYOU
EXPECTED SOUTHERNMOST IMPACTED AREA
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
2000 ft Scale: 1 : 50,000 Detail: 13-0 Datum: WGS84

Site H- The Pen

This site is a shallow water lake area surrounded by a Intermediate/Brackish/Salt Marsh located where the pipeline crosses through The Pen. The site coordinates of this area are (b) (7)(F), (b) (3) [redacted]

The Environmental Sensitivity Index, produced by RPI International, Inc., describes the area as follows:
Salt Marsh:

- Salt marshes are wet grasslands vegetated by salt-tolerant species. This habitat includes all non-fresh species.
- Alligators, birds and mammals extensively use salt marshes for feeding and breeding purposes.
- Species found in or near the salt marsh areas include several species of shellfish including Blue Crab (Callinectes sapidus), River Crayfish (Procambarus clarkil), White Shrimp (Panaeus setiferus), and Brackish-water Clam (sp) along with water fowl including American Coot (Fulica Americana) and Ring-neck Duck (Aythya caollaris)
- Adjacent to these salt marsh areas, many species of marine fish populate the water areas. These species include Spotted Sea Trout (Cynoscion nebulosus), Red Drum (Schaienops ocellatus), Sheepshead (Coryphaena hippurus), and Sea Catfish (Galeichtheyes felis). Additionally, these areas contain several species of freshwater species described in other sections of this response plan.

Predicted Natural Gasoline Impact:

- Small amounts of spilled Natural Gasoline are likely to contaminate the marsh fringe area only; natural removal by wave action in conjunction with passive remediation techniques can occur within months.
- Large spills will cover more area and can persist for decades.
- Natural Gasoline will adhere to marsh vegetation readily.
- Impacts to the marine environment will be minimized due to the lack of significant dispersion of spilled Natural Gasoline into the water table.

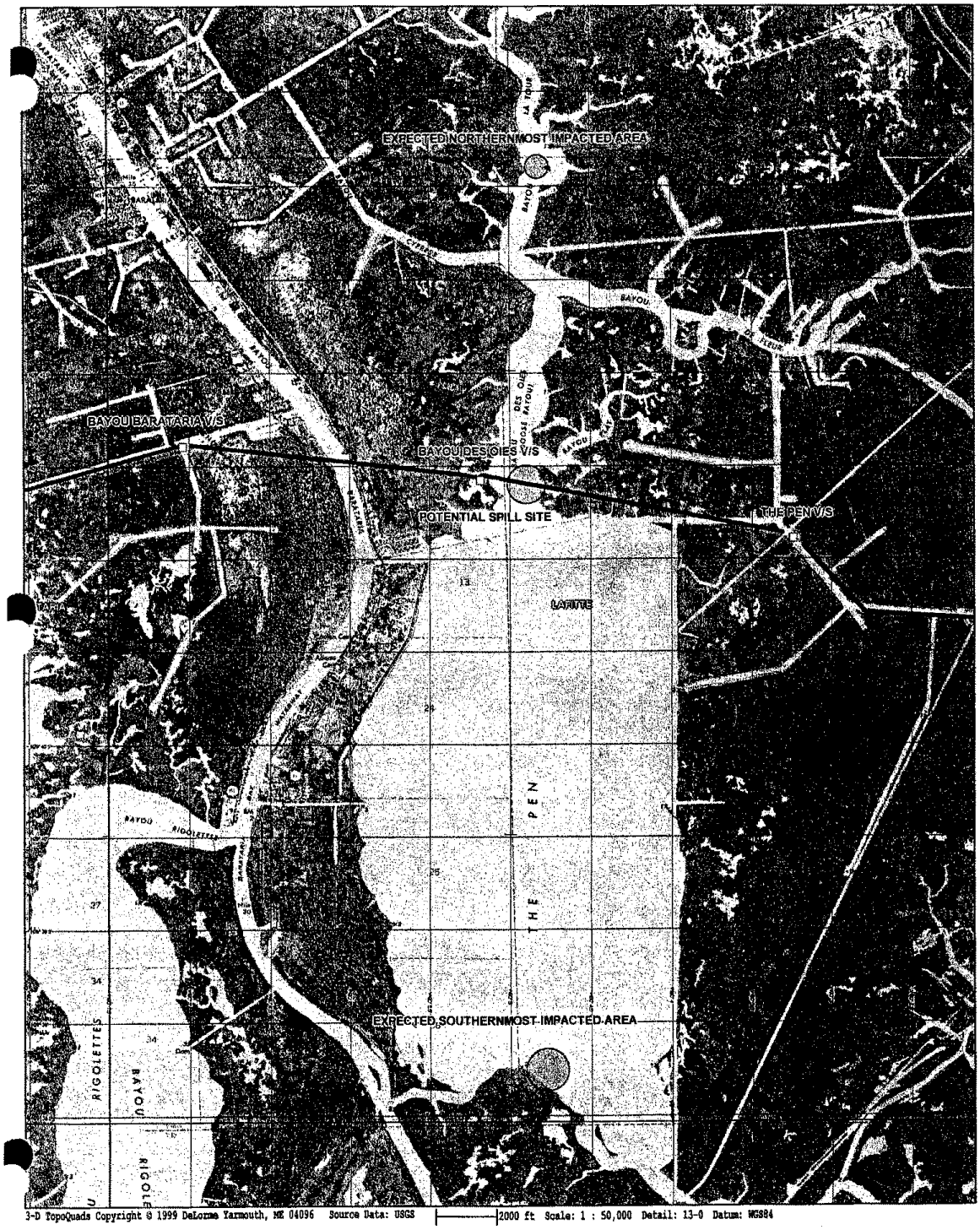
Recommended Response Activity:

- Marshes require the highest priority for shoreline protection
- Natural recovery is recommended when a small extent of marsh is affected or a small amount of Natural Gasoline impacts the marsh fringe.
- The preferred clean-up method is a combination of low pressure flushing, sorption, and vacuum pumping from boats.
- Any clean-up activities should be supervised closely to avoid excessive disturbances of the marsh surface or roots and should be conducted under the direction of federal and state agency representatives.

Additionally, the area is highly developed in some places therefore impacts to residential or commercial areas are probable.

Impact Distances:

Based on tidal movements and wind direction, spills at this location have the potential to travel in both a northerly and southerly direction. Spills moving in a northerly direction have the potential to travel via Bayou Des Oies into Bayou La Tour. Spills traveling southerly have the potential to reach the southern banks of The Pen. These impact locations are given on the map on the following page.


EXPECTED NORTHERNMOST IMPACTED AREA
BAYOU BARATARIA V/S
BAYOU DESCIES V/S
POTENTIAL SPILL SITE
THE PEN V/S
LAFITTE
PEN
THE
EXPECTED SOUTHERNMOST IMPACTED AREA
RIGOLETTES BAYOU
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
2000 ft Scale: 1 : 50,000 Detail: 13-0 Datum: WGS84

Primary Economically Sensitive Areas	
Site Location	**Description**
LA HWY 90	The pipeline crosses LA HWY 90 near the town of Des Allemands, LA.
Bayou Gauche	The pipeline crosses Bayou Gauche South of Des Allemands, LA.
Bayou Des Allemands	The pipeline crosses Bayou Des Allemands south of Des Allemands, LA.
Lake Salvador	The pipeline crosses the southern end of Lake Salvador.
Intracoastal Waterway	The pipeline crosses the Intracoastal Waterway at the intersection of the Intracoastal Waterway and Bayou Perot.
Barataria Waterway	The pipeline crosses the Barataria Waterway just north of Lafitte, LA.
LA HWY 45	The pipeline crosses LA HWY 45 just north of the town of Lafitte, LA.
LA HWY 23	The pipeline crosses LA HWY 23 adjacent to the BP/Amoco Refinery.

Shortcut Resort
The Shortcut Resort is a residentially developed area on the east bank of Bayou Des Allemands located between the environmental sites identified in this manual as Sites C and D. This area is of special concern due to the potential impact to the economic and residential areas located in this stretch of the waterway. In the event of a spill near this location, all efforts shall be made to contain the natural gasoline and prevent impact to this area.

Water Intakes Potentially Affected By Spills From This Pipeline Segment
(b) (7)(F), (b) (3) [redacted]

Response Area 6 LGPP-Larose Processing Plant to the Point A(b) (3), (b) (7)(F) [redacted]

Environmental Sensitivity
(b) (3), (b) (7)(F) [redacted] the LGPP pipeline traverses in a southerly direction, it crosses intermediate, brackish, and salt marsh wetlands. This pipeline section also includes multiple water crossings where it intersects Bayou Blue, the entrance to Bully Camp, and Grand Bayou. These three areas of concern have been identified for further review in this response zone. They are detailed individually in the following sections and are identified on the map on the following page.

Primary Environmentally Sensitive Areas	
Site A	Bayou Blue
Site B	Bully Camp/Point Au Chien Wildlife Management Area
Site C	Grand Bayou

(b) (3), (b) (7)(F)

Site A- Bayou Blue

This site is a crossing located in a salt marsh area where the pipeline crosses Bayou Blue at (b) (7)(F), (b) (3)

The Environmental Sensitivity Index, produced by RPI International, Inc., describes the area as follows:

Salt Marsh:

- Salt marshes are wet grasslands vegetated by salt-tolerant species. This habitat includes all non-fresh species.
- Alligators, birds, and mammals extensively use salt marshes for feeding and breeding purposes.
- Species found in or near the salt marsh areas include several species of shellfish including Blue Crab (Callinectes sapidus), River Crayfish (Procambarus clarkil), White Shrimp (Panaeus setiferus), and Brackish-water Clam (sp) along with water fowl including American Coot (Fulica Americana) and Ring-neck Duck (Aythya caollaris)
- Adjacent to these salt marsh areas, many species of marine fish populate the water areas. These species include Spotted Sea Trout (Cynoscion nebulosus), Red Drum (Schaienops ocellatus), Sheepshead (Coryphaena hippurus), and Sea Catfish (Galeichtheyes felis).

Predicted Natural Gasoline Impact:

- Small amounts of spilled Natural Gasoline are likely to contaminate the marsh fringe area only; natural removal by wave action in conjunction with passive remediation techniques can occur within months.
- Large spills will cover more area and can persist for decades.
- Natural Gasoline will adhere to marsh vegetation readily.
- Impacts to the marine environment will be minimized due to the lack of significant dispersion of spilled Natural Gasoline into the water table.

Recommended Response Activity:

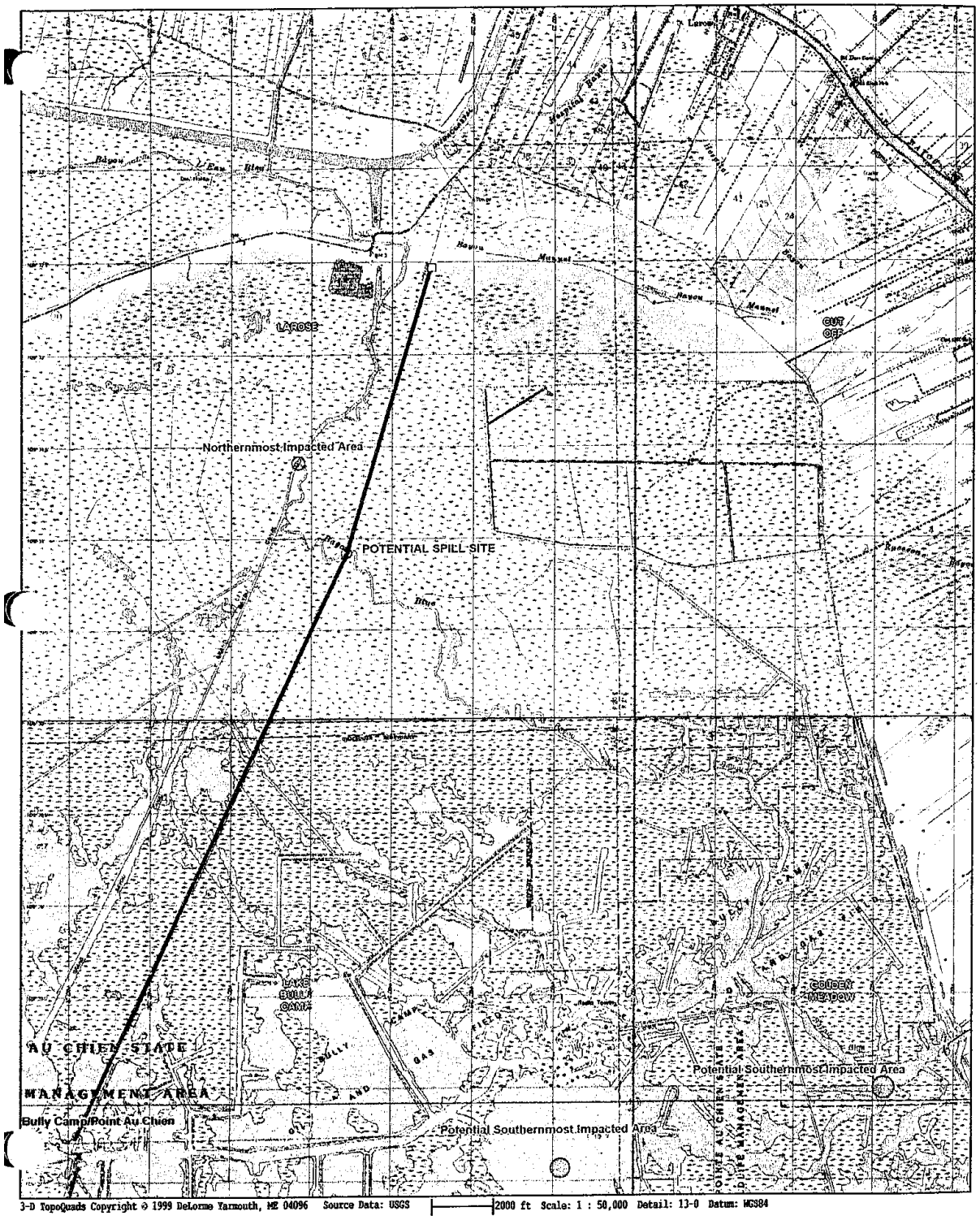
- Marshes require the highest priority for shoreline protection
- Natural recovery is recommended when a small extent of marsh is affected or a small amount of Natural Gasoline impacts the marsh fringe.
- The preferred clean-up method is a combination of low pressure flushing, sorption, and vacuum pumping from boats.
- Any clean-up activities should be supervised closely to avoid excessive disturbances of the marsh surface or roots and should be conducted under the direction of federal and state agency representatives.

Impact Distances:

The expected northernmost impacted area is the intersection with the Grand Bayou Canal located approximately 1 mile to the Northwest of the potential spill location. To the South, Natural Gasoline would be expected to travel Southerly via Bayou Blue into the Bully Camp Oil and Gas

Field. From there, Natural Gasoline has the potential to travel southwesterly to an approximate distance of 8.7 miles or southeasterly to a distance of 5.3 miles. These impact locations are indicated on the map located in this section.

Bayou Blue Pipeline Crossing


LAROSE
CUT OFF
Northernmost Impacted Area
POTENTIAL SPILL SITE
LAKE BULLY CAMP
AU CHIEN STATE
MANAGEMENT AREA
Bully Camp/Point Au Chien
GOLDEN MEADOW
Potential Southernmost Impacted Area
Potential Southernmost Impacted Area
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
2000 ft Scale: 1 : 50,000 Detail: 13-0 Datum: WGS84

Site B – Bully Camp/Point Au Chien Wildlife Management Area

This site is located where the pipeline crosses the entrance to Bully Camp on the Point Au Chien Wildlife Management Area at (b) (7)(F), (b) (3) [redacted]

The Environmental Sensitivity Index, produced by RPI International, Inc., describes the area as follows:

Salt Marsh:

- Salt marshes are wet grasslands vegetated by salt-tolerant species. This habitat includes all non-fresh species.
- Alligators, birds, and mammals extensively use salt marshes for feeding and breeding purposes.
- Species found in or near the salt marsh areas include several species of shellfish including Blue Crab (Callinectes sapidus), River Crayfish (Procambarus clarkil), White Shrimp (Panaeus setiferus), and Brackish-water Clam (sp) along with water fowl including American Coot (Fulica Americana) and Ring-neck Duck (Aythya caollaris)
- Adjacent to these salt marsh areas, many species of marine fish populate the water areas. These species include Spotted Sea Trout (Cynoscion nebulosus), Red Drum (Schaienops ocellatus), Sheepshead (Coryphaena hippurus), and Sea Catfish (Galeichtheyes felis).

Predicted Natural Gasoline Impact:

- Small amounts of spilled Natural Gasoline are likely to contaminate the marsh fringe area only; natural removal by wave action in conjunction with passive remediation techniques can occur within months.
- Large spills will cover more area and can persist for decades.
- Natural Gasoline will adhere to marsh vegetation readily.
- Impacts to the marine environment will be minimized due to the lack of significant dispersion of spilled Natural Gasoline into the water table.

Recommended Response Activity:

- Marshes require the highest priority for shoreline protection
- Natural recovery is recommended when a small extent of marsh is affected or a small amount of Natural Gasoline impacts the marsh fringe.
- The preferred clean-up method is a combination of low pressure flushing, sorption, and vacuum pumping from boats.
- Any clean-up activities should be supervised closely to avoid excessive disturbances of the marsh surface or roots and should be conducted under the direction of federal and state agency representatives.

Impact Distances:

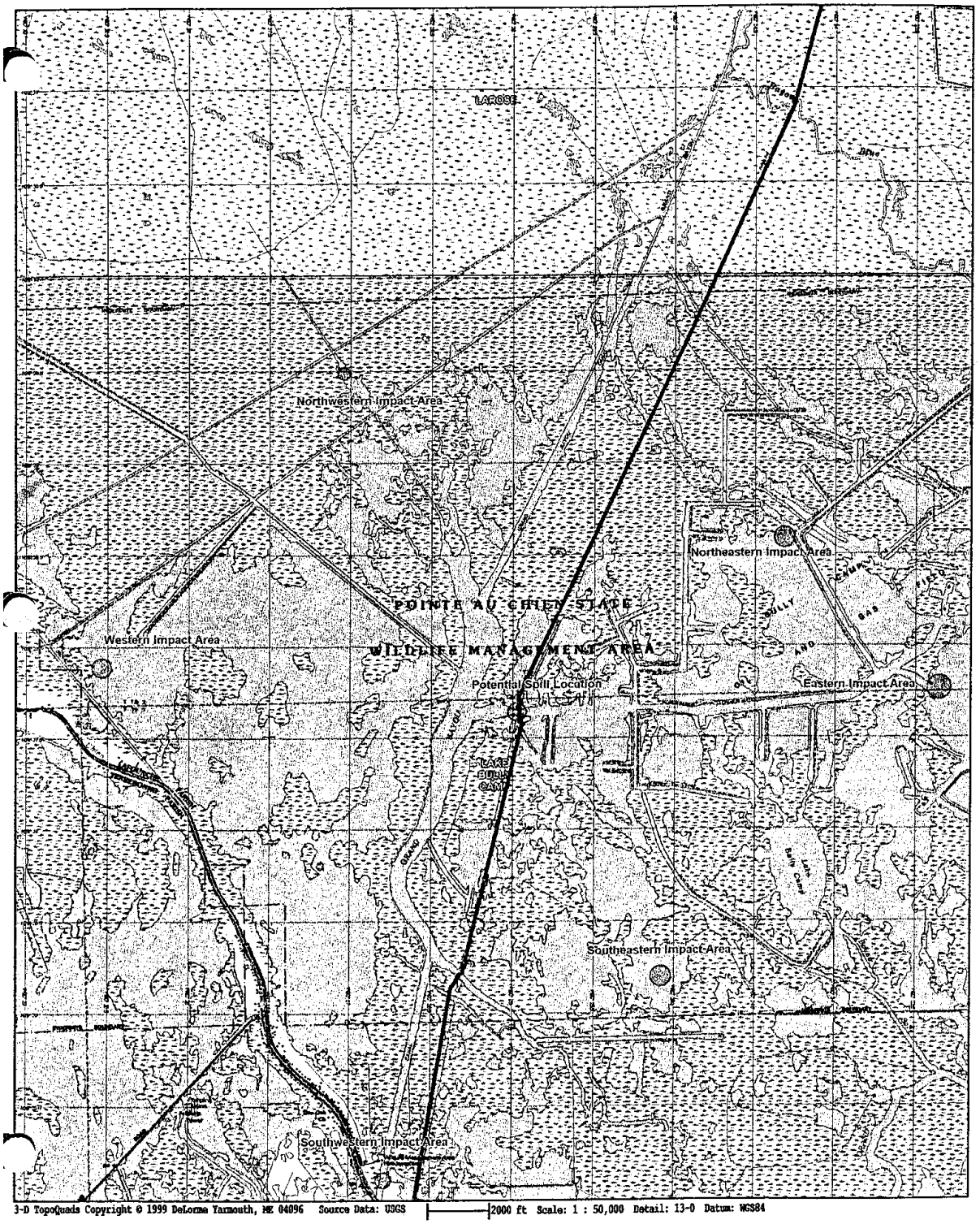
As indicated on the map in this section, spills at this location have the potential for travel in multiple directions. Any Natural Gasoline spill would have the potential, depending upon conditions, to travel both North and South via Grand Bayou. Additionally, spills in this area would have the potential to travel West or East into the Bully Camp area. The potential impact

locations for this area are indicated on the map located in this section. Furthermore, the estimated impact distances are listed below:

Western Impact Area	2.65 Miles
Northwestern Impact Area	2.27 Miles
Northeastern Impact Area	1.89 Miles
Eastern Impact Area	2.46 Miles
Southeastern Impact Area	1.89 Miles
Southwestern Impact Area	2.84 Miles

Bully Camp/Point Au Chien Wildlife Management Area

Bully Camp/Point Au Chien Wildlife Management Area


LA093
Northwestern Impact Area
Northeastern Impact Area
POINTE AU CHIEN STATE
WILDLIFE MANAGEMENT AREA
Western Impact Area
Potential Spill Location
Eastern Impact Area
Southeastern Impact Area
Southwestern Impact Area
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
2000 ft Scale: 1 : 50,000 Detail: 13-0 Datum: WGS84

Site C- Grand Bayou

This site is a water crossing located in a Saltwater Marsh Area located where the pipeline crosses Grand Bayou at (b) (7)(F), (b) (3) [redacted]

The Environmental Sensitivity Index, produced by RPI International, Inc., describes the area as follows:

Salt Marsh:

- Salt marshes are wet grasslands vegetated by salt-tolerant species. This habitat includes all non-fresh species.
- Alligators, birds, and mammals extensively use salt marshes for feeding and breeding purposes.
- Species found in or near the salt marsh areas include several species of shellfish including Blue Crab (Callinectes sapidus), River Crayfish (Procambarus clarkil), White Shrimp (Panaeus setiferus), and Brackish-water Clam (sp) along with water fowl including American Coot (Fulica Americana) and Ring-neck Duck (Aythya caollaris)
- Adjacent to these salt marsh areas, many species of marine fish populate the water areas. These species include Spotted Sea Trout (Cynoscion nebulosus), Red Drum (Schaienops ocellatus), Sheepshead (Coryphaena hippurus), and Sea Catfish (Galeichtheyes felis).

Predicted Natural Gasoline Impact:

- Small amounts of spilled Natural Gasoline are likely to contaminate the marsh fringe area only; natural removal by wave action in conjunction with passive remediation techniques can occur within months.
- Large spills will cover more area and can persist for decades.
- Natural Gasoline will adhere to marsh vegetation readily.
- Impacts to the marine environment will be minimized due to the lack of significant dispersion of spilled Natural Gasoline into the water table.

Recommended Response Activity:

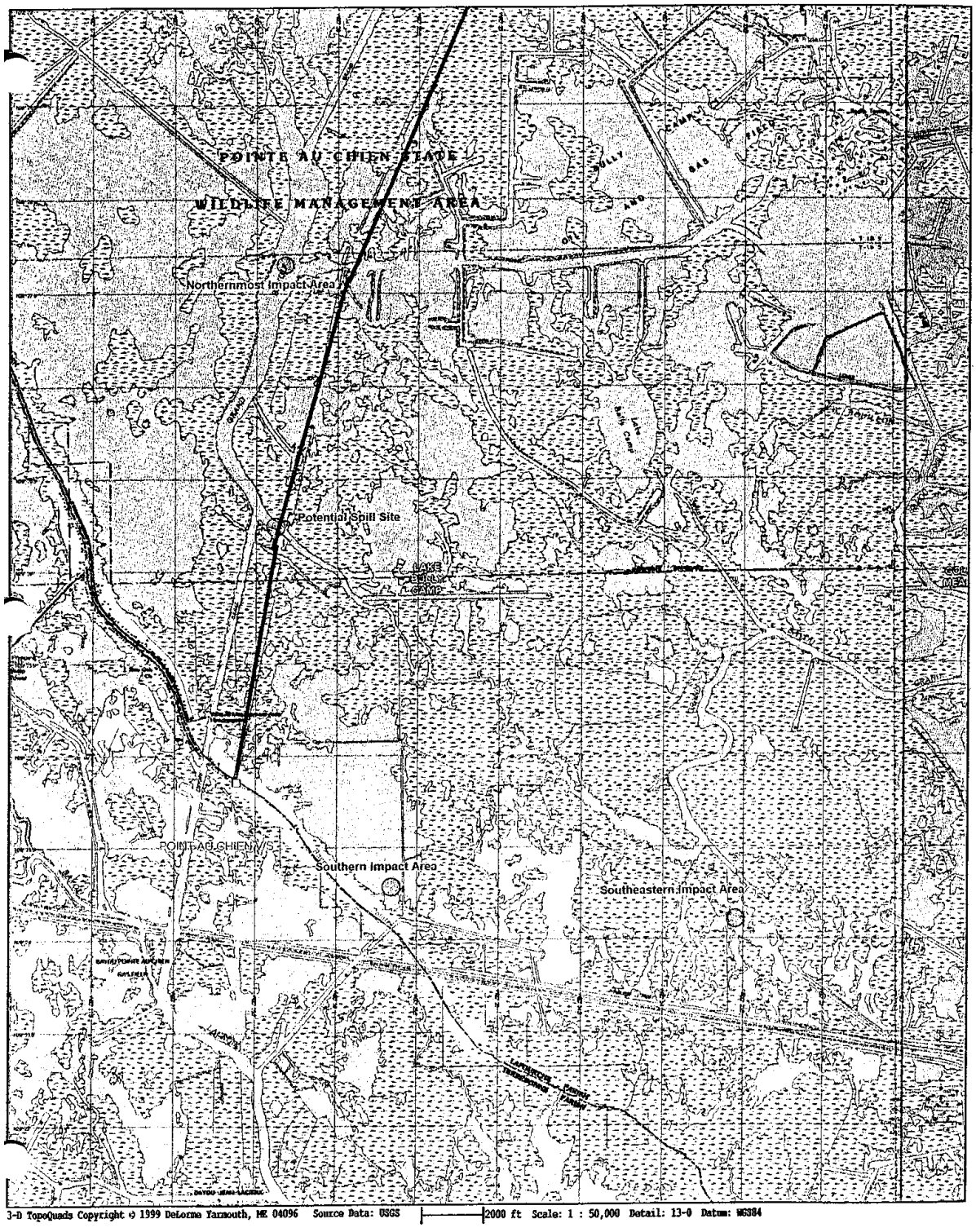
- Marshes require the highest priority for shoreline protection
- Natural recovery is recommended when a small extent of marsh is affected or a small amount of Natural Gasoline impacts the marsh fringe.
- The preferred clean-up method is a combination of low pressure flushing, sorption, and vacuum pumping from boats.
- Any clean-up activities should be supervised closely to avoid excessive disturbances of the marsh surface or roots and should be conducted under the direction of federal and state agency representatives.

Impact Distances:

Spills at this location have the potential to travel approximately 1.7 miles North via Grand Bayou to the entrance to Bully Camp. In this instance, the scenarios described in Section 10 of this plan would apply to the trajectory of the Natural Gasoline. Spills at this location also have the

potential to travel approximately 2.27 miles South via the marsh areas surrounding Grand Bayou or Southeasterly via Grand Bayou at a distance of 3.79 miles. These impact locations are identified on the map located in this section.

Grand Bayou


POINTE AU CHIEN STATE
WILDLIFE MANAGEMENT AREA
Northernmost Impact Area
Potential Spill Site
POINT AU CHIEN VS
Southern Impact Area
Southeastern Impact Area
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
2000 ft Scale: 1 : 50,000 Detail: 13-0 Datum: WGS84

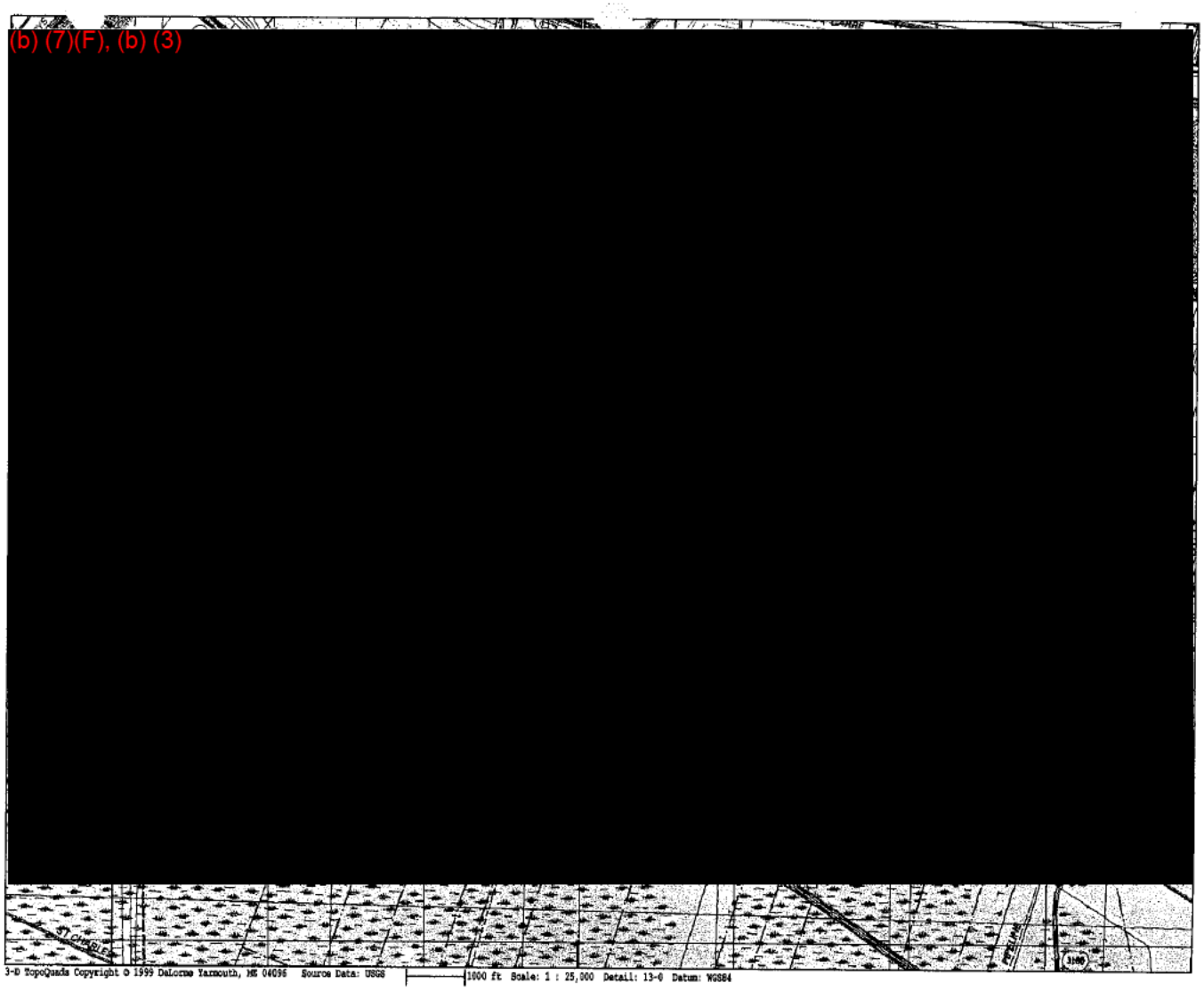
Primary Economically Sensitive Areas	
Site Location	**Description**
LA HWY 24	The Larose Processing Plant is located adjacent to LA HWY 24.
Bayou Blue	The pipeline crosses Bayou Blue just south of the Larose Processing Plant
Bully Camp	The Pipeline crosses the entrance to the Bully Camp Oil and Gas Field
Grand Bayou	The pipeline crosses Grand Bayou at the southern end of the bayou.

Water Intakes Potentially Affected By Spills From This Pipeline Segment
(b) (7)(F), (b) (3) [redacted]

Response Area 9 (b) (3), (b) (7)(F)
Pipeline

Environmental Sensitivity
The UCAR pipeline crosses several types of ecological areas as it spans (b) (3), (b) (7)(F) areas are predominately industrialized areas with sections used for agricultural purposes. This pipeline section does not include any water crossings. Two areas of concern have been identified in this response zone. They are detailed individually in the following sections and are identified on the map on the following page.

Primary Environmentally Sensitive Areas	
Site A	Agricultural Areas Adjacent to the HWY 3127 V/S
Site B	Industrial Areas Adjacent to the HWY 3142 Crossing


(b) (7)(F), (b) (3)
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
1000 ft Scale: 1 : 25,000 Detail: 13-0 Datum: WGS84

Site A- Agricultural Areas Adjacent to the HWY 3127 V/S

This site is an agricultural/farmland area located adjacent to the Hwy 3127 V/S at (b) (7)(F), (b) (3) [redacted]

The environment in this area is predominately agriculturally cultivated with Sugar Cane; therefore, most of the expected native species are not present due to displacement.

Predicted Natural Gasoline Impact:

- Small amounts of spilled Natural Gasoline can spread throughout the area to a limited extent via the man made rows within the agricultural areas.
- Large spills will cover more area and can penetrate more deeply into the soils.
- Natural Gasoline will adhere to the sugarcane, and a significant impact to future crops would be expected.

Recommended Response Activity:

- Passive remediation recommended in light to moderate accumulations. This will include placement of absorbent materials around the impacted area in order to remove the Natural Gasoline as it is slowly released from the soils.
- In larger accumulations, earth moving methods may be highly effective in trapping accumulations of Natural Gasoline that can be reclaimed through the use of vacuum systems.
- In all circumstances, special attention must be paid to the impact response personnel and equipment will potentially have on the area they are attempting to mitigate. As light an impact as possible must be made by these resources as they are attempting to mitigate the incident. Any clean-up method used on an actual incident should be decided upon in conjunction with the Federal On-Scene Coordinator and the Department of Environmental Quality representative.

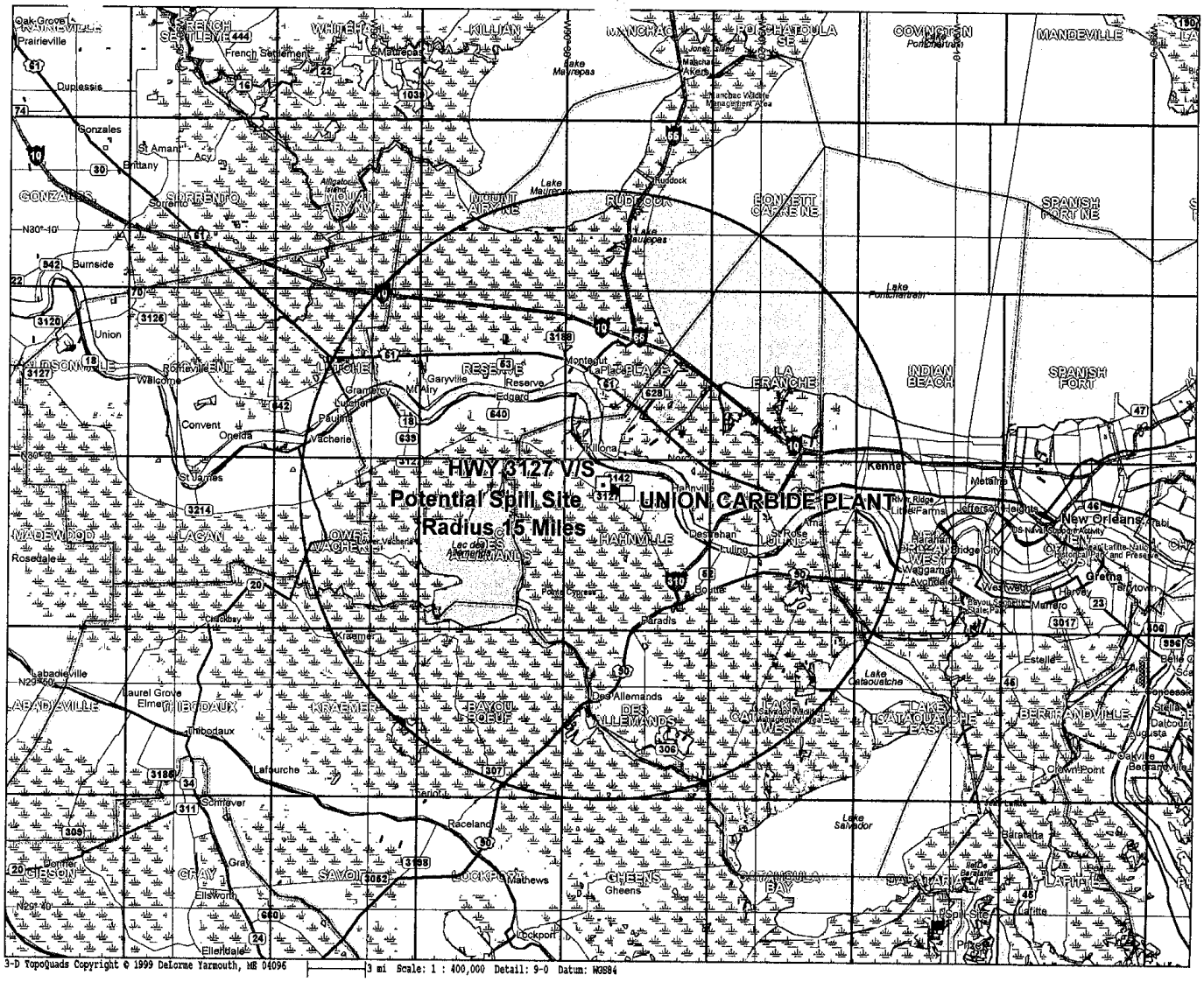
Impact Distances:

Spills of Natural Gasoline in this location have the potential to travel in all directions due to the extensive network of drainage ditches used for agricultural purposes in the area. As indicated on the topoquad map in this section, spills at this site would not be expected to travel further than (15) miles in any direction. The most likely impact from spills at this site; however, would be to the agricultural areas in the immediate vicinity of the site.

Agricultural Areas

(b) (7)(F), (b) (3)

[redacted]


HWY 3127 VIS
Potential Spill Site
UNION CARBIDE PLANT
Radius 15 Miles
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096
3 mi Scale: 1 : 400,000 Detail: 9-0 Datum: WGS84

Site B-Industrial Areas Adjacent to the Hwy 3142 Crossing

This site is an industrialized area located at the location where the pipeline crosses Hwy 3142 at (b) (7)(F), (b) (3)

The environment in this area is predominately industrial. The property in either direction from this location is owned and operated by chemical manufacturing plants. To the west of the crossing, the property is owned by OxyChem Refining. To the east of the crossing, the property is owned by Union Carbide.

Predicted Natural Gasoline Impact:

- Small amounts of spilled Natural Gasoline can spread throughout the area to a limited extent via the man made rows and surface drainage system within the adjacent areas.
- Large spills will cover more area and can penetrate more deeply into the soils.
- Natural Gasoline will adhere to the soils; however, no lasting impact is expected in these areas due to available remediation techniques.
- Large spills in this area could result in the evacuation of plant employees and the temporary termination of plant operations in this area.

Recommended Response Activity:

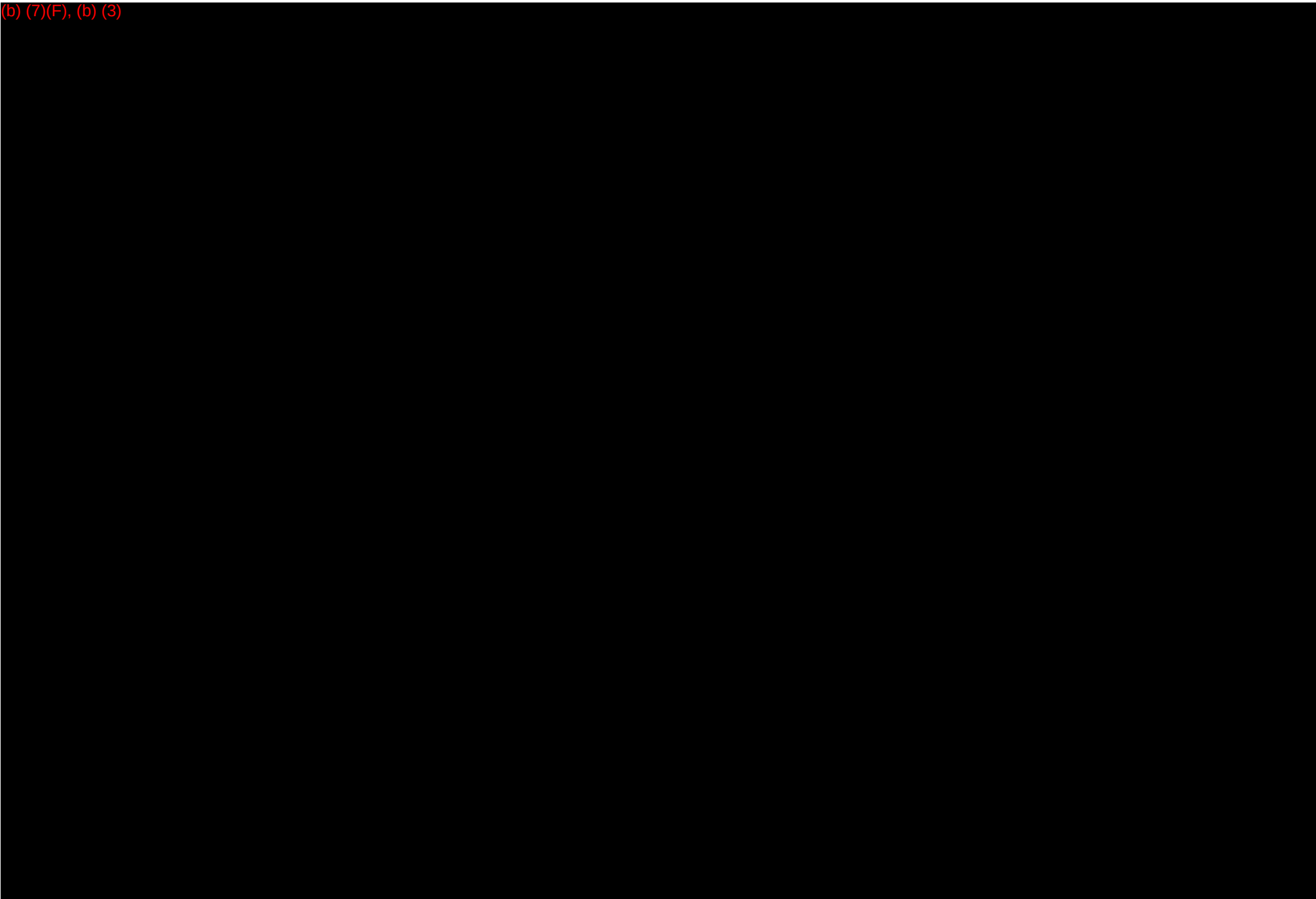
- Passive remediation recommended in light to moderate accumulations. This will include placement of absorbent materials around the impacted area in order to remove the Natural Gasoline as it is slowly released from the soils.
- In larger accumulations, earth moving methods may be highly effective in trapping accumulations of Natural Gasoline that can be reclaimed through the use of vacuum systems.
- In all circumstances, special attention must be paid to the impact response personnel and equipment will potentially have on the area they are attempting to mitigate. As light an impact as possible must be made by these resources as they are attempting to mitigate the incident. Any clean-up method used on an actual incident should be decided upon in conjunction with the Federal On-Scene Coordinator and the Department of Environmental Quality representative.

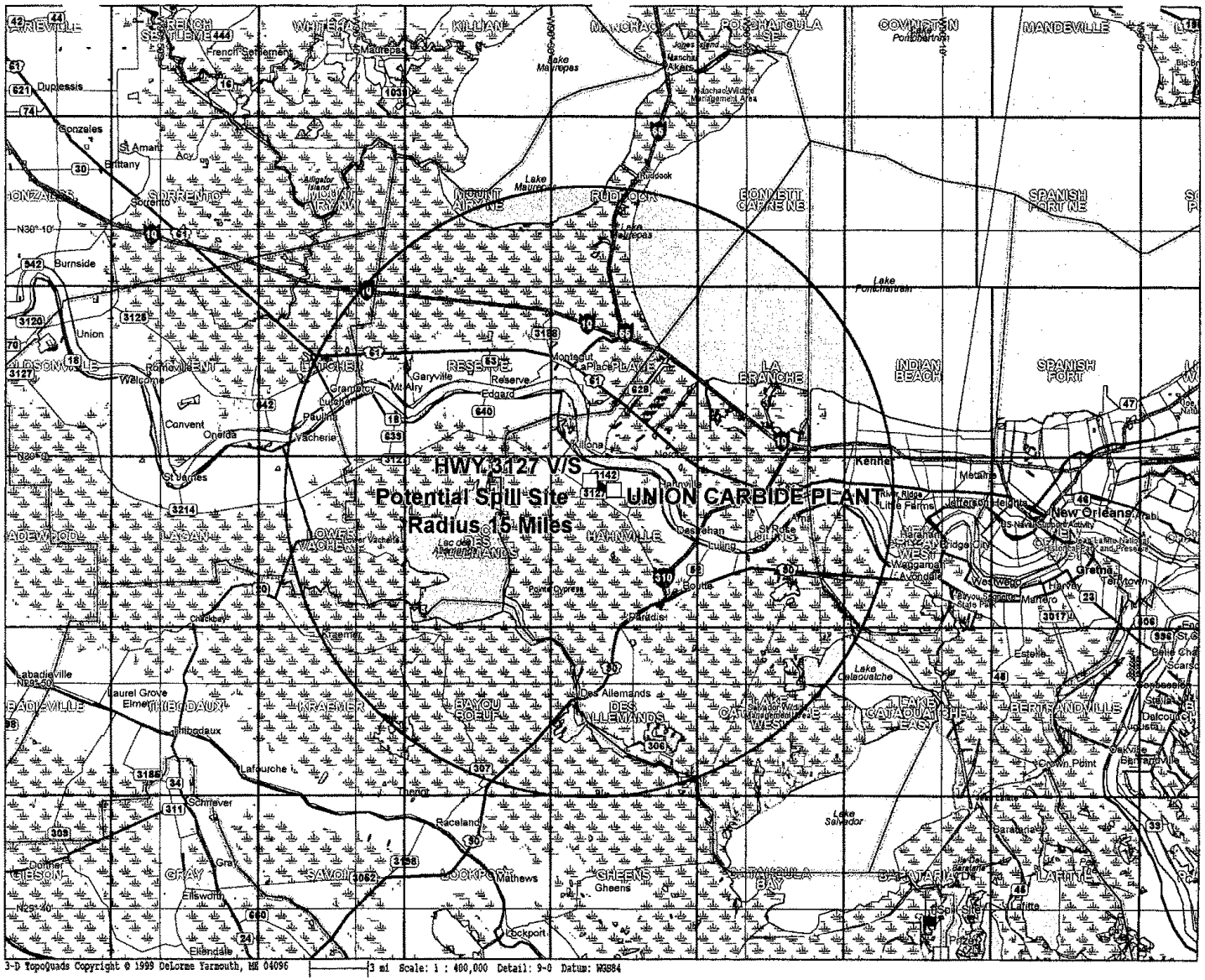
Impact Distances:

Spills of Natural Gasoline in this area have the potential to travel in all directions due to the extensive network of drainage ditches used for industrial purposes in the area. As indicated on the topoquad map in this section, spills at this site would not be expected to travel further than (15) miles in any direction. The most likely impact from spills at this site; however, would be to the soil areas in the immediate vicinity of the site.

Industrial Areas

(b) (7)(F), (b) (3)




HWY 3127 V/S
Potential Spill Site
Radius 15 Miles
UNION CARBIDE PLANT
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096
3 mi Scale: 1 : 400,000 Detail: 9-0 Datum: WGS84

Primary Economically Sensitive Areas	
Site Location	**Description**
LA HWY 3127	The pipeline runs adjacent to LA HWY 3127 south of Waterford, LA.
LA HWY 3142	The pipeline crosses LA HWY 3142 between the Union Carbide Plant and the OxyChem Refinery south of the town of Taft, LA.

Water Intakes Potentially Affected By Spills From This Pipeline Segment
(b) (7)(F), (b) (3) [redacted]

EMPIRE TERMINAL

EMPIRE TERMINAL TABLE OF CONTENTS

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QUALIFIED INDIVIDUALS/INCIDENT COMMANDER AUTHORIZATION

Qualified Individual - Company is authorizing all of its employees who are trained in Incident Command and who are functioning as the Incident Commander (IC) to be the Qualified Individual (QI). This financial authority is unique to spills and emergency releases and is not a part of Company's routine delegation of authority guidelines.

In the event of an oil spill or emergency release, Company employees who will be responding as Incident Commanders (IC/QIs) have the authority to:

1. Activate the Emergency Response Plan.

2. Activate and engage in contracting with oil spill removal organizations. Commit resources from within Company, through the Corporate Oil Spill coordinator/staff, outside contractors, MSRC, cooperatives and as directed by the Federal or State On-Scene Coordinator.

3. Act as liaison with the Federal or State On-Scene Coordinator and other federal and state officials.

4. Obligate funds required to carry out all necessary or directed response activities.

The response organization is critical to the management of an emergency response because of the large geographic areas covered by Company. Immediate response in remote areas is managed by local personnel who may be replaced by additional personnel if the magnitude of the spill warrants. The response of the additional personnel may take some time due to geography. It is impossible to name the specific individual who will be IC in advance. It will depend on the location of the spill, the size of the spill, and whether it is the initial response or a later phase in the clean-up process.

Various federal and state agencies have recognized the need for owners/operators to use a tiered response to allow for the transfer of authority upward as the extent of a spill is assessed. Agencies also acknowledge that response efforts often involve 24-hour efforts and authorities must be transferred in this "shift" work situation.

National Contingency Plan / Area Contingency Plan Consistency

Company - Gulf Coast Corridor (operator) certifies that it has reviewed the National Contingency Plan (NCP) and each applicable Area Contingency Plan (ACP) and that this Emergency Response Plan is consistent with the existing NCP and each existing applicable ACP.

INTRODUCTION

This Facility Response Manual (hereinafter referred to as the Plan) provides site-specific information for responding to a discharge incident at the Company's Empire Terminal. It supplements the Company Core Plan that provides comprehensive information on the general procedures to follow for effective oil spill response.

The Empire Terminal (hereinafter referred to as the Facility) is described in the Location Map, Facility Diagram, and the Facility Description located in this section.

Information Summary

This section provides specific information relating to Empire Terminal.

The Operator of the Empire Terminal is:

Chevron Pipe Line Company
2800 Fournace Place
Bellaire, TX 77401-2324

Refer to the Company Core Plan and the Louisiana State Appendix for comprehensive information on how to respond to and deal with oil spills.

Empire Terminal is part of the Louisiana Response Zone. Telephone numbers for contacting the QI for this facility are contained in the ERAP located in the front pocket of this Plan.

Empire Terminal Emergency Response Plan Summary

This Plan covers spill incidents that could occur during Chevron's transfer or storage operations at the Empire Terminal. The location map and facility diagram provides details on the facility.

Response Area Classification

This Facility meets the USCG criteria for "Significant and Substantial Harm" and EPA criteria for "Substantial Harm" (the Regional Administrator will consider additional factors in making their determination whether a facility meets the criteria of "significant and substantial harm"). The basis for the USCG determination is that the Facility is capable of transferring oil, in bulk, to or from a marine vessel of 250 barrels or more. The basis for the EPA determination is that the combined storage capacity of the Facility is (1) above 42,000 gallons and its operations include over water transfers of oil to or from vessels or (2) a 1,000,000 gallons or more. In addition, a spill from this Facility could reasonably be expected to cause significant and substantial harm to socio-economic or environmentally sensitive areas.

Worst Case Discharge Determination

The worst case discharge volume for this Facility is calculated to be 280,000 barrels of Group 3 oil. This is the capacity of the largest single tank at the Facility.

(b) (7)(F), (b) (3) [redacted]

Worst Case Discharge Volume Calculations

These worst case discharge volumes are utilized in calculating the planning volume for response resources. The planning volume is used to determine the necessary on-water recovery capacity to respond within the three tiered response times. The identified oil spill recovery devices should be capable of arriving at the scene of a discharge within the time specified for the applicable response tier. (b) (7)(F), (b) (3) [redacted] This Plan demonstrates a series of calculations and planning volume determinations based on guidance provided by the U. S. Coast Guard in the Navigation and Vessel Inspection Circular 7-92 and the February 5, 1993 Interim Final Rule - 33 CFR 154 as well as guidance from the U. S. Environmental Protection Agency (EPA) in the February 17, 1993 Proposed Rule - 40 CFR 112. The inclusion of these calculations is for demonstration of the response planning volumes and response capability necessary for on-water and on-shore recovery requirements as the result of the discharge scenarios detailed in the table above.

Plan Review and Update Procedures

This Plan will be reviewed and updated as follows:

At least once each year, as part of a table top drill, the Field and Support Teams of the Region will review the details of this plan and make appropriate revisions as required by operational or organizational changes.

At the end of each hypothetical drill, the Team will review those portions of this plan which were tested by the drill, and make changes as outlined in the Plan Review and update procedures and the Training and Drills Section of the Company Core Plan.

At the end of an emergency response, those teams involved in the response will review this plan as part of the spill response debriefing, and submit changes as outlined in the flow chart provided in the Plan Review and Update Procedures and the Training and Drills Section of the Company Core Plan.

As Area Contingency Plans are developed, this plan will be revised to meet the requirements of those plans by the HES Team, as outlined in the Plan Review and Update Procedures Section of the Company Core Plan.

At least once each 12 months, the names and telephone numbers in this plan will be reviewed by the Empire Team Leader and the HES Team, and revisions made accordingly. This update will also occur as outlined as provided in the Plan Review and Update Procedures Section of the Company Core Plan.

The HES Team Leader will coordinate completing the revisions to assist in maintaining the Plan. However, the Qualified Individual for each Response Area/facility is responsible for the completion of reviews and updates as outlined above.

When revisions are received by a plan holder, the revisions should be immediately reviewed and inserted into the Plan and the obsolete pages discarded. This action should then be recorded on the Revision Log page included in the Front of Book (FOB) information.

Plan Distribution

The Region's Health, Environmental & Safety (HES) Team Leader shall have the ultimate responsibility for distribution of the Plan. Distribution will be handled in the following manner:

- Company personnel who may be called upon to provide assistance during discharge response activities will have access to a copy of the plan for their use and training.
- It is the responsibility of any person holding a copy of the Plan to insure that the copy is transferred to their replacement in the event of reassignment or change in responsibility.

References

Refer to the following sections in this Plan for additional information:

- Notification Procedures
- Response Actions
- OSRO Information
- Response Equipment
- Dispersants
- MSDS Data
- Sampling
- Incident Command System
- Communications
- Spill Cleanup Procedures
- Federal Response Organization
- Public Relations
- Site Safety and Health Plan
- Documentation/Forms
- Glossary of Terms

General Operations

The Facility is a storage and transportation facility from which crude oil is received and delivered by pipeline, ship, and barge. It consists of tanks, pumps, pipeline connections, barge docks, and a ship dock.

This Response Plan provides additional information about the Facility and the discharge prevention/protection systems. Additional data is provided in the Facility's SPCC Plan, which is separately maintained at the Facility.

Facility Description General Data

Facility Owner/Operator:	Chevron Pipe Line Company
Mailing Address:	Chevron Pipe Line Company
	Empire Terminal
	P.O. Box 1034
	Buras, LA 70041-1034
Phone Number:	504-681-5606
Fax Number	504-681-5636
Chevron Pipe Line 24 hour Phone Number:	800-762-3404 713-432-2310
Date of Oil Storage Start-up:	1963
EPA Docket No.:	FRP-065-LA-00318
USCG Ref No.:	NWF014
Qualified Individual (QI):	All Qualified Individuals are identified on the phone list provided in the Front Binder Pocket.
SIC Code:	5171
Wellhead Protection:	NONE
Size, type and number of vessels the facility can transfer to/from simultaneously:	Largest single vessel – 550,000 bbls Regarding barges, typically load two 10,000 bbl to 30,000 bbl barges simultaneously.

Facility Location

Parish/State:	Plaquemines Parish, Louisiana
Latitude:	(b) (7)(F), (b) (3) [redacted]
Longitude:	
Map:	Location Map - Provided in Figure 1.1
	Facility Diagram - Provided in Figure 1.2
Landside Directions:	Access to the Facility is by travel on Highway 23 south of Empire, LA to the Chevron boat landing between Empire and Buras. The Facility is located across the Mississippi River from the midpoint between Empire and Buras.
Waterside Directions:	Left descending bank of Mississippi River Mile Post 26.7 above Head of Passes. Approximately 48 river miles above the Southwest Pass entrance buoy. Approximately 70 river miles below New Orleans.

Physical Description - General

The facility is a crude oil storage and transportation facility from which crude oil is transported to and from by pipeline, ship and tank barge. The pipeline pumps and storage tanks are located within diked areas on land and the barge and ship loading facilities are located over water.

The Facility is manned 24 hours per day seven days per week.

Product Handled: Crude oil - Group 3

SPCC PLAN

The Facility SPCC Plan is adopted by reference as part of this Emergency Response Plan.

The SPCC Plan is located at the Facility.

Terminal Storage Capacity

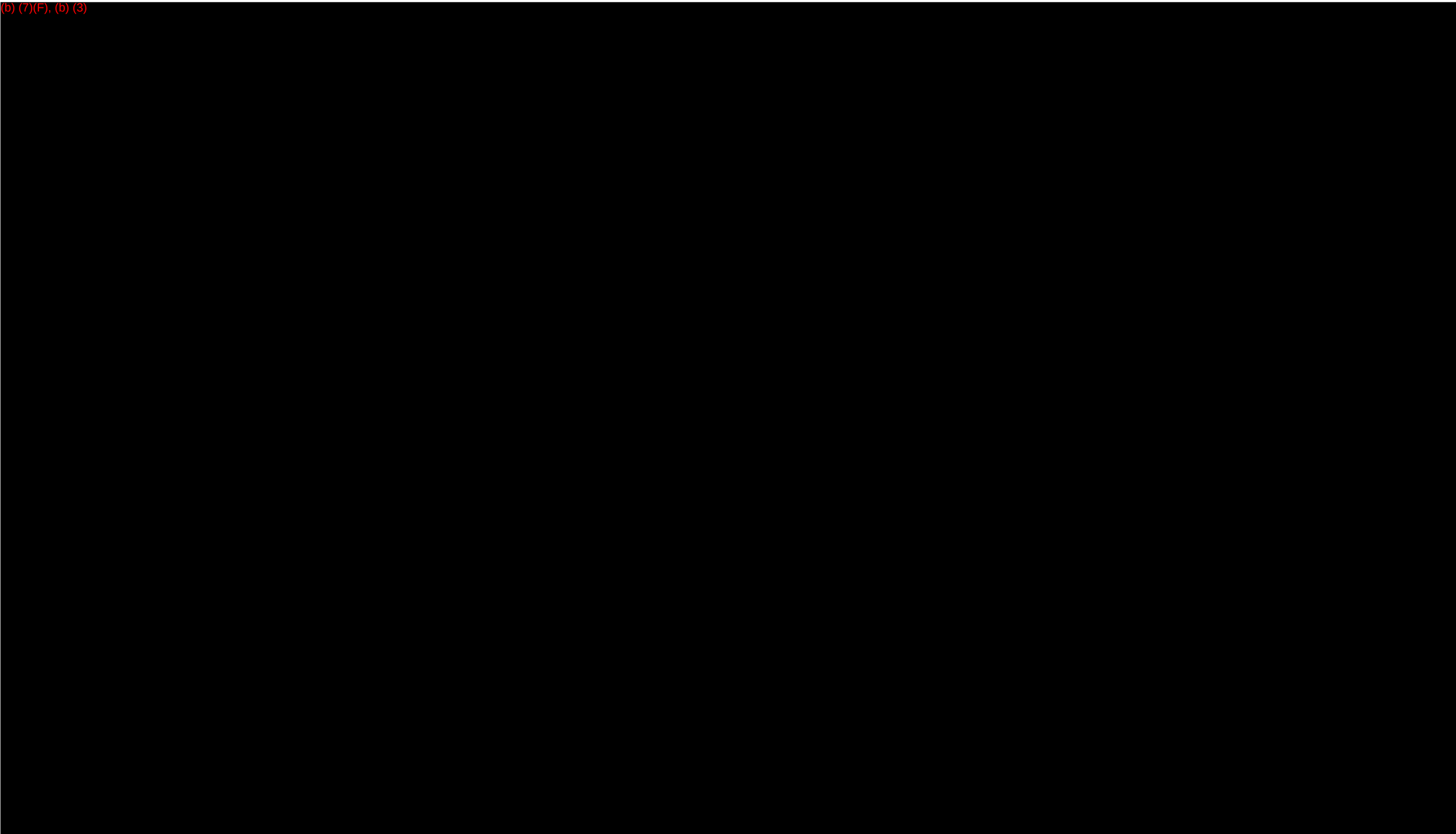
Tank No	Service	Min. Oil Height	Min. bbls	Max Oil Height	Max. bbls	Hurricane Min. Height	Bbls	Roof Type
6101	HLS	(b) (7)(F), (b) (3)						IF
6103	HLS							IF
6107	HLS							IF
6109	Sump							CONE
6108	NWT							IF
6111	DWS							IF
6112	SLI							IF
6113	SLI							EF
6114	HLS							EF
6115	HLS							EF
6116	HLS							EF

EMPIRE TERMINAL LOCATION MAP

(b) (7)(F), (b) (3)

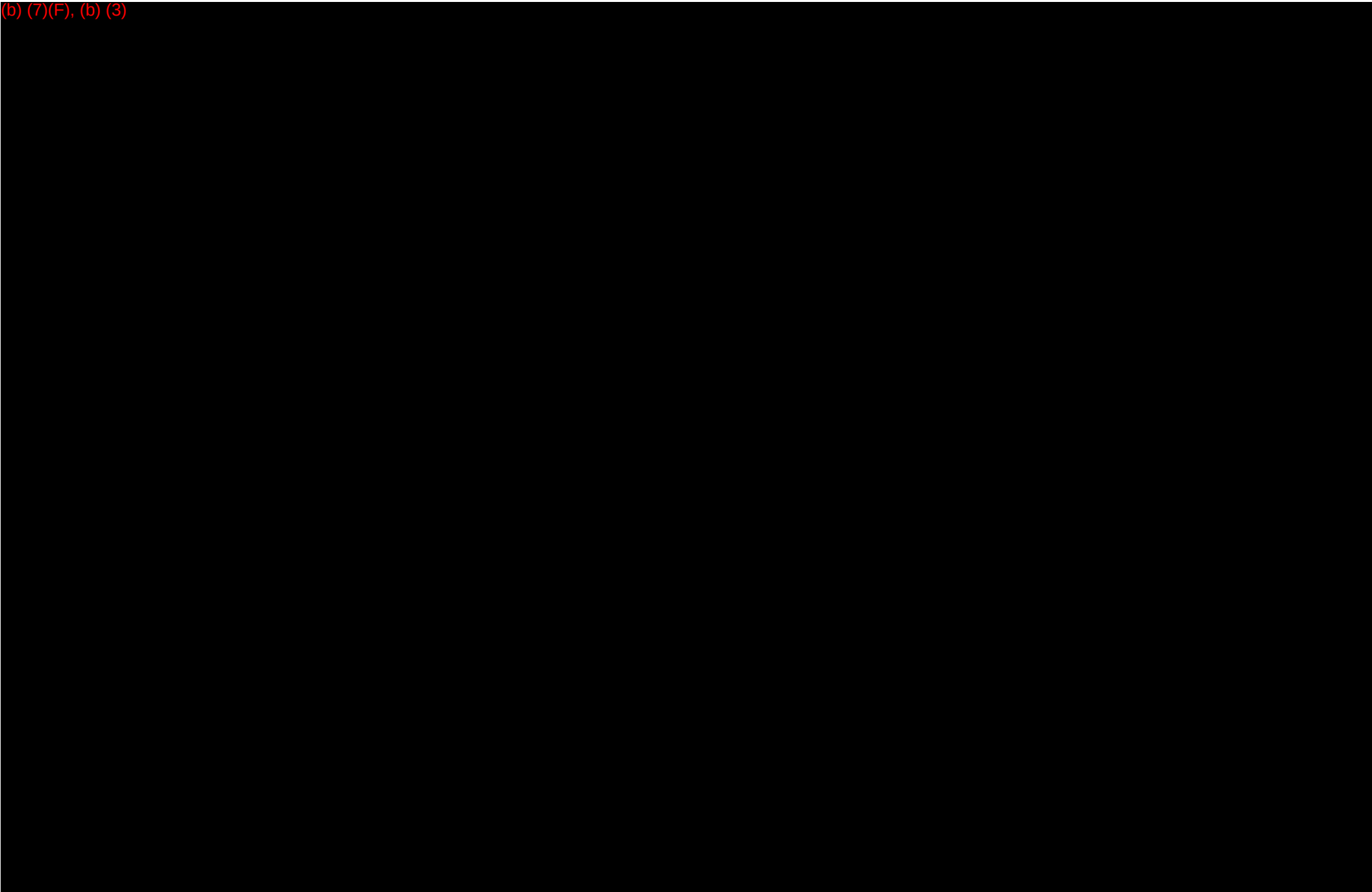
EMPIRE SITE PLAN

(b) (7)(F), (b) (3)



FIRST VALVE DIAGRAM

(b) (7)(F), (b) (3)



SPILL IMPACT CONSIDERATION

There are numerous factors that must be considered by the Incident Commander and the Response Teams when planning spill response activities. Additional information on these factors is provided in the Company Core Plan Response Activities and Cleanup Procedures Sections.

Site Conditions

The pipeline segments in this Response Area traverse several different types of terrain including shorelines, open water, tidally affected marshlands/wetlands, and mangroves. The spill site may have a number of characteristics, which require special consideration when developing an action plan for spill response. The Environmental Sensitivity Maps should be referenced for an overview of the terrain surrounding the site and the potentially effected sensitivities.

Trajectory Analysis

Oil spilled on water will react primarily to the effects of wind and current. The oil will tend to spread to a thin layer under the influence of gravity (primary) and chemical (secondary) forces. Many variables warrant consideration during a response effort as well as the systems utilized to determine trajectory analysis. Additional information on trajectory analysis is provided in Company Core Plan Cleanup Procedures.

Surveillance Methods

The primary method of surveillance for the Response Area will be visual. Visual surveillance is not effective however in rain, fog, darkness, or heavy cloud cover. Additional information on surveillance methods is provided in the Company Core Plan Cleanup Procedures.

Environmental/Socio-Economic Sensitivities

Environmental and socio-economic sensitivities are of extreme importance when planning a response effort. The protection of the public and the environment, as well as the various socio-economic sensitivities, must be promptly addressed in order to mitigate the extent of damage and minimize the overall impact of the clean-up effort.

All environmental and socio-economic sensitivities are worthy of protection but must be prioritized during a response effort.

The Environmental Sensitivity Maps detail the location of the environmental and socio-economic sensitivities in the Response Area. The following describes a number of the sensitivities which may be impacted by a spill and that should be considered in planning the response operations:

Water Intake Points:
- Commercial/Industrial, municipal, and private water intakes are subject to impact.
- These areas may need to be boomed off or otherwise protected to minimize impact.
- Claims due to safety/health, loss of use, and damage may occur from these points.

Major Recreational Areas:
- A discharge effecting these areas may pose a public safety/health risk during a response effort.
- Shoreline access for personnel and equipment deployment (boats, boom, etc.) is typically available in these areas.

Marinas:
- These areas have a high degree of public exposure (personal and property) and should be boomed for protection.
- Boat and other water-deployed equipment can often be deployed in these areas.

Environmental:
- Environmentally sensitive areas are prevalent throughout any marine and/or terrestrial environment and may be effected by any spill incident.
- Environmentally sensitive areas subjected to stress and sudden change can be severely damaged. All means of exclusion/diversion should be utilized during a response effort to minimize the impact on these areas.
- Critical areas to protect are identified on the Environmental Sensitivity Maps. The areas are classified as being of high, moderate, and low sensitivity to oil impact. Federal and state authorities may further clarify these categories at the time of the response. The categories are defined as follows:

High Sensitivity
• Areas which are high in productivity, extremely sensitive, or inhabited by threatened/endangered species. • Areas that consist of shallow seagrass flats, mangroves, tidally influenced marshes/wetlands, and sheltered tidal flats with vegetated margins. • Areas which are abundant in many species and are very difficult to clean and rehabilitate.

Moderate Sensitivity
• Areas which are less sensitive and are able to partially resist the effects of oil. • Areas which consist of the riparian zone along freshwater rivers with saltwedge, oyster reefs, exposed tidal flats, dredged spoil deposits, and partially exposed bay margins.

Low Sensitivity
• Areas of low productivity and/or high energy along with man-made structures. • Areas which consist of sand-shell substrate, fine-grained sand, seawalls, jetties, bulkheads, revetments, and erosional scarps.

Historical Areas:

- These areas typically have high visibility.
- Properties listed in the National Register of Historic Places & Natural Landmarks have been considered for inclusion on the Environmental Sensitivity Maps (**Note:** No historic areas have been identified in this region).

Residential Areas:

- These are areas at high public impact and may warrant evacuation in extreme cases.
- Cleanup must be performed with extreme caution due to extensive public exposure.
- These areas can result in claims due to safety/health, loss of use, and damage may occur from these areas.

State and National Wildlife Management Areas and Refuges:

- These areas have a high degree of exposure to threatened/endangered species and many other types of wildlife.
- Cleanup efforts are delicate and of very high priority in these areas.

Staging Areas

Personnel and equipment staging areas will be required for the response operation. Potential staging areas have been identified on the Environmental Sensitivity Maps. The following qualities should be evaluated when establishing staging/access areas:

- Access to waterborne equipment launching facilities.
- Access to public services utilities (electricity, potable water, public phone, rest room and wash room facilities, etc.).
- Access to open space for staging/deployment of heavy equipment and personnel.
- Access to the environmental and socio-economically sensitive areas, which are projected for impact.

Wildlife Protection

The areas adjacent to the facilities covered by this plan have an abundance of marine and terrestrial life that could be potentially affected by an oil spill. The U.S. Fish and Wildlife Service and the Louisiana Wildlife and Fisheries Department authorities will provide guidance and resources in the rehabilitation and protection of wildlife. Further details on Wildlife Protection are detailed in this Plan.

WORST CASE DISCHARGE CALCULATIONS

Introduction

The Company - Empire Terminal is classified as a "Complex" which operates in a Higher Volume Port Area.

"Complex" means a facility possessing a combination of transportation-related and non-transportation-related components that is subject to the jurisdiction of more than one Federal agency under section 311(j) of the Clean Water Act (CWA).

Complexes must perform discharge calculations for each jurisdictional agency and plan for the largest Worst Case Discharge Volume pursuant to the respective regulations. The USCG and EPA discharge volume calculations are described as follows:

USCG Discharge Volume Calculation (Crude Oil – Group III)

Worst Case Discharge (WCD)
Discharge from all piping carrying oil between the marine transfer manifold and the non-transportation-related portion of the Facility. The discharge from each pipe is calculated as follows:

{ [Maximum Discovery Time (hrs) + Maximum Shutdown Time (hrs)] * Maximum Flow Rate (Bbls/Hr) } + Total Line Fill (Bbls) = WCD (Bbls)

Maximum Most Probable Discharge (MMPD)
1,200 Bbls or 10% of the WCD, whichever is less

Average Most Probable Discharge (AMPD)
50 Bbls or 1% of the WCD, whichever is less

EPA Discharge Volume Calculation (Crude Oil – Group III)

Worst Case Discharge
100% of the largest single tank

Medium Discharge
Discharge greater than 2,100 gallons (50 Bbls) and less than or equal to 36,000 gallons (857 Bbls) or 10% of the capacity of the largest tank, whichever is less and not to exceed the WCD

Small Discharge
Discharge of less than or equal to 2,100 gallons (50 Bbls), not to exceed the WCD.

The following planning volume calculations must be performed to determine the required response resources for a Worst Case Discharge:

Planning Volume for On-Shore Recovery (OSR)

OSR = WCD * % Oil On Shore * Emulsification Factor

Planning Volume for On-Water Recovery (OWR)

OWR = WCD * % Recovered Floating Oil * Emulsification Factor

Recovery Capacity (RC)

RC = OWR * On-Water Recovery Resource Mobilization Factors

The recovery capacity determined by these equations is compared to the appropriate response capability caps from the EPA tables, the actual contracted response amount is the lesser of the two values. If the calculated capacity exceeds the capability caps, sufficient response resources should be available for twice the amount of the caps or up to the total planning volume, whichever is less. These response capability caps are scheduled to increase in 1998 and potentially again in 2003.

Scenario Types

The occurrence of Small Discharge, Medium Discharge, or Worst Case Discharge (WCD) could be the result of any number of scenarios at the Facility including:

Scenario	**Implement Company Procedures Manual located at the facility and Section 3, Pages 1 through 16 as applicable of the Core Plan and reference the following Response Guides in the Core Plan Section 3:**
• Failure of manifold	Piping Rupture
• Failure of loading arm or hoses	Piping Rupture
• Tank overfill and/or failure	Tank overflow
• Piping rupture	Piping Rupture
• Piping leak, under pressure and not under pressure	Piping Rupture
• Explosion or fire	Fire or explosion
• Equipment failure (e.g. pumping system failure, relief valve failure, or other general equipment relevant to operational activities associated with internal or external facility transfers)	Piping Rupture

The response actions to each of these scenarios are outlined in the Response Guides above. The response resources are identified in the Front Pocket Information of this Appendix Volume as well as Section 3 of the Core Plan. Facility response personnel list/telephone numbers and other internal/external resources telephone numbers are detailed in the ERAP located in the front binder pocket of this State Appendix.

USCG/EPA TABLES
FOR WORST CASE DISCHARGE RESPONSE RESOURCES DETERMINATION AND REMOVAL CAPACITY PLANNING

Spill Location	(1) Rivers & Canals			(2) Nearshore/Inland/Great Lakes		
Sustainability of on-water oil recovery	3 Days			4 Days		
		D	E		D	E
Oil Group	% Natural Dissipation	% Recovered Floating Oil	% Oil On Shore	% Natural Dissipation	% Recovered Floating Oil	% Oil On Shore
I. Non-persistent oils II. Light crudes III. Medium crudes and fuels IV. Heavy crudes and fuels	(b) (7)(F), (b) (3)					

EMULSION FACTORS

F	
NON-PERSISTENT OIL	(b) (7)(F), (b) (3)
Group I	
PERSISTENT OIL	
Group II	
Group III	
Group IV	
Group V	

RESPONSE CAPABILITY CAPS (bbls/day)
(Maximum Required Recovery levels)

AREA	TIER 1	TIER 2	TIER 3
Rivers and Canals	(b) (7)(F), (b) (3)		
Great Lakes			
Inland/Nearshore			

ON-WATER OIL RECOVERY RESOURCE MOBILIZATION FACTORS

AREA	TIER 1	TIER 2	TIER 3
River	(b) (7)(F), (b) (3)		
Inland/Nearshore Great Lakes			

Note: Mobilization factors are for total resources mobilized, not incremental response resources.

RESPONSE TIME (hours)

AREA	TIER 1	TIER 2	TIER 3
Higher volume port area	(b) (7)(F), (b) (3)		
All Other			

Response Capability Scenarios (Based On USCG and EPA Criteria)

Average Most Probable / Small Discharge = 50 Bbls

Response Requirement

The Facility shall identify sufficient resources, by contract or other approved means, to respond to a Average Most Probable / Small Discharge. The response resources shall, as appropriate, include:

- 1,000' of containment boom or twice the length of the largest vessel that regularly conducts oil transfers to or from the Facility, whichever is greater, and a means of deploying and anchoring it within one (1) hour of the discovery of a spill.
- Oil recovery devices with an effective daily recovery capacity equal to the amount of oil discharged in a Average Most Probable / Small Discharge or greater which is available at the Facility within two (2) hours of the detection of an oil discharge.
- Oil storage capacity for recovered oily material equivalent to twice the effective daily recovery rate.

Facility Response Resources/Capability

The Facility will respond to a Average Most Probable / Small Discharge with the manpower detailed in the Front Binder Pocket as well as local contract resources as detailed in the ERAP located in the front binder pocket and in this Manual. The response resources will include:

- Oil containment and recovery devices can be secured from Facility and contract resources (with a minimum effective daily recovery capacity of 50 Bbls) and can be implemented at the Facility, as the situation demands.
- A minimum of 100 Bbls of oil storage capacity for recovered oily material can be secured from contractor resources or made available within the Facility's storage facilities, as the situation demands.
- Additional recovery and storage equipment may be secured from other contract resources, as the situation demands.
- In the unlikely event that a 50 Bbl discharge potentially escaped the Facility's containment area it would migrate through the marsh into one of the waterways in the vicinity of the Facility.
- Facility response personnel would immediately deploy the Company equipment on site and activate contract resources as the situation demands.

Note: Reference to the equipment resources detailed herein is included this Plan. Telephone reference is provided on the insert in the ERAP located in the front binder pocket of this State Appendix.

Maximum Most Probable / Medium Discharge = 857 Bbls

Response Requirement

The Facility shall identify sufficient response resources, by contract or other approved means, to respond to a Maximum Most Probable / Medium Discharge. The response resources shall, as appropriate, include:

- Oil recovery devices with an effective daily recovery capacity equal to 50% of the Maximum Most Probable / Medium Discharge volume must be capable of arriving on scene within Tier 1.
- Sufficient quantity of containment boom must arrive within Tier 1 for oil collection and containment and for protection of fish and wildlife and sensitive environments, as appropriate.
- Temporary storage capacity equal to twice the daily recovery capacity must be available.

Facility Response Resources/Capability

The Facility will initially respond to a Maximum Most Probable / Medium Discharge with a similar response to the Average Most Probable / Small Discharge. Additional response resources will be activated from an Oil Spill Removal Organization(s) (OSRO) as detailed in the Front Binder Pocket and in this Volume. The additional response resources will arrive within the Tier 1 and will include:

- Oil recovery devices with an effective daily recovery capacity of 428 Bbls (50% of the Medium Discharge volume) secured from the OSRO(s) will be on scene within Tier 1.
- 857 Bbls of oil storage capacity for recovered oily material will be secured from the OSRO(s) and/or made available within the Facility's storage facilities.
- Containment boom for oil collection and containment and for protection of fish and wildlife and sensitive areas will secured from the Facility and/or OSRO(s) in the event that the spill escapes the boundaries of the Facility.

Note: Reference to the equipment resources detailed herein is included this Plan. Telephone reference is provided on the insert in the ERAP located in the front binder pocket of this State Appendix.

Worst Case Discharge = (b) (7)(F), (b) (3)

Response Requirement

The Facility shall identify sufficient response resources, by contract or other approved means, to respond to a worst case discharge to the maximum extent practicable. The response resources shall, as appropriate, include:

- All resources shall be capable of arriving at the Facility within the applicable response tier requirements.
- Oil recovery devices with an effective daily recovery capacity equal to the lesser of 50% of the WCD or the response caps. If the daily recovery rate exceeds the applicable contracting

caps (see Table) then the Facility must identify additional resources equal to twice the cap (initial volume in Tier 3) or the amount necessary to reach the calculated planning volume.
- Temporary storage capacity equal to twice the daily recovery capacity.
- At least 20% of the on-water response equipment should be capable of operating in water of 6 feet or less depth.
- Containment boom for oil collection and containment and for protection of areas of environmental sensitivity or economic importance.
- Identify resources capable of responding to a shoreline clean-up operation involving the calculated volume of oil and emulsified oil that might impact the affected shoreline.

Facility Response Resources/Capability

The Facility will respond to a Worst Case Discharge (WCD) initially with a similar response as identified for a Average Most Probable / Small or Maximum Most Probable / Medium Discharge. Additional OSRO(s) will be activated as the situation demands. The response resources will be capable of arriving within the required response tiers and will include:
- Oil recovery devices with an effective daily recovery capacity equal to the lesser of 50% of the WCD or the response caps will be secured from the OSRO(s) and other resources. Any amount in excess of the required caps will be contracted for and responded to as part of the same response effort.
- Temporary storage capacity equal to twice the daily recovery capacity will be secured from OSRO(s), other resources, or made available within the Facility's storage facilities.
- At least 20% of the on-water response equipment secured from the OSRO(s) and other resources will be capable of operating in water of 6 feet or less depth.

Facility Response Resources/Capability

Containment boom for oil collection and containment and for protection of fish and wildlife and sensitive environments and socio-economic sensitivities will be secured from the Facility, OSRO(s), and other resources.

Note: Reference to the equipment resources detailed herein is included this Plan. Telephone reference is provided on the insert in the ERAP located in the front binder pocket of this State Appendix.

WORST CASE DISCHARGE (DOT/PHMSA)

Largest Facility Break Out Tank – (b) (7)(F), (b) (3).

SPILL HISTORY

No spills for the last 3 years meeting the EPA criteria are on file.

Empire Terminal

Response Planning Volume Calculations

Location Data

Location ..... Nearshore/inland
Port type ..... High volume port
Product type ..... Crude Oil
Product group ..... (b) (7)(F), (b) (3)
Maximum vessel discharge pumping rate (bbls/hr/line) .....
Maximum number of simultaneous vessel discharging pumping operations .....
Worst case discharge scenario pumping time ((detection + shut down, hrs) .....
Total line fill volume from dock to first valve w/in containment (bbls) .....
Capacity of the largest single tank .....

Discharge Volumes/Calculations

Average most probable or small discharge (bbls) .....
Maximum most probable or medium discharge (bbls) .....
Worst case discharge - based on USCG criteria (bbls) .....
Worst case discharge - based on EPA criteria (bbls) .....

