ExxonMobil Pipeline Company

Emergency Response Plan

Montana Response Zone
Appendix Manual
PHMSA Sequence Number 847

Volume 2

Section 11 Response Zone Summary

In This Section

Operator Address

CFR §194.113(b)(1)

ExxonMobil Pipeline Company

800 Bell Street, PL-EMB-603G
Houston, TX 77002

Emergency Hotline (24 Hours): 1-800-537-5200

Qualified Individuals

CFR §194.113(b)(2)

The following are the names and telephone numbers of the Qualified Individual (QI) and the Alternate Qualified Individuals.

Qualified Individuals				
Name/Position	**Office**	**Cellular**	**Pager**	**Home**
Jason Montgomery, Primary Q.I. / Superintendent	406-657-5400	[redacted]	N/A	[redacted] EX 6
James Althoff, Alternate Q.I. / Sr. Tech 'A'	406-662-3569	[redacted]	----------	[redacted] EX 6

Pipeline Facilities Within Response Zone

CFR §194.113(b)(3-4)

The table below lists the pipeline facilities within the Montana Response Zone.

Name of Pipeline	Type of Oil	Starting Mile Post	Ending Mile Post	Total Length	Longest Segment	Counties	State
Silvertip – Clarks Fork 12”	Crude Oil (Sour)	69.0	54.4	14.28 miles	10.88 miles	Carbon	MT
Clarks Fork – Rock Creek 12”	Crude Oil (Sour)	54.4	31.6	23.68 miles	6.84 miles	Carbon	MT
Rock Creek – Laurel Terminal 12”	Crude Oil (Sour)	31.6	20.2	11.97 miles	4.64 miles	Carbon/ Yellowstone	MT
Laurel Terminal 12” – Billings Refinery	Crude Oil (Sour)	20.2	0.0	20.03 miles	5.48 miles	Yellowstone	MT

Note: Longest segment section (in miles) that contains the largest volume between adjacent block valves.

Tanks in Response Zone

State	Location	Tank #	Cap, kbbl	Contents	Roof type	Year erected	Tank height	Diameter	Comment
Montana	Silver Tip	252	30	Crude Oil	EFR	1949	40 ft	73"4'	
Montana	Silver Tip	253	30	Crude Oil	EFR	1939	40 ft	73'4"	
Montana	Silver Tip	254	20	Crude Oil	EFR	1949	40 ft	60	
Montana	Silver Tip	255	20	Crude Oil	EFR	1949	40 ft	60	
Montana	Silver Tip	319	30	Crude Oil	EFR	1953	40 ft	73'3"	

Zone Classification

CFR §194.113(b)(5)

This response zone has been determined to meet the significant and substantial harm classification because at least one line section within the response zone has met at least one of the criteria listed in 194.103(c)(1).

Type of Oil and Volume of the Worst Case Discharge

CFR §194.113(b)(6)

Type of oil: Crude Oil (Sour)

Volume of worst case discharge: 9,000 barrels

Section 12 Notifications

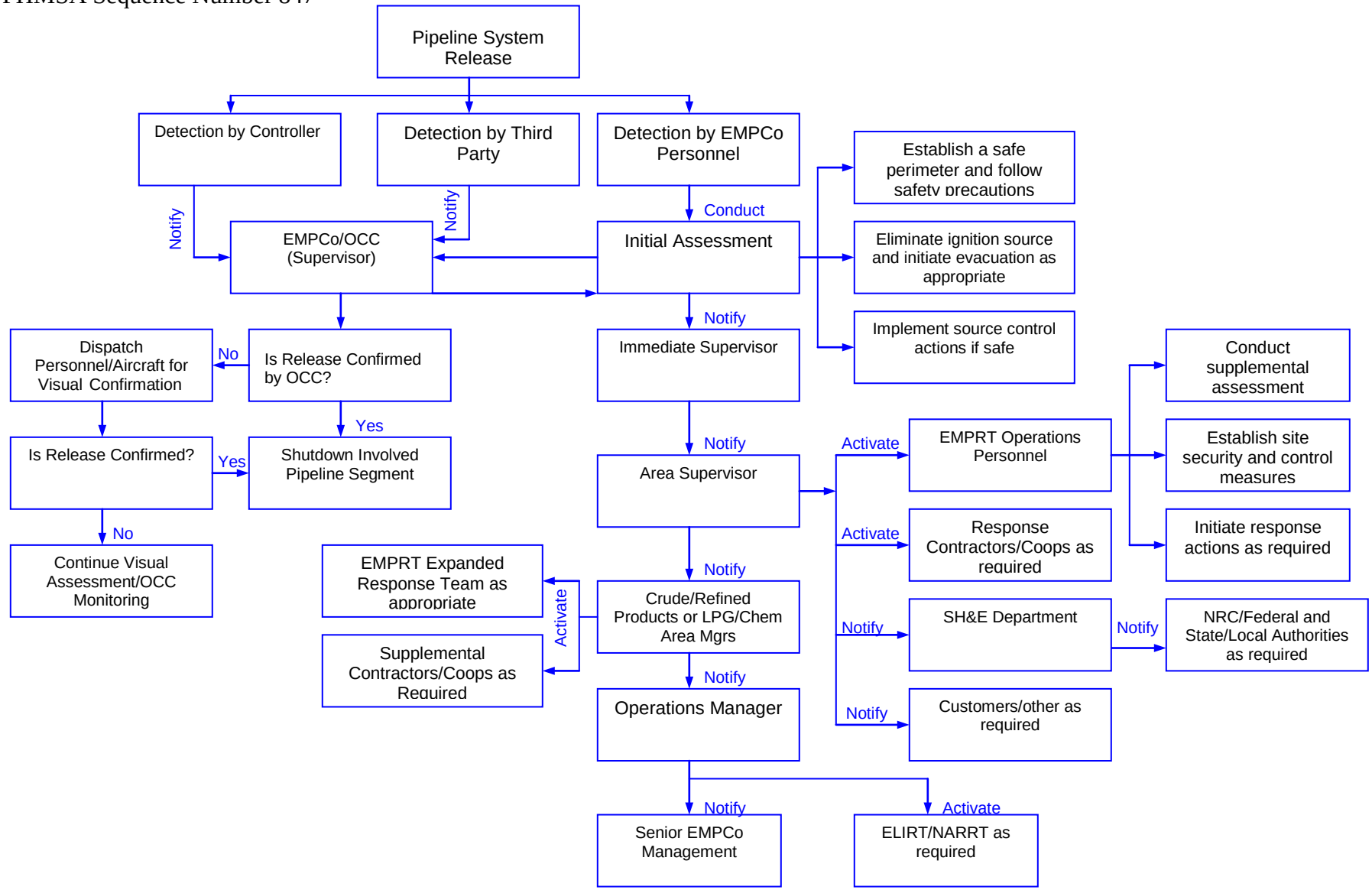
CFR §194.107(d)(1)(ii), (2)

In This Section

Internal Notification

General Notification Flowchart

The following is a general notification flowchart that is to be used as a guide in the event of a reportable incident.


Pipeline System Release
Detection by Controller
Detection by Third Party
Detection by EMPCo Personnel
Notify
Notify
EMPCo/OCC (Supervisor)
Conduct
Initial Assessment
Establish a safe perimeter and follow safety precautions
Eliminate ignition source and initiate evacuation as appropriate
Implement source control actions if safe
Notify
Immediate Supervisor
Dispatch Personnel/Aircraft for Visual Confirmation
No
Is Release Confirmed by OCC?
Yes
Is Release Confirmed?
Yes
Shutdown Involved Pipeline Segment
No
Continue Visual Assessment/OCC Monitoring
Notify
Area Supervisor
Activate
EMPRT Operations Personnel
Conduct supplemental assessment
Establish site security and control measures
Initiate response actions as required
Activate
Response Contractors/Coops as required
Notify
Crude/Refined Products or LPG/Chem Area Mgrs
Activate
EMPRT Expanded Response Team as appropriate
Supplemental Contractors/Coops as Required
Notify
SH&E Department
Notify
NRC/Federal and State/Local Authorities as required
Notify
Operations Manager
Notify
Customers/other as required
Notify
Senior EMPCo Management
Activate
ELIRT/NARRT as required

EMPRT Initial Response Personnel

The following table lists members of the location response team who may need to be contacted in the event of a release.

EMPRT Initial Response Personnel						
Response Position	**Name / Title**	**Office**	**Cellular**	**Pager**	**Home**	
QI - Incident Commander	Jason Montgomery, Superintendent	406-657-5400	[redacted]	N/A	[redacted]	EX 6
Alt QI - Assessment Control	J. A. Althoff, Technician	(406) 662-3569	[redacted]	-----	[redacted]	EX 6
Safety Officer	S.V. Everett, Technician	(406) 662-3569	[redacted]	[redacted]	[redacted]	EX 6
Safety Officer	Daniel Eckhardt Technician	(406) 662-3569	[redacted]	[redacted]	[redacted]	EX 6
Safety Officer	Philip Williamson, Technician	(406) 662-3569	[redacted]	[redacted]	[redacted]	EX 6

EMPRT Expanded Response Personnel

EMPCo Operations Control Center (OCC) in Houston, Texas				800-537-5200 24 Hour Emergency Phone Number		
AREA	**NAME**	**OFFICE**	**CELL**	**Alternate (p)ager, (c)ell**	**Sat Phone #**	**HOME PHONE**
President	Pruessing, Gary	713-656-5056	[redacted]	[redacted]	N/A	EX 6 [redacted] EX 6 [redacted]
Community Relations & Public Affairs Advisor	Errico, Patricia	713-656-5431	[redacted]	[redacted]	[redacted] EX 6	[redacted]
EMPCo US East Operations						
US East Operations Manager	James, Jimmie	703-846-6692	[redacted]	[redacted]	EX 6 EX 6	[redacted]
Northeast Area						
Area Manager	Long, Tim	617-381-2800	[redacted]		[redacted]	[redacted] EX 6
Imperial Oil Pipeline & Distribution Manager						
Imperial Oil Pipeline & Distribution Manager	Clark, Brian R.	403-237-3016	[redacted]		EX 6	[redacted]
EMPCo South Operations						
Southern Operations Manager	Craft, Geoff A.	713-656-2227	[redacted]	[redacted]	EX 6	[redacted]
West Coast/Rockies						
Area Manager Fax 310-212-1788	Rose, Jim	310-212-2935	[redacted]	[redacted]	[redacted] EX 6	[redacted]

EMPCo Operations Control Center (OCC) in Houston, Texas				800-537-5200 24 Hour Emergency Phone Number		
AREA	**NAME**	**OFFICE**	**CELL**	**Alternate (p)ager, (c)ell**	**Sat Phone #**	**HOME PHONE**
Chemicals						
Area Manager	Hunley, John	281-925-4304	[redacted]	[redacted]	[redacted]	[redacted] EX 6
Southeast Area						
Area Manager Fax 225-755-2422	Janocik, Jeff	225-755-2088	[redacted]	[redacted]	[redacted]	[redacted] EX 6
Central-North						
Area Manager	Weesner, Mark	713-656-6480	[redacted]	[redacted]	[redacted]	[redacted] EX 6
Central-South						
Area Manager	Young, Matt	281-925-3856	[redacted]	[redacted]	[redacted]	[redacted] EX 6
Risk and Integrity Management						
Risk and Integrity Manager	Jones, Johnita	512-306-7981	[redacted]	[redacted]	[redacted]	[redacted] EX 6
Operations Control Center - Emergency Number 800-537-5200						
Manager	Wilson, Larry	713-656-6155	[redacted]	[redacted]	[redacted]	[redacted] EX 6
Right of Way and Claims						
ROWC Manager	Wilson , Larry	713-656-6155	[redacted]	[redacted]	[redacted]	[redacted] EX 6
Regional Manager	Lane, Larry	713-656-5792	[redacted]	[redacted]	[redacted]	[redacted] EX 6

EMPCo Operations Control Center (OCC) in Houston, Texas				800-537-5200 24 Hour Emergency Phone Number		
AREA	**NAME**	**OFFICE**	**CELL**	**Alternate (p)ager, (c)ell**	**Sat Phone #**	**HOME PHONE**
West Regional Manager	Cronin-Fruitt, Ruth	310-212-1761	[redacted]	[redacted]	N/A [redacted]	[redacted]
Safety, Health and Environment Department						
SH&E Manager	Hartmann, Gary	713-656-0227	[redacted]			
P-L Safety	Massengale, Thad	713-656-2258	[redacted]		N/A [redacted]	[redacted]
P-L Safety	Hawthorne, Larry (Doc)	903-654-5345	[redacted]		N/A [redacted]	[redacted]
P-L Safety	Yates, Kirwin	337-269-5221	[redacted]		[redacted]	[redacted]
Medical Ind Hyg.	Melissa Perez	713-656-9850	[redacted]		N/A [redacted]	[redacted]
Safety/EP&R/ Security	Groneck, John	713-656-9750	[redacted]	[redacted]	N/A [redacted]	[redacted]
EP&R Advisor	Dunn, John	713-656-3666	[redacted]	[redacted]	N/A [redacted]	[redacted]
Environmental Planning Supervisor	Magruder, Brian	713-656-2190	[redacted]	[redacted]	N/A [redacted]	[redacted]
Air Advisor - Houston	Crawford, Wesley	713-656-2275	[redacted]		N/A [redacted]	[redacted]
Air Advisor - Houston	Rogers, F. (Frank)	713-656-2232	[redacted]	N/A	N/A [redacted]	[redacted]
Waste	Lee, Ben	713-656-2197	[redacted]	[redacted]	N/A [redacted]	[redacted]
Water	Martin, Tim	713-656-3440	[redacted]		N/A [redacted]	[redacted]
FEA - Northeast	Clark, Amanda	617-381-2872	[redacted]		N/A	

EMPCo Operations Control Center (OCC) in Houston, Texas				800-537-5200 24 Hour Emergency Phone Number		
AREA	**NAME**	**OFFICE**	**CELL**	**Alternate (p)ager, (c)ell**	**Sat Phone #**	**HOME PHONE**
FEA -Midwest	Hamilton, Casey A.	713-656-4629	[redacted]	N/A	N/A EX 6	[redacted]
FEA - Austin	Worrell, G. (Gail)	512-708-9689	[redacted]	N/A	N/A EX 6	[redacted]
FEA - Texas Chemicals & Southeastern Areas	Smith, Marshall	281-925-4285	[redacted]		N/A EX 6	[redacted]
FEA - West Coast	Simon, Adriane	310-212-4190	[redacted]	N/A	N/A	
Engineering Department						
Eng Manager	Smith, T. E. (Evan)	713-656-5829	[redacted]	[redacted]	EX 6	[redacted]
Eng Specialists Manager	Marchhart, Frank	713-656-4272	[redacted]	Text Cellular	N/A EX 6	[redacted]
Field Eng Manager - Central & Northeast	Sanderson, Kent	713-656-7268	[redacted]	Text Cellular	N/A EX 6	[redacted]
Field Eng Manager - West	Rup, M. A. (Mark)	713-656-4234	[redacted]		N/A EX 6	[redacted]
Projects Group Manager	Feazell, D. K. (Dale)	713-656-3894	[redacted]		N/A EX 6	[redacted]
CADD Coordinator	Snider, Michele	713-656-1866	[redacted]	[redacted]	N/A EX 6	[redacted]
LAW - General Counsel						

EMPCo Operations Control Center (OCC) in Houston, Texas				800-537-5200 24 Hour Emergency Phone Number		
AREA	**NAME**	**OFFICE**	**CELL**	**Alternate (p)ager, (c)ell**	**Sat Phone #**	**HOME PHONE**
LAW - General Counsel	Stevens, Jim	713-656-3783	[redacted]	N/A	N/A EX 6	[redacted]
Admin. Asst. Fax 713-656-5593	Ford, Laverne	713-656-5595	[redacted]	N/A	N/A EX 6	[redacted]
Counsel	Brink, Daniel J.	713-656-3322	[redacted]	N/A	N/A EX 6	[redacted]
Counsel	Davenport, S.E.	713-656-6802	[redacted]	N/A	N/A EX 6	[redacted]
Counsel	Cotton, Troy	713-656-7503	[redacted]	N/A	N/A EX 6	[redacted]
ExxonMobil Global Security Department						
Security Advisor (Primary contact)	Davis, Jimmy	281-654-2474	[redacted]		N/A EX 6	[redacted]
Security Advisor (Alternate contact)	Rice, Geoff	703-846-4425	[redacted]		N/A EX 6	[redacted]
EMI	(Drug Testing Dispatcher)	800-421-3674			N/A	
Security	Greenspoint 4, 24 hour	281-654-6220			N/A	
Strike Team -NARRT Numbers						
NARRT Activation Number		**1-866-285-8895**			N/A	
NARRT Coordinator	Cliff Doumas	703-846-2513	[redacted]	[redacted]	EX 6	[redacted]

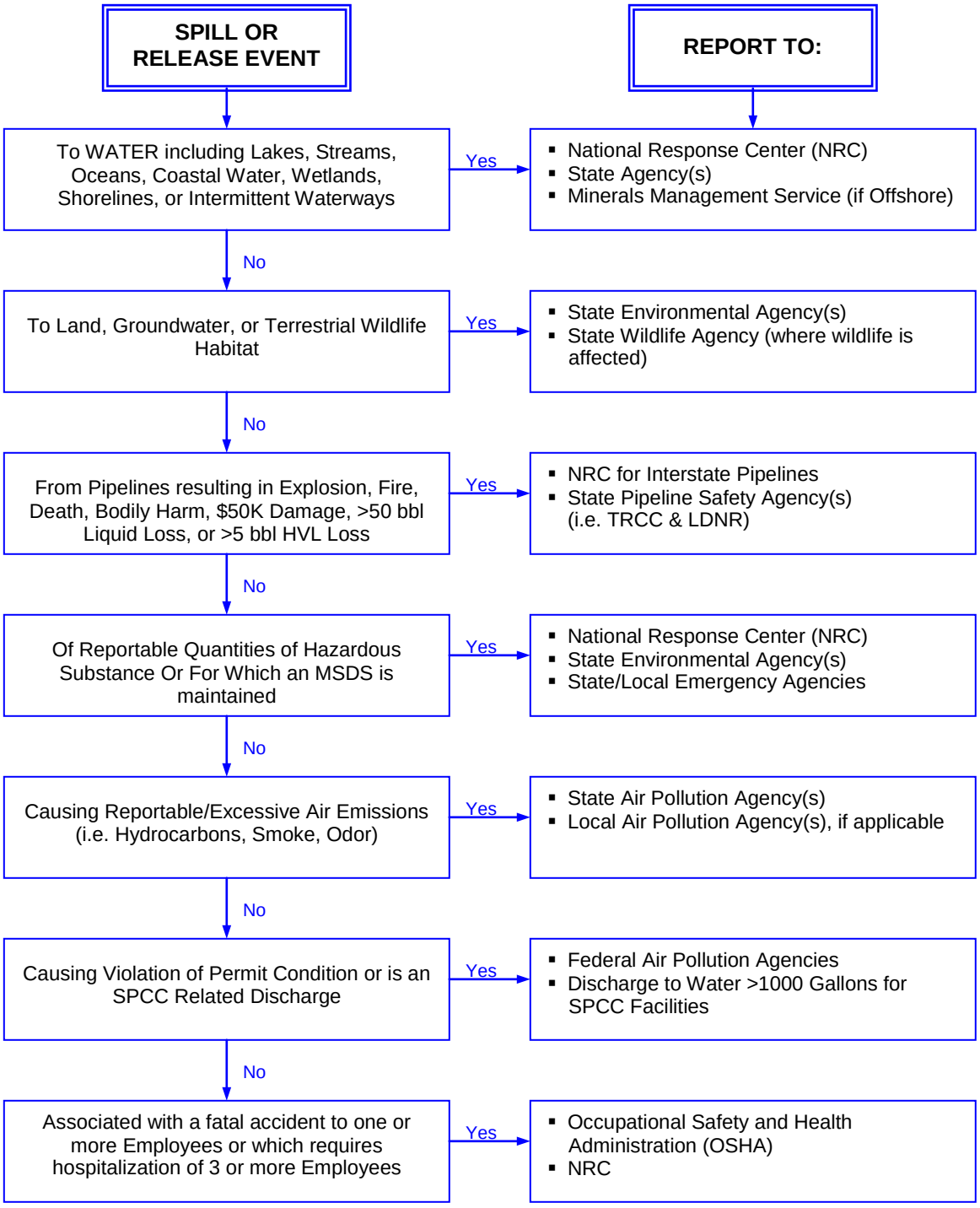
EMPCo Operations Control Center (OCC) in Houston, Texas				800-537-5200 24 Hour Emergency Phone Number		
AREA	**NAME**	**OFFICE**	**CELL**	**Alternate (p)ager, (c)ell**	**Sat Phone #**	**HOME PHONE**
EM Chem Emergency Response Contact	Joublanc, Scott	281-870-6649	[redacted]	[redacted]	N/A EX 6	[redacted]
BRRF (CHEMNET Team Activation)	Shift Superintendent	225-977-8133			N/A	
Baytown (CHEMNET Team Activation)	Shift Supervisor	281-834-5305			N/A	
US Strike Team Coordinator	Tomblin, Tommy	281-834-4528	[redacted]	[redacted]	N/A EX 6	[redacted]
North East Strike Team	Jim Belrose	519 339-4178	[redacted]	[redacted]		
	Craig Anderson	519 587-7178		[redacted]		
Central Strike Team Joliet	Tom Ader	815-521-7721	[redacted]	[redacted]		
Gulf Coast East Strike Team Baton Rouge	Davidson, Rob	225-977-1383	[redacted]	[redacted]	N/A	
Gulf Coast West Strike Team Baytown	Sackett, John	281-834-4050	[redacted]			

EMPCo Operations Control Center (OCC) in Houston, Texas				800-537-5200 24 Hour Emergency Phone Number		
AREA	**NAME**	**OFFICE**	**CELL**	**Alternate (p)ager, (c)ell**	**Sat Phone #**	**HOME PHONE**
Southeastern Strike Team (Houston)	Hansen, Brian	281-654-3685	[redacted]	[redacted]	N/A [redacted]	[redacted]
USA West Strike Team (California)	Rocky Ortega - Santa Ynez	805-961-4280	[redacted]	[redacted]		
Mid-West Strike Team Montana	Drain, Kelly	406-657-5267	[redacted]	[redacted]	N/A	
24 Hour Billings Refinery Number		406-657-5320			N/A	
ER Center Fairfax (8B1613) call 703-846-3099 for activation of ERC						
Fairfax SHE	Cliff Doumas	703-846-2513	[redacted]	[redacted]	[redacted]	[redacted]
Fairfax SHE	Robert Fick	703-846-7200	[redacted]	[redacted]	[redacted]	[redacted]
Refinery Fire Chiefs						
Baton Rouge Refinery	Davidson, Rob	225-977-1383	[redacted]	[redacted]	N/A	
Baytown Refinery	R. R. Kovalcik	281-834-4006	[redacted]	[redacted]	N/A	
Beaumont Refinery	Jimbo Jennings	409-757-1081	[redacted]		N/A	
Billings Refinery	Drain, Kelly	406-657-5267	[redacted]	[redacted]	N/A	
Chalmette	Goodwin, Scott	504-281-1861	[redacted]	[redacted]	N/A	