USCG WCD calculation: (pump rate * pump time * number of pump operations) + Line Fill
EPA WCD Calculation: 100% * capacity of largest single tank (NTR)

Selected Calculation Factors

Removal capacity planning volume - percent natural dissipation ..... (b) (7)(F), (b) (3)
Removal capacity planning volume - percent recovered floating oil .....
Removal capacity planning volume - percent oil onshore .....

Emulsification factor
Tier 1 - On water oil recovery resource mobilization factor .....
Tier 2 - On water oil recovery resource mobilization factor .....
Tier 3 - On water oil recovery resource mobilization factor .....

Response Planning Volume Calculation

On-water recovery volume (bbls) .....
On-shore recovery volume (bbls) .....
Total recovery volume (bbls) .....

	Tier 1	Tier 2	Tier 3
On-water recovery capacity (bbls/day)	(b) (7)(F), (b) (3)		
Shallow water resp. capability (bbls/day)			
Storage capacity (bbls/day)			
On-water response capacity (bbls/day)			
Additional response required (bbls/day)			
Response time (hours)			

PLANNING DISTANCE CALCULATION

Mississippi River

Maximum
d= V x T x C

d= distance
V= velocity (feet/second)
T= time (hours)
C= constant ((3600 sec/hr)/(5280 ft/mi.))

d= (7.1 ft/sec)(48 hrs)(.68)
d= 231 miles

Data obtained from the US Army Corp of Engineers, New Orleans District.

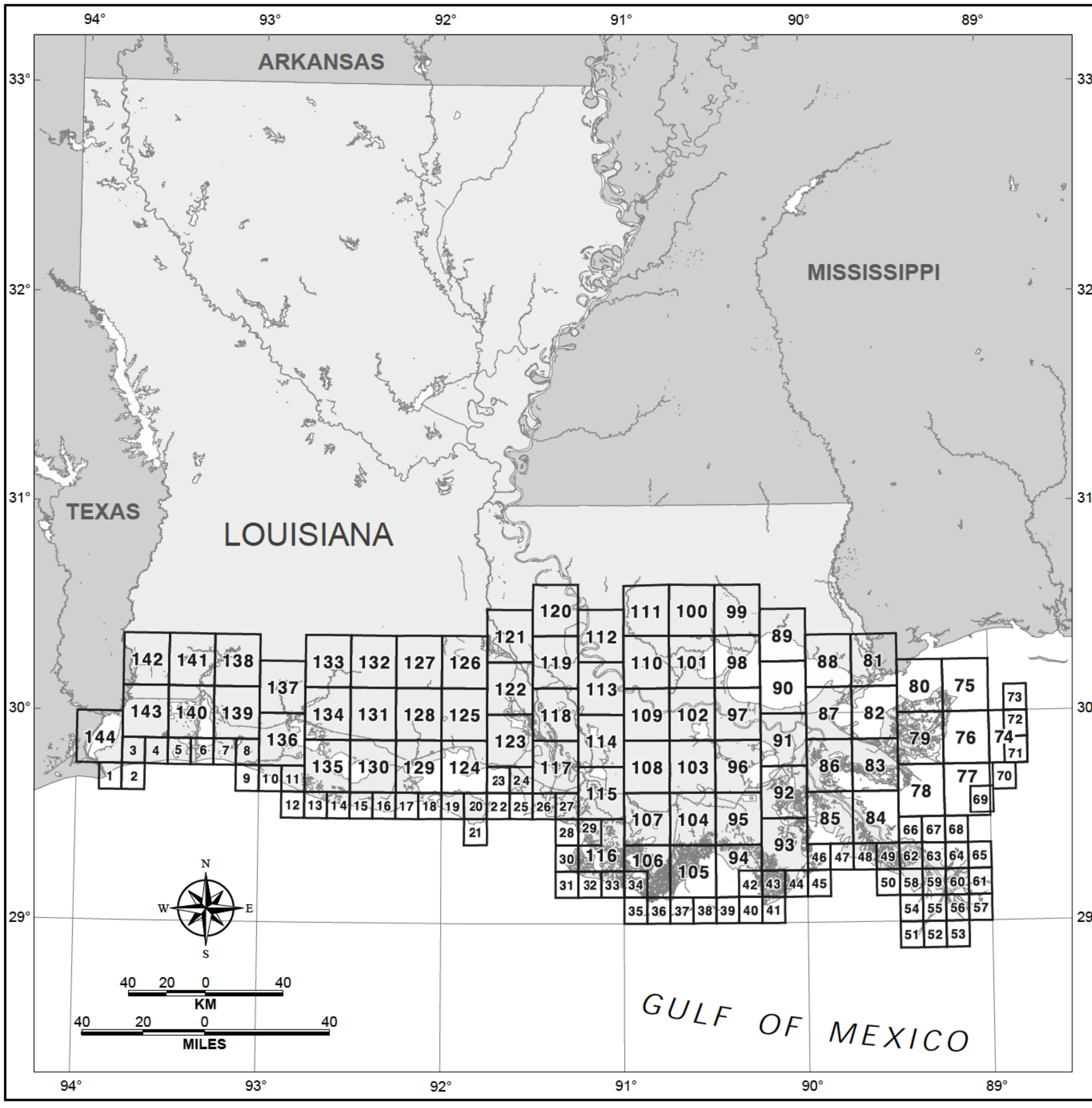
Note: Based on non-tidal river flow calculations above, any projected WCD Scenario Spill from the Empire Terminal will reach tidal waters well within the 48 hour calculations required under 33 CFR 164.1035 (b)(4)(iii). Therefore, it is possible that spill impact could directly or indirectly affect all of the ESI Map Areas provided in this section.

During an actual spill, on scene reconnaissance will determine travel distance of a spill and applicable ESI Maps will be consulted at that time.

FACILITY EVACUATION PLAN

Sensitivity of Coastal Environments and Wildlife to Spilled Oil

LOUISIANA



Supported by:

National Oceanic and Atmospheric Administration

National Ocean Service

Office of Response and Restoration
Hazardous Materials Response Division
Seattle, Washington

In Cooperation with:

Minerals Management Service (MMS)
New Orleans, Louisiana

U.S. Fish and Wildlife Service (USFWS)
Lafayette, Louisiana

The Louisiana Oil Spill Coordinator's Office (LOSCO)
Baton Rouge, Louisiana

Louisiana Department of Wildlife and Fisheries (LDWF)
Baton Rouge, Louisiana

Louisiana Department of Natural Resources (LDNR)
Baton Rouge, Louisiana

DEC 2003

LOUISIANA

SHORELINE HABITATS (ESI)
2001 ESI Shoreline Classification

- 1B) EXPOSED, SOLID MAN-MADE STRUCTURES
- 2A) EXPOSED WAVE-CUT PLATFORMS IN CLAY
- 2B) EXPOSED SCARPS AND STEEP SLOPES IN CLAY
- 3A) FINE- TO MEDIUM-GRAINED SAND BEACHES
- 3B) SCARPS AND STEEP SLOPES IN SAND
- 4) COARSE-GRAINED SAND BEACHES
- 5) MIXED SAND AND GRAVEL BEACHES
- 6A) GRAVEL BEACHES
- 6B) RIPRAP
- 7) EXPOSED TIDAL FLATS
- 8A) SHELTERED ROCKY SHORES AND SHELTERED SCARPS IN MUD OR CLAY
- 8B) SHELTERED MAN-MADE STRUCTURES
- 8C) SHELTERED RIPRAP
- 9A) SHELTERED TIDAL FLATS
- 9B) SHELTERED, VEGETATED LOW BANKS
- 10A) SALT- AND BRACKISH-WATER MARSHES
- 10B) FRESHWATER MARSHES
- 10C) FRESHWATER SWAMPS
- 10D) SCRUB-SHRUB WETLANDS

COASTAL HABITATS
From 1988 Digital Shoreline

- 10A) SALT MARSH
- 10A) BRACKISH MARSH
- 10A) INTERMEDIATE MARSH
- 10B) FRESHWATER MARSH
- 10C) FORESTED WETLAND
- 10D) SCRUB-SHRUB WETLAND
- SEAGRASS

SENSITIVE BIOLOGICAL RESOURCES

BIRD
- DIVING BIRD
- GULL / TERN
- PASSERINE
- RAPTOR
- SHOREBIRD
- WADING BIRD
- WATERFOWL
- NESTING SITE

FISH
- FISH

TERRESTRIAL MAMMAL
- BAT
- BEAR
- SMALL MAMMAL

INVERTEBRATE
- BIVALVE
- CEPHALOPOD
- CRAB
- CRAYFISH
- INSECT
- SHRIMP

REPTILE / AMPHIBIAN
- ALLIGATOR
- TURTLE
- OTHER REPTILE / AMPHIBIAN

HABITAT
- PLANT
- SEAGRASS

MUTIPLE ELEMENTS
- THREATENED / ENDANGERED
- 123 RAR NUMBER

HUMAN-USE FEATURES

- AIRPORT / HELIPORT
- BOAT RAMP
- INDIAN RESERVATION
- MARINA
- NATIONAL PARK / NATURE CONSERVANCY
- SENIC RIVER
- STATE PARK
- WILDLIFE REFUGE
- 123 HUMAN-USE NUMBER
- PARISH BOUNDARY
- MANAGEMENT BOUNDARY
- MAJOR ROAD
- MINOR ROAD
- SHORELINE FROM 2001 PHOTO INTERPRETATION
- SHORELINE FROM 1988 DIGITAL DATA

Guidelines for Interpreting ESI Maps

To help users interpret the ESI maps and tabular data, we offer the following guidelines for use in addition to the map legend:

• Shoreline Habitats. The "shoreline," representing the boundary between land and water, is color-coded with the ESI classification. Most shoreline habitats are shown as a line, with no areal dimension. Where there is more than one shoreline type (e.g., a beach in front of a seawall), the colors for each habitat are shown, with the color for the landward habitat on the land side of the shoreline and the color for the seaward habitat on the water side. In areas where the intertidal zone is wide (e.g., wide tidal flats, wave-cut rocky platforms), the habitat from high to low water is filled with the ESI classification color. When data are available, the entire extent of wetlands are filled with colored patterns. The seaward edge of the wetland is color-coded with the ESI classification; the landward extent of the wetland is indicated by a dashed, colored line.

• Biological Resources. The distribution of biological resources is shown using many different conventions. The major convention is an icon associated with a point, line, or polygon that shows the species' areal distribution. The icon's reference number corresponds to a data table with details on species and life history. Biological resource data are organized into six major groups, each with a reference color: birds (green), mammals (brown), fish (blue), shellfish (orange), reptiles (red), and rare/endangered plants and special habitats (purple). These colors are used to fill hatched polygons and the icons. Each major group has subgroups with unique icons to visually indicate the type of organism or feature present. The icon or group of icons is usually located inside the polygon it represents; however, sometimes a line is connected between the icon and the polygon or point to make it easier to relate the two. Note that icons are used to indicate the types of resources present, but the actual data are the points and polygons. A red box around an icon indicates the presence of a species on the state or Federal list of threatened or endangered species.

The number listed below each icon refers to the first column of a data table for each map. The data tables, organized by group (birds, fish, etc.), include the following information: species name, status as threatened or endangered on state and Federal lists, concentration (specifically for each point or polygon), presence by month, and special life-history time periods. When a polygon contains multiple groups, the one number under the group of icons is listed under each group heading in the data tables. Where possible, the same number is used on multiple maps. For example, all bald eagle nests with the same seasonality could have the same number throughout the atlas, or the same assemblage of fish would have the same number wherever it occurred.

A data table has a separate listing for every unique combination of species, concentration, seasonality, life-history stage, and source. By looking at the monthly seasonality data in the table for each map, the species present at the time of concern can be easily identified. An 'X' or number is placed under each month in which any life stage of the species is present in the area represented by the point or polygon. Numbers are used typically for fish and shellfish where data on relative abundance are available. The final columns in the data tables include the months when reproductive activities occur or early life stages are present. Users should pay close attention to the data tables because they contain much of the information needed to identify the most sensitive resources at different times of the year.

Points, lines, and polygons on a map represent the distribution of the resources. Green points show bird nesting sites, including bald eagle nests and dense colonial nesters (e.g., heron rookeries and seabird nesting colonies). Animals and habitats are also represented as: 1) hatched polygons in the color for the animal group (e.g., green for birds); 2) black hatched polygons which contain multiple groups of resources (birds and fish in the same tidal channels); 3) solid lines (usually used for fish in small streams); or 4) in "common in ..." boxes. When showing the biological resource polygons would make the maps too difficult to read (usually when multiple polygons cover a large area), the polygons are not plotted and the presence of the resource is indicated by placing the icon in a box labeled "common in ..." The box contains an appropriate geographic reference. Different boxes can be used on the same map when, for example: "common in Winyah Bay" or "common in tidal creeks." The data for these resources are still fully present in the database but are not shown to make the maps more readable.

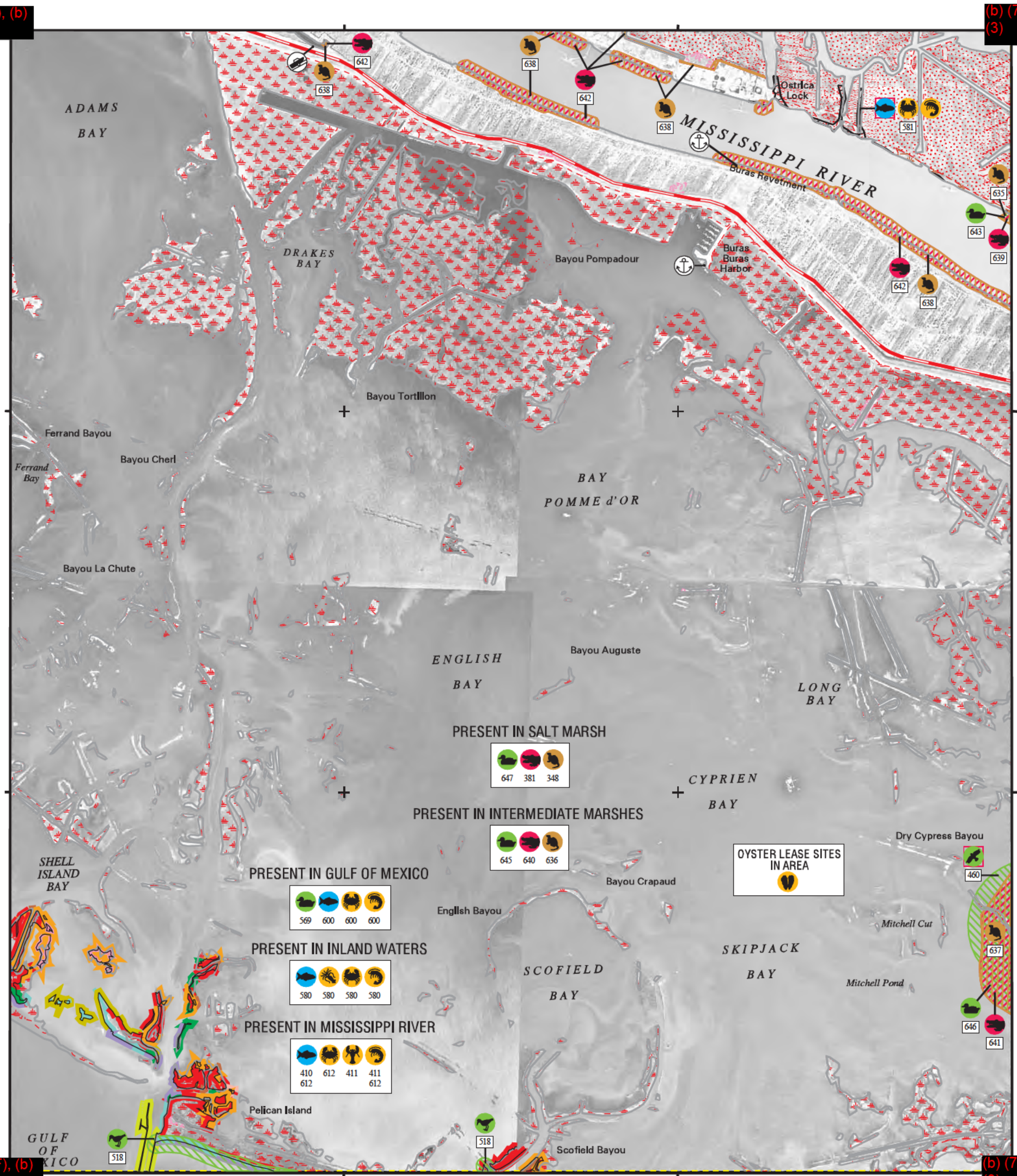
• Human-use Resources. Most of the human-use resources are point features indicated by a black-and-white icon. Managed lands, such as refuges and sanctuaries, have their boundaries shown as a dot-dash line with an icon and name placed inside. Where the feature is a known point location (e.g., a drinking water intake, boat ramp, marina), the exact location is shown as a small black dot and a line is drawn from it to the icon. Activities such as commercial and recreational fishing and areas such as recreational beaches are also indicated by an icon placed in the general area without any lines to points or polygons since the boundaries are not readily defined.

Some features, like historic and archaeological sites, are location-sensitive: the agency managing the resource believes the exact location should not be shown in order to protect the site. In these cases, the icon is placed in the general area of the resource, but the exact location is not shown.

ENVIRONMENTAL SENSITIVITY INDEX MAP

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)



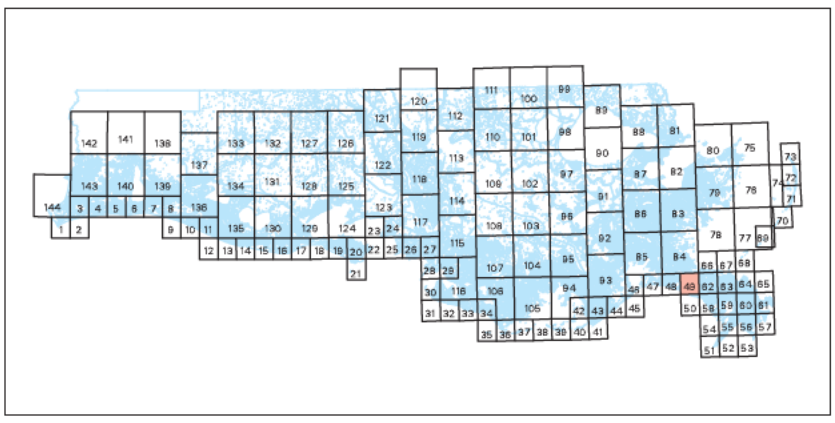
SHORELINE

1988 SHORELINE

2001 SHORELINE

NOTE FOR COASTAL MAPS:

Due to the dynamic nature of the Louisiana coastline, biological resources may represent historical locations that do not correspond with the depicted shoreline.



SHORELINE HABITATS (ESI)

2001 ESI Shoreline Classification

- 1B EXPOSED, SOLID MAN-MADE STRUCTURES
- 2A EXPOSED WAVE-CUT PLATFORMS IN CLAY
  2B EXPOSED SCARPS AND STEEP SLOPES IN CLAY
- 3A FINE- TO MEDIUM-GRAINED SAND BEACHES
  3B SCARPS AND STEEP SLOPES IN SAND
- 4 COARSE-GRAINED SAND BEACHES
- 5 MIXED SAND AND GRAVEL BEACHES
- 6A GRAVEL BEACHES
- 6B RIPRAP
- 7 EXPOSED TIDAL FLATS
- 8A SHELTERED ROCKY SHORES AND SHELTERED SCARPS IN MUD OR CLAY
- 8B SHELTERED, MAN-MADE STRUCTURES
- 8C SHELTERED RIPRAP
- 9A SHELTERED TIDAL FLATS
  9B SHELTERED, VEGETATED LOW BANKS
- 10A SALT- AND BRACKISH-WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C FRESHWATER SWAMPS
- 10D SCRUB-SHRUB WETLANDS

COASTAL HABITATS

Based on 1988 Digital Shoreline

- 10A SALT MARSH
- 10A BRACKISH MARSH
- 10A INTERMEDIATE MARSH
- 10B FRESHWATER MARSH
- 10C FORESTED WETLAND
- 10D SCRUB- SHRUB WETLAND
- SEAGRASS

N W E S

SCALE 1:50000

1 5 0 1 KILOMETER

1 5 0 1 MILE

Not For Navigation

December 2003

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National Oceanic and Atmospheric Administration
National Ocean Service
Office of Response and Restoration
Hazardous Materials Response Division

BURAS LA-49

Louisiana ESI: ESIMAP 49

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
460	Threatened raptor		T		X	X	X	X	X	X	X	X	X	X	X	X	OCT-MAY	-	-
518	Shorebirds						X	X	X		X	X	X	X			-	-	-
569	Lesser scaup			49 IND/SQ MI	X	X	X							X	X	X	-	-	-
643	American coot			2 TO 215 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			1 TO 116 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			2 TO 30 IND/SQ MI	X	X	X	X	X			X	X	X	X	X	-	-	-
	Canvasback			UP TO 21 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			10 TO 243 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			6 TO 86 IND/SQ MI	X	X	X	X				X	X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			UP TO 41 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			20 TO 99 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			3 TO 18 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			2 TO 70 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			UP TO 24 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			UP TO 56 IND/SQ MI	X	X	X							X	X	X	-	-	-
645	American coot			33 TO 165 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			3 TO 73 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			9 TO 34 IND/SQ MI	X	X	X	X	X			X	X	X	X	X	-	-	-
	Canvasback			UP TO 6 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			36 TO 240 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			9 TO 144 IND/SQ MI	X	X	X	X				X	X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			2 TO 35 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			4 TO 66 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			8 TO 15 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			UP TO 39 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			4 TO 34 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			2 TO 36 IND/SQ MI	X	X	X							X	X	X	-	-	-
646	American coot			4 TO 42 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			5 TO 39 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			9 TO 21 IND/SQ MI	X	X	X	X	X			X	X	X	X	X	-	-	-
	Canvasback			UP TO 8 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			46 TO 167 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			23 TO 70 IND/SQ MI	X	X	X	X				X	X	X	X	X	-	-	-
	Hooded merganser			UP TO 1 IND/SQ MI	X	X	X								X	X	-	-	-
	Lesser scaup			2 TO 10 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			3 TO 19 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			7 TO 17 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			1 TO 56 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			6 TO 31 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			UP TO 14 IND/SQ MI	X	X	X							X	X	X	-	-	-
647	American coot			UP TO 20 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			UP TO 57 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			UP TO 10 IND/SQ MI	X	X	X	X	X			X	X	X	X	X	-	-	-
	Canvasback			PRESENT	X	X	X								X	X	-	-	-
	Gadwall			1 TO 132 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			UP TO 246 IND/SQ MI	X	X	X	X				X	X	X	X	X	-	-	-
	Hooded merganser			UP TO 2 IND/SQ MI	X	X	X								X	X	-	-	-
	Lesser scaup			UP TO 76 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			UP TO 22 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			3 TO 16 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			UP TO 198 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			1 TO 152 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			UP TO 24 IND/SQ MI	X	X	X							X	X	X	-	-	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
410	Alligator gar			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bantam sunfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bighead carp			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bigmouth buffalo			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black buffalo			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black crappie			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bluegill			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bowfin			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Catfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Chubsucker			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Common carp			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Freshwater drum			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gizzard shad			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Grass carp			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf menhaden			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Hybrid sunfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Largemouth bass			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Logperch			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Longear sunfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Minnows			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Orangespotted sunfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Paddlefish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Redear sunfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	River carpsucker			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Shiners			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Shortnose gar			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Shovelnose sturgeon			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Silver carp			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Smallmouth buffalo			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Spotted gar			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Spotted sunfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Striped bass			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Striped mullet			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Threadfin shad			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	White bass			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	White crappie			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Yellow bass			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
580	Atlantic croaker			5	5	5	5	5	5	5	5	4	4	4	5	5	MAR-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bay anchovy			5	5	5	5	5	5	5	5	5	5	5	5	5	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black drum			3	3	3	3	3	3	3	3	3	3	3	3	3	JAN-MAY	JAN-MAY	JAN-MAY	JAN-DEC	-
	Crevalle jack			3	2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Florida pompano			3	3	3	3	3	3	3	3	3	3	3	3	3	MAY-AUG	MAY-AUG	MAY-AUG	JAN-DEC	-
	Gizzard shad			4	3	3	3	4	4	4	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gray snapper			3	2	2	2	2	2	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Gulf menhaden			5	5	5	5	5	5	5	5	5	5	5	5	5	-	AUG-APR	AUG-APR	JAN-DEC	-

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Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

Louisiana ESI: ESIMAP 49 (cont.)

BIOLOGICAL RESOURCES: (cont.)

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
580	Red drum			4	3	3	3	3	3	4	4	4	3	3	3	3	AUG-MAR	AUG-MAR	AUG-MAR	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	FEB-OCT	FEB-OCT	FEB-OCT	JAN-DEC	-
	Sheepshead			4	4	4	4	4	4	4	4	4	4	4	4	4	-	-	JAN-JUL	JAN-DEC	-
	Silver perch			4	3	3	3	3	4	3	3	3	3	3	3	3	MAR-OCT	MAR-OCT	MAR-OCT	JAN-DEC	-
	Southern flounder			4	3	3	3	3	4	4	4	4	4	4	4	3	-	-	SEP-APR	JAN-DEC	-
	Spanish mackerel			3	2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Spot			5	5	5	5	5	5	5	5	5	5	5	5	5	OCT-APR	OCT-APR	OCT-APR	JAN-DEC	-
	Spotted seatrout			4	3	3	3	3	4	4	4	4	3	4	3	3	MAR-OCT	MAR-OCT	MAR-OCT	JAN-DEC	-
	Striped mullet			4	4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-FEB	OCT-MAY	JAN-DEC	-
	Tarpon			3	2	2	2	2	2	3	3	3	3	3	3	2	-	-	MAY-NOV	JAN-DEC	-
581	Atlantic croaker			4	3	3	4	4	4	4	4	3	3	3	3	3	-	-	-	JAN-DEC	-
	Bay anchovy			4	4	4	4	4	4	4	4	4	4	4	4	4	-	APR-OCT	APR-OCT	JAN-DEC	-
	Black drum			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Crevalle jack			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			4	4	4	4	4	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	-
	Gulf sturgeon		T	2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Red drum			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	3	3	3	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	2	2	3	3	3	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Silver perch			3	2	2	2	3	3	2	2	2	3	3	3	2	-	-	-	JAN-DEC	-
	Southern flounder			3	2	2	2	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Spot			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Spotted seatrout			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	3	3	4	4	4	3	3	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
600	Black drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Florida pompano			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf menhaden			5	5	5	4	4	4	5	5	5	5	5	5	5	JAN-DEC	SEP-MAY	JAN-DEC	JAN-DEC	-
	Gulf sturgeon		T	2	2	2	2	2	2	0	0	0	0	0	0	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Red drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Sheepshead			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Southern flounder			4	3	3	4	4	4	4	4	4	4	4	4	3	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Spanish mackerel			4	2	2	3	3	3	4	4	4	4	4	4	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Striped mullet			4	3	3	4	4	4	4	4	4	3	3	3	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Tarpon			3	2	2	2	2	2	3	3	3	3	3	3	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-
612	Atlantic croaker			4	3	3	4	4	4	4	4	3	3	3	3	3	-	-	-	JAN-DEC	-
	Bay anchovy			4	4	4	4	4	4	4	4	4	4	4	4	4	-	APR-OCT	APR-OCT	JAN-DEC	-
	Black drum			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Crevalle jack			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Gulf sturgeon		T	2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Red drum			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	3	3	3	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	2	2	3	3	3	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Silver perch			3	2	2	2	3	3	2	2	2	3	3	3	2	-	-	-	JAN-DEC	-
	Southern flounder			3	2	2	2	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Spot			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Spotted seatrout			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
411	River shrimp			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	White river crawfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
580	Bay squid			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Blue crab			5	4	4	5	5	5	5	5	5	5	5	5	4	-	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	4	5	5	5	5	5	5	5	5	4	4	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf stone crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	MAR-NOV	MAR-DEC	JAN-DEC	-
	Pink shrimp			5	3	3	5	5	5	3	3	3	3	3	3	3	-	-	APR-OCT	JAN-DEC	-
	White shrimp			5	3	3	5	5	5	5	5	5	5	5	5	4	APR-NOV	APR-NOV	MAR-DEC	JAN-DEC	-
581	Blue crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Brown shrimp			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Pink shrimp			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	White shrimp			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
600	Blue crab			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	3	4	4	4	5	5	5	4	4	4	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Florida stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Gulf stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Pink shrimp			4	3	3	3	3	3	4	4	4	4	4	4	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	White shrimp			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
612	Blue crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Brown shrimp			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Pink shrimp			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	White shrimp			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
381	American alligator			TRANSIENT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
639	American alligator			661 TO 9 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC
640	American alligator			593 TO 38 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC
641	American alligator			2257 TO 68 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC
642	American alligator			1000 TO 250 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC

TERRESTRIAL MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
348	Common raccoon			RESIDENT	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			RESIDENT	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			RESIDENT	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			RESIDENT	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			TRANSIENT	X	X	X	X	X	X	X	X	X	X	X	X
635	Common raccoon			86 TO 42 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			223 TO 179 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			36 TO 17 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			2036 TO 828 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			3 TO 2 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
636	Common raccoon			77 TO 73 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			329 TO 220 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			99 TO 6 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			1258 TO 423 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

Louisiana ESI: ESIMAP 49 (cont.)

BIOLOGICAL RESOURCES: (cont.)

TERRESTRIAL MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
636	Nutria			6 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
637	Common raccoon			68 TO 43 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			466 TO 215 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			9 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			752 TO 373 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			7 TO 5 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
638	Common raccoon			25 TO 23 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			96 TO 56 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			196 TO 53 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			877 TO 728 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			15 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

ENVIRONMENTAL SENSITIVITY INDEX MAP

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

Bay Denesse
Ft. Jackson
Boothville
Bollvar Point
Bayou Creek
MISSISSIPPI RIVER
Fresh Water Bayou
Old Stump Bay
Bayou Dum Barr
Grand Bayou Carrion Crow
Bay Carrion Crow
Hospital Bay
Yellow Cotton Bay
Chicharas Bay
Bay Jacques
Bayou Jacques
Bayou Coquette
Bayou Tambour

PRESENT IN MISSISSIPPI RIVER
410 612 | 612 | 411 | 411 612

OYSTER LEASE SITES IN AREA

PRESENT IN SALT MARSH
647 381 348

PRESENT IN BRACKISH MARSHES
646 641 637

PRESENT IN FRESHWATER MARSHES
643 639 635

PRESENT IN INTERMEDIATE MARSHES
645 640 636

PRESENT IN INLAND WATERS
580 580 580 580

SHORELINE
1988 SHORELINE
2001 SHORELINE

NOTE FOR COASTAL MAPS:
Due to the dynamic nature of the Louisiana coastline, biological resources may represent historical locations that do not correspond with the depicted shoreline.

SHORELINE HABITATS (ESI)
2001 ESI Shoreline Classification

- 1B EXPOSED, SOLID MAN-MADE STRUCTURES
- 2A EXPOSED WAVE-CUT PLATFORMS IN CLAY
  2B EXPOSED SCARPS AND STEEP SLOPES IN CLAY
- 3A FINE- TO MEDIUM-GRAINED SAND BEACHES
  3B SCARPS AND STEEP SLOPES IN SAND
- 4 COARSE-GRAINED SAND BEACHES
- 5 MIXED SAND AND GRAVEL BEACHES
- 6A GRAVEL BEACHES
- 6B RIPRAP
- 7 EXPOSED TIDAL FLATS
- 8A SHELTERED ROCKY SHORES AND SHELTERED SCARPS IN MUD OR CLAY
- 8B SHELTERED, MAN-MADE STRUCTURES
- 8C SHELTERED RIPRAP
- 9A SHELTERED TIDAL FLATS
  9B SHELTERED, VEGETATED LOW BANKS
- 10A SALT- AND BRACKISH-WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C FRESHWATER SWAMPS
- 10D SCRUB-SHRUB WETLANDS

COASTAL HABITATS
Based on 1988 Digital Shoreline

- 10A SALT MARSH
- 10A BRACKISH MARSH
- 10A INTERMEDIATE MARSH
- 10B FRESHWATER MARSH
- 10C FORESTED WETLAND
- 10D SCRUB- SHRUB WETLAND
- SEAGRASS

N W E S

SCALE 1:50000

1 .5 0 1 KILOMETER

1 .5 0 1 MILE

Not For Navigation

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TRIUMPH LA-62

Louisiana ESI: ESIMAP 62

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
131	Snowy egret			34 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Tricolored heron			4 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
193	Great egret			200 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	-
	Neotropic cormorant			25 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-
	Snowy egret			100 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	White ibis			50 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
239	Black-crowned night-heron			17 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
	Great egret			54 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	-
	Little blue heron			12 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Snowy egret			116 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Tricolored heron			39 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	White ibis			6 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
	White-faced or Glossy ibis			28 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
240	Snowy egret			15 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Tricolored heron			3 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	White-faced or Glossy ibis			7 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
457	Rare raptor				X	X	X	X	X	X	X	X	X	X	X	X	JAN-AUG	-	-
460	Threatened raptor		T		X	X	X	X	X	X	X	X	X	X	X	X	OCT-MAY	-	-
567	Lesser scaup			32 IND/SQ MI	X	X	X							X	X	X	-	-	-
643	American coot			2 TO 215 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			1 TO 116 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			2 TO 30 IND/SQ MI	X	X	X	X	X				X	X	X	X	-	-	-
	Canvasback			UP TO 21 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			10 TO 243 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			6 TO 86 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			UP TO 41 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			20 TO 99 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			3 TO 18 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			2 TO 70 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			UP TO 24 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			UP TO 56 IND/SQ MI	X	X	X							X	X	X	-	-	-
645	American coot			33 TO 165 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			3 TO 73 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			9 TO 34 IND/SQ MI	X	X	X	X	X				X	X	X	X	-	-	-
	Canvasback			UP TO 6 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			36 TO 240 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			9 TO 144 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			2 TO 35 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			4 TO 66 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			8 TO 15 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			UP TO 39 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			4 TO 34 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			2 TO 36 IND/SQ MI	X	X	X							X	X	X	-	-	-
646	American coot			4 TO 42 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			5 TO 39 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			9 TO 21 IND/SQ MI	X	X	X	X	X				X	X	X	X	-	-	-
	Canvasback			UP TO 8 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			46 TO 167 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			23 TO 70 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Hooded merganser			UP TO 1 IND/SQ MI	X	X	X								X	X	-	-	-
	Lesser scaup			2 TO 10 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			3 TO 19 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			7 TO 17 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			1 TO 56 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			6 TO 31 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			UP TO 14 IND/SQ MI	X	X	X							X	X	X	-	-	-
647	American coot			UP TO 20 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			UP TO 57 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			UP TO 10 IND/SQ MI	X	X	X	X	X				X	X	X	X	-	-	-
	Canvasback			PRESENT	X	X	X								X	X	-	-	-
	Gadwall			1 TO 132 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			UP TO 246 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Hooded merganser			UP TO 2 IND/SQ MI	X	X	X								X	X	-	-	-
	Lesser scaup			UP TO 76 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			UP TO 22 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			3 TO 16 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			UP TO 198 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			1 TO 152 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			UP TO 24 IND/SQ MI	X	X	X							X	X	X	-	-	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
392	Largemouth bass			LOW	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
410	Alligator gar			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bantam sunfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bighead carp			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bigmouth buffalo			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black buffalo			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black crappie			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bluegill			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bowfin			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Catfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Chubsucker			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Common carp			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Freshwater drum			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gizzard shad			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Grass carp			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf menhaden			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Hybrid sunfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Largemouth bass			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Logperch			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Longear sunfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Minnows			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Orangespotted sunfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Paddlefish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Redear sunfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	River carpsucker			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Shiners			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Shortnose gar			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Shovelnose sturgeon			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Silver carp			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-

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Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

Louisiana ESI: ESIMAP 62 (cont.)

BIOLOGICAL RESOURCES: (cont.)

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
410	Smallmouth buffalo			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Spotted gar			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Spotted sunfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Striped bass			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Striped mullet			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Threadfin shad			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	White bass			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	White crappie			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Yellow bass			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
580	Atlantic croaker			5	5	5	5	5	5	5	5	4	4	4	5	5	MAR-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bay anchovy			5	5	5	5	5	5	5	5	5	5	5	5	5	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black drum			3	3	3	3	3	3	3	3	3	3	3	3	3	JAN-MAY	JAN-MAY	JAN-MAY	JAN-DEC	-
	Crevalle jack			3	2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Florida pompano			3	3	3	3	3	3	3	3	3	3	3	3	3	MAY-AUG	MAY-AUG	MAY-AUG	JAN-DEC	-
	Gizzard shad			4	3	3	3	4	4	4	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gray snapper			3	2	2	2	2	2	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Gulf menhaden			5	5	5	5	5	5	5	5	5	5	5	5	5	-	AUG-APR	AUG-APR	JAN-DEC	-
	Red drum			4	3	3	3	3	3	4	4	4	3	3	3	3	AUG-MAR	AUG-MAR	AUG-MAR	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	FEB-OCT	FEB-OCT	FEB-OCT	JAN-DEC	-
	Sheepshead			4	4	4	4	4	4	4	4	4	4	4	4	4	-	-	JAN-JUL	JAN-DEC	-
	Silver perch			4	3	3	3	3	4	3	3	3	3	3	3	3	MAR-OCT	MAR-OCT	MAR-OCT	JAN-DEC	-
	Southern flounder			4	3	3	3	3	4	4	4	4	4	4	4	3	-	-	SEP-APR	JAN-DEC	-
	Spanish mackerel			3	2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Spot			5	5	5	5	5	5	5	5	5	5	5	5	5	OCT-APR	OCT-APR	OCT-APR	JAN-DEC	-
	Spotted seatrout			4	3	3	3	3	4	4	4	4	3	4	3	3	MAR-OCT	MAR-OCT	MAR-OCT	JAN-DEC	-
	Striped mullet			4	4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-FEB	OCT-MAY	JAN-DEC	-
	Tarpon			3	2	2	2	2	2	3	3	3	3	3	3	2	-	-	MAY-NOV	JAN-DEC	-
581	Atlantic croaker			4	3	3	4	4	4	4	4	3	3	3	3	3	-	-	-	JAN-DEC	-
	Bay anchovy			4	4	4	4	4	4	4	4	4	4	4	4	4	-	APR-OCT	APR-OCT	JAN-DEC	-
	Black drum			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Crevalle jack			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			4	4	4	4	4	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	-
	Gulf sturgeon	T	2		2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Red drum			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	3	4	4	4	3	3	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	2	2	3	3	3	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Silver perch			3	2	2	2	3	3	2	2	2	3	3	3	2	-	-	-	JAN-DEC	-
	Southern flounder			3	2	2	2	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Spot			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Spotted seatrout			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	3	3	4	4	4	3	3	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
612	Atlantic croaker			4	3	3	4	4	4	4	4	3	3	3	3	3	-	-	-	JAN-DEC	-
	Bay anchovy			4	4	4	4	4	4	4	4	4	4	4	4	4	-	APR-OCT	APR-OCT	JAN-DEC	-
	Black drum			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Crevalle jack			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Gulf sturgeon	T	2		2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Red drum			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	3	4	4	4	3	3	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	2	2	3	3	3	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Silver perch			3	2	2	2	3	3	2	2	2	3	3	3	2	-	-	-	JAN-DEC	-
	Southern flounder			3	2	2	2	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Spot			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Spotted seatrout			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
614	Atlantic croaker			5	5	5	5	5	5	5	5	4	4	4	5	5	MAR-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bay anchovy			5	5	5	5	5	5	5	5	5	5	5	5	5	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black drum			3	3	3	3	3	3	3	3	3	3	3	3	3	JAN-MAY	JAN-MAY	JAN-MAY	JAN-DEC	-
	Crevalle jack			3	2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Florida pompano			3	3	3	3	3	3	3	3	3	3	3	3	3	MAY-AUG	MAY-AUG	MAY-AUG	JAN-DEC	-
	Gray snapper			3	2	2	2	2	2	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Red drum			4	3	3	3	3	3	4	4	4	3	3	3	3	AUG-MAR	AUG-MAR	AUG-MAR	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	FEB-OCT	FEB-OCT	FEB-OCT	JAN-DEC	-
	Sheepshead			4	4	4	4	4	4	4	4	4	4	4	4	4	-	-	JAN-JUL	JAN-DEC	-
	Silver perch			4	3	3	3	3	4	3	3	3	3	3	3	3	MAR-OCT	MAR-OCT	MAR-OCT	JAN-DEC	-
	Southern flounder			4	3	3	3	3	4	4	4	4	4	4	4	3	-	-	SEP-APR	JAN-DEC	-
	Spanish mackerel			3	2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Spot			5	5	5	5	5	5	5	5	5	5	5	5	5	OCT-APR	OCT-APR	OCT-APR	JAN-DEC	-
	Spotted seatrout			4	3	3	3	3	4	4	4	4	3	4	3	3	MAR-OCT	MAR-OCT	MAR-OCT	JAN-DEC	-
	Tarpon			3	2	2	2	2	2	3	3	3	3	3	3	2	-	-	MAY-NOV	JAN-DEC	-

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
411	River shrimp			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	White river crawfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
580	Bay squid			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Blue crab			5	4	4	5	5	5	5	5	5	5	5	5	4	-	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	4	5	5	5	5	5	5	5	5	4	4	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf stone crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	MAR-NOV	MAR-DEC	JAN-DEC	-
	Pink shrimp			5	3	3	5	5	5	3	3	3	3	3	3	3	-	-	APR-OCT	JAN-DEC	-
	White shrimp			5	3	3	5	5	5	5	5	5	5	5	5	4	APR-NOV	APR-NOV	MAR-DEC	JAN-DEC	-
581	Blue crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Brown shrimp			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Pink shrimp			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	White shrimp			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
612	Blue crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Brown shrimp			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Pink shrimp			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	White shrimp			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
614	Bay squid			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Blue crab			5	4	4	5	5	5	5	5	5	5	5	5	4	-	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	4	5	5	5	5	5	5	5	5	4	4	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf stone crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	MAR-NOV	MAR-DEC	JAN-DEC	-
	Pink shrimp			5	3	3	5	5	5	3	3	3	3	3	3	3	-	-	APR-OCT	JAN-DEC	-
	White shrimp			5	3	3	5	5	5	5	5	5	5	5	5	4	APR-NOV	APR-NOV	MAR-DEC	JAN-DEC	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
381	American alligator			TRANSIENT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
639	American alligator			661 TO 9 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

Louisiana ESI: ESIMAP 62 (cont.)

BIOLOGICAL RESOURCES: (cont.)

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
640	American alligator			593 TO 38 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC
641	American alligator			2257 TO 68 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC
642	American alligator			1000 TO 250 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC

TERRESTRIAL MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
348	Common raccoon			RESIDENT	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			RESIDENT	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			RESIDENT	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			RESIDENT	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			TRANSIENT	X	X	X	X	X	X	X	X	X	X	X	X
635	Common raccoon			86 TO 42 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			223 TO 179 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			36 TO 17 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			2036 TO 828 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			3 TO 2 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
636	Common raccoon			77 TO 73 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			329 TO 220 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			99 TO 6 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			1258 TO 423 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			6 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
637	Common raccoon			68 TO 43 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			466 TO 215 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			9 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			752 TO 373 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			7 TO 5 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
638	Common raccoon			25 TO 23 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			96 TO 56 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			196 TO 53 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			877 TO 728 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			15 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

ENVIRONMENTAL SENSITIVITY INDEX MAP

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

Jack Bay

GRAND BAY

CARENCRO BAY

ALEXIS BAY

MAIN PASS

Lookout Pass

Kimbel Pass

Emeline Pass

Denesse Pass

Benneys Bay

MISSISSIPPI RIVER

Venice

Yaratich Bend

Yaratich Bayou

Buras Bayou

DELTA-BRETON NATIONAL WILDLIFE REFUGE

OYSTER LEASE SITES IN AREA

PRESENT IN WILDLIFE REFUGES

518

PRESENT IN INTERMEDIATE MARSHES

645 640 636

PRESENT IN INLAND WATERS

582 582 582 582

PRESENT IN FRESHWATER MARSHES

643 392 639 635

PRESENT IN GRAND BAY

567 580 580 580 580

526 600 579 612 581 411 638 642 613 410 638 283 642 638 638 642 642 109 337

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

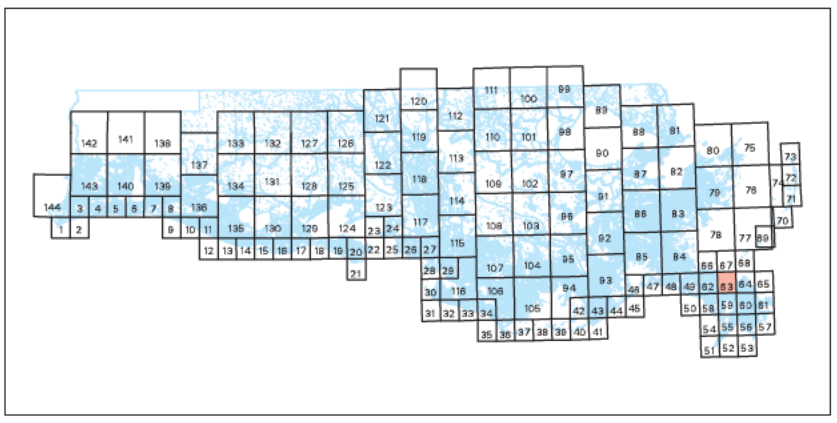
SHORELINE

1988 SHORELINE

2001 SHORELINE

NOTE FOR COASTAL MAPS:

Due to the dynamic nature of the Louisiana coastline, biological resources may represent historical locations that do not correspond with the depicted shoreline.



SHORELINE HABITATS (ESI)
2001 ESI Shoreline Classification

- 1B EXPOSED, SOLID MAN-MADE STRUCTURES
- 2A EXPOSED WAVE-CUT PLATFORMS IN CLAY
  2B EXPOSED SCARPS AND STEEP SLOPES IN CLAY
- 3A FINE- TO MEDIUM-GRAINED SAND BEACHES
  3B SCARPS AND STEEP SLOPES IN SAND
- 4 COARSE-GRAINED SAND BEACHES
- 5 MIXED SAND AND GRAVEL BEACHES
- 6A GRAVEL BEACHES
- 6B RIPRAP
- 7 EXPOSED TIDAL FLATS
- 8A SHELTERED ROCKY SHORES AND SHELTERED SCARPS IN MUD OR CLAY
- 8B SHELTERED, MAN-MADE STRUCTURES
- 8C SHELTERED RIPRAP
- 9A SHELTERED TIDAL FLATS
  9B SHELTERED, VEGETATED LOW BANKS
- 10A SALT- AND BRACKISH-WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C FRESHWATER SWAMPS
- 10D SCRUB-SHRUB WETLANDS

COASTAL HABITATS
Based on 1988 Digital Shoreline

- 10A SALT MARSH
- 10A BRACKISH MARSH
- 10A INTERMEDIATE MARSH
- 10B FRESHWATER MARSH
- 10C FORESTED WETLAND
- 10D SCRUB- SHRUB WETLAND
- SEAGRASS

N W E S

SCALE 1:50000

1 .5 0 1 KILOMETER

1 .5 0 1 MILE

Not For Navigation

December 2003

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VENICE LA-63

Louisiana ESI: ESIMAP 63

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
283	Great egret			13 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	-
337	Black-crowned night-heron			10 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
	Great egret			10 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	-
	Snowy egret			50 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Tricolored heron			10 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
518	Shorebirds						X	X	X		X	X	X	X			-	-	-
526	Rare shorebird				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
567	Lesser scaup			32 IND/SQ MI	X	X	X							X	X	X	-	-	-
643	American coot			2 TO 215 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			1 TO 116 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			2 TO 30 IND/SQ MI	X	X	X	X	X			X	X	X	X		-	-	-
	Canvasback			UP TO 21 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			10 TO 243 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			6 TO 86 IND/SQ MI	X	X	X	X				X	X	X	X		-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			UP TO 41 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			20 TO 99 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			3 TO 18 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			2 TO 70 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			UP TO 24 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			UP TO 56 IND/SQ MI	X	X	X							X	X	X	-	-	-
645	American coot			33 TO 165 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			3 TO 73 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			9 TO 34 IND/SQ MI	X	X	X	X	X			X	X	X	X		-	-	-
	Canvasback			UP TO 6 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			36 TO 240 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			9 TO 144 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			2 TO 35 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			4 TO 66 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			8 TO 15 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			UP TO 39 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			4 TO 34 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			2 TO 36 IND/SQ MI	X	X	X							X	X	X	-	-	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
392	Largemouth bass			LOW	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
410	Alligator gar			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bantam sunfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bighead carp			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bigmouth buffalo			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black buffalo			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black crappie			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bluegill			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bowfin			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Catfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Chubsucker			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Common carp			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Freshwater drum			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gizzard shad			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Grass carp			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf menhaden			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Hybrid sunfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Largemouth bass			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Logperch			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Longear sunfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Minnows			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Orangespotted sunfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Paddlefish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Redear sunfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	River carpsucker			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Shiners			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Shortnose gar			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Shovelnose sturgeon			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Silver carp			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Smallmouth buffalo			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Spotted gar			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Spotted sunfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Striped bass			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Striped mullet			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Threadfin shad			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	White bass			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	White crappie			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Yellow bass			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
579	Atlantic croaker			5	5	5	5	5	5	5	5	4	4	4	4	5	-	-	AUG-APR	JAN-DEC	-
	Bay anchovy			5	5	5	5	5	5	5	5	5	5	5	5	5	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black drum			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	JAN-APR	JAN-DEC	-
	Crevalle jack			3	2	2	2	3	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	-
	Red drum			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	AUG-MAR	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			4	3	3	3	3	4	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Spot			5	5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	4	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
580	Atlantic croaker			5	5	5	5	5	5	5	5	4	4	4	5	5	MAR-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bay anchovy			5	5	5	5	5	5	5	5	5	5	5	5	5	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black drum			3	3	3	3	3	3	3	3	3	3	3	3	3	JAN-MAY	JAN-MAY	JAN-MAY	JAN-DEC	-
	Crevalle jack			3	2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Florida pompano			3	3	3	3	3	3	3	3	3	3	3	3	3	MAY-AUG	MAY-AUG	MAY-AUG	JAN-DEC	-
	Gizzard shad			4	3	3	3	4	4	4	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gray snapper			3	2	2	2	2	2	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Gulf menhaden			5	5	5	5	5	5	5	5	5	5	5	5	5	-	AUG-APR	AUG-APR	JAN-DEC	-
	Red drum			4	3	3	3	3	3	4	4	4	3	3	3	3	AUG-MAR	AUG-MAR	AUG-MAR	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	FEB-OCT	FEB-OCT	FEB-OCT	JAN-DEC	-
	Sheepshead			4	4	4	4	4	4	4	4	4	4	4	4	4	-	-	JAN-JUL	JAN-DEC	-
	Silver perch			4	3	3	3	3	4	3	3	3	3	3	3	3	MAR-OCT	MAR-OCT	MAR-OCT	JAN-DEC	-

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Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

Louisiana ESI: ESIMAP 63 (cont.)

BIOLOGICAL RESOURCES: (cont.)

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
580	Southern flounder			4	3	3	3	3	4	4	4	4	4	4	4	3	-	-	SEP-APR	JAN-DEC	-
	Spanish mackerel			3	2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Spot			5	5	5	5	5	5	5	5	5	5	5	5	5	OCT-APR	OCT-APR	OCT-APR	JAN-DEC	-
	Spotted seatrout			4	3	3	3	3	4	4	4	4	3	4	3	3	MAR-OCT	MAR-OCT	MAR-OCT	JAN-DEC	-
	Striped mullet			4	4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-FEB	OCT-MAY	JAN-DEC	-
	Tarpon			3	2	2	2	2	2	3	3	3	3	3	3	2	-	-	MAY-NOV	JAN-DEC	-
581	Atlantic croaker			4	3	3	4	4	4	4	4	3	3	3	3	3	-	-	-	JAN-DEC	-
	Bay anchovy			4	4	4	4	4	4	4	4	4	4	4	4	4	-	APR-OCT	APR-OCT	JAN-DEC	-
	Black drum			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Crevalle jack			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			4	4	4	4	4	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	-
	Gulf sturgeon		T	2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Red drum			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	3	4	4	4	3	3	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	2	2	3	3	3	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Silver perch			3	2	2	2	3	3	2	2	2	3	3	3	2	-	-	-	JAN-DEC	-
	Southern flounder			3	2	2	2	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Spot			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Spotted seatrout			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	3	3	4	4	4	3	3	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
582	Atlantic croaker			5	5	3	4	4	5	5	5	4	4	4	4	5	-	-	AUG-JAN	JAN-DEC	-
	Bay anchovy			5	5	4	4	4	5	5	5	5	5	5	5	5	MAY-JAN	APR-JAN	APR-JAN	JAN-DEC	-
	Black drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	JAN-JAN	JAN-DEC	-
	Crevalle jack			3	2	2	2	2	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	4	4	4	5	5	5	5	5	5	4	5	-	-	-	JAN-DEC	-
	Gulf sturgeon		T	2	2	2	2	2	2	2	2					2	-	-	-	DEC-AUG	-
	Red drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	2	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2				2	2	2	2	2	2	2			-	-	-	MAY-NOV	-
	Spot			5	5	2	2	2	5	5	5	5	4	4	3	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	3	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
600	Black drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Florida pompano			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf menhaden			5	5	5	4	4	4	5	5	5	5	5	5	5	JAN-DEC	SEP-MAY	JAN-DEC	JAN-DEC	-
	Gulf sturgeon		T	2	2	2	2	2	2	0	0	0	0	0	0	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Red drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Sheepshead			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Southern flounder			4	3	3	4	4	4	4	4	4	4	4	4	3	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Spanish mackerel			4	2	2	3	3	3	4	4	4	4	4	4	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Striped mullet			4	3	3	4	4	4	4	4	4	3	3	3	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Tarpon			3	2	2	2	2	2	3	3	3	3	3	3	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-
612	Atlantic croaker			4	3	3	4	4	4	4	4	3	3	3	3	3	-	-	-	JAN-DEC	-
	Bay anchovy			4	4	4	4	4	4	4	4	4	4	4	4	4	-	APR-OCT	APR-OCT	JAN-DEC	-
	Black drum			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Crevalle jack			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Gulf sturgeon		T	2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Red drum			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	3	4	4	4	3	3	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	2	2	3	3	3	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Silver perch			3	2	2	2	3	3	2	2	2	3	3	3	2	-	-	-	JAN-DEC	-
	Southern flounder			3	2	2	2	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Spot			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Spotted seatrout			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
613	Atlantic croaker			5	5	3	4	4	5	5	5	4	4	4	4	5	-	-	AUG-JAN	JAN-DEC	-
	Bay anchovy			5	5	4	4	4	5	5	5	5	5	5	5	5	MAY-JAN	APR-JAN	APR-JAN	JAN-DEC	-
	Black drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	JAN-JAN	JAN-DEC	-
	Crevalle jack			3	2	2	2	2	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gulf sturgeon		T	2	2	2	2	2	2	2	2					2	-	-	-	DEC-AUG	-
	Red drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	2	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2				2	2	2	2	2	2	2			-	-	-	MAY-NOV	-
	Spot			5	5	2	2	2	5	5	5	5	4	4	3	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
411	River shrimp			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	White river crawfish			PRESENT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
579	Bay squid			2	2	2	2	2	2	2	2	2	2	2	2	2	MAR-NOV	MAR-NOV	MAR-NOV	JAN-DEC	-
	Blue crab			5	4	4	4	4	4	5	5	5	5	4	4	4	-	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	4	4	5	5	4	4	4	4	3	3	3	-	-	JAN-DEC	JAN-DEC	-
	Gulf stone crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Pink shrimp			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-OCT	JAN-DEC	-
	White shrimp			4	3	3	3	3	3	4	4	4	4	4	4	3	-	-	MAY-DEC	JAN-DEC	-
580	Bay squid			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Blue crab			5	4	4	5	5	5	5	5	5	5	5	5	4	-	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	4	5	5	5	5	5	5	5	5	4	4	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf stone crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	MAR-NOV	MAR-DEC	JAN-DEC	-
	Pink shrimp			5	3	3	5	5	5	3	3	3	3	3	3	3	-	-	APR-OCT	JAN-DEC	-
	White shrimp			5	3	3	5	5	5	5	5	5	5	5	5	4	APR-NOV	APR-NOV	MAR-DEC	JAN-DEC	-
581	Blue crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Brown shrimp			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Pink shrimp			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	White shrimp			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
582	Bay squid			2	2			2	2	2	2	2	2	2	2	2	-	-	MAY-NOV	MAY-JAN	-
	Blue crab			5	3	3	3	3	4	5	5	5	5	4	3	3	-	MAY-JAN	MAY-JAN	JAN-DEC	-
	Brown shrimp			5	3	3	3	3	5	4	4	4	4	3	3	3	-	-	MAY-JAN	JAN-DEC	-
	Gulf stone crab			3	3			3	3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	-
	Pink shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-SEP	JAN-DEC	-

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Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

Louisiana ESI: ESIMAP 63 (cont.)

BIOLOGICAL RESOURCES: (cont.)

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
582	White shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-DEC	JAN-DEC	-
600	Blue crab			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	3	4	4	4	5	5	5	4	4	4	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Florida stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Gulf stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Pink shrimp			4	3	3	3	3	3	4	4	4	4	4	4	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	White shrimp			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
612	Blue crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Brown shrimp			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Pink shrimp			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	White shrimp			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
613	Bay squid			2	2			2	2	2	2	2	2	2	2	2	-	-	MAY-NOV	MAY-JAN	-
	Blue crab			5	3	3	3	3	4	5	5	5	5	4	3	3	-	MAY-JAN	MAY-JAN	JAN-DEC	-
	Brown shrimp			5	3	3	3	3	5	4	4	4	4	3	3	3	-	-	MAY-JAN	JAN-DEC	-
	Gulf stone crab			3	3			3	3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	-
	Pink shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-SEP	JAN-DEC	-
	White shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-DEC	JAN-DEC	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
639	American alligator			661 TO 9 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC
640	American alligator			593 TO 38 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC
642	American alligator			1000 TO 250 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC

TERRESTRIAL MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
635	Common raccoon			86 TO 42 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			223 TO 179 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			36 TO 17 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			2036 TO 828 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			3 TO 2 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
636	Common raccoon			77 TO 73 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			329 TO 220 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			99 TO 6 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			1258 TO 423 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			6 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
638	Common raccoon			25 TO 23 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			96 TO 56 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			196 TO 53 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			877 TO 728 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			15 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X

HUMAN USE RESOURCES:

WILDLIFE REFUGE:

HUN#	Name	Owner	Contact	Phone
109	DELTA NWR		USFWS	

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

ENVIRONMENTAL SENSITIVITY INDEX MAP

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

GULF OF MEXICO

PRESENT IN WILDLIFE REFUGES
518

PRESENT IN INTERMEDIATE MARSHES
645 640 636

PRESENT IN INLAND WATERS
582 582 582 582

PRESENT IN GULF OF MEXICO
567 600 600 600

PRESENT IN NEARSHORE AREA
579 579 579 579

PRESENT IN FRESHWATER MARSHES
643 392 639 635

OYSTER LEASE SITES IN AREA

Tessiers Bend
Flatboat Bayou
Cottam Pass
Delta Pass
Spoonbill Bend
Octave Pass North
Grants Pond
Bennies Pass
Battery Bayou
109
DELTA BRETON NATIONAL WILDLIFE REFUGE
Henderson Pond
Octave Pass
29
Bennies Pond
Gaspar Bayou
Timber Island
Gaspar Island
Willow Bayou
MAIN PASS
DELTA BEND
109
Harris Island
Contrariete Island
Scarabin Island
DELTA BRETON NATIONAL WILDLIFE REFUGE
Sabot Pond

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

SHORELINE
1988 SHORELINE
2001 SHORELINE

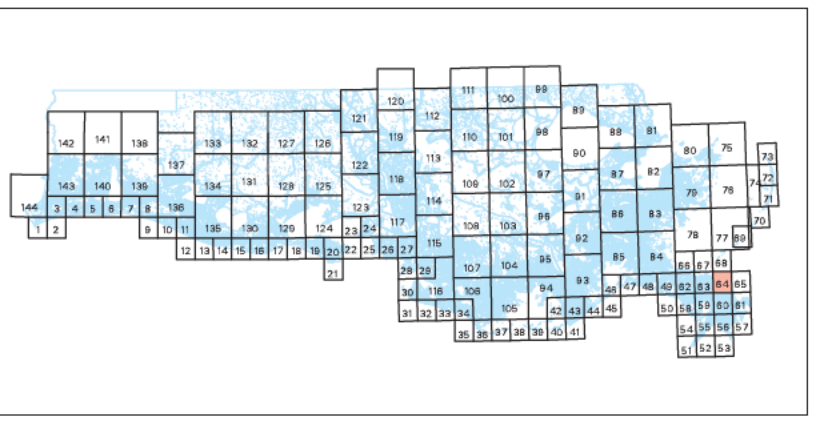
NOTE FOR COASTAL MAPS:
Due to the dynamic nature of the Louisiana coastline, biological resources may represent historical locations that do not correspond with the depicted shoreline.

SHORELINE HABITATS (ESI)
2001 ESI Shoreline Classification

- 1B EXPOSED, SOLID MAN-MADE STRUCTURES
- 2A EXPOSED WAVE-CUT PLATFORMS IN CLAY
  2B EXPOSED SCARPS AND STEEP SLOPES IN CLAY
- 3A FINE- TO MEDIUM-GRAINED SAND BEACHES
  3B SCARPS AND STEEP SLOPES IN SAND
- 4 COARSE-GRAINED SAND BEACHES
- 5 MIXED SAND AND GRAVEL BEACHES
- 6A GRAVEL BEACHES
- 6B RIPRAP
- 7 EXPOSED TIDAL FLATS
- 8A SHELTERED ROCKY SHORES AND SHELTERED SCARPS IN MUD OR CLAY
- 8B SHELTERED, MAN-MADE STRUCTURES
- 8C SHELTERED RIPRAP
- 9A SHELTERED TIDAL FLATS
  9B SHELTERED, VEGETATED LOW BANKS
- 10A SALT- AND BRACKISH-WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C FRESHWATER SWAMPS
- 10D SCRUB-SHRUB WETLANDS

COASTAL HABITATS
Based on 1988 Digital Shoreline

- 10A SALT MARSH
- 10A BRACKISH MARSH
- 10A INTERMEDIATE MARSH
- 10B FRESHWATER MARSH
- 10C FORESTED WETLAND
- 10D SCRUB- SHRUB WETLAND
- SEAGRASS



N W E S

SCALE 1:50000

1 .5 0 1 KILOMETER

1 .5 0 1 MILE

Not For Navigation

December 2003
Published at Seattle, Washington
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Response and Restoration
Hazardous Materials Response Division

MAIN PASS LA-64

Louisiana ESI: ESIMAP 64

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
29	Black-crowned night-heron			10 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
	Cattle egret			1 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
	Great egret			110 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	-
	Little blue heron			2 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Snowy egret			33 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Tricolored heron			15 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	White ibis			10 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
	White-faced or Glossy ibis			8 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
518	Shorebirds					X	X	X		X	X	X	X				-	-	-
567	Lesser scaup			32 IND/SQ MI	X	X	X							X	X	X	-	-	-
643	American coot			2 TO 215 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			1 TO 116 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			2 TO 30 IND/SQ MI	X	X	X	X	X			X	X	X	X	X	-	-	-
	Canvasback			UP TO 21 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			10 TO 243 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Green-winged teal			6 TO 86 IND/SQ MI	X	X	X	X				X	X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			UP TO 41 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			20 TO 99 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			3 TO 18 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			2 TO 70 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			UP TO 24 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			UP TO 56 IND/SQ MI	X	X	X							X	X	X	-	-	-
645	American coot			33 TO 165 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			3 TO 73 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			9 TO 34 IND/SQ MI	X	X	X	X	X			X	X	X	X	X	-	-	-
	Canvasback			UP TO 6 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			36 TO 240 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			9 TO 144 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			2 TO 35 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			4 TO 66 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			8 TO 15 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			UP TO 39 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			4 TO 34 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			2 TO 36 IND/SQ MI	X	X	X							X	X	X	-	-	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
392	Largemouth bass			LOW	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
579	Atlantic croaker			5	5	5	5	5	5	5	5	4	4	4	4	5	-	-	AUG-APR	JAN-DEC	-
	Bay anchovy			5	5	5	5	5	5	5	5	5	5	5	5	5	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black drum			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	JAN-APR	JAN-DEC	-
	Crevalle jack			3	2	2	2	3	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	-
	Red drum			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	AUG-MAR	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			4	3	3	3	3	4	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Spot			5	5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	4	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
582	Atlantic croaker			5	5	3	4	4	5	5	5	4	4	4	4	5	-	-	AUG-JAN	JAN-DEC	-
	Bay anchovy			5	5	4	4	4	5	5	5	5	5	5	5	5	MAY-JAN	APR-JAN	APR-JAN	JAN-DEC	-
	Black drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	JAN-JAN	JAN-DEC	-
	Crevalle jack			3	2	2	2	2	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	4	4	4	5	5	5	5	5	5	4	5	-	-	-	JAN-DEC	-
	Gulf sturgeon		T	2	2	2	2	2	2	2	2					2	-	-	-	DEC-AUG	-
	Red drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	2	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2					2	2	2	2	2	2	2		-	-	-	MAY-NOV	-
	Spot			5	5	2	2	2	5	5	5	5	4	4	3	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	3	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
600	Black drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Florida pompano			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf menhaden			5	5	5	4	4	4	5	5	5	5	5	5	5	JAN-DEC	SEP-MAY	JAN-DEC	JAN-DEC	-
	Gulf sturgeon		T	2	2	2	2	2	2	0	0	0	0	0	0	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Red drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Sheepshead			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Southern flounder			4	3	3	4	4	4	4	4	4	4	4	4	3	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Spanish mackerel			4	2	2	3	3	3	4	4	4	4	4	4	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Striped mullet			4	3	3	4	4	4	4	4	4	3	3	3	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Tarpon			3	2	2	2	2	2	3	3	3	3	3	3	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
579	Bay squid			2	2	2	2	2	2	2	2	2	2	2	2	2	MAR-NOV	MAR-NOV	MAR-NOV	JAN-DEC	-
	Blue crab			5	4	4	4	4	4	5	5	5	5	4	4	4	-	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	4	4	5	5	4	4	4	4	3	3	3	-	-	JAN-DEC	JAN-DEC	-
	Gulf stone crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Pink shrimp			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-OCT	JAN-DEC	-
	White shrimp			4	3	3	3	3	3	4	4	4	4	4	4	3	-	-	MAY-DEC	JAN-DEC	-
582	Bay squid			2	2			2	2	2	2	2	2	2	2	2	-	-	MAY-NOV	MAY-JAN	-
	Blue crab			5	3	3	3	3	4	5	5	5	5	4	3	3	-	MAY-JAN	MAY-JAN	JAN-DEC	-
	Brown shrimp			5	3	3	3	3	5	4	4	4	4	3	3	3	-	-	MAY-JAN	JAN-DEC	-
	Gulf stone crab			3	3			3	3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	-
	Pink shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-SEP	JAN-DEC	-
	White shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-DEC	JAN-DEC	-
600	Blue crab			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	3	4	4	4	5	5	5	4	4	4	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-

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Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

Louisiana ESI: ESIMAP 64 (cont.)

BIOLOGICAL RESOURCES: (cont.)

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
600	Florida stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Gulf stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Pink shrimp			4	3	3	3	3	4	4	4	4	4	4	3		JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	White shrimp			5	4	4	4	4	5	5	5	5	5	5	4		JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
639	American alligator			661 TO 9 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC
640	American alligator			593 TO 38 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC

TERRESTRIAL MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
635	Common raccoon			86 TO 42 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			223 TO 179 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			36 TO 17 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			2036 TO 828 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			3 TO 2 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
636	Common raccoon			77 TO 73 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			329 TO 220 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			99 TO 6 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			1258 TO 423 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			6 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X

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HUMAN USE RESOURCES:

WILDLIFE REFUGE:

HUN#	Name	Owner	Contact	Phone
109	DELTA NWR		USFWS	

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

ENVIRONMENTAL SENSITIVITY INDEX MAP

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

GULF OF MEXICO

OYSTER LEASE SITES IN AREA

PRESENT IN FRESHWATER MARSHES

643 639 635

PRESENT IN INTERMEDIATE MARSHES

645 640 636

PRESENT IN GULF OF MEXICO

567 600 600 600

579

582

518

392

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

SHORELINE

1988 SHORELINE

2001 SHORELINE

NOTE FOR COASTAL MAPS:

Due to the dynamic nature of the Louisiana coastline, biological resources may represent historical locations that do not correspond with the depicted shoreline.

SHORELINE HABITATS (ESI)

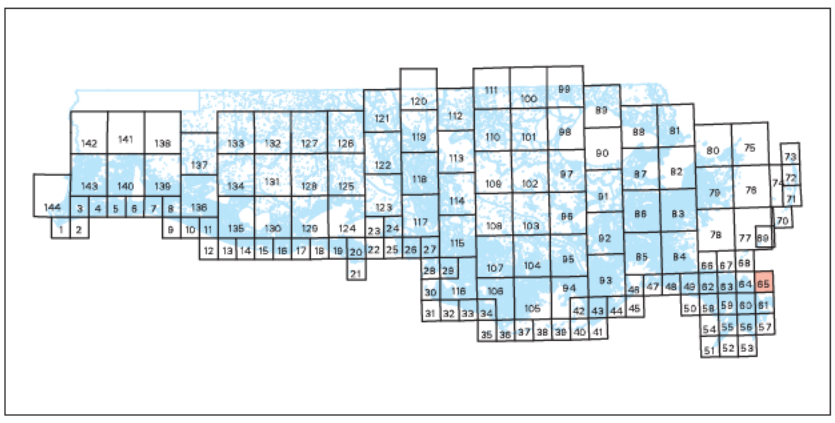
2001 ESI Shoreline Classification

- 1B EXPOSED, SOLID MAN-MADE STRUCTURES
- 2A EXPOSED WAVE-CUT PLATFORMS IN CLAY
  2B EXPOSED SCARPS AND STEEP SLOPES IN CLAY
- 3A FINE- TO MEDIUM-GRAINED SAND BEACHES
  3B SCARPS AND STEEP SLOPES IN SAND
- 4 COARSE-GRAINED SAND BEACHES
- 5 MIXED SAND AND GRAVEL BEACHES
- 6A GRAVEL BEACHES
- 6B RIPRAP
- 7 EXPOSED TIDAL FLATS
- 8A SHELTERED ROCKY SHORES AND SHELTERED SCARPS IN MUD OR CLAY
- 8B SHELTERED, MAN-MADE STRUCTURES
- 8C SHELTERED RIPRAP
- 9A SHELTERED TIDAL FLATS
  9B SHELTERED, VEGETATED LOW BANKS
- 10A SALT- AND BRACKISH-WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C FRESHWATER SWAMPS
- 10D SCRUB-SHRUB WETLANDS

COASTAL HABITATS

Based on 1988 Digital Shoreline

- 10A SALT MARSH
- 10A BRACKISH MARSH
- 10A INTERMEDIATE MARSH
- 10B FRESHWATER MARSH
- 10C FORESTED WETLAND
- 10D SCRUB- SHRUB WETLAND
- SEAGRASS



N W E S

SCALE 1:50000

1 5 0 1 KILOMETER

1 5 0 1 MILE

Not For Navigation

December 2003

Published at Seattle, Washington
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Response and Restoration
Hazardous Materials Response Division

BRETON ISLANDS SE LA-65

Louisiana ESI: ESIMAP 65

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
518	Shorebirds						X	X	X		X	X	X	X			-	-	-
567	Lesser scaup			32 IND/SQ MI	X	X	X							X	X	X	-	-	-
643	American coot			2 TO 215 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			1 TO 116 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			2 TO 30 IND/SQ MI	X	X	X	X	X			X	X	X	X	X	-	-	-
	Canvasback			UP TO 21 IND/SQ MI	X	X	X							X	X		-	-	-
	Gadwall			10 TO 243 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			6 TO 86 IND/SQ MI	X	X	X	X				X	X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X							X	X		-	-	-
	Lesser scaup			UP TO 41 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			20 TO 99 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			3 TO 18 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			2 TO 70 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			UP TO 24 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			UP TO 56 IND/SQ MI	X	X	X							X	X	X	-	-	-
645	American coot			33 TO 165 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			3 TO 73 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			9 TO 34 IND/SQ MI	X	X	X	X	X			X	X	X	X	X	-	-	-
	Canvasback			UP TO 6 IND/SQ MI	X	X	X							X	X		-	-	-
	Gadwall			36 TO 240 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			9 TO 144 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X							X	X		-	-	-
	Lesser scaup			2 TO 35 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			4 TO 66 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			8 TO 15 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			UP TO 39 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			4 TO 34 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			2 TO 36 IND/SQ MI	X	X	X							X	X	X	-	-	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
392	Largemouth bass			LOW	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
579	Atlantic croaker			5	5	5	5	5	5	5	5	4	4	4	4	5	-	-	AUG-APR	JAN-DEC	-
	Bay anchovy			5	5	5	5	5	5	5	5	5	5	5	5	5	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black drum			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	JAN-APR	JAN-DEC	-
	Crevalle jack			3	2	2	2	3	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	-
	Red drum			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	AUG-MAR	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			4	3	3	3	3	4	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Spot			5	5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	4	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
582	Atlantic croaker			5	5	3	4	4	5	5	5	4	4	4	4	5	-	-	AUG-JAN	JAN-DEC	-
	Bay anchovy			5	5	4	4	4	5	5	5	5	5	5	5	5	MAY-JAN	APR-JAN	APR-JAN	JAN-DEC	-
	Black drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	JAN-JAN	JAN-DEC	-
	Crevalle jack			3	2	2	2	2	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	4	4	4	5	5	5	5	5	5	4	5	-	-	-	JAN-DEC	-
	Gulf sturgeon	T	2		2	2	2	2	2	2	2	2				2	-	-	-	DEC-AUG	-
	Red drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	2	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2					2	2	2	2	2	2	2		-	-	-	MAY-NOV	-
	Spot			5	5	2	2	2	5	5	5	5	4	4	3	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	3	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
600	Black drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Florida pompano			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf menhaden			5	5	4	4	4	5	5	5	5	5	5	5	5	JAN-DEC	SEP-MAY	JAN-DEC	JAN-DEC	-
	Gulf sturgeon	T	2		2	2	2	2	2	0	0	0	0	0	0	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Red drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Sheepshead			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Southern flounder			4	3	3	4	4	4	4	4	4	4	4	4	3	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Spanish mackerel			4	2	2	3	3	3	4	4	4	4	4	4	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Striped mullet			4	3	3	4	4	4	4	4	4	3	3	3	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Tarpon			3	2	2	2	2	2	3	3	3	3	3	3	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
579	Bay squid			2	2	2	2	2	2	2	2	2	2	2	2	2	MAR-NOV	MAR-NOV	MAR-NOV	JAN-DEC	-
	Blue crab			5	4	4	4	4	4	5	5	5	5	4	4	4	-	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	4	4	5	5	4	4	4	4	3	3	3	-	-	JAN-DEC	JAN-DEC	-
	Gulf stone crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Pink shrimp			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-OCT	JAN-DEC	-
	White shrimp			4	3	3	3	3	3	4	4	4	4	4	4	3	-	-	MAY-DEC	JAN-DEC	-
582	Bay squid			2	2			2	2	2	2	2	2	2	2	2	-	-	MAY-NOV	MAY-JAN	-
	Blue crab			5	3	3	3	3	4	5	5	5	5	4	3	3	-	MAY-JAN	MAY-JAN	JAN-DEC	-
	Brown shrimp			5	3	3	3	3	5	4	4	4	4	3	3	3	-	-	MAY-JAN	JAN-DEC	-
	Gulf stone crab			3	3			3	3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	-
	Pink shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-SEP	JAN-DEC	-
	White shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-DEC	JAN-DEC	-
600	Blue crab			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	3	4	4	4	5	5	5	4	4	4	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Florida stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Gulf stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Pink shrimp			4	3	3	3	3	3	4	4	4	4	4	4	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	White shrimp			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-

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Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

Louisiana ESI: ESIMAP 65 (cont.)

BIOLOGICAL RESOURCES: (cont.)

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
639	American alligator			661 TO 9 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC
640	American alligator			593 TO 38 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC

TERRESTRIAL MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
635	Common raccoon			86 TO 42 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			223 TO 179 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			36 TO 17 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			2036 TO 828 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			3 TO 2 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
636	Common raccoon			77 TO 73 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			329 TO 220 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			99 TO 6 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			1258 TO 423 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			6 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

ENVIRONMENTAL SENSITIVITY INDEX MAP

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

OYSTER LEASE SITES IN AREA

SKIPJACK BAY

BAY COQUETTE

Bayou Trouve

518

143

518

GULF OF MEXICO

PRESENT IN NEARSHORE AREA

569

PRESENT IN GULF OF MEXICO

600 600 600

PRESENT IN SALT MARSH

647 381 348

PRESENT IN BAY COQUETTE

580 580 580 580

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

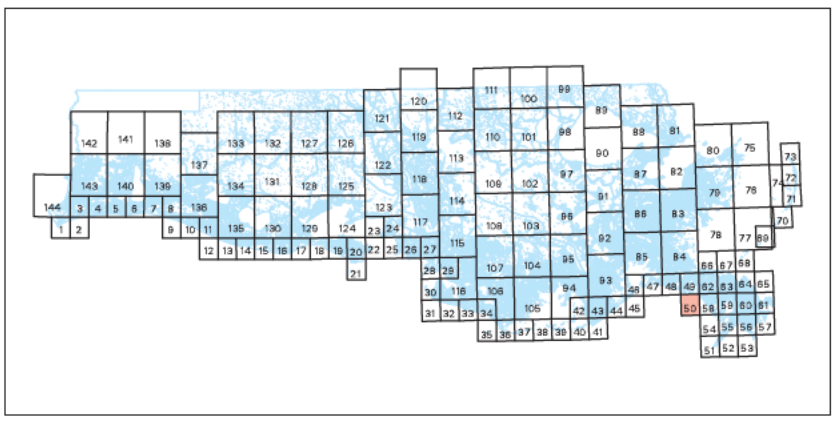
SHORELINE

1988 SHORELINE

2001 SHORELINE

NOTE FOR COASTAL MAPS:

Due to the dynamic nature of the Louisiana coastline, biological resources may represent historical locations that do not correspond with the depicted shoreline.