EMPCo Operations Control Center (OCC) in Houston, Texas				800-537-5200 24 Hour Emergency Phone Number		
AREA	**NAME**	**OFFICE**	**CELL**	**Alternate (p)ager, (c)ell**	**Sat Phone #**	**HOME PHONE**
Joliet Refinery	Vacant	815-521-7704		[redacted]	N/A	
Torrance Refinery	Schibinger, John	310-212-2969	[redacted]		N/A	
Chemical Emergency Numbers						
CHEMTREC	Chemical Emergency #	800-424-9300			N/A	
EM Chemical ER Coordinator	24/7 ER number			[redacted]	N/A	
EMChem Emergency Response Contact	Joublanc, Scott	281-870-6649	[redacted]	[redacted]	N/A EX 6	[redacted]
BRCP (CHEMNET Team	Shift Superintendent Activation)	225-977-8133			N/A	
BTCP (CHEMNET Team Activation)	MBPP Security	281-834-9300			N/A	

External Notification

General Notification Flowchart



Federal Agencies

National Response Center (NRC) **800-424-8802**
202-267-2675

The National Response Center is responsible for making all necessary federal notifications to other federal agencies including, but not limited to, the:

- Occupational Safety and Health Administration (OSHA)
- U.S. Environmental Protection Agency (EPA)
- U.S. Coast Guard (USCG)
- U.S. Army Corps of Engineers (ACOE)
- Office of Pipeline Safety (DOT)
- US DOI Mineral Management Service (GOM Region)

State Agencies

Montana

Montana Department of Environmental Quality	(24 hr)	(406) 841-3911 (406) 444-3080 (406) 431-0014 (406) 444-3490 (406) 444-3080
Montana Emergency Response Commission		(406) 444-3911
Montana Board of Oil and Gas Conservation		(406) 656-0040

Local Agencies / Assistance

CFR §195.402(e)(7)

Montana

Carbon County (Bridger Station, Silver Tip Station)

Carbon County, Montana	
Agency	**Telephone Number**
Bridger Station (Facility Code 25-007)	(406) 662-3569
Silver Tip Station (Facility Code 25-001)	(307) 754-9070
Local Emergency Planning Committee (LEPC)	(406) 446-1234
Sheriff / Red Lodge Police	(406) 446-1234
Highway Patrol	(800) 525-5555
Bridger Fire Dept.	(406) 662-3554
Red Lodge Fire Department	(406) 446-2320
Bridger Ambulance	(406) 662-3554
Joliet Fire Department	(406) 962-3581
Bridger Police Department	(406) 662-3116
Edgar Station	406-962-9114
Edgar Fire Dept.	406-962-4440

Yellowstone County (Billings Station, Laurel Station)

Yellowstone County, Montana	
Agency	**Telephone Number**
Billings Station (Facility Code 25-006)	(406) 252-3967
Laurel Station (Facility Code 25-003)	(406) 628-6016
Local Emergency Planning Committee (LEPC)	(406) 657-8200
Sheriff	(406) 657-8414
Highway Patrol	(800) 525-5555
Local Police – Billings Station	(406) 657-8200
Local Police – Laurel Station	(406) 628-8737
Laurel Fire Department	(406) 628-8737
Ambulance	(406) 248-4357
Billings Fire Department	(406) 657-8423

ExxonMobil Pipeline Company Spill / Release / Incident Report Form

Initial Report ___ Supplemental Report ___ Final Report ___ Date: _____

Date **and** Time Spill / Release Discovered : _____

Spill / Release Discovered by : _____

Date **and** Time Spill / Release Reported to SHE : _____

Spill / Release Reported to SHE by : _____

Pipeline, Station or Terminal : _____

Spill / Release / Incident Location : _____

City / Parish or County / State : _____

Nearest Town / City : _____

Driving Directions : _____

Product Spilled / Released : _____

Volume Spilled / Released : _____

Line Size / Description : _____

Volume Recovered : _____

Interstate: ☐ Intrastate: ☐ Regulated : _____

Cause of Spill / Release : _____

Fire: Yes ☐ No ☐ Explosion: Yes ☐ No ☐ Evacuations: Yes ☐ No ☐

Env. Impact: Air ☐ Water ☐ Soil ☐ Number of Injuries: ____ Number of Deaths: ____

Area Manager : _____

Area Supervisor : _____

Field Operations Supervisor / FLS : _____

Legal Description : _____

PHMSA Sequence Number 847

Land Description : _____

Landowner Notified : _____

Nearest Occupied House : _____

Nearest Main Road / Intersection : _____

Net Volume Lost : _____

Pipe Wall Thickness : _____ Specification : _____

Seam Type : _____ MOP : _____

Pressure at Time of Spill / Release : _____ SMYS : _____

Weather Conditions : _____

Area of Spill / Release : _____ Media Coverage: Yes ☐ No ☐

Spill Costs (in whole dollars):

Public / Private Property Damage	_____
Cost of Emergency Response Phase	_____
Cost of Environmental Remediation	_____
Value of Product Lost	_____
Value of Operator Property Damage	_____
Other Costs	_____
Total Cost	_____

Describe Other Costs: _____

Livestock / Wildlife Impacted: _____

If Water Impacted, Name : _____

Repair Method Used: _____

Method of Clean-up: _____

Next Remediation Steps: _____

Did Spill / Release Reach an HCA: Yes ☐ No ☐ Could It Reach Water: Yes ☐ No ☐

PHMSA Sequence Number 847

Is Leak / Release on a Segment Identified as a "Could Affect" Segment: Yes ☐ No☐

Is Pipe Configured for In Line Inspection Devices: Yes ☐ No ☐

Date of Last In Line Inspection: _____ Type of Tool: _____

Cathodically Protected: Yes ☐ No ☐ Type of System: _____

Year Installed: _____ Has a CIS Been Performed: Yes ☐ No ☐ Year of Last CIS: _____

Agency / EMPCo Telephonic and / or Verbal Notifications			
Agency or Company	**Name of Person Taking Report**	**Time of Notification (24 hr format)**	**Assigned Incident or Report Number**

Written Reports / Notification Letters		
Agency or Company	**Due Date**	**Date Mailed**

Additional Comments:

* - GPS Coordinates are Required

Instructions / Pointers for EMPCo Spill / Release / Incident Report Form

- The first seventeen lines (highlighted in yellow if completing form on computer) are items needed for initial reporting to agencies and should be provided as soon as possible. Some of the initial items may not be readily known when first notification(s) are made to SHE, so should be provided at a later time when the information can be obtained. For any given spill / release / incident, not every information item will be applicable. Skip those items or enter "N/A".

- If completing this form on a computer, there is default text in some of the data entry fields (with the exception of the notification tables), provided as an example of the data needed. The data entry fields are gray shaded, and as data is entered into the fields, the default text will disappear.

- GPS coordinates are now required. They tie in to spill tracking by the National Pipeline Mapping System (NPMS) and American Petroleum Institute (API). The format does not matter, it can be converted in SHE if necessary. GPS coordinate formats may look like the following:

    1. 13 695512E 4705010N (UTM format)
    2. 42.4728°N -102.6216°W (DD.DDD format)
    3. 42° 28' 22" N -102° 37' 18" W (DMS format)
    4. 42° 28.37' N -102° 37.30' W (DD MM.MM format)

- For some items, it may be necessary to consult with Corrosion Technicians, Facility Engineers, Field ERST Techs / Field Regulatory Specialists or others to obtain the information.

Section 13 Resources

CFR §194.107(d)(1)(v),(2); 194.115

In This Section

OSRO

USCG Certified Oil Spill Removal Organizations (OSRO)

USCG Certified OSROs		
Company	**Captain of the Port Zone** *Coast Guard Classification*	**24 Hour Phone Number**
MSRC - Western Region Western Region Center Everett, WA 98201	Puget Sound	800-645-7745 425-252-1300 800-645-7745 425-339-1229 Fax
MSRC Port Angeles, WA 98362 Western Region Center 1105 13th St Everett, WA 98201	Puget Sound	360-417-5437 360-417-3818 Fax

0022 Marine Spill Response Corporation

Alternate City: Port Angeles

	MM	W1	W2	W3
River/Canal	☒	☐	☒	☒
Inland	☒	☐	☒	☒
Open Ocean	☒	☐	☒	☒
Offshore	☒	☐	☒	☒
Nearshore	☒	☐	☒	☒
Great Lakes	☒	☐	☒	☒

Response Equipment

ExxonMobil Yellow River Strike Team- Billings Refinery

The following table lists the equipment and supplies located at the Billings Refinery in Billings, MT.

To activate ExxonMobil Refinery assistance call (406) 657-5380 or (406) 657-5320

Equipment—Billings, MT		
Item	**Quantity**	**Inventory**

Equipment—Billings, MT		
Item	**Quantity**	**Inventory**
Absorbent Boom – 8” x 10’; 40’ per bag	75 bags	
Absorbent Rolls – 36” x 15’ rolls	20 rolls	
Viscous Sweep – 100’ per bag	60 bags	
Pom Poms – 30# bags	40 bags	
Oclansorb – 18# bags	30 bags	
Absorbent Boom, 8” x 10’	24	
Absorbent Boom, 8” x 20’	8	
Absorbent Blanket – 36” x 150’ roll	2 rolls	
Absorbent Sock – 3” x 46” box	3 boxes	
Pom Poms – 30 per box	10 boxes	
Geo Bags – 30” x 60” x 6mil; 50 bags/box	200 boxes	
Containment Boom – Acme OK Corral, 4” x 6”, Jaton Universal Connectors	100 ft	
Containment Boom – Acme OK Corral, 6” x 6”, Jaton Top tension, Heavy Ballast, Universal Connectors	1000 ft	
Containment Boom - ABASCO Lambda, 6” x 12”	100 ft	
Vacuum Skimmer - Acme Model FSV-5, 1.5”	1	
Vacuum Skimmer – Megator Alpha S.S., 1.5”, ~10 gpm (not rated by Megator)	2	
Recovery Pump – Yamaha YP20GA, 2” centrifugal, 23’ head, 80’ total head, 175 gpm	3	
Recovery Pump – Monarch JAG53, 3” diaphragm,	3	

Equipment—Billings, MT		
Item	**Quantity**	**Inventory**
25’ head, 50 gpm		
Storage Tank – Fimco 300 gallons, translucent polypropylene	3	
Radio – Motorola Maxtrac 100, 2-channel 153.170 & 154.600 MHz w/ control station option	1	
Radio – Motorola Expo, 2-channel 153.170 & 154.600 MHz, intrinsically safe w/ charges	4	
Radio – Motorola Handie-Talkie/PT400, 2-channel 153.170 & 154.600 MHz, D Cell	1	

Montana-Wyoming Oil Spill Control Cooperative, LLC. (MWOSCC)

EMPCo is a member of the MWOSCC, which assists member companies with response to oil spills. In the event of an emergency, trailers with the supplies listed below are available to members of MWOSCC who furnish their own personnel. (combination to trailers is current year)

*****To activate MWOCC call 24 Hours/day 406-248-7795 or 800-345-1754*****

Trailer	Equipment Description	Quantity	Inventory
Trailer #1 (CPL, Billings, MT)	16 foot, 16-gauge, 15-inch culverts	2	
	16 foot, 16-gauge, 8 inch culverts	2	
	14 foot Jon Boat	1	
	100 foot Acme 6X6 booms	200’	
	50 foot Acme 6X6 booms	100’	
	25 foot Acme 6X6 booms	100’	
	3’ X 25 foot suction hose and fittings	2	
	2” X 50 foot suction hose and fittings	2	
	Manta Ray Skimmer	1	
	5 gallon safety jeri can	1	
	Honda Pump (gas driven)	1	
	6 gallon boat motor gas tank	1	
	Adjustable life vests	7	
	Absorbent Pads - 17” X 19” bundle	300 pads	
	Box 5"x10' Absorbent Booms	120’	
	3-in. Hose Floats	6	
	3/4-in. Hose Floats	7	
	Flashlights with Batteries	6	
	Acme Tow Bridles	6	
	Acme vacuum skimmer	1	
	50 foot extension cords	2	
	5’ X 6” fence posts	20	
	Post drivers	2	

Trailer	Equipment Description	Quantity	Inventory
Trailer #1 (continued)	Wooden and fiberglass oars with locks and paddles	3	
	Anchors size #10	5	
	Anchors size #18	5	
	Buoys for boom	5	
	100 ft ¾ " discharge hose with clamp	1	
	100 ft water-tight extension cords	2	
	1000 Watt lights for light stands	2	
	Light stand with generator	1	
	Monarch diaphragm pump, gas driven	1	
	5000 Watt ONAN Generator	1	
	15 HP Yamaha boat motor	1	
	Ansul fire extinguisher 30#	1	
	Capstan gas powered winch	1	
	45 Caliber line gun with string canisters	1	
	Roll of plastic sheeting	2	
	Safety goggles	15	
	Work gloves - rubber	6 pr	
	3/8" snap hooks W/rope loop	25	
	5/8" snap hooks W/rope loop	7	
	3/8" poly rope - on 600 ft reels	2	
	5/8" poly rope - 100 ft length W/snap loops (red)	12	
	5/8" poly rope - 50 ft length W/snap loops (green)	13	
	5/8" poly rope - 20 ft length W/snap loops (blue)	3	
	5/8" poly rope - 10 ft length W/snap loops (black)	20	
	Shovels	5	
	5-tine pitchforks	2	

Trailer	Equipment Description	Quantity	Inventory
Trailer #1 (Continued)	Tools - Sledge Hammer, Garden Rakes, Stakes, Duct Tape, 55 Gal Steel Drum, Cleaning Brushes, Plastic Sheeting, etc.	Various	
	Extension Cords	200’	
ExxonMobil Refinery	18 foot Jet boat - inboard 302hp modified to carry boom fore and aft, work lights.	1	
	Easy-Loader Boat Trailer for 18 foot Jet boat	1	
Trailer #2 CPL, Billings, MT	24” X 16 ft corrugated steel culverts w/one joining band	2	
	18” X 16 ft corrugated steel culverts w/one joining band	2	
	Carolina CB1302 Boom w/connectors.	200’	
	Acme Tunnel Model Floating Skimmer Pump 2HP, 3600 RPM single phase 115/230 volt, explosion proof electric motor capable of 40 ft of head at 50 GPM.	1	
	3” suction hose complete w/flotation and quick connect couplings	70’	
	3” discharge hose w/quick couplers	50’	
	Absorbent Boom 10’ sorbent 3M type 270 (4 ea box)	240’	
	Absorbent pads - 17” X 19” bundle of 100 sheets 3M type 156	11 bundles	
	3 ft X 150 ft Sorbent rolls	2	
	¼” Steel Cable	100”	
	Ansul 30# Dry Chemical fire extinguisher	2	
	400 Watt Hubbell lights	3	
	Aluminum light stands	3	
	Kohler 4 cyl, gas powered, liquid cooled 7500W generator	1	
	Marlow 3” Diaphragm pump with 2.8 HP B&S gas engine	1	
	12/3 electric cords for lights (3 each 100’)	300’	

Trailer	Equipment Description	Quantity	Inventory
Trailer #2 (Continued)	Chicken Wire fence - 3 ft rolls	7	
	5 gallon plastic gas jug	1	
	5 gallon steel gas can	1	
	5' X 6" steel fence posts	14	
	Misc. Hand tools	Several	
	Nylon strap - rolls	2	
	Steel utility wire - roll	1	
	Benzene Warning Signs	3	
	3/8" Rope, miscellaneous lengths	600'	
	Post Drivers	2	
Trailer #3 (Stored at Huntley Dam)	50 ft Acme 6X6 containment boom- (30)	1500'	
	Acme TBHD tow bridles	80	
	¼" poly rope - on 600 ft reels	6	
	½" poly rope - on 600 ft reels	30	
	15" mooring buoys	20	
	3" dia, steel rings	50	
	10mm snap hooks	50	
	Danforth anchors #18	12	
	5000W GENERIC generators Model 09586	2	
	Alltrade model 510080, twin 1600 watt work lights w/stands	8	
	50 ft 12/3 power cords w/twist lock caps	10	
	Capstan gas powered winch	1	
	Bridger line gun w/string	1	
	Craftsman 230 piece tool set w/box	1	
	3 ft X 12 ft cargo net	1	
	Misc. Hand tools	several	
Trailer #4 (Stored at Cenex P/L, Laurel, MT)	6" X 6" OK Corral Boom; 10 -50' sections	500'	
	Universal Tow Bridles, Z-lock w/keeper pin	30	

Trailer	Equipment Description	Quantity	Inventory
Trailer #4 (Continued)	ELASTEC TDS 118 Drum Skimmer, Pneumatic, 35 GPM	1	
	Campbell Hausfeld Compressor w/20 gal. Tank and comp. oil	1	
	4-50’ sections air hose	200’	
	Yellow poly ½” rope	7200’	
	Yellow poly ¼” rope	3000’	
	5KW Generator	1	
	#12 wire, 50’ extension cords	6	
	1” rebar stakes	40	
	3’ diameter “O” rings, 15,000# tensile	30	
	1” gate opening snap links, 8,000# tensile	30	
	8” sledge hammers	2	
	Steel post drivers with handles	2	
	Red “Danger” Warning Tape	2000’	
	Yellow “Caution” Warning Tape	2000’	
	15” Mooring buoys	10	
	15# Danforth anchors	4	
	Miscellaneous Tools	Various	

State-Line Contractors, Inc. – Bridger, MT

The following table lists the emergency equipment and supplies owned by State-Line Contractors, Inc. located in Bridger, MT.

Equipment—State-Line Contractors		
Item	**Quantity**	**Inventory**
Side-Boom Pipelayer	3	
Backhoe	3	
Grader	2	
Trencher	3	
Bobcat Loader	2	
3-yd Loader	1	
6- to 36-in Boring Machines	2	
12-ton Tandem Equipment Trailers	3	
Miscellaneous Pumps (1.5” to 6”)	3	
8’ft x 20’ft Trench Box	1	
2500-Watt Generator	5	

Contractors & Suppliers

Cleaning & Oil Containment

Cleaning & Oil Containment		
City	**Company/Address**	**Telephone**
Bridger, MT	**State Line Contractors, Inc.**	(406) 662-3505
Arvada, CO	**RM Cat Environmental Services, Inc.**	(800) 930-0011
Seattle, WA	**Foss Environmental**	(800) 414-8889
Billings, MT	**Olympus Environmental**	(406) 245-3554
Powell, WY	**Northstate Corp.**	(307) 754-7271

Heavy Equipment

Heavy Equipment		
City	**Company/Address**	**Telephone**
Billings, MT	**Big Sky Industrial**	(406) 256-4949
Billings, MT	**Lo-N-Bro**	(406) 672-1203
Bridger, MT	**Stateline Construction**	(406) 662-3505

Plane & Helicopter Services

Plane & Helicopter Services		
City	**Company/Address**	**Telephone**
Powell, Wyoming	**Aero plus - Tim Lippincot**	Uses his cell (home) 307-921-8446 Cell: 307-921-0069 Alternate: 307-213-4764

Vacuum, Tanks & Transport Trucks

Vacuum & Transport Trucks		
City	**Company/Address**	**Telephone**
Billings, MT	**Philips Services**	(406) 252-1999
Worland, WY	**Vista Trucking**	(307) 347-3074
Billings, MT	**Kelier Transports**	406-259-2202
Byron, WY	**NEPCO, Inc.**	(307) 548-2515
Billings, MT	**Big Sky Industrial**	(406) 256-4949
Roundup, MT	**C Brewer Inc.** (Frac Tanks)	(406) 323-2300

Welding Contractors

Welding Contractors		
City	**Company/Address**	**Telephone**
Billings, MT	**Pacific Tank & Pipeline**	(406) 672-1203

Wildlife Response Support Services

Wildlife Response Support Services		
City	**Company/Address**	**Telephone**
Berkeley, CA	**International Bird Rescue Research Center**	(510) 841-9086
Aransas Pass, TX	**Gloria Haskett**	(361) 758-3900
Corpus Christi, TX	**H.A. Hodges, D.V.M.**	(361) 241-2034
Galveston, TX	**International Wildlife Research**	(409) 740-4527
Wilmington, DE	**Tri-State Bird Rescue and Research**	(302) 737-7241

Section 14 Response Planning & Strategies

In This Section

Worst Case Discharge

CFR §194.105

Volume

9,000 barrels

Location of Worst Case Discharge

Pipeline System

Silver Tip to Billings 12-inch Crude Oil Line

Station, Line Section or Mile Post

Silver Tip Station

County/State

Carbon, MT

Type of Oil

Crude Oil (Sour)

Selection Criteria

Silvertip Station Tank: 30,000 bbls

This worst case discharge (WCD) scenario was chosen since a tank failure in this Zone Plan could result in the largest release of oil when compared to line segments on the pipeline.

Calculation

Silvertip Station Tank: 30,000 bbls

Control Features/Factors	Credit Applicability (Y/N)	Reduction Value	Reduction Amount In Barrels	Adjusted Tank Volume (bbls)
Initial Volume of Tank (bbls)				30,000
Secondary containment > 100% of maximum capacity of largest tank within secondary containment, and secondary containment meets NFPA Code 30.	Y	50%	15,000	15,000
Tank built/repaired to API STD 620/650/653	Y	10%	3,000	12,000
Overfill protection standards , API RP 2350	Y	5%	1,500	10,500
Testing/cathodic protection meets API STD 650/651/653	Y	5%	1,500	9,000
Tertiary containment/drainage/treatment system meets NFPA Code 30.	N	5%	1,500	N/A
Total Credit Allowed by DOT/RSPA Policy - Maximum 75%		**70%**		**9,000 bbls**

Mitigation Tactics for Worst Case Discharge & Other Areas

CFR §194.107(d)(1)(v)

A tactical plan has been developed for the Silvertip to Billings Pipeline System and is available as a separate manual.

The tactical plan sets forth the response strategy including site descriptions and characteristics, resources and personnel needed, tactical objectives, and assignment lists.

Descriptions of water and land containment, exclusion, diversion and other protection techniques are summarized in Table 14-1. It is important to note that many of the protection techniques in Table 14-1, and particularly those for spills on land, are actually containment techniques but are also a form of protection when implemented upgradient or upstream of a sensitive area.