SHORELINE HABITATS (ESI)

2001 ESI Shoreline Classification

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- 7 EXPOSED TIDAL FLATS
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  9B SHELTERED, VEGETATED LOW BANKS
- 10A SALT- AND BRACKISH-WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C FRESHWATER SWAMPS
- 10D SCRUB-SHRUB WETLANDS

COASTAL HABITATS

Based on 1988 Digital Shoreline

- 10A SALT MARSH
- 10A BRACKISH MARSH
- 10A INTERMEDIATE MARSH
- 10B FRESHWATER MARSH
- 10C FORESTED WETLAND
- 10D SCRUB- SHRUB WETLAND
- SEAGRASS

N W E S

SCALE 1:50000

1 5 0 1 KILOMETER

1 5 0 1 MILE

Not For Navigation

December 2003

Published at Seattle, Washington
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Response and Restoration
Hazardous Materials Response Division

BAY COQUETTE LA-50

Louisiana ESI: ESIMAP 50

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
143	Black skimmer			19 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
518	Shorebirds						X	X	X		X	X	X	X			-	-	-
569	Lesser scaup			49 IND/SQ MI	X	X	X							X	X	X	-	-	-
647	American coot			UP TO 20 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			UP TO 57 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			UP TO 10 IND/SQ MI	X	X	X	X	X				X	X	X	X	-	-	-
	Canvasback			PRESENT	X	X	X								X	X	-	-	-
	Gadwall			1 TO 132 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			UP TO 246 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Hooded merganser			UP TO 2 IND/SQ MI	X	X	X								X	X	-	-	-
	Lesser scaup			UP TO 76 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			UP TO 22 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			3 TO 16 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			UP TO 198 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			1 TO 152 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			UP TO 24 IND/SQ MI	X	X	X							X	X	X	-	-	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
580	Atlantic croaker			5	5	5	5	5	5	5	5	4	4	4	5	5	MAR-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bay anchovy			5	5	5	5	5	5	5	5	5	5	5	5	5	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black drum			3	3	3	3	3	3	3	3	3	3	3	3	3	JAN-MAY	JAN-MAY	JAN-MAY	JAN-DEC	-
	Crevalle jack			3	2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Florida pompano			3	3	3	3	3	3	3	3	3	3	3	3	3	MAY-AUG	MAY-AUG	MAY-AUG	JAN-DEC	-
	Gizzard shad			4	3	3	3	4	4	4	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gray snapper			3	2	2	2	2	2	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Gulf menhaden			5	5	5	5	5	5	5	5	5	5	5	5	5	-	AUG-APR	AUG-APR	JAN-DEC	-
	Red drum			4	3	3	3	3	3	4	4	4	3	3	3	3	AUG-MAR	AUG-MAR	AUG-MAR	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	FEB-OCT	FEB-OCT	FEB-OCT	JAN-DEC	-
	Sheepshead			4	4	4	4	4	4	4	4	4	4	4	4	4	-	-	JAN-JUL	JAN-DEC	-
	Silver perch			4	3	3	3	3	4	3	3	3	3	3	3	3	MAR-OCT	MAR-OCT	MAR-OCT	JAN-DEC	-
	Southern flounder			4	3	3	3	3	4	4	4	4	4	4	4	3	-	-	SEP-APR	JAN-DEC	-
	Spanish mackerel			3	2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Spot			5	5	5	5	5	5	5	5	5	5	5	5	5	OCT-APR	OCT-APR	OCT-APR	JAN-DEC	-
	Spotted seatrout			4	3	3	3	3	4	4	4	4	3	4	3	3	MAR-OCT	MAR-OCT	MAR-OCT	JAN-DEC	-
	Striped mullet			4	4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-FEB	OCT-MAY	JAN-DEC	-
	Tarpon			3	2	2	2	2	2	3	3	3	3	3	3	2	-	-	MAY-NOV	JAN-DEC	-
600	Black drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Florida pompano			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf menhaden			5	5	5	4	4	4	5	5	5	5	5	5	5	JAN-DEC	SEP-MAY	JAN-DEC	JAN-DEC	-
	Gulf sturgeon		T	2	2	2	2	2	2	0	0	0	0	0	0	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Red drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Sheepshead			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Southern flounder			4	3	3	4	4	4	4	4	4	4	4	4	3	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Spanish mackerel			4	2	2	3	3	3	4	4	4	4	4	4	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Striped mullet			4	3	3	4	4	4	4	4	4	3	3	3	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Tarpon			3	2	2	2	2	2	3	3	3	3	3	3	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
580	Bay squid			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Blue crab			5	4	4	5	5	5	5	5	5	5	5	5	4	-	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	4	5	5	5	5	5	5	5	5	4	4	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf stone crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	MAR-NOV	MAR-DEC	JAN-DEC	-
	Pink shrimp			5	3	3	5	5	5	3	3	3	3	3	3	3	-	-	APR-OCT	JAN-DEC	-
	White shrimp			5	3	3	5	5	5	5	5	5	5	5	5	4	APR-NOV	APR-NOV	MAR-DEC	JAN-DEC	-
600	Blue crab			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	3	4	4	4	5	5	5	4	4	4	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Florida stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Gulf stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Pink shrimp			4	3	3	3	3	3	4	4	4	4	4	4	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	White shrimp			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
381	American alligator			TRANSIENT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC

TERRESTRIAL MAMMAL:

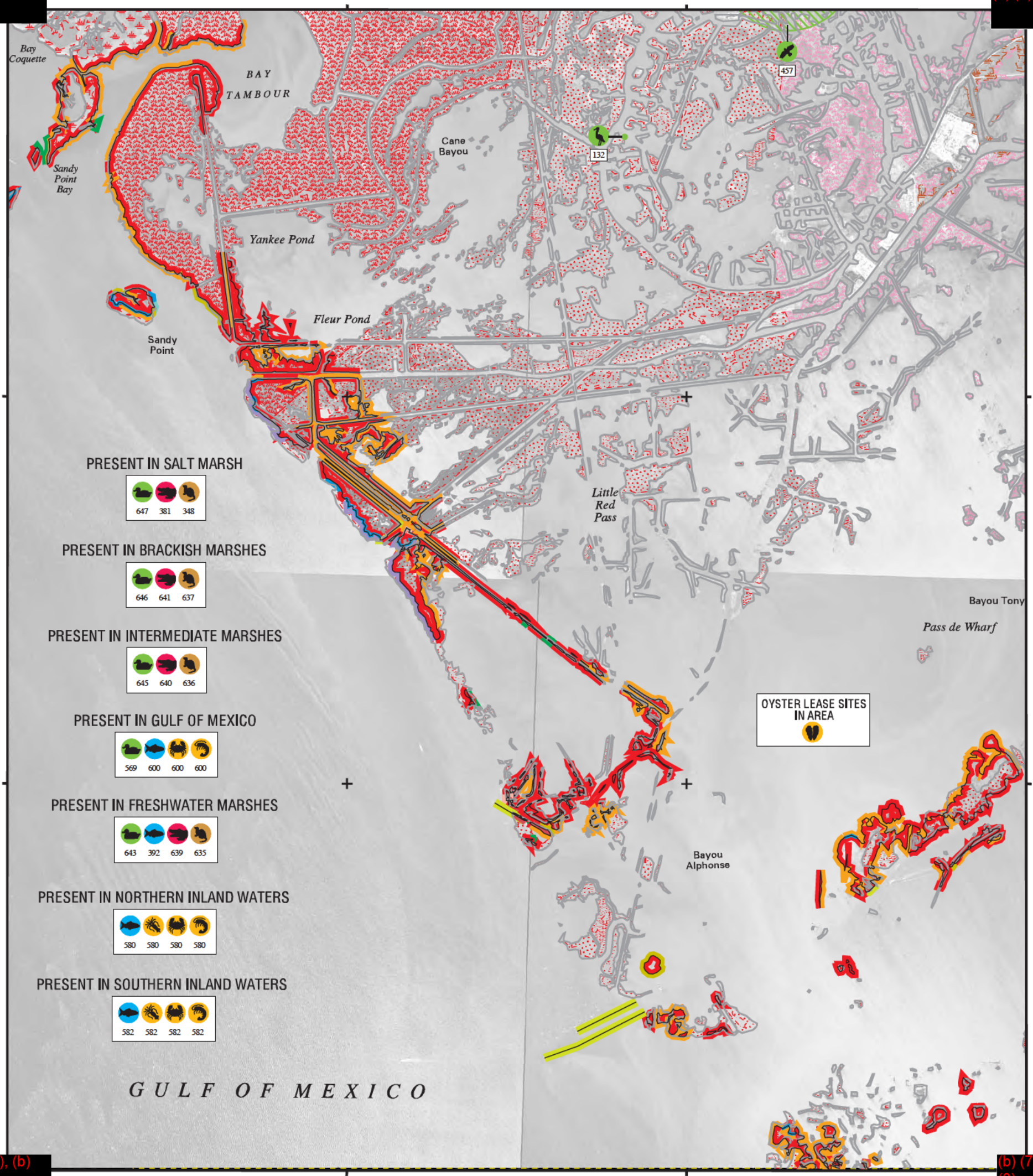
RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
348	Common raccoon			RESIDENT	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			RESIDENT	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			RESIDENT	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			RESIDENT	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			TRANSIENT	X	X	X	X	X	X	X	X	X	X	X	X

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

ENVIRONMENTAL SENSITIVITY INDEX MAP

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

SHORELINE

1988 SHORELINE

2001 SHORELINE

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SHORELINE HABITATS (ESI)
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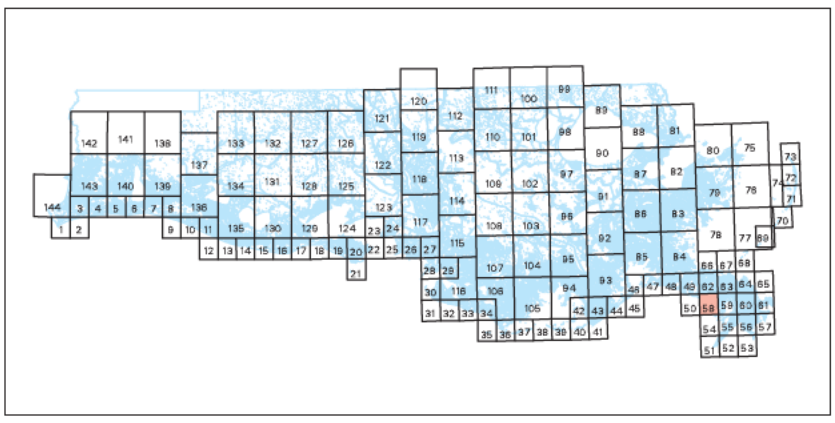

N W E S

SCALE 1:50000

1 .5 0 1 KILOMETER

1 .5 0 1 MILE

Not For Navigation

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National Ocean Service
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PASS TANTE PHINE LA-58

Louisiana ESI: ESIMAP 58

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
132	Great egret			10 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	-
	Snowy egret			60 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Tricolored heron			30 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
457	Rare raptor				X	X	X	X	X	X	X	X	X	X	X	X	JAN-AUG	-	-
569	Lesser scaup			49 IND/SQ MI	X	X	X							X	X	X	-	-	-
643	American coot			2 TO 215 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			1 TO 116 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			2 TO 30 IND/SQ MI	X	X	X	X	X			X	X	X	X	X	-	-	-
	Canvasback			UP TO 21 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			10 TO 243 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			6 TO 86 IND/SQ MI	X	X	X	X				X	X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			UP TO 41 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			20 TO 99 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			3 TO 18 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			2 TO 70 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			UP TO 24 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			UP TO 56 IND/SQ MI	X	X	X							X	X	X	-	-	-
645	American coot			33 TO 165 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			3 TO 73 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			9 TO 34 IND/SQ MI	X	X	X	X	X			X	X	X	X	X	-	-	-
	Canvasback			UP TO 6 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			36 TO 240 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			9 TO 144 IND/SQ MI	X	X	X	X				X	X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			2 TO 35 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			4 TO 66 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			8 TO 15 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			UP TO 39 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			4 TO 34 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			2 TO 36 IND/SQ MI	X	X	X							X	X	X	-	-	-
646	American coot			4 TO 42 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			5 TO 39 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			9 TO 21 IND/SQ MI	X	X	X	X	X			X	X	X	X	X	-	-	-
	Canvasback			UP TO 8 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			46 TO 167 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			23 TO 70 IND/SQ MI	X	X	X	X				X	X	X	X	X	-	-	-
	Hooded merganser			UP TO 1 IND/SQ MI	X	X	X								X	X	-	-	-
	Lesser scaup			2 TO 10 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			3 TO 19 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			7 TO 17 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			1 TO 56 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			6 TO 31 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			UP TO 14 IND/SQ MI	X	X	X							X	X	X	-	-	-
647	American coot			UP TO 20 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			UP TO 57 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			UP TO 10 IND/SQ MI	X	X	X	X	X			X	X	X	X	X	-	-	-
	Canvasback			PRESENT	X	X	X								X	X	-	-	-
	Gadwall			1 TO 132 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			UP TO 246 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Hooded merganser			UP TO 2 IND/SQ MI	X	X	X								X	X	-	-	-
	Lesser scaup			UP TO 76 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			UP TO 22 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			3 TO 16 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			UP TO 198 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			1 TO 152 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			UP TO 24 IND/SQ MI	X	X	X							X	X	X	-	-	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
392	Largemouth bass			LOW	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
580	Atlantic croaker			5	5	5	5	5	5	5	5	4	4	4	5	5	MAR-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bay anchovy			5	5	5	5	5	5	5	5	5	5	5	5	5	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black drum			3	3	3	3	3	3	3	3	3	3	3	3	3	JAN-MAY	JAN-MAY	JAN-MAY	JAN-DEC	-
	Crevalle jack			3	2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Florida pompano			3	3	3	3	3	3	3	3	3	3	3	3	3	MAY-AUG	MAY-AUG	MAY-AUG	JAN-DEC	-
	Gizzard shad			4	3	3	3	4	4	4	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gray snapper			3	2	2	2	2	2	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Gulf menhaden			5	5	5	5	5	5	5	5	5	5	5	5	5	-	AUG-APR	AUG-APR	JAN-DEC	-
	Red drum			4	3	3	3	3	3	4	4	4	3	3	3	3	AUG-MAR	AUG-MAR	AUG-MAR	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	FEB-OCT	FEB-OCT	FEB-OCT	JAN-DEC	-
	Sheepshead			4	4	4	4	4	4	4	4	4	4	4	4	4	-	-	JAN-JUL	JAN-DEC	-
	Silver perch			4	3	3	3	3	4	3	3	3	3	3	3	3	MAR-OCT	MAR-OCT	MAR-OCT	JAN-DEC	-
	Southern flounder			4	3	3	3	4	4	4	4	4	4	4	3	3	-	SEP-APR	JAN-DEC	JAN-DEC	-
	Spanish mackerel			3	2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Spot			5	5	5	5	5	5	5	5	5	5	5	5	5	OCT-APR	OCT-APR	OCT-APR	JAN-DEC	-
	Spotted seatrout			4	3	3	3	3	4	4	4	4	3	4	3	3	MAR-OCT	MAR-OCT	MAR-OCT	JAN-DEC	-
	Striped mullet			4	4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-FEB	OCT-MAY	JAN-DEC	-
	Tarpon			3	2	2	2	2	2	3	3	3	3	3	3	2	-	-	MAY-NOV	JAN-DEC	-
582	Atlantic croaker			5	5	3	4	4	5	5	5	4	4	4	4	5	-	-	AUG-JAN	JAN-DEC	-
	Bay anchovy			5	5	4	4	4	5	5	5	5	5	5	5	5	MAY-JAN	APR-JAN	APR-JAN	JAN-DEC	-
	Black drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	JAN-JAN	JAN-DEC	-
	Crevalle jack			3	2	2	2	2	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	4	4	4	5	5	5	5	5	5	4	5	-	-	-	JAN-DEC	-
	Gulf sturgeon	T	2		2	2	2	2	2	2	2	2				2	-	-	-	DEC-AUG	-
	Red drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	2	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2				2	2	2	2	2	2	2			-	-	-	MAY-NOV	-
	Spot			5	5	2	2	2	5	5	5	5	4	4	3	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	3	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
600	Black drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Florida pompano			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf menhaden			5	5	4	4	4	5	5	5	5	5	5	5	5	JAN-DEC	SEP-MAY	JAN-DEC	JAN-DEC	-
	Gulf sturgeon	T	2		2	2	2	2	2	0	0	0	0	0	0	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Red drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Sheepshead			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Southern flounder			4	3	3	4	4	4	4	4	4	4	4	4	3	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-

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Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

Louisiana ESI: ESIMAP 58 (cont.)

BIOLOGICAL RESOURCES: (cont.)

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
600	Spanish mackerel			4	2	2	3	3	3	4	4	4	4	4	4	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Striped mullet			4	3	3	4	4	4	4	4	4	3	3	3	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Tarpon			3	2	2	2	2	2	3	3	3	3	3	3	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
580	Bay squid			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Blue crab			5	4	4	5	5	5	5	5	5	5	5	5	4	-	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	4	5	5	5	5	5	5	5	4	4	3	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf stone crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	MAR-NOV	MAR-DEC	JAN-DEC	-
	Pink shrimp			5	3	3	5	5	5	3	3	3	3	3	3	3	-	-	APR-OCT	JAN-DEC	-
	White shrimp			5	3	3	5	5	5	5	5	5	5	5	5	4	APR-NOV	APR-NOV	MAR-DEC	JAN-DEC	-
582	Bay squid			2	2			2	2	2	2	2	2	2	2	2	-	-	MAY-NOV	MAY-JAN	-
	Blue crab			5	3	3	3	3	4	5	5	5	5	4	3	3	-	MAY-JAN	MAY-JAN	JAN-DEC	-
	Brown shrimp			5	3	3	3	3	5	4	4	4	4	3	3	3	-	-	MAY-JAN	JAN-DEC	-
	Gulf stone crab			3	3			3	3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	-
	Pink shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-SEP	JAN-DEC	-
	White shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-DEC	JAN-DEC	-
600	Blue crab			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	3	4	4	4	5	5	5	4	4	4	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Florida stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Gulf stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Pink shrimp			4	3	3	3	3	3	4	4	4	4	4	4	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	White shrimp			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
381	American alligator			TRANSIENT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
639	American alligator			661 TO 9 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC
640	American alligator			593 TO 38 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC
641	American alligator			2257 TO 68 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC

TERRESTRIAL MAMMAL:

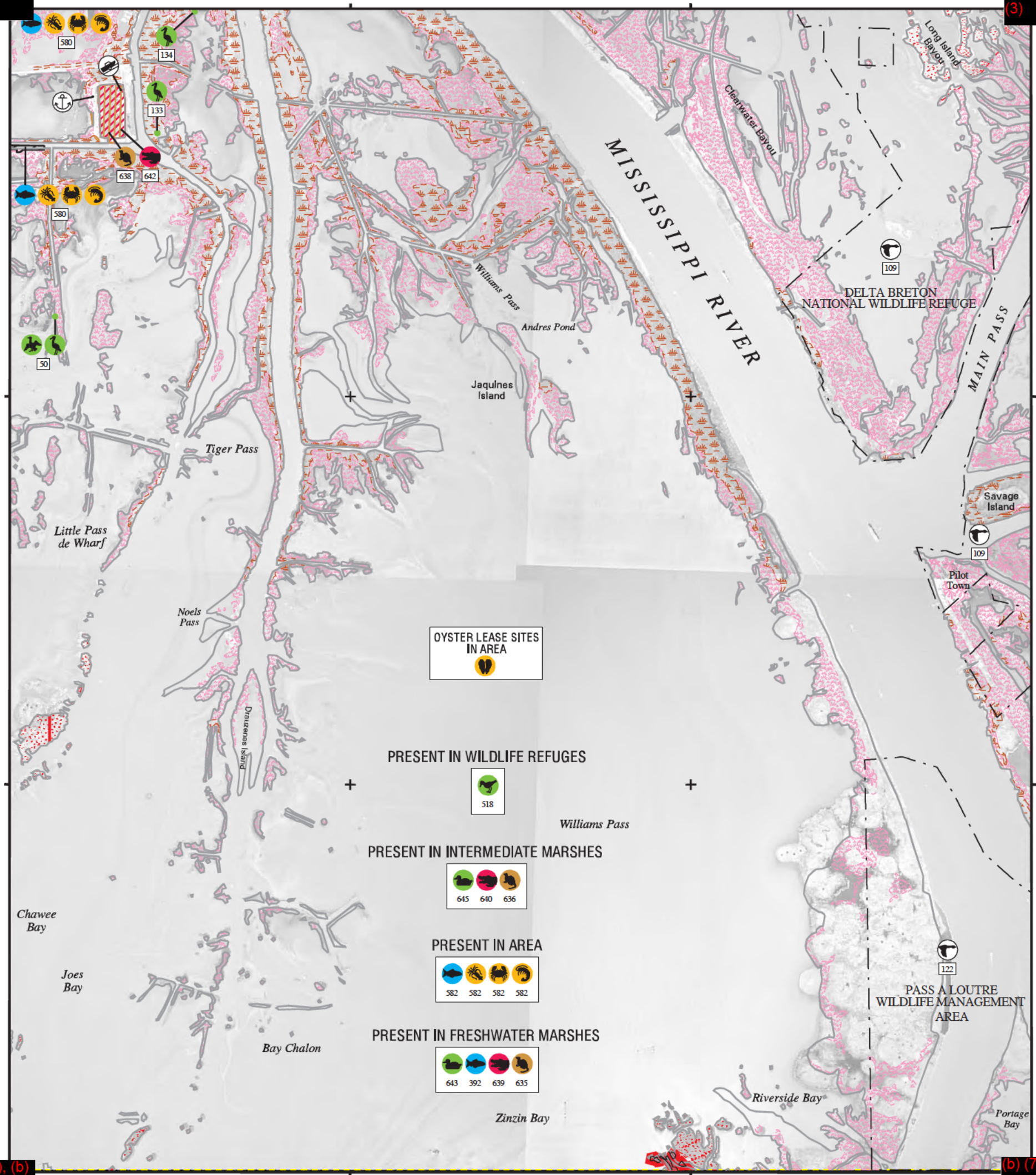
RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
348	Common raccoon			RESIDENT	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			RESIDENT	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			RESIDENT	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			RESIDENT	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			TRANSIENT	X	X	X	X	X	X	X	X	X	X	X	X
635	Common raccoon			86 TO 42 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			223 TO 179 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			36 TO 17 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			2036 TO 828 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			3 TO 2 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
636	Common raccoon			77 TO 73 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			329 TO 220 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			99 TO 6 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			1258 TO 423 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			6 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
637	Common raccoon			68 TO 43 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			466 TO 215 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			9 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			752 TO 373 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			7 TO 5 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

ENVIRONMENTAL SENSITIVITY INDEX MAP

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)



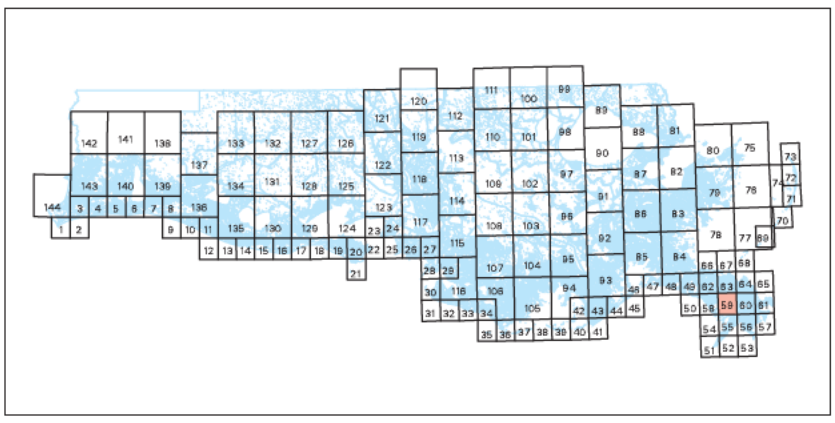
SHORELINE

1988 SHORELINE

2001 SHORELINE

NOTE FOR COASTAL MAPS:

Due to the dynamic nature of the Louisiana coastline, biological resources may represent historical locations that do not correspond with the depicted shoreline.



SHORELINE HABITATS (ESI)

2001 ESI Shoreline Classification

- 1B EXPOSED, SOLID MAN-MADE STRUCTURES
- 2A EXPOSED WAVE-CUT PLATFORMS IN CLAY
  2B EXPOSED SCARPS AND STEEP SLOPES IN CLAY
- 3A FINE- TO MEDIUM-GRAINED SAND BEACHES
  3B SCARPS AND STEEP SLOPES IN SAND
- 4 COARSE-GRAINED SAND BEACHES
- 5 MIXED SAND AND GRAVEL BEACHES
- 6A GRAVEL BEACHES
- 6B RIPRAP
- 7 EXPOSED TIDAL FLATS
- 8A SHELTERED ROCKY SHORES AND SHELTERED SCARPS IN MUD OR CLAY
- 8B SHELTERED, MAN-MADE STRUCTURES
- 8C SHELTERED RIPRAP
- 9A SHELTERED TIDAL FLATS
  9B SHELTERED, VEGETATED LOW BANKS
- 10A SALT- AND BRACKISH-WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C FRESHWATER SWAMPS
- 10D SCRUB-SHRUB WETLANDS

COASTAL HABITATS

Based on 1988 Digital Shoreline

- 10A SALT MARSH
- 10A BRACKISH MARSH
- 10A INTERMEDIATE MARSH
- 10B FRESHWATER MARSH
- 10C FORESTED WETLAND
- 10D SCRUB- SHRUB WETLAND
- SEAGRASS

N W E S

SCALE 1:50000

1 .5 0 1 KILOMETER

1 .5 0 1 MILE

Not For Navigation

December 2003

Published at Seattle, Washington
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Response and Restoration
Hazardous Materials Response Division

PILOTTOWN LA-59

Louisiana ESI: ESIMAP 59

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
50	Great egret			59 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	-
	Neotropic cormorant			10 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-
133	Great egret			30 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	-
	Little blue heron			8 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Snowy egret			7 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
134	Little blue heron			10 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Snowy egret			30 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Tricolored heron			10 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
518	Shorebirds						X	X	X		X	X	X	X			-	-	-
643	American coot			2 TO 215 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			1 TO 116 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			2 TO 30 IND/SQ MI	X	X	X	X	X			X	X	X	X		-	-	-
	Canvasback			UP TO 21 IND/SQ MI	X	X	X							X	X		-	-	-
	Gadwall			10 TO 243 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			6 TO 86 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X							X	X		-	-	-
	Lesser scaup			UP TO 41 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			20 TO 99 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			3 TO 18 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			2 TO 70 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			UP TO 24 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			UP TO 56 IND/SQ MI	X	X	X							X	X	X	-	-	-
645	American coot			33 TO 165 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			3 TO 73 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			9 TO 34 IND/SQ MI	X	X	X	X	X			X	X	X	X		-	-	-
	Canvasback			UP TO 6 IND/SQ MI	X	X	X							X	X		-	-	-
	Gadwall			36 TO 240 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			9 TO 144 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X							X	X		-	-	-
	Lesser scaup			2 TO 35 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			4 TO 66 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			8 TO 15 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			UP TO 39 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			4 TO 34 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			2 TO 36 IND/SQ MI	X	X	X							X	X	X	-	-	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
392	Largemouth bass			LOW	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
580	Atlantic croaker			5	5	5	5	5	5	5	5	4	4	4	5	5	MAR-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Bay anchovy			5	5	5	5	5	5	5	5	5	5	5	5	5	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black drum			3	3	3	3	3	3	3	3	3	3	3	3	3	JAN-MAY	JAN-MAY	JAN-MAY	JAN-DEC	-
	Crevalle jack			3	2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Florida pompano			3	3	3	3	3	3	3	3	3	3	3	3	3	MAY-AUG	MAY-AUG	MAY-AUG	JAN-DEC	-
	Gizzard shad			4	3	3	3	4	4	4	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gray snapper			3	2	2	2	2	2	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Gulf menhaden			5	5	5	5	5	5	5	5	5	5	5	5	5	-	AUG-APR	AUG-APR	JAN-DEC	-
	Red drum			4	3	3	3	3	3	4	4	4	3	3	3	3	AUG-MAR	AUG-MAR	AUG-MAR	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	FEB-OCT	FEB-OCT	FEB-OCT	JAN-DEC	-
	Sheepshead			4	4	4	4	4	4	4	4	4	4	4	4	4	-	-	JAN-JUL	JAN-DEC	-
	Silver perch			4	3	3	3	3	4	3	3	3	3	3	3	3	MAR-OCT	MAR-OCT	MAR-OCT	JAN-DEC	-
	Southern flounder			4	3	3	3	3	4	4	4	4	4	4	4	3	-	-	SEP-APR	JAN-DEC	-
	Spanish mackerel			3	2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Spot			5	5	5	5	5	5	5	5	5	5	5	5	5	OCT-APR	OCT-APR	OCT-APR	JAN-DEC	-
	Spotted seatrout			4	3	3	3	3	4	4	4	4	3	4	3	3	MAR-OCT	MAR-OCT	MAR-OCT	JAN-DEC	-
	Striped mullet			4	4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-FEB	OCT-MAY	JAN-DEC	-
	Tarpon			3	2	2	2	2	2	3	3	3	3	3	3	2	-	-	MAY-NOV	JAN-DEC	-
582	Atlantic croaker			5	5	3	4	4	5	5	5	4	4	4	4	5	-	-	AUG-JAN	JAN-DEC	-
	Bay anchovy			5	5	4	4	4	5	5	5	5	5	5	5	5	MAY-JAN	APR-JAN	APR-JAN	JAN-DEC	-
	Black drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	JAN-JAN	JAN-DEC	-
	Crevalle jack			3	2	2	2	2	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	4	4	4	5	5	5	5	5	5	4	5	-	-	-	JAN-DEC	-
	Gulf sturgeon		T	2	2	2	2	2	2	2	2					2	-	-	-	DEC-AUG	-
	Red drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	2	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2				2	2	2	2	2	2	2			-	-	-	MAY-NOV	-
	Spot			5	5	2	2	2	5	5	5	5	4	4	3	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	3	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
580	Bay squid			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Blue crab			5	4	4	5	5	5	5	5	5	5	5	5	4	-	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	4	5	5	5	5	5	5	5	5	4	4	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf stone crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	MAR-NOV	MAR-DEC	JAN-DEC	-
	Pink shrimp			5	3	3	5	5	5	3	3	3	3	3	3	3	-	-	APR-OCT	JAN-DEC	-
	White shrimp			5	3	3	5	5	5	5	5	5	5	5	5	4	APR-NOV	APR-NOV	MAR-DEC	JAN-DEC	-
582	Bay squid			2	2			2	2	2	2	2	2	2	2	2	-	-	MAY-NOV	MAY-JAN	-
	Blue crab			5	3	3	3	3	4	5	5	5	5	4	3	3	-	MAY-JAN	MAY-JAN	JAN-DEC	-
	Brown shrimp			5	3	3	3	3	5	4	4	4	4	3	3	3	-	-	MAY-JAN	JAN-DEC	-
	Gulf stone crab			3	3			3	3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	-
	Pink shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-SEP	JAN-DEC	-
	White shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-DEC	JAN-DEC	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
639	American alligator			661 TO 9 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC
640	American alligator			593 TO 38 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC
642	American alligator			1000 TO 250 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

Louisiana ESI: ESIMAP 59 (cont.)

BIOLOGICAL RESOURCES: (cont.)

TERRESTRIAL MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
635	Common raccoon			86 TO 42 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			223 TO 179 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			36 TO 17 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			2036 TO 828 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			3 TO 2 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
636	Common raccoon			77 TO 73 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			329 TO 220 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			99 TO 6 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			1258 TO 423 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			6 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
638	Common raccoon			25 TO 23 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			96 TO 56 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			196 TO 53 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			877 TO 728 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			15 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X

HUMAN USE RESOURCES:

WILDLIFE REFUGE:

HUN#	Name	Owner	Contact	Phone
109	DELTA NWR		USFWS	
122	PASS A LOUTRE WMA		LDWF	

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

ENVIRONMENTAL SENSITIVITY INDEX MAP

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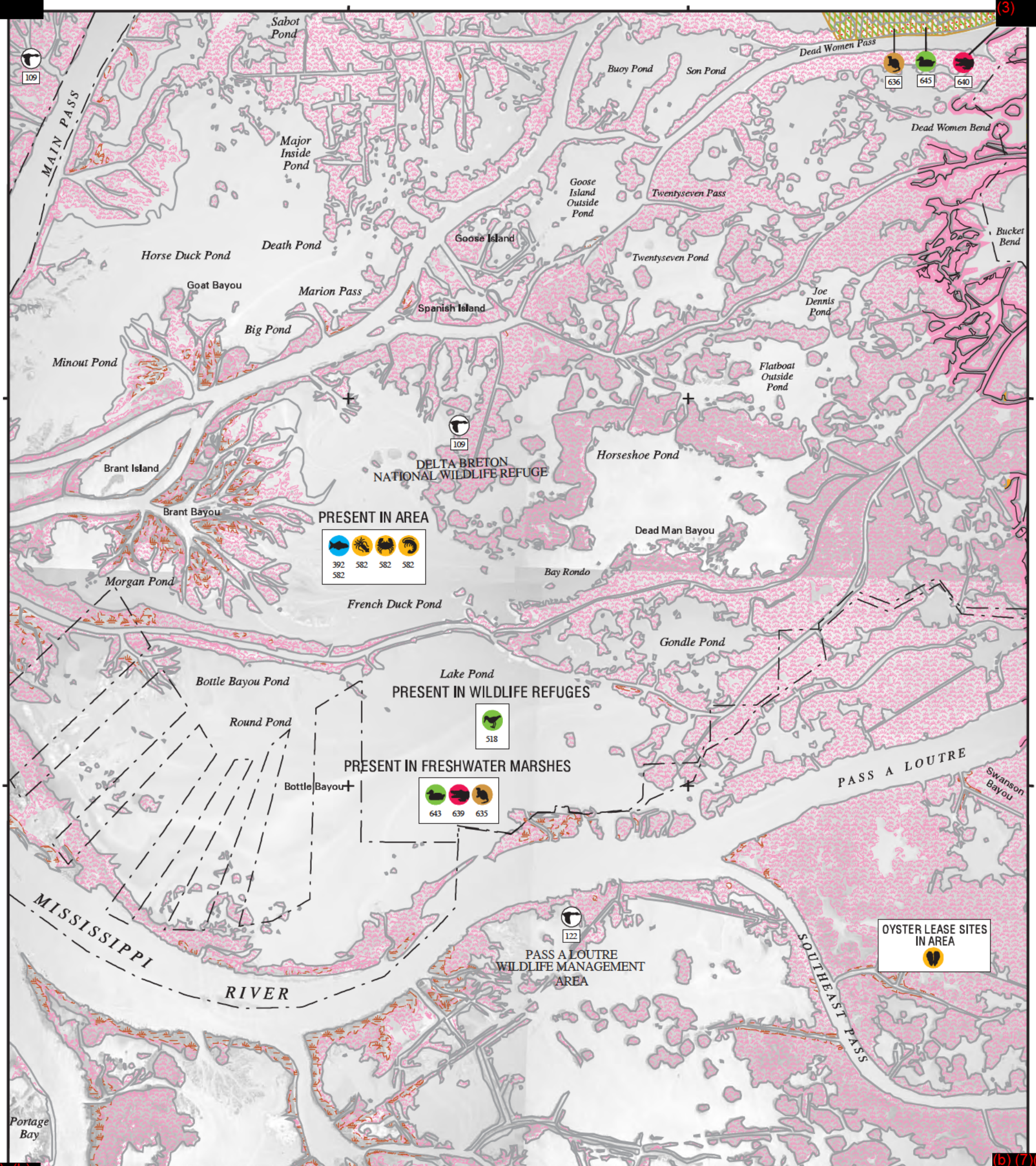
(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

SHORELINE

1988 SHORELINE

2001 SHORELINE

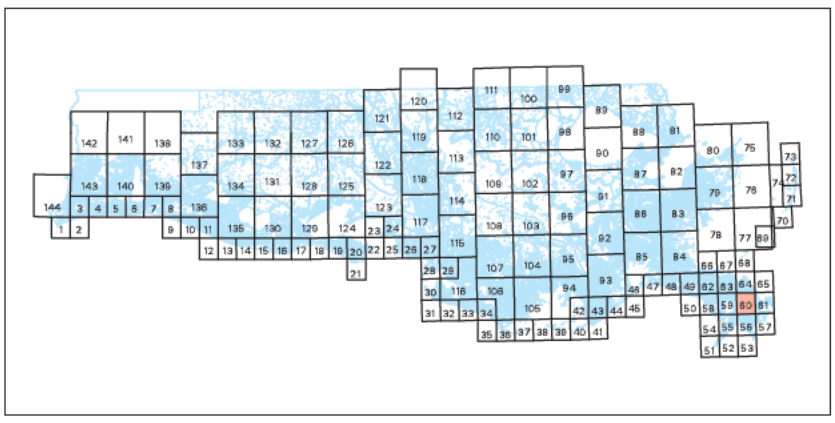
NOTE FOR COASTAL MAPS:
Due to the dynamic nature of the Louisiana coastline, biological resources may represent historical locations that do not correspond with the depicted shoreline.

SHORELINE HABITATS (ESI)
2001 ESI Shoreline Classification

- 1B EXPOSED, SOLID MAN-MADE STRUCTURES
- 2A EXPOSED WAVE-CUT PLATFORMS IN CLAY
  2B EXPOSED SCARPS AND STEEP SLOPES IN CLAY
- 3A FINE- TO MEDIUM-GRAINED SAND BEACHES
  3B SCARPS AND STEEP SLOPES IN SAND
- 4 COARSE-GRAINED SAND BEACHES
- 5 MIXED SAND AND GRAVEL BEACHES
- 6A GRAVEL BEACHES
- 6B RIPRAP
- 7 EXPOSED TIDAL FLATS
- 8A SHELTERED ROCKY SHORES AND SHELTERED SCARPS IN MUD OR CLAY
- 8B SHELTERED, MAN-MADE STRUCTURES
- 8C SHELTERED RIPRAP
- 9A SHELTERED TIDAL FLATS
  9B SHELTERED, VEGETATED LOW BANKS
- 10A SALT- AND BRACKISH-WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C FRESHWATER SWAMPS
- 10D SCRUB-SHRUB WETLANDS

COASTAL HABITATS
Based on 1988 Digital Shoreline

- 10A SALT MARSH
- 10A BRACKISH MARSH
- 10A INTERMEDIATE MARSH
- 10B FRESHWATER MARSH
- 10C FORESTED WETLAND
- 10D SCRUB- SHRUB WETLAND
- SEAGRASS



N W E S

SCALE 1:50000

1 .5 0 1 KILOMETER

1 .5 0 1 MILE

Not For Navigation

December 2003

Published at Seattle, Washington
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Response and Restoration
Hazardous Materials Response Division

PASS A LOUTRE WEST LA-60

Louisiana ESI: ESIMAP 60

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
518	Shorebirds						X	X	X		X	X	X	X			-	-	-
643	American coot			2 TO 215 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			1 TO 116 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			2 TO 30 IND/SQ MI	X	X	X	X	X			X	X	X	X		-	-	-
	Canvasback			UP TO 21 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			10 TO 243 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			6 TO 86 IND/SQ MI	X	X	X	X				X	X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			UP TO 41 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			20 TO 99 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			3 TO 18 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			2 TO 70 IND/SQ MI	X	X	X					X	X	X	X	X	-	-	-
	Northern shoveler			UP TO 24 IND/SQ MI	X	X	X	X				X	X	X	X	X	-	-	-
	Ring-necked duck			UP TO 56 IND/SQ MI	X	X	X							X	X	X	-	-	-
645	American coot			33 TO 165 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			3 TO 73 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			9 TO 34 IND/SQ MI	X	X	X	X	X			X	X	X	X	X	-	-	-
	Canvasback			UP TO 6 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			36 TO 240 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			9 TO 144 IND/SQ MI	X	X	X	X				X	X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			2 TO 35 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			4 TO 66 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			8 TO 15 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			UP TO 39 IND/SQ MI	X	X	X					X	X	X	X	X	-	-	-
	Northern shoveler			4 TO 34 IND/SQ MI	X	X	X	X				X	X	X	X	X	-	-	-
	Ring-necked duck			2 TO 36 IND/SQ MI	X	X	X							X	X	X	-	-	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
392	Largemouth bass			LOW	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
582	Atlantic croaker			5	5	3	4	4	5	5	5	4	4	4	4	5	-	-	AUG-JAN	JAN-DEC	-
	Bay anchovy			5	5	4	4	4	5	5	5	5	5	5	5	5	MAY-JAN	APR-JAN	APR-JAN	JAN-DEC	-
	Black drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	JAN-JAN	JAN-DEC	-
	Crevalle jack			3	2	2	2	2	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	4	4	4	5	5	5	5	5	5	4	5	-	-	-	JAN-DEC	-
	Gulf sturgeon		T	2	2	2	2	2	2	2	2	2				2	-	-	-	DEC-AUG	-
	Red drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	2	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2				2	2	2	2	2	2	2			-	-	-	MAY-NOV	-
	Spot			5	5	2	2	2	5	5	5	5	4	4	3	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	3	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
582	Bay squid			2	2			2	2	2	2	2	2	2	2	2	-	-	MAY-NOV	MAY-JAN	-
	Blue crab			5	3	3	3	3	4	5	5	5	5	4	3	3	-	MAY-JAN	MAY-JAN	JAN-DEC	-
	Brown shrimp			5	3	3	3	3	5	4	4	4	4	3	3	3	-	-	MAY-JAN	JAN-DEC	-
	Gulf stone crab			3	3			3	3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	-
	Pink shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-SEP	JAN-DEC	-
	White shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-DEC	JAN-DEC	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
639	American alligator			661 TO 9 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC
640	American alligator			593 TO 38 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC

TERRESTRIAL MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
635	Common raccoon			86 TO 42 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			223 TO 179 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			36 TO 17 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			2036 TO 828 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			3 TO 2 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
636	Common raccoon			77 TO 73 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			329 TO 220 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			99 TO 6 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			1258 TO 423 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			6 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X

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HUMAN USE RESOURCES:

WILDLIFE REFUGE:

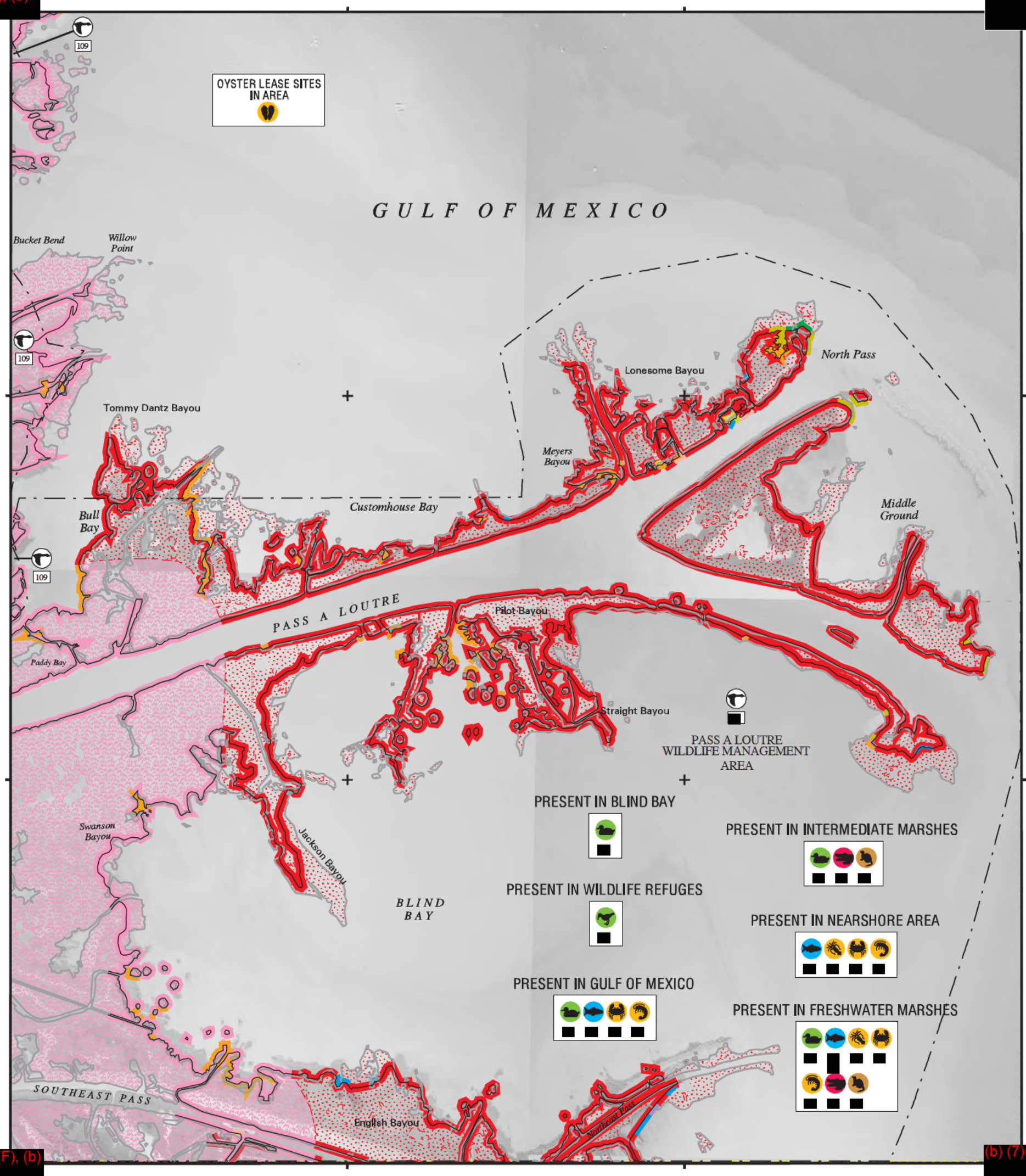
HUN#	Name	Owner	Contact	Phone
109	DELTA NWR		USFWS	
122	PASS A LOUTRE WMA		LDWF	

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

ENVIRONMENTAL SENSITIVITY INDEX MAP

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

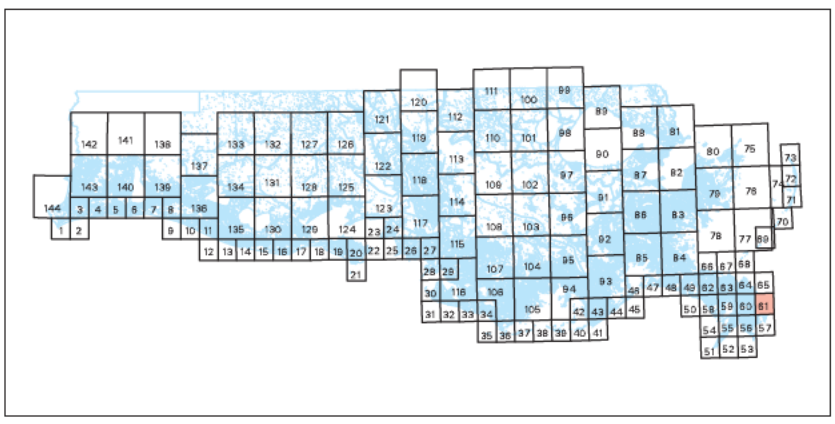
(b) (7)(F), (b) (3)

SHORELINE

1988 SHORELINE
2001 SHORELINE

NOTE FOR COASTAL MAPS:

Due to the dynamic nature of the Louisiana coastline, biological resources may represent historical locations that do not correspond with the depicted shoreline.



SHORELINE HABITATS (ESI)
2001 ESI Shoreline Classification

- 1B EXPOSED, SOLID MAN-MADE STRUCTURES
- 2A EXPOSED WAVE-CUT PLATFORMS IN CLAY
  2B EXPOSED SCARPS AND STEEP SLOPES IN CLAY
- 3A FINE- TO MEDIUM-GRAINED SAND BEACHES
  3B SCARPS AND STEEP SLOPES IN SAND
- 4 COARSE-GRAINED SAND BEACHES
- 5 MIXED SAND AND GRAVEL BEACHES
- 6A GRAVEL BEACHES
- 6B RIPRAP
- 7 EXPOSED TIDAL FLATS
- 8A SHELTERED ROCKY SHORES AND SHELTERED SCARPS IN MUD OR CLAY
- 8B SHELTERED, MAN-MADE STRUCTURES
- 8C SHELTERED RIPRAP
- 9A SHELTERED TIDAL FLATS
  9B SHELTERED, VEGETATED LOW BANKS
- 10A SALT- AND BRACKISH-WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C FRESHWATER SWAMPS
- 10D SCRUB-SHRUB WETLANDS

COASTAL HABITATS
Based on 1988 Digital Shoreline

- 10A SALT MARSH
- 10A BRACKISH MARSH
- 10A INTERMEDIATE MARSH
- 10B FRESHWATER MARSH
- 10C FORESTED WETLAND
- 10D SCRUB- SHRUB WETLAND
- SEAGRASS

N
W E
S

SCALE 1:50000

1 .5 0 1 KILOMETER

1 .5 0 1 MILE

Not For Navigation

December 2003

Published at Seattle, Washington
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Response and Restoration
Hazardous Materials Response Division

PASS A LOUTRE EAST **LA-61**

Louisiana ESI: ESIMAP 61

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
518	Shorebirds						X	X	X		X	X	X	X			-	-	-
565	Lesser scaup			40 IND/SQ MI	X	X	X							X	X	X	-	-	-
567	Lesser scaup			32 IND/SQ MI	X	X	X							X	X	X	-	-	-
643	American coot			2 TO 215 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			1 TO 116 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			2 TO 30 IND/SQ MI	X	X	X	X	X				X	X	X	X	-	-	-
	Canvasback			UP TO 21 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			10 TO 243 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			6 TO 86 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			UP TO 41 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			20 TO 99 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			3 TO 18 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			2 TO 70 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			UP TO 24 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			UP TO 56 IND/SQ MI	X	X	X							X	X	X	-	-	-
645	American coot			33 TO 165 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			3 TO 73 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			9 TO 34 IND/SQ MI	X	X	X	X	X				X	X	X	X	-	-	-
	Canvasback			UP TO 6 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			36 TO 240 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			9 TO 144 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			2 TO 35 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			4 TO 66 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			8 TO 15 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			UP TO 39 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			4 TO 34 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			2 TO 36 IND/SQ MI	X	X	X							X	X	X	-	-	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
392	Largemouth bass			LOW	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
579	Atlantic croaker			5	5	5	5	5	5	5	5	4	4	4	4	5	-	-	AUG-APR	JAN-DEC	-
	Bay anchovy			5	5	5	5	5	5	5	5	5	5	5	5	5	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black drum			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	JAN-APR	JAN-DEC	-
	Crevalle jack			3	2	2	2	3	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	-
	Red drum			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	AUG-MAR	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			4	3	3	3	3	4	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Spot			5	5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	3	4	4	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
582	Atlantic croaker			5	5	3	4	4	5	5	5	4	4	4	4	5	-	-	AUG-JAN	JAN-DEC	-
	Bay anchovy			5	5	4	4	4	5	5	5	5	5	5	5	5	MAY-JAN	APR-JAN	APR-JAN	JAN-DEC	-
	Black drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	JAN-JAN	JAN-DEC	-
	Crevalle jack			3	2	2	2	2	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	4	4	4	5	5	5	5	5	5	4	5	-	-	-	JAN-DEC	-
	Gulf sturgeon		T	2	2	2	2	2	2	2	2	2				2	-	-	-	DEC-AUG	-
	Red drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	2	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2				2	2	2	2	2	2	2			-	-	-	MAY-NOV	-
	Spot			5	5	2	2	2	5	5	5	5	4	4	3	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	3	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
600	Black drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Florida pompano			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf menhaden			5	5	5	4	4	4	5	5	5	5	5	5	5	JAN-DEC	SEP-MAY	JAN-DEC	JAN-DEC	-
	Gulf sturgeon		T	2	2	2	2	2	2	0	0	0	0	0	0	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Red drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Sheepshead			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Southern flounder			4	3	3	4	4	4	4	4	4	4	4	4	3	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Spanish mackerel			4	2	2	3	3	3	4	4	4	4	4	4	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Striped mullet			4	3	3	4	4	4	4	4	3	3	3	3	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Tarpon			3	2	2	2	2	2	3	3	3	3	3	3	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
579	Bay squid			2	2	2	2	2	2	2	2	2	2	2	2	2	MAR-NOV	MAR-NOV	MAR-NOV	JAN-DEC	-
	Blue crab			5	4	4	4	4	4	5	5	5	5	4	4	4	-	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	4	4	5	5	4	4	4	4	3	3	3	-	-	JAN-DEC	JAN-DEC	-
	Gulf stone crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Pink shrimp			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-OCT	JAN-DEC	-
	White shrimp			4	3	3	3	3	3	4	4	4	4	4	4	3	-	-	MAY-DEC	JAN-DEC	-
582	Bay squid			2	2			2	2	2	2	2	2	2	2	2	-	-	MAY-NOV	MAY-JAN	-
	Blue crab			5	3	3	3	3	4	5	5	5	5	4	3	3	-	MAY-JAN	MAY-JAN	JAN-DEC	-
	Brown shrimp			5	3	3	3	3	5	4	4	4	4	3	3	3	-	-	MAY-JAN	JAN-DEC	-
	Gulf stone crab			3	3			3	3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	-
	Pink shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-SEP	JAN-DEC	-
	White shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-DEC	JAN-DEC	-
600	Blue crab			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	3	4	4	4	5	5	5	4	4	4	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Florida stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Gulf stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Pink shrimp			4	3	3	3	3	3	4	4	4	4	4	4	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	White shrimp			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-

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Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

Louisiana ESI: ESIMAP 61 (cont.)

BIOLOGICAL RESOURCES: (cont.)

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
639	American alligator			661 TO 9 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC
640	American alligator			593 TO 38 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC

TERRESTRIAL MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
635	Common raccoon			86 TO 42 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			223 TO 179 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			36 TO 17 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			2036 TO 828 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			3 TO 2 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
636	Common raccoon			77 TO 73 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			329 TO 220 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			99 TO 6 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			1258 TO 423 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			6 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X

HUMAN USE RESOURCES:

WILDLIFE REFUGE:

HUN#	Name	Owner	Contact	Phone
109	DELTA NWR		USFWS	
122	PASS A LOUTRE WMA		LDWF	

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

ENVIRONMENTAL SENSITIVITY INDEX MAP

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

OYSTER LEASE SITES IN AREA

Pass Du Bois

Pass La Graisse

GULF OF MEXICO

WEST BAY

PRESENT IN AREA

645 640 636

PRESENT IN GULF OF MEXICO

600 600 600

PRESENT IN WEST BAY

579 579 579 579

PRESENT IN NEARSHORE AREA

569 582 582 582 582

518

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

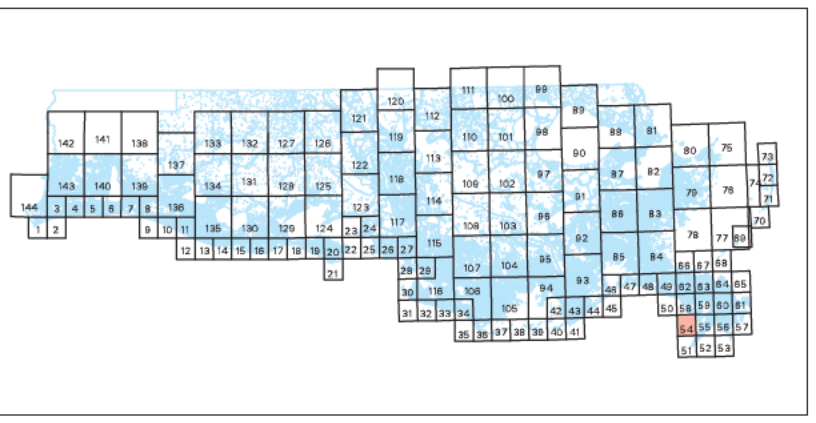
SHORELINE

1988 SHORELINE

2001 SHORELINE

NOTE FOR COASTAL MAPS:

Due to the dynamic nature of the Louisiana coastline, biological resources may represent historical locations that do not correspond with the depicted shoreline.



SHORELINE HABITATS (ESI)

2001 ESI Shoreline Classification

- 1B EXPOSED, SOLID MAN-MADE STRUCTURES
- 2A EXPOSED WAVE-CUT PLATFORMS IN CLAY
  2B EXPOSED SCARPS AND STEEP SLOPES IN CLAY
- 3A FINE- TO MEDIUM-GRAINED SAND BEACHES
  3B SCARPS AND STEEP SLOPES IN SAND
- 4 COARSE-GRAINED SAND BEACHES
- 5 MIXED SAND AND GRAVEL BEACHES
- 6A GRAVEL BEACHES
- 6B RIPRAP
- 7 EXPOSED TIDAL FLATS
- 8A SHELTERED ROCKY SHORES AND SHELTERED SCARPS IN MUD OR CLAY
- 8B SHELTERED, MAN-MADE STRUCTURES
- 8C SHELTERED RIPRAP
- 9A SHELTERED TIDAL FLATS
  9B SHELTERED, VEGETATED LOW BANKS
- 10A SALT- AND BRACKISH-WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C FRESHWATER SWAMPS
- 10D SCRUB-SHRUB WETLANDS

COASTAL HABITATS

Based on 1988 Digital Shoreline

- 10A SALT MARSH
- 10A BRACKISH MARSH
- 10A INTERMEDIATE MARSH
- 10B FRESHWATER MARSH
- 10C FORESTED WETLAND
- 10D SCRUB- SHRUB WETLAND
- SEAGRASS

N W E S

SCALE 1:50000

1 5 0 1 KILOMETER

1 5 0 1 MILE

Not For Navigation

December 2003

Published at Seattle, Washington
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Response and Restoration
Hazardous Materials Response Division

PASS DU BOIS LA-54

Louisiana ESI: ESIMAP 54

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
518	Shorebirds						X	X	X		X	X	X	X			-	-	-
569	Lesser scaup			49 IND/SQ MI	X	X	X							X	X	X	-	-	-
645	American coot			33 TO 165 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			3 TO 73 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			9 TO 34 IND/SQ MI	X	X	X	X	X			X	X	X	X	X	-	-	-
	Canvasback			UP TO 6 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			36 TO 240 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			9 TO 144 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			2 TO 35 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			4 TO 66 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			8 TO 15 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			UP TO 39 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			4 TO 34 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			2 TO 36 IND/SQ MI	X	X	X							X	X	X	-	-	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
579	Atlantic croaker			5	5	5	5	5	5	5	5	4	4	4	4	5	-	-	AUG-APR	JAN-DEC	-
	Bay anchovy			5	5	5	5	5	5	5	5	5	5	5	5	5	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black drum			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	JAN-APR	JAN-DEC	-
	Crevalle jack			3	2	2	2	3	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	-
	Red drum			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	AUG-MAR	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			4	3	3	3	3	4	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Spot			5	5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	4	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
582	Atlantic croaker			5	5	3	4	4	5	5	5	4	4	4	4	5	-	-	AUG-JAN	JAN-DEC	-
	Bay anchovy			5	5	4	4	4	5	5	5	5	5	5	5	5	MAY-JAN	APR-JAN	APR-JAN	JAN-DEC	-
	Black drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	JAN-JAN	JAN-DEC	-
	Crevalle jack			3	2	2	2	2	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	4	4	4	5	5	5	5	5	5	4	5	-	-	-	JAN-DEC	-
	Gulf sturgeon	T	2		2	2	2	2	2	2	2	2				2	-	-	-	DEC-AUG	-
	Red drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	2	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2				2	2	2	2	2	2	2			-	-	-	MAY-NOV	-
	Spot			5	5	2	2	2	5	5	5	5	4	4	3	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	3	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
600	Black drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Florida pompano			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf menhaden			5	5	4	4	4	5	5	5	5	5	5	5	5	JAN-DEC	SEP-MAY	JAN-DEC	JAN-DEC	-
	Gulf sturgeon	T	2		2	2	2	2	2	0	0	0	0	0	0	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Red drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Sheepshead			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Southern flounder			4	3	3	4	4	4	4	4	4	4	4	4	3	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Spanish mackerel			4	2	2	3	3	3	4	4	4	4	4	4	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Striped mullet			4	3	3	4	4	4	4	4	4	3	3	3	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Tarpon			3	2	2	2	2	2	3	3	3	3	3	3	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
579	Bay squid			2	2	2	2	2	2	2	2	2	2	2	2	2	MAR-NOV	MAR-NOV	MAR-NOV	JAN-DEC	-
	Blue crab			5	4	4	4	4	4	5	5	5	5	4	4	4	-	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	4	4	5	5	4	4	4	4	3	3	3	-	-	JAN-DEC	JAN-DEC	-
	Gulf stone crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Pink shrimp			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-OCT	JAN-DEC	-
	White shrimp			4	3	3	3	3	3	4	4	4	4	4	4	3	-	-	MAY-DEC	JAN-DEC	-
582	Bay squid			2	2			2	2	2	2	2	2	2	2	2	-	-	MAY-NOV	MAY-JAN	-
	Blue crab			5	3	3	3	3	4	5	5	5	5	4	3	3	-	MAY-JAN	MAY-JAN	JAN-DEC	-
	Brown shrimp			5	3	3	3	3	5	4	4	4	4	3	3	3	-	-	MAY-JAN	JAN-DEC	-
	Gulf stone crab			3	3			3	3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	-
	Pink shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-SEP	JAN-DEC	-
	White shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-DEC	JAN-DEC	-
600	Blue crab			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	3	4	4	4	5	5	5	4	4	4	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Florida stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Gulf stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Pink shrimp			4	3	3	3	3	3	4	4	4	4	4	4	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	White shrimp			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
640	American alligator			593 TO 38 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC

TERRESTRIAL MAMMAL:

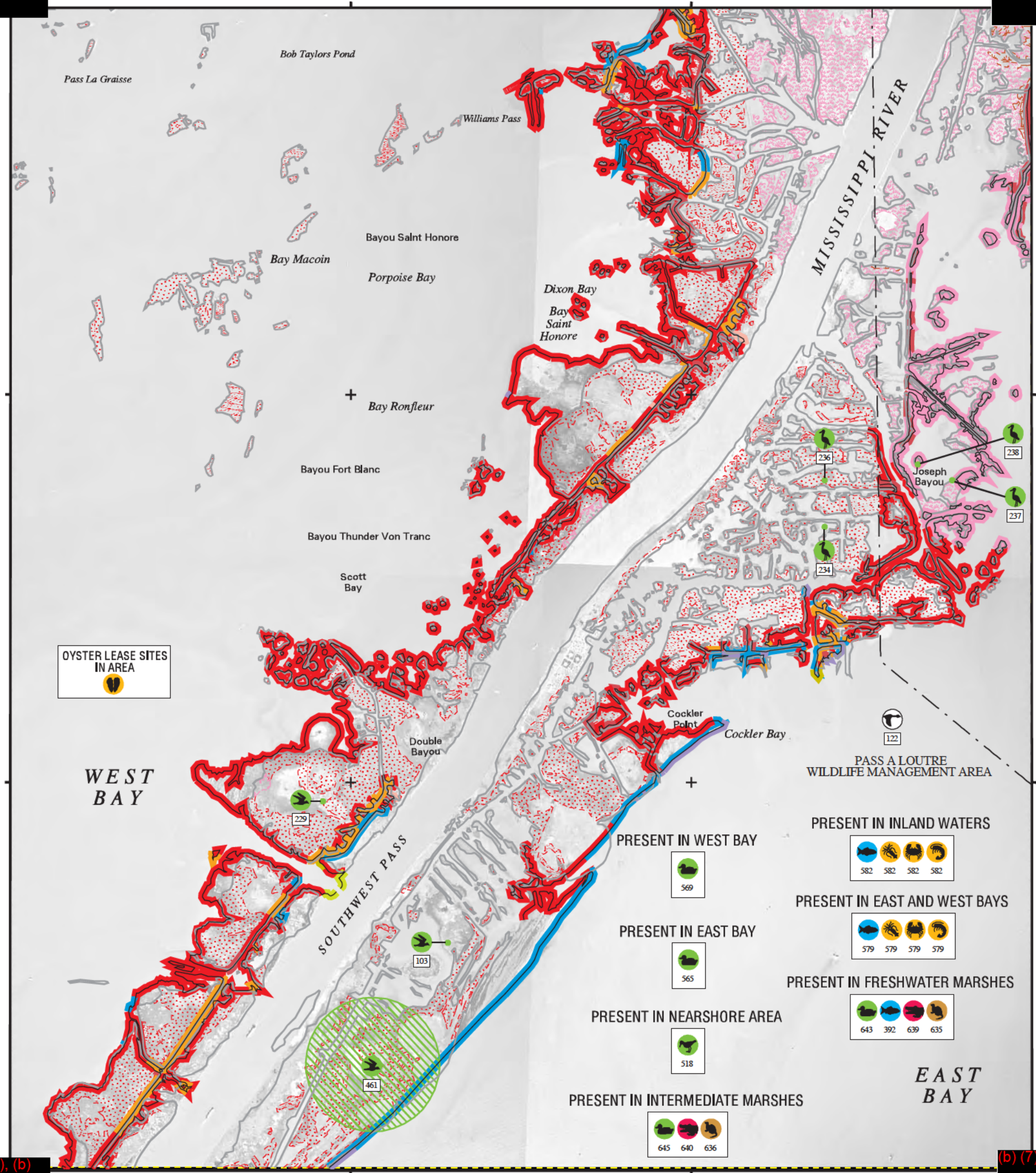
RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
636	Common raccoon			77 TO 73 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			329 TO 220 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			99 TO 6 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			1258 TO 423 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			6 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

ENVIRONMENTAL SENSITIVITY INDEX MAP

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

SHORELINE

1988 SHORELINE

2001 SHORELINE

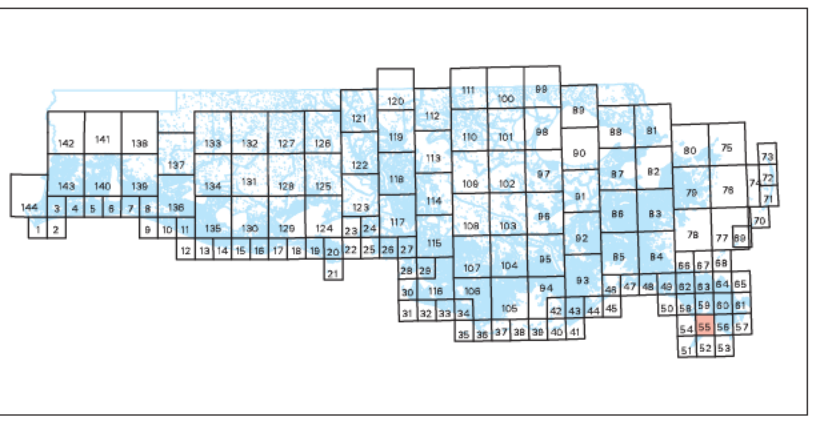
NOTE FOR COASTAL MAPS:
Due to the dynamic nature of the Louisiana coastline, biological resources may represent historical locations that do not correspond with the depicted shoreline.

SHORELINE HABITATS (ESI)
2001 ESI Shoreline Classification

- 1B EXPOSED, SOLID MAN-MADE STRUCTURES
- 2A EXPOSED WAVE-CUT PLATFORMS IN CLAY
  2B EXPOSED SCARPS AND STEEP SLOPES IN CLAY
- 3A FINE- TO MEDIUM-GRAINED SAND BEACHES
  3B SCARPS AND STEEP SLOPES IN SAND
- 4 COARSE-GRAINED SAND BEACHES
- 5 MIXED SAND AND GRAVEL BEACHES
- 6A GRAVEL BEACHES
- 6B RIPRAP
- 7 EXPOSED TIDAL FLATS
- 8A SHELTERED ROCKY SHORES AND SHELTERED SCARPS IN MUD OR CLAY
- 8B SHELTERED, MAN-MADE STRUCTURES
- 8C SHELTERED RIPRAP
- 9A SHELTERED TIDAL FLATS
  9B SHELTERED, VEGETATED LOW BANKS
- 10A SALT- AND BRACKISH-WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C FRESHWATER SWAMPS
- 10D SCRUB-SHRUB WETLANDS

COASTAL HABITATS
Based on 1988 Digital Shoreline

- 10A SALT MARSH
- 10A BRACKISH MARSH
- 10A INTERMEDIATE MARSH
- 10B FRESHWATER MARSH
- 10C FORESTED WETLAND
- 10D SCRUB- SHRUB WETLAND
- SEAGRASS



N W E S

SCALE 1:50000

1 .5 0 1 KILOMETER

1 .5 0 1 MILE

Not For Navigation

December 2003
Published at Seattle, Washington
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Response and Restoration
Hazardous Materials Response Division

DIXON BAY LA-55

Louisiana ESI: ESIMAP 55

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
103	Black skimmer			70 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
229	Black skimmer			150 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
	Gull-billed tern			4 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
234	Great egret			5 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	-
	Snowy egret			5 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
236	Great egret			5 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	-
	Snowy egret			10 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
237	Cattle egret			4 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
	Great egret			14 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	-
	Little blue heron			2 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Snowy egret			20 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	White ibis			10 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
238	Great egret			25 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	-
	Snowy egret			31 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Tricolored heron			2 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	White ibis			12 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
	White-faced or Glossy ibis			1 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
461	Colonial waterbirds				X	X	X	X	X	X	X	X	X	X	X	X	NOV-SEP	-	-
	Rare seabird				X	X	X	X	X	X	X	X	X	X	X	X	JUN-SEP	-	-
518	Shorebirds					X	X	X		X	X	X	X				-	-	-
565	Lesser scaup			40 IND/SQ MI	X	X	X							X	X	X	-	-	-
569	Lesser scaup			49 IND/SQ MI	X	X	X							X	X	X	-	-	-
643	American coot			2 TO 215 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			1 TO 116 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			2 TO 30 IND/SQ MI	X	X	X	X	X				X	X	X	X	-	-	-
	Canvasback			UP TO 21 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			10 TO 243 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			6 TO 86 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			UP TO 41 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			20 TO 99 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			3 TO 18 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			2 TO 70 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			UP TO 24 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			UP TO 56 IND/SQ MI	X	X	X							X	X	X	-	-	-
645	American coot			33 TO 165 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			3 TO 73 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			9 TO 34 IND/SQ MI	X	X	X	X	X				X	X	X	X	-	-	-
	Canvasback			UP TO 6 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			36 TO 240 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			9 TO 144 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			2 TO 35 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			4 TO 66 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			8 TO 15 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			UP TO 39 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			4 TO 34 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			2 TO 36 IND/SQ MI	X	X	X							X	X	X	-	-	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
392	Largemouth bass			LOW	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
579	Atlantic croaker			5	5	5	5	5	5	5	5	4	4	4	4	5	-	-	AUG-APR	JAN-DEC	-
	Bay anchovy			5	5	5	5	5	5	5	5	5	5	5	5	5	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black drum			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	JAN-APR	JAN-DEC	-
	Crevalle jack			3	2	2	2	3	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	-
	Red drum			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	AUG-MAR	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			4	3	3	3	3	4	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Spot			5	5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	4	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
582	Atlantic croaker			5	5	3	4	4	5	5	5	4	4	4	4	5	-	-	AUG-JAN	JAN-DEC	-
	Bay anchovy			5	5	4	4	4	5	5	5	5	5	5	5	5	MAY-JAN	APR-JAN	APR-JAN	JAN-DEC	-
	Black drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	JAN-JAN	JAN-DEC	-
	Crevalle jack			3	2	2	2	2	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	4	4	4	5	5	5	5	5	5	4	5	-	-	-	JAN-DEC	-
	Gulf sturgeon	T		2	2	2	2	2	2	2	2	2				2	-	-	-	DEC-AUG	-
	Red drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	2	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2				2	2	2	2	2	2	2			-	-	-	MAY-NOV	-
	Spot			5	5	2	2	2	5	5	5	5	4	4	3	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	3	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
579	Bay squid			2	2	2	2	2	2	2	2	2	2	2	2	2	MAR-NOV	MAR-NOV	MAR-NOV	JAN-DEC	-
	Blue crab			5	4	4	4	4	4	5	5	5	5	4	4	4	-	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	4	4	5	5	4	4	4	4	3	3	3	-	-	JAN-DEC	JAN-DEC	-
	Gulf stone crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Pink shrimp			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-OCT	JAN-DEC	-
	White shrimp			4	3	3	3	3	3	4	4	4	4	4	4	3	-	-	MAY-DEC	JAN-DEC	-
582	Bay squid			2	2			2	2	2	2	2	2	2	2	2	-	-	MAY-NOV	MAY-JAN	-
	Blue crab			5	3	3	3	3	4	5	5	5	5	4	3	3	-	MAY-JAN	MAY-JAN	JAN-DEC	-
	Brown shrimp			5	3	3	3	3	5	4	4	4	4	3	3	3	-	-	MAY-JAN	JAN-DEC	-
	Gulf stone crab			3	3			3	3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	-
	Pink shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-SEP	JAN-DEC	-
	White shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-DEC	JAN-DEC	-

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Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

Louisiana ESI: ESIMAP 55 (cont.)

BIOLOGICAL RESOURCES: (cont.)

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
639	American alligator			661 TO 9 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC
640	American alligator			593 TO 38 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC

TERRESTRIAL MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
635	Common raccoon			86 TO 42 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			223 TO 179 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			36 TO 17 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			2036 TO 828 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			3 TO 2 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
636	Common raccoon			77 TO 73 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			329 TO 220 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			99 TO 6 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			1258 TO 423 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			6 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X

HUMAN USE RESOURCES:

WILDLIFE REFUGE:

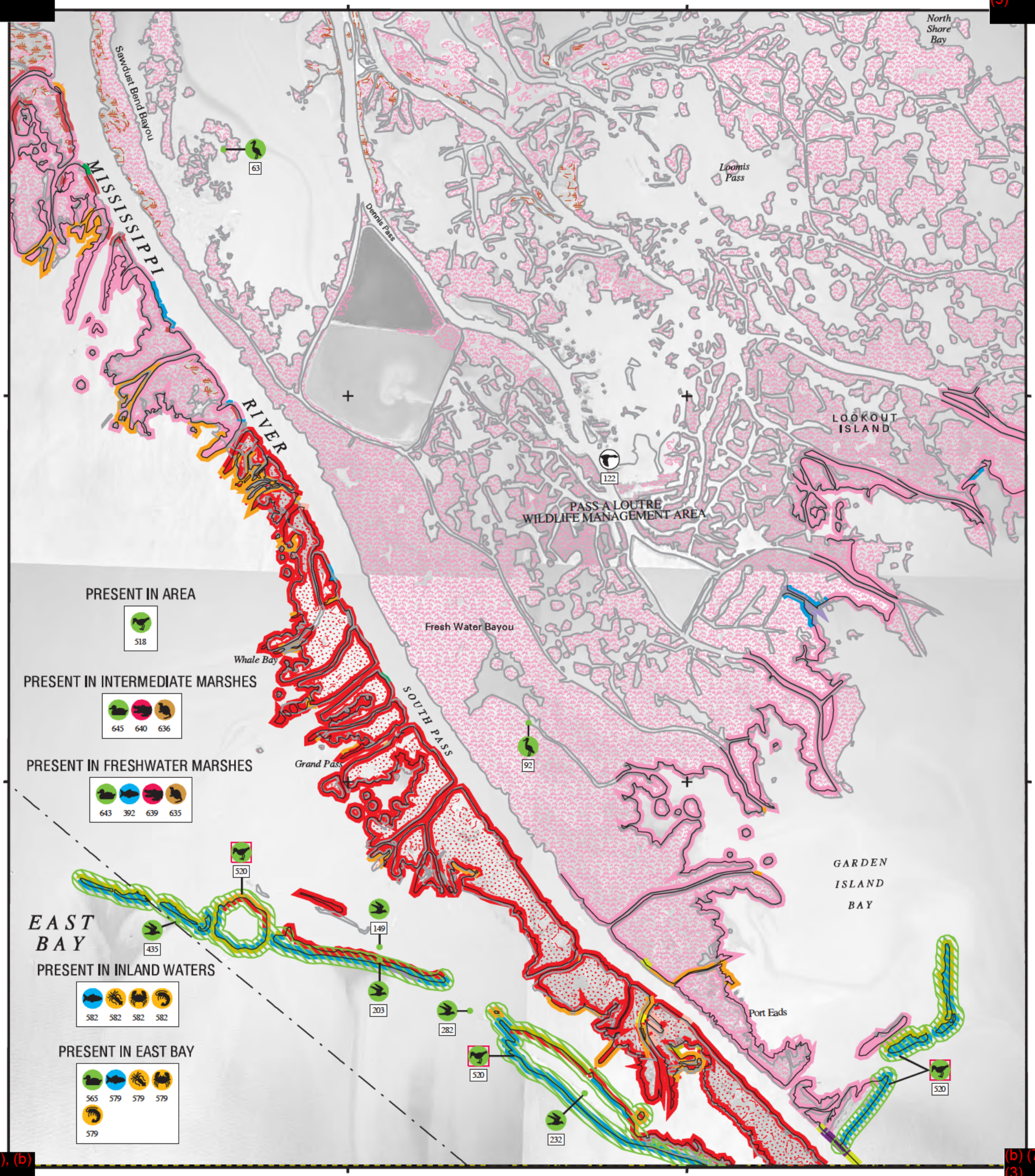
HUN#	Name	Owner	Contact	Phone
122	PASS A LOUTRE WMA		LDWF	

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

ENVIRONMENTAL SENSITIVITY INDEX MAP

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

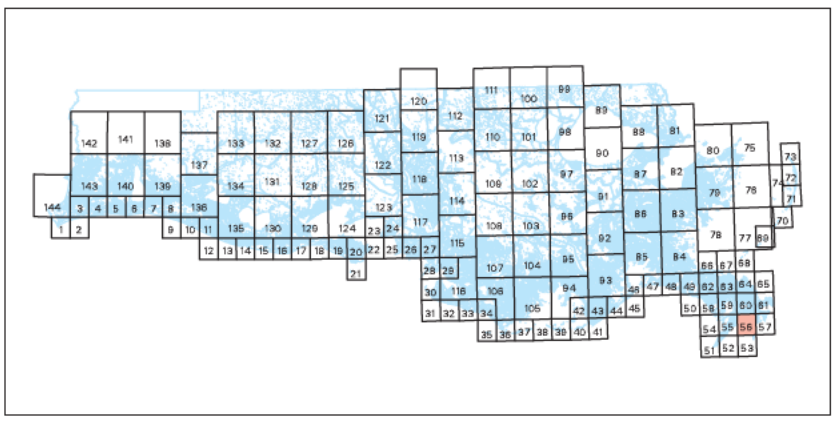
SHORELINE

1988 SHORELINE

2001 SHORELINE

NOTE FOR COASTAL MAPS:

Due to the dynamic nature of the Louisiana coastline, biological resources may represent historical locations that do not correspond with the depicted shoreline.



SHORELINE HABITATS (ESI)

2001 ESI Shoreline Classification

- 1B EXPOSED, SOLID MAN-MADE STRUCTURES
- 2A EXPOSED WAVE-CUT PLATFORMS IN CLAY
  2B EXPOSED SCARPS AND STEEP SLOPES IN CLAY
- 3A FINE- TO MEDIUM-GRAINED SAND BEACHES
  3B SCARPS AND STEEP SLOPES IN SAND
- 4 COARSE-GRAINED SAND BEACHES
- 5 MIXED SAND AND GRAVEL BEACHES
- 6A GRAVEL BEACHES
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- 7 EXPOSED TIDAL FLATS
- 8A SHELTERED ROCKY SHORES AND SHELTERED SCARPS IN MUD OR CLAY
- 8B SHELTERED, MAN-MADE STRUCTURES
- 8C SHELTERED RIPRAP
- 9A SHELTERED TIDAL FLATS
  9B SHELTERED, VEGETATED LOW BANKS
- 10A SALT- AND BRACKISH-WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C FRESHWATER SWAMPS
- 10D SCRUB-SHRUB WETLANDS

COASTAL HABITATS

Based on 1988 Digital Shoreline

- 10A SALT MARSH
- 10A BRACKISH MARSH
- 10A INTERMEDIATE MARSH
- 10B FRESHWATER MARSH
- 10C FORESTED WETLAND
- 10D SCRUB- SHRUB WETLAND
- SEAGRASS

N W E S

SCALE 1:50000

1 .5 0 1 KILOMETER

1 .5 0 1 MILE

Not For Navigation

December 2003

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National Oceanic and Atmospheric Administration
National Ocean Service
Office of Response and Restoration
Hazardous Materials Response Division

SOUTH PASS LA-56

Louisiana ESI: ESIMAP 56

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
63	Great egret			26 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	-
	Little blue heron			3 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Reddish egret			1 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Snowy egret			55 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Tricolored heron			4 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	White ibis			3 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
	White-faced or Glossy ibis			6 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
92	Great egret			11 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	-
	Snowy egret			13 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Tricolored heron			6 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	White-faced or Glossy ibis			3 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
149	Black skimmer			23 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
	Laughing gull			11 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	-	-
	Least tern			4 IND (90-99AV)			X	X	X	X	X	X	X				APR-SEP	-	-
	Royal tern			14 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-
203	Black skimmer			44 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
	Forster's tern			16 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Gull-billed tern			8 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
	Royal tern			10 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-
232	Black skimmer			236 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
	Caspian tern			20 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-
	Forster's tern			6 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Gull-billed tern			44 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
	Laughing gull			40 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	-	-
282	Caspian tern			17 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-
	Forster's tern			17 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Gull-billed tern			3 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
	Laughing gull			27 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	-	-
435	Black skimmer			1200 IND (97COUNT)	X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
	Caspian tern			420 IND (97COUNT)	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-
	Gull-billed tern			200 IND (97COUNT)	X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
	Laughing gull			50 IND (97COUNT)	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	-	-
	Royal tern			100 IND (97COUNT)	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-
	Sandwich tern			100 IND (97COUNT)	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-
518	Shorebirds						X	X	X		X	X	X	X			-	-	-
520	Piping plover	T			X	X	X	X	X			X	X	X	X	X	-	-	-
	Shorebirds						X	X	X		X	X	X	X			-	-	-
565	Lesser scaup			40 IND/SQ MI	X	X	X							X	X	X	-	-	-
643	American coot			2 TO 215 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			1 TO 116 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			2 TO 30 IND/SQ MI	X	X	X	X	X			X	X	X	X		-	-	-
	Canvasback			UP TO 21 IND/SQ MI	X	X	X							X	X		-	-	-
	Gadwall			10 TO 243 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			6 TO 86 IND/SQ MI	X	X	X	X				X	X	X	X		-	-	-
	Hooded merganser			PRESENT	X	X	X							X	X		-	-	-
	Lesser scaup			UP TO 41 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			20 TO 99 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			3 TO 18 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			2 TO 70 IND/SQ MI	X	X	X					X	X	X	X		-	-	-
	Northern shoveler			UP TO 24 IND/SQ MI	X	X	X	X				X	X	X	X		-	-	-
	Ring-necked duck			UP TO 56 IND/SQ MI	X	X	X							X	X	X	-	-	-
645	American coot			33 TO 165 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			3 TO 73 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			9 TO 34 IND/SQ MI	X	X	X	X	X			X	X	X	X		-	-	-
	Canvasback			UP TO 6 IND/SQ MI	X	X	X							X	X		-	-	-
	Gadwall			36 TO 240 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			9 TO 144 IND/SQ MI	X	X	X	X				X	X	X	X		-	-	-
	Hooded merganser			PRESENT	X	X	X							X	X		-	-	-
	Lesser scaup			2 TO 35 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			4 TO 66 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			8 TO 15 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			UP TO 39 IND/SQ MI	X	X	X					X	X	X	X		-	-	-
	Northern shoveler			4 TO 34 IND/SQ MI	X	X	X	X				X	X	X	X		-	-	-
	Ring-necked duck			2 TO 36 IND/SQ MI	X	X	X							X	X	X	-	-	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
392	Largemouth bass			LOW	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
579	Atlantic croaker			5	5	5	5	5	5	5	5	4	4	4	4	5	-	-	AUG-APR	JAN-DEC	-
	Bay anchovy			5	5	5	5	5	5	5	5	5	5	5	5	5	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black drum			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	JAN-APR	JAN-DEC	-
	Crevalle jack			3	2	2	2	3	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	4	4	4	5	5	5	5	5	5	4	5	-	-	-	JAN-DEC	-
	Gulf sturgeon	T	2		2	2	2	2	2	2	2	2				2	-	-	-	DEC-AUG	-
	Red drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	2	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2					2	2	2	2	2	2	2		-	-	-	MAY-NOV	-
	Spot			5	5	2	2	2	5	5	5	5	4	4	3	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	3	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
582	Atlantic croaker			5	5	3	4	4	5	5	5	4	4	4	4	5	-	-	AUG-JAN	JAN-DEC	-
	Bay anchovy			5	5	4	4	4	5	5	5	5	5	5	5	5	MAY-JAN	APR-JAN	APR-JAN	JAN-DEC	-
	Black drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	JAN-JAN	JAN-DEC	-
	Crevalle jack			3	2	2	2	2	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	4	4	4	5	5	5	5	5	5	4	5	-	-	-	JAN-DEC	-
	Gulf sturgeon	T	2		2	2	2	2	2	2	2	2				2	-	-	-	DEC-AUG	-
	Red drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	2	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2					2	2	2	2	2	2	2		-	-	-	MAY-NOV	-
	Spot			5	5	2	2	2	5	5	5	5	4	4	3	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	3	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-

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Louisiana ESI: ESIMAP 56 (cont.)

BIOLOGICAL RESOURCES: (cont.)