Alternate Worst Case Discharge

CFR §194.105

Volume

2,034 barrels

Location of Worst Case Discharge

Pipeline System

Laurel to Billings 12-inch Crude Oil Line

Line Section or Mile Post

[redacted] EX 3, EX 7F

County/State

Yellowstone County, MT

Type of Oil

Crude Oil (Sour)

Selection Criteria

This alternate worst case discharge (WCD) scenario was chosen since a failure in this line could result in the large release of oil into the Yellowstone River. Although a longer line segment exists, the longest line segment (10.88 miles) does not have the potential for spilling more oil. This 10.88-mile segment has a profile, block valves, and check valves that would only allow approximately 2,000 bbls to be spilled. Therefore, the Laurel to Billings line at the [redacted] the Alternate WCD for this plan.

EX 3, EX 7F

Worst Case Discharge =[(Maximum Detection Time + Shutdown Time) x Flow Rate] + [Leak Rate x Isolation Time] + Drainage Volume
[(.167 hrs + .083 hrs) x 2500 bbls/hr] + [1040 bbls/hr x 1.00 hr] + 369 bbls = **2034bbls**

Where,

Maximum Detection Time	=	.167 hrs (10 mins)
Shutdown Time	=	.083 hrs (5mins)
Flow Rate	=	2500 bbls/hr
Leak Rate	=	1040 bbls/hr
Isolation Time	=	1.00 hr
Drainage Volume*	=	369 bbls

**Drainage Volume = 0.14 bbl/ft x 2,639 ft*

If an assumption was made that the entire line section of the longest section would drain out (which it should not due to topography, check valves and block valves):

Longest Section 10.88 Miles = 57,446 feet, of 0.375 wt pipe @ 139.886 bbls/1000 feet,

10.88 mile displacement = 8035.9471,

Maximum detection time = 10 minutes (0.167 hrs) , Shutdown Time - 5 minutes (0.0833 hrs) = Total 15 minutes (0.25 hrs)

Maximum flow rate = 2500 bbls/hr

15 minutes @ 2500 bbls/hr = 625 bbls

625 bbls + 8036 bbls = 8661 bbls

88661 bbls (longest line section scenario) is smaller than the largest tank scenario which equals 9000 bbls.

PHMSA Sequence Number 847

Mitigation Tactics for Worst Case Discharge & Other Areas

CFR §194.107(d)(1)(v)

A tactical plan has been developed for the Silvertip to Billings Pipeline System and is included in Section 15.

The tactical plan sets forth the response strategy including site descriptions and characteristics, resources and personnel needed, tactical objectives, and assignment lists.

Descriptions of water and land containment, exclusion, diversion and other protection techniques are summarized in Table 14-1. It is important to note that many of the protection techniques in Table 14-1, and particularly those for spills on land, are actually containment techniques but are also a form of protection when implemented upgradient or upstream of a sensitive area.

TABLE 14-1
Summary of Protection Technique

Technique[1]	Description	Primary Logistical Requirements	Use Limitations[2]	Potential Environmental Effects
Spills on Land				
A. Containment/ Diversion Berms	Construct earthen berms ahead of advancing surface spill to contain spill or divert it to a containment area.	Equipment * 1 backhoe, bulldozer, front-end loader, or set of hand tools Personnel 4-8 workers	• Steep slopes • Porous substrate	• Disturbance to surface soils and vegetation • Increased oil penetration
B. Storm Drain Blocking	Block drain opening with sediments, plastic sheet, boards, etc. and secure to prevent oil from entering drain.	Equipment * misc. Hand tools 1 board, plastic sheet, mat, etc. Personnel 1-2 workers	• May be advantageous for oil to enter drain • Heavy precipitation	• Increased oil penetration • Oil can spread to other areas
C. Blocking Dams	Construct dam in drainage course/stream bed to block and contain flowing oil. Cover with plastic sheeting. If water is flowing, install inclined pipes during dam construction to pass water underneath.	Equipment * 1 backhoe, bulldozer, front-end loader, or set of hand tools 1 plastic sheeting roll Personnel 4-6 workers	• Upstream storage capacity • Flowing water	• Increased oil penetration
D. Culvert Blocking	Block culvert opening with plywood, sediments, sandbags, etc. to prevent oil from entering culvert	Equipment * misc. Hand tools misc. Plywood, sandbags, etc. Personnel 3-4 workers	• Upstream storage capacity • Flowing water	• Increased oil penetration
E. Interception Trench	Excavate ahead of advancing surface/ near-surface spill to contain oil. Cover bottom and downgradient side with plastic.	Equipment * 1 backhoe, or set of hand tools misc. Plastic sheeting Personnel 3-6 workers	• Slope • Depth to near-surface flow	• Increased oil penetration • Disturbance to surface soils and vegetation
Spills on Water				
G. Diversion Booming	Boom is deployed from the shoreline at an angle towards the approaching slick and anchored or held in place with a work boat. Oil is diverted towards the shoreline for recovery.	Equipment * 1 boat 3 anchor systems (min.) 100 ft boom (min.) Personnel 3 workers plus boat crew	• Currents >2-3 kts • Waves >1-2 feet • Water depth >50 feet (anchoring) • Sensitive shorelines	• Minor substrate disturbance at anchor points • Heavy oiling at shoreline anchor point

TABLE 14-1 (Cont'd)
Summary of Protection Techniques

Technique[1]	Description	Primary Logistical Requirements	Use Limitations[2]	Potential Environmental Effects
Spills on Water (Cont'd)				
H. Narrow Channel Containment Booming	Boom is deployed across entire river channel at an angle to contain floating oil passing through channel.	Equipment * 1 boat, vehicle, or winch 1-2 booms (1.2 x channel width each) 2-10 anchor systems Personnel 2-3 workers	• Currents >2-3 kts • Water depths >50 feet (anchoring) • Sensitive shorelines	• Minor substrate disturbance at anchor points • Heavy shoreline oiling at downstream anchor point
I. Sorbent Barriers	A barrier is constructed by installing two parallel lines of stakes across a channel, fastening wire mesh to the stakes, and filling the space between with sorbents.	Equipment * (per 100 feet of barrier) misc. Hand tools 1 boat 20 fence posts 200 feet wire mesh 200 ft^2 sorbents misc. Fasteners, support lines, additional stakes, etc. Personnel 2-3 workers	• Water depths >5-10 feet • Currents >0.5 kts • Soft substrate	• Minor substrate disturbance at post and shoreline anchor points • High substrate disturbance if boat is not used
L. Exclusion Booming	Boom is deployed across or around sensitive areas and anchored in place. Approaching oil is excluded from area.	Equipment * (per 500 feet of boom) 1 boat 6 anchor systems 750 ft boom (min.) Personnel 3 workers plus boat crew	• Currents >1-2 kts • Waves >1-2 feet • Water depth >50 feet (anchoring)	• Minor substrate disturbance at anchor points
M. Deflection Booming	Boom is deployed from the shoreline away from the approaching slick and anchored or held in place with a work boat. Oil is deflected away from shoreline.	Equipment * 1 boat 5 anchor systems boom (200 feet) Personnel 3 workers plus boat crew	• Currents >2-3 kts • Waves >1-2 feet • Water depth >50 feet (anchoring) • Onshore winds	• Minor substrate disturbance at anchor points • Oil is not contained and may contact other shorelines

TABLE 14-1 (Cont'd)
Summary of Protection Techniques

Technique[1]	Description	Primary Logistical Requirements	Use Limitations[2]	Potential Environmental Effects
Spills on Water (Cont'd)				
N. Inlet Dams	A dam is constructed across the inlet or channel using local shoreline sediments to prevent oil from entering inlet. Dam can be covered with plastic to minimize erosion.	Equipment * 1 backhoe, bulldozer, front-end loader, or set of hand tools 1 plastic sheeting roll Personnel 2-6 workers	• Water outflow • Inlet depth >5 feet • Excessive inlet width	• Sediment/vegetation disturbance at borrow areas • Inlet substrate disturbance • Increases suspended sediments • Water in inlet can become stagnant
O. Debris/Ice Exclusion	Install fence barrier upstream of containment site to exclude debris/ice	Equipment * (per 100 ft of barrier) misc. Hand tools 1 boat 10 fence posts 100 feet cyclone fence Misc. Fasteners, support lines, etc. Personnel 2-3 workers	• Water depths > 5-10 ft. • Currents > 3-4 kts • Soft substrate	• Minor substrate disturbance at post and anchor points
Releases of LPG/HVL/Gases to the Atmosphere				
P. Controlled burn	Allow the material to consume itself in a safe and controlled manner. If flammable material is not burning may want to consider a **controlled ignition**.	Equipment * Flares/torches Personnel A trained ignitor from a safe distance	• Managing the fire and heat • Damaging force of ignition	• Damages of fire and heat on exposures
Q. Vapor Suppression	Apply water spray/fog over the released liquid to reduce the formation of vapors.	Equipment * Fire truck (water pumper) Foam generator unit Foam tanker or trailer Personnel 1 operational crew per unit	• Limited reductions • Fire/explosive hazard. • Water may cause material to spread	• Temporary flooding • Minor disturbance to surface soils and vegetation
R. Dissipation or dispersion	Apply a medium (air/gas/chemical) to disperse, dissolve, diffuse or in any way dissipate the density of the released material.	Equipment * Fans/blowers/air movers Nitrogen generator trucks Personnel 1 operational crew per unit	• Minimal effectiveness • Fire/explosive hazard.	•

1 - Techniques A through I appeared on Table 5.5-1 in Volume 1 as appropriate techniques for containment and recovery. These techniques have been assigned the same letter designation as Table 5.5-1 for consistency.
2 - In addition to implementation time and accessibility.
*** - Need to establish a safe perimeter and follow safety precautions as appropriate before work begins, i.e., TGSM, JSA, and Hot Work Permit procedures.**

Section 15 Highly Sensitive Areas

CFR §194.105; 194.107(c)

In This Section

Sensitive Area Locations and Protection Measures along the Silvertip System R.O.W.

Key environmental sensitive areas that could be impacted by an oil spill have been identified. The environmental response maps in this section are designed to assist in the initiation and development of spill response priorities and strategies prior to the deployment of spill response resources along the EMPCo Silvertip System Right-of-Way (ROW).

The response map at the end of this section has been provided as a guide. Determination of the actual location of a spill and actual environmental conditions such as weather, stream conditions, in addition to the formulation of a spill trajectory in consultation of the Area Contingency Plan (ACP) must be made prior to the final determination of an actual response strategy.

The maps and corresponding index pages, which appear at the end of this section, are arranged by "Line Section" and are designed to assist spill responders with rapid access to some or all of the information in this section. The identification numbers circled on maps pages 49, 50, and 51 indicate where EMPCo Pipelines Cross rivers or creeks.

1. Number 1 is where the pipeline crosses Clarks Fork of the Yellowstone River.
2. Number 2 is a crossing on Rock Creek.
3. Number 3 is a crossing of the Yellowstone River at Laurel.
4. Number 4 is the pipeline crossing the Yellowstone River at Billings.

Maps not in original document

Environmental Response Maps 1 through 12 depict the Yellowstone River at Billings, which are blown up to show this area better. These maps show Right-of-Way access sites, shorelines, staging areas, and boat launch facilities.

Note: The information represented on the environmental response maps and index pages was developed by Robert J. Meyers & Associates, Inc. as suggestions only, and must be treated as such. No liability for injury, loss, or damage of any kind resulting either directly or indirectly from the use of these suggestions is assumed by the authors.

Descriptions of the information presented on both the environmental response maps and the index pages are provided in the following subsections.

Key Sensitive/Critical Areas to Monitor and Protect

Key sensitive/critical areas may be defined as those areas which, if impacted by spilled oil or hydrocarbons, may result in threats to public safety and health, or incur severe liabilities associated with the impact of privately or commercially owned properties. These areas include commercial, municipal, and industrial water intakes; recreational areas and parks; historical sites; cemeteries; residentially, commercially, and industrially developed areas; groundwater recharge basins; and educational institutions (schools). Pertinent information associated with those critical areas identified on each of the response maps is presented on the upper section of the accompanying index page.

Explanations of the key types of critical areas and the associated information that is provided in the response map index pages are provided below.

Water Intakes

- Water intakes for commercial, municipal, and industrial use are subject to liabilities associated with the loss of use, potential safety hazards, and damage claims.
- Information regarding the location of the water intake, name and notification telephone number for the operator of the intake, and the depth below the water surface of suction for the intake is indicated on the index page adjacent to the response map.
- Exclusionary booming procedures should be used to prevent spilled product from entering and/or damaging the water intake.

Recreational Areas

- Recreational areas, including state and city parks, seasonal beachfront areas, etc., are subject to liabilities associated primarily with potential safety and health threats, in addition to those associated with aesthetics, and public relations.
- Information regarding the ownership of the park and appropriate emergency notification telephone numbers is shown on the index page correlating with the individual response map.
- Publicly accessible recreational areas typically possess adequate shoreline access and may be suited for logistical purposes as an equipment staging area and deployment site. These areas are noted on the response maps.

Historical Sites and Cemeteries

- Historical sites and cemeteries are particularly sensitive and vulnerable to claims associated with aesthetics and public relations, and should be recognized as a high priority when it comes to planning a spill response operation.

Residentially and Commercially Developed Areas

- Shoreline residential areas should be recognized and closely monitored due to the concentrated presence of human beings, not to mention the liabilities which may be associated with the oiling of privately owned property. Commercially developed areas should also be recognized from both a public safety and liability point of view.

- The restoration and remediation of these areas is very costly, and negative public relations will almost surely result.

Groundwater Recharge Basins

- Groundwater is recharged into the subsurface where permeable units, or aquifers, crop out at the surface. These sites generally have a higher infiltration capacity, and must be closely monitored in order to prevent irreversible contamination of the aquifer.

Educational Institutions

- Educational institutions, i.e., grade schools, high schools, universities, etc., in the vicinity of a navigable waterway should be monitored as a precaution due to the concentrated presence of children and young adults.

- Plans for the evacuation of students should be incorporated if their personal safety may be at risk due to the impact of a spilled product along a neighboring shoreline.

Environmental Sensitivities

Shoreline Composition

The environmental sensitivities of various types of shoreline are generally prioritized in order of their potential for long-term oil persistence and biological damage. This priority system is intended to assist the spill responder while allocating response resources during the initial stages of a spill response operation, with the knowledge that responsible federal

and state resource agency representatives will arrive on-site to further clarify priorities within each category.

For the EMPCo Silvertip System the majority of the shorelines are characterized as riparian habitats with an occasional wetland area. Shoreline types are noted on the environmental response maps as a narrow hatch pattern paralleling the shoreline. The actual inland extent of a specific shoreline type is not illustrated to avoid understating other response information.

Wetlands generally have a high potential for long term oil persistence and are usually characterized as highly sensitive and biologically productive environments. Remediation techniques can be difficult and extremely time-consuming. Low-pressure flushing, the use of sorbent pads and booms, and natural cleaning techniques are viable cleanup methods in these environments.

Riparian habitats have a lower potential for long-term oil persistence and are generally much less environmentally sensitive than wetlands. Low-pressure flushing, manual removal, and the use of earthmoving equipment for mechanical removal are reasonably acceptable techniques in the cleansing of both fine and coarse-grained sediments which generally characterize riparian habitat shorelines.

Terrestrial (Land) Features

The environmental sensitivities adjacent to the pipeline right-of-way are prioritized within three categories (low, moderate, and high) which rank the neighboring landforms in order of their increasing potential for long term oil persistence and biological damage.

Sensitive land areas are noted on the environmental response maps as a narrow hatch pattern paralleling the pipeline right-of-way. The actual extent of a specific sensitivity type is not illustrated in order to avoid understating other response information.

Habitat Description

A narrative description of the species present within the location boundaries of each of the individual environmental response maps is presented on the corresponding index page, including such relevant information as the following:

- Presence of federally and state-protected species
- Presence of rare, threatened, and endangered species and candidate species
- Seasonality of local inhabitants

- Habitat use, i.e., spawning ground, overwintering area, migratory area, nesting area, sport hunting/ fishing area, etc.

A vast inventory of aquatic life forms exists within the nearshore waters and along the shorelines of various rivers. However, only those species which are commercially and recreationally important, are protected under federal and/or state legislation, or are restricted by their habitat to maintain a shoreline existence within these areas are identified on the environmental response maps .

Shoreline and Pipeline Right-of-Way Access Sites and Equipment Staging Areas

Pertinent logistical information designed to assist the spill responder in the deployment of equipment and manpower is illustrated on the environmental response maps, with further documentation and narrative listed on the corresponding index pages.

The following information is typically presented:

- A brief description and analysis of the facilities available at the site, i.e. telephones, parking areas, restroom facilities, etc., are referenced on the index page.

- Potential uses for a shoreline access site are also listed, and are identified as one or more of the following:

  - Equipment staging area
  - Command post location
  - Boom and/or equipment deployment site
  - Observation point
  - Hand-crew cleanup site

- Should proper and/or advance notification be required prior to the use of a site for spill logistical purposes, appropriate contact names and telephone numbers are also listed on the index page.

Boat Launching Facilities

Boat ramps and hoists are valuable from a logistical standpoint in the deployment of waterborne equipment, and are so indicated on the response maps.

Potential Containment Booming Locations

With the identification of the potential source of a spill and assuming certain conditions which would govern the movement of a spill on water, strategic containment booming

locations may be identified. Locations for the strategic deployment of containment boom may also be based upon shoreline accessibility, proximity to sensitive resources, and areas of expected accumulations of spilled product.

A survey of the spill will be made quickly. The environmental response maps will be used to identify access points and staging areas. Booms will then be mobilized. Most rivers have several meandering bends, any one of which could be used to contain a spill using booms. Fast moving currents in the center of a river can make it impossible to boom across an entire river; therefore, efforts will generally be concentrated along river banks in the slower moving water.

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See Silver Tip Pipeline Tactical Response Plan

Tactical Response Plan not in original document.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
ECOLOGICAL SERVICES
MONTANA FIELD OFFICE
585 SHEPARD WAY
HELENA, MONTANA 59601
PHONE (406) 449-5225, FAX (406) 449-5339

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES
MONTANA COUNTIES*
Endangered Species Act

September 2009

C = Candidate
LT = Listed Threatened
LE = Listed Endangered
PCH = Proposed Critical Habitat
CH = Designated Critical Habitat
XN = Experimental non-essential population

*Note: Generally, this list identifies the counties where one would reasonably expect the species to occur, not necessarily every county where the species is listed

County/Scientific Name	Common Name	Status
BEAVERHEAD		
Spiranthes diluvialis	Ute Ladies' Tresses	LT
Ursus arctos horribilis	Grizzly Bear	LT
BIG HORN		
Mustela nigripes	Black-footed Ferret	LE
BLAINE		
Scaphirhynchus albus	Pallid Sturgeon	LE
Mustela nigripes	Black-footed Ferret	LE
BROADWATER		
Spiranthes diluvialis	Ute Ladies' Tresses	LT
CARBON		
Lynx canadensis	Canada Lynx	LT, CH
Mustela nigripes	Black-footed Ferret	LE
Ursus arctos horribilis	Grizzly Bear	LT
CARTER		
Mustela nigripes	Black-footed Ferret	LE
CASCADE		
No listed Species		
CHOUTEAU		
Scaphirhynchus albus	Pallid Sturgeon	LE
Mustela nigripes	Black-footed Ferret	LE
CUSTER		
Scaphirhynchus albus	Pallid Sturgeon	LE
Sterna antillarum athalassos	Interior Least Tern	LE
Mustela nigripes	Black-footed Ferret	LE
Grus americana	Whooping Crane	LE

DANIELS		
Grus americana	Whooping Crane	LE
DAWSON		
Scaphirhynchus albus	Pallid Sturgeon	LE
Sterna antillarum athalassos	Interior Least Tern	LE
Grus americana	Whooping Crane	LE
DEER LODGE		
Salvelinus confluentus	Bull Trout	LT, CH
FALLON		
Grus americana	Whooping Crane	LE
FERGUS		
Scaphirhynchus albus	Pallid Sturgeon	LE
Mustela nigripes	Black-footed Ferret	LE
FLATHEAD		
Salvelinus confluentus	Bull Trout	LT, CH
Ursus arctos horribilis	Grizzly Bear	LT
Silene spaldingii	Spalding's Campion	LT
Lynx canadensis	Canada Lynx	LT, CH
GALLATIN		
Spiranthes diluvialis	Ute Ladies' Tresses	LT
Lynx canadensis	Canada Lynx	LT, CH
Ursus arctos horribilis	Grizzly Bear	LT
GARFIELD		
Scaphirhynchus albus	Pallid Sturgeon	LE
Charadrius melodus	Piping Plover	LT, CH
Sterna antillarum athalassos	Interior Least Tern	LE
Mustela nigripes	Black-footed Ferret	LE
GLACIER		
Ursus arctos horribilis	Grizzly Bear	LT
Lynx canadensis	Canada Lynx	LT, CH
Salvelinus confluentus	Bull Trout	LT, CH
GOLDEN VALLEY		
Mustela nigripes	Black-footed Ferret	LE
GRANITE		
Lynx canadensis	Canada Lynx	LT, CH
Salvelinus confluentus	Bull Trout	LT, CH
HILL		
Mustela nigripes	Black-footed Ferret	LE
JEFFERSON		
Spiranthes diluvialis	Ute Ladies' Tresses	LT
Lynx canadensis	Canada Lynx	LT
Mustela nigripes	Black-footed Ferret	LE
JUDITH BASIN		
No Listed Species		

LAKE		
Ursus arctos horribilis	Grizzly Bear	LT
Howellia aquatilis	Water Howellia	LT
Silene spaldingii	Spalding's Campion	LT
Lynx canadensis	Canada Lynx	LT, CH
Salvelinus confluentus	Bull Trout	LT, CH
LEWIS AND CLARK		
Ursus arctos horribilis	Grizzly Bear	LT
Lynx canadensis	Canada Lynx	LT, CH
Salvelinus confluentus	Bull Trout	LT, CH
Mustela nigripes	Black-footed Ferret	LE
LIBERTY		
Mustela nigripes	Black-footed Ferret	LE
LINCOLN		
Acipenser transmontanus	White Sturgeon (Kootenai River Pop.)	LE
Ursus arctos horribilis	Grizzly Bear	LT
Silene spaldingii	Spalding's Campion	LT
Lynx canadensis	Canada Lynx	LT, CH
Salvelinus confluentus	Bull Trout	LT, CH
Howellia aquatilis	Water Howellia	LT
MADISON		
Spiranthes diluvialis	Ute Ladies' Tresses	LT
Lynx canadensis	Canada Lynx	LT
Ursus arctos horribilis	Grizzly Bear	LT
McCONE		
Scaphirhynchus albus	Pallid Sturgeon	LE
Charadrius melodus	Piping Plover	LT, CH
Sterna antillarum athalassos	Interior Least Tern	LE
Mustela nigripes	Black-footed Ferret	LE
Grus americana	Whooping Crane	LE
MEAGHER		
No Listed Species		
MINERAL		
Lynx canadensis	Canada Lynx	LT
Salvelinus confluentus	Bull Trout	LT, CH
MISSOULA		
Ursus arctos horribilis	Grizzly Bear	LT
Howellia aquatilis	Water Howellia	LT
Lynx canadensis	Canada Lynx	LT, CH
Salvelinus confluentus	Bull Trout	LT, CH
Coccyzus americanus	Yellow-billed cuckoo (western pop.)	C
MUSSELSHELL		
Mustela nigripes	Black-footed Ferret	LE
PARK		
Lynx canadensis	Canada Lynx	LT, CH
Ursus arctos horribilis	Grizzly Bear	LT