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
579	Bay squid			2	2	2	2	2	2	2	2	2	2	2	2	2	MAR-NOV	MAR-NOV	MAR-NOV	JAN-DEC	-
	Blue crab			5	4	4	4	4	4	5	5	5	5	4	4	4	-	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	4	4	5	5	4	4	4	4	3	3	3	-	-	JAN-DEC	JAN-DEC	-
	Gulf stone crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Pink shrimp			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-OCT	JAN-DEC	-
	White shrimp			4	3	3	3	3	4	4	4	4	4	4	3		-	-	MAY-DEC	JAN-DEC	-
582	Bay squid			2	2			2	2	2	2	2	2	2	2		-	-	MAY-NOV	MAY-JAN	-
	Blue crab			5	3	3	3	3	4	5	5	5	5	4	3	3	-	MAY-JAN	MAY-JAN	JAN-DEC	-
	Brown shrimp			5	3	3	3	3	5	4	4	4	4	3	3	3	-	-	MAY-JAN	JAN-DEC	-
	Gulf stone crab			3	3			3	3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	-
	Pink shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-SEP	JAN-DEC	-
	White shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-DEC	JAN-DEC	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
639	American alligator			661 TO 9 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC
640	American alligator			593 TO 38 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC

TERRESTRIAL MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
635	Common raccoon			86 TO 42 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			223 TO 179 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			36 TO 17 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			2036 TO 828 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			3 TO 2 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
636	Common raccoon			77 TO 73 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			329 TO 220 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			99 TO 6 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			1258 TO 423 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			6 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X

HUMAN USE RESOURCES:

WILDLIFE REFUGE:

HUN#	Name	Owner	Contact	Phone
122	PASS A LOUTRE WMA		LDWF	

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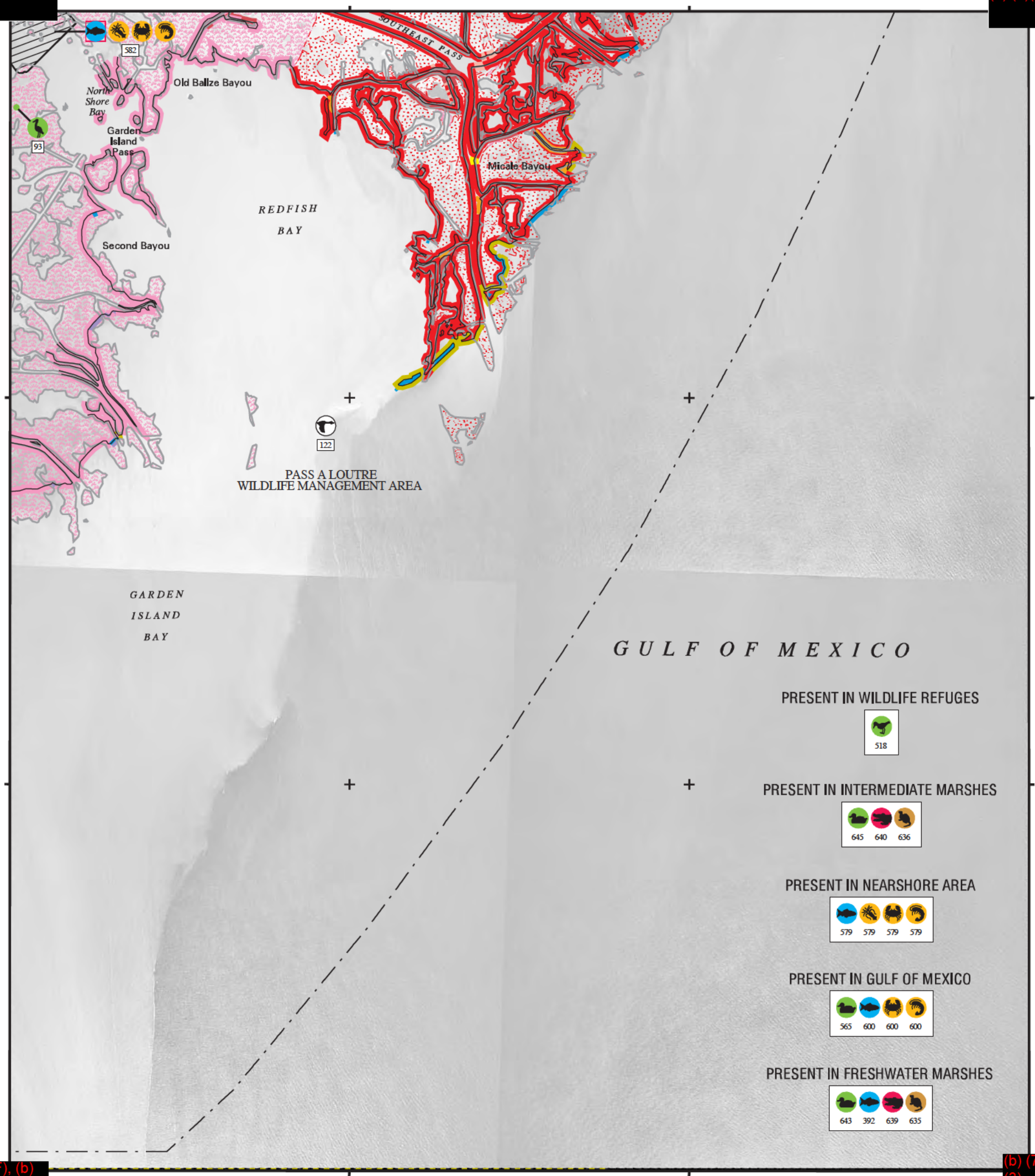

(b) (7)(F), (b) (3)

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SHORELINE

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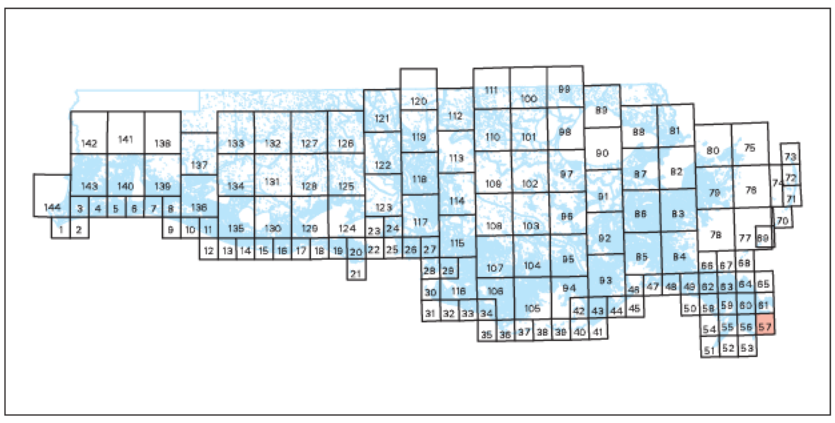
- SEAGRASS



N W E S

SCALE 1:50000

1 .5 0 1 KILOMETER

1 .5 0 1 MILE

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GARDEN ISLAND PASS LA-57

Louisiana ESI: ESIMAP 57

BIOLOGICAL RESOURCES:

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RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
93	Great egret			13 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	-
	Snowy egret			3 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	White-faced or Glossy ibis			2 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
518	Shorebirds						X	X	X		X	X	X	X			-	-	-
565	Lesser scaup			40 IND/SQ MI	X	X	X							X	X	X	-	-	-
643	American coot			2 TO 215 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			1 TO 116 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			2 TO 30 IND/SQ MI	X	X	X	X	X				X	X	X	X	-	-	-
	Canvasback			UP TO 21 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			10 TO 243 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			6 TO 86 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			UP TO 41 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			20 TO 99 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			3 TO 18 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			2 TO 70 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			UP TO 24 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			UP TO 56 IND/SQ MI	X	X	X							X	X	X	-	-	-
645	American coot			33 TO 165 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			3 TO 73 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			9 TO 34 IND/SQ MI	X	X	X	X	X				X	X	X	X	-	-	-
	Canvasback			UP TO 6 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			36 TO 240 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			9 TO 144 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			2 TO 35 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			4 TO 66 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			8 TO 15 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			UP TO 39 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			4 TO 34 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			2 TO 36 IND/SQ MI	X	X	X							X	X	X	-	-	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
392	Largemouth bass			LOW	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
579	Atlantic croaker			5	5	5	5	5	5	5	5	4	4	4	4	5	-	-	AUG-APR	JAN-DEC	-
	Bay anchovy			5	5	5	5	5	5	5	5	5	5	5	5	5	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black drum			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	JAN-APR	JAN-DEC	-
	Crevalle jack			3	2	2	2	3	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	-
	Red drum			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	AUG-MAR	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			4	3	3	3	3	4	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Spot			5	5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	4	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
582	Atlantic croaker			5	5	3	4	4	5	5	5	5	4	4	4	5	-	-	AUG-JAN	JAN-DEC	-
	Bay anchovy			5	5	4	4	4	5	5	5	5	5	5	5	5	MAY-JAN	APR-JAN	APR-JAN	JAN-DEC	-
	Black drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	JAN-JAN	JAN-DEC	-
	Crevalle jack			3	2	2	2	2	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	4	4	4	5	5	5	5	5	5	4	5	-	-	-	JAN-DEC	-
	Gulf sturgeon		T	2	2	2	2	2	2	2	2	2				2	-	-	-	DEC-AUG	-
	Red drum			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	2	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2				2	2	2	2	2	2	2			-	-	-	MAY-NOV	-
	Spot			5	5	2	2	2	5	5	5	5	4	4	3	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	3	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
600	Black drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Florida pompano			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf menhaden			5	5	5	4	4	4	5	5	5	5	5	5	5	JAN-DEC	SEP-MAY	JAN-DEC	JAN-DEC	-
	Gulf sturgeon		T	2	2	2	2	2	2	0	0	0	0	0	0	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Red drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Sheepshead			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Southern flounder			4	3	3	4	4	4	4	4	4	4	4	4	3	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Spanish mackerel			4	2	2	3	3	3	4	4	4	4	4	4	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Striped mullet			4	3	3	4	4	4	4	4	4	3	3	3	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Tarpon			3	2	2	2	2	2	3	3	3	3	3	3	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
579	Bay squid			2	2	2	2	2	2	2	2	2	2	2	2	2	MAR-NOV	MAR-NOV	MAR-NOV	JAN-DEC	-
	Blue crab			5	4	4	4	4	4	5	5	5	5	4	4	4	-	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	4	4	5	5	4	4	4	4	3	3	3	-	-	JAN-DEC	JAN-DEC	-
	Gulf stone crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Pink shrimp			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-OCT	JAN-DEC	-
	White shrimp			4	3	3	3	3	4	4	4	4	4	4	4	3	-	-	MAY-DEC	JAN-DEC	-
582	Bay squid			2	2			2	2	2	2	2	2	2	2	2	-	-	MAY-NOV	MAY-JAN	-
	Blue crab			5	3	3	3	4	5	5	5	5	4	3	3	3	-	MAY-JAN	MAY-JAN	JAN-DEC	-
	Brown shrimp			5	3	3	3	5	4	4	4	4	3	3	3	3	-	-	MAY-JAN	JAN-DEC	-
	Gulf stone crab			3	3			3	3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	-
	Pink shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-SEP	JAN-DEC	-
	White shrimp			3	3	2	2	2	3	3	3	3	3	3	3	3	-	-	MAY-DEC	JAN-DEC	-
600	Blue crab			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	3	4	4	4	5	5	5	4	4	4	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Florida stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Gulf stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Pink shrimp			4	3	3	3	3	3	4	4	4	4	4	4	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	White shrimp			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-

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Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

Louisiana ESI: ESIMAP 57 (cont.)

BIOLOGICAL RESOURCES: (cont.)

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
639	American alligator			661 TO 9 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC
640	American alligator			593 TO 38 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC

TERRESTRIAL MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
635	Common raccoon			86 TO 42 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			223 TO 179 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			36 TO 17 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			2036 TO 828 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			3 TO 2 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
636	Common raccoon			77 TO 73 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			329 TO 220 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			99 TO 6 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			1258 TO 423 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			6 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X

HUMAN USE RESOURCES:

WILDLIFE REFUGE:

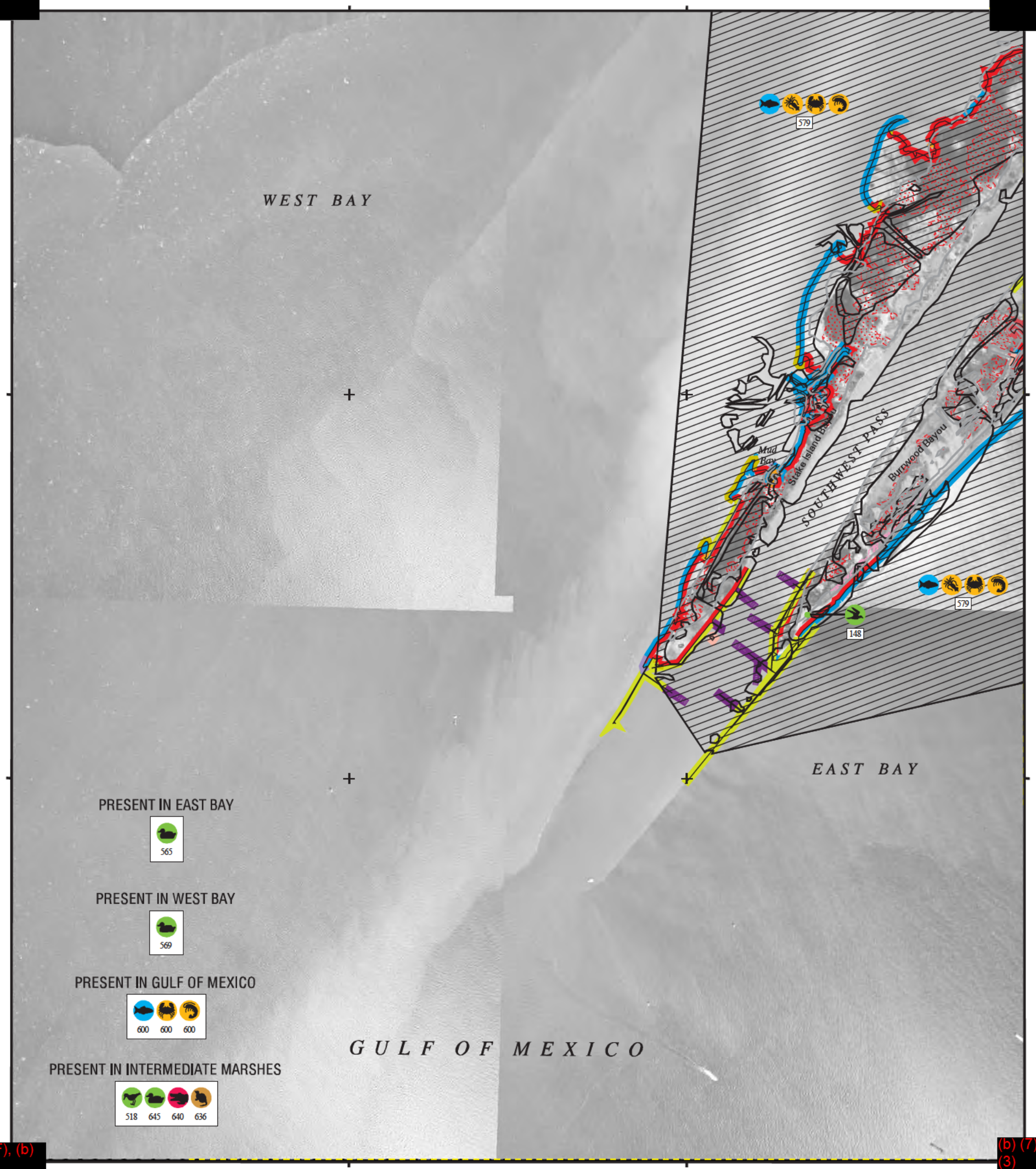
HUN#	Name	Owner	Contact	Phone
122	PASS A LOUTRE WMA		LDWF	

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

ENVIRONMENTAL SENSITIVITY INDEX MAP

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)



PRESENT IN EAST BAY

565

PRESENT IN WEST BAY

569

PRESENT IN GULF OF MEXICO

600 600 600

PRESENT IN INTERMEDIATE MARSHES

518 645 640 636

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

SHORELINE

1988 SHORELINE

2001 SHORELINE

NOTE FOR COASTAL MAPS:

Due to the dynamic nature of the Louisiana coastline, biological resources may represent historical locations that do not correspond with the depicted shoreline.

SHORELINE HABITATS (ESI)

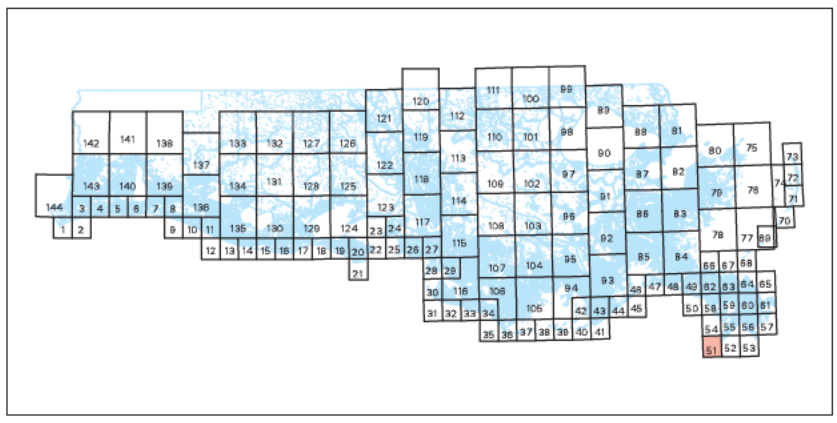
2001 ESI Shoreline Classification

- 1B EXPOSED, SOLID MAN-MADE STRUCTURES
- 2A EXPOSED WAVE-CUT PLATFORMS IN CLAY
  2B EXPOSED SCARPS AND STEEP SLOPES IN CLAY
- 3A FINE- TO MEDIUM-GRAINED SAND BEACHES
  3B SCARPS AND STEEP SLOPES IN SAND
- 4 COARSE-GRAINED SAND BEACHES
- 5 MIXED SAND AND GRAVEL BEACHES
- 6A GRAVEL BEACHES
- 6B RIPRAP
- 7 EXPOSED TIDAL FLATS
- 8A SHELTERED ROCKY SHORES AND SHELTERED SCARPS IN MUD OR CLAY
- 8B SHELTERED, MAN-MADE STRUCTURES
- 8C SHELTERED RIPRAP
- 9A SHELTERED TIDAL FLATS
  9B SHELTERED, VEGETATED LOW BANKS
- 10A SALT- AND BRACKISH-WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C FRESHWATER SWAMPS
- 10D SCRUB-SHRUB WETLANDS

COASTAL HABITATS

Based on 1988 Digital Shoreline

- 10A SALT MARSH
- 10A BRACKISH MARSH
- 10A INTERMEDIATE MARSH
- 10B FRESHWATER MARSH
- 10C FORESTED WETLAND
- 10D SCRUB- SHRUB WETLAND
- SEAGRASS



N W E S

SCALE 1:50000

1 5 0 1 KILOMETER

1 5 0 1 MILE

Not For Navigation

December 2003

Published at Seattle, Washington
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Response and Restoration
Hazardous Materials Response Division

BURRWOOD BAYOU WEST LA-51

Louisiana ESI: ESIMAP 51

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
148	Black skimmer			50 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
518	Shorebirds						X	X	X		X	X	X	X			-	-	-
565	Lesser scaup			40 IND/SQ MI	X	X	X							X	X	X	-	-	-
569	Lesser scaup			49 IND/SQ MI	X	X	X							X	X	X	-	-	-
645	American coot			33 TO 165 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			3 TO 73 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			9 TO 34 IND/SQ MI	X	X	X	X	X				X	X	X	X	-	-	-
	Canvasback			UP TO 6 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			36 TO 240 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			9 TO 144 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			2 TO 35 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			4 TO 66 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			8 TO 15 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			UP TO 39 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			4 TO 34 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			2 TO 36 IND/SQ MI	X	X	X							X	X	X	-	-	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
579	Atlantic croaker			5	5	5	5	5	5	5	5	4	4	4	4	5	-	-	AUG-APR	JAN-DEC	-
	Bay anchovy			5	5	5	5	5	5	5	5	5	5	5	5	5	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black drum			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	JAN-APR	JAN-DEC	-
	Crevalle jack			3	2	2	2	3	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	-
	Red drum			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	AUG-MAR	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			4	3	3	3	3	4	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Spot			5	5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	4	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
600	Black drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Florida pompano			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf menhaden			5	5	5	4	4	4	5	5	5	5	5	5	5	JAN-DEC	SEP-MAY	JAN-DEC	JAN-DEC	-
	Gulf sturgeon	T		2	2	2	2	2	2	0	0	0	0	0	0	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Red drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Sheepshead			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Southern flounder			4	3	3	4	4	4	4	4	4	4	4	4	3	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Spanish mackerel			4	2	2	3	3	3	4	4	4	4	4	4	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Striped mullet			4	3	3	4	4	4	4	4	4	3	3	3	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Tarpon			3	2	2	2	2	2	3	3	3	3	3	3	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
579	Bay squid			2	2	2	2	2	2	2	2	2	2	2	2	2	MAR-NOV	MAR-NOV	MAR-NOV	JAN-DEC	-
	Blue crab			5	4	4	4	4	4	5	5	5	5	4	4	4	-	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	4	4	5	5	4	4	4	4	3	3	3	-	-	JAN-DEC	JAN-DEC	-
	Gulf stone crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Pink shrimp			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-OCT	JAN-DEC	-
	White shrimp			4	3	3	3	3	3	4	4	4	4	4	4	3	-	-	MAY-DEC	JAN-DEC	-
600	Blue crab			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	3	4	4	4	5	5	5	4	4	4	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Florida stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Gulf stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Pink shrimp			4	3	3	3	3	3	4	4	4	4	4	4	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	White shrimp			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
640	American alligator			593 TO 38 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC

TERRESTRIAL MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
636	Common raccoon			77 TO 73 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			329 TO 220 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			99 TO 6 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			1258 TO 423 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			6 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

ENVIRONMENTAL SENSITIVITY INDEX MAP

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

SOUTHWEST PASS

EAST BAY

Buttonwood Bayou

233

GULF OF MEXICO

PRESENT IN EAST BAY

579 579 579 579

PRESENT IN GULF OF MEXICO

565 600 600 600

PRESENT IN INTERMEDIATE MARSHES

518 645 640 636

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

SHORELINE

1988 SHORELINE

2001 SHORELINE

NOTE FOR COASTAL MAPS:

Due to the dynamic nature of the Louisiana coastline, biological resources may represent historical locations that do not correspond with the depicted shoreline.

SHORELINE HABITATS (ESI)

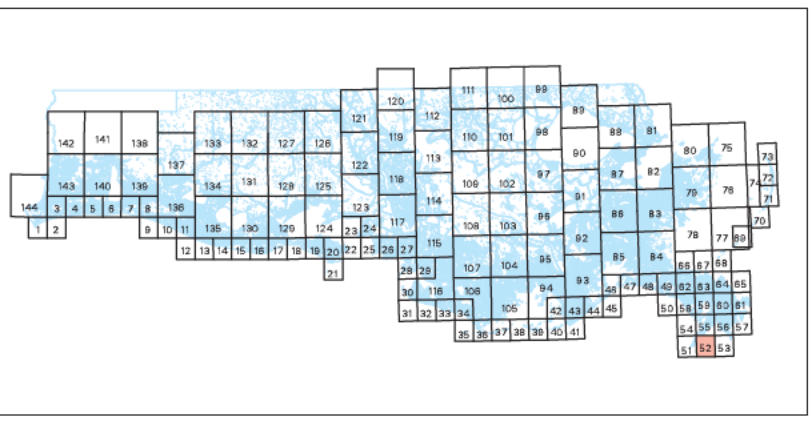
2001 ESI Shoreline Classification

- 1B EXPOSED, SOLID MAN-MADE STRUCTURES
- 2A EXPOSED WAVE-CUT PLATFORMS IN CLAY
  2B EXPOSED SCARPS AND STEEP SLOPES IN CLAY
- 3A FINE- TO MEDIUM-GRAINED SAND BEACHES
  3B SCARPS AND STEEP SLOPES IN SAND
- 4 COARSE-GRAINED SAND BEACHES
- 5 MIXED SAND AND GRAVEL BEACHES
- 6A GRAVEL BEACHES
- 6B RIPRAP
- 7 EXPOSED TIDAL FLATS
- 8A SHELTERED ROCKY SHORES AND SHELTERED SCARPS IN MUD OR CLAY
- 8B SHELTERED, MAN-MADE STRUCTURES
- 8C SHELTERED RIPRAP
- 9A SHELTERED TIDAL FLATS
  9B SHELTERED, VEGETATED LOW BANKS
- 10A SALT- AND BRACKISH-WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C FRESHWATER SWAMPS
- 10D SCRUB-SHRUB WETLANDS

COASTAL HABITATS

Based on 1988 Digital Shoreline

- 10A SALT MARSH
- 10A BRACKISH MARSH
- 10A INTERMEDIATE MARSH
- 10B FRESHWATER MARSH
- 10C FORESTED WETLAND
- 10D SCRUB- SHRUB WETLAND
- SEAGRASS



N W E S

SCALE 1:50000

1 5 0 1 KILOMETER

1 5 0 1 MILE

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Office of Response and Restoration
Hazardous Materials Response Division

Not For Navigation

BURRWOOD BAYOU EAST LA-52

Louisiana ESI: ESIMAP 52

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
233	Black skimmer			50 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
	Forster's tern			1 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
518	Shorebirds						X	X	X		X	X	X	X			-	-	-
565	Lesser scaup			40 IND/SQ MI	X	X	X							X	X	X	-	-	-
645	American coot			33 TO 165 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			3 TO 73 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			9 TO 34 IND/SQ MI	X	X	X	X	X				X	X	X	X	-	-	-
	Canvasback			UP TO 6 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			36 TO 240 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			9 TO 144 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			2 TO 35 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			4 TO 66 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			8 TO 15 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			UP TO 39 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			4 TO 34 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			2 TO 36 IND/SQ MI	X	X	X							X	X	X	-	-	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
579	Atlantic croaker			5	5	5	5	5	5	5	5	4	4	4	4	5	-	-	AUG-APR	JAN-DEC	-
	Bay anchovy			5	5	5	5	5	5	5	5	5	5	5	5	5	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black drum			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	JAN-APR	JAN-DEC	-
	Crevalle jack			3	2	2	2	3	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	-
	Red drum			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	AUG-MAR	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			4	3	3	3	3	4	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Spot			5	5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	4	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
600	Black drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Florida pompano			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf menhaden			5	5	5	4	4	4	5	5	5	5	5	5	5	JAN-DEC	SEP-MAY	JAN-DEC	JAN-DEC	-
	Gulf sturgeon	T		2	2	2	2	2	2	0	0	0	0	0	0	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Red drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Sheepshead			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Southern flounder			4	3	3	4	4	4	4	4	4	4	4	4	3	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Spanish mackerel			4	2	2	3	3	3	4	4	4	4	4	4	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Striped mullet			4	3	3	4	4	4	4	4	4	3	3	3	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Tarpon			3	2	2	2	2	2	3	3	3	3	3	3	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
579	Bay squid			2	2	2	2	2	2	2	2	2	2	2	2	2	MAR-NOV	MAR-NOV	MAR-NOV	JAN-DEC	-
	Blue crab			5	4	4	4	4	4	5	5	5	5	4	4	4	-	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	4	4	5	5	4	4	4	4	3	3	3	-	-	JAN-DEC	JAN-DEC	-
	Gulf stone crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Pink shrimp			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-OCT	JAN-DEC	-
	White shrimp			4	3	3	3	3	3	4	4	4	4	4	4	3	-	-	MAY-DEC	JAN-DEC	-
600	Blue crab			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	3	4	4	4	5	5	5	4	4	4	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Florida stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Gulf stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Pink shrimp			4	3	3	3	3	3	4	4	4	4	4	4	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	White shrimp			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
640	American alligator			593 TO 38 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC

TERRESTRIAL MAMMAL:

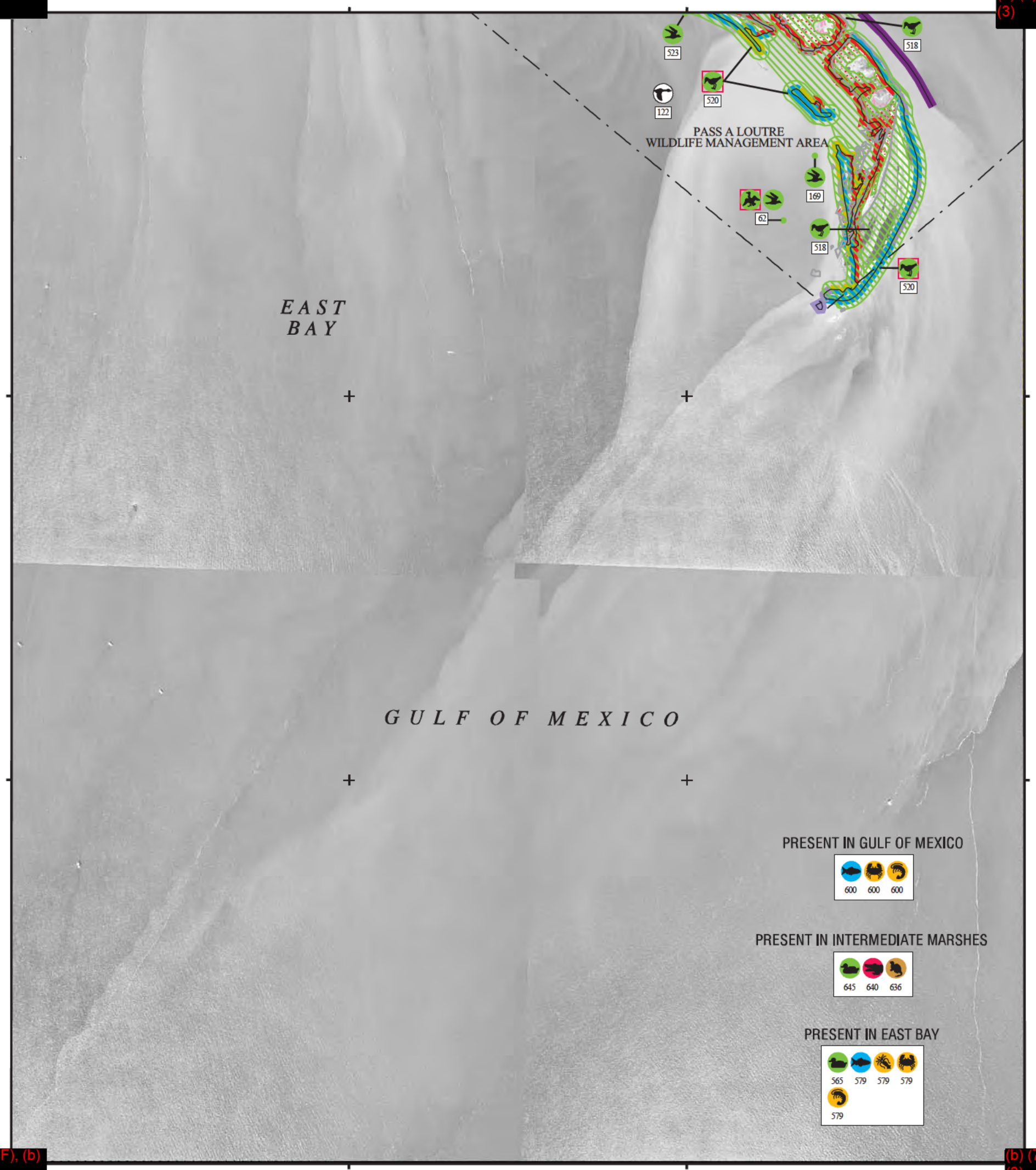
RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
636	Common raccoon			77 TO 73 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			329 TO 220 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			99 TO 6 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			1258 TO 423 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			6 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

ENVIRONMENTAL SENSITIVITY INDEX MAP

(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)



(b) (7)(F), (b) (3)

(b) (7)(F), (b) (3)

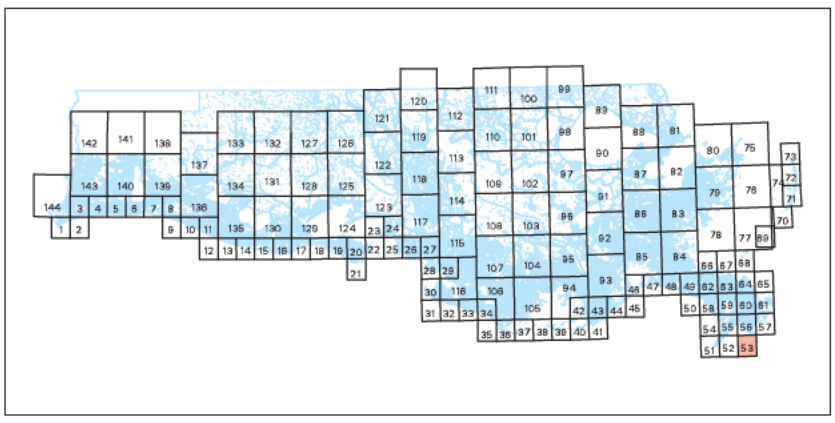
SHORELINE

1988 SHORELINE

2001 SHORELINE

NOTE FOR COASTAL MAPS:

Due to the dynamic nature of the Louisiana coastline, biological resources may represent historical locations that do not correspond with the depicted shoreline.



SHORELINE HABITATS (ESI)

2001 ESI Shoreline Classification

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- 2A EXPOSED WAVE-CUT PLATFORMS IN CLAY
  2B EXPOSED SCARPS AND STEEP SLOPES IN CLAY
- 3A FINE- TO MEDIUM-GRAINED SAND BEACHES
  3B SCARPS AND STEEP SLOPES IN SAND
- 4 COARSE-GRAINED SAND BEACHES
- 5 MIXED SAND AND GRAVEL BEACHES
- 6A GRAVEL BEACHES
- 6B RIPRAP
- 7 EXPOSED TIDAL FLATS
- 8A SHELTERED ROCKY SHORES AND SHELTERED SCARPS IN MUD OR CLAY
- 8B SHELTERED, MAN-MADE STRUCTURES
- 8C SHELTERED RIPRAP
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- 10A SALT- AND BRACKISH-WATER MARSHES
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COASTAL HABITATS

Based on 1988 Digital Shoreline

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N W E S

SCALE 1:50000

1 5 0 1 KILOMETER

1 5 0 1 MILE

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SOUTH OF SOUTH PASS LA-53

Louisiana ESI: ESIMAP 53

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
62	Brown pelican		E	3 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	NOV-JUL	-	-
	Forster's tern			45 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Laughing gull			171 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	-	-
	Royal tern			48 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-
	Sandwich tern			44 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-
169	Black skimmer			50 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
	Least tern			4 IND (90-99AV)			X	X	X	X	X	X	X				APR-SEP	-	-
	Royal tern			10 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-
518	Shorebirds						X	X	X		X	X	X	X			-	-	-
520	Piping plover		T		X	X	X	X	X			X	X	X	X	X	-	-	-
	Shorebirds						X	X	X		X	X	X	X			-	-	-
523	Black skimmer			63 IND (90-99AV)	X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
565	Lesser scaup			40 IND/SQ MI	X	X	X							X	X	X	-	-	-
645	American coot			33 TO 165 IND/SQ MI	X	X	X							X	X	X	-	-	-
	American wigeon			3 TO 73 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Blue-winged teal			9 TO 34 IND/SQ MI	X	X	X	X	X			X	X	X	X	X	-	-	-
	Canvasback			UP TO 6 IND/SQ MI	X	X	X								X	X	-	-	-
	Gadwall			36 TO 240 IND/SQ MI	X	X	X	X						X	X	X	-	-	-
	Green-winged teal			9 TO 144 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Hooded merganser			PRESENT	X	X	X								X	X	-	-	-
	Lesser scaup			2 TO 35 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mallard			4 TO 66 IND/SQ MI	X	X	X							X	X	X	-	-	-
	Mottled duck			8 TO 15 IND/SQ MI	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Northern pintail			UP TO 39 IND/SQ MI	X	X	X						X	X	X	X	-	-	-
	Northern shoveler			4 TO 34 IND/SQ MI	X	X	X	X					X	X	X	X	-	-	-
	Ring-necked duck			2 TO 36 IND/SQ MI	X	X	X							X	X	X	-	-	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
579	Atlantic croaker			5	5	5	5	5	5	5	5	4	4	4	4	5	-	-	AUG-APR	JAN-DEC	-
	Bay anchovy			5	5	5	5	5	5	5	5	5	5	5	5	5	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Black drum			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	JAN-APR	JAN-DEC	-
	Crevalle jack			3	2	2	2	3	3	2	2	2	3	3	2	2	-	-	-	JAN-DEC	-
	Gizzard shad			3	3	3	3	3	3	3	3	3	3	3	3	3	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	-
	Gulf menhaden			5	5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	-
	Red drum			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	AUG-MAR	JAN-DEC	-
	Sand seatrout			4	3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	-
	Sheepshead			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Silver perch			4	3	3	3	3	4	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Southern flounder			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Spanish mackerel			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Spot			5	5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Striped mullet			4	4	4	3	4	4	4	4	4	4	4	3	4	-	-	-	JAN-DEC	-
	Tarpon			2	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
600	Black drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Florida pompano			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Gulf menhaden			5	5	4	4	4	5	5	5	5	5	5	5	5	JAN-DEC	SEP-MAY	JAN-DEC	JAN-DEC	-
	Gulf sturgeon		T	2	2	2	2	2	2	0	0	0	0	0	0	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Red drum			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Sheepshead			4	4	4	4	4	4	4	4	4	4	4	4	4	JAN-DEC	DEC-MAY	JAN-DEC	JAN-DEC	-
	Southern flounder			4	3	3	4	4	4	4	4	4	4	4	4	3	JAN-DEC	SEP-FEB	JAN-DEC	JAN-DEC	-
	Spanish mackerel			4	2	2	3	3	3	4	4	4	4	4	4	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Spotted seatrout			3	3	3	3	3	3	3	3	3	3	3	3	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Striped mullet			4	3	3	4	4	4	4	4	4	3	3	3	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Tarpon			3	2	2	2	2	2	3	3	3	3	3	3	2	JAN-DEC	-	JAN-DEC	JAN-DEC	-

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
579	Bay squid			2	2	2	2	2	2	2	2	2	2	2	2	2	MAR-NOV	MAR-NOV	MAR-NOV	JAN-DEC	-
	Blue crab			5	4	4	4	4	4	5	5	5	5	4	4	4	-	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	4	4	5	5	4	4	4	4	3	3	3	-	-	JAN-DEC	JAN-DEC	-
	Gulf stone crab			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	Pink shrimp			3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-OCT	JAN-DEC	-
	White shrimp			4	3	3	3	3	3	4	4	4	4	4	4	3	-	-	MAY-DEC	JAN-DEC	-
600	Blue crab			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	Brown shrimp			5	3	3	4	4	4	5	5	5	4	4	4	3	JAN-DEC	-	JAN-DEC	JAN-DEC	-
	Florida stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Gulf stone crab			2	2	2	2	2	2	2	2	2	2	2	2	2	JAN-DEC	MAR-NOV	JAN-DEC	JAN-DEC	-
	Pink shrimp			4	3	3	3	3	3	4	4	4	4	4	4	3	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-
	White shrimp			5	4	4	4	4	4	5	5	5	5	5	5	4	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
640	American alligator			593 TO 38 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X	JUN-AUG	AUG-SEP	-	JAN-DEC	JAN-DEC

TERRESTRIAL MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
636	Common raccoon			77 TO 73 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Mink			329 TO 220 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Muskrat			99 TO 6 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Northern river otter			1258 TO 423 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X
	Nutria			6 TO 3 AC/NEST	X	X	X	X	X	X	X	X	X	X	X	X

HUMAN USE RESOURCES:

WILDLIFE REFUGE:

HUN#	Name	Owner	Contact	Phone
122	PASS A LOUTRE WMA		LDWF	

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impacts to protected species.

FOURCHON TERMINAL

FOURCHON TERMINAL TABLE OF CONTENTS

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QUALIFIED INDIVIDUALS/INCIDENT COMMANDER AUTHORIZATION

Qualified Individual - Company is authorizing all of its employees who are trained in Incident Command and who are functioning as the Incident Commander (IC) to be the Qualified Individual (QI). This financial authority is unique to spills and emergency releases and is not a part of Chevron Pipe Line's routine delegation of authority guidelines.

In the event of an oil spill or emergency release, Company employees who will be responding as Incident Commanders (IC/QIs) have the authority to:

1. Activate the Emergency Response Plan.

2. Activate and engage in contracting with oil spill removal organizations. Commit resources from within Chevron Pipe Line, through the Corporate Oil Spill coordinator/staff, outside contractors, MSRC, cooperatives and as directed by the Federal or State On-Scene Coordinator

3. Act as liaison with the Federal or State On-Scene Coordinator and other federal and state officials.

4. Obligate funds required to carry out all necessary or directed response activities.

The response organization is critical to the management of an emergency response because of the large geographic areas covered by Company. Immediate response in remote areas is managed by local personnel who may be replaced by additional personnel if the magnitude of the spill warrants. The response of the additional personnel may take some time due to geography. It is impossible to name the specific individual who will be IC in advance. It will depend on the location of the spill, the size of the spill, and whether it is the initial response or a later phase in the clean-up process.

Various federal and state agencies have recognized the need for owners/operators to use a tiered response to allow for the transfer of authority upward as the extent of a spill is assessed. Agencies also acknowledge that response efforts often involve 24-hour efforts and authorities must be transferred in this "shift" work situation.

National Contingency Plan / Area Contingency Plan Consistency

Company certifies that it has reviewed the National Contingency Plan (NCP) and each applicable Area Contingency Plan (ACP) and that this Emergency Response Plan is consistent with the existing NCP and each existing applicable ACP.

INTRODUCTION

This Facility Response Manual (hereinafter referred to as the Plan) provides site-specific information for responding to a discharge incident at the Company's Fourchon Terminal. It supplements the Company Core Plan that provides comprehensive information on the general procedures to follow for effective oil spill response.

The Fourchon Terminal (hereinafter referred to as the Facility) is described in the Location Map, Facility Diagram and the Facility Description in this section.

Manual Information Summary

Refer to this volume for a summary of the plan.

The Operator of the Fourchon Terminal is:

Chevron Pipe Line Company
4800 Fournace Place
Bellaire, TX 77401-2324

Refer to Company Core Plan and the Louisiana State Appendix for comprehensive information on how to respond to and deal with oil spills.

Fourchon Terminal is part of the Louisiana Response Zone, Fourchon Response Area. Telephone numbers for contacting the QI for this facility are contained in the front pocket of this manual.

Fourchon Terminal Emergency Response Plan Summary

This plan covers spill incidents that could occur during Company's transfer or storage operations at the Fourchon Terminal. The Location Map, Facility Diagram and Facility Description provides complete details on the Facility.

Guidelines are provided for a spill incident that could result from the following scenarios. Techniques and response procedures are included for spills that could enter adjacent waterways and wetlands (guidelines and techniques are provided in Company Core Plan and in this State Appendix Plan:

- Tank overfill.
- Tank failure.
- Piping rupture.
- Piping leak, both under pressure and not under pressure.
- Explosion and/or fire.
- Equipment failure (e.g. pumping system failure, relief valve failure, etc.).

Response Area Classification

This Facility meets the criteria for "Substantial Harm". A spill from this Facility could reasonably be expected to cause significant and substantial harm to socio-economic or environmentally sensitive areas.

Worst Case Discharge Determination

The worst case discharge volume for this Facility is calculated to be 45,000 barrels. The volume was determined by utilizing the capacity of the largest single tank at the facility.

Worst Case Discharge Volume Calculations.

Discharge Scenario	Potential Oil Group	Volume
Average Most Probable (small)	3	50 Bbls
Maximum Most Probable (medium)	3	867 Bbls
Worst Case Discharge – DOT (largest tank)	(b) (7)(F), (b) (3) [redacted]	

These worst case discharge volumes are utilized in calculating the planning volume for response resources. The planning volume is used to determine the necessary on-water recovery capacity to respond within the three tiered response times. The identified oil spill recovery devices should be capable of arriving at the scene of a discharge within the time specified for the applicable response tier. (b) (7)(F), (b) (3) [redacted]. Section 3 of this Plan demonstrates a series of calculations and planning volume determinations based on guidance provided by the U. S. Coast Guard in the Navigation and Vessel Inspection Circular 7-92 and the February 5, 1993 Interim Final Rule - 33 CFR 154 as well as guidance from the U. S. DOT. The inclusion of these calculations is for demonstration of the response planning volumes and response capability necessary for on-water and on-shore recovery requirements as the result of the discharge scenarios detailed in the table above.

Plan Review and Update Procedures

This Plan will be reviewed and updated as follows:

- At least once each year, as part of a tabletop drill, the Field Teams and Support Teams will review the details of this plan and make appropriate revisions as required by operational or organizational changes.
- At the end of each hypothetical drill, the System Team will review those portions of this plan which were tested by the drill, and make changes as necessary.
- At the end of an emergency response, those teams involved in the response will review this plan as part of the spill response debriefing and submit changes as needed.
- As Area Contingency Plans are developed, this plan will be revised to meet the requirements of those plans by the HES Group.

- At least once each 12 months, the names and telephone numbers in this plan will be reviewed by the Field Team Leader and the HES Team and revisions made accordingly.
- The Emergency Response Specialist will provide assistance with the publication of the revisions provided by the field teams. However, the Qualified Individual for each Field Team and the Operations Manager are responsible for the completion of reviews and updates as outlined above.
- When revisions are received by a plan holder, the revisions should be immediately reviewed and inserted into the Plan and the obsolete pages discarded. This action should then be recorded on the "Revision Record" page included in the Foreword.
- Refer to the Plan Review and Update Procedures Section of Company Core Plan for additional information on updating procedures and submission of revisions.

References

Refer to the following sections in this Plan for additional information.

- Notification Procedures
- Response Actions
- Response Teams
- OSRO Information
- Response Equipment
- Dispersants
- MSDS Data
- Sampling
- Incident Command System
- Communications
- Spill Cleanup Procedures
- Federal Response Organization
- Public Relations
- Site Safety and Health Plan
- Documentation/Forms
- Glossary of Terms

Facility Description General Data

Facility Owner/Operator:	Chevron Pipe Line Company
Mailing Address:	Chevron Pipe Line Company Fourchon Terminal 165 Chevron Road Golden Meadow, LA 70357
Date of Oil Storage Start-up:	1949
Qualified Individual (QI):	All Qualified Individuals are identified on the phone list provided in the Front Binder Pocket.
SIC Code:	1311
Wellhead Protection:	NONE

Facility Location

Parish/State:	Lafourche Parish, Louisiana
Latitude:	(b) (7)(F), (b) (3) [redacted]
Longitude:	
Map:	Location Map - Provided in this Section Terminal Plot Plan - Provided in this Section
Landside Directions:	Approximately 10 ½ miles south of Leeville, Louisiana
Waterside Directions:	Approximately ½ mile inland from the Gulf of Mexico shoreline on Pass Fourchon. Approximately 1 ½ miles south-southeast from the divergence of Bayou LaFourche, Belle Pass, and Pass Fourchon.

Physical Description – General

Brief Overview:

The Facility is a bulk crude oil receiving, storage, metering and pumping facility. It consists of tanks, pumps and receipt and delivery pipelines. Crude oil enters Fourchon Terminal through seven pipelines varying from 4" to 12" diameter and extending offshore. Crude oil is stored in tanks and is pumped via pipeline to other locations. This facility does not conduct marine transportation related operations nor does it perform oil treating operations.

The storage tanks are all located on land with earthen berms providing secondary containment. The marsh, Pass Fourchon, Belle Pass and the Gulf of Mexico are the bodies of water in which rainwater drains and produced water is discharged.

The Facility is manned 10 hours per day seven days per week.

Product Handled: Heavy Louisiana Sweet (HLS) Crude oil

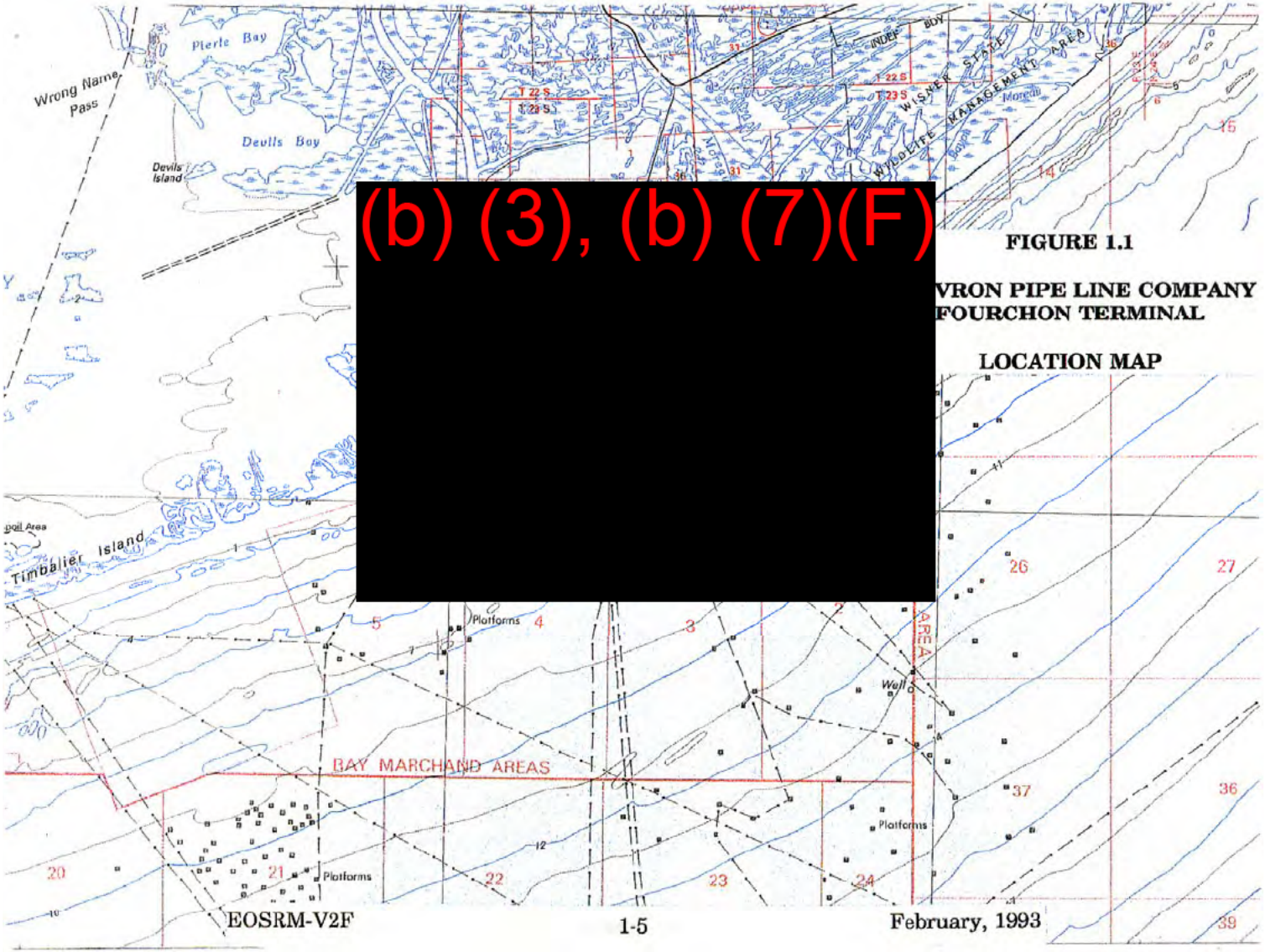
Marine Operations: No marine transfer operations are conducted at this facility

Fourchon DOT Regulated Breakout Tanks

Tank #	Service	Min. Oil Height	Min. BBLS	Max. Oil Height	Max. BBLS	Hurricane Min. Height	BBLS	Roof Type
44	HLS	(b) (7)(F), (b) (3)						Cone
4	HLS							Cone
33	HLS							Cone

General Operations

This Facility is a bulk crude oil receiving, storage, metering, and pumping facility. It consists of tanks, pumps and receipt and delivery pipelines. Crude oil enters through seven pipelines varying from 4” to 12” diameter and extending between two (2) and 45 miles offshore. Oil is stored in tanks and is pumped via pipeline to other locations. This facility does not conduct marine transportation related operations.

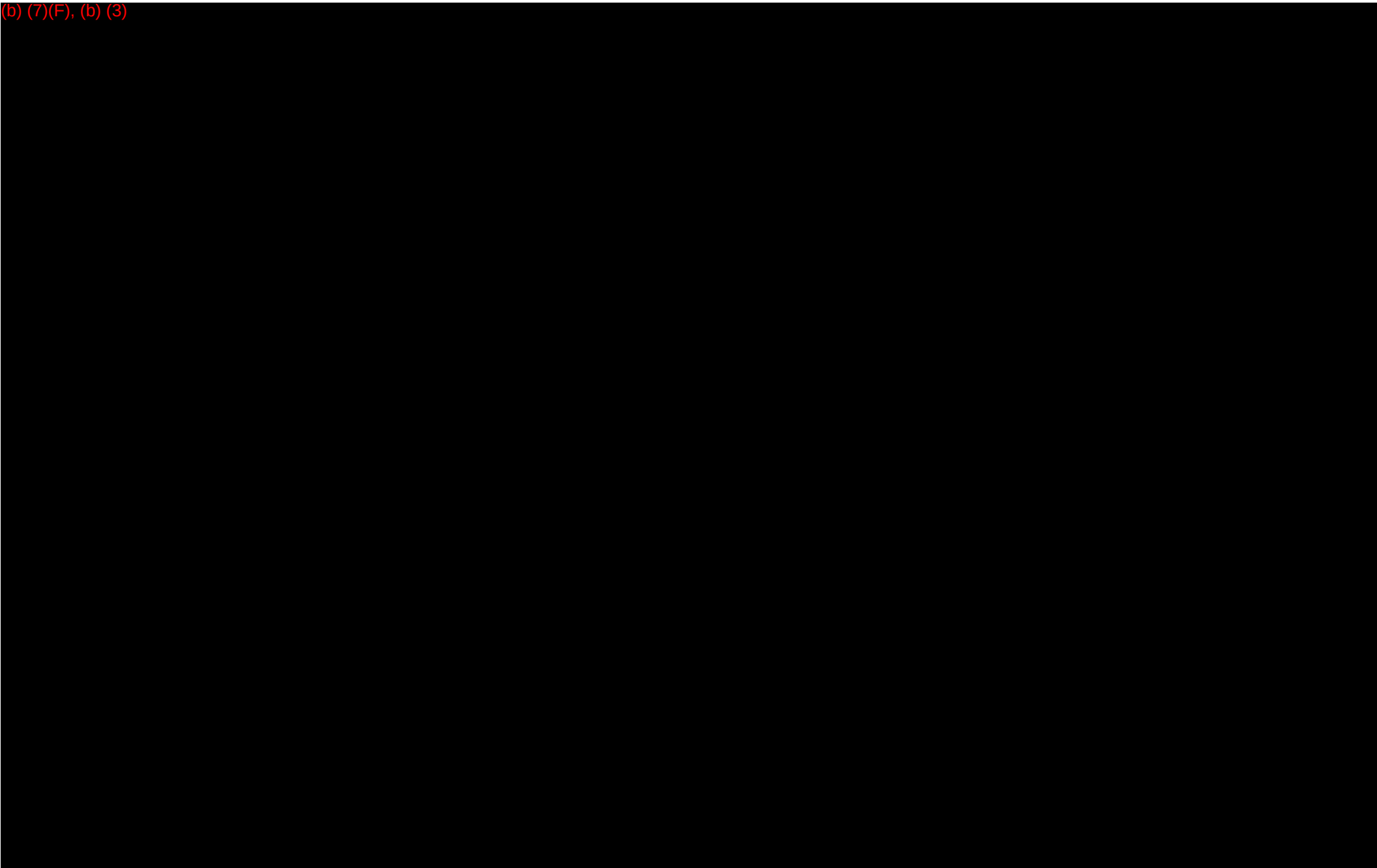

Pierle Bay
Wrong Name Pass
Devils Bay
Devils Island
T 22 S
T 23 S
WILDLIFE MANAGEMENT AREA
Morgan
Timbalier Island
Platforms
BAY MARCHAND AREAS
Well
AREA
Platforms
Platforms
20
21
22
23
24
26
27
36
37
39
(b) (3), (b) (7)(F)
FIGURE 1.1
VRON PIPE LINE COMPANY
FOURCHON TERMINAL
LOCATION MAP
EOSRM-V2F
1-5
February, 1993

(b) (7)(F), (b) (3)

[redacted]

Note: All tanks have been removed from the Bay Marchand Terminal

(b) (7)(F), (b) (3)



SPILL IMPACT CONSIDERATIONS

There are numerous factors that must be considered by the Incident Commander and the Response Teams when planning spill response activities. This Section provides summary information on the various planning concerns and Environmental Sensitivity Maps which demonstrate these spill impact considerations for the Response Area. Additional information on these factors is provided in Company Core Plan Clean Up Procedures.

Site Conditions

The pipeline segments in this Response Area traverse several different types of terrain including shorelines, open water, tidally affected marshlands/wetlands and mangroves. The spill site may have a number of characteristics that require special consideration when developing an action plan for spill response. The Environmental Sensitivity Maps should be referenced for an overview of the terrain surrounding the site and the potentially effected sensitivities.

Trajectory Analysis

Oil spilled on water will react primarily to the effects of wind and current. The oil will tend to spread to a thin layer under the influence of gravity (primary) and chemical (secondary) forces. Many variables warrant consideration during a response effort as well as the systems utilized to determine trajectory analysis. Additional information on trajectory analysis is provided in Company Core Plan Clean Up Procedures.

Surveillance Methods

The primary method of surveillance for the Response Area will be visual. Visual surveillance is not effective however in rain, fog, darkness or heavy cloud cover. Additional information on surveillance methods is provided in Company Core Plan Clean Up Procedures.

Environmental/Socio-Economic Sensitivities

Environmental and socio-economic sensitivities are of extreme importance when planning a response effort. The protection of the public and the environment, as well as the various socio-economic sensitivities, must be promptly addressed in order to mitigate the extent of damage and minimize the overall impact of the clean-up effort.

All environmental and socio-economic sensitivities are worthy of protection but must be prioritized during a response effort.

The Environmental Sensitivity Maps detail the location of the environmental and socio-economic sensitivities in the Response Area. The following describes a number of the sensitivities which may be impacted by a spill and that should be considered in planning the response operations:

Water Intake Points:

- Commercial/Industrial, municipal and private water intakes are subject to impact.
- These areas may need to be boomed off or otherwise protected to minimize impact.
- Claims due to safety/health, loss of use and damage may occur from these points.

Major Recreational Areas:

- A discharge effecting these areas may pose a public safety/health risk during a response effort.
- Shoreline access for personnel and equipment deployment (boats, boom, etc.) is typically available in these areas.

Marinas:

- These areas have a high degree of public exposure (personal and property) and should be boomed for protection.
- Boat and other water deployed equipment can often be deployed in these areas.

Environmental:

- Environmentally sensitive areas are prevalent throughout any marine and/or terrestrial environment and may be effected by any spill incident.
- Environmentally sensitive areas subjected to stress and sudden change can be severely damaged. All means of exclusion/diversion should be utilized during a response effort to minimize the impact on these areas.
- Critical areas to protect are identified on the Environmental Sensitivity Maps. The areas are classified as being of high, moderate and low sensitivity to oil impact. Federal and State authorities may further clarify these categories at the time of the response. The categories are defined as follows:

High Sensitivity
Areas that are high in productivity, extremely sensitive or inhabited by threatened/endangered species. Areas that consist of shallow seagrass flats, mangroves, tidally influenced marshes/wetlands and sheltered tidal flats with vegetated margins. Areas that are abundant in many species and are very difficult to clean and rehabilitate.

Moderate Sensitivity
Areas which are less sensitive and are able to partially resist the effects of oil. Areas which consist of the riparian zone along freshwater rivers with saltwedge, oyster reefs, exposed tidal flats, dredged spoil deposits and partially exposed bay margins.

Low Sensitivity
Areas of low productivity and/or high energy along with man-made structures. Areas that consist of sand-shell substrate, fine-grained sand, seawalls, jetties, bulkheads, revetments and erosional scarps.

Historical Areas:

- These areas typically have high visibility.
- Properties listed in the National Register of Historic Places & Natural Landmarks have been considered for inclusion on the Environmental Sensitivity Maps (**Note:** No historic areas have been identified in this region).

Residential Areas:

- These are areas with high public impact potential and may warrant evacuation in extreme cases.
- Cleanup must be performed with extreme caution due to extensive public exposure.
- These areas can result in claims due to safety/health, loss of use and damage may occur from these areas.

State and National Wildlife Management Areas and Refuges:

- These areas have a high degree of exposure to threatened/endangered species and many other types of wildlife.
- Cleanup efforts are delicate and of very high priority in these areas.

Staging Areas

Personnel and equipment staging areas will be required for the response operation. Potential staging areas have been identified on the Environmental Sensitivity Maps. The following qualities should be evaluated when establishing staging/access areas:

- Access to waterborne equipment launching facilities.
- Access to public services utilities (electricity, potable water, public phone, rest room and wash room facilities, etc.).
- Access to open space for staging/deployment of heavy equipment and personnel.
- Access to the environmental and socio-economically sensitive areas which are projected for impact.

Wildlife Protection

The areas adjacent to the facilities covered by this plan have an abundance of marine and terrestrial life that could be potentially affected by an oil spill. The U.S. Fish and Wildlife Service and the Louisiana Wildlife and Fisheries Department authorities will provide guidance and resources in the rehabilitation and protection of wildlife. Further details on Wildlife Protection are detailed in Company Core Plan.

Scenario Types

The occurrence of Small Discharge, Medium Discharge, or Worst Case Discharge (WCD) could be the result of any number of scenarios at the Facility including:

- Tank overfill and/or failure.
- Piping rupture.
- Piping leak, under pressure and not under pressure.
- Explosion or fire.
- Equipment failure (e.g. pumping system failure, relief valve failure, or other general equipment relevant to operational activities associated with internal or external facility transfers).

The response actions to each of these scenarios are outlined in this volume. The response resources are identified in a quick reference format in this volume. Facility response personnel list/telephone numbers and other internal/external resources telephone numbers are detailed in the Front Binder Pocket.

Response Capability Scenarios

Small Discharge = 50 Bbls

Facility Response Resources/Capability

The Facility will respond to a Small Discharge with the manpower detailed in the Front Binder Pocket as well as local contract resources as detailed in the Front Binder Pocket, and throughout this volume. The response resources will include:

- Oil containment and recovery devices can be secured from contract resources (with a minimum effective daily recovery capacity of 50 Bbls) and can be implemented at the Facility, as the situation demands.
- A minimum of 100 Bbls of oil storage capacity for recovered oily material can be secured from contractor resources or made available within the Facility's storage facilities, as the situation demands.
- Additional recovery and storage equipment may be secured from other contract resources, as the situation demands.
- In the unlikely event that a 50 Bbl discharge potentially escaped the Facility's containment area it would migrate through the marsh into one of the waterways in the vicinity of the Facility.

- Facility personnel would immediately activate contract resources as the situation demands.

Note: Reference to the equipment resources detailed herein is included in this manual. Telephone reference is provided in the ERAP located in the front binder pocket of this State Appendix.

Medium Discharge = 857 Bbls

Facility Response Resources/Capability

The Facility will initially respond to a Medium Discharge with a similar response to the Small Discharge. Additional response resources will be activated from an Oil Spill Removal Organization(s) (OSRO) as detailed in the Front Binder Pocket and in this manual. The additional response resources will arrive within the Tier 1 and will include:

- Oil recovery devices with an effective daily recovery capacity of 428 Bbls (50% of the Medium Discharge volume) secured from the OSRO(s) will be on scene within Tier 1.
- 857 Bbls of oil storage capacity for recovered oily material will be secured from the OSRO(s) and/or made available within the Facility's storage facilities.
- Containment boom for oil collection and containment and for protection of fish and wildlife and sensitive areas will secured from the OSRO(s) in the event that the spill escapes the boundaries of the Facility.

Notes: Reference to the equipment resources detailed herein is included in this manual. Telephone reference is provided in the ERAP located in the front binder pocket of this State Appendix.

Worst Case Discharge = (b) (7)(F), (b) (3)

Facility Response Capability

The Facility will respond to a Worst Case Discharge (WCD) initially with a similar response as identified for a Small or Medium Discharge. Additional OSRO(s) will be activated as the situation demands. The response resources will be capable of arriving within the required response tiers and will include:

- Oil recovery devices with an effective daily recovery capacity equal to the lesser of 50% of the WCD or the response caps will be secured from the OSRO(s) and other resources. Any amount in excess of the required caps will be contracted for and responded to as part of the same response effort.
- Temporary storage capacity equal to twice the daily recovery capacity will be secured from OSRO(s), other resources, or made available within the Facility's storage facilities.
- At least 20% of the on-water response equipment secured from the OSRO(s) and other resources will be capable of operating in water depths of 6 feet or less.

Facility Response Capability

- Containment boom for oil collection and containment and for protection of fish and wildlife and sensitive environments and socio-economic sensitivities will be secured from the OSRO(s) and other resources.

Note: Reference to the equipment resources detailed herein is included in this manual. Telephone reference is provided in the ERAP located in the front binder pocket of this State Appendix.

FACILITY EVACUATION PLAN

(b) (7)(F), (b) (3)

[redacted]

SPILL MITIGATION AND PREVENTION

General Operation

The facility is a bulk receiving, storage, metering and pumping facility. The storage tanks are all located on land with earthen berms providing secondary containment. The marsh, Pass Fourchon, Belle Pass and the Gulf of Mexico are the bodies of water in which rainwater drains.

Potential Oil Spill Sources

The reasonably expected modes of equipment failure and/or human error in which oil could be spilled at the facility are the following:

- Storage tank leak or rupture. The total quantity of oil that could be discharged would not exceed the working capacity of the largest tank, which is 45,000 bbls at the Fourchon Terminal. The rate of flow would be variable depending on the size and location of the tank failure. If the secondary containment should fail, the direction of flow from Fourchon Terminal would be generally south through the marsh into ditches connected to Pass Fourchon, Belle Pass and the Gulf of Mexico.
- Tank overflow could result from equipment failure (failure of overfill protection equipment) or human error. The rate of flow would be about 1,250 bbls/hr in the Fourchon Terminal based on maximum single pipeline delivery rate into tankage. The total quantity of oil discharged would be proportional to the length of time the tank is overflowing into the secondary containment areas.
- Process rupture or leak. A process piping rupture could spill into the Dead End Canal before shutdown. Oil spilled in the Dead End Canal would be contained by deploying a harbor boom.

Spill Minimization

The following containment and/or diversionary structures or equipment, engineering design features and operating practices are in place at the Terminal to minimize the impact or potential spills to the navigable waters of the United States.

- The oil storage tanks at the Fourchon tank field have secondary containment of earthen dikes which are sufficiently impervious to spilled oil. Each secondary containment volume for the tanks contain the contents of the largest tank plus freeboard for precipitation.
- Drainage from the tanks' secondary containment dikes is through drain lines with manual open-and-close design valves. Fourchon Terminal secondary containment drain valves are all standard approved valves for this service and are locked in the closed position except when draining rainwater from the containment area.

- Drainage from diked areas is in accordance with the Louisiana water discharge permit for the facility. In case of a spill, the rainwater will not be drained until the oil is cleaned up.
- A record of inspection and drainage from secondary containment areas is retained on file at the facility.
- The tanks in the Fourchon tank field are of welded steel API design with cone roofs. The tanks are equipped with internal floating roofs. Each tank is equipped with remote gauging to the Terminal office and a high liquid level alarm which annunciates in the office. All tanks are externally coated.
- The terminal operator observes for any leaks during his daily routine and any sign of leakage is reported to the Fourchon Terminal Team Leader. The Fourchon Terminal Team Leader conducts regular tankage inspections annually. Visible oil leaks from tanks or other appurtenances are promptly corrected.
- Coating and wrapping or other methods of corrosion protection are standard procedures for buried or submarine pipelines. Cathodic protection is provided where needed. When buried pipe is exposed, it is inspected for deterioration. If corrosion damage is found, additional examination and corrective action is taken.
- When a pipeline is not in service or is in standby service for an extended period of time, the terminal connection at the transfer point is isolated, capped, or blind flanged, as well as marked, or the on/off switch tagged as to its origin.
- Pipe supports are properly designed to minimize abrasion and corrosion, to allow for expansion and contraction and to adequately support thrust loading to bends.
- All aboveground valves and pipelines are inspected for leakage, damage, or wear and formal inspections are conducted annually. Periodic pressure testing is conducted for piping in areas where a failure might lead to a spill event as a result of pipe failure. Records of inspections are maintained in facility files for three years.
- Facility drainage systems or sumps are adequately engineered to prevent spills from reaching the navigable waters in the event of equipment failure or human error at the facility.

Security

(b) (7)(F), (b) (3)

Fourchon Discussion

Drainage from the areas outside of the secondary containment berms is into the Dead End Canal, which can be easily boomed, or into the California Company canal between Fourchon and Bay.

(b) (3), (b) (7)(F)

Drainage from the areas outside of the secondary containment berms is to the southeast into the canal between Fourchon and Bay Marchand portions of the Terminal.

Facility Drainage

Drainage from diked storage areas is controlled as follows:

- Fourchon Terminal's elevation has subsided to the point that water accumulations inside of the berms for Tanks 04, 33 & 44 must be lifted artificially to the outflows.
- Daily inspections are recorded and they are maintained in the Terminal files.

Drainage from undiked areas is controlled as follows:

- A Dead End Canal is located on the west side of Fourchon which can be easily equipped with a floating oil boom to intercept any spills.
- Oil can be recovered from this basin and returned to the facility.
- The other sides of Fourchon and all of Bay Marchand Terminal drain into waterways where booms could be deployed to intercept an oil spill.
- Oil would be removed with a skimmer, pumps, or sorbent materials and returned to the treaters for recovery.
- The procedure for supervising the drainage of rainwater from secondary containment into a storm drain or an open watercourse is as follows:
- The water is visually inspected for any oil accumulation or sheen in accordance with the procedure located in this manual before draining water out of secondary containment areas.

Bulk Storage Tanks

Tank Design:

- All tank shells and bottoms are constructed of carbon steel according to API or UL specifications.
- The materials are compatible with the stored products at storage temperatures and pressures
- The Fourchon storage tanks are cone roof design with internal floating roofs and high level alarms.

Secondary Containment:

- Earthen berms constructed of local materials are used as secondary containment for the storage tanks.
- The volumes for each are given in this section.

Secondary Containment

The following containment and/or diversionary structures or equipment to prevent an oil spill from reaching waters of the state are provided:

Area	**Containment**
Crude Oil	Tanks consisting of earthen dikes sufficiently impervious to contain spilled oil are provided around the storage tank area.
Booster Pumps	Earthen dike sufficiently impervious to contain spilled oil.

MAIN PASS 69 TERMINAL

MAIN PASS 69 TERMINAL TABLE OF CONTENTS

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(b) (3), (b) (7)(F)

HENRY PIPELINE

HENRY PIPELINE TABLE OF CONTENTS

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PREFACE

This Emergency Response Plan establishes Emergency Response Action Plan procedures for the Henry Pipeline, associated facilities and surrounding community.

This document is intended to be utilized in conjunction with the General Sections of the Louisiana Gas Pipelines Emergency Operation Plan currently contained in this State Appendix along with all applicable sections of the Company Core Plan.

Notifications will be per Notification Section 2 of this State Appendix.

This document is intended to comply with the emergency response to hazardous substance requirements of 29 CFR 1910.120, the emergency response requirements of Process Safety Management 29 CFR 1910.119, 1910.38 and EPA's Chemical Accident Prevention 40 CFR 68.95 Emergency Response Program. The appropriate elements of applicable federal, state, and local emergency response regulations are incorporated herein.

Henry Pipeline management personnel will review this Emergency Response Plan with each employee covered by the plan at the following times:

- Upon initial development of the plan.
- Whenever an employee's responsibilities or designated actions under the plan change.
- Whenever the plan is revised.

Henry Pipeline management personnel will review with each employee, upon initial assignment or any new assignments, those parts of the plan that the employee must know to protect themselves in the event of an emergency.

Revisions to this Emergency Response Plan will be made as procedures and personnel changes warrant.

This Emergency Response Plan will be kept at Henry Pipeline and made available for employee review.

For further information or an explanation of duties under this plan contact your Team Leader or HES contact listed in the Notification Section.

EMERGENCY RESPONSE PLAN COVER SHEET

EMERGENCY RESPONSE PLAN

INTRODUCTION

Statement of Policy

Facility and personnel safety will always take precedence over maintaining production. No person will attempt to maintain operation while the facility is in an unsafe condition. If you think there is an unsafe condition that poses an immediate hazard, you are authorized to shut down the facility. No reprimands will be given if the situation later proves less serious than you thought. Hazards of a less serious nature should be brought to the attention of the supervisor who will assess the situation and initiate appropriate action.

All Henry Pipeline employees are allowed to fight fires that are in the initial or beginning stage and can be controlled or extinguished by portable fire extinguishers, Class II standpipe, or small hose systems without the need for protective clothing or breathing apparatus. If a fire develops into an advanced exterior or interior structure fire, the affected area will be evacuated.

Under emergency response conditions, or drills, employees are expected to act only in accordance with their training. It is not the Company's intent to place any employee into a hazardous situation when the employee has not been trained to safely respond to the possible hazards present.

At no time will any employee place themselves or allow themselves to be placed into a life threatening situation.

The safety of Henry Pipeline employees takes precedence over all other considerations. Protecting the facility from damage or destruction will always be a secondary consideration to the safety and health of employees.

Purpose and Scope

An emergency situation may involve damage to the facility or unsafe operating conditions. This situation may require reduction of operations with partial evacuation or complete shutdown with total evacuation of the facility.

This Emergency Response Plan will provide guidelines to:

- Handle situations to minimize personal injury and property damage.
- Handle initial responses to incidents.
- Identify and define when an emergency exists.
- Evacuate the facility as required.
- Establish an Incident Command System.
- Notify appropriate personnel and authorities.
- Conduct emergency and post emergency operations.
- Provide procedures for prompt reporting and investigation of incidents.
- Outline procedures to evaluate risk for the facility and surrounding area.

- Provide guidelines for integrating this plan with those of the surrounding community.
- Operate during severe weather.
- Handle bomb threats and other disturbances.
- Maintain a trained organization that can mobilize quickly in response to incidents.

Fact Sheet Henry Pipeline

Facilities: The purpose of the plant is the cryogenic processing of natural gas and the fractionation of natural gas liquids.

Hours of Operation: The Henry Complex is manned 24 hours/day, 7 days/week

Total Employees: 38

Operators per shift at the Henry Complex: 1 (based on equipment in service)

General Information

- The Facility (North Booster Station, South Booster Station, Henry Compressor Station and Fort Henry) receives field gas via pipelines from the Henry Gas Gathering System, Bridgeline Holdings LP and Sabine's Henry Hub.
- Process natural gas (methane) is transported via pipeline.

The Henry Pipeline Field Team operates all or portions of the Evangeline P/L System, Sabine P/L System, Cameron/Vermilion P/L System, Faustina P/L System and the Floodway P/L System out of the Sabine Field Office, Bridgeline Holdings (LRC) Field Office, Grand Chenier Field Office and the Sulphur Field Office.

Evangeline Pipeline Description:

- The Evangeline System transports Ethylene which is a Highly Volatile Liquid (HVL), and is subject to the jurisdiction of the Federal Pipeline Safety regulations in 49 CFR 40, 190, 195, and 199.
- The Evangeline System extends approximately 176 miles, beginning at the Company's Neches Meter Station located in Jefferson County, Port Neches, Texas and ends in West Baton Rouge Parish, Louisiana at CPL's Anchorage Booster Station. ExxonMobil Pipeline Company is connected to the system at this location. Product flow is from west to east.
- The system traverses Orange County, Texas, Louisiana parishes of Calcasieu, Jefferson Davis, Acadia, St. Landry and Pointe Coupee.
- Ethylene is received from Texas Eastern Products Pipeline L.P. (TEPPCO) and from Koch Pipeline through a meter station located in Port Neches (Jefferson County Texas).
- Ethylene can be received or delivered to ExxonMobil DuPont and ChevronPhillips through meter stations located near Orange, Texas.
- PetroLogistics LLC can receive ethylene near Port Allen (West Baton Rouge Parish), LA. The Evangeline System owns a riser (b) (3), (b) (7)(F) .

- Corrosive products are not transported in the Evangeline System. There are no sections of this Pipeline System that impact the Gulf of Mexico or its inlets. There are no breakout tanks on this Pipeline System. There are no bare buried pipeline sections in this system.

Sabine Pipeline Description:

Sabine Pipe Line LLC is an open-access interstate gas pipeline and began operations in 1987. Sabine Pipe Line LLC is a subsidiary of Chevron Corporation and is headquartered in Houston, Texas. Sabine's 131-mile pipeline is used to transport natural gas between Erath, Louisiana and Port Arthur, Texas. Sabine is also the owner and operator of the Henry Hub that provides access to more than a dozen interstate and intrastate interconnects.

Cameron/Vermilion P/L System Description:

The Cameron/Vermilion P/L System transports natural gas through a network consisting of a total of 295 miles of pipeline. The system begins at Deep Lake Road on the east bank of the Sabine River across from Sabine Pass and travels east through Cameron Parish and Vermilion Parish to the Henry Pipeline facility south of Erath, LA. The Henry Pipeline Team operates this entire system.

(b) (3), (b) (7)(F)

Faustina P/L System Description:

The Faustina P/L System transports natural gas through a network consisting of a total of 190 miles of pipeline. The system begins at the Henry Pipeline facility south of Erath, LA and travels through Vermilion Parish, Lafayette Parish, St. Martin Parish, Iberville Parish, Ascension Parish, Assumption Parish, St. James Parish, LaFourche Parish and St. Charles Parish to a point near Paradis, LA. The Henry Pipeline Team operates the portion of this system from the Henry Pipeline facility to the East Atchafalaya Protection Levee.

Floodway P/L System Description:

The Floodway P/L System transports natural gas through a network consisting of a total of 173 miles of pipeline. The system begins near the old Floodway Gas Plant and ends East of Westover Road South of Hwy 190 in West Baton Rouge. The Henry Pipeline Team operates that portion of the system from the Floodway Plant to the intersection with Hwy 70.

Calcasieu P/L System Description:

The Calcasieu P/L System transports natural gas through a network consisting of a total of 30.1 miles of pipeline. The system originates at Haymark Road and ends at PPG to the north and Gulf Port Energy to the south.

Fire Protection

Propane and NGL storage area, Truck loading rack, and gas processing plant is out of service (de-inventoried and opened to atmosphere).

Components protected: Propane and NGL storage area, truck loading rack, gas processing area.

- Cooling water is provided for storage vessels.
- Excess flow valves, weak seam joints and remote shut-off valves are provided at the loading rack.
- In the process area, gas leaks are monitored by process control parameters. Gas leaks are controlled by automatic and remotely located shutdown devices.
- Fire control consists of shutting off the fuel supply and applying cooling water from fixed monitors that are strategically located throughout the facility.

Emergency Phone Numbers

Fire Departments: 911
Henry: (337) 937-7421
Erath: (337) 937-8176
Abbeville: (337) 898-4258

Sheriff- Vermilion Parish (337) 893-0871

Vermilion Parish Office of Homeland Security and Emergency Preparedness
(VPOHSEP) (337) 898-4308

Louisiana State Police Troop I (337)262-5880 or (888) 768-8746

Location

	Latitude	Longitude
Henry Gas Processing Plant	(b) (7)(F), (b) (3)	
Sabine Office		
Bridgeline (LRC) Office		
Grand Chenier Office		
Sulphur Office		

Directions to Sabine Office

From Highway 14, take Highway 331. Go south approximately 4.5 miles. Take right on Aristide Road. Facility is located approximately 1/4 mile on left at 5319 Aristide Road.

Directions to Bridgeline (LRC) Office

From Highway 14, take Highway 331. Go south approximately 4 miles. Take right on Frank Road. Facility is located approximately 1/2 mile on left.

Directions to Grand Chenier Office

From I-210 in Lake Charles, take Highway 14 south toward Cameron for about 0.2 miles. Turn right at Gerstner Memorial Dr/LA-14 E for about 2.7 miles. Turn left at Gerstner Memorial Dr/LA-14 E for about 8 miles then continue onto LA-27 for 22.7 miles. Continue straight on LA-82 E for 2.1 miles. Turn left at Grand Chenier Hwy./LA-82 E/Oak Grove Hwy for 12.8 miles. 4119 Grand Chenier Hwy will be on the left.

Directions to Sulphur Office

From I-10 take Exit 23 south for LA-108 toward Industries/Sulphur for 0.1 miles, keep left at fork to continue toward LA-108 S fir 0.2 miles. Keep right at the fork to continue toward LA-108 S and merge onto LA-108 S and travel 3.7 miles. Turn left at LA-1133 S for 1.0 mile then turn left onto Clifton Ridge Road and travel for 1.0 mile, 2159 Clifton Ridge Road will be on left.

EMERGENCY NOTIFICATION AND INTERNAL COMMUNICATIONS

All emergency notifications and internal communications will be accomplished through the use of land line and cellular telephones.

Internal Communications

Anytime you believe an incident that requires emergency response has occurred, you must immediately report the emergency.

To report an emergency use land line or cellular phones and give the following information to the Shift Operator:

- Type of emergency
- Location of emergency
- Your name
- Remain in contact with the Shift Operator until released

The Shift Operator will notify the Team Leader or his/her designee or the Operations Supervisor or his/her designee upon receipt of this information. If the situation warrants, the Team Leader will declare a state of emergency and activate the Incident Command System outlined in this plan.

Personnel and Facility safety will always take precedence over maintaining production. No person will attempt to maintain operation while the facility is in an unsafe condition. If you think there is an unsafe condition that poses an immediate hazard, you are authorized to shut down any affected facilities. No reprimands will be given if the situation later proves less serious than you thought. Hazards of a less serious nature should be brought to the attention of the supervisor who will assess the situation and initiate appropriate action.

Fire and Evacuation Notification

Upon making notification of a Fire and Evacuation:

- Specific instructions for key personnel will be transmitted over the facility cell phones and office phones.
- All personnel not involved with the pre-planned response activity, should immediately proceed to their designated Rally Point outlined in the Evacuation Section of the Plan.
- Contractor employees will evacuate buildings or other work areas, proceed along safe routes to their designated Rally Point and await instructions from their supervisor or facility management.
- No one will enter the fenced facility without the approval of the Incident Commander and will be accompanied by a Company employee at all times.

All Clear Signal Notification

The All Clear notification may be authorized only by the Incident Commander.