PETROLEUM		
Scaphirhynchus albus	Pallid Sturgeon	LE
Mustela nigripes	Black-footed Ferret	LE
PHILLIPS		
Scaphirhynchus albus	Pallid Sturgeon	LE
Charadrius melodus	Piping Plover	LT, CH
Mustela nigripes	Black-footed Ferret	LE, XN
Grus americana	Whooping Crane	LE
PONDERA		
Charadrius melodus	Piping Plover	LT
Ursus arctos horribilis	Grizzly Bear	LT
Lynx canadensis	Canada Lynx	LT, CH
POWDER RIVER		
Mustela nigripes	Black-footed Ferret	LE
POWELL		
Ursus arctos horribilis	Grizzly Bear	LT
Lynx canadensis	Canada Lynx	LT, CH
Salvelinus confluentus	Bull Trout	LT, CH
PRAIRIE		
Scaphirhynchus albus	Pallid Sturgeon	LE
Sterna antillarum athalassos	Interior Least Tern	LE
Grus americana	Whooping Crane	LE
Mustela nigripes	Black-footed Ferret	LE
RAVALLI		
Salvelinus confluentus	Bull Trout	LT, CH
Coccyzus americanus	Yellow-billed cuckoo (western pop.)	C
RICHLAND		
Scaphirhynchus albus	Pallid Sturgeon	LE
Charadrius melodus	Piping Plover	LT, CH
Sterna antillarum athalassos	Interior Least Tern	LE
Grus americana	Whooping Crane	LE
ROOSEVELT		
Scaphirhynchus albus	Pallid Sturgeon	LE
Charadrius melodus	Piping Plover	LT, CH
Sterna antillarum athalassos	Interior Least Tern	LE
Grus americana	Whooping Crane	LE
ROSEBUD		
Mustela nigripes	Black-footed Ferret	LE
Sterna antillarum athalassos	Interior Least Tern	LE
SANDERS		
Ursus arctos horribilis	Grizzly Bear	LT
Lynx canadensis	Canada Lynx	LT
Salvelinus confluentus	Bull Trout	LT, CH
SHERIDAN		
Charadrius melodus	Piping Plover	LT, CH
Grus americana	Whooping Crane	LE

SILVER BOW		
Salvelinus confluentus	Bull Trout	LT
STILLWATER		
Lynx canadensis	Canada Lynx	LT, CH
Mustela nigripes	Black-footed Ferret	LE
Ursus arctos horribilis	Grizzly Bear	LT
SWEET GRASS		
Lynx canadensis	Canada Lynx	LT, CH
Mustela nigripes	Black-footed Ferret	LE
Ursus arctos horribilis	Grizzly Bear	LT
TETON		
Ursus arctos horribilis	Grizzly Bear	LT
Lynx canadensis	Canada Lynx	LT, CH
TOOLE		
Mustela nigripes	Black-footed Ferret	LE
TREASURE		
No Listed Species		
VALLEY		
Scaphirhynchus albus	Pallid Sturgeon	LE
Charadrius melodus	Piping Plover	LT, CH
Mustela nigripes	Black-footed Ferret	LE
Sterna antillarum athalassos	Interior Least Tern	LE
Grus americana	Whooping Crane	LE
WHEATLAND		
Mustela nigripes	Black-footed Ferret	LE
WIBAUX		
Scaphirhynchus albus	Pallid Sturgeon	LE
Sterna antillarum athalassos	Interior Least Tern	LE
Grus americana	Whooping Crane	LE
YELLOWSTONE		
Mustela nigripes	Black-footed Ferret	LE
Grus americana	Whooping Crane	LE

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585 SHEPARD WAY
HELENA, MONTANA 59601
PHONE (406) 449-5225, FAX (406) 449-5339

September 2009

THREATENED, ENDANGERED AND CANDIDATE SPECIES IN MONTANA
Endangered Species Act

ENDANGERED (E) - Any species that is in danger of extinction throughout all or a significant portion of its range.

THREATENED (T) - Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

CANDIDATE (C) - Those taxa for which the Service has sufficient information on biological status and threats to propose to list them as threatened or endangered. We encourage their consideration in environmental planning and partnerships, however, none of the substantive or procedural provisions of the Act apply to candidate species.

NON-ESSENTIAL EXPERIMENTAL POPULATION (XN) - A population of a listed species reintroduced into a specific area that receives more flexible management under the Act.

CRITICAL HABITAT (CH) - The specific areas (i) within the geographic area occupied by a species, at the time it is listed, on which are found those physical or biological features (I) essential to conserve the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographic area occupied by the species at the time it is listed upon determination that such areas are essential to conserve the species.

COMMON NAME	SCIENTIFIC NAME	STATUS	RANGE - MONTANA
Black-footed Ferret	*Mustela nigripes*	E/XN	Prairie dog complexes; Eastern Montana
Whooping Crane	*Grus americana*	E	Wetlands; migrant eastern Montana
Least Tern	*Sterna antillarum*	E	Yellowstone, Missouri River sandbars, beaches; Eastern Montana
Pallid Sturgeon	*Scaphirhynchus albus*	E	Bottom dwelling; Missouri, Yellowstone Rivers
White Sturgeon (Kootenai River population)	*Acipenser transmontanus*	E	Bottom dwelling; Kootenai River
Grizzly Bear	*Ursus arctos horribilis*	T	Alpine/subalpine coniferous forest; Western Montana.

COMMON NAME	SCIENTIFIC NAME	STATUS	RANGE - MONTANA
Piping Plover	*Charadrius melodus*	T CH	Missouri River sandbars, alkali beaches; northeastern Montana Alkali lakes in Sheridan County; riverine and reservoir shoreline in Garfield, McCone, Phillips, Richland, Roosevelt and Valley counties
Water Howellia	*Howellia aquatilis*	T	Wetlands; Swan Valley, Lake and Missoula Counties
Ute Ladies'-tresses	*Spiranthes diluvialis*	T	River meander wetlands; Jefferson, Madison, Beaverhead, Gallatin, Broadwater counties
Bull trout (Columbia River basin and St. Mary - Belly River populations)	*Salvelinus confluentus*	T CH	Clark Fork, Flathead, Kootenai, St. Mary and Belly river basins; cold water rivers & lakes Portions of rivers, streams, lakes and reservoirs within Deer Lodge, Flathead, Glacier, Granite, Lake, Lewis and Clark, Lincoln, Mineral, Missoula, Powell, Ravalli, Sanders counties
Canada lynx (contiguous U.S. population)	*Lynx canadensis*	T CH	Western Montana - montane spruce/fir forest Western Montana - montane spruce/fir forest
Spalding's Campion (or "catchfly")	*Silene spaldingii*	T	Upper Flathead River and Fisher River drainages; Tobacco Valley - open grasslands with rough fescue or bluebunch wheatgrass
Yellow-billed cuckoo (western population)	*Coccyzus americanus*	C	Population west of the Continental Divide; riparian areas with cottonwoods and willows

MONTANA Natural Heritage Program

A program of the
Natural Resource Information System,
Montana State Library

Montana Fish, Wildlife & Parks

MONTANA ANIMAL SPECIES OF CONCERN

JULY 2009

INTRODUCTION

This report is produced jointly by the Montana Natural Heritage Program (MTNHP) and Montana Department of Fish, Wildlife, and Parks (MFWP). ***Montana Animal Species of Concern*** are native Montana animals that are considered to be "at risk" due to declining population trends, threats to their habitats, and/or restricted distribution. Also included in this report are ***Potential Animal Species of Concern*** -- animals for which current, often limited, information suggests potential vulnerability or for which additional data are needed before an accurate status assessment can be made. Over the last 200 years, 5 species with historic breeding ranges in Montana have been extirpated from the state; Woodland Caribou (*Rangifer tarandus*), Greater Prairie-Chicken (*Tympanuchus cupido*), Passenger Pigeon (*Ectopistes migratorius*), Pilose Crayfish (*Pacifastacus gambelii*), and Rocky Mountain Locust (*Melanoplus spretus*). Designation as a Montana Animal Species of Concern or Potential Animal Species of Concern is not a statutory or regulatory classification. Instead, these designations provide a basis for resource managers and decision-makers to make proactive decisions regarding species conservation and data collection priorities in order to avoid additional extirpations.

Status determinations are made by MTNHP and MFWP biologists in consultation with representatives of the Montana Chapter of the Wildlife Society, the Montana Chapter of the American Fisheries Society and other experts. The process for evaluating and assigning status designations uses the Natural Heritage Program ranking system, described below, which forms the basis for identifying Montana Species of Concern.

UPDATES IN THIS REPORT

This report identifies 128 vertebrate and 83 invertebrate Species of Concern (SOC). Another 32 vertebrates and 51 invertebrates are identified as Potential Species of Concern (PSOC). See the animal group summary table below for totals by animal group. The focus of this review was to evaluate 83 bird species that had previously not been reviewed with the NatureServe ranking criteria and were on the previous Species of Concern List, listed as of concern on other conservation lists, or for which a review was requested. Three species included on the 2008 SOC report (Barn Owl (*Tyto alba*), Lark Bunting (*Calamospiza melanocorys*), and Olive-sided Flycatcher (*Contopus cooperi*)) and 4 species included on the 2008 PSOC report (American Three-toed Woodpecker (*Picoides dorsalis*), Baltimore Oriole (*Icterus galbula*), Orchard Oriole (*Icterus spurious*), and Williamson's Sapsucker (*Sphyrapicus thyroideus*)) have been dropped entirely as a result of increasing or stable trends or a reduction in recognized threats. For similar reasons, 7 species have been downgraded from SOC to PSOC status Black-and-white Warbler (*Mniotilta varia*), Broad-tailed Hummingbird (*Selasphorus platycercus*), Cassin's Kingbird (*Tyrannus vociferans*), Dickcissel (*Spiza americana*), Eastern Bluebird (*Sialia sialis*), Northern Hawk Owl (*Surnia ulula*), and Northern Leopard Frog (*Rana pipiens*) populations on the Great Plains.

Ten vertebrate and 1 invertebrate species, 7 of which were previously classified as PSOC, were added as new Species of Concern based on declining population trends and/or ongoing threats to habitats that are likely to lead

SPECIES TOTALS BY ANIMAL GROUP

Species of Concern

Mammals	30 (29%)
Birds	64 (21%)
Reptiles	9 (53%)
Amphibians	6 (46%)
Fish	19 (31%)
Invertebrates	83 (unknown%)

Potential Species of Concern

Mammals	7 (7%)
Birds	18 (6%)
Fish	8 (13%)
Invertebrates	51 (unknown%)

HABITAT ASSOCIATION SUMMARY FOR ALL SPECIES OF CONCERN AND POTENTIAL SPECIES OF CONCERN

Streams/Rivers/Lakes	29%
Wetlands	20%
Sagebrush/Grassland	14%
Conifer Forest	13%
Riparian Forest	6%
Alpine	5%
Other/Generalist	5%
Rock Outcrop	5%
Caves	3%

to population declines; Black-billed Cuckoo (*Coccyzus erythropthalmus*), Black-necked Stilt (*Himantopus mexicanus*), Brown Creeper (*Certhia americana*), Golden Eagle (*Aquila chrysaetos*), Great Blue Heron (*Ardea herodias*), Horned Grebe (*Podiceps auritus*), Northern Goshawk (*Accipiter gentilis*), Pileated Woodpecker (*Dryocopus pileatus*), Veery (*Catharus fuscescens*), Winter Wren (*Troglodytes troglodytes*), and a Northern Rocky Mountain Refugium Stonefly (*Soyedina potteri*). Barrow's Goldeneye (*Bucephala islandica*) and Hooded Merganser (*Lophodytes cucullatus*) were added as Potential Species of Concern due to uncertainty about their population status in the face of declining quality of, and threats to, riparian habitats. A number of invertebrate groups (e.g., earthworms, centipedes, spiders) deserve a focused review of their status, but due to the amount of time required, systematic reviews of the status of these groups will have to be dealt with in future updates.