Emergency Shutdown System

Emergency Shutdown (ESD) devices are located within the facilities to provide immediate shutdown of the process. ESD's are located at critical locations throughout the process.

Emergency Shutdown (ESD) Stations

North Booster Station

- ESD station on North Booster Station Clark control panel located outside, west side of Compressor Station.

South Booster Station

- Outside of center back door of Sabine Office Building
- West end of compressor building floor
- Inside Old Control Center Building

Henry Compressor Station

- Inside of East evacuation gate
- North of Regulator Building
- Between Horizontal Filter Scrubbers
- North of Dump Tank
- Northeast of F.G. Regulator Facilities
- South end of Compressor Building on the outside wall
- Inside of West Drive-Through Gate
- North end of Compressor Building on the outside wall
- North of Compressor Building

Grand Chenier Compressor Station

- Outside North end of Compressor Building at the bottom of the stairs
- Inside Compressor Building – between North end of Unit No.s 1025 and 1026
- Inside Compressor Building – between North end of Unit No.s 1023 and 1024
- Inside Compressor Building – between North end of Unit No.s 1021 and 1022
- Outside Sorth end of Compressor Building at the bottom of the stairs
- Inside personnel gate at West side of facility
- At bottom of stairs to Control Room
- Inside Control Room
- SE of Fuel Gas Filter Separator
- SE of 20” and 24” Junction Scraper Trap
- Next to East Drive Through Gate

Holmwood Compressor Station

- Inside West Gate
- Inside North Gate
- Inside East Gate
- Inside South Gate
- Next to MCC Building
- North end of Unit 201
- North end of Unit 202

Port Neches Compressor Station

- Inside East Gate
- West end of Unit

Hydrocarbon Gas Detectors

Fixed hydrocarbon gas detectors provide continuous quantitative analysis of the atmosphere at the locations listed below. When a gas detector alarm sounds, leave the area and report the release via the radio.

Gas detector locations:

- North Booster Station Building
- South Booster Station Building
- Henry Compressor Station
- Holmwood Compressor Station
- Grand Chenier Compressor Station

INITIAL RESPONSE PROCEDURES

Introduction

Procedures within this section outline actions to be taken as part of the initial response for the purpose of protecting nearby persons, property, or the environment from a fire or substance release. These procedures are to be used as a guideline with the following considerations:

- Unless directed by the Incident Commander, all actions should be defensive in nature and conducted from outside any danger area.
- At no time will any employee place themselves or allow themselves to be placed into a life threatening situation.
- Employees are expected to act only in accordance with their training. It is not the Company's intent to place any employee into a hazardous situation when the employee has not been trained to safely respond to the possible hazards present.
- The safety of Henry Pipeline employees takes precedence over all other considerations. Protecting the facility from damage or destruction will always be a secondary consideration to the safety and health of employees.

Incipient Fire

- An employee detecting a fire will notify the Shift Operator and any personnel in the immediate area.
- All employees in the immediate area will attempt to extinguish fire utilizing incipient stage fire-fighting equipment.
- From outside the danger area, apply cooling water as quickly as possible to the vapor space surfaces of any vessel exposed to heat. Concentrate on piping, metal surfaces of vessel, and surfaces exposed to flame or intense heat.
- The Shift Operator will use the group talk function of their cellular phone to immediately notify all facility personnel of the incident.
- The Shift Operator will ensure the area is secure and evacuated by, evacuating the immediate danger area, keeping all persons out of the danger area and if required, blocking in or shutting down all sources feeding the release without placing themselves in immediate danger.
- The Shift Operator will notify and brief the Incident Commander of the situation and any steps that have been taken to control the fire. The Incident Commander will then determine if a state of emergency exists.
- Refer to appropriate Controlled Response Procedures once the incident is under control.

Note: All employees are allowed to fight incipient stage fires. An incipient stage fire is a fire that is in the initial or beginning stage and can be controlled or extinguished by portable fire extinguishers or Class II standpipe without the need for protective clothing or a breathing apparatus.

Hydrocarbon Vapor Release

- An employee detecting a release will notify Shift Operator and any personnel in the immediate area.
- From outside the danger area, spray water to help disperse vapor cloud. Direct the spray across the vapor path from a safe distance.
- The Shift Operator will use the group talk function of their cellular phone to immediately notify all facility personnel of the incident.
- The Shift Operator will ensure the area is secure and evacuated by:
  - Evacuating any vapor cloud area and the area downwind of the cloud path.
  - Eliminating all sources of ignition.
  - Keeping all persons out of the danger area.
  - If required, blocking in or shutting down all sources feeding the release without placing themselves in immediate danger.
- The Shift Operator will notify and brief the Incident Commander of the situation and any steps that have been taken to control the release. The Incident Commander will then determine if a state of emergency exists.
- Refer to appropriate Controlled Response Procedures once the incident is under control.

Hydrocarbon Liquid Spill (NGL)

- An employee detecting a spill will notify Shift Operator and any personnel in the immediate area.
- The Shift Operator will use the group talk function of his/her cellular phone to immediately notify all facility personnel of the incident.
- The Shift Operator will ensure the area is secure and evacuated by:
  - Evacuating immediate area and area downwind of spill.
  - Eliminating all sources of ignition.
  - Keeping all persons out of the danger area. Stay upwind and warn people downwind of possible fire hazard.
  - If required, blocking in or shutting down all sources feeding the spill without placing oneself in immediate danger.
  - Directing initial containment procedures.
  - If possible cautiously transfer liquid to an awaiting tank using non-spark producing equipment
  - If appropriate shut down the Flood Pond Pump at the Henry Gas Processing Plant to prevent possible spread to adjacent waterways.
- The Shift Operator will notify and brief the Incident Commander of the situation and any steps that have been taken to control the spill. The Incident Commander will then determine if a state of emergency exists.
- Refer to appropriate Controlled Response Procedures once the incident is under control.

Non-Hydrocarbon Liquid Spill

- An employee discovering a spill will alert The Shift Operator and any personnel in the immediate area.
- The Shift Operator will use the group talk function of his/her cellular phone to immediately notify all facility personnel of the incident.
- The Shift Operator will ensure the area is secure and evacuated by:
  - Evacuating the immediate area and the area downwind of the spill.
  - Assessing direction of spill and direct initial containment procedures.
  - If required, blocking in or shutting down all sources feeding the spill without placing oneself in immediate danger. The emergency shutdown will be conducted using normal operating shutdown procedures.
  - Where possible, extinguishing potential ignition sources.
  - Shutting down flood pond pump to prevent possible spread to adjacent waterways.
- The Shift Operator will notify and brief the Incident Commander of the situation and any steps that have been taken to control the spill. The Incident Commander will then determine if a state of emergency exists.
- Refer to appropriate Controlled Response Procedures once the incident is under control.

EVACUATION PLAN

Purpose

(b) (7)(F), (b) (3)

[redacted]

Facility Evacuation Procedures

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

INCIDENT COMMAND POST

Control Center Primary Location

The Primary location of the Incident Command Post is the Bridgeline (LRC) Office Building Conference Room located at 5735 Frank Road, Erath, LA ([redacted]. The telephone extension for the Conference Room is 336. The direct telephone number is (337) 937-3336 or (337)937-3321.

Control Center Alternate Location

The alternate location for the Incident Command Post will be the Sabine Henry Hub South Booster Station Main Office Building Field Team Leader's Office located at 5319 Aristide Rd., Erath LA.

Control Center Reference Materials

During an Emergency Response, reference documents may be required to handle the situation. The following reference materials will be maintained at the Sabine Henry Hub South Booster Station Main Office Building.

- Emergency Response Plans
- Operating Procedure Manuals
- Piping & Instrumentation Drawings (P&ID's)

Material Safety Data Sheets (MSDS) are also located in the Sabine South Booster Station Main Office building.

Inventory and standard location of response equipment. See Emergency Response Plan Section, "Response Equipment".

EMERGENCY RESPONSE PROCEDURES & SPECIAL PRECAUTIONS

Introduction

In this Emergency Response Plan, an emergency is defined as the release, or serious threat of release, of hazardous substances that poses a serious safety or health hazard in which a coordinated response is required from outside the immediate release area. Any abnormal situation with the potential to affect employees, citizens, or the environment can be an emergency. The Incident Commander will determine when a state of emergency exists.

Responses to hazardous material releases that do not involve personnel exposure to safety or health hazards are not considered an emergency under this Plan. Incipient releases, not considered an emergency, can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate area or by maintenance personnel.

All employees are allowed to combat incipient stage incidents. If an incident expands beyond the incipient stage, the response effort should transition to an emergency response. When the incident warrants this higher level of coordinated response, the Incident Commander must declare an emergency and establish an Incident Command System.

There are no Hazardous Materials Technicians at the Henry Pipeline facilities.

The Team Leader, Operations Supervisor or their trained designate will act as the Incident Commander and give the instructions to shut down and evacuate appropriately.

Establishing the Incident Command System

The Incident Command System will be established whenever an emergency has been determined by the Incident Commander. The following procedures will be followed when establishing an Incident Command System:

- The senior most facility supervisor, on site, who has received Level V, Incident Commander, training will be in charge of the Incident Command System.
- All emergency responders and their communications will be coordinated and controlled through the Incident Commander, assisted by the senior official present for each employer.
- The Incident Commander shall identify, to the extent possible, all hazardous substances or conditions present and will address as appropriate.
  - Site analysis
  - Use of engineering controls
  - Maximum exposure limits
  - Hazardous substance handling procedures
  - Use of any new technologies
- Based on the hazardous substances and/or conditions present, the Incident Commander will implement appropriate emergency operations, and ensure that the personal protective equipment worn is appropriate for the hazards to be encountered.
- Personal protective equipment will meet, at a minimum, the criteria contained in 29 CFR 1910.156(e) when worn while performing fire fighting operations beyond the incipient stage for any incident or site.
- Employees engaged in emergency response and exposed to hazardous substances presenting an inhalation hazard or potential inhalation hazard will wear a positive pressure, self-contained breathing apparatus while engaged in emergency response. The Incident Commander will determine, through use of air monitoring, if a decreased level of respiratory protection will not result in hazardous exposure to employees.
- The Incident Commander shall limit the number of emergency response personnel at the emergency site, in those areas of potential or actual exposure to incident or site hazards, to those who are actively performing emergency operations.
- Operations in hazardous areas will be performed using the buddy system in groups of two or more. The buddy system organizes employees into work groups so that each employee is designated to be observed by at least one other employee in the work group. The purpose of the buddy system is to provide rapid assistance to employees in the event of an emergency.
- Backup personnel will stand by with equipment ready to provide assistance or rescue. Advanced first aid equipment, as a minimum, will also stand by with medical equipment and transportation capability.
- The Incident Commander will designate a Safety Officer, who is knowledgeable in the operations being implemented at the emergency response site. The Safety Officer's specific responsibility will be to identify and evaluate hazards and to provide direction with respect to the safety of operations for the emergency at hand. If a qualified employee is not available to be designated as the Safety Officer, then the Incident Commander will assume the Safety Officer's responsibilities. A Job Site Safety Plan will be completed.
- When activities are judged by the Safety Officer to be immediately dangerous to life or health and/or to involve an imminent danger condition, the Safety Officer will have the authority to alter, suspend, or terminate those activities. The Safety Officer will immediately inform the Incident Commander of any actions needed to be taken to correct these hazards at the emergency scene.

- After emergency operations have terminated, the Incident Commander will implement appropriate decontamination procedures.

Note: Immediately dangerous to life or health means an atmospheric concentration of any toxic, corrosive, or asphyxiant substance that poses an immediate threat to life or would cause irreversible or delayed health effects or would interfere with an individual's ability to escape from a dangerous atmosphere.

Advanced Fire

Note: The following actions should be undertaken only with the direct orders of the Incident Commander.

Response Procedures

- Do not extinguish fire unless the source(s) can be stopped. Only under special conditions, such as rescue, isolating valves, etc., should this be considered. The unburned fuel will create a much greater explosion hazard than the existing fire.
- Allow any controlled burning of escaping LPG to continue. The application of water to the vessel shell may allow the fire to consume the product without the danger of vessel failure.
- If the relief valve on a vessel opens to relieve excess pressure, the discharge should be allowed to burn if ignited. Continue to apply cooling water and allow the relief valve to close. The operation of a relief valve may not prevent the vessel from rupturing.

Special Precautions

- Horizontal LPG tanks can fail at a circumferential seam when overheated. The sudden release of pressure through the open end will launch the vessel like a rocket.
- Vessel failure usually occurs when the metal surface in the vapor space becomes overheated and weakens such that it cannot contain the pressure of the product. When sufficient cooling water is not applied to the vessel, warning of increased pressure may be noted from an increase in fire volume or noise level. This should serve as a signal to withdraw all personnel to a safer distance.
- The phenomenon of a liquified flammable gas tank failure from fire exposure is called a Boiling Liquid Expanding Vapor Explosion (BLEVE). Liquified gases stored in pressure tanks at temperatures above their boiling points will remain liquid only while the tank remains closed to the atmosphere. The latent heat of the liquid causes very rapid vaporization accompanied by large liquid-to-vapor expansion. This extraordinary expansion process provides the energy for:
  - Propagation of cracks in the tank structure.
  - Rapid mixing of the vapor with air, resulting in the characteristic fireball upon ignition by fire.
  - Misting of the remaining liquid in the tank creating droplets that burn as they fly through the air creating an even larger fireball.

- In most BLEVEs, the tank failure originates from the heat stress on the unwetted tank shell above the vapor space in the tank. The metal will be stretched and thinned until a tear occurs which progressively gets larger. The tank will often come apart in three or more pieces.

- Refer to appropriate Controlled Response Procedures once the incident is under control.

Caution: BLEVE fireballs several hundred feet in diameter are not uncommon. Deaths from burns have occurred as far as 250 feet away. Projections from BLEVEs have been recorded as far as 4000 feet. BLEVEs are clearly the number one hazard of LPG tank fires.

Hydrocarbon Vapor Release

Note: The following actions should be undertaken only with the direct orders of the Incident Commander.

Response Procedures

- Spray water to disperse vapor cloud.
- Prepare for a fire in case the vapor ignites.
- Continue to evacuate area downwind of cloud path.
- Allow vapor cloud to dissipate.
- Continue to block in source of release from outside danger area.

Special Precautions

- Fringe areas of the vapor cloud may be within the flammable range of the substance.
- A single source of ignition may cause a flash fire back to the source. Residual ground fires and equipment damage will probably result from the flash fire.

Note: The following actions should be undertaken only with the direct orders of the Incident Commander.

Hydrocarbon Liquid Spill

Response Procedures

- Continue to evacuate area downwind of spill.
- Continue efforts to block in and shut down all sources feeding the spill.
- Conduct containment procedures to prevent spread and contamination of soil and water on and off the facility.
- Ensure proper personal protective equipment is being utilized.
- Determine if decontamination is required.

Special Precautions

- Butane and other LPG products may "roll" along the ground and extend farther than any visible cloud.
- Hydrocarbon will often become vapor once released to atmospheric pressure and temperature.

Non-Hydrocarbon Liquid Spill

Note: The following actions should be undertaken only with the direct orders of the Incident Commander.

Response Procedures

- Continue to evacuate area downwind of spill.
- Continue efforts to block in and shut down all sources feeding the spill.
- Identify substance and source.
- Conduct containment procedures to prevent spread and contamination of soil and water on and off the facility.
- Ensure proper personal protective equipment is being utilized.
- Determine if decontamination is required.

Special Precautions

- Non-hydrocarbon chemicals used at Henry Pipeline are potentially toxic and pose a serious health hazard. Consult MSDS for details.
- Limit employee exposure with personal protective equipment.

Controlled Response Procedures

Controlled Response Procedures are operations undertaken after the initial incident is brought under control, but the safety or health hazard is still present. These operations are designed to further enhance the safety of Henry Pipeline employees. All controlled response procedures are to take place from outside any danger area that may still be present.

The safety and health of Henry Pipeline employees is of the utmost concern during controlled response procedures. As the danger area diminishes following an emergency response, there can be many vessels, flanges, pipes, etc., that have been heated, or otherwise affected by the initial incident. Before Henry Pipeline employees return to the affected areas, the potential for subsequent incidents must be eliminated.

Controlled response procedures include, but are not limited to:

- Maintaining site security of any potential danger area.
- Lockout/Tagout, including electrical, for areas that will require maintenance operations.
- Ensure work permits are carefully reviewed for all activities within the affected areas.
- Blowing down vessels to relieve pressure related stress on the system.
- Ensure any hazardous materials are isolated or removed.

NOTIFICATION PROCEDURES

When to Report an Incident

Follow the Incident Notification Flowchart and Procedures located in Section 2 of this State Appendix.

Employee Accident

In the event of a serious injury to a Henry Pipeline employee:

Family Notification

- Notification will be made by the Team Leader and employee's Supervisor.
- Notify the employee's family as quickly as possible.
- If possible, notification will be in person at the employee's home.
- Escort the family to the hospital or other facility.

POST RESPONSE PROCEDURES

Termination Procedures

Termination procedures are operations in which personnel are involved in documenting safety procedures, site operations, hazards faced and lessons learned from the incident. Termination procedures are divided into three categories:

- Debriefing the incident.
- Post-accident analysis.
- Critique of the incident.

Following an emergency response, the Incident Commander will hold a Plus/Delta critique of the incident. The purpose of the critique is to immediately provide recommendations as required and identify areas of the Emergency Response Plan that should be revised/improved. All items identified in the critique will be documented. Incident investigations will be conducted in accordance with Company Procedures.

All Clear Designation

For the purposes of this plan, post response procedures are activities that follow the approval of the All Clear notification by the Incident Commander. There is a clear distinction between emergency operations and post response procedures. While the emergency response team controls the site, or a safety/health hazard exists, the emergency situation continues to be in effect. When the emergency response team declares the response activity complete and leaves the site, any remaining activities, such as clean-up, are considered to be post emergency response procedures.

The Incident Commander will designate the site All Clear only after the following:

- Ensuring that the safety/health hazard no longer poses a threat to Henry Pipeline employees.
- Consultation with the Safety Officer.
- Site security is maintained until clean-up operations are complete.
- Appropriate Controlled Response Procedures have been followed by all personnel.
- The appropriate Company management officials have been notified.
- The proper Government agencies have been notified.
- Termination procedures are in place and being followed.

Clean-up and Disposal

Clean-up operations can be either emergency response or post emergency operations depending on the personnel conducting the clean up. There are two possible groups that can conduct clean-up operations, Henry Pipeline employees and off-site personnel. All equipment to be used in the performance of clean-up work will be in serviceable condition and will have been inspected prior to use.

Henry Pipeline Personnel

If the cleanup is done on the Henry Pipeline property using Henry Pipeline employees, then the emergency response is still in effect. The Incident Commander will ensure that the clean-up personnel comply with 29 CFR 1910.120 paragraph (b) through (o) or have completed the training requirements of the following:

- Emergency Planning - 29 CFR 1910.38 (a).
- Personal Protective Equipment including Respiratory Protection - 29 CFR 1910.134 or 29 CFR 1910.132.
- Hazard Communication - 29 CFR 1910.1200.
- Appropriate safety and health training made necessary by the tasks employees are expected to perform, such as personal protective equipment and decontamination procedures.

Off-site Personnel

If personnel from outside Henry Pipeline are brought in to complete the clean-up of the facility, the clean-up is considered to be post emergency operations. The Incident Commander will ensure that the clean-up personnel comply with 29 CFR 1910.120 paragraph (b) through (o). An alternative would be a generic plan that addresses the appropriate elements listed in 29 CFR 1910.120 (b) through (o). It is possible that some of these elements would not be necessary at a particular site and others would have limited applicability. These elements include:

- Safety and health program.
- Site characterization and analysis.
- Site control.
- Training.
- Medical surveillance.
- Engineering controls, work practices, and personal protective equipment for employee protection.
- Monitoring.
- Informational programs.
- Handling drums and containers.
- Decontamination.
- Emergency response by employees at uncontrolled hazardous waste sites.
- Illumination.
- Sanitation at temporary work places.
- New technology programs.

RESPONSE EQUIPMENT

Fire Suppression System

The Henry Pipeline fire suppression system consists of a fire water systemand fixed monitors at some facilities, as well as portable fire extinguishers.

The Henry Gas Processing Plant fire water system is a looped underground system covering all areas of operation. There are isolation valves, hydrants, fixed monitors, and sprinkler systems. All of these make up the primary fire suppression system.

Supplementing the primary system are portable hand held extinguishers, located throughout the facility, containing various extinguishing agents such as dry chemical, CO2 and HALON.

Facility Equipment

The Henry Pipeline has access to an inventory of response equipment, the following lists items of equipment:

- 3 10 kW Light Facility
- Spare Dry Chemical Fire Extinguishers
- Various lengths of 1-1/2 and 2-1/2 inch fire hose
- First Aid Equipment

Inspection & Maintenance

Portable Equipment

- A monthly visual inspection and annual maintenance shall be performed.
- A record of monthly inspections and annual maintenance shall be attached to each unit.
- Extinguishers showing evidence of corrosion or physical damage shall be removed from service and replaced.
- An extinguisher removed from the premises to be serviced shall be replaced immediately by a spare extinguisher.
- Extinguishers shall be recharged by qualified persons after use or as indicated by an inspection.

Fixed Systems

- Water spray, sprinkler, CO2, and Dry Chemical equipment shall be inspected and tested as required by the manufacturer's or Company's instructions, whichever specifies the shortest time period between inspections.

Personal Protective Equipment Classification

The U.S. Environmental Protection Agency (EPA) has developed a suggested classification scheme for the categorization of personal protective equipment into four groups and the hazards against which each group will protect. The four groups are:

Level A - Protection that should be worn when the highest level of respiratory, skin, eye, and mucous membrane protection is needed.

- Positive pressure (pressure-demand) Self-contained breathing apparatus (SCBA).
- Fully encapsulating chemical resistant unit.
- Inner and outer chemical resistant gloves.
- Chemical resistant boots with steel toe and shank.
- Other accessories as required.

Level B - Protection that should be selected when the highest level of respiratory protection is needed, but a lesser level of skin and eye protection is required. (Level B is a minimum level recommended on initial site entries until the hazards have been further identified and defined by monitoring, sampling, and other reliable methods of analysis and personal protective equipment corresponding with those findings can be utilized.)

- Positive pressure (pressure-demand) SCBA.
- Chemical resistant clothing appropriate for the hazard.
- Inner and outer chemical resistant gloves.
- Chemical resistant boots with steel toe and shank.
- Other items as necessary.

Level C - Protection that should be selected when the type of airborne substance is known, its concentration has been measured, and criteria for using air-purifying respirators have been met. Also, skin and eye exposure are unlikely. Periodic monitoring of the air must be performed.

- Full-face, air-purifying respirator appropriate for the contaminant.
- Chemical resistant clothing appropriate for the hazard.
- Inner and outer chemical resistant gloves.
- Chemical resistant boots with steel toe and shank.
- Other items as necessary.

Level D – Primarily work clothes.

Mutual Aid

Henry Pipeline is structured to handle most incidents that may arise. A listing of resources is provided that may be called up in the event an incident is outside the capabilities of the facility.

Abbeville Fire Department	911 or (337) 893-1234 or 898-4258
Erath Volunteer Fire Department	911 or (337) 937-8176
Henry Volunteer Fire Department	911 or (337) 937-7421
Lake Charles Fire Department	911 or (337)-491-1360
Sulphur Fire Department	911 or (337)-527-4545

MEDICAL RESPONSE

Emergency Medical Treatment

Any trained person should conduct first response to comfort and render first aid to an injured party in a safe manner. Utilize first aid and medical equipment in accordance with training.

On-site Medical Resources

First-aid kits are located within the facility to provide on-site minor medical treatment. First aid kits are placed at the following locations:

- South Booster Station:
  - Kitchen
  - Control Room
  - Mechanic Shop
  - Guard Shack
  - I&E Shop
- North Booster Station:
  - Mechanic Shop
- Fort Henry Office:
- Henry Compressor Station:
  - Warehouse
  - LRC Control Room
- Meter Shop – side of cabinet on west wall

Medical Transportation Protocol

First Aid and Minor Injuries

The Team Leader or Operations Supervisor in charge will arrange for transportation by ambulance or company vehicle depending on availability and extent of injuries.

Injured people who are not in a life-threatening situation may elect to be transported to a local facility of their choice.

Serious Injury/Illness

Injuries or illness of a serious nature will be handled by personnel trained in First Aid / CPR. Depending on the severity of injuries, a medical helicopter should be called to the scene.

If the injured party is not in danger of further injury, do not attempt to move the injured party until professional medical assistance arrives.

Guidelines for Ambulance/Helicopters

An emergency helicopter service should be requested for transportation of the following injuries:

- Respiratory or chest pains that indicate a possible heart attack.
- Severe bleeding, deep cuts or loss of limb.
- Compound fractures.
- Head injuries and/or altered consciousness.
- Severe back injuries.
- Severe eye injuries.
- Suspected internal injuries or bleeding.
- Gas poisonings.
- Respiratory problems requiring artificial respiration (drowning, gas poisoning, etc.).
- Severe burns.
- Severe abdominal pain.
- Any injury or illness that the supervisor deems necessary to prevent further damage or pain if local transportation were utilized.

SEVERE WEATHER PLAN

Purpose

This Severe Weather Plan provides a coordinated, teamwork-based program intended to reduce the potential for personnel injury, damage to the Henry Pipeline and/or curtailment of production due to severe weather.

Since weather conditions are unpredictable, this plan cannot provide for all possible events. It is, therefore, the intent of this plan to deal with threatening severe weather conditions. The Team Leader or Operations Supervisor will be responsible for implementing the applicable parts of this plan as needed.

Scope

For purposes of this plan, "severe weather" is defined as hurricanes, sub-freezing temperatures, severe thunderstorms, lightning, or flooding (from other than hurricane-related rainfall or tides).

Severe Weather Checklist

The following checklist should be reviewed by the Team Leader or Operations Supervisor during the approach of severe weather.

- Conducts severe weather planning meetings.
- Initiates a severe weather alert to all functional teams.
- Calls alert meetings and issue instructions.
- Reviews weather information from Weather Service and make decisions to formulate action plan.
- Reviews plan with upper management.
- Conducts facility inspection to identify and correct potential hazards.
- Provides support for operations on securing and tying down of all necessary equipment.
- Ensures all trash bins are empty and removed from facility if not needed.
- Ensures all portable buildings and trailers are secured.
- Reviews electrical department procedures and make appropriate recommendations.
- De-energizes all electrical equipment including switchgear, transformers, and motors that are in danger of flooding.
- Maintains liaison with contractors to ensure compliance with company procedures.
- Provide First Aid and ambulance transportation support
- Ensure that necessary supplies are on hand for operating during severe weather when facility may be isolated from outside supplies
- Ensure gasoline tanks and equipment are serviced.
- Locate supplies needed upon request from operations and maintenance.
- Ensures facility telephones and backup radio systems are operating properly.
- Coordinates repair to defective radio equipment as needed.
- Coordinates installation of temporary phone lines.
- Provides environmental coordination with outside agencies.
- Establishes and maintain communication with Incident Command Post.
- Coordinates meetings to assemble up-to-date information.
- Releases all non-essential personnel from facility site.
- Order release of contractors
- Maintain head count of personnel and standby personnel
- Order call-out for additional personnel
- Reviews facility-wide shutdown plan.
- Reviews employee work schedule to ensure adequate coverage.
- Reviews procedures for loss of electrical power, pipeline, or marine movements.
- Ensures that all tanks and vessels are filled to normal operating levels.
- Coordinates operations activities to ensure minimal risk to employees and facility equipment.
- Coordinates orderly shutdowns, clearing equipment, and securing process equipment, as needed.

Hurricane Preparedness Plan

Hurricanes are the most threatening of all severe weather conditions; therefore, they are the principal focus of this plan. The advance warning available for hurricanes provides sufficient time for preparation and protection of facilities, equipment, and personnel if the procedures set forth in this plan are followed.

The National Weather Service (NWS), Alert Weather Services Inc. and NOAA are the official sources of hurricane weather information for the facilities.

The following are basic guidelines for preparedness actions.

Pre Phase – Ongoing Preparations

The hurricane season extends from June 1 through November 30. On June 1 of each calendar year, or as soon as possible in the beginning of the Hurricane season, the Team Leader's will convene a meeting of appropriate personnel or initiate hurricane season preparations via email. The following steps should be initiated:

Perform requisition and inventory materials needed in hurricane preparation work.

- Inspect the facility for the purpose of identifying fire hazards, emergency equipment location and condition, and the status of facility security in anticipation of hurricane force winds striking the facility.
- All personnel will pick up all loose items in the operating units, maintenance shops, and off-site locations.
- Inspect guy wires and portable buildings tie downs and assess the need for additional securing.
- Check facility drainage system for good drainage, and check all sheet metal insulation coverings and building roofs.
- Review and revise if necessary and issue detailed checklist for the shutdown and securing of the facilities in preparation for weathering any hurricane (See Attachments).
- Check availability for vital record storage.

Phase 1

Phase 1 goes into effect:

- Possibility of hurricane entering Gulf of Mexico
- Hurricane develops in Gulf of Mexico

The following steps will be taken immediately:

- Team Leader(s) will conduct a facility wide inspection listing conditions that must be corrected.
- Operational Specialist and Team Leaders(s) will monitor weather reports and keep Midstream Profit Center Manager informed of any change in hurricane status.
- Remind all employees to prepare their family and homes for possible hurricane conditions
- Conduct a team meeting to establish the emergency team and discuss procedures in the event of PHASE 2.
- Shutdown all offshore work and get crews and vessels out of harm's way.

Phase 2

Phase 2 goes into effect:

- National Weather Bureau reports that hurricane conditions to be a minimum of 72 hours away and approaching.

The Team Leader(s) will release the emergency team on an as-needed basis to take care of responsibilities outside the facility. The goal should be to have the emergency team in place 48 hours before hurricane conditions (74 mph) are expected at the facility.

This action will allow the release of non-essential personnel in advance of development of hazardous conditions in the area. A careful staffing of the hurricane emergency team with personnel who can operate or shutdown, should the storm change directions at the last minute, or just come close.

Phase 3

Phase 3 goes into effect:

- Storm will critically affect the area

The Team Leader(s) will initiate an orderly shutdown of the facilities and notify the Midstream Profit Center Manager of the shutdown.
(Reference Facility Information Template, attachment B)

Coordinate shutdowns with CC Pipeline Controller; verify notification to all affected parties.
(Reference Contact List attachment A)

Notify all contractors currently working in Chevron Pipe Line facilities of our hurricane plans.

Post Phase

Post Phase will begin as soon as storm conditions have subsided.

- Emergency team is to survey the facility to assess the damage, availability of utilities (electricity, water, steam) and the needs to start-up as soon as possible.
- Personnel are to check return status via the Emergency Notification Network, ENN, (1-877-312-5860) as soon as possible and advise their availability for returning to work.

  A list of personnel available to work should be maintained by the Team Leader(s) (Reference Business Continuity Plan, Attachment C)

- Team Leader(s) should organize relief for the emergency team as soon as possible so they can take care of out of facility responsibilities
- Monitor local radio stations during severe thunderstorms for tornado warning

CHEVRON PIPE LINE CO
HURRICANE PREPARATION CHECKLIST
(June 1 through July 30)

DESCRIPTION	ASSIGNED TO:	COMPLETED:
INSPECT:		
GUY WIRES		
BUILDING TIE DOWNS		
DRAINAGE SYSTEM		
SHEETMETAL INSULATION		
BUILDING ROOFS		
FIRST AID KITS		
SPILL EQUIPMENT		
TANK LEVELS (SAFE)		
TEST:		
AUX. GENERATORS		
PORT. GENERATORS		
PORTABLE PUMPS		
DIESEL ENGINES		
FIRE PUMPS		
OUTBOARD MOTORS		
RADAR UNITS		
RADIOS		
TELEPHONES		
CELL PHONES		
BEEPERS		
RTU BATTERIES		
SCADA SYSTEMS		
Place valves on 6& 8" Intracoastal P/L in manual open		
SECURE LOOSE ITEMS		
DRINKING WATER		
FILL FUEL TANKS		
STORE NON-ESSENTIAL EQUIPMENT		
SAND & BAGS		
Board Mat'l for windows		
Identify all instrumentation that needs to be put in local automatic or manual mode		

CHEVRON PIPE LINE CO
HURRICANE PREPARATION CHECKLIST
(72 HRS)

DESCRIPTION	ASSIGNED TO:	COMPLETED:
INSPECT:		
GUY WIRES		
BUILDING TIE DOWNS		
DRAINAGE SYSTEM		
SHEETMETAL INSULATION		
BUILDING ROOFS		
FIRST AID KITS		
SPILL EQUIPMENT		
TANK LEVELS (SAFE)		
TEST:		
AUX. GENERATORS		
PORT. GENERATORS		
PORTABLE PUMPS		
DIESEL ENGINES		
FIRE PUMPS,		
FLOOD PUMPS		
OUTBOARD MOTORS		
RADAR/SONAR UNITS		
RADIOS		
TELEPHONES		
CELL PHONES		
BEEPERS		
RTU BATTERIES		
SCADA SYSTEMS		
SECURE EMERG. RESPONSE BOXES		
SECURE LOOSE ITEMS		
DRINKING WATER		
FILL FUEL TANKS VEHIC/BOATS)		
STORE NON-ESSENTIAL EQUIPMENT		
FLASHLIGHTS		
BATTERIES		
FOOD		
INSTALL SAND BAGS		
PICK UP TRASH/CANS		
STORE VITAL RECORDS		
PICK UP CHARTS, WIND CLOCKS, DOWNLOAD HISTORIES		
Place instrument in auto/manual		

CHEVRON PIPE LINE CO
FLOODWAY GAS SEPARATION FACILITY
HURRICANE PREPARATION CHECKLIST
(72 HRS)

DESCRIPTION	ASSIGNED TO:	COMPLETED:
INSPECT:		
GUY WIRES		
BUILDING TIE DOWNS		
DRAINAGE SYSTEM		
SHEETMETAL INSULATION		
BUILDING ROOFS		
FIRST AID KITS		
SPILL EQUIPMENT		
TANK LEVELS (SAFE)		
TEST:		
AUX. GENERATORS		
PORT. GENERATORS		
PORTABLE PUMPS		
DIESEL ENGINES		
FIRE PUMPS,		
FLOOD PUMPS		
OUTBOARD MOTORS		
RADAR/SONAR UNITS		
RADIOS		
TELEPHONES		
CELL PHONES		
BEEPERS		
SCADA SYSTEMS		
SECURE EMERG. RESPONSE BOXES		
SECURE LOOSE ITEMS		
DRINKING WATER		
FILL FUEL TANKS VEHIC/BOATS)		
STORE NON-ESSENTIAL EQUIPMENT		
FLASHLIGHTS		
BATTERIES		
FOOD		
INSTALL SAND BAGS		
PICK UP TRASH/CANS		
STORE VITAL RECORDS		
PICK UP CHARTS, WIND CLOCKS, DOWNLOAD HISTORIES		
Place instrument in auto/manual		

CHEVRON PIPE LINE CO
HENRY GAS PROCESSING PLANT
HURRICANE PREPARATION CHECKLIST
(72 HRS)

DESCRIPTION	ASSIGNED TO:	COMPLETED:
INSPECT:		
GUY WIRES		
BUILDING TIE DOWNS		
DRAINAGE SYSTEM		
SHEETMETAL INSULATION		
BUILDING ROOFS		
FIRST AID KITS		
SPILL EQUIPMENT		
TANK LEVELS (SAFE)		
TEST:		
AUX. GENERATORS		
PORT. GENERATORS		
PORTABLE PUMPS		
DIESEL ENGINES		
FIRE PUMPS,		
FLOOD PUMPS		
OUTBOARD MOTORS		
RADAR/SONAR UNITS		
RADIOS		
TELEPHONES		
CELL PHONES		
BEEPERS		
SCADA SYSTEMS		
SECURE EMERG. RESPONSE BOXES		
SECURE LOOSE ITEMS		
DRINKING WATER		
FILL FUEL TANKS VEHIC/BOATS)		
STORE NON-ESSENTIAL EQUIPMENT		
FLASHLIGHTS		
BATTERIES		
FOOD		
INSTALL SAND BAGS		
PICK UP TRASH/CANS		
STORE VITAL RECORDS		
PICK UP CHARTS, WIND CLOCKS, DOWNLOAD HISTORIES		
Place instrument in auto/manual		

CHEVRON PIPE LINE CO
HENRY OFFSHORE SEPARATION FACILITY
HURRICANE PREPARATION CHECKLIST
(72 HRS)

DESCRIPTION	ASSIGNED TO:	COMPLETED:
INSPECT:		
GUY WIRES		
BUILDING TIE DOWNS		
DRAINAGE SYSTEM-Pump down facility sump pit and excess water in tank 57 to prepare for rainfall.		
SHEETMETAL INSULATION		
BUILDING ROOFS		
FIRST AID KITS		
SPILL EQUIPMENT		
TANK LEVELS (SAFE)(56,57,58)		
BOARD WINDOWS		
TEST:		
AUX. GENERATORS		
PORT. GENERATORS		
PORTABLE PUMPS		
DIESEL ENGINES		
FIRE/FLOOD PUMPS		
OUTBOARD MOTORS		
RADAR/SONAR UNITS		
RADIOS		
TELEPHONES		
CELL PHONES		
BEEPERS		
SCADA SYSTEMS		
SECURE LOOSE ITEMS/GATES		
DRINKING WATER		
FUEL TANKS (VEHICLES & BOATS and generators and pumps)		
STORE NON-ESSENTIAL EQUIPMENT		
FLASHLIGHTS		
BATTERIES		
FOOD		
INSTALL SAND BAGS		
PICK UP TRASH/CANS		
STORE VITAL RECORDS		
PICK UP CHARTS, WIND CLOCKS, DOWNLOAD HISTORIES		

CHEVRON PIPE LINE CO
HENRY COMPRESSOR STATION
HURRICANE PREPARATION CHECKLIST
(72 HRS)

DESCRIPTION	ASSIGNED TO:	COMPLETED:
INSPECT:		
GUY WIRES		
BUILDING TIE DOWNS		
DRAINAGE SYSTEM		
SHEETMETAL INSULATION		
BUILDING ROOFS		
FIRST AID KITS		
SPILL EQUIPMENT		
TANK LEVELS (SAFE)		
TEST:		
AUX. GENERATORS		
PORT. GENERATORS		
PORTABLE PUMPS		
DIESEL ENGINES		
FIRE PUMPS,		
FLOOD PUMPS		
OUTBOARD MOTORS		
RADAR/SONAR UNITS		
RADIOS		
TELEPHONES		
CELL PHONES		
BEEPERS		
SCADA SYSTEMS		
SECURE EMERG. RESPONSE BOXES		
SECURE LOOSE ITEMS		
DRINKING WATER		
FILL FUEL TANKS VEHIC/BOATS)		
STORE NON-ESSENTIAL EQUIPMENT		
FLASHLIGHTS		
BATTERIES		
FOOD		
INSTALL SAND BAGS		
PICK UP TRASH/CANS		
STORE VITAL RECORDS		
PICK UP CHARTS, WIND CLOCKS, DOWNLOAD HISTORIES		
Place instrument in auto/manual		

CHEVRON PIPE LINE CO
SULPHUR COMPRESSOR STATION
HURRICANE PREPARATION CHECKLIST
(72 HRS)

DESCRIPTION	ASSIGNED TO:	COMPLETED:
INSPECT:		
GUY WIRES		
BUILDING TIE DOWNS		
DRAINAGE SYSTEM		
SHEETMETAL INSULATION		
BUILDING ROOFS		
FIRST AID KITS		
SPILL EQUIPMENT		
TANK LEVELS (SAFE)		
BOARD WINDOWS		
TEST:		
AUX. GENERATORS		
PORT. GENERATORS		
PORTABLE PUMPS		
DIESEL ENGINES		
FIRE/FLOOD PUMPS		
OUTBOARD MOTORS		
RADAR/SONAR UNITS		
RADIOS		
TELEPHONES		
CELL PHONES		
BEEPERS		
SCADA SYSTEMS		
SECURE EMERG. RESPONSE BOXES		
SECURE LOOSE ITEMS		
DRINKING WATER		
FILL FUEL TANKS (VEHIC & BOATS and generators and pumps)		
STORE NON-ESSENTIAL EQUIPMENT		
FLASHLIGHTS		
BATTERIES		
FOOD		
INSTALL SAND BAGS		
PICK UP TRASH/CANS		
STORE VITAL RECORDS		
PICK UP CHARTS, WIND CLOCKS, DOWNLOAD HISTORIES		

CHEVRON PIPE LINE CO
PORT NECHES COMPRESSOR STATION
HURRICANE PREPARATION CHECKLIST
(72 HRS)

DESCRIPTION	ASSIGNED TO:	COMPLETED:
INSPECT:		
GUY WIRES		
BUILDING TIE DOWNS		
DRAINAGE SYSTEM		
SHEETMETAL INSULATION		
BUILDING ROOFS		
FIRST AID KITS		
SPILL EQUIPMENT		
TANK LEVELS (SAFE)		
BOARD WINDOWS		
TEST:		
AUX. GENERATORS		
PORT. GENERATORS		
PORTABLE PUMPS		
DIESEL ENGINES		
FIRE/FLOOD PUMPS		
OUTBOARD MOTORS		
RADAR/SONAR UNITS		
RADIOS		
TELEPHONES		
CELL PHONES		
BEEPERS		
SCADA SYSTEMS		
SECURE EMERG. RESPONSE BOXES.		
SECURE LOOSE ITEMS		
DRINKING WATER		
FILL FUEL TANKS (VEHIC & BOATS and generators and pumps)		
STORE NON-ESSENTIAL EQUIPMENT		
FLASHLIGHTS		
BATTERIES		
FOOD		
INSTALL SAND BAGS		
PICK UP TRASH/CANS		
STORE VITAL RECORDS		
PICK UP CHARTS, WIND CLOCKS, DOWNLOAD HISTORIES		

CHEVRON PIPE LINE CO
GRAND CHENIER COMPRESSOR STATION
HURRICANE PREPARATION CHECKLIST
(72 HRS)

DESCRIPTION	ASSIGNED TO:	COMPLETED:
INSPECT:		
GUY WIRES		
BUILDING TIE DOWNS		
DRAINAGE SYSTEM		
SHEETMETAL INSULATION		
BUILDING ROOFS		
FIRST AID KITS		
SPILL EQUIPMENT		
TANK LEVELS (SAFE)		
TEST:		
AUX. GENERATORS		
PORT. GENERATORS		
PORTABLE PUMPS		
DIESEL ENGINES		
FIRE PUMPS,		
FLOOD PUMPS		
OUTBOARD MOTORS		
RADAR/SONAR UNITS		
RADIOS		
TELEPHONES		
CELL PHONES		
BEEPERS		
RTU BATTERIES		
SCADA SYSTEMS		
SECURE EMERG. RESPONSE BOXES		
SECURE LOOSE ITEMS		
DRINKING WATER		
FILL FUEL TANKS VEHIC/BOATS)		
STORE NON-ESSENTIAL EQUIPMENT		
FLASHLIGHTS		
BATTERIES		
FOOD		
INSTALL SAND BAGS		
PICK UP TRASH/CANS		
STORE VITAL RECORDS		
PICK UP CHARTS, WIND CLOCKS, DOWNLOAD HISTORIES		
Place instrument in auto/manual		

SABINE PIPE LINE LLC
SOUTH BOOSTER STATION
HURRICANE PREPARATION CHECKLIST
(72 HRS)

DESCRIPTION	ASSIGNED TO:	COMPLETED:
INSPECT:		
GUY WIRES		
BUILDING TIE DOWNS		
DRAINAGE SYSTEM		
SHEETMETAL INSULATION		
BUILDING ROOFS		
FIRST AID KITS		
SPILL EQUIPMENT		
TANK LEVELS (SAFE) (Waste oil/water)		
BOARD WINDOWS		
TEST:		
AUX. GENERATORS		
PORT. GENERATORS		
PORTABLE PUMPS		
DIESEL ENGINES		
FIRE/FLOOD PUMPS		
OUTBOARD MOTORS		
RADAR/SONAR UNITS		
RADIOS		
TELEPHONES		
CELL PHONES		
BEEPERS		
SCADA SYSTEMS		
SECURE EMERG. RESPONSE BOXES		
SECURE LOOSE ITEMS, incl. Fire Ext.		
DRINKING WATER		
FUEL TANKS (VEHICLES & BOATS and generators and pumps)		
STORE NON-ESSENTIAL EQUIPMENT		
FLASHLIGHTS		
BATTERIES		
FOOD		
INSTALL SAND BAGS		
PICK UP TRASH/CANS		
STORE VITAL RECORDS		
PICK UP CHARTS, WIND CLOCKS, DOWNLOAD HISTORIES		

OPERATION CHECKLIST

The following checklist is based on the Offshore shutting in all wells and Hilcorp shutting in all non-unit wells.

Instrument air

Two instrument air compressors in service on Entergy power with controls set for automatic start-up on natural gas should electric power is lost.

Recompression

One Clark high pressure recompressor to boost gas sales line pressure.

Fuel Requirements

Continue to furnish fuel for Henry Pipeline.
Excess gas will be sold to Columbia Gulf. Columbia Gulf has tentatively agreed to accept non-dehydrated gas for 24 to 48 hours.

I. Recompression

Run one Clark recompressor, in order to handle flash gas from Henry Offshore Separation Facility.

II. Fuel Requirements

A. Keep residue line open at Henry Offshore Separation Facility.

B. Draw dehydrated gas from the residue header into the Henry Plant's regular fuel system.

Post Hurricane

- At the appropriate time (when the hurricane has passed), the Team Leader or Operations Supervisor will direct his/her staff to recall all employees needed to the facility for start-up.
- The Team Leader or Operations Supervisor will arrange for employees to be contacted by telephone where possible. Radio stations and any other available means will also be utilized to inform employees when to return to work. However, *employees are expected to call the facility* as soon as the hurricane has passed to receive instruction. Emergency Notification Network (ENN) - Use this system for communication during emergencies.
- Depending on the severity of hurricane damage (if any), only those employees needed to "make ready" will be called in immediately.

High Winds, Severe Thunderstorms, Lightning, and Tornadoes

This category of severe weather usually occurs on short notice and organized preparation is not usually possible. To the extent that preparation is possible, the applicable checklist items in Hurricane Preparedness Plan can be used as a guide.

If sustained high winds are predicted, then as a minimum, a general clean up of the facility should be ordered with special attention given to removing or securing loose items, trash, construction materials, and small equipment which could be damaged or become airborne. Winds above 40 mph can make dangerous projectiles out of otherwise harmless materials, such as boards, buckets, cans, bottles, and even small stones.

Loose sheet metal in a high wind is especially dangerous to personnel and to electrical equipment. Flying sheet metal coming in contact with power lines or substation equipment can cause a power outage with serious consequences to facility operations.

Tornado Safety

- Tornado Watch: A tornado watch means conditions are favorable for the development of severe thunderstorms with large hail, heavy rain, damaging winds and tornados.
- Tornado Warning: More severe than a tornado watch, a tornado warning is issued when a tornado is developing or actually on the ground. Persons nearby should seek shelter immediately.
- Outdoors: Seek shelter if possible.
- Office Buildings: Upper stories are unsafe. Closets or small interior rooms are best. Interior closets and hallways provide some protection against flying debris. Avoid South and West walls and all windows.
- Large Buildings: Wide free-span roofs make these structures unsafe. Take shelter in inner hallways or in small interior rooms with strong walls. Avoid South and West walls and all windows.
- Cars and All vehicles: Vehicles offer no shelter from a tornado. Seek suitable indoor shelter. A ditch or ravine is better protection than a vehicle.

Flooding

Flooding from non-hurricane related causes usually happens with little advance warning. In the event such flooding is predicted, the applicable parts of the checklists in the Hurricane Preparedness Plan should be used as a guide in Flood Preparation Actions. Since advance warning may be limited to only a few hours, each individual with severe weather responsibilities should quickly prioritize the actions to be taken and ensure that the most critical of those actions are carried out first.

If a facility curtailment or shutdown is ordered by the Team Leader or Operations Supervisor and sufficient time is available before arrival of the flood, then the "Schedule for Unit Shutdown" will be followed. If sufficient time is not available for a planned shutdown, then each supervisor

will follow instructions from management and secure the equipment for which he is responsible in the best manner possible.

The Facility is surrounded by an earthen dike. Storm water is collected into a storm water containment area and discharged into the Boston canal. If high levels of storm water accumulate inside of the facility, flood pond water discharge pumps can be activated.

Freezing Temperatures

A *hard freeze* is defined as the condition existing when temperatures remain below freezing for a period of 6 hours or more. If the possibility of a hard freeze is predicted, preventive measures must be taken to prevent damage to piping and equipment.

All lines subject to freezing must be protected. The cost of repair of even small water lines due to freeze damage can be a major expense both in terms of direct maintenance costs and production loss. Freeze damage, especially to smaller water lines, is virtually always preventable.

When freezing conditions threaten, the area around any dripping water line (whether the drip is intentional or not) must be properly barricaded and marked as a hazardous area. The puddle formed by the drip will freeze and make the area too slick for the safe passage of personnel or vehicles.

BOMB THREATS AND OTHER DISTURBANCES

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

TRAINING AND DRILLS

Training

See Company Core Plan, Section 12 for training requirements.

Facility Drill Requirements

Henry Pipeline will conduct drills to maintain a high state of preparedness for our employees. The frequency of drills will be based on the following schedule:

- **Fire Drills**: Two drills, minimum, per year to be conducted on weekday, daylight shifts. Additional drills (weekday, daylight, and off shift) will be at the discretion of facility management (highly recommended).
- **Evacuation Drills**: Minimum of one drill per year. This drill will be performed in conjunction with fire drills.
- **Hazardous Material Spill/Toxic Vapor Drills**: Drills will be at the discretion of facility management (one per year is recommended).
- **Miscellaneous Drills**

Drills covering natural disasters, riots, bomb threats, civil disturbances and picketing are at the discretion of facility management.

All drills will be planned in advance by facility management. The planning will include:

- Procedures for conducting drill
- Delineation of responsibilities
- Purpose for conducting drill
- Expected results from drill

Each drill will be documented. The documentation will cover:

- Time and Date
- Participants in drill
- Outcome of drill
- Any deficiencies discovered during drill

Each drill will be reviewed by facility management with appropriate follow-up for any deficiencies.

RISK EVALUATION

Introduction

The Risk Evaluation is a site-specific analysis of potential hazards at Henry Pipeline facilities. The evaluation is intended to identify hazardous substances and potential incidents that may pose a serious safety or health hazard in which a coordinated response is required.

Pre-Emergency Planning and Coordination

The Facility Team Leader, and/or HES personnel will meet with the following local public safety officials on an annual basis to discuss emergency planning and coordination.

Vermilion Parish Office of Emergency Preparedness (LEPC)	(337) 898-4308
Vermilion Parish Sheriff's Department	(337) 893-0871
Abbeville Fire Department	911 or (337) 893-1234 or (337) 898-4258
Erath Volunteer Fire Department	911 or (337) 937-8176
Henry Volunteer Fire Department	911 or (337) 937-7421
Lake Charles Fire Department	911 or (337)-491-1360
Sulphur Fire Department	911 or (337)-527-4545

Facility Evaluation

(b) (7)(F), (b) (3)

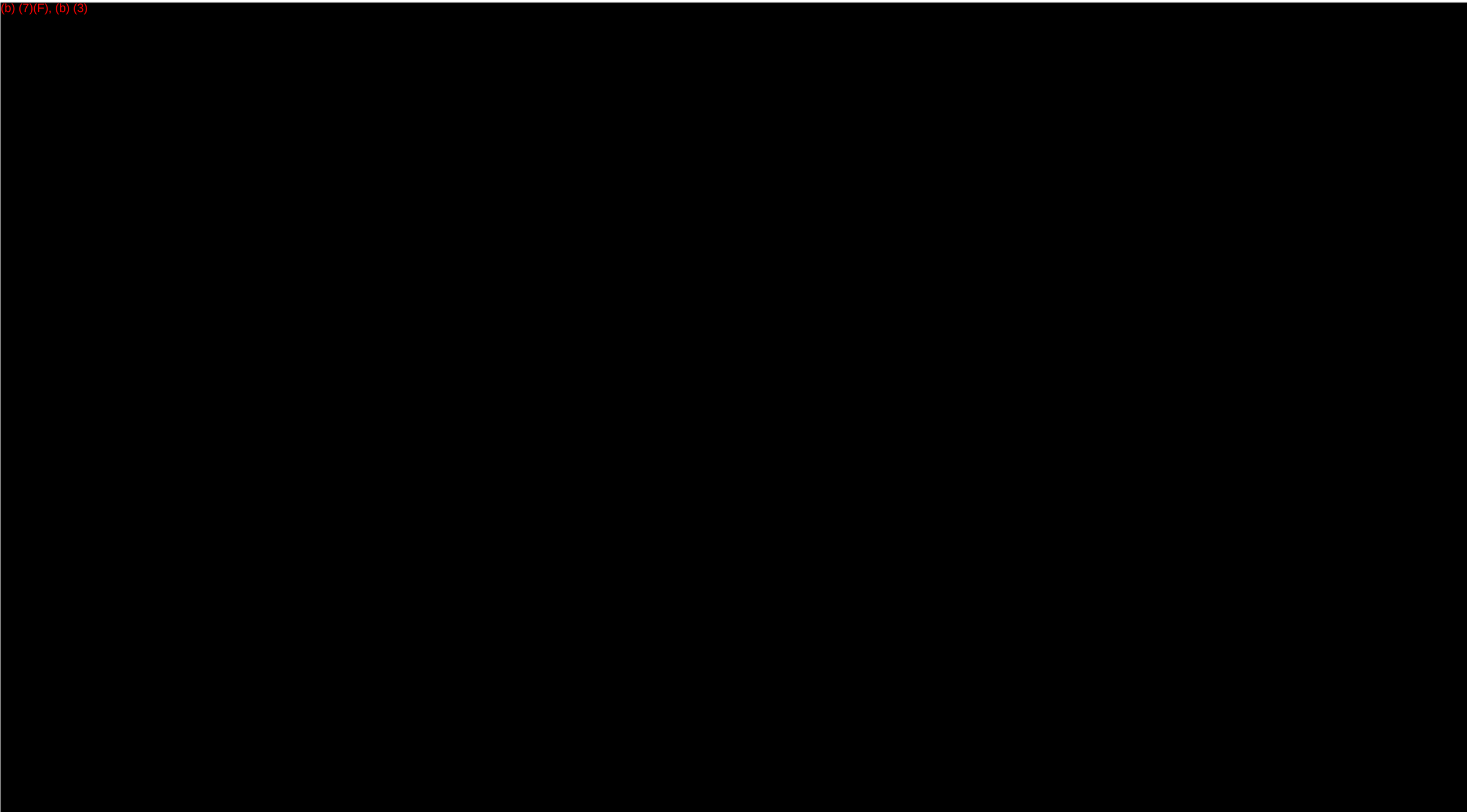
[redacted]

RECORD OF REVIEWS

Henry Pipeline requires this Emergency Response Plan be reviewed each calendar year. See Front of Book Index Tab for the Update Notices.

Henry Gas Processing Plant Emergency Evacuation Route Plot Plan

(b) (7)(F), (b) (3)



PARADIS GAS PLANT

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PIPELINE EAST, PARADIS OFFICE

GULF COAST GAS AND LIQUIDS PROFIT CENTER

CHEVRON PIPE LINE COMPANY

Issued: May 12, 2004

PIPELINE EAST, PARADIS OFFICE EMERGENCY ACTION PLAN

INTRODUCTION

This Emergency Action Plan has been developed to identify the actions that Pipeline East, Paradis Office management, employees, and all other personnel in the facility must take to facilitate the safety of personnel and the public in the event of a fire or other emergencies.

This Emergency Action Plan meets the requirements of 29 CFR 1910.38(a). The plan also includes provisions for handling of small releases.

This Emergency Action Plan is not intended to address hazardous waste operations and emergency response provisions contained in OSHA's HAZWOPER standard (29 CFR 1910.120 (q)).

GENERAL

An Emergency Action Plan addresses emergencies that an employer can reasonably expect to occur at a facility. An Emergency Action Plan as described within 1910.38(a) should contain the following elements:

- Emergency escape procedures and emergency escape route assignments;
- Procedures to be followed by employees who remain to operate critical facility operations before they evacuate;
- Procedures to account for all employees after emergency evacuation has been completed;
- Rescue and medical duties for those employees who are to perform them;
- The preferred means of reporting fires and other emergencies; and
- Names or regular job titles of persons or departments who can be contacted for further information or explanation of duties under the plan.
- Procedures for the handling of small releases.

Note: This Emergency Action Plan also addresses the steps taken when an emergency occurs at the Paradis Discovery Plant.

EMERGENCY ESCAPE PROCEDURES AND EMERGENCY ESCAPE ROUTE ASSIGNMENTS

Employees or visitors in the facility will be notified of an emergency situation by use of a Group Talk on the Pipeline East, Paradis Team Company radio/telephone. Word of mouth and/or radio communication indicates all clear. In the event of a release the Emergency Hotline will be used for reporting to any agencies.

An emergency situation at the Paradis Discovery Plant is communicated to personnel at the Paradis office by use of a Public address system that is linked to the office telephone system. In

addition to the public address system the plant utilizes a fire horn to notify of a critical emergency indicating an evacuation is necessary.

Upon being notified or made aware of an emergency situation, employees should do the following:

- Immediately evacuate the building or work area.
- Proceed to the evacuation site (rally point(s)).
- Report to the individual in charge of accounting for all personnel at the evacuation site.
- Stay at the evacuation site until given other instructions by the individual in charge.

Emergency evacuation assignments are outlined in Figure 1, Evacuations Assignments. The route(s) are also posted on the bulletin board at the Paradis Office.

Evacuation site(s) or rally point(s) are designated. The following is a listing of the evacuation site(s) to which employees and/or contractors, as well as, visitors should report:

- **Primary evacuation site:** (b) (7)(F), (b) (3)

Employees whose exact evacuation route cannot be determined should be aware of the wind direction and location of the emergency and plan their route accordingly. The wind direction can be determined by the **WINDSOCKS** located on top of the Paradis Discovery Plant Isobutanizer and on top of the Paradis Discovery Plant Gasoline Storage Spheres. Word-of-mouth, facility radio, or personally making a visual survey of the facility will relay the site of and/or the nature of the emergency to you. This would apply to all employees, visitors, contractors who may be working at the facility at the time of the emergency.

Employees need to be aware of the potential for a physically impaired employee that may be working in their area. Physical impairment may be permanent or temporary, (i.e. a broken leg). Such employees may require assistance in evacuating or special evacuation procedures. Employees who work with or near a physically impaired fellow employee should be prepared to render aid in an evacuation. This may mean simply assisting the employee with evacuation from the work area.

The Pipeline East Team Leader or his/her designee is responsible for ensuring that all office personnel are evacuated.

Employees who have responsibilities for contractors working in their area is responsible for ensuring that those contractors are evacuated.

To ensure the safety of all personnel at the Pipeline East, Paradis Office, visitors and contractors are required to register with a facility representative upon entry to the facility. Visitors are under constant escort with a facility employee. Should an emergency occur the visitor would be informed by the employee of the necessary actions that need to be taken.

Contractors are to be informed of emergency reporting procedures and evacuation routes by reviewing an orientation sheet outlining the actions to be taken.

EMERGENCY PROCEDURES

Any employee who detects an emergency situation may activate an Emergency Shutdown. The Emergency Shutdowns to shutdown the TENDS System is located:

- The first ESD is northeast of the Paradis Discovery Plant tank farm inside the TENDS area on the left as you approach from the north. The button is on the I-Beam. The second ESD is located on the I-Beam directly in front of the MCC building. An ESD is also located on the HMI control touch screen in the MCC building and a push button in the Pump Panel building.

PROCEDURES TO BE FOLLOWED BY EMPLOYEES WHO REMAIN TO OPERATE CRITICAL OFFICE/PIPELINE OPERATIONS BEFORE THEY EVACUATE

There are no critical operations that would need to be operated by a company employee in the event of an emergency. All personnel should evacuate the area(s) immediately upon notification of the emergency. Due to the capabilities of remote operation the facility systems can continue to operate unless the incident dictates that they be shutdown and isolated. The shutdown and isolation can be accomplished by the Control Center located in Houston, Texas.

PROCEDURES TO ACCOUNT FOR ALL EMPLOYEES AFTER EVACUATION HAS BEEN COMPLETED

The Team Leader, or his designee, is responsible for accounting for all personnel evacuated during the emergency event. He will take the “Sign-in Book” or sheet to verify all those signed in have been evacuated safely. The accounting for all personnel includes contractors and other visitors who may be at the facility at the time of the emergency event.

RESCUE AND MEDICAL DUTIES FOR THOSE EMPLOYEES WHO ARE TO PERFORM THEM

If all personnel cannot be accounted for, the Team Leader or his/her designee, shall decide the proper search and rescue procedures to be implemented.

If the emergency involves personnel injuries, the Team Leader or his/her designee, shall assign an individual responsible for calling an ambulance to the scene as soon as the emergency is known. In the case of an emergency involving an injury, personnel who are trained in first aid may provide first aid to the injured on a Good Samaritan basis until the arrival of the ambulance and EMT’s.

THE PREFERRED MEANS OF REPORTING FIRES AND OTHER EMERGENCIES

Fires or other emergencies will be reported by word-of-mouth or Group Talk on the Pipeline East, Paradis Team Company radio/telephone. Outside agency calls will be made via telephone.

PROCEDURES FOR HANDLING OF SMALL RELEASES

Small or incidental releases are defined as those releases or spills which do not pose a safety or health hazard to employees and do not need to be cleaned up immediately to prevent death or serious injury to employees.

If an employee discovers a small or incidental release, measures should be taken to stop or control the release. If possible, block-in or isolate the release until repairs can be made. If the leak is liquid in nature, take the proper measures to prevent the spill from spreading, entering sewers, etc. Even though the release does not pose a safety or health hazard to employees, if it cannot be stopped the area around the leak should be roped off as a precautionary measure. Once the release has been stopped or isolated, it should be reported to maintenance for repair or cleanup.

Note: All personnel at the Pipeline East, Paradis Team are HAZWOPER trained to Level 3 or above.

If you are in doubt as to whether or not the leak is potentially dangerous, treat it as an emergency and report it immediately.

TRAINING

All employees will receive training on the specifics of the Emergency Action Plan upon the initial implementation of this plan. Employees should be aware of what is specifically required of them in an emergency situation. If at any time, the provisions of this plan change, employees will receive refresher training on the plan.

Employees who have specific duties as outlined within this plan shall receive any additional training necessary to fully understand and be able to perform their duties. New employees shall receive training on the Emergency Action Plan upon initial employment.

Contractors shall be notified of the emergency reporting and evacuation provisions of this plan through the contractor safety-training program prior to entry into the facility. Visitors shall be notified of the emergency reporting and evacuation provisions of this plan upon registration with the appropriate person.

NOTIFICATION – FIRE/SPILL/LEAK EMERGENCY

Paradis Fire Dept.....911
St. Charles Parish Sheriff Department.....911
Ambulance / Medical Assistance.....911

EMERGENCY NOTIFICATIONS

Refer to the Emergency Response Action Plan (ERAP) located in the front pocket of Volume 1 of this State Appendix.

NAPOLEONVILLE GAS STORAGE FACILITY

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BRIDGELINE HOLDINGS , L.P.
LOUISIANA REGION EASTERN DISTRICT
NAPOLEONVILLE NATURAL GAS STORAGE FACILITY
SITE SPECIFIC EMERGENCY OPERATING PLAN SUPPLEMENT

PURPOSE

The purpose of this "Site Specific Section" is to compliment the "General Section" of the Natural Gas – North America Emergency Operating Plan in providing specific information for the Napoleonville Natural Gas Storage Facility.

This Site Specific Section cannot stand-alone; it must accompany and be used in conjunction with the remainder of this State Appendix as applicable and the Company Core Plan. Together these make up the Emergency Operating Plan. The General Section contains general information and procedures common to all pipeline facilities operated by the Company.

INTRODUCTION

The Company operates a natural gas storage facility known as the Bridgeline Holdings, L.P. Napoleonville Natural Gas Storage Facility (hereinafter referred to as "The Facility"). The Facility is located approximately one-quarter mile west of the intersection of LA 70 and LA 69 in the area known as Grand Bayou.

The facility is manned seven (7) days a week, twenty-four (24) hours a day with support from personnel on 24-hour call.

The Facility is designed for injecting pipeline gas into storage, or withdrawing stored gas for delivery to the pipelines. Any one of seven (7) basic operating modes may be implemented.

Mode 1 Withdrawal of gas from storage with and free flow to the pipelines (no compression); or
Mode 2 Compression of pipeline gas for injection into storage; or
Mode 3 Withdrawal of gas from storage with dehydration, then compression of the gas for delivery to the pipelines; or
Mode 4 Free-flow gas from pipelines to storage without compression; or
Mode 5 Pipeline to pipeline (compressed) to and from any one or combination of pipelines (Bridgeline Holdings, L.P. (LRC), Bridgeline Gas Distribution LLC (Floodway), Florida Gas Transmission, Acadian) with compression; or
Mode 6 Pipeline to pipeline (free-flow) to and from any one or combinations of pipelines (Bridgeline Holdings, L.P. (LRC), Bridgeline Gas Distribution LLC (Floodway), Florida Gas Transmission, Acadian) by free-flowing; or
Mode 7 Combination Mode (via compression) This mode allows movement of gas from The Facility to Pipelines to dome while moving gas from Bridgeline Gas Distribution LLC (Floodway) to Bridgeline Gas Distribution LLC (Floodway) with a combination of compressors. Pipelines used in this mode are Bridgeline Holdings, L.P. (LRC), Florida Gas Transmission (FGT), and Bridgeline Gas Distribution LLC (Floodway).

EMERGENCY NOTIFICATIONS

Refer to the Emergency Response Action Plan (ERAP) located in the front pocket of Volume 1 of this State Appendix.

Ascension Parish, Louisiana - Emergency Notification Roster

Service/Responder	Organization	Phone Numbers
LEPC	Ascension Parish – LEPC	800-424-8802
Ambulance	Acadian Ambulance	511
State Police Hazmat	Louisiana State Police	225-925-6595
Parish Sheriff	Ascension Parish Sheriff	225-621-8300
Fire and Rescue	Donaldsonville Fire Department	225-473-0664
Hospital	Ascension Hospital 615 East Worthy St. Gonzales, LA	225-621-1242
	Prevost Memorial Hospital 301 Memorial Drive Donaldsonville, LA	225-473-7931

Assumption Parish, Louisiana - Emergency Notification Roster

Service/Responder	Organization	Phone Numbers
LEPC	Assumption Parish – LEPC	985-369-7386
Ambulance	Acadian Ambulance	911
State Police Hazmat	Louisiana State Police	225-925-6595
Parish Sheriff	Assumption Parish Sheriff	985-369-7281
Fire and Rescue	Napoleonville Fire Department	985-369-2558
	Paincourtville Fire Department	985-369-7134
	Pierre Part Fire Department	985-252-6431
Hospital	Our Lady of the Lake Assumption 135 Highway 402 Napoleonville, LA	985-369-3600

Iberville Parish, Louisiana - Emergency Notification Roster

Service/Responder	Organization	Phone Numbers
LEPC	Iberville Parish – LEPC	225-687-5140
Ambulance	Acadian Ambulance	911
State Police Hazmat	Louisiana State Police	225-925-6595
Parish Sheriff	Iberville Parish Sheriff	225-687-5140
City Police	Plaquemine City Police	225-687-9273
Fire and Rescue	Plaquemine Fire Department	225-687-7335
	White Castle Fire Department	225-545-9214
Hospital	Our Lady of the Lake Hospital 5000 Hennessy Blvd Baton Rouge, LA	225-765-6565
	LSU Medical Center 5825 Airline Hwy Baton Rouge, LA	225-358-1000

ALARMS

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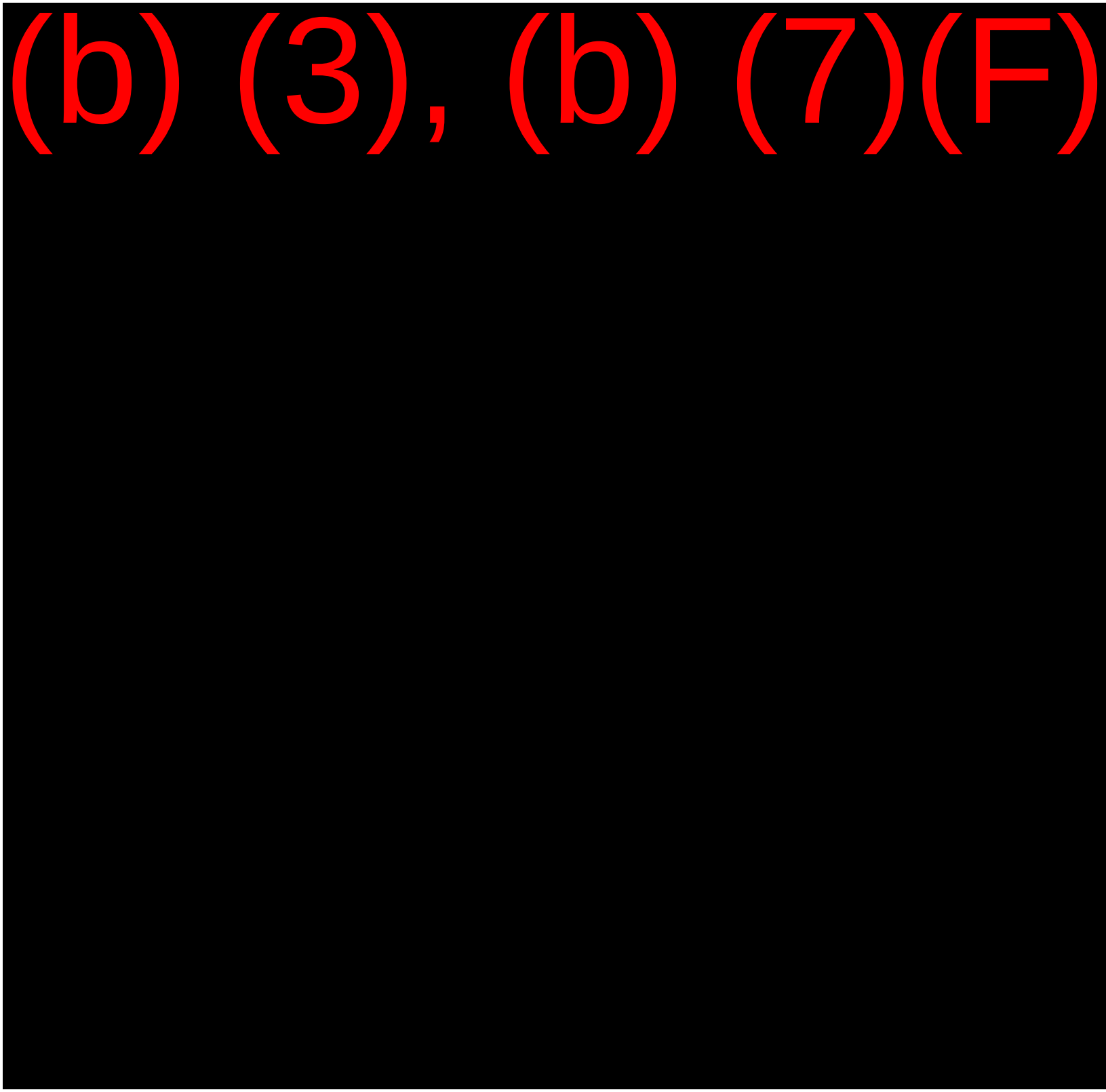
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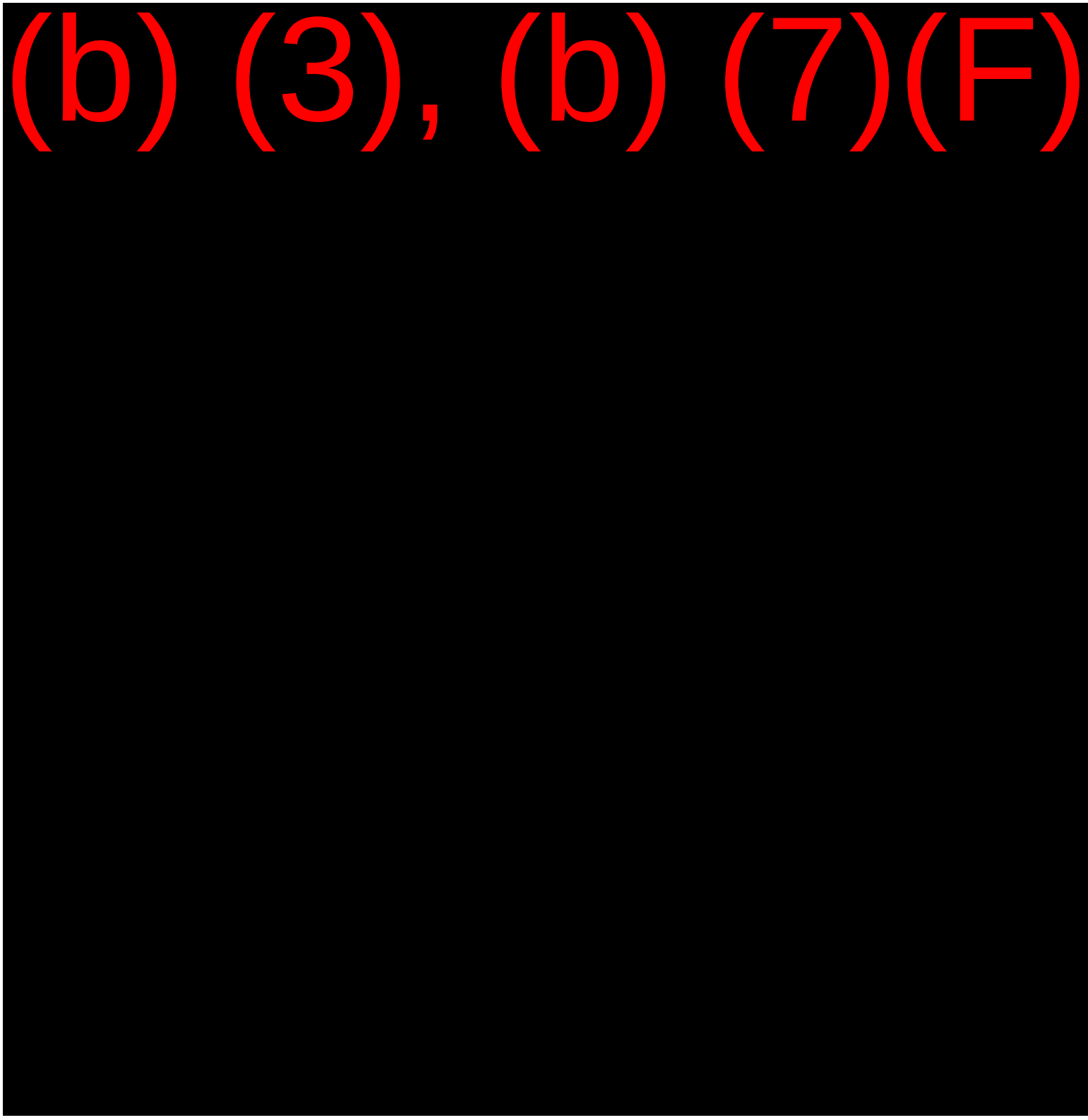
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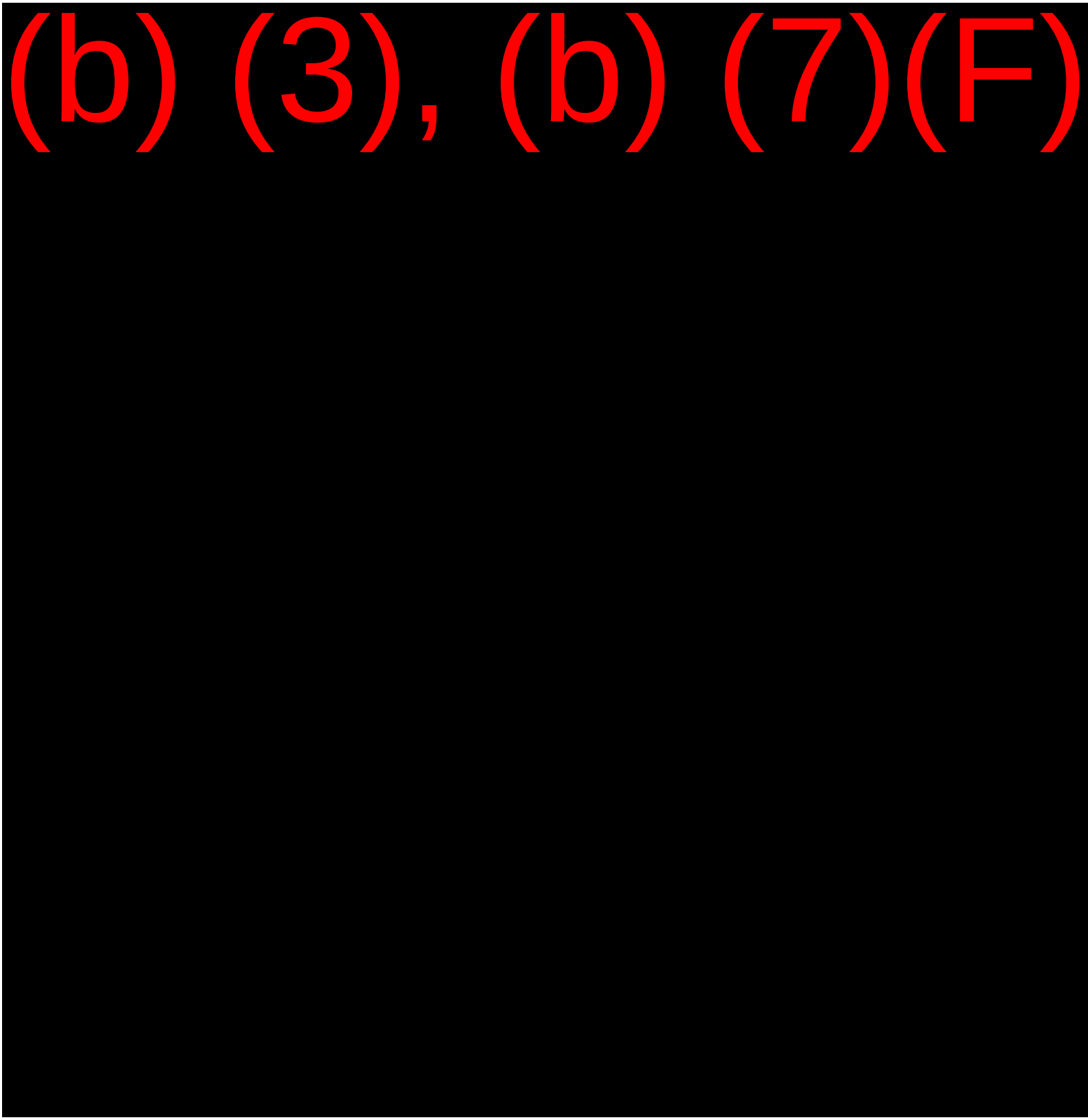
(b) (3), (b) (7)(F)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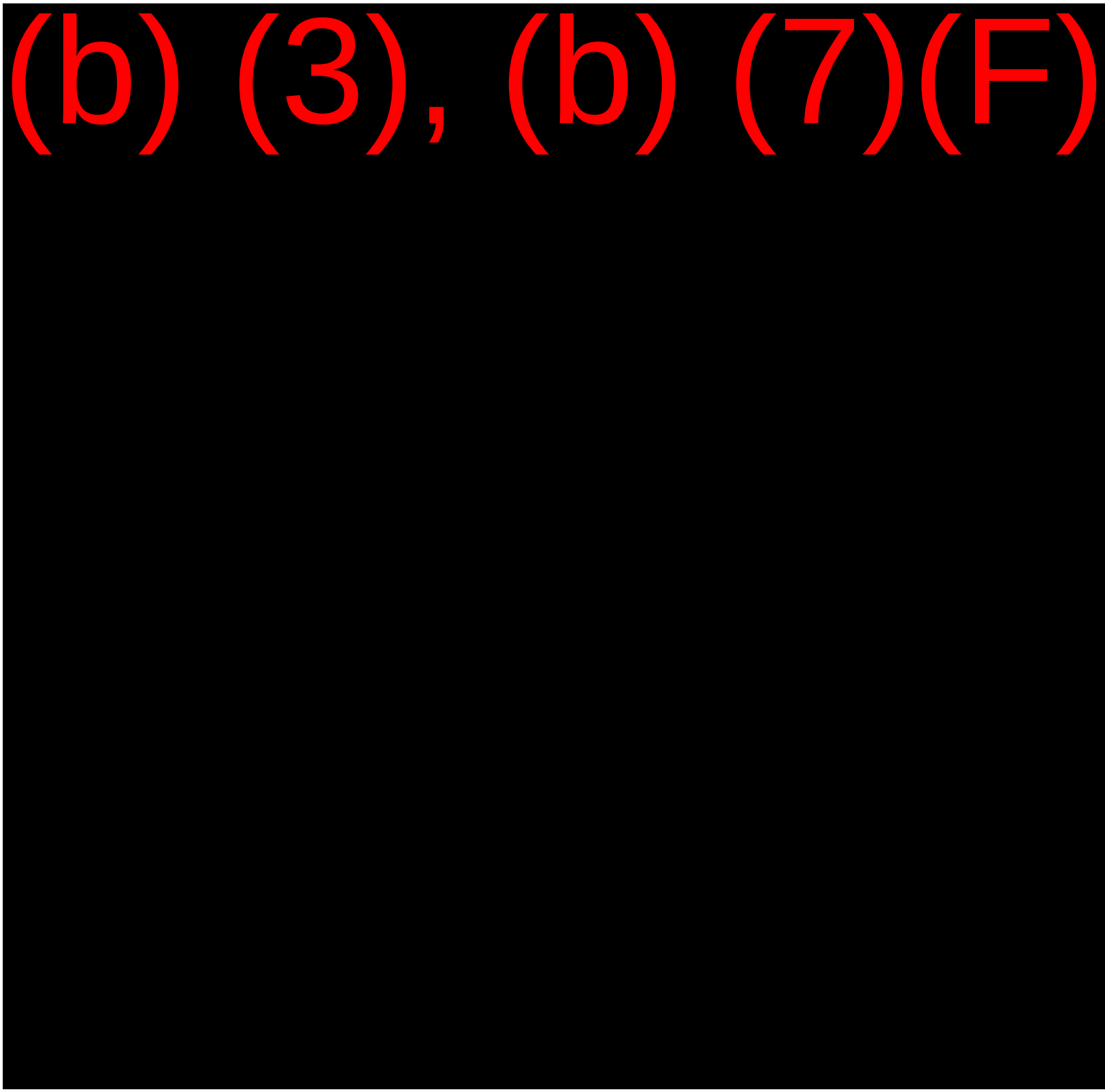
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VESSELS

All pressure vessels have MAOP's equal to or above that of the connected piping. On vessels, which can be isolated from the piping, safety/relief valves are provided to protect against possible thermal overpressure while the vessel is isolated.

ATMOSPHERIC TANKS

Atmospheric tanks are equipped with vents, weighted thief hatches and pressure/vacuum relief valves as necessary for normal inbreathing and outbreathing and for emergency venting in accordance with API Specification 12F (where applicable), as follows:

- Coolant storage tank T-600, lube oil storage tank T-700 and lube oil drain and fill tank T-710 are vented to atmosphere with screened vents; and
- TEG storage tank T-480 is gas-blanketed at 6 oz/in^2 and has a pressure/vacuum relief valve (PSV-480) set at 12 oz/in^2 pressure and 0.4 oz/in^2 vacuum. The pressure/vacuum relief valve plus a weighted thief hatch ensure adequate emergency venting capacity even if the flame arrestor in the vent should become fouled.

AUXILIARY PIPING

Auxiliary piping systems are either designed for a pressure equal to or greater than the connected pressure source; or are equipped with pressure safety/relief valves adequate to protect them from overpressure from a higher-pressure source. Such safety/relief valves are sized for the maximum flow rate, which could result from any single failure leading to the overpressure.

PIPING THERMAL RELIEF

Segments of liquid-containing piping which can be isolated are equipped with thermal relief valves.

ASSUMPTION PARISH DIAL LOGIC SYSTEM

PURPOSE

The Assumption Parish "Dial Logic System" (DCC) is a community emergency notification system. That can be activated by calling Assumption Parish Sheriff's office dispatch at(985) 369-2912 (DCC) will notify by telephone the impacted geographic area such as a community.

NAPOLEONVILLE SALT DOME INDUSTRIAL GROUP EMERGENCY RESPONSE PLAN

PURPOSE

This procedure is recommended in the event an emergency should occur which would make it necessary for a member of the Industrial Group to communicate with other members, the local community, or area public service groups.

COMMUNICATION MODES

The communication modes are used by the industrial group:

- Dome Emergency Radio System – This radio system operates at 153.140 MHz and there is one radio in each of the following control rooms: Dow Grand Bayou Operations, Promix L.L.C., UCAR, Texas Brine, Acadian Gas, Bridgeline Holdings LP, PB Energy and Assumption Parish Office of Emergency Preparedness. The purpose of the radio system is to enable communication to warn down wind or adjacent facilities in the event of an emergency. This will allow each company to take appropriate actions to protect their employees and property from damage and render assistance, if necessary. Also, this will help to relay information to the APOEP so that the emergency can be clearly communicated and reduce the response time of state agencies and mutual aid;
- Landline Phones;
- Mobile Phones; and
- Community Siren System – There are two sirens on the salt dome that are used to alert the community of an incident that has the potential to affect them. One siren is located on the East End of the salt dome at the Acadian Gas facility and the other is located on the West End of the salt dome at the Bridgeline Holdings LP Gas Storage facility. These sirens rotate and sound a continuous wale that is designed to be heard by anyone outside on the dome. These sirens can be activated from two locations: Assumption Parish OEP and Acadian Gas control room. The sirens are silent tested daily and are audibly testing on the first Monday of each month at 12 noon.

EMERGENCY CLASSIFICATION

The following emergency classification guidelines will be used:

- Category "A": Inside the Facility – A release of a material that is expected to have an impact only within the facility where the release occurs. The release is not expected to have an effect, or be measurable or detected outside the facility block limits.

  Action to be taken:

  Follow Company's Emergency Operating Plan.

- Category "B": Outside the Facility – A release of a material that is expected to have an impact in the immediate area, surrounding facilities, and public communities, roads, or areas.

  Action to be taken:

  - Follow company's emergency response plan and reporting guidelines;
  - Call 911 to notify Sheriff Department and APOEP. This shutdown road traffic and activate the emergency operations center;
  - Use the Dome Emergency Radio System to alert adjacent neighbors and down wind facilities;
  - Notify either the Dow Grand Bayou Operations control room or the Acadian Gas control room to activate the Community Siren System if the event is predicted to impact the surrounding community. The company's Security and Emergency Services along with the APOEP will help to make this determination; and

INDUSTRIAL ACCOUNTABILITY LISTS:

List 1 – Assumption Parish Sheriff's Office

(985) 369-2912 ---------- Dispatcher / Jail
(985) 369-7281 ---------- Main Office / Jail at night and weekends
(985) 369-7282 ---------- Main Office / Jail at night and weekends

List 2 – Assumption Parish "OEP"

(985) 369-7386 ---------- Office of Emergency Preparedness

List 3 – Acadian Gas Corp.

(504) 369-6045 ---------- Acadian Gas Storage Facility
(800) 600-6240 ---------- Houston Gas Control

List 4 – Reserved

List 5 – Dow Chemical USA

(225) 353-8888 ---------- Dow Security Plaquemine Facility
(225) 353-8990 or (504) 369-7111 ---------- Dow Brine Productions Operations

List 6 – Bridgeline Holdings LP
(985) 369-2629---------- Napoleonville Gas Storage Operations
(800) 365-2748---------- Pipeline Systems Control Center
(225) 344-3377 ---------- District Office (Port Allen)
(225) 675-8090 ---------- Sorrento Gas Storage Operations

List 7 – Exxon Pipeline Co.

(225) 755-2884 ---------- District Office (Port Allen)

List 8 – Shell Pipeline Co. LP

(985) 369-9600 ---------- Compressor Station (Grand Bayou)

List 9 – Texas Brine Company

(985) 369-6657 ----------Brine Operation (Grand Bayou)

List 10– UCAR Corp.

(504) 369-7521 ----------Storage Operations (Grand Bayou)

List 11 – Promix L.L.C.

(985) 369-5012 ----------Control Room
(985) 369-5000 ----------Office
(985) 252-6759 ----------Belle River Barge Dock
(985) 369-8683----------PB Energy

EMERGENCY RADIO PROTOCOL

The purpose of the Dome Emergency Radio System is to provide a communications path directly to each control room on the dome and the Assumption Parish OEP in the event of an emergency that requires immediate notification or assistance. The radio system can also be used for updates on the status of the emergency to the OEP and down wind companies.

The Dome Emergency Radio System will be used for emergencies that require launching the community Siren, or emergencies that require assistance from another company or agency, such as shutting down transfers, or initiating EMS, fire department or first responder calls. Emergencies only

Testing of the Dome Emergency Radio System will be done weekly. Dow will initiate the call to each unit (i.e., the initiator would key the radio and say, “Unit 1- Acadian”, the response by Acadian would be “Unit 1, loud and clear”). The testing will be done every Monday at approximately 11:00 AM.

Radio unit assignments are as follows:

Unit #	Company/Organization
1	Acadian Gas
2	Dow Chemical Company (DCC) / Union Carbide (UCAR)
3	Dow Chemical Company (DCC) / Union Carbide (UCAR)
4	Promix L.L.C.
5	Texas Brine
6	Bridgeline Holdings LP
7	Crosstex
8	Assumption Parish Office of Emergency Preparedness (OEP)
9	PB Energy

The nine (9) Emergency radios are 100 Watt VHF base stations complete with power supplies and microphones. The frequency used is 153.14 MHz.

NOTE: These radios have been known to cause interference (spikes) with oxygen analyzers and vibration monitoring equipment.

The radios are the property of the Dow Chemical Company (DCC) and have been donated for emergency use by the Dome Industries. Responsibilities for the radios are as follows:

The license will be maintained by DCC; and

Maintenance and repairs of the individual radio units are the responsibility of the company/organization that they have been assigned to.

FACILITY EVACUATION ROUTE AND PLOT PLAN

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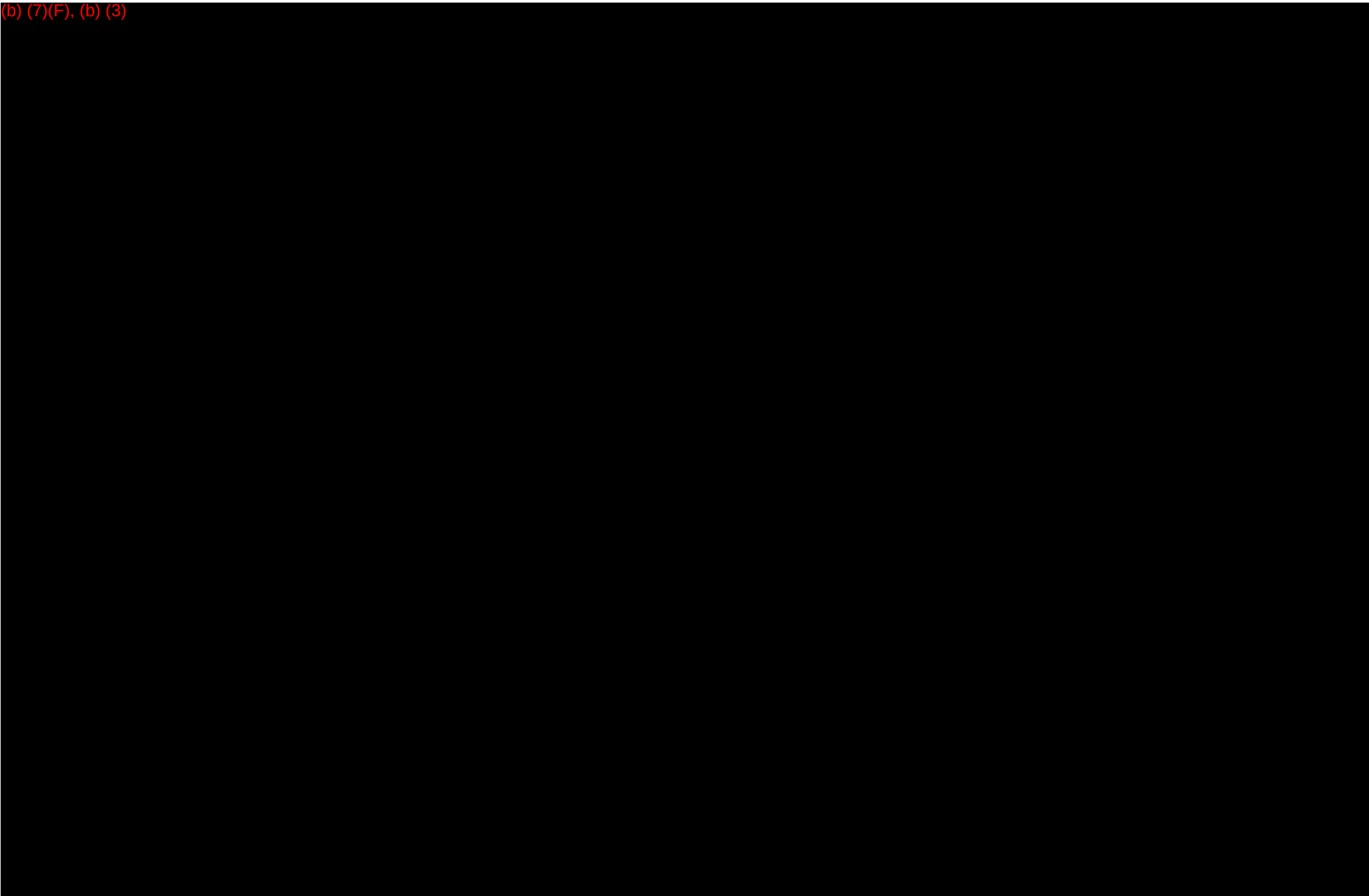
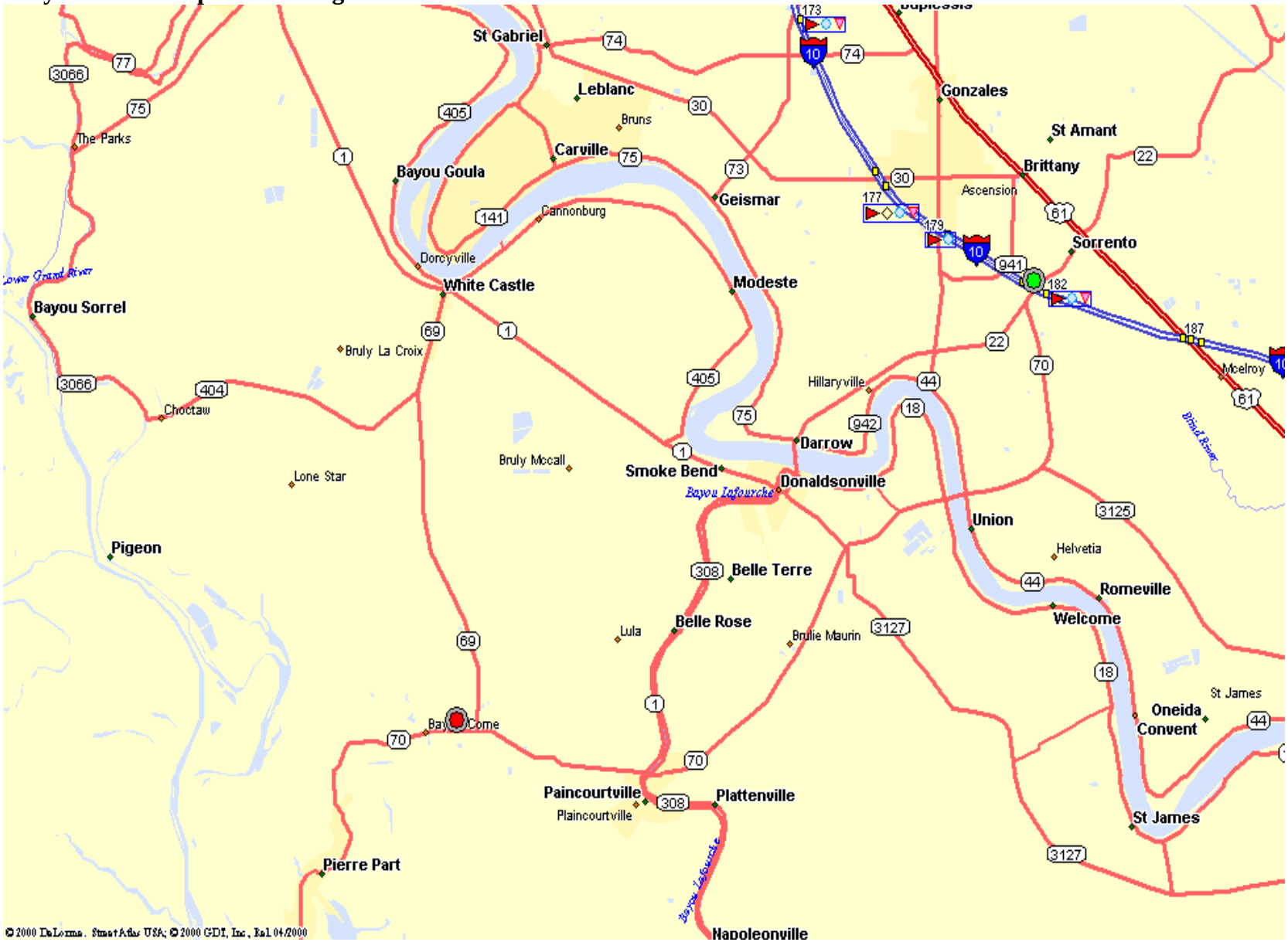


FACILITY LOCATION MAP AND DIRECTIONS

I-10 / LA Hwy. 22 Exit to BLH Napoleonville Gas Storage				
Road	**Travel Directions**	**Exit #**	**Time (minutes)**	**Distance (miles)**
START-I-10 / Hwy. 22		182		¼ mile
Hwy. 70	West		30	25
Address: 1282 Hwy 70 South, Belle Rose, LA 70341				
FINISH- BLHNapoleonville Gas Storage				
Total Time and Distance			**29**	**20.4**

Facility Location Map and Driving Directions



SORRENTO DOME FACILITY

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BRIDGELINE HOLDINGS , L.P.
LOUISIANA REGION EASTERN DISTRICT
SORRENTO NATURAL GAS STORAGE FACILITY
SITE SPECIFIC EMERGENCY OPERATING PLAN SUPPLEMENT

PURPOSE

The purpose of this "Site Specific Section" is to compliment the "General Section" of the Natural Gas – North America Emergency Operating Plan in providing specific information for the Sorrento Natural Gas Storage Facility.

This Site Specific Section cannot stand alone, it must accompany and be used in conjunction with the remainder of this State Appendix as applicable and the General Section and Company Core Plan. Together these make up the Emergency Operating Plan.

INTRODUCTION

The Company operates a natural gas storage facility known as the Bridgeline Gas Holdings, L.P. Sorrento Natural Gas Storage Facility (hereinafter referred to as "The Facility"). The facility is located in Ascension Parish, southeast of Sorrento, LA; 1.8 miles east of the intersection of US Highway 61 and LA Highway 3140 on LA Highway 3140.

Global positioning satellite (GPS) coordinates of the facility are:
Latitude = (b) (7)(F), (b) (3)
Longitude =

Physical Address of the facility is:
Bridgeline Holdings, L.P.
LA 6576 HWY 3140
Sorrento, LA 70778

The facility is manned seven (7) days a week, twenty-four (24) hours a day with support from personnel on 24-hour call.

The Facility is designed for injecting pipeline quality gas from natural gas pipelines into storage, or withdrawing stored gas for delivery to the pipelines.

EMERGENCY NOTIFICATIONS

Refer to the Emergency Response Action Plan (ERAP) located in the front pocket of Volume 1 of this State Appendix.

Ascension Parish, Louisiana - Emergency Notification Roster

Service/Responder	Organization	Phone Numbers
LEPC	Ascension Parish – LEPC	225-621-8360
Ambulance	Acadian Ambulance	911
	Med Express Ambulance	911
State Police Hazmat	Baton Rouge– Troop "A"	225-925-6595
Parish Sheriff	Ascension Parish Sheriff	225-621-8300
Fire and Rescue	Sorrento Fire Department	225-675-8668
Hospital	Our Lady of the Lake 5000 Hennessy Blvd. Baton Rouge, LA	225-765-6565
	St Elizabeth Hospital Ascension 1125 West Hwy 30 Gonzales, LA	225-647-5000

ALARMS

General

The purpose of the alarm system is to signal a possible emergency and to gather personnel at assembly points and/or to evacuate. Understanding alarms is a crucial part of an evacuation plan.

Detection devices should be monitored continuously and regularly tested, inspected, maintained, and calibrated. Alerting systems also must be maintained and tested regularly.

Alarms Signals

Fire or Emergency -- 1 “Long” Blast on Plant Horn

Evacuation ---------- 2 “Long” Blast

All Clear---------- 2 “Short” and 1 “Long” Blast

Alarms System Testing

The alarm system will be tested weekly. The Facility Operator conducting the test is responsible for test documentation. Malfunctions of the alarm system will be corrected immediately.

Fire and Evacuation Alarm

Upon sounding of the Fire and Evacuation alarm:

- General announcements will be made by word of mouth.
- Contractor employees will report to the designated gate and await instructions from their supervisors or facility management.
- No one will enter The Facility without the approval of the Emergency Response Director upon approval for entering the Facility, anyone other than a company employee will be accompanied by a company employee at all times.

All Clear Signal

The All Clear signal may be authorized only by the Incident Commander/Supervisor.

EVACUATION

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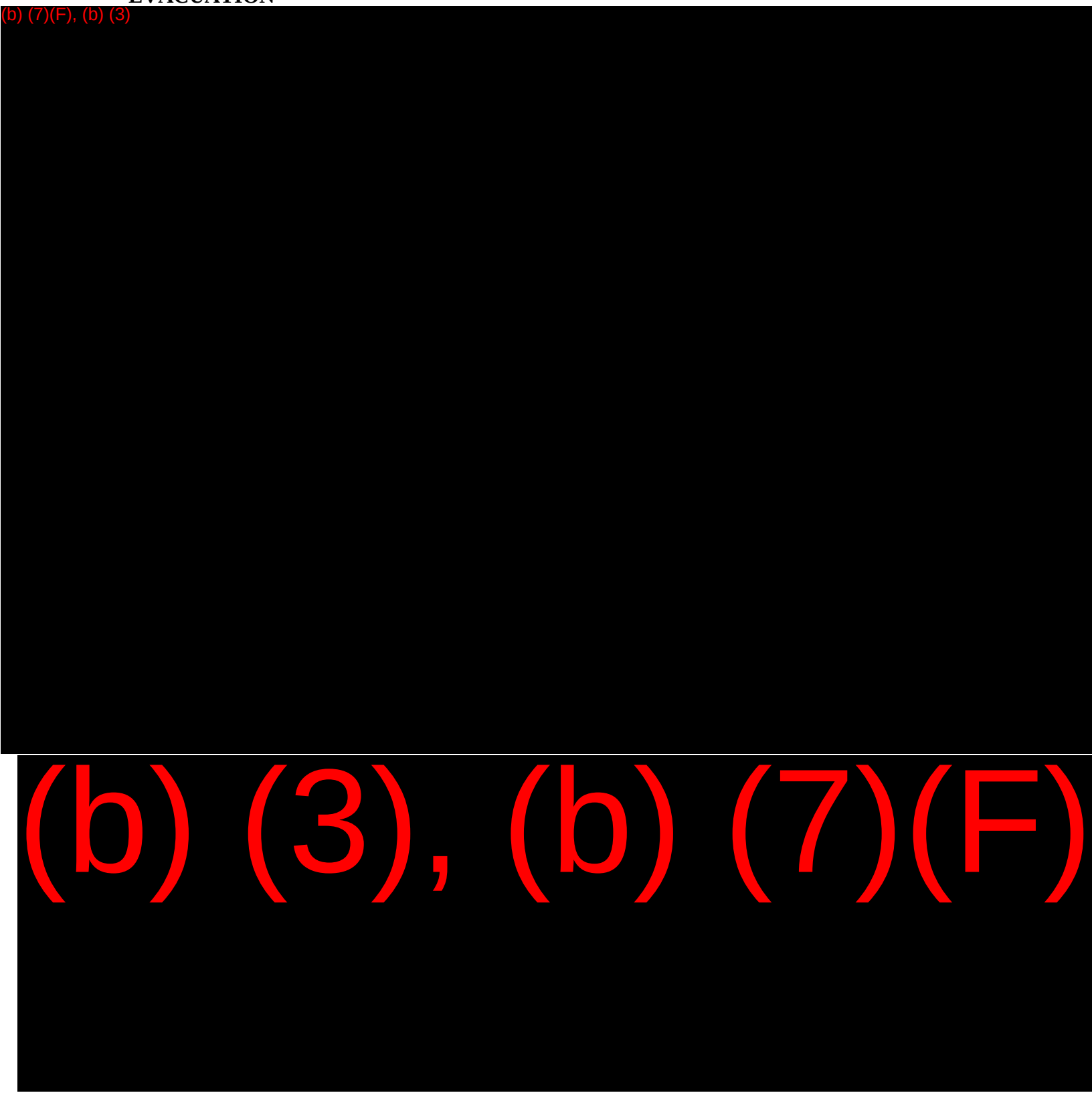

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Detector Tag	Zone Service	Alarm Tag
JFD - 10A	1 Main Bldg.	XA - 10C
JFD – lOB	1 Main Bldg.	XA -10C
JFD - 10C	2 Main Bldg.	XA - 10C
JFD – lOD	2 Main Bldg.	XA - lOC
JFD - 20A	3 Comp. Bldg.	XA -20C
JFD - 20B	3 Comp. Bldg.	XA -20C
JFD - 20C	4 Comp. Bldg.	XA - 20C
JFD - 20D	4 Comp. Bldg.	XA - 20C
JFD - 20E	5 Comp. Bldg.	XA - 20C
JFD - 20F	5 Comp. Bldg.	XA - 20C
JFD - 20G	6 Comp. Bldg.	XA - 20C
JFD - 20H	6 Comp. Bldg.	XA - 20C
JFD - 30A	7 Aux. Bldg.	XA - 30C
JFD - 30B	7 Aux. Bldg.	XA - 30C
JFD - 30C	8 Aux. Bldg.	XA - 30C
JFD - 30D	8 Aux. Bldg.	XA - 30C

FIRE, SORRENTO NATURAL GAS STORAGE FACILITY

OVERPRESSURE PROTECTION

INTRODUCTION

This procedure outlines actions to be taken as part of the initial response for the purpose of protecting nearby persons, property, or the environment from a fire involving the Sorrento Natural Gas Site. This procedure is to be used as a guideline with the following considerations:

- All actions should be defensive in nature and conducted from outside any danger area;
- At no time will any employee place themselves to be placed, into a life threatening situation;
- Employees are expected to act only in accordance with their training. It is not the Company's intent to place any employee into a hazardous situation when the employee has not been trained to safety respond to the possible hazards present;
- The safety of employees takes precedence over all other considerations. Protecting the facility from damage or destruction will always be a secondary consideration to the safety and health of employees.

Fire Suppression System

The Sorrento Gas Storage Facility fire suppression system consists of a fire water system, fixed monitors, and portable fire extinguishers.

The Sorrento Gas Storage Facility fire water system is a looped underground system covering all areas of operations. There are isolation valves, hydrants and fixed monitors. All of these make up the primary fire suppression system.

Fire Protection

Fire Protection for the Facility is as follows:

- Components protected;
  - Compressor area;
  - Storage well;
  - Methanol storage; and
  - Dehydration area.
- Cooling water is provided for storage vessels;
- Compressor area is supervised by fire eyes and heat detection;
- Control room is supervised by heat detectors;
- Fire control consists of shutting off the fuel supply and applying cooling water from fixed monitors; and
- Fire extinguishers are strategically located and marked conspicuously throughout the facility.

Incipient Fire (Just Beginning to Appear or Occur)

Company employees are allowed to fight incipient stage fires. An incipient stage fire is a fire that is in the initial or beginning stage and can be controlled or extinguished by portable fire extinguishers, Class II standpipe, or small hose systems without the need for protective clothing or a breathing apparatus.

Upon the detection of an incipient fire the following guidelines shall be used:

- Employee detecting a fire will notify the Facility operator and any personnel in the immediate area;
- All employees in the immediate area will attempt to extinguish fire utilizing incipient stage fire fighting equipment;
- From outside the danger area, apply cooling water as quickly as possible to the vapor space surfaces of any vessel exposed to heat. Concentrate on piping, metal surfaces of vessel, and surfaces expose to flame or intense heat;
- The Facility Operator will notify all facility personnel of the incident;
- The Facility Operator will ensure the area is secure and evacuated by;
  - Evacuating immediate danger area;
  - Keeping all persons out of the danger area; and
  - If required, blocking in or shutting down all sources feeding the release without placing themselves in immediate danger.
- Operator will notify and brief the Incident Commander/Supervisor of the situation and any steps that have been taken to control the fire. The Incident Commander/Supervisor will then determine if a state of emergency exists; and
- Refer to appropriate Controlled Response Procedures once the incident is under control.

OVERPRESSURE PROTECTION

General

Overpressure protection systems are provided throughout the plant to protect piping or equipment from overpressure, which might result from equipment failure or operational error. Depending on the specific system there may be several levels of overpressure protection: alarms which alert operators when pressures exceed normal operating limits so that operational adjustments may be made to reduce the pressure; shutdowns which automatically shutdown the affected system or equipment if pressure becomes dangerously high; pressure monitor pilots on block valves which automatically close the valve if the monitored pressure exceeds a preset value; and safety/relief valves which automatically open to relieve excess pressure.

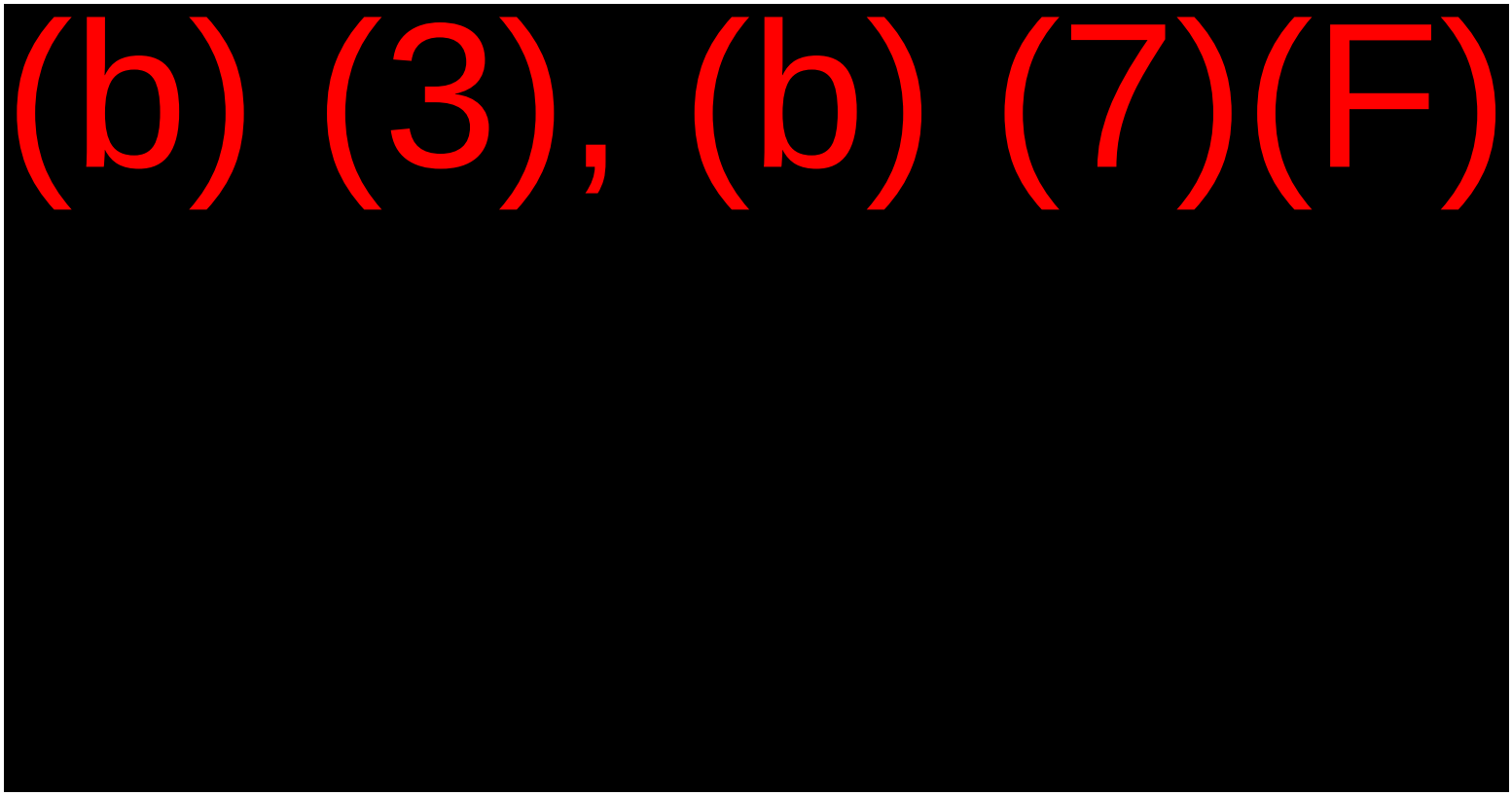
Introduction

The Company operates a Propane Storage Facility Know as " S-4 Storage Cavern. The facility is located in Ascension Parish , Southeast of Sorrento , LA. 1.8 MILES East of the intersection of U.S. HWY. 61 and La. HWY. 3140 on LA. Hwy 3140.

Global Positioning Satelite "GPS Coordinates of the facility are :

Latitude = (b) (7)(F), (b) (3)
Longitude

(b) (3), (b) (7)(F)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FACILITY EVACUATION ROUTE AND PLOT PLAN

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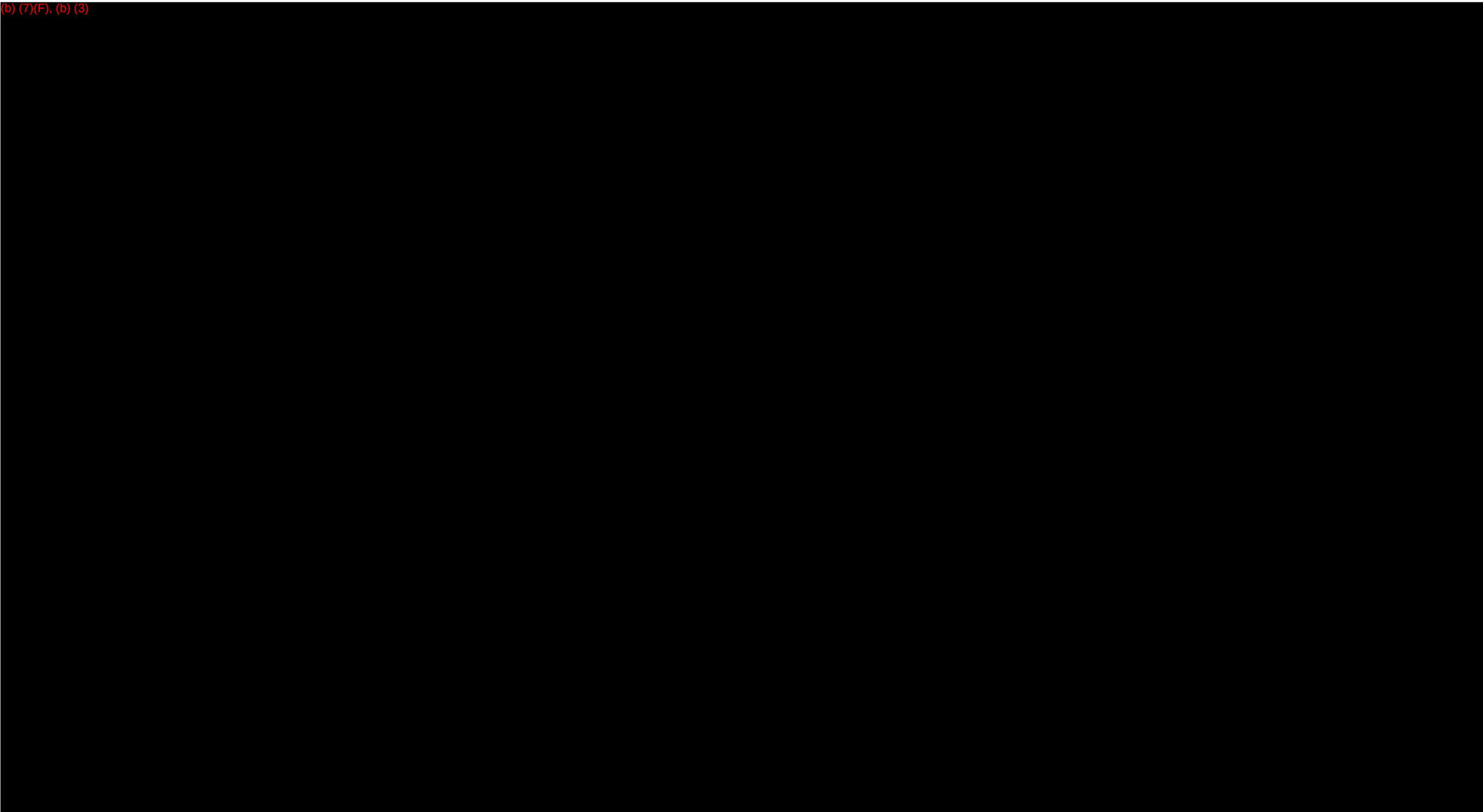

EQUIPMENT LAYOUT

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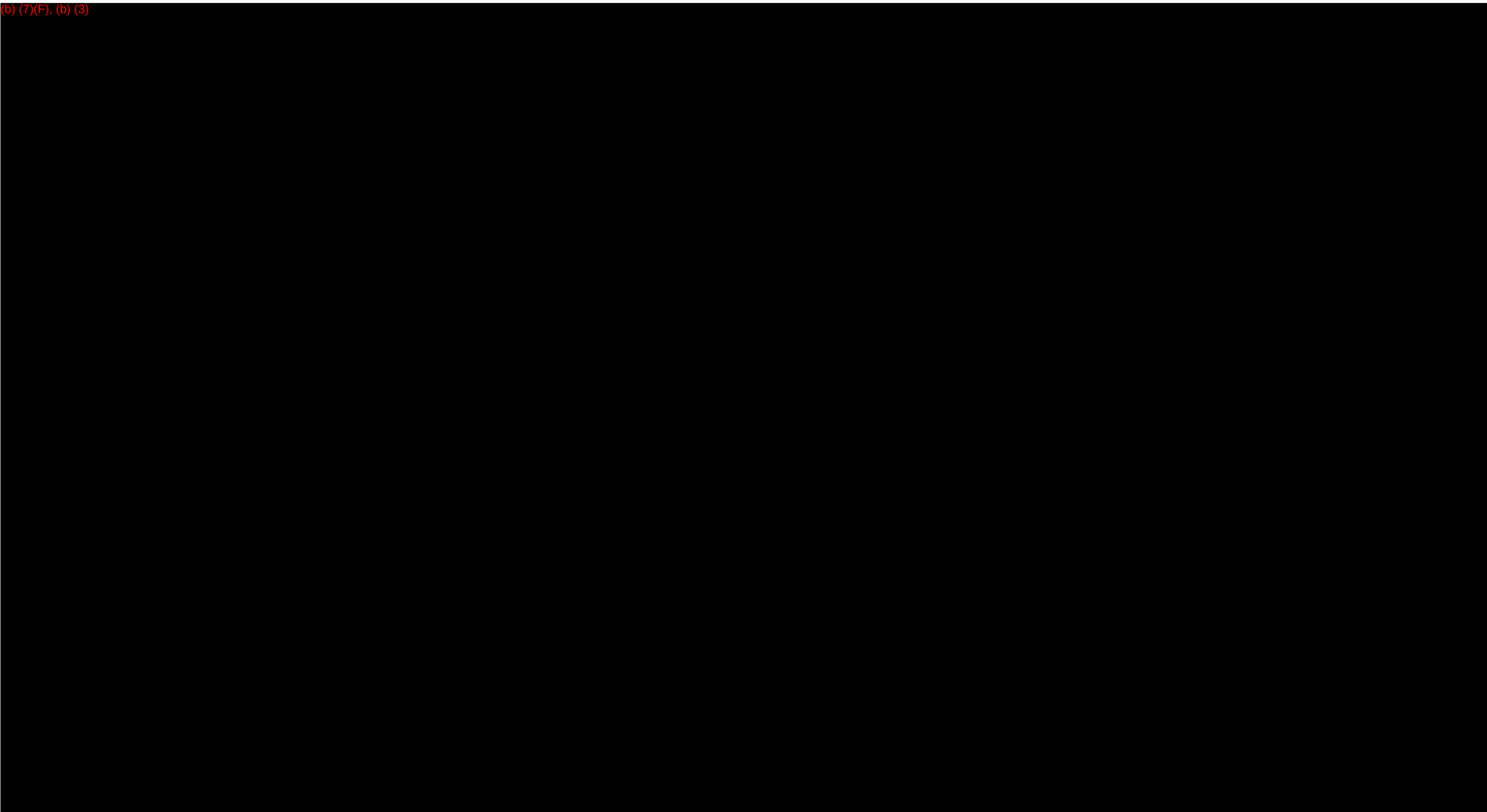

SAFETY DEVICE LAYOUT

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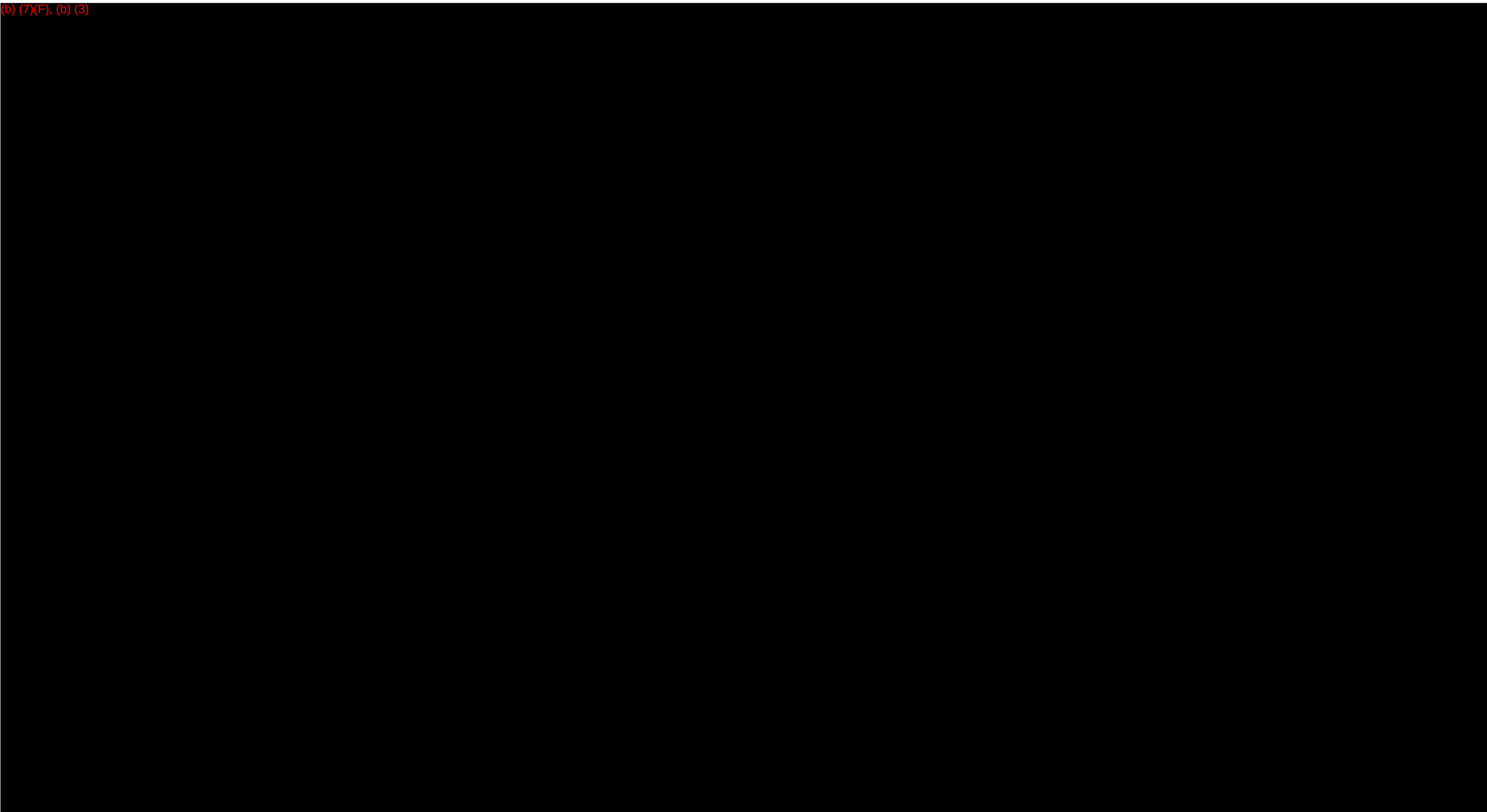
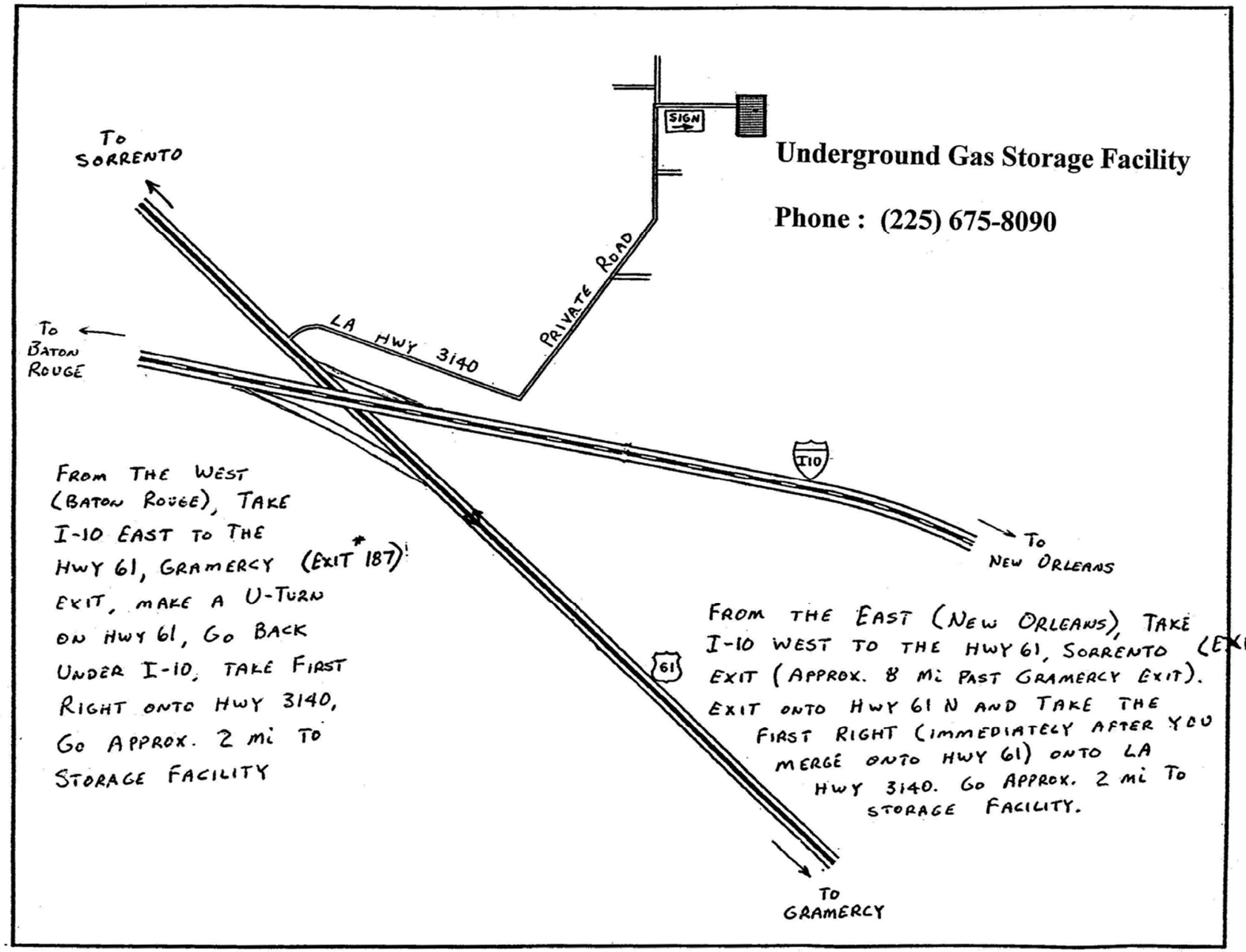


FACILITY LOCATION MAP AND DRIVING DIRECTIONS



FORKED ISLAND TERMINAL

FORKED ISLAND TERMINAL

Chevron Pipe Line no longer owns or operates this facility as of the fourth quarter of 2012.

LOUISIANA GAS PIPELINES EMERGENCY OPERATING PLAN

This Plan addresses facilities and systems for the following:

Louisiana Gas Pipelines
Liquid (HVL)
Petrochemical Emergency Operating

In addition, all general portions of this Plan will be considered part of the Emergency Operating Plan for all other gas facilities referenced in this State Appendix.

LOUISIANA GAS PIPELINES EMERGENCY OPERATING PLAN

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GENERAL REQUIREMENTS

Emergency Operating Plan

Purpose

The purpose of this plan is to provide Emergency Operating Plan procedural guidelines for Louisiana specific gas pipelines and for all gas facilities referenced in this Louisiana State Appendix. These emergency procedures are intended to place the primary emphasis on the protection of life.

This plan is not intended to stand alone, but intended to be utilized in conjunction with other applicable sections of this State Appendix (i.e., including but not limited to Notification Section 2) as well as Company Core Plan.

Scope

The scope of this plan is limited to those emergency situations, as hereinafter are more fully defined, affecting or relating to Company pipeline systems and facilities and those pipeline systems and facilities which Company maintains for:

Bridgeline Holdings, L.P. (BHLP)
Bridgeline Gas Distribution LLC (BGDLLC)
Bridgeline Storage Company (BSC)
Louisiana Generating LLC (LGLLC)
Neches Gas Distribution Company (NGDC)
Sabine Pipe Line LLC (SPLLLC)
Texaco Exploration and Producing Inc. (TEPI)
Chevron Petrochemical Pipeline LLC (TPPLLC)
Chevron Midstream Pipelines LLC (formerly Texaco Pipelines LLC (TPLLC))

Herein referred to as "Company".

(b) (3), (b) (7)(F)

This Emergency Operating Plan provides guidelines to:

- Handle situations to minimize personal injury and property damage
- Handle initial responses to incidents
- Identify and define when an emergency exists
- Evacuate a facility as required
- Establish an Incident Command System
- Notify appropriate personnel and authorities
- Conduct emergency and post emergency operations
- Provide procedures for prompt reporting and investigation of incidents
- Outline procedures to evaluate risk for a facility and surrounding area
- Provide guidelines for integrating this plan with those of the surrounding community
- Operate during severe weather
- Handle bomb threats and other disturbances
- Maintain a trained organization that can mobilize quickly in response to incidents

Lines of Authority

The plan has been developed so that it complies with the spirit and letter of all applicable local, state and federal regulations pertaining to emergency situations, including 29 CFR 1910 Occupational Safety and Health Standards, Department of Transportation 49 CFR 192 Transportation of Natural Gas and Other Gas by Pipeline, Department of Transportation 49 CFR 195 Transportation of Hazardous Liquids by Pipeline, and SARA Title III, Emergency Planning and Community Right-To-Know Act of 1986.

OSHA Standard 29 CFR 1910.120 mandates the use of an incident command system (ICS) during times of emergency defined as “a release of a hazardous substance which cannot be absorbed, neutralized, or otherwise controlled.” This act also mandates that “the Senior Emergency Response Official responding to an emergency shall become the individual in charge of a site-specific Incident Command System (ICS). All emergency responders and their communications shall be coordinated and controlled through the individual in charge of the ICS assisted by the Senior Official present for each employer. There is an Incident Commander in any declared emergency. If an emergency is not declared, it is assumed no hazard to the public or company personnel exists and normal chain-of-command prevails.

During a declared emergency, the Incident Commander carries the designation of “Command” and is in control of the immediate areas of the emergency scene. The boundaries of the immediate area would be dictated by the emergency. Simply defined, it would be all of the area in which a hazard exists to humans.

The Incident Commander controls all activities directed at response to the emergency. All subordinate positions established under the ICS report to the Incident Commander. Per 29 CFR 1910.120(q), a Safety Officer must be appointed along with an Incident Commander. Initially the Incident Commander may also be the Safety Officer.

Emergency Operations Center

In addition to the Unified Command Post, an Emergency Operations Center may be activated. This is where incident support activities are performed and may be located in two (2) locations:

Primary Emergency Operations Center located at the Team Office; and
Secondary Emergency Operations Center- Pipeline Systems Control Center

The Emergency Operations Center will coordinate all equipment and personnel support needs except for emergency response equipment requests, which are normally handled by the Incident Command Post.

Unified Command

When other agencies with jurisdiction are involved due to the nature of the incident or the kinds of resources required (e.g., a natural gas release, natural gas liquids release, hazardous material spill, fire, etc.), the Incident Commander will ensure that those organizations are involved in developing incident objectives and strategy and kept informed of the Action Plan and its implementation.

Concept of Operations

There are four basic elements of the Emergency Operation Plan to follow. These four elements are prevention, preparedness, response and recovery.

Prevention incorporates all those activities that eliminate or reduce the probability for a disaster occurring onsite;

Preparedness includes all activities necessary to ensure a high degree of readiness so that response to an incident will be swift and effective;

Response includes all measures taken during an incident to prevent the loss of life and to minimize damage to the facility and surrounding areas.

Recovery includes those short and long-term activities that return all systems to a normal state of operation.

Primary responsibility for emergency response involving a facility has been assigned collectively to Company and facility personnel with the local offsite response agencies agreeing to act in a support role. The authority for responding to minor emergency situations has been assigned to the lowest levels of the response organization possible.

Following an incident, an investigation will take place to formulate new or modify existing prevention activities.

Plan Assumptions and Situations

This plan makes the following assumptions:

- The fire department, police department, civil defense, and other public emergency response organizations will be available to respond to an emergency occurrence and will be able to provide support
- The required training and drills will be conducted and facilities and equipment obtained
- Facility employees will recognize and carry out their roles in an emergency

The situations for which this plan is designed are emergency incidents with a potential for severe consequences. This includes, but may not be limited to, the following:

- Technological hazards, fire, explosion, utility failure, a hazardous materials accident, and onsite materials that might adversely impact the surrounding public under specific conditions
- Natural hazards such as hurricanes, floods, windstorms, tornadoes, winter storm
- Social emergencies such as bomb threats, riots, and sabotage

Job Site Safety Plan

A Company Job Site Safety Plan (Section 7, Company Core Plan) must be completed as part of the emergency response process.

The Incident Commander will ensure completion of the Company Job Site Safety Plan. The Incident Commander may delegate the task of completion of the Job site Safety Plan to the Safety Officer. The Safety Officer will administer the Job Site Safety Plan.

NOTIFICATION PROCEDURES

Response

General

This Section outlines the various concerned departments and individuals that personnel should notify in the event of an emergency. **An emergency is any situation demanding immediate corrective action, which involves company facilities or operations and may endanger human life or cause significant loss of property.**

Notification of Emergencies

It is imperative to respond quickly to any actual emergency. Is also important to contact the Local Emergency Planning Committees (LEPCs) and Federal, State and Local emergency response organizations (police, fire, ambulance, etc.) as necessary. Contact with the appropriate Local, State, and Federal regulatory agencies are also important.

Follow the Notification Flowchart that is found in Section 2 of this State Appendix.

Do not wait to collect all the information concerning the incident but provide this information to agencies and Company resources as it becomes available.

Note: Notifications must begin immediately after the realization of an incident.

Initial Observation Responsibilities of Company Personnel During an Emergency

Any employee including the Pipeline Systems Control Center Dispatcher receiving a report of or discovering an emergency should attempt to gather and record the following information:

- Any injuries or potential hazards to the public or Company personnel
- Location of the observed phenomenon in relation to recognizable landmarks (both natural and man-made, such as rivers, highways, railroads, etc.)
- Description and time of the observed phenomenon
- Proximity to public, residential, storage and vacant buildings and the density thereof
  - ♦ If applicable name of the informant, their address, time and phone number where they can be contacted
  - ♦ Direction of prevailing winds from the accident location with respect to residential houses, commercial buildings or public roadways
  - ♦ Indications of any other pipelines and/or other utilities belonging to the area and the name of the operator, if available
  - ♦ Estimate of resources needed to control the Emergency / Incident

First Responder (Company Employee) Initial Notification Responsibilities

Any employee who receives a notification of an incident from an outside party or is the first person to witness the reality of an incident will notify:

- Control Center and as applicable, the area control room impacted by the incident
- His/Her supervisor
- Follow the Notification Flowchart in Section 2 of this State Appendix

Note: A record of the time each call was made and the name of the individual notified must be maintained.

Pipeline Systems Control Center - Initial Notifications Responsibilities

Dispatcher Initial Notification Responsibilities

- Upon receiving notification of an incident from an outside party/general public, the Pipeline Systems Control Center Dispatcher and if applicable the impacted area Control Room Operator should follow the Notification Flowchart found in Section 2 of this State Appendix.
- Upon receiving notification of an incident from Company employee, the Pipeline Systems Control Center Operator should follow the Notification Flowchart found in Section 2 of this State Appendix.

Note: A record of the time each call was made and the individual notified must be maintained.

Federal DOT and State Pipeline Safety Incidents

General

Gather all information concerning an emergency incident, and then determine whether that incident should be reported to the Local, State, or Federal Agencies having jurisdiction over the pipelines. Immediate telephonic notifications of incidents shall be made to the Local, State and Federal Agencies (when applicable). Telephonic notifications must be made at the earliest practical moment following the discovery of an incident but within the time limits set by the different agencies. The telephone numbers of Local, State and Federal Agencies are provided in the Front Pocket Section of this State Appendix.

Local Emergency Planning Committee (LEPC)

Along with other Local, State and Federal Agencies, the appropriate LEPC should be informed of any incident that could involve the community or attract attention of the community or news media. If an affect will be felt in any of the surrounding communities, be prepared to advise of the need for evacuation when making the report. Notification to LEPCs should be made for any incident of smoking that lasts for more than five minutes, or any odor or noise that could be detected outside the facility. Informing the LEPC should be considered if the wind and weather conditions are such that hazardous exposure could occur.

State Emergency Response Commission (SERC)

Notification is required if the release is either in excess of the reportable quantities (RQ) of materials on the CERCLA list or the list of extremely hazardous substances or if the roadway is blocked. The LEPC, SERC & National Response Center (NRC), requests verbal notification within 1 hour of the incident. Written follow-up should be made within 5 working days.

Emergency Communication

General

Effective communications is one of the keys to effective emergency response. The ability of the various emergency organizations to adequately respond, coordinate, report, and make requests depends on effective communication with other groups.

Land line telephones, mobile telephones, two-way radios and pagers will also be used during all emergencies except for bomb threats (also see Incident Response). Key people can be reached by mobile telephones and pagers at all times. For actual phone numbers, see Emergency Notifications and Communications Rosters contained in the Site Specific Sections of this plan.

Requirements

When a telephone system is designated as an emergency communication system, the following are required:

- At least one designated telephone instrument must be capable of continuous dial access directly to the telephone network or to the public telephone network or to another similarly manned location (station manned at least five hours a day, five days a week);
- A designated telephone must be in a continuously accessible location considered to be safe during a potential emergency situation;
- The designated telephone or telephone system must have a power source, with at least eight hours reserve, which will not become inoperable during a localized emergency situation. A large percentage of telephone systems furnished by local telephone companies do not require local power except for external bells, horns, or indictor lamps; and
- At locations where telephone systems do not remain fully operational during power loss situations, a separate telephone instrument, powered by telephone line voltage, must be installed.

Procedure

Company owned and operated facilities have provided for communication among the following groups:

- Emergency Operations and Incident Command Post;
- Emergency Operations Center and response teams;
- Emergency Operations Center and all off-site agencies;
- Emergency Operations Center and support personnel, including press/public relations and technical support; and
- On-site emergency response teams and off-site emergency response teams.

In an emergency situation, Personnel use landline telephones, mobile telephones, pagers and/or 2-way radios.

Responsibility for Procedure

The responsibility for administration belongs to the Team Leader.

A record of scheduled and documented tests of the communications facilities using the Company computer maintenance scheduling system.

Emergency Communications Training Program

All new employees should be made aware of the emergency phone lists and the emergency operations center. These lists should be posted in manned stations, and tests of the emergency management should be regularly conducted as well as documented and recorded.

Emergency Equipment

General

Responders should be careful to protect personnel, vehicles, and other equipment during an incident. Protection of personnel from toxic exposures to hazardous substances involves wearing proper chemical protective clothing and respiratory equipment. Responders should stay away from potential fires or explosions. A rest and rehabilitation area where responders can cool off should be established. Heat stress can be a major problem. In situations where decontamination of protective clothing is required, the rest and rehabilitation area can be incorporated in the decontamination line.

Protection of personnel, equipment, and vehicles also involves approaching the danger area from upwind or an angle other than downwind. If response personnel can only approach the danger area from downwind, they will be at a tremendous disadvantage and will have to place themselves and their vehicles much further back. Generally, vehicles should be parked at a safe distance away from the danger area with the engines shut off.

Fire-Fighting Equipment

Hand portable fire extinguishers are located in all operator vehicles and in designated facility areas.

All company owned fire equipment will be maintained and tested in accordance with established company procedures so that it will be ready for service at all times. All personnel will be trained in the use of personal protective equipment and fire fighting procedures in order to control any fires to the maximum extent possible with the equipment available.

Local fire departments may be called in when the emergency requires. Outside fire organizations should always be aided by Company personnel who have expertise in the location and probable cause and effect of the fire. It is essential to provide guidance to ensure that non-Company people do not enter an area where they may be trapped by fire or where a pipe rupture could occur.

Personal Protective Equipment

All employees working in and around hazardous operations must be instructed in the hazards of their respective jobs and in the personal protective equipment (PPE) designed to protect against these hazards. Employees are to train in the selection, use, and limitations of PPE.

The Company must provide necessary personal protective equipment for eyes, face, head, and extremities. This equipment includes protective clothing, respiratory devices, and protective shields and barriers. These devices will be used and maintained in a sanitary and reliable condition. Hazards of process or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation, or physical contact will be mitigated by using personal protective equipment.

All personal protective equipment used by employees must be of safe design and construction for the work to be performed and must be properly maintained to retain its original effectiveness provided for their use.

Using Personal Protective Equipment

Proper use of personal protective equipment by all employees is defined in the Company Procedures which covers equipment such as hard hats, safety glasses, footwear, clothing and respiratory protection pertinent to specific jobs or tasks. This equipment is specific in preventing personnel from exposures through absorption, inhalation, and physical contact. Also see Training and Drills in this Plan.

Reusable and Disposable Personal Equipment

As required, safety equipment for the protection of employees is available. This equipment includes but is not limited to:

- Protective Clothing (including Nomex coveralls);
- Respiratory Protection (SCBA, AP);
- Splash goggles;
- Safety Glasses;
- Full-face shields;
- Hard hats;
- Chemical resistant gloves; and
- Hearing Protection.

General Non-Personal Emergency Equipment List

The following list of equipment is not intended to be inclusive of all equipment that might be needed to deal with any emergency, nor is it intended to be the minimum acceptable list. It may be impractical for some facility to supply large or specialized items (e.g., bulldozers or hot-tapping equipment).

Equipment	Amount	Location
Portable Gas Detectors		
Pipeline Locator		
Rope, Signs, Cones, etc. (To mark hot zones)		
Rescue Lines		
Potable Water		
Shovels and Rakes		
Ladders		
Miscellaneous Hand Tools		
Windsock		
Communication Devices (Two-way Radios, Walkie-Talkies, Cellular Phones, CB Radios, etc.)		
Sorbent Materials		
Disposal Bags and Containers for used Sorbent Materials		
Boat(s)		
Fire Extinguishing Systems (Foam, Dry Chemical, etc.)		

Security

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

Evacuation

General

If evacuation is determined to be the best way to protect the health and safety of affected persons, responders must be sure that entry into the evacuated area is restricted. The Evacuation Designee is responsible for getting people out of the danger area and maintaining security from outside the perimeter. To a large degree, successful evacuations are based upon having pre-planned evacuation methods.

If evacuation is needed, it should be implemented as quickly as possible to allow for expected delays associated with people attempting to leave an area. The Evacuation Designee must be certain that the persons to be evacuated are not sent from an area of lesser danger to an area of greater danger.

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

Facility Shutdown - General

Purpose

The objective of shutdown procedures is to shut down the facility as quickly as possible and not expose personnel to danger. Any of the following constitutes an emergency shutdown:

- Fire or explosion;
- Major equipment failure;
- Hurricane, tornado, floods, or other natural disaster; and
- Civil disorder involving facility intrusion by outsiders.

(b) (3), (b) (7)(F)

Gas Detected Inside or Near a Building

General

In the case of gas detected or suspected inside or near a building, all Company personnel shall take such action as necessary to protect the public first and then the facilities. On-site judgment is required in order to react properly to each individual situation.

Consideration should be immediately given to getting all people out of any building involved if gas is detected inside the building.

When approaching any building that contains natural gas facilities or that may contain escaped gas, an employee should always look and listen for any signs of escaped gas. Under no circumstances should an employee immediately open a building door, if escaped gas is detected.

Procedure

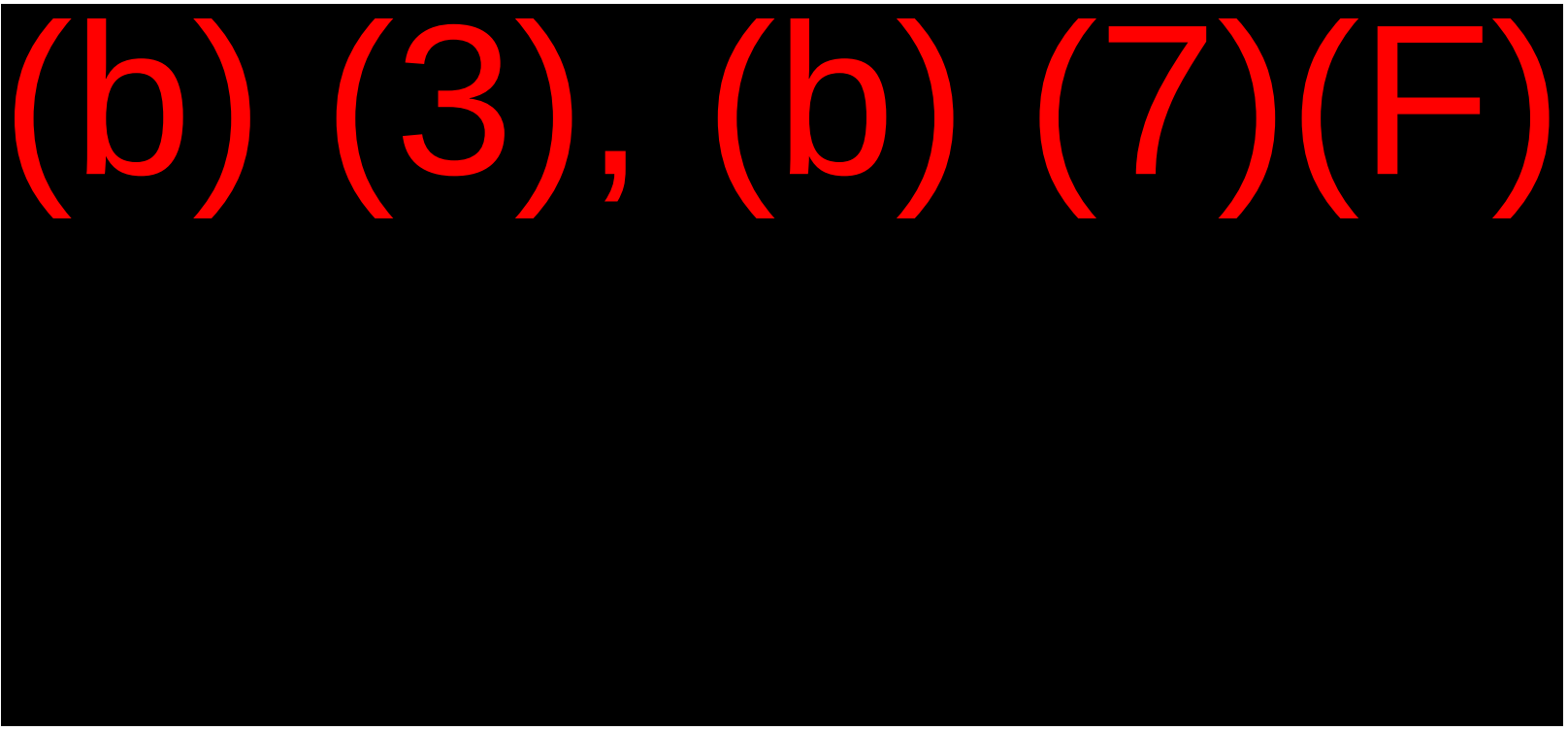
If gas is detected near a building, then all people inside should be asked to extinguish all open flames, to open windows and doors and then get outside immediately. A determination should immediately be made as to severity of the leak and the potential and immediate danger involved.

If leaking gas is detected in a building, assess the nature of the problem, the potential danger to life or property and the actions required to bring the situation under control. Under no circumstances should an employee enter a building with audible leaking gas, until backup assistance arrives, and the environment has been tested and determined to be safe for entry. Actions taken will depend on the employee's assessment of the situation. General guidelines for responding to this type of emergency are as follows.

- Do not open any doors until explosion limits have been determined.
- Return to vehicle and reposition upwind, preferably blocking access to the location by others.
- If you need assistance with requesting local emergency/public safety agencies then contact the Team office or your supervisor and request assistance. The Team office or your supervisor should contact public safety agencies and utilities as applicable. Otherwise, contact local emergency/public safety agencies, as you deem necessary.

    - ♦ Describe the condition;
    - ♦ Give the location;
    - ♦ Give the wind direction;
    - ♦ Have them bring a portable combustible gas indicator/detector;

- Evacuate people from adjacent buildings if they are close enough to be injured in an explosion or fire;
- Shut off electrical power to building and eliminate other potential ignition sources;


(b) (3), (b) (7)(F)

Natural Gas or Natural Gas Liquids Escaping From a Pipeline Facility

Gas or liquids escaping from a pipeline facility must be brought under control as quickly as possible. Leaks, ruptures, overflow of tanks, etc may cause these conditions. Such conditions must be reported to the Dispatcher or the Impacted Area Control Room Operator as well as the Team Leader. The Incident Commander will appraise the situation and direct such corrective action as necessary to bring the conditions under control. Any valve movements will be in consultation with the Control Center or Impacted Area Control Room Operator, in all cases except where immediate action is required by the Incident Commander due to a dangerous or hazardous situation.

Caution should be exercised as flammable vapors may accumulate in enclosed spaces and volatile liquids in mist form may accumulate on clothing or other objects. In either case ignition can cause secondary accidents. Even if there is not fire present, water spray can be useful in mitigating the hazards encountered during rescue and containment.

In the event liquids have migrated beyond dikes or Company Property, and immediate effort must be made to contain, retrieve or otherwise avoid contamination of the adjacent lands or waterways. Some spills may require immediate notification to regulatory agencies whose jurisdiction is involved.

Explosion Near or Directly Involving a Pipeline Facility

General

If an explosion has occurred, particularly where no fire has resulted, be especially alert to the possibility that additional explosions could occur. Keep at a safe distance. Secure the area and restrict access to trained personnel only.

Procedure

Immediately upon the realization of an explosion involving a pipeline facility, the First Responder shall notify the Control Center Dispatcher or Impacted Area Control Room Operator and Team Leader. Once said notifications are made, the Incident Commander shall proceed to the incident scene and evaluate the situation. The action required depends upon whether the explosion actually involved a Company pipeline facility or was near or adjacent to pipeline facilities and the seriousness of the situation. Should there be a serious explosion on a pipeline facility, the Incident Commander will direct work crews as needed to the incident location. Appropriate outside Emergency Response organizations such as fire and ambulance should be dispatched to the location as quickly as possible.

Notifications will be made per the Notification Flowchart in Section 2 of this State Appendix.

The Incident Commander will evaluate the situation and inform the Control Center Dispatcher or Impacted Area Control Room Operator accordingly. Corrective actions and valve movements required should be in consultation with the Dispatcher or Control Room Operator in all cases except where immediate action is deemed necessary by the Incident Commander due to a dangerous or hazardous situation.

Where warranted, the Incident Commander will then cause the isolation of the section of pipeline by way of valves on either side of the explosion and open the proper blow down valves, if required for gas blow down or liquid flaring (this will depend on how close the blow down valves are to the actual site). In the event the explosion was too close to a blow down valve for safe operation, then a blow down valve farther away from the actual explosion would be used. In the event of a fire, following the explosion then in addition, the procedure, Fire Located Near or Directly Involving a Pipeline Facility, should be followed. Local fire and police officials should be contacted as determined by the Incident Commander.

In the event that there is a potential or actual fire spread to areas adjacent to Company Facilities, or people are injured and/or spectators are gathering or evacuation of people is needed, the appropriate local ambulance, hospital, fire and police officials should be immediately notified. Company employees should be assigned, if available, to assist local police and fire officials in evacuating personnel from the area by means of barricades or roping off the area or by other means as directed by the officials.

Fire Located Near or Directly Involving a Pipeline Facility

General

To help ensure public safety, on fires near or involving natural gas or natural gas liquids pipeline facilities, Company personnel will need to continue to practice Unified Decision making and control of the area even though outside fire fighting personnel are en-route or present.

Procedure

Immediately upon the realization of fire near or involving a Company pipeline facility, the First Responder should notify Control Center Dispatcher or the Impacted Area Control Room; and the Team Leader. Once said notifications are made, the Incident Commander shall proceed to the incident scene and evaluate the situation. The seriousness of the fire, whether it be a major or of a minor nature, dictates the actions to be taken. Actions to be taken also depend on whether the fire actually involves our pipeline facilities or is located near or adjacent to Company pipeline facilities. The local fire and police officials should be notified as determined by the Incident Commander. The fire department, police and general public should be instructed to make no attempt to close or open any valves. The operation of Company pipeline facility equipment, including all valves, should be done only by Company personnel or Company authorized contractors.

Notifications will be made per the Notification Flowchart located in Section 2 of this Sate Appendix.

All employees who are appropriately trained are allowed to fight incipient stage fires. An incipient stage fire is a fire that is in the initial or beginning stage and can be controlled or extinguished by portable fire extinguisher, Class II standpipe, or small hose systems without the need for protective clothing or a breathing apparatus.

The Incident Commander will direct work crews to the designated location, as he/she deems necessary. Local fire departments should be dispatched to the location as quickly as possible.

The Incident Commander will evaluate the situation and inform the Control Center Dispatcher or Impacted Area Control Room Operator immediately. Corrective actions and valve movements required should be done in consultation with the Control Center Dispatcher or Impacted Area Control Room in all cases except where immediate action is deemed necessary by the Incident Commander due to a dangerous or hazardous situation. Further action might involve the isolation of the section of pipeline where the fire occurred by closing main line valves on either side of the fire and opening the appropriate blow down valves for gas blow down or liquid flaring (this would depend on how close the blow down valves are to the actual fires). In case the fire is too close to a blow down valve for safe operation, a blow down valve further away from the actual fire should be opened.

In the event that fire spreads to areas adjacent to Company pipeline facilities and/or spectators are gathering or evacuation of people is necessary, then the appropriate fire/rescue and law enforcement officials should be immediately notified. Company employees should be assigned if available to assist law enforcement and fire officials in evacuating personnel around the fire by means of barricade or by roping off the area or by other means as directed by outside emergency response officials. If people are injured, appropriate ambulance, hospital, and other emergency services should be notified.

Fire, General

Outside Assistance

If, in the opinion of the Incident Commander outside assistance is necessary, then outside aid shall be requested. The following procedures shall be adhered to when calling for assistance:

All Clear Call

If the fire has been controlled after a stand-by or call for assistance has been placed, the Incident Commander should contact the fire department and inform them of the controlled situation. The fire department shall be provided with the following information:

- The name of the person reporting the controlled event;
- An assurance that the fire is under control; and
- A repeated request for clarification that the facility is reporting the situation as "all clear".

Employee Consideration

The following considerations must be taken into account by all employees:

- All actions should be defensive in nature and conducted from outside any danger area;
- At no time will any employee place themselves, or allow themselves to be placed, into a life threatening situation;
- Employees are expected to act only in accordance with their training. It is not the Company's intent to place any employee into a hazardous situation when the employee has not been trained to safely respond to the possible hazards present; and
- The safety of employees and the public takes precedence over all other considerations. Protecting a facility from damage or destruction will always be a secondary consideration.

Extinguishing Fires

All employees who are appropriately trained are allowed to fight incipient stage fires. An incipient stage fire is a fire that is in the initial or beginning stage and can be controlled or extinguished by portable fire extinguishers, Class II standpipe, or small hose systems without the need for protective clothing or a breathing apparatus.

To extinguish burning hazardous materials, the proper extinguishing agent must be used. Although straight water streams are effective for extinguishing high flash point liquids such as kerosene and diesel fuel, water is generally ineffective for extinguishing low flash point liquids such as gasoline. Low flash point liquids may be extinguished with foam or dry chemicals.

When selecting the proper extinguishing agent, response personnel must be sure not to mix incompatible agents. For example, foam and water are incompatible. In some situations, water should be shut off prior to using any foam. If foam and water are used at the same time, the fire may not be extinguished. Moreover, the water may wash the foam away.

Another example of incompatible agents is foam and some dry chemical extinguishing agents. These agents are effective only when used separately. If response personnel are required to extinguish water reactive materials, dry powder should be used. Generally, a dry powder agent is shoveled onto the material to extinguish the fire. If an extinguisher containing this agent is used, the responder must be careful not to spread the burning material.

Note: Extreme caution should always be taken when using water for fire control. If water reactive chemicals are present, extreme reactions can occur which can escalate the severity of the incident.

Receiving Outside Aid

The Incident Commander shall direct responding outside aid to the emergency scene.

The Evacuation Designee shall be responsible for logging in the fire department name, type of emergency equipment, and the number and names of persons responding who are directed to the fire scene. The Evacuation Designee will also be responsible for signing out responding equipment and personnel as they leave the emergency site.

Removing Ignition Sources

Remove all potential ignition sources to prevent ignition of flammable (explosive) vapors and gases. Removing all ignition sources is usually a very difficult tactic to accomplish. If responders attempt this tactic, they should start downwind and remove all sources of flame, heat, or spark. To protect themselves, responders should continually monitor the area to determine the flammability hazard present. Also, to ensure that all ignition sources are removed, responders will require additional assistance from public utility personnel from the electric and gas companies.

Removing Oxygen Source /Letting Substance Burn

A second tactic that may be used to extinguish ignited materials is to remove the fuel supply. To decrease the hazard, responders should consider closing valves and plugging leaks, and where appropriate, removing the fuel supply from the danger area. This is an appropriate tactic for flammable liquids or gas. Another tactic that may be used to extinguish ignited materials is the removal of the oxygen supply (i.e., smothering the hazardous material). For certain hazardous materials, a fire may be effectively extinguished by smothering the material with foam, sand, or dirt. Finally, responders may extinguish ignited material by letting the substance burn itself out. For example, for fires involving pesticides or poisonous gases, a tactic is to let the substances burn themselves out, making certain that people are evacuated from the area which may be effected by the “smoke” produced by the fire.

Unauthorized Excavation Near or Exposure of a Buried Pipeline

Any excavation near a Company pipeline facility may pose a serious threat to the facilities. Except for foreign construction being done with our knowledge, permission and authorized representative present, all such activities should be brought to the Team Leaders attention without delay. If such encroachment is approaching a buried pipeline, the excavator should be warned and the location of the pipeline pointed out to him/her. In no case is the excavation allowed to continue within Company rights-of-way without approval from Team Leader. Should such approval be granted, any further excavation must meet Company requirements in order to protect the facilities and a Company representative must be present during the excavation.

In the event of an unexpected exposure or contact with a buried pipeline, all work should cease until the Team Leader or designee can make a thorough examination or the pipeline. Hand digging should be employed to thoroughly expose the suspect area. Scratches, dents and coating damage or pipe should be appraised thoroughly. In cases were the wall thickness has been diminished, the Team Leader will coordinate with Control Center Dispatcher or Impacted Area Control Room Operator a reduction in pressure on that segment of pipeline until an accurate determination of damage can be made. HES should be contacted and given details concerning the damage to the pipeline in order to determine if a “Safety Related Condition” might exist.

Spills

General

The majority of hazardous substance spills encountered by Company facilities are reasonably easy to contain and clean up. Company employees are instructed to accommodate these spills through their operations and maintenance training programs.

Spill Response

In the event of a spill or release, the following notification procedure should be followed:

- Contact the Control Center and Team Leader;
- Follow the Notification Flowchart located in Section 2 of this State Appendix Plan;
- Outside assistance can be obtained, if necessary, by calling contractors listed in this State Appendix;
- For more information on spill prevention, control, and counter measures (SPCC), see Company Core Plan, Company Environmental Procedures Manual and Site Specific SPCC plans not contained in this plan.

Confinement and Containment

The normal strategy for handling small spills and releases can be located in Company Core Plan.

Responsibilities

Trained employees must identify the types of hazardous substances present and the hazards associated with a spill, and designate the type of response (normal or emergency) that will be used for control of a specific incident and report findings to the Incident Commander.

According to 29 CFR 1910.12 the Incident commander must assess all hazardous substances and conditions present before taking action.

Containing the Hazard

Stopping the Leak

Often, a leaking hazardous substance may be contained by trained personnel by stopping the leak in a pipeline drum, tank, or other container. This can be accomplished by safely closing valves, plugging openings, or uprighting containers.

When dealing with a pressurized storage tank, trained responders should approach the tank from the sides. Most pressurized tanks have hemispherical heads that are welded to the body, or sides, of the tank. There is a higher probability of a failure in the heads, or ends, of the tank versus the side. Approaching a tank from the sides, however, does not provide a guarantee that response personnel will be protected. Extreme caution should be exercised in these situations.

Constructing a Barrier

Another tactic that may be useful is to confine a substance by the construction of barriers (dams, dikes, or channels) to control run-off and to keep the material from being spread over a larger physical area. If a great deal of dirt or sand is used for constructing a containment dam, dike or channel, responders should consider the problems associated with the disposal of the now contaminated dirt and sand.

Handling Spills

Liquids spilled at a facility can be difficult to handle. In most cases, containment may already be in place. For example, most tanks have a berm around their periphery, if required, for confining major leaks. If a transfer line breaks or an accident occurs in transporting or loading a liquid, there will be no “automatic” containment. On concrete, blacktop, or other hard surfaces, berms can be constructed with dirt, sand, absorbents, or urethane foam packs specifically designed for this purpose. If the spill is on the ground, berms can be constructed by simply mounding the soil itself. In many cases, though, it may be more advantageous to “herd” the liquids by ditches, swales, and berms to an existing low point or construct a catch basin. This allows the material to pool and may make cleanup easier.

Primary Tool Kit For Spills

Often a leak may be controlled by simply tightening fittings such as bungs, caps, pipes or flange bolts. A variety of tools may be necessary to accomplish this. A basic tool kit shall be located in the command post or area office. The tool kit should contain, at a minimum, the following items:

Suggested Primary Tool Kit for Spills

Tool / Material
Brass mall
18” and 36” pipe wrench
Open end wrench set
Box end wrench set
Slip joint pliers (2 pair)
Common pliers
18” or 24” Flat blade screwdriver with plastic handle
Medium weigh ball peen hammer
Pocket knife for carving wooden plugs
8” Vise grip pliers
6” Pry bar or pinch bar
Lock back knife
Portable explosion proof hand light
18” to 36” bolt cutters
Bung wrenches
Diagonal side cutting pliers
Needle nose pliers
Screwdriver set – common
Screwdriver set - cross point
Tin snips
Wire brush with long handle
Hacksaw with quick disconnect for blades
Hacksaw blades
Teflon tape - available in a wide variety of widths and used for wrapping threads on fittings and connections.
Duct tape – used to slow leakage from pipes, fittings, etc. by wrapping tightly around the affected area - also can be used as a gasket with wedges or plugs.
Rubber sheeting (old inner tubes work well) – useful as a gasket material for any type of patch or plug
Assorted sheet metal screws - when backed by flat washers and rubber gaskets, useful for small holes, pinholes and some cracks
Assorted pipe caps – can be used on threaded pipe ends
Bungs – used to secure drums
Assorted automotive clamps - used to secure rubber sheeting over pipe ends, etc.
Assorted threaded pipe plugs – used on internally threaded pipe ends
Flat washers for sheet metal screws

Hazardous Materials (HAZMAT)

Characteristics of Hazardous Materials

The process of size-up involves both identifying the materials involved and evaluating all of their hazardous characteristics. These hazardous characteristics include:

- Toxicity (whether the material is a poison);
- Corrosiveness (whether the material will eat away or gradually destroy another material);
- Radiation hazards (whether the material emits radiation);
- Etiological hazards (whether the material may potentially cause some type of disease in exposed humans);
- Asphyxiating hazards (whether the material may potentially kill or make unconscious humans or animals by replacing or depleting oxygen);
- Flammable hazards (whether the material may ignite and burn);
- Oxidizing capabilities (whether the material may change after combining with oxygen and become more dangerous);
- Reactive hazards (whether the material may interact with other chemicals yielding an undesired change or reaction);
- Instability (whether the material has a lack of resistance to chemical change - may undergo unwanted and dangerous alterations);
- Explosive hazards (whether the material may explode); and
- Cryogenic hazards (whether the material is very cold).

Type, Condition, and Behavior of Containers

During size-up, response personnel should always consider the type, size, condition and possible behavior of any containers used to store or ship hazardous materials. Behavior of the container involves the manner in which a container may rupture, leak or explode.

Drums and bulk containers in the same general area may contain different or incompatible materials. During an incident that does not initially involve container failure, there may be a potential for container failure. For example, during size-up it may be determined that a container may fail because:

- It is under stress from heat or fire; and/or
- It is under stress from mechanical damage; and/or
- It is under stress from chemical reactions.

Cooling Containers

One way to reduce the probability of container failure because it is on fire, or near a fire, is cooling the container. This is done by applying large quantities of water to the container. Generally, a minimum of 500 gallons per minute must be applied at the point of flame impingement. If there are several points of flame impingement, large quantities of water are needed in order to apply 500 gallons per minute at each point of flame impingement. Maintaining an adequate water supply may be difficult in areas that do not have a domestic water supply for fighting fires. In such a case the local fire department will be called for assistance.

If an adequate supply of water is available, heavy streams should be applied to the vapor space (the space in the container above the liquid), as well as the point of flame impingement. When the flames are thick and heavy and the relief value is operating, it is likely that more and more of the product is being released into the environment. As the level of the product in the container goes down, greater vapor space is exposed. This vapor space, a critical area in the tank, is generally the point at which failure of the container will occur. Heavy streams of water must be applied to the vapor space in order to prevent the container from failing.

When a container holding a hazardous product is on fire, or near a fire, responders should also consider whether it may present an undue risk to response personnel manning the cooling streams. If it is determined that the risk is high, unmanned monitors shall be used. The equipment should be set up and then all response personnel shall leave the danger area. If unmanned monitors are used, it may only be necessary to enter the danger area occasionally to check the equipment to ensure that it is operating properly.

Using Stress Barriers

Stress barriers between the fire and containers must be used to prevent container failure. Stress barriers absorb the radiant heat or prevent the container form coming into contact with the flame.

Removing Uninvolved Materials

Another tactic is to remove containers (assuming they are mobile) that have not been affected or are not involved in the fire. This tactic shall be used with extreme caution. For example, in some cases, individual containers, having been exposed to fire, may have stabilizers that are driven away by the heat. In other cases, the chemical in the product itself, once heated, may cause the container to fail. Finally, it may be necessary to cool a container after it is moved. For example, if a hazardous material product remains in a container after it is moved, and the container is moved out of the danger area, but into the sun, pressure inside the container may continue to build up and a catastrophic failure may occur.

Modifying Conditions

During the process of gathering information, response personnel must consider conditions such as the location, time factors and weather. The conditions must be evaluated in order to determine the most effective and appropriate response tactics. Consider complex street patterns, limited access, lack of water, whether the location of an incident is near a waterway and if so, what spill control measures must be used to prevent a release into the body of water.

Time

As much as possible, response personnel must determine what is the probable or expected condition of the incident that will be encountered on their arrival at the scene. If response time is long, response personnel may have to expedite a preliminary size-up of the incident. If the response time is quick, response personnel may have more time to gather information about the incident and plan the response.

Weather Conditions

The temperature on the outside as well as in the inside of a structure containing materials should be considered because the materials involved in the incident may have differing vapor pressures that are affected by temperatures. Also, wind direction and speed may yield information about possible plume location and/or dispersion rate.

Furthermore, if an air inversion occurs, this may cause vapors from materials to be concentrated or held near the ground, thus potentially exposing the public to a hazardous condition. Air inversions may also inhibit dispersion of vapors. Finally, because some chemicals react adversely with water, precipitation can have an effect on response operations.

Resources and Control Measures

The number of individuals available to respond to a hazardous materials incident will affect the time and extent of the response operation. The fatigue of the response personnel and potential replacements must be factored into the number of available individuals for response. The level of training of the response personnel is important. Response personnel should determine the number of individuals that are prepared through proper training to handle a hazardous materials incident.

Note: Hazardous materials guides published by such groups as the Department Of Transportation (DOT) and National Institute of Occupational Safety and Health (NIOSH) yield information about hazardous materials.

Strategy

The concept of incident control includes suppressing the source, instituting appropriate and effective measures to limit the various hazards associated with materials from happening; isolating the materials and hazards to the smallest possible physical area, and removing people from harm's way.

Strategy - Priority Factors

The factors that need to be considered in establishing priorities are:

- Immediate rescue or life-saving activities;
- Protection of affected persons;
- Responders' safety;
- Protection of property;
- Protection of the environment;
- Fire or explosions (or potential for);
- Potential for container failure;
- Availability of necessary resources;
- Need for time; and
- Weather conditions.

Strategy – Prevention and Minimizing

A strategy must be developed to prevent, or if the incident has already occurred, minimize the effects of:

- Explosions;
- Fires;
- Releases of chemicals from their containers;
- Toxic hazards from liquids, solids, vapors, or gases;
- Corrosive and reactive hazards;
- Radiation hazards; and
- Biological hazards.

Strategy - Tactics

In general, the tactics that are employed to prevent or reduce the hazards associated with chemicals are:

- Extinguishing fires and wetting areas;
- Controlled burning or detonation;
- Cooling containers (that heat may cause to explode or ignite);
- Removing materials;
- Plugging, patching, and other methods (containment) to keep materials in their original containers;
- Using dikes, berms, dams, and other techniques to confine spilled materials to the smallest possible physical area; and
- Using various chemical and physical methods, for example, neutralization, absorption, dilution, transfer, dispersion, solidification, and others to minimize hazards.

Rescue

Endangered Persons are those individuals directly involved in the incident who are in immediate jeopardy and who, because of injury, may not be able to leave the area of danger. These people will require rescue.

Note: Only individuals trained in emergency rescue techniques shall conduct emergency rescues.

Affected Persons are those whose health and safety are threatened. They include people adjacent to the incident as well as those that are subject to potential exposure to materials released in the air or surface water. It may be necessary for responders to evacuate those people who may be affected.

If rescue of trapped or injured persons is attempted, responders must be certain that they do not take any undue risks. Responders should always determine and evaluate the risk to themselves before a rescue of a victim is attempted.

After determining that a rescue is appropriate, responders shall be certain that no first aid is given in the danger area. Rather, the rescued victim should be removed from the danger area as quickly as possible. This will ensure that the rescuers and the victim are not subjected further to the hazards associated with hazardous materials.

Tactical Withdrawal

Sometimes, responders may have to withdraw from an area to protect personnel, equipment and vehicles. Withdrawal from a danger area must always be considered a possibility and withdrawal plans should be prepared. Response personnel should never be placed in a situation where they can get trapped. Before entering an area, responders should plan withdrawal routes to ensure a quick and safe exit in case the situation becomes dangerous and requires withdrawal.

Bomb Threats

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Severe Weather Plan

Purpose

This Severe Weather Plan provides a coordinated, teamwork-based program intended to reduce the potential for personnel injury, damage to Company facilities and/or curtailment of production due to severe weather.

Since weather conditions are unpredictable, this plan cannot provide for all possible events. It is therefore, the intent of this plan to deal with threatening severe weather conditions. The Team Leader will be responsibility for implementing the applicable parts of this plan as needed.

Scope

For purposes of this plan “Severe Weather" is defined as:

- Hurricanes;
- Sub-freezing temperature;
- High winds, severe thunderstorms, lightning or tornadoes; and
- Flooding (from other than hurricane-related rainfall or tides).

Hurricanes

For specific information on hurricanes, please see Natural Disaster-Hurricane Preparedness Plan under the Incident Response Section contained in this Plan.

Freezing Temperatures

A hard freeze is defined as the condition existing when temperatures remain below freezing for a period of six (6) hours or more. If the possibilities of a hard freeze is predicted, preventive measures must be taken to prevent damage to piping and equipment.

All lines subject to freezing must be protected. The cost of repair of even small water lines due to freeze damage can be a major expense, both in terms of direct maintenance costs and production loss. Freeze damage, especially to smaller water lines, is virtually always preventable.

When freezing conditions threaten, the area around any dripping water line (whether the drip is intentional or not) must be properly barricaded and marked as a hazardous area. The puddle formed by the drip will freeze and make the area too slick for the safe passage of personnel or vehicles.

High Winds, Severe Thunderstorms, Lightning, and Tornadoes

This category of severe weather usually occurs on short notice and organized preparation is not usually possible. To the extent that preparation is possible, the applicable checklist items in mentioned Hurricane Preparedness Plan can be used as a guide.

If sustained high winds are predicted, then as a minimum, a general clean up of the facility should be ordered with special attention given to removing or securing loose items, trash, construction materials, and small equipment which could be damaged or become airborne. Winds above 40 mph can make dangerous projectiles out of otherwise harmless materials such as boards, buckets, cans, bottles, and even small stones.

Loose sheet metal in a high wind is especially dangerous to personnel and to electrical equipment. Flying sheet metal coming in contact with power lines or substation equipment can cause a power outage with serious consequences to facility operations.

Flooding

Flooding from non-hurricane related causes usually happen with little advance warning. In the event such flooding is predicted, the applicable parts of the checklists in the mentioned Hurricane Preparedness Plan should be used as a guide in Flood Preparation Actions. Since advance warning may be limited to only a few hours, each individual with severe weather responsibilities should quickly prioritize the actions to be taken and ensure that the most critical of those actions are carried out first.

If a facility curtailment or shutdown is ordered and sufficient time is available before arrival of the flood, then the Site Specific Shut Down Procedures will be followed. If sufficient time is not available for a planned shutdown, then facility personnel will follow instructions from management and secure the equipment for which they are responsible in the best manner possible.

Severe Weather Checklist

The following checklist should be reviewed during the approach of severe weather:

- Conduct severe weather planning meetings;
- Initiate a severe weather alert to all functional teams;
- Call alert meetings and issue instructions;
- Review weather information from Weather Service and make decisions to formulate action plan;
- Review plan with Supervisors;
- Conduct facility inspection to identify and correct potential hazards;
- Provide support for operations on securing and tying down of all necessary equipment;
- Ensure all trash bins are empty and removed from facility if not needed;

- Ensure all portable buildings and trailers are secured;
- Review electrical department procedures and make appropriate recommendations;
- De-energize all electrical equipment including switch gear, transformers, and motors that are in danger of flooding;
- Maintain liaison with contractors to ensure compliance with company procedures;
- Fill fuel tanks on equipment, including all vehicles;
- Locate supplies needed upon request from operations and maintenance;
- Ensure land line telephones, mobile telephones, pagers and two-way radio systems are operating properly;
- Coordinate repairs to defective radio equipment as needed;
- Coordinate installation of temporary phone lines;
- Provide environmental coordination with outside agencies;
- Establish and maintain communication with Emergency Operations Center;
- Coordinate meetings to assemble up-to-date information;
- Release all non-essential personnel from facility site;
- Review facility-wide shutdown plan;
- Review employee work schedule to ensure adequate coverage;
- Review procedures for loss of electrical power, pipeline, and/or marine movements;
- Ensure that all tanks and vessels are filled to normal operating levels;
- Coordinate operations activities to ensure minimal risk to employees and facility equipment; and
- Coordinate orderly shutdowns, clearing equipment, and securing process equipment, as needed.

Natural Disaster – General

In the event of a natural disaster affecting the operation of our facilities, Company employees should be prepared to provide for a prompt and effective response. The type and extent of the response required, depends upon the type of disaster involved and how our facilities are affected.

A natural disaster in our area could consist of the following: hurricane, earthquake, tornado, severe electrical or hailstorm, flood, wind combinations of one or more of these and others. Any of these disasters may or may no cause damage to our facilities or seriously interfere with our operations.

Possible company responses or actions required would be covered by one or more written procedures contained in this Emergency Operating Plan and Procedures, such as: rupture or line break, fire, explosion or leak. Therefore, references should be made to the appropriate section covering the situation.

For specific procedures covering each of the above said natural disaster please see the specific natural disaster procedures immediately following this Natural Disaster- General procedure.

Natural Disaster – Hurricane Procedure

Hurricane Emergency Procedure

This procedure is intended to cover the preparation and "weathering" of a hurricane without out-of-the-ordinary emergency conditions for a hurricane. If conditions during the storm develop that present hazards other than weather hazards to personnel, the Incident Command System (ICS) and appropriate emergency procedures will be utilized.

The National Weather Service (NWS) and NOAA are the official sources of hurricane weather information for the site. The following warning system is broadcast by the NWS on NOAA radio:

Hurricane Watch

A hurricane watch is issued for a coastal area when there is a threat of hurricane conditions within 24-36 hours.

Hurricane Warning

A hurricane warning is issued when hurricane conditions are expected in a specified coastal area in 24 hours or less. Hurricane conditions include winds of 74 miles per hour (64 knots) and/or dangerously high tides and waves. Actions for protection of life and property should begin immediately when the warning is issued.

Hurricane Categories

- **Category One: 74-95 mph**. Primary damage to shrubbery, signs, and unanchored mobile homes. Tide level is 4 to 5 feet above normal.

- **Category Two: 96-110 mph**. Major damage to poorly structured signs and exposed mobile homes; some damage to roofs, windows, and doors. Tide level is 6 to 8 feet above normal and 2 to 4 hours before hurricane arrival. Immediate evacuation of shoreline homes and low-lying flood prone areas.

- **Category Three: 111-130 mph**. Large trees downed, serious roof, window and door damage. Tide level is 9 to 12 feet above normal. Serious flooding along the coast. Evacuation of low-lying residences within several blocks of the shoreline may be required.

- **Category Four: 131-155 mph**. Extensive roof damage on small homes, destruction of mobile homes, some wall damage. Tide level is 13 to 18 feet above normal. Terrain lower than 10 feet may be flooded inland as far as six miles.

- **Category Five: Over 155 mph**. Considerable roof and structure damage. Some complete building failure. Tide level greater than 18 feet above normal. Major damage to all structures less than 15 feet above sea level within 500 yards of shore. Massive evacuation of residential areas within 5 to 10 miles of the shore may be required.

Hurricane Preparation Stages

Stage One - Ongoing Preparations

The hurricane season extends from June 1 through November 30. On June 1 of each calendar year, or the first workday thereafter, the Team Leader will convene a meeting of appropriate personnel to initiate hurricane season preparations. At this meeting, the following steps should be initiated by the Team Leader.

- The Emergency Response Team Members shall inspect guy wires and portable building ties downs and assess the need for additional securing.

- The Emergency Response Team Members shall check facility drainage system for good drainage, and check all sheet metal insulation covering and building roofs.

- The Team Leader will review, revise if necessary, and issue detailed checklists for the shutdown and securing of the Company facilities (including material handling areas) in preparation for weathering any hurricane.

Stage Two (2)

Stage two (2) goes into effect as soon as a hurricane watch is issued by the NWS radio. The major items for preparation should have been completed in stage one (1). The following steps will be taken immediately:

- The Team Leader will cause a facility-wide inspection listing conditions that must be corrected and monitor weather reports and keep his/her supervisor informed of any change in hurricane status.

- The Team Leader will remind all employees to prepare their family and homes for possible hurricane conditions and will hold a team meeting to establish the emergency team and discuss procedures in the event of stage three (3).

- The Team Leader will make arrangements with a local motel to reserve rooms for the families of the hurricane Emergency Response Team and will notify his/her supervisor as soon as arrangements are complete.

Stage Three (3)

Stage three (3) will begin after a hurricane warning is issued for the area by NWS. The timing of the steps below will depend to some degree on the storm's position, direction, speed, and probability of affecting the coast.

The Team Leader will release the Emergency Response Team volunteers on an as-needed basis to take care of responsibilities outside the facility. This decision is strictly at the Team Leaders discretion; however, the goal should be to have the Emergency Response Team in place twelve (12) hours before hurricane force winds (74 miles per hour) are expected at the facility.

This action will allow the release of non-essential personnel in advance of development of hazardous conditions in the area. A careful staffing of the hurricane Emergency Response Team with personnel who can operate or shut down the facility will allow the delaying of the decision to shut down, should the storm change directions at the last minute, or just come close.

Stage Four (4)

Stage four (4) will begin four (4) to six (6) hours before hurricane force winds are expected to reach the facility.

The Incident Commander will coordinate an orderly shutdown of the Pipeline facilities (see stage one, above) and notify his/her supervisor or representative, of the shutdown.

Storm Effects - Hurricanes have four damaging effects: tides, heavy rains, high winds, and tornadoes. Approximately 90% of the damage and injury result from flooding. Persons in facilities in locations subject to flooding should seek shelter elsewhere before the storm. There should be no travel during the storm due to the danger of flying debris, falling trees, and power lines.

Storm Surge - In most hurricanes, “storm surge” caused most loss of life and property damage. Storm surge is different than regular tides. Together, regular tides and storm surge form the “hurricane tide”.

Storm surge development takes place over deep water, where the drop in barometric pressures in the storm center causes the sea to bulge. A second action develops as hurricane winds sweep across the sea surface. This causes a swirling movement of the surface water that gradually goes down to a depth of about 300 feet.

The maximum swirl moves to the right of the hurricane’s eye (track) where wind speeds are highest. There is no change in sea level due to the swirling motion so long as he water remains deeper than 300 feet.

As the hurricane approaches land, the swirling water mass scrapes bottom, tries to spread in all directions, and begins to pile up. Peak surge heights are seen at the shoreline about the time the hurricane center reaches land.

The maximum water swirl occurs 10-20 miles to the right of the storm track, near the point of maximum wind speeds. Thus, the greatest danger from both winds and surge usually is about 15 miles right of that track.

The surge may lift the ocean 15 feet or more at the coastline. Carla in 1961, produced a 21 foot surge at Matogorda Bay. Camille, which hit Mississippi in 1969, caused a 25 foot surge, the highest ever recorded in the Western Hemisphere.

Among the storms' worst killers and destroyers of property. Tornadoes always pose a threat in the hurricane area. The greatest outbreak of tornadoes on record was associated with Hurricane Beulah when 115 tornadoes were spawned during a five-day period. Sixty-seven of these occurred on one day, setting a national record.

Stage Five (5)

Stage five (5) will begin as soon as storm conditions have subsided.

The Emergency Response Team is to survey the facility to assess the damage, availability of utilities (water, electricity, etc.), and the needs for facility re-start as soon as possible. The post storm assessment survey team should take the following precautions:

- Do not touch or go near fallen utility lines;
- Make sure to see where you are walking. If it's dark stay inside; or if water remains, take no chances wading unless absolutely necessary;
- Drive with extreme caution especially where roads are still under water;
- Poisonous snakes or insects are always a threat in this area during the post-storm clean-up; and
- Guard against spoiled food, contaminated water and fires.

All personnel are to contact the facility (by phone or in person) as soon as possible and advise their availability for returning to work. A list is to be maintained by and for the Incident Commander.

The Incident Commander is to organize a relief for the emergency team as soon as possible so they can take care of out-of-facility responsibilities.

During severe thunderstorm warnings monitor local radio stations for tornado warnings. Follow all National Weather Service instructions. If flooding occurs follow the above procedures.

Natural Disaster – Tornado Procedure

General

Certain weather conditions are conducive to the formation of tornadoes. When such weather conditions exist, personnel should be alert and on the lookout for an actual occurrence.

Procedure

When weather conditions are such that a tornado could be formed, alert personnel to the fact and:

- Have personnel with conventional radios tune them to monitor weather information. On weather alerts:
    - ♦ Tornado watch means atmospheric conditions are favorable.
    - ♦ Tornado warning means a tornado has been sighted.
- During extreme weather conditions, or if a warning affecting your location is issued, assign an observer to watch storm conditions for a possible tornado.

If a tornado is sighted, notify all affected personnel. Take the following actions as time allows. Remember to protect life first.

- Notify the Control Center if it becomes necessary to seek shelter. Advise them that the location will probably be out of radio communication.
- Extinguish all unnecessary fires and lights.
- Switch over to auxiliary power.
- Do not trip the ESD system. It will function automatically if a fault occurs. Leave facilities in operation and seek shelter.

Personnel in a vehicle when a tornado approaches should:

- Drive at right angles, away from the tornado if possible.
- If the tornado cannot be avoided, seek shelter in a ditch or other low-lying area if below ground shelter is not available.
- Avoid locations under electric power lines.

After the storm has passed and if damage has occurred:

- Survey damage.
- Trip ESD shutdowns, if necessary.
- Isolate those portions of facilities that have been damaged.

Notify the Control Center that the storm has passed. Tell them the amount of damage that has occurred. Proceed with any repairs or other actions that are required.

Civil Disturbance

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COMPANY ASSISTANCE – REGION/ DIVISION LEVEL

Pipeline Systems Control Center

Notifications

Follow the Notification Flowchart located in Section 2 of this State Appendix and contact the Pipeline Systems Control Center for all incidents meeting any one of the criteria as defined below:

- A release of flammable, toxic, or corrosive gas or liquid that causes death or injury requiring in-patient hospitalization
- Any incident that may result in regulatory or media attention, even though no release of gas or liquid occurred
- Any incident that requires reporting to an outside agency
- Any event that causes an intentional but unplanned shutdown of a pipeline facility
- A pipeline rupture that requires isolation and blowdown of gas pipeline facility or flaring of a liquids pipeline facility.

The Control Center will then promptly notify customers that may be impacted.

Pipeline Systems Control Center Responsibilities

The duties of the Pipeline Systems Control Center are to:

- Receive telephone calls on incidents. Immediately after receiving an outside party call, follow the Notification Flowchart located in Section 2 of this Sate Appendix.
- Notify all customers that may be impacted in the event of service disruption. Reference Emergency Shut-In Contact Roster contained in the Site Specific Sections of this Plan.

COMPANY ASSISTANCE – DIVISION LEVEL

Records

Company will maintain the official files on all incidents occurring on or impacting Company Facilities that are reported to outside regulatory agencies. Each file will be kept at least five years from the date of the incident. Legal department will be contacted prior to destroying a file.

COMPANY ASSISTANCE - CORPORATE

Follow the Notification Flowchart in Section 2 of this State Appendix.

OUTSIDE ASSISTANCE

Medical

It is up to the Team Leader in consultation with HES to determine non-emergency medical assistance needs.

Medical Surveillance Program

Under Federal requirements, those persons who are members of a hazardous materials emergency response team or who are hazardous materials specialists are required to participate in medical surveillance program. The federal definition for employees who are members of hazardous material response teams is as follows:

> "An organized group of employees, designated by the employer, who are expected to perform work to handle and control actual leaks or spills of hazardous substances requiring possible close approach the substance. The team members perform responses to releases or potential release of hazardous substances for the purpose of control or stabilization of the incident."

The above definition covers, for the most part, the duties of the majority of the Emergency Response Team members who are part of a designated hazardous materials Emergency Response Team. In addition, the Company will make medical examination or consultations available to all employees who may have been exposed in an emergency situation to hazardous substances and/or who exhibit signs and symptoms from such exposure. These exposure occur at concentrations above the Permissible Exposure Limits (PEL)

- Medical examinations are to be scheduled before members are assigned to a hazardous material team or any Emergency Response Team.
- For those personnel currently members of a hazardous materials Emergency Response Team, examinations are to be scheduled at least once every twelve months.
- Examination are to be scheduled at the termination or reassignment of a team member to a position or classification where that employee will not be covered by the annual medical examination requirement, if that employee has not had an examination within the last six months.
- Examination are to be scheduled as soon as possible, upon notification by an employee (whether or not that employee is a member of the hazardous materials Emergency Response Team) that signs or symptoms indicating possible overexposure to hazardous substances or health hazards have developed, or that an employee has been injured in an emergency.
- Examination are to be scheduled at more frequent intervals, if the examining physician determines that an increased frequency of examination is medically necessary.

There is no standard medical examination suitable for all hazardous materials response team personnel. Under Federal requirements, the examining physician is to make the determinations as to the content and requirements of the medical examination. To assist the physician in making the proper determinations as to the content of the examination, the Facility is to provide the following documents to the examining physician:

- A copy of OSHA Standard 1910.120 and its appendices.
- A description of the employee's duties as they relate to chemical exposure.
- The employee's exposure levels or anticipated exposure levels.
- Information from previous medical examinations that the examining physician may not have readily available.

Note: OSHA also recommends that a copy of Chapter 5 from Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, which deals with the establishment of a medical surveillance program, be supplied to the physician. This publication is available through the National Institute for Occupational Safety and Health (NIOSH).

The physician, upon reviewing the information provided, will then develop a comprehensive medical examination for the type of activities for which the hazardous material Emergency Response Team will be responsible and the types of chemical that may be encountered. It is very important that hazardous materials Emergency Response Teams keep detailed records dealing with chemical exposure of their personnel

This information should be supplied to the examining physician at each employee's physical examination. Addition tests may be necessary based on the chemical exposure history of the employees.

Employee exposure reports are to be maintained for at least thirty (30) years, and are to be kept as part of the employee's medical records described below.

After the physician has examined the employee and reviewed the necessary test data, the following will then be proved to the Company Facility.

- Results of the medical examination and tests.
- The physician's opinion as to whether the employee has any detected medical conditions that would place him/her at an increased risk.
- The physician's recommended limitations upon the employee's work assignment (if any).
- A statement that the employee has been informed, by the physician, of the results or the medical examinations and any medical conditions requiring further examination or treatment.
- The written opinion given to the facility representative shall not reveal specific findings or diagnoses not related to occupational exposures.

A copy of the above written statements will be provided to the employees at the Company Facility.

Records of the results of the employee's medical information are to be retained according to established regulations. These records shall include at least the following information

- The name and social security number of the employee
- Physician's written opinions, recommended limitations and results of examinations and tests.
- Any employee medical complaints related to exposure to hazardous materials or substances.
- A copy of the information proved to the physician, which the physician used in determining the requirements of the physical, with the exception of the Federal standard and appendices.

Local Emergency Planning Committee

General

The Superfund Amendments and Reauthorization Act of 1986 requires that states established State Emergency Response Commissions (SERC) and communities establish Local Emergency Planning Committee (LEPC). Industrial facilities are required to assist the LEPC in establishing emergency plans to deal with chemical emergencies. In addition, industrial facilities are required to report certain incidents or release to the LEPC and SERC immediately by phone (within 15 minutes) or radio with a written follow-up report.

Incidents to be Reported

- Any material in the Facility which appears on the EPA extremely hazardous substance list or on the EPA CERCLA list which is released and crosses the fence or property line in an amount equal to or greater than the reportable quantity (RQ) must be reported. Substance found in the Company Natural Gas Facilities which meet this criteria include:
- Visible smoke which lasts more than five minutes.
- Any unusual odor on site that might extend beyond facility boundaries.
- Any unusual noise which might be heard beyond facility boundaries (or anything that might attract the attention of the community).
- A rash of calls from concerned citizens or the news media.

Note: For further information regarding these substances see Notification Procedure Section of this State Appendix.

Level One (1)

There is no community impact, but possible community awareness. This alert is for informational purposes only. The incident is internal to the facility, but heard, seen or smelled outside the facility. There is smoke, fumes or leaks inside the facility but with no impact outside the facility. No assistance from outside the facility is required.

Level Two (2)

This is a standby alert. There is possible community impact as well as community awareness. An incident is in progress in the facility that can most likely be handled within the boundaries of the facility. However, outside areas could be affected and assistance from community personnel might be required. Community emergency response systems are asked to assume a standby position and wait form further information.

Level Three (3)

This is a full emergency condition. There is definite community impact and action is required. The incident will not be contained within facility boundaries. Outside assistance will be required and evacuation or indoor protection may be advised. Communities are asked to activate their emergency response systems.

All Clear – Indicates this is the end of an incident; it is safe to return home or go outside. The situation has returned to normal.

Local Emergency Planning Committee (LEPC) Call Procedure

In the event of an incident that falls into one of the categories described above, the LEPC must be notified within 15 minutes!

NOTE: See specific Local Emergency Planning Committee phone numbers listed in each Site-Specific Section of this Plan.

Call the number listed under the appropriate Parish Emergency Notification Roster contained in the Site Specific Sections of this Plan.

In all incident levels immediate notification must be made by HES Specialist or their Designee. DO NOT WAIT until all information is available. Make the initial call as soon possible and make follow-up calls to provide additional information and keep LEPC informed. Be prepared to provide the following information:

- Your name.
- The name of your company.
- Level of the incident: one (1), two (2) or three (3).
- Nature of the incident.
- Name of the chemicals released (if appropriate).
- Approximate quantity released (if appropriate).
- Wind direction (if appropriate).
- Precautions to be taken such as evacuation or sheltering in place.
- Location of advisable evacuations (if appropriate).
- Location of advisable road blocks (if appropriate).

The LEPC requires that the facility be prepared to send a representative to the Emergency Operations Center for any emergency that affects the area.

After an “all clear”, the LEPC must be notified.

Law Enforcement

Law enforcement must be called during emergencies. During certain emergencies law enforcement must be contacted within the first fifteen (15) minutes to allow for notification and protection of the community.

NOTE: For further information on law enforcement bomb squads see incident response for bomb threats under the Incident Response Section contained in the General Section of this Plan.

RESTORATION OF SERVICE

Isolation, Repair, Restoration

General

Service will be restored as quickly as practical following isolation, control and repair of any emergency situation that interrupts service. When the need for control tactics has passed, there remains the task of termination for all parties. Termination includes the return of evacuees, removal of debris and maintenance of traffic. Company personnel with aid of contractors will attend to repairs of the pipeline facility and restoration of service.

Procedure

General procedures for responding to any service outage are as follows:

Contact the Control Center and the local Emergency Operations Center (primary) as soon as possible with the following information:

- A description of the situation;
- The location of the service outage and your relative location;
- An assessment of whether Company Personnel can handle the situation; and
- A request for type of assistance is needed.

Assign or call out the required personnel to complete any required repairs.

Follow the Notification Flowchart, as applicable, located in Section 2 of this State Appendix.

Emergency procedures to accomplish repair will be formulated as dictated by the situation but should approximate the following outline:

- Isolation of the affected pipeline facility by valving;
- Shut-in of all supply sources connected to the section;
- Extinguishing of any fire involved;
- Final depressurizing of the section;
- Repair (according to Company specification and procedure); and
- Repressurizing and equalization of the affected section with adjacent sections after proper purging.

Notify any affected customers and/or interconnected companies of service interruption. See Emergency Shut-In Contact Roster contained in Site Specific Sections of this Plan and coordinate any joint service restoration efforts with them.

Where service is provided directly to an end user (e.g., an industrial plant). Notify the affected customer and give them the following information:

- Why the service has been interrupted;
- Their service shall be restored as soon as possible;
- That if the outage is going persist they will be notified; and
- They will be notified when service is to be restored.

After necessary repairs have been completed and Company Facilities are back in service, restore service to all customers. All repair actions shall be in compliance with Company Operating Procedures and the General Engineering Standards. Restoration of service to interrupted customer will be coordinated with a responsible person(s) representing the customer should be in agreement with the procedure used to restore service.

Many restorations will require reference to but are not necessarily limited to the following Company operating and other procedures:

- Examination of Buried Pipelines;
- Repair Procedures;
- Operating Pressures - Limit Criteria; and
- Pipeline Defects and Repairs General Requirements.

In situations where service cannot be restored in a reasonable amount of time, consider the following alternatives:

- Supply the customers with volume bottles;
- Switch small numbers of users to alternate fuels such as propane; or
- Arrange for shelters or other temporary housing.

POST INCIDENT

Clean Up and Disposal

General

Clean-up operations can be either emergency response or post emergency operations depending on the personnel conducting the clean up. There are two possible groups that can conduct clean-up operations, Company employees and outside assistance contract personnel. All equipment to be used in the performance of clean-up work will be in serviceable condition and will have been inspected prior to use.

Company Personnel

If the clean up is done using Company employees who initially responded to the emergency, then the emergency response training requirements are still in effect. Once the clean ups phase begins, the Incident Commander will ensure that clean-up personnel responding during the Post Emergency Phase comply with 29 CFR 1910.120 paragraph (b) through (o).

Contract Personnel

If contract personnel from outside the Company facility are brought in to complete the clean up of the facility, the contractor clean up is considered to be post emergency operations. The Incident Commander will ensure that the clean-up personnel comply with 29 CRF 1910.120 paragraph (b) through (o). An alternative would be a generic plan that addresses the appropriate elements listed in 29 CFR 1910.120 (b) through (o). It is possible that some of these elements would not be necessary at a particular site and others would have limited applicability. This determination should be made by Unified Command if State and Federal Agencies are on the scene. These elements include:

- Safety and health program;
- Site characterization and analysis;
- Site control;
- Training;
- Medical surveillance;
- Engineering controls, work practices, and personal protective equipment for employee protection;
- Monitoring;
- Informational programs;
- Handling drums and containers;
- Decontamination;
- Emergency response by employees at uncontrolled hazardous waste sites;
- Illumination;
- Sanitation at temporary work places; and
- New technology programs.

- **All Clear Designation**

For the purposes of this Plan, post response procedures are activities that follow the approval of the all-clear signal by the Incident Commander. If Local, State and Federal Agencies are on the scene and are participating in the response, this determination should be made in a Unified manner. The Site Safety Officer should also be consulted regarding this determination. There is a clear distinction between emergency operations and post response procedures. While the Emergency Response Team controls the site or a safety/health hazard exists, the emergency situation continues to be in effect. When the Emergency Response Team declares the response activity complete and leaves the site, any remaining activities, such as clean-up, are considered to be post emergency response procedures.

The Incident Commander will designate the site all clear only after the following:

- Ensuring that the safety/health hazard no longer poses a threat to Company or contract employees;
- Consulting with the Site Safety Officer regarding the all clear;
- Site security is maintained until clean-up operations are complete;
- Appropriate Controlled Response Procedures have been followed by all personnel;
- The appropriate Company management officials have been notified;
- The proper government agencies have been notified; and
- Termination procedures are in place and being followed.

Critique and Follow Up

Purpose

A review of an emergency response (critique) will allow involved parties to check the effectiveness of their response capabilities and the Emergency Response Plan as a whole. The ultimate goal of such an exercise is to review each aspect of the response, evaluate response actions, and to revise the existing plan where necessary. As many personnel as possible who served in key roles during the response and cleanup should take part in the critique.

Procedure

A Plus/Delta critique shall take place as soon as possible after the incident.

The Incident Commander should facilitate the Plus/Delta critique and all Lessons Learned should be recorded and acted upon appropriately.

A written record of the Plus/Delta critique and Lessons Learned may become part of the Incident Documentation.

Investigation

Purpose

The Company Incident Investigation Procedure is intended to provide consistent and formal accident and incident reporting and investigating procedure for use by all operational entities within the Company. These procedures are intended to help prevent loss of life, injuries, property and environmental damage and other losses as well as provide a safer workplace for Company employees and contractors

Follow internal Company Incident Investigation Procedures that are separate from this Plan. Contact HES directly for assistance as necessary.

FORMS AND CHECKLISTS

Emergency Log

TEXACO NATURAL GAS - NORTH AMERICA

COMPANY: _____

TNG-NA FORM EOP001

SYSTEM: _____

Sheet _____ of _____

E M E R G E N C Y L O G

INCIDENT
AND LOCATION: _____

DATE	TIME	PERSON CONTACTED	ACTION TAKEN OR REMARKS	SIGNATURE

Pipeline Information Report

COMPANY NATURAL GAS - NORTH

COMPANY: _____ TNG-NA FORM EOP003

SYSTEM: _____

PIPELINE INFORMATION REPORT

Received By: _____ **Time:** _____ AM/PM

Date: _____

Reported By: **Name:** _____ **Telephone:** _____

Address: _____ **Employed By:** _____

_____

Type Of Event: Encroachment On Right of Way _____

Other (New Structure, Construction Activity, Etc. _____

_____

_____

When Observed- Date: _____ **Time:** _____

Location: _____

_____

_____

Description of Reported Condition or Event: _____

_____

_____

_____

_____

NOTE: IF DRAWING NEEDS TO BE MADE, USE BACK SIDE OF THIS SHEET.

Investigation of Report: _____

_____

_____

_____

_____

_____

_____

_____

_____

Signed: _____ **Date:** _____

Disposition: _____

_____

_____

_____

_____

_____

_____

Signed: _____ **Date:** _____

Leak Log and Classification Sheet

COMPANY NATURAL GAS - NORTH
LEAK LOG AND CLASSIFICATION SHEET

TNG-NA FORM EOP004

COMPANY: _____

SYSTEM: _____

Page No. _____

LEAK CLASS	LOCATION AND DESCRIPTION OF LEAK	DATE FOUND	REVIEW DATE(S)	DATE FIXED

Buried Pipeline Inspection Report

COMPANY NATURAL GAS - NORTH

TNG-NA FORM EOP005

COMPANY: _____

SYSTEM: _____

BURIED PIPE INSPECTION REPORT

Location _____ Date _____

Line No. _____ Parish / County _____

Landowner Name _____

Address _____ City _____ State _____ Zip _____

Reason for Excavation _____

Pipe Size _____ Depth _____ Length Exposed _____ Type Coating _____

Condition of Coating _____ Site Pipe-Soil Potential _____

Scale or Moisture Under Coating _____ Is Coating Bonded to Pipe ? _____

Visible Damage _____

Evidence of Corrosion on Pipe (Describe Fully) _____

Depth of Pit _____ Approximate Number of Pits _____

Length of Contiguous Corroded Area _____

Distance to Nearest Foreign Line Crossing _____ Name of Company _____

Nature of Repairs _____

Type of Recoating Material Used _____

Attach Photographs of Exposed Pipe Before and After Repairs are Made, If Possible

Remarks _____

Prepared By: _____ **Date:** _____

Reviewed By: _____ **Date:** _____

Emergency Occurrences and/or Upset Notification

I. Company Name _____
Physical Location _____
St. or P.O. Box _____
Telephone Number _____

II. Date and time of verbal notification _____
DEQ official contacted _____
Company official who made the call _____

III. Emission point source(s) involved? (including the process unit and EIQ numbers, if applicable) _____

IV. Applicable permit # and the current permitted limit (lbs./hr) for the pollutant(s) released from the emission point source involved? _____
_____

V. Which applicable Air Quality regulation limits were exceeded? (so limit, Mass Emission limit, opacity limit, etc) _____

VI. Give the **date** and **time** the release began and duration of release. _____
_____

VII. Which specific pollutants were emitted and how much of each compound was released? [total amount of each compound expressed in pounds (**attach emission calculations**)]
_____
_____
_____

VIII. Upset description, cause, and what off-site impact resulted? _____
_____
_____
_____
_____

IX. Was the release preventable? Yes / No (circle one).
If no, explain why the release was not preventable: _____
_____
_____
_____

X. What other agencies were notified? _____
_____

Emergency Occurrences and/or Upset Notification – Continued

XI. Immediate corrective action taken? _____

XII. Specific remedial action taken and / or planned to prevent recurrence? (Include timetable for completion of project, if applicable) _____

XIII. Regulation notification requirement(s)? (check appropriate)

_____ LAC 33: III.927 General Requirements to Report Substantial Increase

_____ LAC 33: I.3917 Notification Requirements for Unauthorized Discharges

_____ LAC 33: III.5107b Air Toxics Discharge Reporting Requirements

XIV. **Company Official:**

Signature: _____

Title: _____

Date: _____

Incident Report

COMPANY NATUAL GAS - NORTH AMERICA

TNG-NA FORM EOP008

COMPANY: _____

SYSTEM: _____

INCIDENT REPORT

[ ] Test Failure [ ] Damage [ ] Preliminary
[ ] Leak [ ] Other [ ] Final

Incident No _____ Line Number/Name _____
Date Suspect _____ Date Confirmed _____ Date Repaired _____
District No _____ Mile Number _____ Rechain Station _____
City, State _____ County/Parish _____ Texas:Block _____ Survey _____
Sec Twp _____ Rnge _____ Time of Incident _____ AM / PM

Estimated Pressure at Point and Time of Incident (PSIG) _____ Maximum Allowable Operating Pressure (PSIG) _____ Elapsed Time Until Area Was Made Safe _____
Nature and Size of Incident

Cause of Incident _____

Incident Data

1 System: _____
[ ] Transmission System [ ] Gathering System
[ ] Transmission Line of Distribution System

2 Occurred on:
[ ] Body of Pipe [ ] Fitting, _____
[ ] Mechanical Joing [ ] Other, _____
[ ] Valve [ ] Weld, _____

3 Nominal Pipe Size (In): _____
4 Wall Thickness (In): _____
5 Specification: _____ SMYS:
6 Seam Type: _____
7 Valve Type: _____
8 Manufactured by: _____ Year _____

9 Material Involved
[ ] Steel [ ] Other, _____

10 Part of System Involved in Incident
a Part
[ ] Pipeline [ ] Regulator / Meter Sta
[ ] Compr Sta [ ] Other, _____

b Year Installed _____

11 Area of Incident
[ ] Under Pavement [ ] Above Ground
[ ] Under Ground [ ] Under Water
[ ] Other, _____

12 Class Location: [ ] 1 [ ] 2 [ ] 3 [ ] 4

Repair Data
Repair Type: [ ] Pipe Replacement [ ] Pressure Vessel Sleeve [ ] Other: _____
Details of Repair:

Pipe Replacement or Sleeve Location: Beg Sta # _____ End Sta # _____ Specification: _____
Manufacturer: _____ Test Rpt No _____ P O # _____

Cost Data			Office	Field
Gas Lost (Also Report on GS-95):	_____ MCF	_____	$ _____	xxxxx
R/W Damages (Estimate - Actual):	(total)	(rate)	xxxxx	$ _____
Field Hourly Labor:			xxxxx	$ _____
Supervision (Name - Classification - Hours)	_____			
			$ _____	xxxxx

Material Used: _____

$ _____ xxxxx

Include Reference - Stock Nos , Purchase Order Nos , Etc

Equipment Cost (Company and Rental): xxxxx $ _____
Other (Contractors, Etc): _____ xxxxx $ _____
TOTAL: $ $ _____

(Prepared by) (Date) (Signed by) Supervisor (Date)

Safety Related Condition Report

COMPANY NATURAL GAS - NORTH AMERICA TNG-NA FORM EOP009

COMPANY: _____

SYSTEM: _____

SAFETY RELATED CONDITION REPORT

Company _____ Date of Report _____

Address _____

City _____ State _____ Zip _____

Person Filing Report _____ Title _____

Address _____ Tel No. _____

Name of Informant _____

Address _____ Tel No. _____

Supervisor Determining
Condition Exists _____ Title _____

Address _____ Tel No. _____

Date Condition Discovered _____ Date Condition Determined to Exist _____

Location of Safety
Related Condition _____

Description of Condition _____

Safety Effect on
Pipeline and/or Public _____

Corrective Action Taken
to this Time _____

Corrective Action
Contemplated _____

Expected Completion _____

SIGNATURE _____ DATE _____

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

(b) (7)(F), (b) (3)

[redacted]

PUBLIC EDUCATION

Public Education Program

General

This procedure outlines the Company Public education program. The public education program shall provide customers, the public, appropriate government organizations, and individuals engaged in excavation activities information on how to learn the location of underground pipelines, and how to recognize and report gas pipeline emergencies. The purpose of the public education program is to protect the general public, Company employees, and the environment. The public education program must also satisfy the requirements of the Department of Transportation regulations 192.614 (b) (2), and 192.615 (d) and 195.440.

Responsibility for Administration

The responsibility for administration of the public education program shall be with the Team Leader.

General

Each area and/or locations shall carry out a public education program which meets the requirement procedure.

The Team Leader is responsible for monitoring the effectiveness of the education programs and advising his/her supervisor if changes are necessary or could be made to improve the effectiveness of the program(s).

The Team Leader should determine if a significant number and concentration of non-English speaking population exists along the pipeline and determine if communications media are needed other than English.

Procedure

Identify customers, appropriate government organizations, and individuals or organizations who excavate, contract projects that require excavation, or those individuals or organizations involved in the planning of excavation activities, or those individuals or groups that live in the vicinity of Company pipelines.

Communicate the following with the applicable individuals or organizations at least annually, but more often if necessary:

- The purpose and existence of the Damage Prevention Program.
- How to learn the existence of underground pipelines prior to excavation.
- How to recognize a pipeline emergency so that it may be reported to the Company or appropriate public officials.
- Applicable details of this emergency plan.

To assist in identifying individuals, persons, organizations listed above, use the following criteria:

- Include the owner, manager, or tenant actively involved with use of property where the pipeline is located.

Include occupants of dwellings (single or duplex) and managers or operators of other buildings, public use areas, multifamily (three or more units) dwellings, and are not included above. The intent is to indicate the persons who would be most likely to hear, see, or otherwise identify a pipeline problem(s) so they can notify the Company or appropriate public officials.

Identification by mailing address is adequate for individuals and business locations where turnover is frequent. Identification of excavators, public use areas, organizations, other buildings and similar “persons” should normally include the name of the organization or facility (e.g. ABC Excavators, Inc.)

On non-jurisdictional gathering pipelines, it is not necessary to identify individual owners, managers, tenants or occupants addressed immediately above. Consider informing these “persons” through the use of mass media such as newspapers.

Communications media for use in the program may consist of calendars, letters, newspaper notices, maps, advertisements, brochures and other materials (pens, key chains, etc.) Communications may be via a one (1) call organization.

Communications Information shall include the following:

- Company name and telephone numbers.
- Facts about gas being distributed or transported.
- Importance of recognizing and reporting a gas emergency.
- What actions to take in an emergency or if gas leaks are detected or suspected.
- How to identify a pipeline marker.

Records

The identity of each of the individuals or organizations included in this procedure shall be maintained in tabulation form or other type of listing. Where mailings are involved the mailing addresses shall be included.

Update the listings at least once each calendar year.

Document the transmittal of information or the participation in activities publicizing the Companies Damage Prevention Program and Public Education Program. Retain documentation for at least three (3) years.

INCIDENT RECOGNITION AND PREVENTION

Loss Prevention

General

A loss prevention program is fundamentally an investigation of processes and systems to identify hazardous conditions or failures of the design, and then to make alterations to adequately protect people and property. The Company's facility loss prevention/loss control program (separate form this Plan) deals with areas of concern such as potential releases and their consequences.

Loss control personnel look for proactive engineering methodologies to control the occurrence of losses rather than incorporating countermeasures in a reactive response to a loss. A vital part of this is timely recognition of emergency conditions that allow prevention and control measures to be enacted prior to an incident.

The emergency recognition and prevention plan consists of continuous employee training, industrial hygiene, fire protection practices, the Process Safety Management Plan, and a reliable system of computerized and mechanical process control parameters.

Early warning is crucial to a loss prevention program.

Incident Recognition

General

Incident recognition is a major focus in an emergency plan, since personnel can only take appropriate response measures when they know with reasonable certainty what they are dealing with. Routine training is critical for employees who have responsibilities under the Emergency Operating Plan. It is impossible to over-estimate the beneficial effects of simulation exercises, though all forms of rehearsing the Plan are helpful.

Some of the major elements already covered in the Plan that relate to incident recognition will be listed here:

- Alarms, evacuation, monitoring devices, etc. are covered in various Sections in this Plan and in the Company Operating and Maintenance Procedural Manual for Company Pipelines
- General training requirements are covered in Training/Drills, Incident Response contained in this Plan and elsewhere
- Training employees in recognizing potential emergencies is covered in incident response, contained in this Plan, this Section immediately below, and elsewhere

Process Hazard Analysis

Process safety management requirements (29 CFR 1910.119) have established that facilities maintain a source of information that will be useful in preparing for and preventing an emergency. For instance, process safety information is available at the facility and includes a process hazard analysis.

The basic components of a process hazard analysis include:

- An evaluation of processes that might be hazardous
- An analysis of the process area and its hazards
- An analysis of engineering and administrative controls and the consequences of their failing
- An analysis of the possibility of human error and any previous incidents

See previous hazard analyses for more information.

Characteristics of Hazardous Materials

The characteristics of hazardous materials are described in material data safety sheets. The characteristics that must be recognized in an incident are:

- Toxicity (whether the material is a poison)
- Corrosiveness (whether the material will eat away or gradually destroy another material)
- Radiation hazards (whether the material emits radiation)
- Etiologic hazards (whether the material may potentially cause some type of disease in exposed humans)
- Asphyxiating hazards (whether the material may potentially kill or make unconscious humans or animals by replacing or depleting oxygen)
- Flammable hazards (whether the material may ignite and burn)
- Oxidizing capabilities (whether the material may change after combining with oxygen and become more dangerous)
- Reactive hazards (whether the material may interact with other chemicals yielding an undesired change or reaction)
- Instability (whether the material has a lack of resistance to chemical change, and whether it may undergo unwanted and dangerous alterations)
- Explosive hazards (whether the material may explode)
- Cryogenic hazards (whether the material is very cold)

For more information on material safety data sheets and the location of the material safety data sheet book(s) contact the HES Specialist.

Comprehensive Characterization

Although it may not be needed in all responses, comprehensive characterization is a more methodical investigation than the initial steps of characterization, for which see “Incident Recognition.” A comprehensive characterization serves to enhance, refine, and enlarge the information base obtained during the preliminary inspection. This phase provides more complete information for characterizing the hazards associated with an incident. As a continuously operating program, the second phase also reflects environmental changes resulting from response activities.

Available information and information obtained through initial site entries may be sufficient to thoroughly identify and assess the human and environmental effects of an incident. If not, an environmental surveillance program needs to be implemented. Much of the same type of information as collected during the preliminary inspection is needed. However, it may be much more extensive. Instead of one or two groundwater samples being collected, an extensive ground-water survey may be needed over a long period of time. Results from the preliminary inspection provide a screening mechanism for a more complete environmental surveillance program to determine the extent of contamination. Also, since mitigation and remedial measures may cause changes in the original conditions, a continual surveillance program must be maintained to identify any changes.

Evaluating the hazards associated with an incident involves various degrees of complexity. The release of a single, known chemical compound may represent a relatively simple problem. It becomes progressively more difficult to determine harmful effects as the number of compounds increase. Evaluation of the imminent or potential hazards associated with an abandoned waste site, storage tanks, or lagoons holding vast amounts of known or unknown chemical substances is far more complex than a single release of an identifiable substance.

Incident Control

The concept of incident control includes suppressing the source, instituting appropriate and effective measures to limit the hazards, isolating the materials and hazards to the smallest possible physical area, and removing people from harm's way.

The procedures to prevent or reduce the hazards associated with chemical incidents are:

- Extinguishing fires and wetting areas
- Removing materials
- Plugging, patching, and other methods (containment) to keep materials in their original containers
- Using dikes, berms, dams, and other techniques to confine spilled materials to the smallest possible physical area
- Using various chemical and physical methods such as neutralization, absorption, dilution, transfer, dispersion, solidification, and others to minimize hazards
- Cooling containers that heat may cause to explode or ignite

During an incident that does not initially involve container failure, there may be a potential for container failure. For example, it may be determined that a container may fail because it is under stress from heat or fire, from mechanical damage, from chemical reactions, etc.

Control of Chemical Hazards

This Section identifies the some of the principal hazardous substances present at the Company pipeline facilities and the primary characteristics including some health effects resulting from a potential release or reaction. For more information on characterizing chemical hazards, see "Incident Response." Also consult your material safety data sheets and/or contact your safety coordinator.

For these and any other substances, see the material safety data sheets (MSDS). The *NIOSH Pocket Guide to Chemical Hazards*, latest edition, may be used as an additional reference.

Preplanning

General

Preplanning for an incident will greatly assist response personnel during an actual emergency. Indeed, all the topics in this Section should be rehearsed before any incident occurs.

Personnel who have response duties shall be trained in this Plan and in its procedures. These procedures shall provide for:

- Activation of the center, including notifying the staff
- Onsite communications
- Offsite communications
- Use of equipment and technical support
- Press information and public information
- Accident assessment capabilities

Security and access control provision should also be developed to prevent unauthorized individuals from interfering with emergency operations center staff. Procedures should be established and individuals assigned responsibility by the Team Leader for maintaining emergency operations center equipment in a state of readiness. All of these functions shall be rehearsed in exercises, simulations, etc.

Reviewing the Emergency Chain of Command

The Team Leader is designated the Incident Commander and is ultimately in charge of all emergencies. However, until that individual arrives on location, other Company employees may be responsible for taking charge of an emergency until someone of higher sequence number arrives on site and assumes command:

Assembly and Accounting for Personnel

Once outside the evacuated location, a role call will be taken to determine if any employees are missing.

If an employee is missing, a check will be made with other employees from the area to determine where the missing employee might be.

If a Company pipeline facility office is evacuated, the Company employee on duty/on call will be responsible for taking the visitors log book.

Personnel who are responsible for visitors will escort their guest(s) to the assembly point and wait with them. Facility hosts are responsible for accounting to the Emergency Evacuation Designee for their guests and visitors. If a guest or visitor is missing after checking the Visitors Log Book and visually counting each guest and visitor, the Incident Commander will be notified.

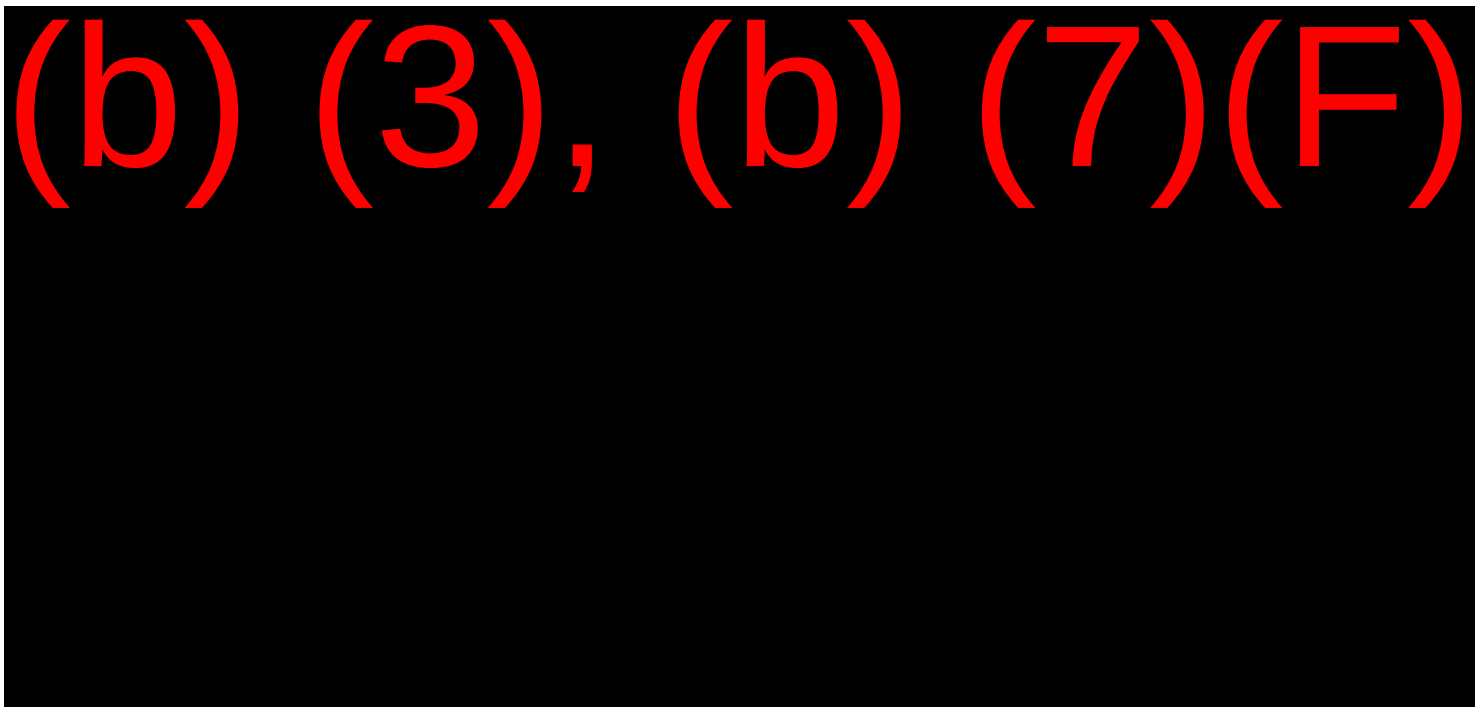
Control Center Emergency Recovery Plans

This Section contains detailed recovery procedures for defined emergencies.

Loss of Electrical Power

Roof-Mounted Standby Generator Roof-mounted generator automatically supplies power. Determine reason for failure.	
Evaluate any damage to facility. Estimate time for repairs.	
Is time for repairs greater than 24 hours?	
No	Yes
Plan any required measures for personnel	Contract for repairs; maintain Control Center
Resumption of electrical service; generator automatically shuts down.	
Return To Normal Operations	

Outside Communications Failures



(b) (3), (b) (7)(F)

Radio System Failure – Henry Area Only

Identify channels or towers not working; notify operators of service.	
Check truck to truck communications.	
If Nothing Works:	If Only Truck To Truck Works:
Contact operators of repeater towers in affected area.	Contact Equilion for microwave operation; confirm base stations are operating; replace defective base station if necessary.
Consider using cellular phones or beepers for temporary communications.	Use telephone for access to repeater towers in affected area.
Monitor radio system for return of service.	
Return To Normal Operations	

Minor Damage

Minor Damage To Control Center? – Yes
Advise personnel and customers of status.
Monitor system and make necessary adjustments.
Monitor condition of Control Center; begin necessary repairs.
When repairs completed, resume normal operations.
Advise personnel and customers of normal operations.
Return To Normal Operations

Major Damage

Major damage to Control Center? – Yes
Advise personnel and customers of status.
Monitor system and make necessary adjustments.
Monitor condition of St. Rose Facility; begin necessary repairs.
When repairs completed, resume normal operations.
Advise personnel and customers of normal operations.
Return To Normal Operations

Catastrophic Damage

Catastrophic Damage To Control Center? – Yes
Monitor system and make necessary adjustments to the extent possible.
Advise personnel and customers of status.
Request telephone company to relocate critical telephone numbers to DECC.
Advise office personnel to relocate to off-site DECC.
Operate DECC as "call center" and use telephone / radio / cellular telephone / beeper to coordinate operational activities with field personnel.
Assess damage to computers and/or communications and begin necessary repairs.
Monitor repairs; begin any additional repairs that may be necessary.
When repairs are completed, notify personnel and customers of the reestablishment of the Control Center as the DECC.
Reestablish the Control Center as the DECC.
Advise personnel and customers of normal operations.
Return To Normal Operations

Computer Failure

Emergency Response Team should review length of outage; use telephone list to advise personnel.
Information Systems to assess damage to computers and begin necessary repairs.
Monitor repairs to computers; begin any additional repairs that may be necessary.
Workers revert to pre-computer "manual" mode and work using alternate methods.
When service is repaired, advise personnel and customers that service has been restored.
Advise customers and telephone company to return to normal operations.
Return To Normal Operations

Evacuation

(b) (7)(F), (b) (3)

[redacted]

Control Center Hurricane Plan

The purpose of this Section is to provide preparedness and response activities specific to an impending tropical storm or hurricane incident. These activities supplement those detailed in other sections of this Plan.

Each year at the beginning of hurricane season, the Emergency Response Team Coordinator will assure that a supply of non-perishable food items will be purchased and stored at the Control Center. This food will be available if the Control Center is operational during a hurricane. At the end of hurricane season, the food items may be donated to a local food bank.

When weather conditions predicted by the National Weather Service Hurricane Center indicate that the Control Center area may be affected, the following actions are authorized.

General

In the event that employees based at the Control Center are released because of hurricane conditions, the following telephone numbers will be "manned" to provide information to employees.

St. Rose Office: 504-712-5600
Sorrento: 504-712-5703

Condition 1

Situation - Tropical Disturbance

The National Weather Service has advised that a tropical disturbance has developed in the Gulf of Mexico or will enter the Gulf of Mexico.

Action - The Emergency Response Team Coordinator will monitor weather reports to ensure preparedness and will keep the Emergency Response Team Manager advised of conditions.

Condition 2

Situation - Tropical Storm

A tropical disturbance has been upgraded in the Gulf of Mexico to a tropical storm or a tropical storm will enter the Gulf of Mexico, and may be upgraded to a hurricane within 72 hours.

Action - The Emergency Response Team Coordinator will contact the Emergency Response Team Manager to schedule a staff meeting at the Control Center to review the following:

- Emergency Preparedness and Recovery Plan.
- Personnel schedules.
- General pipeline system conditions.

The following additional actions will be taken:

- Assemble cellular telephones for possible use at the Control Center.
- Ensure that extra backup tapes or CD's are available.

Condition 3

Situation - Hurricane Watch

The National Weather Service has issued a Hurricane Watch that may include the Control Center within 24 hours.

Action - The Emergency Response Team Coordinator will begin to secure arrangements for the following:

- Food items.
- Sleeping facilities for employees who will be stationed at the Control Center.
- Bottled drinking water.
- Ice and ice chest.
- Key personnel schedules.
- List of Operations personnel that will be stationed at the Control Center for Conditions 4 and 5.

The following additional actions will be taken:

- Confirm availability of charged batteries for GFMCs.
- Secure availability of contract personnel.
- Confirm readiness of roof-mounted standby generator (primary) and trailer-mounted stand by generator (secondary).
- Confirm readiness of backup systems.
- Survey employees required to work at the Control Center to determine if anyone wants his/her house boarded. Material and boarding plan provided to employee prior to Condition 3.
- Notify customers of transportable telephone numbers and instructions for use in the event of a phone system outage.

Condition 4

Situation - Hurricane Warning

The National Weather Service has issued a Hurricane Warning that includes the Control Center.

Action - The Emergency Response Team Manager, or his/her designee, will communicate to the Executive Contacts that the Plan is in effect and will notify all Team members and begin the following:

- With input from the Executive Contacts, the Emergency Response Team Manager, or his/her designee, may decide to evacuate the Control Center and establish the DECC at a remote location as described in Section IV.
- Move aluminum shutters from the closet in the Control Center.
- Decide which personnel will remain at the Control Center.
- Have truck transportation available.
- If personnel are available, move all office PC's away from windows.

Condition 5

Situation - Hurricane Conditions

Action - The following actions will be taken:

- Secure Control Center.
- Secure computer room if conditions appear extremely severe.
- Monitor pipeline system.
- Maintain operations.

AGENCY CROSS REFERENCE

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PHMSA CROSS REFERENCE

PHMSA Protocol #	PHMSA Section #	PHMSA Protocol Description	ERP Section/ Reference
1.1	194.107(c)	FRP statement certifying that the operator has reviewed the current National Contingency Plan (NCP) and each applicable Area Contingency Plan (ACP) and that the FRP is consistent with them.	**State Appendix** Section 1, Page 3
1.2	194.107(c)	Applicable ACP identification.	**State Appendix** Section 1, Page 3
2.1	194.107(d)(1)(I) 194.113(a)	**Plan Information Summary With The Following Information**	
		Name of Operator	**Core Plan** Section 1, Page 1
		Street Address of Operator	**Core Plan** Section 1, Page 1
		City, State, Zip Code	**Core Plan** Section 1, Page 1
	194.113(a)(2) 194.113(b)(3)	A List of response zones that meet the criteria for significant and substantial harm and a list of response zones in which a worst case discharge could cause substantial harm	**Core Plan** Section 1, Page 2
	194.113(b)(5)	The basis for the operator's determination that the response zone meets the criteria for significant and substantial harm and a statement that a worst case discharge in the response zone can be expected to cause significant and substantial harm for each such response zone	**Core Plan** FOB, 1st Page
	194.113(a)(2) 194.5	Description of each response zone, including the county(s) and state(s) and is each response zone designation appropriate	**Core Plan** Section 1, Pages 1 thru 2
		Name and/or title and the telephone number of the Qualified Individual available on a 24-hour basis in each response zone	**State Appendix** ERAP, Pages 22 thru 23
		Name and/or title and the telephone number of the Alternate Qualified Individual available on a 24-hour basis in each response zone	**State Appendix** ERAP, Pages 22 thru 23
	194.113(b)(4)	List of line sections in each response zone identified by milepost survey station number of other operator designation	**State Appendix** Section 1, Pages 4 thru 142
	194.113(b)(4)	If any response zone contains multiple pipeline systems, are they all described and if multiple oils transported, are they listed	**State Appendix** Section 1, Pages 4 thru 142
	194.113(b)(6)	The type of oil and the volume of the worst case discharge in each response zone	**State Appendix** Empire Terminal Tab, Page 3

PHMSA Protocol #	PHMSA Section #	PHMSA Protocol Description	ERP Section/ Reference
3.1	194.107(d)(1)(ii)	Notification procedures identify a person, position, or facility responsible for initiating immediate notification	**State Appendix** Section 2, Pages 1 thru 30 ERAP, Page 23
3.2	194.107(d)(1)(ii) Appendix A Section 2	Notification procedures indicate that the person, position, or facility is capable of initiating notification on a 24-hour basis	**State Appendix** Section 2, Pages 1 thru 30 ERAP, Page 23
	194.107(d)(1)(ii) Appendix A Section 2(b)	Appropriate notification procedures	**State Appendix** Section 2, Pages 1 thru 30 ERAP, Page 23
3.3	194.107(d)(1)(ii) Appendix A Section 5	Notification procedures telephone numbers which include the required contacts that can be reached on a 24-hour basis	**State Appendix** ERAP, Pages 7 thru 26
		Qualified Individual	**State Appendix** ERAP, Pages 22 thru 23
		Oil Spill Removal Organization	**State Appendix** ERAP, Page 26
		Is the National Response Center number correctly listed as 1-800-424-8802	**State Appendix** ERAP, Page 12
		Company personnel (spill management team)	**State Appendix** ERAP, Pages 22 thru 23
3.4	194.107(d)(1)(ii)	**Notification Section Which Includes The Following Information**	**State Appendix** ERAP, Page 4
		Name of pipeline operator	**State Appendix** ERAP, Page 4
		Time of discharge	**State Appendix** ERAP, Page 4
		Location of discharge	**State Appendix** ERAP, Page 4
		Name of oil involved	**State Appendix** ERAP, Page 4
		Reason for discharge	**State Appendix** ERAP, Page 4
		Estimated volume of oil discharged	**State Appendix** ERAP, Page 4
		Weather conditions on scene	**State Appendix** ERAP, Page 4

PHMSA Protocol #	PHMSA Section #	PHMSA Protocol Description	ERP Section/ Reference
3.5	194.107(d)(1)(v) 194.115 Appendix A Section 9(e)(2)	Identification of operator's Oil Spill Removal Organization	**State Appendix** ERAP, Page 26
		Name(s)	**State Appendix** ERAP, Page 26
		Address(s)	**State Appendix** ERAP, Page 26
		Telephone Number(s)	**State Appendix** ERAP, Page 26
4.1	194.115(a)	Procedures to identify and mitigate or prevent a substantial threat of a worst case discharge	**Core Plan** Section 3, Pages 1 thru 33 Section 4 Section 5 Section 6 Section 7
4.2	194.107(d)(1)(iii) Appendix A Section 3(a)	Identification of personnel, equipment and procedures for detection leaks and spills and locating spills throughout the response zone	**State Appendix** ERAP, Pages 17 thru 26 Section 3, Pages 1 thru 9 **Core Plan** Section 3, Pages 1 thru 33 Section 4 Section 5 Section 6
4.3	194.105(b)(1)	Identification of the maximum time to detect spill and shutdown flow in affected pipeline in adverse weather	**State Appendix** Section 1, Pages 9 thru 152
4.4	194.107(d)(1)(v) Appendix A Section 9(e)	Identification of procedures to mitigate spills appropriate for the response zone and consistent with applicable ACP(s)	**State Appendix** ERAP, Pages 1 thru 2 Section 1, Page 3 Pages 143 thru 152 **Core Plan** Section 3, Pages 1 thru 33 Section 4 Section 5 Section 6

PHMSA Protocol #	PHMSA Section #	PHMSA Protocol Description	ERP Section/ Reference
5.1	194.107(d)(1)(v) Appendix A Section 9(e)	Identification of spill containment strategies appropriate for the response zone and consistent with applicable ACP(s)	**State Appendix** Section 1, Pages 141 thru 152 **Core Plan** Section 3 Section 10
5.2	194.115(b)	Planned spill containment activities accomplished within the appropriate tier times	**State Appendix** Section 1, Page 152 Empire Terminal, Pages 15 thru 21 Section 3, Pages 1 thru 9
5.3	194.115(b)	Containment equipment capacities described in sufficient detail and identify sufficient spill containment to respond to a worst case discharge to the maximum extent practicable	**State Appendix** ERAP, Page 26 Section 1, Pages 144 thru 152 Section 3, Pages 1 thru 9 **Core Plan** Section 4
6.1	194.107(d)(1)(v) Appendix A Section 9(e)	Identification of the spill recovery strategies appropriate for the response zone and consistent with applicable ACP(s)	**State Appendix** Section 1, Pages 144 thru 152 **Core Plan** Section 3 Section 10
6.2	194.115(b)	Planned spill recovery activities accomplished within the appropriate tier times	**State Appendix** Section 1, Page 152 Empire Terminal Tab, Pages 15 thru 21 Section 3, Pages 1 thru 9
6.3	194.115(a)	Recovery equipment capacities described in sufficient detail and the FRP identify sufficient spill recovery equipment to respond to a worst case discharge to the maximum extent	**State Appendix** ERAP, Page 26 Section 1, Pages 144 thru 152 Section 3, Pages 1 thru 9 **Core Plan** Section 4

PHMSA Protocol #	PHMSA Section #	PHMSA Protocol Description	ERP Section/ Reference
7.1	194.107(d)(1)(v) Appendix A Section 9(e)	Identification of disposal procedures, including temporary storage equipment for recovered oil appropriate for the response zone and consistent with applicable ACP	**State Appendix** ERAP, Page 26 Section 1, Pages 144 thru 152 Section 3, Pages 1 thru 9 **Core Plan** Section 4
7.2	194.115(b)	Planned temporary storage and waste disposal activities accomplished within the appropriate tier times	**State Appendix** Section 4, Pages 1 thru 23 Section 3, Pages 1 thru 9
7.3	194.115(a)	Identification of sufficient temporary storage capabilities to respond to a worst case discharge to the maximum extent practicable	**State Appendix** ERAP, Page 26 Section 3, Pages 1 thru 9
8.1	194.107(d)(1)(v) Appendix A Section 9(e)	Identification of the protection strategies appropriate for the response zone and consistent with applicable ACP(s)	**State Appendix** Section 1, Pages 144 thru 152 **Core Plan** Section 3, Pages 1 thru 18 Section 5 Section 6
8.2	194.115(b)	Planned protection activities accomplished with the appropriate tier times	**State Appendix** Section 1, Page 152 Empire Terminal Tab Pages 15 thru 21 Section 3, Pages 1 thru 9 Section 10 **Core Plan** Section 5
9.1	194.107(d)(1)(v) 194.117(c) Appendix A Section 4(c) Appendix A Section 9(k)(2)	Response management system described in the FRP and IC-bases system	**Core Plan** Section 6
9.2	194.107(d)(1)(v) Appendix A Section 4(a) and (b)	Operator's response organization includes a description of roles and responsibilities	Pages references are listed below

PHMSA Protocol #	PHMSA Section #	PHMSA Protocol Description	ERP Section/ Reference
		Qualified Individual	**State Appendix** ERAP, Page 1 Page 29 **Core Plan** Section 3, Page 19 Section 5 Section 6
		Other operator response personnel including on the spill management team	**State Appendix** ERAP, Page 29 **Core Plan** Section 5 Section 6
		Contracted Oil Spill Removal Organization(s)	**State Appendix** ERAP, Page 29 **Core Plan** Section 3, Page 19 Section 5 Section 6
9.3	194.107(D)(1)(V) Appendix A Section 4(c)	Operator's response organization includes a description of the organizational interfaces with external parties in a Unified Command	**State Appendix** ERAP, Pages 27 thru 29 **Core Plan** Section 3, Page 19 Section 5 Section 6
		State and local responders	**State Appendix** ERAP, Pages 27 thru 29 **Core Plan** Section 5 Section 6
		Federal on-Scene coordinator	**State Appendix** ERAP, Pages 27 thru 29 **Core Plan** Section 5 Section 6
10.1	194.107(d)(1)(ii) 194.107(d)(1)(v)	Describe appropriate communication procedures and system adequate for notifications and response operations	**Core Plan** Section 11
10.2	194.115(a)	Identify response equipment that is operator-owned and maintained	N/A Company relies on USCG certified OSROs

PHMSA Protocol #	PHMSA Section #	PHMSA Protocol Description	ERP Section/ Reference
10.3	194.107(d)(1)(viii)	Describe procedures for maintaining response equipment owned by operator	N/A Company relies on USCG certified OSROs
10.4	194.115(a)	Identify response equipment that will be provided by Oil Spill Removal Organization(s) that is not USCG-classified	N/A Company relies on USCG certified OSROs
10.5	194.107(d)(1)(viii)	Describe procedures for maintaining response equipment owned by Oil Spill Removal Organization(s) that is not USCG-classified	**Core Plan** Section 4, Page 1
10.6	194.115(b)	Identify the location of both operator-owned and Oil Spill Removal Organization-owned response equipment	**State Appendix** Section 1, Pages 144 thru 148 Section 3, Pages 1 thru 9
10.7	194.107(d)(1)(v)	Describe mobilization and deployment of response equipment within appropriate tier times consistent with the plan's response activities	**State Appendix** Section 1, Pages 144 thru 152
10.8	194.115(b)	Size of response zone to permit planned response activities to be accomplished including equipment mobilization and deployment within the appropriate tier times	**State Appendix** Section 1, Pages 144 thru 152
11.1	194.107(d)(1)(v) 194.115 194.117(a)(1)(I) & (c) Appendix A Section 9(e)(2)	Identification of sufficient numbers of trained personnel to conduct the response to the WCD consistent with the plan's response activities	**State Appendix** ERAP, Pages 22 thru 23, For Initial Responders Pages 17 thru 26, For all Responders **Core Plan** Section 19
11.2	194.107(d)(1)(v)	Describe procedures for mobilizing and deploying response personnel throughout the response zone consistent with the plan's response activities	**State Appendix** Section 2, Pages 1 thru 7 **Core Plan** Section 3 Section 4 Section 5 Section 6
12.1	194.107(d)(1)(v)	Operation description of procedures to be used by the response management organization to document response decisions, activities and cost	**Core Plan** Section 15, Pages 1 thru 57
12.2	194.105(a)	Provide the calculations and methodology used for determining the worst case discharge for the response zone	**State Appendix** Section 1, Pages 141 thru 152

PHMSA Protocol #	PHMSA Section #	PHMSA Protocol Description	ERP Section/ Reference
12.3	194.105(b)	Worst case discharge volume calculated using the three specified methods as applicable in the Interim Final Rule and the derivations accurate and as prescribed	**State Appendix** Section 1, Pages 141 thru 152
13.1	194.117(a)(1)(I)	Describe training program that provides training for response personnel including their responsibilities under the plan	**Core Plan** Section 12, Pages 1 thru 9
13.2	194.117(a)(3)	Describe training program that provides training for response personnel	**Core Plan** Section 12, Pages 3 thru 5
		Characteristics and hazards of oil	**Core Plan** Section 12, Pages 3 thru 5
		Conditions that are likely to worsen emergencies, including the consequences of facility malfunctions of failures and appropriate corrective actions	**Core Plan** Section 12, Pages 3 thru 5
		Steps necessary to control an accidental discharge of oil	**Core Plan** Section 12, Pages 3 thru 5
		Steps necessary to minimize the potential for the fire, explosion, or environmental damage	**Core Plan** Section 12, Pages 3 thru 5
		Proper fire-fighting procedures and use of personal protective equipment	**Core Plan** Section 12, Pages 3 thru 5
13.3	29 CFR 1910.120 194.117(c) 40 CFR 300.150(b)	Describe a response training program that addresses the appropriate levels of training and the requirements specified	**Core Plan** Section 12, Pages 1 thru 9
13.4	194.117(b)	Describe the operator's procedures of maintenance for response training records for response personnel	**Core Plan** Section 12, Page 1
14.1	194.107(d)(1)(ix) Appendix A Section 7 PREP	Describe procedures for conducting internal and external drills	Page references are listed below
		Responsibility for planning, carrying out and monitoring drills	**Core Plan** Section 18
		Announced drills	**Core Plan** Section 12, Page 6 Page 9 Section 18

PHMSA Protocol #	PHMSA Section #	PHMSA Protocol Description	ERP Section/ Reference
		At least one unannounced internal drill	**Core Plan** Section 12, Page 8 thru 9 Section 18
		Quarterly Qualified Individual notifications drills	**Core Plan** Section 12, Page 6 Page 9 Section 18, Page 26
		Annual spill management team tabletop drills	**Core Plan** Section 12, Page 7 Section 18, Page 27
		Annual Oil Spill Removal Organization(s) equipment deployment drills of representative types of key equipment identified in the FRP	**Core Plan** Section 12, Page 7 Section 18
		At least one drill that test the entire response plan for each response zone at least every three years	**Core Plan** Section 12, Page 9 Section 18
14.2	194.107(d)(1)(ix) Appendix A Section 7(b)	Description of a 3-year drill and exercise cycle and the frequencies for each type drill in that cycle	**Core Plan** Section 12, Pages 4 thru 9 Section 18, Pages 2 thru 3
14.3	Appendix A Section 7	Procedures for maintaining drill documentation for 3 years	**Core Plan** Section 12, Page 1
15.1	194.107(d)(1)(x) 194.121(a)	Requirements and procedures that the operator will review the FRP at least once every 5 years after the last plan approval date of PHMSA, modify the FRP to address new or different operating conditions of information in the response plan and submit the plan for PHMSA's review/approval.	**Core Plan** Section 13 Pages 1 thru 2
15.2	194.121(b)	Identification of key factors that may cause revisions to the response plane and require the operator to submit revisions to PHMSA within 30 days of making the revisions for factors	**Core Plan** Section 13, Pages 1 thru 2
		New pipeline construction or purchase	**Core Plan** Section 13, Pages 1 thru 2
		Different worst case discharge volume	**Core Plan** Section 13, Pages 1 thru 2

PHMSA Protocol #	PHMSA Section #	PHMSA Protocol Description	ERP Section/ Reference
		Change in commodities transported	**Core Plan** Section 13, Pages 1 thru 2
		Change in Oil Spill Removal Organization(s)	**Core Plan** Section 13, Pages 1 thru 2
		Change in Qualified Individual	**Core Plan** Section 13, Pages 1 thru 2
		Change in NCP/ACP that has significant impact on the appropriateness of response equipment or response strategies	**Core Plan** Section 13, Pages 1 thru 2
		Change in response procedures	**Core Plan** Section 13, Pages 1 thru 2
		Change in ownership	**Core Plan** Section 13, Pages 1 thru 2
15.3	194.121(b)(8)	Description of procedure for incorporating improvements identified	**Core Plan** Section 13, Page 1
		Post-drill evaluation results	**Core Plan** Section 13, Page 1
		Post-incident evaluation results	**Core Plan** Section 13, Page 1
16.1	194.107(c)	Plan consistent with the NCP in effect at the time of submission	**State Appendix** Section 1, Page 3
16.2	194.107(c)	Plan consistent with the ACP(s) in effect for each response zone at the time of submission	**State Appendix** Section 1, Page 3
16.3	49 CFR 194	Concept of plans of operation minimally adequate to carry out a response to the WCD	**State Appendix** Section 1, Page 3 **Core Plan** Section 3 Section 4 Section 5 Section 6

EPA CROSS REFERENCE – EMPIRE AND FORKED ISLAND TERMINALS

	EPA Facility Response Plan	Location In This Plan
1.1	Emergency Response Action Plan	**State Appendix** Front Binder Cover
1.2	Facility Information	**State Appendix** Empire Terminal Tab, Page 5 Forked Island Tab, Page 1
1.3	Emergency Response Information	**State Appendix** Front Binder Cover
1.3.1	Notification	**State Appendix** ERAP, Page 2 thru 6
1.3.2	Response Equipment List	**State Appendix** ERAP, Page 26 Company relies on USCG certified OSRO's
1.3.3	Response Equipment Testing/Deployment	**Core Plan** Section 4 Page 1, 4th item, Contract Resources
1.3.4	Personnel	**State Appendix** ERAP, Page 17 For Forked Island Page 23 For Empire Company relies on USCG certified OSRO's
1.3.5	Evacuation Plans	**State Appendix** Empire Terminal Tab , Page 22 Forked Island Tab, Page 30
1.3.6	Qualified Individual's Duties	**State Appendix** ERAP, Page 1
1.4	Hazard Evaluation	**State Appendix** Empire Terminal Tab, Page 8 Pages 15 thru 22 Forked Island Tab, Page 8 Pages 34 thru 58

	EPA Facility Response Plan	Location In This Plan
1.4.1	Hazard Identification	**State Appendix** Empire Terminal Tab, Page 8 Pages 15 thru 22 Forked Island Tab, Page 8 Pages 34 thru 58
1.4.2	Vulnerability Analysis	**State Appendix** Empire Terminal Tab, Page 8 Pages 15 thru 22 Forked Island Tab, Page 8 Pages 34 thru 58
1.4.3	Analysis for the Potential for an Oil Spill	**State Appendix** Empire Terminal Tab, Page 8 Pages 15 thru 22 Forked Island Tab, Page 8 Pages 34 thru 58
1.4.4	Facility Reportable Oil Spill History	**State Appendix** Empire Terminal Tab, Page 20 Forked Island Tab, Page 12
1.5	Discharge Scenarios	**State Appendix** Empire Terminal Tab, Pages 18 thru 20 Forked Island Tab, Page 34
1.5.1	Small and Medium Discharges	**State Appendix** Empire Terminal Tab, Pages 18 thru 19 Forked Island Tab, Page 34
1.5.2	Worst Case Discharges	**State Appendix** Empire Terminal Tab, Page 19 Forked Island Tab, Page 34
1.6	Discharge Detection Systems	**Core Plan** For Empire Terminal Section 3, Pages 1 thru 7 **State Appendix** For Forked Island Terminal Forked Island Tab, Page 54

	EPA Facility Response Plan	Location In This Plan
1.6.1	Discharge Detection by Personnel	**Core Plan** For Empire Terminal Section 3, Pages 1 thru 7 **State Appendix** Forked Island Terminal Tab, Page 20
1.6.2	Automated Discharge Detection	**Core Plan** For Empire Terminal Section 3, Pages 1 thru 7 **State Appendix** Forked Island Terminal Tab, Pages 17 thru 19
1.7	Plan Implementation	**State Appendix** ERAP, Entire Section **Core Plan** Section 3 Section 5 Section 6
1.7.1	Response Resources for Small, Medium and Worst Case Spills	**State Appendix** ERAP, Page 26
1.7.2	Disposal Plans	**Core Plan** Section 10
1.7.3	Containment and Drainage Plans	**State Appendix** ERAP, Drawings, Pages 30 thru 33
1.8	Drill/Exercises and Response Training	**Core Plan** Section 12, Entire Section Section 18, Entire Section
1.8.1	Facility Self-Inspection	**State Appendix** Empire Terminal Tab Page 6, Facility SPCC Plan Forked Island Tab, Pages 58 thru 66
1.8.1.1	Tank Inspections	**State Appendix** Empire Terminal Tab Page 6, Facility SPCC Plan Forked Island Tab, Pages 58 thru 66
1.8.1.2	Response Equipment Inspections	N/A Company Relies on USCG certified OSRO's

	EPA Facility Response Plan	Location In This Plan
1.8.1.3	Secondary Containment Inspections	**State Appendix** Empire Terminal Tab Page 6, Facility SPCC Plan Forked Island Tab, Pages 58 thru 66
1.8.2	Facility Drills/Exercises	**Core Plan** Section 12 Section 18
1.8.2.1	QI Notification Drill Logs	**Core Plan** Section 12 Section 18
1.8.2.2	Spill Prevention Meeting Logs	**State Appendix** Empire Tab Page 6, SPCC Plan Forked Island Tab, Page 63, SPCC Plan
1.9	Diagrams	**State Appendix** ERAP, Pages 30 thru 33
1.10	Security	**State Appendix** Empire Terminal Tab, Page 6, SPCC Plan Forked Island Tab, Page 63, SPCC Plan
2.0	Response Plan Cover Sheet	**State Appendix** Empire Terminal Tab, Pages 5 thru 6 Forked Island Tab, Page 4
3.0	Acronyms	**Core Plan** Section 17
4.0	References	**State Appendix** Front of Book, 1st Page

USCG CROSS REFERENCE – EMPIRE AND FORKED ISLAND TERMINALS

33 CFR 154 Appendix A	Required Section	Location In This Plan
Section 7 (1)	(A) Introduction and Plan Content	**State Appendix** Empire Terminal Tab, Pages 1 thru 6 Forked Island Tab, Pages 1 thru 4
Section 7 (1)	(1) Facility Information	**State Appendix** Empire Terminal Tab, Pages 1 thru 6 Forked Island Tab, Pages 1 thru 4
Section 7 (1)	(2) Facility Geographic Location	**State Appendix** Empire Terminal Tab, Pages 1 thru 6 Forked Island Tab, Pages 1 thru 4
Section 7 (1)	(3) 24-Hour Procedures for Contacting Facility's Owner/Operator	**State Appendix** Empire Terminal Tab, Page 5 Forked Island Tab, Page 4
Section 7 (1)	(4) Table of Contents	**Core Plan** Table of Contents **State Appendix** Table of Contents
Section 7 (1)	(5) Cross Index, If Appropriate	**State Appendix,** Agency Cross Reference Tab
Section 7 (1)	(6) Record of Changes	**State Appendix** Front of Book Tab, Update Notices
Section 7 (2)	(B) Emergency Response Action Plan	**State Appendix** Front of Binder Cover
Section 7 (2i)	(1) Notification Procedures	**State Appendix** ERAP, Pages 2 thru 6
Section 7 (2i)	(i) Prioritized Notification Procedures List For Facility Personnel And Regulatory Agencies	**State Appendix** Section 2, Pages 1 thru 14 ERAP, Pages 1 thru 13 Page 17 Page 23

33 CFR 154 Appendix A	Required Section	Location In This Plan
Section 7 (2i)	(ii) Notification Forms	**State Appendix** ERAP, Pages 4 thru 5
Section 7 (2ii)	(2) Facility's Spill Mitigation Procedure	**State Appendix** Empire Terminal Tab, Pages 16 thru 20 Forked Island Tab, Pages 20 thru 21 **Core Plan** Section 3, Pages 1 thru 33
Section 7 (2ii)	(i) Descriptions of Volume(s) of Persistent And Non-Persistent Oil Involved In: a. Average Most Probable Discharge b. Maximum Most Probable Discharge c. Worst Case Discharge	**State Appendix** Empire Terminal Tab, Pages 15 thru 16 Pages 19 thru 20 Forked Island Tab, Pages 34 thru 35
Section 7 (2ii)	(ii) Prioritized Procedures for Facility Personnel to Mitigate or Prevent Discharge or Substantial Threat of Discharge, Addressing the Following Scenarios: a. Failure of Manifold, Loading Arm, Transfer Equipment, Hoses, Etc. b. Tank Overfill c. Tank Failure d. Piping Rupture e. Piping Leak (Under Pressure or Not Under Pressure as Applicable) f. Explosion and/or Fire g. Equipment Failure	**Core Plan** Section 3, Pages 1 thru 33
Section 7 (2ii)	(iii) List of Equipment and Responsibilities of Facility Personnel to Mitigate an Average Most Probable Discharge	**State Appendix** Section 3, Facilities rely on USCG certified OSRO's to respond to spills up to and including a WCD ERAP For Empire and Forked Island Facilities, Page 23 Page 17

33 CFR 154 Appendix A	Required Section	Location In This Plan
Section 7 (2iii)	(3) Facility's Response Activities	**State Appendix** ERAP, Entire Section **Core Plan** Section 3, Pages 1 thru 33
Section 7 (2iii)	(i) Personnel Responsibilities for Response Initiation and Supervision Pending Arrival of the Qualified Individual	**State Appendix** ERAP, Page 2 Page 6 **Core Plan** Section 3, Pages 1 thru 6
Section 7 (2iii)	(ii) Specify Qualified Individual's (and Alternate's) Responsibilities and Authority	**State Appendix** ERAP, Page 1
Section 7 (2iii)	(iii) Spill Response Organization Elements: a. Command and Control b. Public Information c. Safety d. Liaison With Government Agencies e. Spill Operations f. Planning g. Logistics Support h. Finance	**Core Plan** Section 5 Section 6
Section 7 (2iii)	(iv) Oil Spill Removal Organizations	**State Appendix** ERAP, Page 28, OSRO's are assigned to the Operations Section in the ICS Organization OSRO's contact information is listed in the State Appendix, ERAP Page 26
Section 7 (2iv)	(4) Sensitive Areas	**State Appendix** Empire Terminal Tab, Pages 23 thru 75 Forked Island Tab, Pages 43 thru 47
Section 7 (2iv)	(i) List of Areas of Economic Importance and Environmental Sensitivity	**State Appendix** Empire Terminal Tab, Pages 23 thru 75 Forked Island Tab, Pages 43 thru 47

33 CFR 154 Appendix A	Required Section	Location In This Plan
Section 7 (2iv)	(ii) Sensitive Area Maps and Description of Protection Response Actions	**State Appendix** Empire Terminal Tab, Pages 23 thru 75 Forked Island Tab, Pages 43 thru 47
Section 7 (2iv)	(iii) Identification of Equipment and Personnel to Protect Sensitive Areas	**State Appendix** Section 3, Facilities rely on USCG certified OSRO's to respond to spills up to and including a WCD ERAP, For Empire Facility, Page 23 For Forked Island Facility Page 17 Personnel List
Section 7 (2v)	(5) Disposal Plan	**Core Plan** Section 10
Section 7 (3)	(C) Hazard Evaluation	**State Appendix** Empire Terminal Tab, Page 8 Pages 15 thru 22 Forked Island Tab, Page 8 Pages 35 thru 56
Section 7 (4)	(D) Spill Scenarios	**State Appendix** Empire Terminal Tab, Pages 18 thru 20 Forked Island Tab, Page 34
Section 7 (5)	(E) Training and Drills	**Core Plan** Section 12
Section 7 (5i)	(1) Training Procedures	**Core Plan** Section 12
Section 7 (5i)	(i) Individual Response Personnel Training Requirements	**Core Plan** Section 12, Page 4 thru 6
Section 7 (5i)	(ii) Training Documentation and Records Management (by Facility Owner/Operator)	**Core Plan** Section 12, Page 1

33 CFR 154 Appendix A	Required Section	Location In This Plan
Section 7 (5i)	(iii) Training Documentation and Records Management (by Oil Removal Organizations)	**Core Plan** Section 12, Page 1
Section 7 (5i)	(iv) HAZWOPER Training Requirements	**Core Plan** Section 12, Pages 4 thru 6
Section 7 (5ii)	(2) Drill Procedures	**Core Plan** Section 12, Pages 6 thru 9 **Core Plan** Section 18
Section 7 (5ii)	(i) Facility and Qualified Individual Notification Drills	**Core Plan** Section 12, Page 6 Section 18, Page 26
Section 7 (5ii)	(ii) Equipment Deployment Drills	**Core Plan** Section 12, Page 7 Section 18, Page 30
Section 7 (5ii)	(iii) Spill Management Team Tabletop Drills	**Core Plan** Section 12, Page 7 Section 18, Pages 27 thru 29
Section 7 (5ii)	(iv) Unannounced Drills With Activation Of Spill Removal Organization And Spill Management Team	**Core Plan** Section 12, Page 9 Section 18
Section 7 (5ii)	(v) Announced COTP Drills	**Core Plan** Section 12, Page 8
Section 7 (5ii)	(vi) Deployment Drill Participation	**Core Plan** Section 12, Pages 8 thru 9
Section 7 (6)	(F) Plan Review and Update Procedures	**Core Plan** Section 13
Section 7 (7)	(G) Appendices	**State Appendix**
Section 7 (7i)	(1) Facility Specific Information	**State Appendix** Empire Terminal Tab, Pages 1 thru 6 Forked Island Tab, Pages 1 thru 4
Section 7 (7i)	(i) Physical Description of Facility	**State Appendix** Empire Terminal Tab, Pages 1 thru 6 Forked Island Tab, Pages 1 thru 4

33 CFR 154 Appendix A	Required Section	Location In This Plan
Section 7 (7i)	(ii) Sizes, Types, and Numbers of Vessels Facility Can Transfer Oil to or From Simultaneously	**State Appendix** Empire Terminal Tab, Page 5 Forked Island Tab, Page 6
Section 7 (7i)	(iii) Identification of First Valve(s) Separating the Transportation-Related From the Non-Transportation-Related Portions of the Facility	**State Appendix** Empire Terminal Tab, Page 10 Forked Island Tab, Page 11, Last Sentence
Section 7 (7i)	(iv) Information on Oil or Hazardous Materials Handled, Stored, or Transported In Bulk	**State Appendix** Empire Terminal Tab, Page 6 Forked Island Tab, Page 6
Section 7 (7i)	(v) Any Other Information Deemed Pertinent by Owner/Operator	**State Appendix** Empire Terminal Tab Forked Island Tab
Section 7 (7ii)	(2) List of Contacts	**State Appendix** ERAP, Page 17 Page 23
Section 7 (7ii)	(i) Primary and Alternate Qualified Individuals	**State Appendix** ERAP, Page 17 Page 23
Section 7 (7ii)	(ii) All Contacts for Activation of Response Resources Identified in Plan	**State Appendix** ERAP, Pages 2 thru 3 Pages 5 thru 6 Page 17 Page 23 Page 26
Section 7 (7ii)	(iii) Appropriate Federal, State, and Local Individuals	**State Appendix** ERAP, Pages 7 thru 13

33 CFR 154 Appendix A	Required Section	Location In This Plan
Section 7 (7iii)	(3) Equipment List and Records	**State Appendix** ERAP, Page 26 Facilities rely on USCG certified OSRO's for response equipment up to and including a WCD
Section 7 (7iii)	(i) List of Equipment and Individuals Needed to Deal With the Average Most Probable Discharge	**State Appendix** ERAP, Page 17 Page 23 (Personnel) Facilities rely on USCG certified OSRO's for response equipment up to and including a WCD
Section 7 (7iii)	(ii) List Of Major Equipment Belonging To Oil Spill Removal Organizations And Availability To Respond To A Worst Case Spill	N/A Facilities rely on USCG certified OSRO's for response equipment up to and including a WCD
Section 7 (7iii)	(iii) Data on Oil Spill Removal Organization Equipment, Including: a) Type, Make, Model, Year of Manufacture b) Effective Daily Recovery Rate (If Applicable) c) Overall Boom Height and Type of End Connectors (If Applicable) d) Spill Scenario for Which Equipment is to be Used or Contracted e) Total Daily Capacity for Storage and Disposal of Recovered Oil f) Location of Equipment g) Date of Last Inspection	N/A Facilities rely on USCG certified OSRO's for response equipment up to and including a WCD
Section 7 (7iv)	(4) Communication Plan	**Core Plan** Section 11
Section 7 (7v)	(5) Site Specific Safety and Health Plan	**Core Plan** Section 7
Section 7 (7vi)	(6) List of Acronyms and Definitions	**Core Plan** Section 17

EMERGENCY RESPONSE ACTION PLAN (ERAP)

The purpose of this Emergency Response Action Plan (ERAP) is to provide quick access to key types of information that are often required in the initial stage of a spill response. The information provided in this ERAP is typically presented in greater detail in other sections of the Plan, at locations shown in parentheses. The information provided in this Section includes:

- **Qualified Individual/Incident Commander Information–Page 1** provides a summary of roles, responsibilities and authority of the QI/IC.
- **Emergency Response Notification Procedure Flowchart–Page 2** provides direction for Corporate Initial Emergency Response Notifications.
- **Emergency Response to Management FAX–Page 5** provides a fax form for Emergency Notifications to Management.
- **Emergency Notification Phone Lists–Pages 7 through 13 and 17 through 25** provide phone numbers for response personnel, regulatory agencies, response contractors and environmentally sensitive/economically important area managers. Facility Response Team Phone Numbers are provided on page 1.
- **Spill Response Notification Form–Page 4** lists the information that should be provided when making internal and external notifications.
- **Immediate Response Actions–Pages 28** provides a decision guide for determining the appropriate immediate response strategy and a checklist summarizing typical specific immediate response actions, respectively.
- **Response Organization–Page 26** provides the Five Major Functional Areas of NIMS ICS. Page 28 depicts the USCG Operational Planning Cycle that will be utilized to facilitate the response process.
- **Response Equipment -** Company relies on USCG Certified OSRO's, refer to Page 25 in this ERAP for OSRO contract information.
- **On-Site Response Team–Pages 17 through 24** depicts the Facility Response Team and Primary Qualified Individual/ Incident Commander and QI/IC Alternates.
- **Facility Diagrams–Page 29 through 30** shows the general layout and drainage.

EMERGENCY RESPONSE ACTION PLAN

EMERGENCY RESPONSE ACTION PLAN (ERAP)

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HENRY PIPELINE/COMPLEX PHONE LIST 19

Henry Pipeline/Complex Phone List continued on next page 19

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SATELLITE PHONES **24**

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NIMS ICS FIVE MAJOR FUNCTIONAL AREAS **26**

USCG IMH OPERATIONAL PERIOD PLANNING CYCLE GUIDE **27**

EMERGENCY RESPONSE GUIDE - OIL SPILL **28**

EMPIRE SITE PLAN **29**

FOURCHON SITE PLAN **30**

INCIDENT COMMANDER (IC) / QUALIFIED INDIVIDUAL (QI) DUTIES

The QI is the Incident Commander and will carry out the duties below:

1. Activate internal alarms and hazard communication systems to notify all facility personnel.

2. Notify all response personnel, as needed.

3. Identify character, exact source, amount and extent of release.

4. Ensure notification of and provide necessary information to the appropriate authorities with designated response roles (NRC, State Emergency Response Commission and LEPC).

5. Assess the interaction of the spilled substance with water and/or other substances stored at the facility and notify response personnel at the scene of that assessment.

6. Assess the possible hazards of the release (direct and indirect) to human health and the environment.

7. Assess the implementation of prompt removal actions to contain and remove the substance released.

8. Coordinate rescue and response actions as previously arranged with all response personnel.

9. Use authority to immediately access company funding to initiate cleanup activities.

10. Direct cleanup activities until properly relieved of this responsibility.

Requirements state that a QI must be located in the United States and meet the requirements identified in the respective Federal regulations (EPA, PHMSA), and who is authorized to:

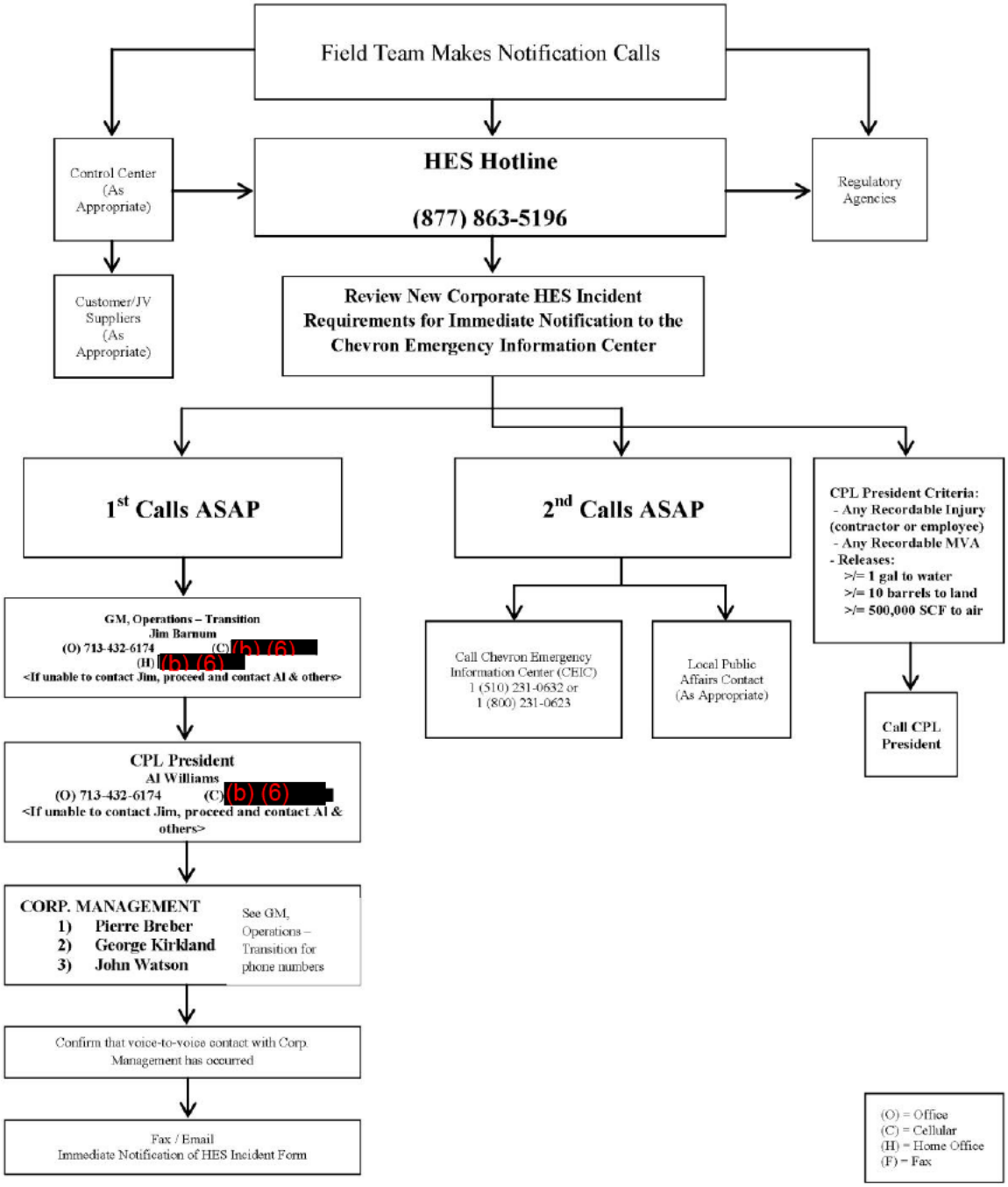
1. Activate and engage in contracting with oil spill removal organizations.

2. Act as a liaison with the pre-designated Federal On-Scene Coordinator.

3. Obligate funds required to carry out response activities. The QI will be the individual or a designee, as identified in the response plan.

INTERNAL HES NOTIFICATION FLOWCHART

CHEVRON PIPE LINE CORPORATION MANAGEMENT
INTERNAL HES NOTIFICATION FLOWCHART



HES Hotline Staff Member contacted will become the Incident Contact who will perform the initial and update communications during the emergency unless relieved

- The Incident Contact has the responsibility to contact a person in each applicable box of the next level of the notification chain
- **Fax and/or Email** Emergency Notification to **A. Williams, J. Patry, P. Breber, G. Kirkland** and Local Public Affairs

Revised 05/2014

INCIDENTS REQUIRING IMMEDIATE INTERNAL CORPORATE MANAGEMENT NOTIFICATION

Note: Internal Corporate Notification information only, not synonymous with Federal or State spill reporting Notifications Criteria located elsewhere in this Plan.

Incidents Requiring Immediate Notification to Corporate Management

Highlighted Fields Incidicate Reporting Requirementss of a More Stringent Nature Within and Through the Chevron Gas & Midstream Organization

Incident Type	CG&M SBU* President or VP	CG&M President	Corp Emergency Response Staff and VP, HES	Reporting Officer and Chairman
Work-related fatality of employee, contractor, or third party	M	M	M	M
Work-related recordable injuries of employee, contractor, or third party	M	M		
Incidents resulting in multiple employee, contractor, or third party overnight hospitalization; (except for observation only)	M	M	M	M
Petroleum or petroleum product spills equal to or greater than 1 gallon and less than 1 barrels **to water**	M			
Petroleum or petroleum product spills equal to or greater than 1 barrels and less than 50 barrels **to water**	M	M		
Petroleum or petroleum product spills greater than 50 barrels **to water**	M	M	M	M
Petroleum or petroleum product spills greater than 10 barrels and less than 500 barrels **to land**	M	M		
Petroleum or petroleum product spills greater than 500 barrels **to land**	M	M	M	M
Any incident that attracts international or broad USA media coverage	M	M	M	M
Any incident that attracts significant local media coverage	M	M	M	R
Natural disaster, political unrest, civil disturbance, or other situations that threatens safely, health, or welfare of employees or contractors	M	M	M	R
Incidents resulting in the need for employees or public to shelter-in-place or evacuate	M	M	M	R
Release of Produced Gas, Natural Gas, or LPG greater than 500,000 SCF and less than 10 MMSCF or that presents fire/explosion hazard to populated area	M			
Release of Produced Gas. Natural Gas, or LPG greater than 10 MMSCF or that presents fire, explosion hazard to populated area	M	M	M	R
Any release of LNG that is reported to government agencies, or attracts, or is expected to attract media attention, or: involves a vessel incident.	M	M	R	R
Chemical release to land, water, or air greater than 8000 Kg or that threatens human safety or health or adverse impact to environment.	M	M	M	R
Fire, explosion, well blowout or other incident damaging Company and/or third party assets with costs likely to exceed $500,000 for physical damage, loss of product or production, and incident response	M	M	M	R
Note: kidnapping and ransom	See CVX Corporate Security Guidelines			

Note:
M = Mandatory (Phone call via operating chain preferred for initial notification Details can follow via email or fax)
R = Recommended
20110530Upward Notification Require doc

*SBUs may have requirements that differ for what is reportable to their management

IMMEDIATE NOTIFICATION OF HES INCIDENT

To be used when Upward Notification by telephonic and e-mail communication methods are either unable to be performed or prove unsuccessful. **Initial Notification must not be delayed pending collection of all information.**

Business Unit:	Location:	
Name, Address and Telephone of Suspected Responsible Party:		
Person Making Notification:	Local Date and Time of Notification:	Contact Number and Address of Person Making Notification:
Type of Incident: ☐ Fatality ☐ Spill/Release ☐ Injuries ☐ National/Significant Local News Coverage ☐ Other Significant HES Incident _____		
Local Date and Time of Incident:		
Description of Incident/Name of Oil Involved/Estimated Volume of Oil Spilled/Source/Capacity of Tank Involved:		
Materials Released, Total Quantity and Total Quantity in Water:		
Injuries, Fatalities, Evacuations:		
Actions Taken or Planned:		
Notifications Made:		
Assistance Required:		
Media Attention:		
Damage in Dollars:		
Other Information, Including Weather Conditions:		
Corp ERS Team Member Taking Report:		

Fax: 1-510-242-3787

E-mail: ceichl@chevron.com

NRC Toll Free Number: 800-424-8802

EMERGENCY NOTIFICATION TO MANAGEMENT FAX

EMERGENCY NOTIFICATION TO MANAGEMENT FAX

From:
Chevron Pipe Line Company
4800 Fournace Place
Bellaire, TX 77401
Phone: ( ) -
Fax: (713) 432-3477
Date:

Pages 2

Chevron

Mr. Al Williams (CPL President) At: (AWilliams@Chevron.com)
Mr. George Kirkland (Vice Chairman) (GLKirkland@Chevron.com)
Mr. Pierre Breber (Chevron President) (PBreber@Chevron.com)

CEICHL (800) 231-0623 (CEICHL)

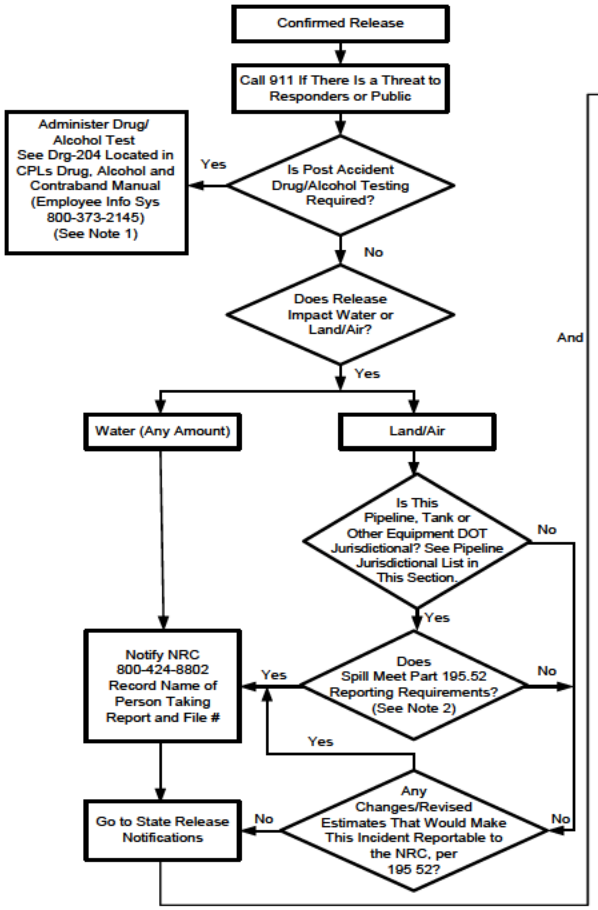
Remarks: ☐ Urgent ☐ Please Confirm Receipt ☐ Reply ASAP

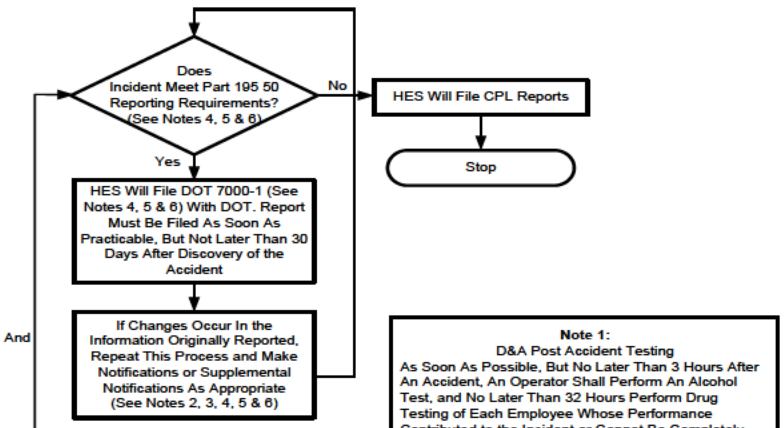
CPL Emergency Incident Contact is: _____
Phone Number: _____

Revised: 06/01/14

AGENCY NOTIFICATION CHART

Agency Notification Chart





Note 1:
D&A Post Accident Testing
As Soon As Possible, But No Later Than 3 Hours After An Accident, An Operator Shall Perform An Alcohol Test, and No Later Than 32 Hours Perform Drug Testing of Each Employee Whose Performance Contributed to the Incident or Cannot Be Completely Discounted As a Contributing Factor to the Accident.

Note 2:
Dot Telephonic Reporting Requirements Part 195 52

1. Caused a Death or Personal Injury Requiring Hospitalization.
2. Resulted in a Fire or Explosion Not Intentionally Set By the Operator.
3. Caused Estimated Property Damage Including Cost of Clean-Up and Recovery, Value of Lost Product, and Damage to the Property of the Operator or Others, or Both Exceeding $50,000;
4. Resulted in Pollution of Any Stream, River, Lake Reservoir or Other Similar Body of Water That Violated Applicable Water Quality Standards or Caused a Discoloration of the Surface of the Water or Upon Adjoining Shorelines; or
5. Was Otherwise Significant in the Operators Judgment Even Though It Did Not Meet the Criteria of Any Other Part of 195. (* See CPL Comment Below.)

Telephonic Report Must Include the Following Information:
(1) Name and Address of the Operator
(2) Name and Telephone Number of the Reporter
(3) The Location of the Failure
(4) The Time of the Failure
(5) The Fatalities and Personal Injuries, If Any
(6) All Other Significant Facts Known By the Operator That Are Relevant to the Cause of the Failure or Extent of the Damages

* CPL Comment: An Otherwise Significant Event in the Operators Judgment is Defined as:
- If the news media reports the incident
- Major evacuation (a school, hospital or health care facility, multiple dwellings, ect.)
- Rerouting of traffic or closing a highway by public emergency responders

Note 3:
Additional Responder/Agency Telephone Numbers Can Be Found Under Site Specific Tabs and In the Front Pocket Information.

Note 4:
DOT Written Reporting Requirements §195 50

An Accident Report Is Required For Each Failure In a Pipeline System Subject to This Part In Which There Is a Release of the Hazardous Liquid or Carbon Dioxide Transported Resulting In Any of the Following:

(a) Explosion or Fire Not Intentionally Set By Operator
(b) Release of 5 gallons (19 liters) or More of Hazardous Liquid or Carbon Dioxide, Except That No Report is Required for a Release of Less Than 5 barrels (0 8 cubic meters) Resulting From a Pipeline

Maintenance Activity if the Release is:
(1) Not Otherwise Reportable Under This Section
(2) Not One Described in Sec 195 52(a)(4) (Pollution to Water)
(3) Confined to Company Property or ROW, and
(4) Cleaned Up Promptly
(c) Death of Any Person
(d) Personal Injury Necessitating In-Patient Hospitalization
(e) Estimated Property Damage, Including Cost of Cleanup and Recovery Value of Lost Product, and Damage to the Property of the Operator or Others, or Both, Exceeding $50,000

Send Information Regarding the Incident to the Appropriate DOT Specialist Who Will Submit the Written Report DOT 7000-1.

Note 5:
195.54 Accident Reports
(b) Whenever An Operator Receives Any Changes In the Information Reported or Additions to the Original Report on DOT Form 7000-1, It Shall File a Supplemental Report Within 30 Days

Note 6:
For Spills 5 Gals to 5 BBLs Not Otherwise Reportable Under 195.50 (Note 4) Nor Resulting In Water Pollution. Complete Only Page 1 of DOT 7000-1.

For All Other Reportable Spills 5 Gals or 5 or More BBLs or Reportable By Other Criteria Under 195.50 (Note 4), Complete As Much As Possible of the Long Form Within the 30 day Filing Period.

2009-01-20 LAAgencyNotification.vsd

LOUISIANA RELEASE NOTIFICATIONS

LOUISIANA RELEASE NOTIFICATIONS	
Release to Land or Air and Water (within 1 hour) up to 3 miles from shoreline	**Release to Water or Air = / > 3 miles offshore (OCS waters) (within 1 hour)**
Louisiana State Police Hazardous Materials Hotline 877-925-6595 Any spill of oil or hazardous substance potentially polluting waters in the state including both surface and groundwater. A sheen is a reportable incident. State Police Haz-Mat (within 1 hour) RQ of 100# for Crude Oil or 14 gallons Review the "RQ tables" and "additional Louisiana specific releases" information for crude and all other releases AND Contact the appropriate LEPC	BSEE (OCS waters) 800-424-8802 (NRC) Plus BSEE District Offices as needed (see next page for BSEE reporting details) Mandatory call for any spill = / > 1 barrel to water = / > 3 miles offshore
RQ of 100# for Crude Oil or 14 gallons Review the RQ tables for all other releases **State Department of Natural Resources / Pipeline Safety Division - 24 hours — 225-342-5505** All Intrastate (In State) lines (Jurisdictional =up to 3 miles from shoreline) Systems excluded: Sabine Pipeline LLC, Chevron Petrochemical Pipeline LLC and Chevron Pipe Line Company's EP and Ethylene Systems.	
Delta National Wildlife Refuge (Releases => 2 gallons in USF&W areas) 985-882-2000	
Department of Wildlife & Fisheries Potential or impact to wildlife and or fish game 24 Hr. 225-765-2441	
Significant release or any spill to water within state jurisdiction Louisiana Department of Environmental Quality (LDEQ) 225-342-1234 Louisiana Oil Spill Coordinator 225-219-5800 / After hours (800) 538-5388 Pager Pin # 129340 Louisiana State Police Hazardous Materials Hotline 225-925-6595	

DOT SPECIALIST NOTIFICATIONS

DOT Specialist Notifications

Note: In addition to following the HES Notifications Flowchart and making the required agency notifications above and below, notify the appropriate DOT Specialist when any of the flowing occurs: Spill, Releases, MVC's involving company operated commercial vehicles and nay incident involving an OQ covered task. DOT Specialists geographic area and telephone numbers are listed below:

Name	Phone #	Area of Responsibility
Randy Burke	**281-451-7537**	Texas – Shares the responsibility for Colorado, Utah.
Henry Leger	**337-654-8915**	Louisiana, Mississippi, Alabama as well as the following entities extending into the state of Texas: Chevron Petrochemical Pipeline, LLC & Sabine Pipe Line, LLC.
Garrett Parker	**713-598-0613**	Shares responsibilities for Utah, and Texas, Louisiana, Mississippi, Alabama as well as the following entities extending into the state of Texas: Chevron Petrochemical Pipeline, LLC & Sabine Pipe Line, LLC.
Gary Saenz	**281-450-5523**	California – Shares the responsibility for Colorado, Utah.
Jeff Richardson	**713-628-6319**	California – Shares the responsibility for Colorado, Utah, Texas, and Louisiana.

NATIONAL RESPONSE CENTER (NRC) 800-424-8802
Notify the NRC for any release to water. **Refer to additional NRC requirements in the NRC Reporting Section of this document.**

(BSEE Reporting continued on next page)

BSEE INCIDENT REPORTING (OCS WATERS)

BSEE INCIDENT REPORTING (OCS WATERS)
800-424-8802

= / > 1 bbl to water
= / > 3 miles offshore

Note:
Notify BSEE GOMR Pipeline Section if spill is related to OCS pipeline activities
Office (504) 736-2814 / Fax (504) 736-2408 / Cell (b) (6)

= / < 10 bbls make notification by Fax to BSEE District Office (listings in this Section)

> 10 bbls make notification to BSEE GOMR Office by telephone at 504-736-0557 (8a - 5p)

Notify BSEE if you discover an oil spill whether it's originating from your facility or another offshore facility or if it is a spill of unknown origin which could be expected to equal or exceed 1 bbl.

BSEE GOMR District Office Contact Information

Office	Mailing Address	Office	Fax	Cell
New Orleans District	990 N. Corporate Drive Suite 100 New Orleans, LA 70123-3392	504-734-6740 or 504-734-6742	504-734-6741	(b) (6)
Houma District	3804 Country Drive Post Office Box 760 Bourg, LA 70343-0760	985-853-5884	985-879-2738	
Lafayette District	201 Energy Parkway Suite 410 Lafayette, LA 70508	337-289-5100	337-354-0008	
Lake Charles District	620 Esplanade Street Suite 200 Lake Charles, LA 70607-2984	337-480-4600	337-477-9889	
Lake Jackson District	Oak Park Center 102 Oak Park Drive, Suite 200 Clute, TX 77531	979-238-8121	979-238-8122	
Pipeline Section	Mail Stop 52321201 Elmwood Park Blvd New Orleans, LA 70123-2394	504-736-2814	504-736-2408	

Note: For BSEE GOMR District Office Areas of Responsibility, refer to the end of Section 2.

Gas Release Information

Gas Release
Louisiana (Notify LEPC & State Police) • Any release that creates an emergency situation. • **A release of 100 pounds or more for natural gas from crude oil and natural gas operations would trigger notifications. A release of 100 pounds affecting the public would trigger State Police notifications. Refer to the Louisiana and Midstream Area Reportable Quantities matrix and notes in this Section.** • A death or personal injury necessitating in-patient hospitalization; • Estimated property damage, including cost of gas lost, of the operator or others, or both, of $50,000 or more. • An event that is significant, in the judgment of the Emergency Response Director. • The release directly causes any injury requiring hospitalization or any fatality; or • The release results in a fire or explosion which could reasonably be expected to affect the public safety beyond the boundaries of the facility; or • The release (other than an application of a pesticide or fertilizer) exceeds the reportable quantity during any continuous 24 hour period when that reportable quantity could be reasonably expected to escape beyond the site of the facility; or • The incident, accident or cleanup within a facility could reasonably be expected to affect the public safety beyond the boundaries of the facility (for example: a facility evacuating its personnel); or • The owner or operator knows a protective action beyond the facility has been initiated. **DOT Reporting Criteria (Notify via NRC call)** **Gas Release Reporting Triggers for US DOT Office of Pipeline Safety:** 1. Gas means natural gas, flammable gas, or gas which is toxic or corrosive. 2. Report any incident that involves a release of gas from a pipeline or of liquefied natural gas or gas from an LNG facility that: a. Caused a death and/or a personal injury necessitating in-patient hospitalization of the operator or others. b. Caused estimated property damage, including cost of gas lost, totaling $50,000 or more. c. Resulted in an emergency shutdown of an LNG facility. d. In the judgment of the operator was significant, even though it did not meet the criteria of a. through c. above. 3. Reports must include the following: a. Names of operator and person making the report and their telephone numbers. b. The location of the leak. c. The time of the leak. d. The fatalities and personal injuries, if any. e. All other significant facts that are known by the operator that are relevant to the cause of the leak or extent of the damages.

Additional Louisiana Specific Releases

Natural Gas Liquids Pipelines (Natural Gasoline) (Contact State Police and LEPC)

An event that involves a release of hazardous liquids transported resulting in any of the following:

- Any release that creates an emergency situation;
- Explosion or fire not intentionally set by the operator;
- 100 LBS or 18 GAL State Police
- 1 BBL or > DEQ
- Escape to the atmosphere of more than 5 barrels (0.8 cubic meters) a day of highly volatile liquids;
- Death of any person; and
- Bodily harm to any person resulting in one or more of the following:
  - Loss of consciousness;
  - Necessity to carry the person from the scene;
  - Necessity for medical treatment; and
  - Disability, which prevents the discharge of normal duties or the pursuit of normal activities beyond the day of the accident.
- Estimated property damage, including cost of clean up and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding $50,000.

Local Emergency Planning Committee (LEPC)
(see Office of Emergency Preparedness telephone list on pages to follow)

The appropriate LEPC should be informed of any incident, which could involve the community or attract attention of the community or news media. If an affect will be felt in any of the surrounding communities, be prepared to advise of the need for evacuation when making the report. Notification to LEPCs should be made for any incident of smoking that lasts for more than five minutes, or any odor or noise that could be detected outside the facility. Informing the LEPC should be considered if the wind and weather conditions are such that hazardous exposure could occur.

State Emergency Response Commission (SERC)
(contact State Police to satisfy this notification)

Notification is required if the release is either in excess of the reportable quantities (RQ) of materials on the CERCLA list or the list of extremely hazardous substances or if the roadway is blocked. The LEPC, SERC & National Response Center (NRC), requests verbal notification within 1 hour of the incident. Written follow-up should be made within 5 working days.

Note: See "Reported Quantities of Commonly Used Substances Under CERCLA and EPCRA" located at the end of this procedure.

Louisiana Department of Environmental Quality (LADEQ)

Water

The State's Spill Contingency Plan identifies reporting requirements to the LADEQ in the event of a spill. Reporting by phone should be done as soon as possible. A follow up written report should be submitted normally within five working days. What constitutes a spill? By definition, a spill involves oil or a hazardous substance that pollutes, or has the potential to pollute, waters in the state to include both surface and groundwater. If an oil spill leaves a sheen on the water and leaves a site via a waterway it is a reportable incident.

Air

Any vapor releases must be reported to the LADEQ. This includes any releases that would exceed limits given on the facilities operating permit as well as releases regulated by the LADEQ. Among these are emissions from flaring for a period of over five (5) minutes in any two-hour period.

Therefore, while a spill into navigable waters would require a report, a spill within a site should be evaluated for possible reporting.

USCG COTP & MSU Numbers

USCG COTP & MSU Contacts	
US Coast Guard COTP of New Orleans	504-846-66261 or 504-846-5924 Supervisor
US Coast Guard COTP of Morgan City	985-380-5320
US Coast Guard MSU Houma	985-851-1692
US Coast Guard MSU Baton Rouge	225-298-5400
US Coast Guard MSU Lake Charles	337-491-7800
US Coast Guard COTP Port Arthur	409-723-6500

NATIONAL RESPONSE CENTER

National Response Center (NRC)
800-424-8802

For oil spills, liquid pipeline releases, gas pipeline releases, other releases as defined below:

All Spills

(The following criteria applies to both Interstate and Intrastate regulated pipeline systems)

- Any release to water

Liquid Pipeline Releases

(The following criteria applies to both Interstate and Intrastate regulated pipeline systems)

At the earliest practicable moment following discovery of a release of the hazardous liquid or carbon dioxide transported resulting in an event described in Sec. 195.50, the operator of the system shall give notice, in accordance with this section, of any failure that:

- Caused a death or a personal injury requiring hospitalization;
- Resulted in either a fire or explosion not intentionally set by the operator;
- Caused estimated property damage, including cost of cleanup and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding $50,000;
- Resulted in pollution of any stream, river, lake, reservoir, or other similar body of water that violated applicable water quality standards, caused a discoloration of the surface of the water or adjoining shoreline, or deposited a sludge or emulsion beneath the surface of the water or upon adjoining shorelines; or
- In the judgment of the operator was significant even though it did not meet the criteria of any other paragraph of this section.

Reports made under this paragraph must be made by telephone to the National Response Center at 800-424-8802 or 202-267-2180 and must include the following information:

- Name and address of the operator.
- Name and telephone number of the reporter.
- The location of the failure.
- The time of the failure.
- The fatalities and personal injuries, if any.
- All other significant facts known by the operator that are relevant to the cause of the failure or extent of the damages.

Telephonic Notification to NRC (Gas Pipeline Releases) continued on next page

Telephonic Notification to NRC – Continued

Gas Pipeline Releases

Per DOT, Gas means natural gas, flammable gas, or gas which is toxic or corrosive;

Incident means any of the following events:

- An event that involves a release of gas from a pipeline or of liquefied natural gas, liquefied petroleum gas, refrigerant gas, or gas from an LNG facility and that results in one or more of the following consequences:
  (i) A death, or personal injury necessitating in-patient hospitalization;
  (ii) Estimated property damage of $50,000 or more, of the operator or others, or both, but excluding cost of gas lost;
  (iii) Unintentional estimated gas loss of three million cubic feet or more;
  (2) An event that results in an emergency shutdown of an LNG facility. Activation of an emergency shutdown system for reasons other than an actual emergency does not constitute an incident.
  (3) An event that is significant, in the judgment of the operator, even though it did not meet the criteria of paragraphs (1) or (2) of this definition.

At the earliest practicable moment following discovery, each operator shall give notice of each incident as defined above.

Each notice shall be made by telephone to 800-424-8802 and shall include the following information:

- Names of operator and person making report and their telephone numbers.
- The location of the incident.
- The time of the incident.
- The number of fatalities and personal injuries, if any.
- All other significant facts that are known by the operator that are relevant to the cause of the incident or extent of the damages.

Chemical Spills to Land or Air

- Chemical release that exceeds the RQ.

LOUISIANA RELEASE NOTIFICATIONS REPORTABLE QUANTITIES

Louisiana Release Notification Table 1

TABLE 1
CHEVRON PIPE LINE COMPANY
LOUISIANA RELEASE NOTIFICATION

IF YOU ARE IN THE FOLLOWING LOUISIANA PARISH'S THESE LIMITS APPLY TO YOU:

Ascension, East Baton Rouge, Iberville, Livingston, West Baton Rouge, St. Charles, St. James, St. John the Baptist, Pointe Coupe, West Feliciana

Chemical Spill/Release	State Police Reportable Quantity (RQ)	LDEQ Reportable Quantity (RQ)	CERCLA Reportable Quantity (RQ)
Butane (iso)	100 lbs. (21 gallons/ 0.5 BBLS)	5000 lbs. (1050 gallons / 25 BBLS)	N/A
Butane (normal)	100 lbs. (20 gallons/ 0.48 BBLS)	5000 lbs. (1008 gallons/ 24 BBLS)	N/A
Crude oil	100 lbs. (14 gallons/ 0.33 BBLS) *	1 BBL (42 gallons) or more	N/A
Condensate (NG)	100 lbs. (16 gallons/ 0.38 BBLS)	1 BBL (42 gallons) or more	N/A
Ethane	100 lbs. (33 gallons/ 0.79 BBLS)	1 MMCF or 42,000 lbs.	N/A
Ethylene	100 lbs. (21 gallons/ 0.48 BBLS)	100 lbs. (21 gallons/ 0.48 BBLS) (considered an HRVOC - highly reactive organic volatile organic compound)	5000 lbs. (1052 gallons/ 25 BBLS)
E-P Mix (ethane-propane mix)	100 lbs. (29.5 gallons/ 0.70 BBLS)	5000 lbs. (1473 gallons/ 35 BBLS)	N/A
LPG (Y-Grade)	100 lbs. (23 gallons/ 0.55 BBLS)	5000 lbs. (1153 gallons/ 27.5 BBLS)	N/A
Natural Gas	100 lbs. **	1 MMSCF or 42,000 lbs.	N/A
Natural Gasoline	100 lbs. (16 gallons / 0.38 BBLS)	1 BBL (42 gallons) or more	1 bbl (10 lbs. benzene) 10 bbls (100 lbs. xylene) 33 bbls (5000 lbs. hexane) 109 bbls (1000 lbs. toluene) 303 bbls (1000 lbs. ethylbenzene)
Propane	100 lbs. (24 gallons/ 0.57 BBLS)	5000 lbs. (1199 gallons / 28.6 BBLS)	N/A
Propylene	100 lbs. (19.8 gallons/ 0.47 BBLS)	100 lbs. (19.8 gallons/ 0.47 BBLS) (considered an HRVOC)	N/A
P-P Mix (80% propane-20%propylene mix)	100 lbs. (P-P mix) (23.6 gallons / 0.56 BBLS)	5000 lbs. (P-P mix has 100 lbs propylene) (1178 gallons/ 28 BBLS)	N/A

See Notes following Table 2

Louisiana Release Notification Table 2

TABLE 2
CHEVRON PIPE LINE COMPANY
LOUISIANA RELEASE NOTIFICATION

APPLIES IN ALL OTHER LOCATIONS EXCEPT AS NOTED IN TABLE 1

Chemical Spill/Release	State Police Reportable Quantity (RQ)	LDEQ Reportable Quantity (RQ)	CERCLA Reportable Quantity (RQ)
Butane (iso)	100 lbs. (21 gallons/ 0.5 BBLS)	5000 lbs. (1050 gallons / 25 BBLS)	N/A
Butane (normal)	100 lbs. (20 gallons/ 0.48 BBLS)	5000 lbs. (1008 gallons/ 24 BBLS)	N/A
Crude oil	100 lbs. (14 gallons/ 0.33 BBLS) *	1 BBL (42 gallons) or more	N/A
Condensate (NG)	100 lbs. (16 gallons/ 0.38 BBLS)	1 BBL (42 gallons) or more	N/A
Ethane	100 lbs. (33 gallons/ 0.79 BBLS)	1 MMCF or 42,000 lbs.	N/A
Ethylene	100 lbs. (21 gallons/ 0.48 BBLS)	5000 lbs. (1052 gallons/ 25 BBLS) (considered an HRVOC)	5000 lbs. (1052 gallons/ 25 BBLS)
E-P Mix (ethane-propane mix)	100 lbs. (29.5 gallons/ 0.70 BBLS)	5000 lbs. (1473 gallons/ 35 BBLS)	N/A
LPG (Y-Grade)	100 lbs. (23 gallons/ 0.55 BBLS)	5000 lbs. (1153 gallons/ 27.5 BBLS)	N/A
Natural Gas	100 lbs. **	1 MMSCF or 42,000 lbs.	N/A
Natural Gasoline	100 lbs. (16 gallons / 0.38 BBLS)	1 BBL (42 gallons) or more	1 bbl (10 lbs. benzene) 10 bbls (100 lbs. xylene) 33 bbls (5000 lbs. hexane) 109 bbls (1000 lbs. toluene) 303 bbls (1000 lbs. ethylbenzene)
Propane	100 lbs. (24 gallons/ 0.57 BBLS)	5000 lbs. (1199 gallons / 28.6 BBLS)	N/A
Propylene	100 lbs. (19.8 gallons/ 0.47 BBLS)	5000 lbs. (985 gallons/ 23.5 BBLS) (considered an HRVOC)	N/A
P-P Mix (80% propane-20%propylene mix)	100 lbs. (P-P mix) (23.6 gallons / 0.56 BBLS)	5000 lbs. (1178 gallons/ 28 BBLS)	N/A

See Notes following Table 2

*** Note:** 14 gallon RQ is per telephone conversation on 06/18/03 with Bob Hayes, State Police. However any spilled amount of oil or hazardous substances that pollutes, or has potential to pollute waters in the state to include both surface and ground waters is reportable. If an oil spill leaves a sheen on the water and leaves a site via a waterway it is a reportable incident.

**** Note:** State Police notification is required if the natural gas escapes beyond the facility and releases to the atmosphere. State Police must also be notified it the release exceeds 100 lbs and affects the public. The controlled release of natural gas for maintenance or other purposes is considered a permitted release and is not reportable provided the release cannot be reasonably expected to affect the public safety beyond the boundaries of the facility. Natural gas from crude oil and natural gas production operations regardless of system pressure shall have a RQ of 100 lbs.

PIPELINE EAST TEAM TELEPHONE NUMBERS

Paradis Phone List

Paradis 15849 Old Spanish Trail • Hwy 631 • Paradis LA 70080-0123 **Phone**: 985-758-7551 • **Fax**: 985-758-0233 •						
Last Name	**First Name**	**CAI**		**Title**	**Office**	**Cell**
Aizen	Zane	ZAAW		Pipeline Operator	985-758-0215	(b) (6)
Arcement	Lance	LRCM		I&E Specialist	985-758-0263	
Arcement	Tim	ARCT		CP Tech	985-758-0232	
Aucoin	Todd	TEAU	n/a	I&E Specialist	985-758-0247	
Bercegeay	Clay	BCLM		**Field Team Leader**	985-758-0205	
Belcher	Craig	CFXF	n/a	I&E Specialist	985-758-0237	
Dufrene	Clark	ODUF		Ops Supervisor	985-758-0245	
Faslund	Brent	FASL		Pipeliner	985-758-0210	
Favors	Christopher	CKMS	n/a	Pipeliner	n/a	
Gaubert	Roland	RGDK		Facility Inspector	985-758-0206	
Hohensee Jr.	John	KCXQ	n/a	Pipeliner	985-758-0209	
Holley	Timothy	UBNM	n/a	I&E Specialist	n/a	
Lepine	Justin	JVYP	n/a	I&E Specialist	985-758-0214	
Levron	Huey	HUJL		Pipeline Operator	985-758-0217	
Monier	Tommy	TMTJ		Pipeline Operator	985-758-0240	
Montgomery	Shannon	MOSP		Maintenance Coord.	985-758-0230	
Parria	Stephanie	SPWP		Office Assistant	985-758-0201	
Schaubhut	Keith	KJSC		Sr. Pipeline Operator	985-758-0216	
Waguespack	Larry	LGWA		Pipeline Operator	985-758-0244	
Emergency Telephone Numbers						
Chevron Emergency Response (24 hr.)		800-762-3404				
Gas Control		800-762-3404				
Liquid Control		800-762-3404				

NAPOLEONVILLE, SORRENTO AND PORT ALLEN

Storage Team Phone List

Napoleonville	1282 Hwy 70 South • Belle Rose LA 70341 **Phone**: 985-369-2629 • **Fax**: 985-369-2681
Sorrento	P O Box 629 • 6576 LA Hwy 3140 • Sorrento LA 70778 **Phone**: 225-675-8090 • **Fax**: 225-675-8926 • **Pager**: 225-327-9254
Port Allen	4132 N Riverview Drive • Port Allen LA 70767 **Phone**: 225-344-3377 • **Fax**: 225-383-0844

First Name	Last Name	Position	Phone Number	Fax Number	Pager	Mobile Number	NexTel 2 way ID	Email Address @chevron.com
Marion (Cooper)	East	**Ops Manager**	713-432-6934	N/A	N/A	(b) (6)		EASC
Larry	Piglia	**FTL**	225-675-8090	225-675-8926	N/A			LJPI
Keith	Foret	Ops Supv	225-344-3377	225-383-0844	N/A			KEJF
Robert (Bert)	Alleman	Mechanic	225-675-8090					RBYT
Bennett	Baye	Pipeliner	225-344-3377					BBPD
Dennis	Bayham	Maintenance Coord	225-344-3377	225-383-0844				BAYH
Lyle	Blanchard	I&E Specialist	985-369-2629	985-369-2681				LYBL
Kim	Boudreaux	Pipeline Operator	225-675-8090	225-675-8926	225-660-3651			BOUK
Brett	Daigle	Pipeline Operator	225-675-8090	225-675-8926	225-212-1037			BDGP
Kelly	Delaune	Pipeliner	225-268-0250					
Stuart	Gary	Pipeliner	225-344-3377					SGKD
Challon(Dwayne)	Guillory	Pipeline Operator	225-344-3377	225-383-0844	225-352-5035			CDGU
Thomas(Crocket)	Hargrove	Pipeline Operator	985-369-2629	985-369-2681	225-660-4276			HCTH
Bruce	Hebert	Pipeline Operator	985-369-2629	985-369-2681				HEBB
Leslie	Jenkins	I&E Specialist	225-675-8090	225-675-8926	225-212-0184			LJCD
Darrell	Jupiter Sr.	Pipeline Operator	985-369-2629	985-369-2681	504-572-7662			DCJU
Derek	Melancon	Mechanic	985-369-2629	985-369-2681	N/A			DQWA
Ricky	McFarlain	I&E Specialist	225-675-8090	225-675-8926	N/A			TZEY
Stuart	Reulet	Pipeline Operator	225-675-8090	N/A	N/A			TDQX
Jerry	Rousseau	Pipeline Operator	985-369-2629	985-369-2681	504-572-8253			RSJR
Ed	Savoy	I&E Specialist	225-675-8090	225-675-8926				ESIQ
Dane	Sutton	Facility Inspector	225-344-3377		225-219-3377			DSUT
Dwayne	Watts		225-675-8090	225-675-8926	225-212-0526			wndw

HENRY PIPELINE/COMPLEX PHONE LIST

Henry Pipeline/Complex Phone Listings						
	Main	**Emergency**		**Toll Free**	**Mobile**	**Direct Connect**
Gas Control (Houston)	713-432-2305	800-762-3404		800-365-2748	(b) (6)	
Liquids Control (Houston)	713-432-2306	800-762-3404		877-301-3811		146*60081*3
Position	**Last Name**	**First Name**	**CAI**	**Office Number**		**Direct Connect**
Operations Manager	East	Marion (Cooper)	EASC	713-432-6934		N/A
Mechanic	Billings	Jason	JSNB	337-538-2533		N/A
Pipeline Operator	Blanchette	Kermit J.	BLKJ	337-937-3330		N/A
Pipeline Operator	Brasseaux	Michael	RSSX	337-882-6991		N/A
Office Assistant	Christy	Teresa D.	TDCH	337-937-3343		N/A
Pipeline Operator	Corkran	Derek	DCPX	337-937-3368		N/A
I&E Specialist	Crochet	Kent	KGCR	337-538-2504		N/A
Pipeline Operator	Delino	Sammy C.	DLSC	337-937-3316		N/A
Pipeline Operator	Dore	J. Neil	DOJN	337-937-3348		N/A
Pipeline Operator	Dozier	Wilmer J	WDOZ	337-937 3330		N/A
Team Leader	Trahan	Daniel	DTAW	337-989-3255		N/A
Pipeliner	Frederick	Chase	CFKU	337-937-3343		N/A
Pipeline Operator	Franco	Dwight	OFRA	337-882-6691		N/A
Pipeline Mechanic	Gonzales	Joe	JGSK	337-882-6748		N/A
I&E Specialist	Hebert	Jeff	NHEB	337-937-3383		N/A
Pipeline Operator	Hebert	Ladd	HLAA	337-654-4166		N/A
Pipeline Operator	January	Gregory	JGRT	337-538-2504		N/A
Pipeline Operator	Kovach	Keith	KKOV	337-882-6763		N/A
I&E Specialist	Lagrange	Loney	LLXT	337-319-6985		N/A
Pipeline Operator	Lantz	Craig	LCRJ	337-523-2001		N/A
Pipeline Operator	Leblanc	David	DLDJ	337-937-3336		N/A
Pipeline Operator	Lute	David	DWLU	337-937-3339		N/A
Pipeline Operator	Marcantel	Matthew	MMMW	337-882-6748		N/A
Maintenance Coordinator	Mayon	Dennis	DMYN	337-937-3359		N/A
Operations Supervisor	McCall	L. Thompson	LTMC	337-538-2504		N/A
Pipeline Mechanic	Mestayer	Paul	PMPL	337-937-3382		N/A

Henry Pipeline/Complex Phone List continued on next page

Henry Pipeline/Complex Phone List – Continued

Position	Last Name	First Name	CAI	Office Number	Mobile Number	Direct Connect
Pipeline Operator	Migues	Benny	BJMG	337-937-3306	(b) (6)	N/A
Pipeline Operator	Motty	Reggie	RNGX	337-937-3384		N/A
Pipeline Operator	Poche	James	JLPO	337-937-3352		N/A
Pipeline Operator	Roberts	Robin	RORQ	337-538-2504		N/A
Pipeline Operator	Seneca	Michael	MVYI	337-937-3322		N/A
Pipeline Operator	Simon	Phil	PNSI	337-937-3324		N/A
Pipeline Operator	Suire	Terry	TJSU	337-937-3371		N/A
Pipeline Operator	Suire	Jody	JSUI	337-882-6748		N/A
Pipeline Operator	Tessier	Joseph	JDTE	337-937-3334		N/A
Pipeline Operator	Theriot	Tammie	THTJ	337-538-2504		N/A
Pipeline Operator	Thibodeaux	Joseph	JKTH	337-538-2504		N/A
Pipeline Operator	Soileau	Sam	SZFM	337-937-3346		N/A

Henry Pipeline/Complex Additional Numbers

Position	Last Name	First Name	Mobile Number
Contract Workforce	Leblanc	Al	(b) (6)
Contract Workforce	Romero	Sylvester "Vest"	
Contract Workforce	Security Guard	Security Guard	

Location	Ext.#
Conference Room	3321 or 3336
Conference Room (Grand Chenier)	337-538-2151
Electrician Shop - HGPP	3383
Control Room	
HGPP Ctrl Room (Emergency)	3338
Complex Main Office Fax	337-937-3358 or CTN 685-3358
Henry Compressor Station	337-937- 6904
Grand Chenier Office	337-538-2504 Fax 337-538-2430
GC Compressor	337-538-2533 Fax 337-538-2569
Cow Island Compressor Station	337-643-1247
Placide Road Office	337-834-4574 Fax 337-824-3556
Sulphur Office	337-882-6748 or CTN 664-6748
Sulphur Fax	337-882-6764

FOURCHON PHONE LISTING

Position	CAI	First Name	Last Name	Office	Cell	Email
QI/IC Ops. Mgr.	LLOE	Lloyd	Escamilla	985-773-6844	(b) (6)	lloe@chevron.com
QI/IC FTL	NEHI	Neil (Adam)	Higgenbotham	985-396-3508		nehi@chevron.com
Project Field Coord.	GSAL	Gerhort	Alford	985-396-3512		gsal@chevron.com
Operator-Pipeline	DBPD	Derek	Barrios	n/a		dbpd@chevron.com
QI/IC Pipeliner	CBVI	Chase	Bouzigard	985-396-3513		cbvi@chevron.com
I&E Specialist	CRCB	Charles	Butts	985-396-3502		crcb@chevron.com
Operator-Pipeline	GUYD	Guy	Delatte	985-396-3507		guyd@chevron.com
Operator-Pipeline	GGCW	Gerald	Gros	985-396-3515		ggcw@chevron.com
I&E Specialist	LTRO	Troy	Larson	985-396-3519		ltro@chevron.com
Operator-Pipeline	BLDX	Brent	Lemoine	985-396-3516		bldx@chevron.com
Operator-Pipeline	JLVG	Joey	Lusco	985-396-3507		bldx@chevron.com
Mechanic-Pipeline Sr.	LOUV	David	Louviere	985-396-3506		louv@chevron.com
Office Assistant	BOUI	Norris	Bouillion	337-937-3313		boui@chevron.com
Office Assistant	JMRF	McNeely	Rome	985-396-3509		jmrf@chevron.com
QI/IC Ops. Sup.	JJSI	John	Simoneaux	985-396-3514		jjsi@chevron.com
Maintenance Coord.	WFKN	Walter	Knapp III	985-396-3505		wfkn@chevron.com
Operation-Pipeline Sr.	ASLX	Arne	Simon	337-937-3315		aslx@chevron.com
CP Specialist	TEMJ	Michael	Terrebonne Jr.	985-396-3504		temj@chevron.com
Pipeliner	KQBZ	Jace	Serigny	985-396-3520		kqbz@chevron.com
Maintenance Coord.	CSGC	Corey	Sanamo	985-858-3521		csgc@chevron.com
Operator-Pipeline	DKEA	Daniel	Kear	337-989-3752		dkea@chevron.com
Project Coord.	DTBG	Rick	Thomas	985-858-3530		dtbg@chevron.com
Operator-Pipeline	BCDH	Robert	Carter	337-989-3752		bcdh@chevron.com
Operator-Pipeline	SRKW	Steve	Romano	337-989-3752		srkw@chevron.com
Pipeliner	BPTW	Brent	Nichols	337-989-9027		bptw@chevron.com
			Fourchon Pilot	985-396-3311		
CPL#1 985-637-9521	CPL#2	985-637-9525	CPL#3	985-637-9523		985-637-9527

Although this list formally identifies a Qualified Individual and Alternate Qualified Individual, for planning purposes all above listed individuals who are HAZWOPER Incident Commander trained are designated as qualified individuals for Chevron Pipe Line.

EMPIRE TEAM PHONE LISTING

Position	CAI	First Name	Last Name	Phone Number	Mobile Number	Email Address
QI/IC	LLOE	Lloyd	Escamilla	985-773-6844	(b) (6)	lloe@chevron.com
Office Assistant	NHRO	Janice	Hromadka	504-681-5606		nhro@chevron.com
Maintenance Coord.	BEEA	Bert	Adams	504-681-5605		beea@chevron.com
Operator-Pipeline Sr.	KELB	Ken	Barthelemy	504-681-5608		kelb@chevron.com
Supervisor	NWBA	Neal	Bartholomew	504-681-5627		nwba@chevron.com
Facility Inspector	RBWM	Ronnie	Bartholomew	504-681-5612		rbwm@chevron.com
I&E Specialist	BDBD	Dean	Bowers	504-681-5619		bdbd@chevron.com
Proj. Coordinator	CLDR	David	Clark	504-681-5624		cldr@chevron.com
Ops. Superviosr	TRAB	Troy	Bernard	504-681-5604		trab@chevron.com
Alternate **QI/IC FTL**	KJDO	Keith	Dore'	504-681-5615		kjdo@chevron.com
Supervisor	ALEN	Allen	Ennis	504-382-3798		alen@chevron.com
Operator-Pipeline	HAFO	Ricky	Forbes	504-681-5639		hafo@chevron.com
Operator-Pipeline	GRDW	Danny	Grayson	504-681-5627		grdw@chevron.com
Operator-Pipeline	JONG	Ronnie	Jones	504-681-5627		jong@chevron.com
Pipeliner	JXSK	John	Flanagan	504-681-5621		cbvi@chevron.com
Pipeliner	KIUT	Joshua	Roberston	n/a		kiut@chevron.com
Mechanic Pipeline	GPCX	Gary	Portie	504-681-5609		gpcx@chevron.com
Proj. Coordinator	KCPR	Kim	Prout	504-681-5630		kcpr@chevron.com
Pipeliner	JPUD	Jacob	Puderer	504-915-0695		jpud@chevron.com
Operator-Pipeline	JIJR	Jimmy	Rodi	504-681-5626		jijr@chevron.com
Pipeliner	CSYO	Cory	Simoneaux	n/a		csyo@chevron.com
I&E Specialist	ADDH	Jarrod	Smith	504-681-5620		addh@chevron.com
Operator-Pipeline	TSFC	Terry	St. Ann	n/a		tsfc@chevron.com
I&E Specialist	DWAJ	Derek	Warden	504-681-5617		dwaj@chevron.com

Although this list formally identifies a Qualified Individual and Alternate Qualified Individual, for planning purposes all above listed individuals who are HAZWOPER Incident Commander trained are designated as qualified individuals for Chevron Pipe Line Empire Terminal and have full authority to:

- Activate and engage in contracting with oil spill removal organization(s).
- Act as liaison with the pre-designated Federal On-Scene Coordinator (OSC).
- Obligate funds required to carry out response activities.

Above travel times are based on arrival at Empire West Bank Dock. Travel time from West Bank Dock to Main Terminal is Approximately 15 minutes.

Empire Team Phone Listing – Continued

		Mobile Number	NexTel 2 way ID
Operator 1	Nextel	(b) (6)	
Operator 2	Nextel		
Operator 3	Nextel Security		
Operator 4	Nextel Security		

SATELLITE PHONES

Control Center					
ESN Dec	**MSN**	**Ph #**	**Data #**	**Ph # 800**	**Location**
8988169414000657518	300224010033530	(b) (6)	881693473431	8662293964	Phone 1 NGAS
8988169414000657526	300224010038500		881693473424	8662311613	Phone 2 NWCP
8988169414000657534	300224010132330		881693473425	8662309766	Phone 3 BPCC
8988169414000657542	300224010133330		881693473427	8662307926	Phone 4 LALC
8988169414000657559	300224010036960		881693473426	8662308940	Phone 5 GLFC
8988169414000657567	300224010032800		881693473428	8662306814	Phone 6 CHEM
8988169414000657575	300224010034950		881693473429	8662305666	Phone 7 LPG
8988169414000657583	300224010032510		881693473430	8662303661	Phone 8 TSCP

Empire	
Toll Free #	**Phone to Phone**
866-229-8398	(b) (6)
866-229-9853	
866-229-1549	
866-229-7390	
866-231-1629	

Fourchon		
Mark Bouzigard	Unit #1 - 1-866-921-6341	Fourchon Unit #3 - 1-866-921-6339
Fourchon Office	Unit #2 - 1-866-921-6340	Fourchon Unit #4 - 1-866-921-6336

Henry Team					
ESN Dec	**MSN**	**Ph #**	**Data #**	**Ph # 800**	**Location**
8988169414000772150	300214010972340	(b) (6)	881693473481	8663969728	Teresa Christy (Grand Chenier or Henry)
8988169414000772168	300214010972360		881693473480	8663969735	

High Island Team					
ESN Dec	**MSN**	**Ph #**	**Data #**	**Ph # 800**	**Location**
8988169414000657138	300214010978900	(b) (6)	881693473613	8668178520	Brandon Rochner
8988169414000772259	300224010822130		881693473652	8668178511	

Paradis - None

Sorrento					
ESN Dec	**MSN**	**Ph #**	**Data #**	**Ph # 800**	**Location**
8988169414000771384	300214010968080	(b) (6)	881693473529	8669216331	Sonya Bourgeois

OSRO CONTACT INFORMATION

Name & Address		Phone No.	24 Hour Phone No.
Marine Spill Response Corporation (Houma Office)	396 Roland Rd Houma, LA 70363	985-580-0924	800-645-7745
Marine Spill Response Corporation (MSRC)	980 W. Lincoln Rd. Lake Charles, LA 70606	337-475-6400	800-645-7745
U.S. Environmental Services, LLC	2809 E. Judge Perez Dr. Meraux, LA 70075	888-279-9930	888-279-9930
American Pollution Control Corp. (AmPol)	401 W Admiral Doyle Dr New Iberia, LA 70560	337-365-7847	800-482-6765
Oil Mop, Inc.	131 Keating Dr. Belle Chasse, LA 70037	504-394-6110	800-645-6671
ES&H	P.O. Box 9217 Houma, LA 70361	985-851-5350	877-437-2634

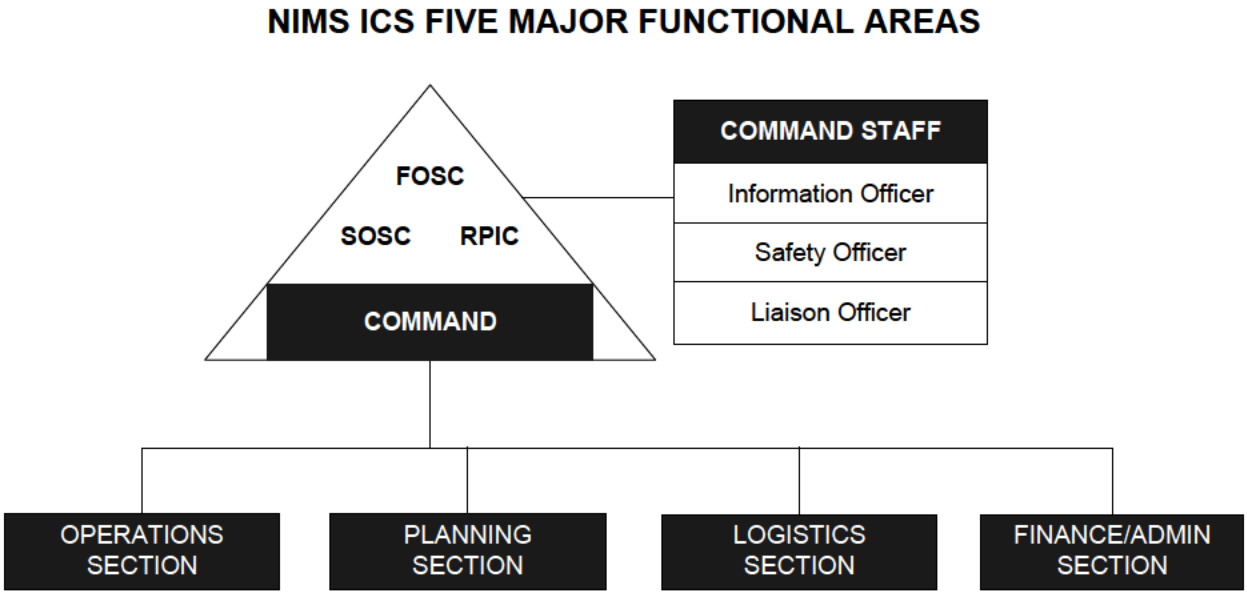
Scenario Types

The occurrence of Small Discharge, Medium Discharge, or Worst Case Discharge (WCD) could be the result of any number of scenarios at the Facility including:

Scenario	Implement Company Procedures Manual located at the Facility and Core Plan, Section 3, Pages 1 through 16 as applicable and reference the following Response Guides in the Core Plan Section 3:
• Failure of manifold	Piping Rupture
• Failure of loading arm or hoses	Piping Rupture
• Tank overfill and/or failure	Tank overflow
• Piping rupture	Piping Rupture
• Piping leak, under pressure and not under pressure	Piping Rupture
• Explosion or fire	Fire or explosion
• Equipment failure (e.g. pumping system failure, relief valve failure, or other general equipment relevant to operational activities associated with internal or external facility transfers)	Piping Rupture

The response actions to each of these scenarios are outlined in the Response Guides above. The response resources are identified in the ERAP of this State Appendix as well as Section 3. Facility response personnel list/telephone numbers and other internal/external resources telephone numbers are detailed in the ERAP of this State Appendix.

NIMS ICS FIVE MAJOR FUNCTIONAL AREAS

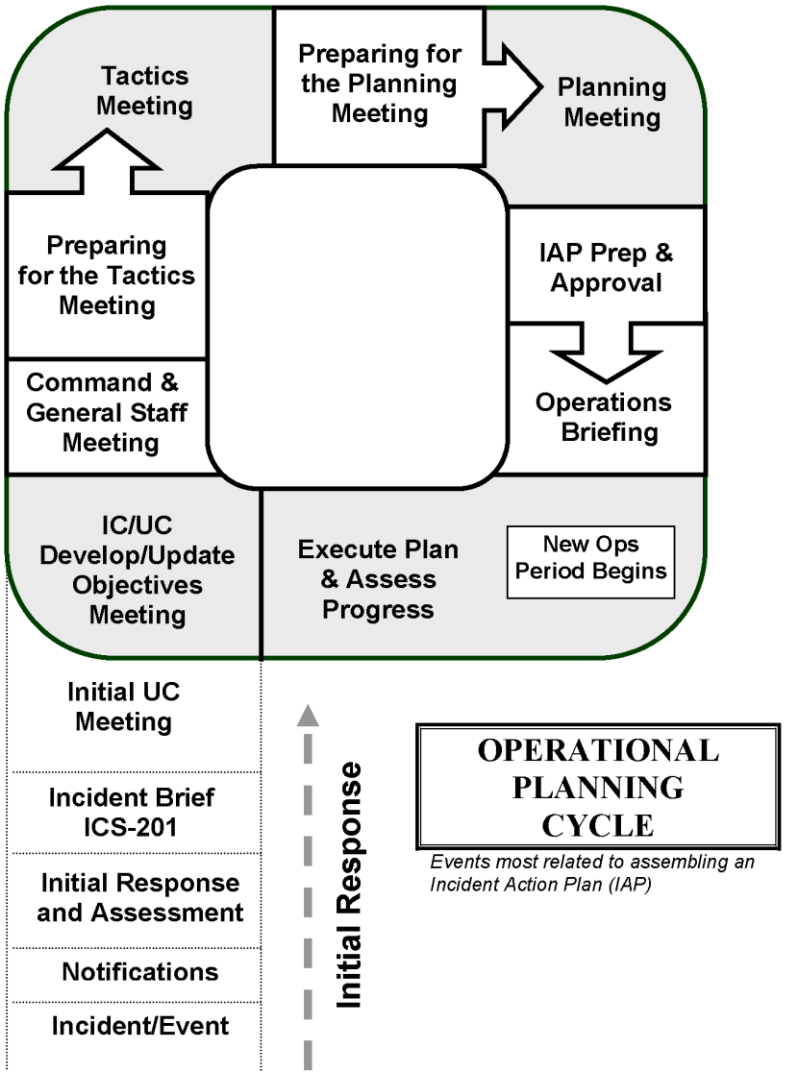


USCG IMH OPERATIONAL PERIOD PLANNING CYCLE GUIDE

AUGUST 2006

CHAPTER 3

OPERATIONAL PLANNING CYCLE, MEETINGS, BRIEFINGS, AND THE ACTION PLANNING PROCESS



EMERGENCY RESPONSE GUIDE - OIL SPILL

Emergency Response Guide First Responder

Oil Spill

SAFETY 1
- Your safety first and then the safety of others
- Start a JSSP as soon as possible
- Stay out of the hazard area
- If performing Recon approach up wind, up hill, up stream
- Determine the immediate hot zone

ISOLATE AND DENY ENTRY
- Evacuate the immediate area
- Deny entry to the immediate area
- Ask others to help deny entry into the area
- If on the scene, ask police & fire resources to help deny entry into immediate area

NOTIFICATIONS
- Contact your Supervisor
- Contact Customer Service Center
- Dial 911 if ambulance, police or fire dept. assistance is needed
- Contact local OSRO
- Follow the Notifications Flowchart found in this Plan

COMMAND MANAGEMENT 2
- Assume role of Incident Commander/utilize USCG IMH
- Make an announcement to all on the scene that you have assumed Command
- Establish a Unified Command Post up wind, up hill and up stream of the incident in the cold zone
- Establish a Unified Staging Area up wind, up hill and up stream of the incident in the cold zone
- Begin assigning ICS positions as necessary
- Meet, greet & brief responding Agencies as they arrive at the Unified Command Post
- Ensure Safety Officer begins and completes a Job Site Safety Plan

IDENTIFICATION AND ASSESSMENT
- Continue to evaluate the hot zone and adjust accordingly
- Continue to monitor evacuation activities
- Ensure safe Recon to determine extent of impact on water, air, soil, plant life & wildlife

ACTION PLANNING
- Create an ICS 201 to serve as the de facto Incident Action Plan for initial period
- Create a Unified "Next" period Incident Action Plan

FIRST RESPONDER GUIDE UNIFIED COMMAND ICS ORGANIZATION

PROTECTIVE EQUIPMENT 3
- Ensure proper levels of PPE
- Ensure PPE is in line with Job Site Safety Plan

CONTAINMENT & CONTROL
- Containment & control strategies should be developed within the Unified Command process
- Operations Section Chief oversees containment & control tactical deployment
- OSRO's work under the Operations Section and should not freelance

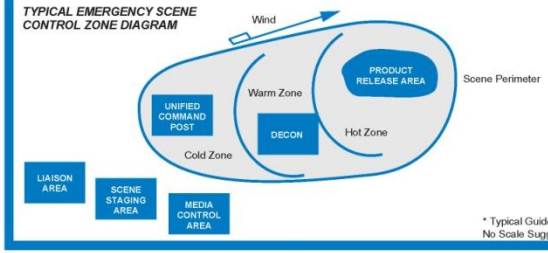
PROTECTIVE ACTIONS
- Ensure safe Recon to assess impact on water intakes, adjoining properties, public recreation sites & sensitive sites
- Protective action tactical deployment should be part of the Unified Incident Action Plan

DECONTAMINATION / CLEANUP 4
- Decon activities take place under the ICS Ops Section
- Decon capabilities in place before entering Hot Zone
- Ensure proper PPE for Decon Team
- Clean up strategies should be part of the Unified IAP
- Decon runoff needs to be contained and properly disposed of

DISPOSAL
- Ensure early notification of HES Waste SME's
- Consult Waste Management Section of this Core Plan
- Consult State Appendix Plan for specific State requirements

DOCUMENTATION
- Ensure early completion of ICS Form 201 & JSSP
- Ensure proper retention of all incident related documents
- Ensure timely incident critique & record lessons learned

TYPICAL EMERGENCY SCENE CONTROL ZONE DIAGRAM



ERP QUICK REFERENCE TABLE OF CONTENTS

Company Core Plan

Sec 1	Information Summary	Sec 11	Communications
Sec 2	Immediate Notifications	Sec 12	Training & Drills
Sec 3	Spill Detection/Mitigation	Sec 13	Plan Review & Updates
Sec 4	OSRO Information	Sec 14	Public Relations
Sec 5	Response Activities	Sec 15	Documentation
Sec 6	ICS	Sec 16	MSDS
Sec 7	JSSP	Sec 17	Glossary
Sec 8	Cleanup Procedures	Sec 18	ER Spill EX-HES 706
Sec 9	Estimating Spill Volumes	Sec 19	Functional & WW Teams
Sec 10	Waste Management	Sec 20	Gas Pipelines & Facilities

GENERAL PROTECTION STRATEGIES
- Shut down and isolate flow
- Eliminate sources of ignition
- Contain ahead of spill by booming or damming
- Protect storm drains or water intake areas ahead of spill
- Cleanup procedures Section 8 of this Core Plan
- All equipment used when handling product must be grounded
- Site sensitive strategies in State Appendix Plan

INITIAL ICS FORMS THAT MAY BE UTILIZED
- ICS Form 201 (Incident Briefing)
- ICS Form 202 (Response Objectives)
- CS Form 214 (Unit Log)
- Job Site Safety Plan
- ICS Form 232 (Resources at Risk Summary)

DOT EMERGENCY RESPONSE GUIDEBOOK QUICK REFERENCE PAGES

Product	Guide #
Gasoline	128
Natural Gasoline	128
Diesel	128
LPG	115
Natural Gas	115
Crude Oil	128
Ethylene	116P

Chevron

Chevron Pipe Line Company

05/11

EMPIRE SITE PLAN

(b) (7)(F), (b) (3)

[redacted]

FOURCHON SITE PLAN

(b) (7)(F), (b) (3)

[redacted]