In addition to these deletions and additions, global or state ranks were downgraded (decreased risk) for 26 species and upgraded (increased risk) for 3 species that remained on the SOC and PSOC report; noted in bold on each list. These changes were largely a result of more consistent scoring with the NatureServe ranking criteria, but also resulted from a better understanding of their state and global status.

In order to make this report more useful, we have added habitat associations for each species. Tables on the front and back pages summarize the percentage of SOC and PSOC animals that depend on major habitat types to assist managers in conserving habitats, rather than individual species.

This report also includes notes indicating whether a species has ≥20% of their current global breeding range in Montana, making their conservation in Montana of global significance, and if a species has a limited breeding distribution in Montana (≤5% of the state), making conservation efforts in the areas where they do occur more important to their conservation within Montana.

Heritage Program Ranks

The international network of Natural Heritage Programs employs a standardized ranking system to denote global and state status. Each species is given a global (G) rank, denoting range-wide status, and a state (S) rank for its status in Montana. Status ranks range from 1 (greatest concern) to 5 (least concern). Global ranks are assigned by scientists at NatureServe (the international affiliate organization for the heritage network) in consultation with biologists in the natural heritage programs and other taxonomic experts. State ranks are determined jointly by MTNHP and MFWP biologists, in consultation with the Montana Chapter of the Wildlife Society, the Montana Chapter of the American Fisheries Society and other experts.

Among other things, the combination of global and state ranks often helps describe the proportion of a species' range and/or total population occurring in Montana. For instance, a rank of G3 S3 often indicates that Montana comprises most or a very significant portion of an animal's total population. In contrast, an animal ranked G5 S1 often occurs in Montana at the periphery of its much larger range; thus, the state supports a relatively small portion of its total population.

What Species are Included in this Report

Montana Species of Concern are defined as vertebrate animals with a state rank of S1, S2, or S3. Vertebrate species with a rank indicating uncertainty (SU) or a "range rank" extending below the S3 cutoff (e.g., S3S4) are considered Potential Species of Concern.

Because documentation for invertebrates is typically less complete than for vertebrates, only those ranked S1 or S2 are included as SOC. Invertebrates with a range rank extending below S2 (e.g., S2S3) are included as SOC only if their global ranks are G2G3 or G3, or if experts agree their occurrence in Montana has been adequately documented. Other invertebrates of concern with global ranks other than G1, G2, or G3 and with state ranks below S2 or range ranks extending below S2 (e.g., S3S4) are treated as Potential Species of Concern.

How Species are Ranked

In 2004 we began implementing a more rigorous methodology with more consistent and quantifiable criteria to assign status ranks. The goal is to improve the accuracy of ranks and better document the basis for each rank. A more rigorous and well-documented ranking procedure is important to a variety of agencies with responsibilities to manage wildlife populations.

This approach to assessing species' status is based on methods developed by NatureServe (Regan et al. 2004). These criteria include population size, area of occupancy in Montana, short and long-term trends, threats, inherent vulnerability, and specificity to environment. Based on these factors, a preliminary rank is calculated and is reviewed by key experts.

It is important to note that while the ranking process has changed, the definitions and the fundamental criteria remain the same. The principle difference is that criteria are now being applied in a more rigorous and consistent manner. Detailed documentation of the criteria and assessment process are available on the MTNHP website at http://mtnhp.org/animal/2004_SOC_Criteria.pdf.

Definitions of Ranks used in this Report

G1 / S1 At high risk because of extremely limited and/or rapidly declining numbers, range, and/or habitat, making it highly vulnerable to global extinction or extirpation in the state.

G2 / S2 At risk because of very limited and/or declining numbers, range, and/or habitat, making it vulnerable to global extinction or extirpation in the state.

G3 / S3 Potentially at risk because of limited and/or declining numbers, range, and/or habitat, even though it may be abundant in some areas.

G4 / S4 Uncommon but not rare (although it may be rare in parts of its range), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern.

G5 / S5 Common, widespread, and abundant (although it may be rare in parts of its range). Not vulnerable in most of its range.

GU / SU Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

GH / SH Historically occurred; may be rediscovered.

GX / SX Presumed to be extinct or extirpated from Montana; historical records only.

Other codes and rank modifiers:

B State rank modifier indicating breeding for a migratory species: B = Breeding

HYB A global rank denoting a hybrid.

M A state rank modifier indicating migratory stop over status for a species.

N A state rank modifier referring to a non-breeding population of the species. N = Non-breeding

Q A global rank modifier indicating there are taxonomic questions or problems.

T Denotes the rank for a subspecific taxon (subspecies or population); appended to the global rank for the full species. The S Rank following applies to the subspecific taxon.

How to Read this Report

Species are listed alphabetically by common name within major groups, which are organized in taxonomic order from mammals to invertebrates. Species with names **bolded and underlined** are new additions to the Species of Concern or Potential Species of Concern report. Species downgraded from Concern to Potential Concern are not shown as new. Global or state ranks are **bolded and underlined** if they have changed from the previous report.

Current federal agency status designations are also provided, including legal status under the U.S. Endangered Species Act, and administrative designations of the U.S. Forest Service and Bureau of Land Management. Conservation and inventory status of species in Montana's Comprehensive Fish and Wildlife Conservation Strategy (MFWP 2005) are also provided.

Federal Status Designations

FISH AND WILDLIFE SERVICE

This column indicates status under the federal Endangered Species Act of 1973 based on categories defined by the U.S. Fish and Wildlife Service (16 U.S.C.A. §1531-1543 (Supp. 1996)).

E	Listed Endangered
T	Listed Threatened
PE	Proposed Endangered
PT	Proposed Threatened
XN	Experimental Nonessential
C	Candidate (species for which the U.S. Fish and Wildlife Service has sufficient information on biological status and threats to propose listing as threatened or endangered)
DM	Recovered, delisted, and now being monitored

FOREST SERVICE

The U.S. Forest Service Manual (2670.22) defines Sensitive species on Forest Service lands as those for which population viability is a concern as evidenced by significant downward trend in population or a significant downward trend in habitat capacity. The Regional Forester (Northern Region) designates Sensitive species on National Forests in Montana. These designations were last updated in 2004 and they apply only on USFS-administered lands.

Note: The U.S. Forest Service is implementing new planning regulations (2005) which will lead to changes in the identification of "special status" species on National Forest lands. For the time being, Sensitive species will continue to be recognized for Region 1 under existing agency policy, but in addition many of the newly revised Forest Plans may also identify USFS Species of Concern and USFS Species of Interest as outlined below. During this transition period, a "USFS" designation in the federal status column refers to the status under the existing Sensitive Species policy.

USFS Species-of-Concern (FSH 1909.12, 43.22b) are species for which the Responsible Official determines management actions may be necessary to prevent listing under the Endangered Species Act (ESA). The Responsible

Official, as appropriate, may identify the following plant and animal species, including macro-lichens, as species-of-concern:

1. Species identified as proposed and candidate species under the ESA.
2. Species with ranks of G-1 through G-3 on the NatureServe ranking system.
3. Infraspecific (subspecific) taxa with ranks of T-1 through T-3 on the NatureServe ranking system.
4. Species that have been petitioned for federal listing and for which a positive "90-day finding" has been made (a 90-day finding is a preliminary finding that substantive information was provided indicating that the petition listing may be warranted and a full status review will be conducted).
5. Species that have been recently delisted (these include species delisted within the past five years and other delisted species for which regulatory agency monitoring is still considered necessary).

USFS Species-of-Interest (FSH 1909.12, 43.22c) are species for which the Responsible Official determines that management actions may be necessary or desirable to achieve ecological or other multiple-use objectives. The Responsible Official may review the following sources for potential species-of-interest:

1. Species with ranks of S-1, S-2, N1, or N2 on the NatureServe ranking system.
2. State listed threatened and endangered species that do not meet the criteria as species-of-concern.
3. Species identified as species of conservation concern in State Comprehensive Wildlife Strategies.
4. Bird species on the U.S. Fish and Wildlife Service Birds of Conservation Concern National Priority list (for the U.S. portion of the northern Rockies that occur in National Forest system lands).
5. Additional species that valid existing information indicates are of regional or local conservation concern (this includes all Forest Service Northern Region sensitive species) due to factors that may include:
    a. Significant threats to populations or habitat.
    b. Declining trends in populations or habitat.
    c. Rarity
    d. Restricted ranges (for example, narrow endemics, disjunct populations, or species at the edge of their range).
6. Species that are hunted or fished and other species of public interest. Invasive species may also be considered.

BUREAU OF LAND MANAGEMENT

BLM Sensitive Species are defined by the BLM 6840 Manual as those that normally occur on Bureau administered lands for which BLM has the capability to significantly affect the conservation status of the species through management. Such species should be managed to the level of protection required by State laws or under the BLM policy for candidate species, whichever would provide better opportunity for its conservation. The State Director may designate additional categories of special status species as appropriate and applicable to his or her state's needs. The sensitive species designation, for species other than federally listed, proposed, or candidate species, may include such native species as those that:

1. could become endangered in or extirpated from a state, or within a significant portion of its distribution in the foreseeable future,
2. are under status review by the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service,
3. are undergoing significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution,
4. are undergoing significant current or predicted downward trends in population or density such that federally listed, proposed, candidate, or State listed status may become necessary,
5. have typically small and widely dispersed populations,
6. are inhabiting ecological refugia, specialized or unique habitats, or
7. are State listed but which may be better conserved through application of BLM sensitive species status.

MONTANA FISH, WILDLIFE, AND PARKS CFWCS TIER

Montana's Comprehensive Fish and Wildlife Conservation Strategy (MFWP 2005) identifies fish and wildlife species that are in greatest need of conservation as follows:

Tier I: Greatest conservation need. Montana Fish, Wildlife & Parks has a clear obligation to use its resources to implement conservation actions that provide direct benefit to these species, communities, and focus areas.

Tier II: Moderate conservation need. Montana Fish, Wildlife & Parks could use its resources to implement conservation actions that provide direct benefit to these species, communities, and focus areas.

Tier III: Lower conservation need. Although important to Montana's wildlife diversity, these species, communities, and focus areas are either abundant and widespread or are believed to have adequate conservation already in place.

Tier IV: Species that are non-native, incidental, or on the periphery of their range and are either expanding or very common in adjacent states.

The Comprehensive Fish and Wildlife Conservation Strategy (MFWP 2005) also identifies individual species and taxonomic groups that are in need of inventory.

Each species' conservation and inventory tiering status is indicated in roman numerals before and after a dash, respectively.

Additional Information

Our internet-based ***Montana Field Guide*** provides information on over 700 vertebrate and 1,100 invertebrate animal species, including Species of Concern and Potential Species of Concern. The Field Guide offers a broad range of information, including species identification, range, habitat, reproduction, food habits, ecology, management, and references. For many Species of Concern, the Field Guide provides extensive detailed information from the databases of MTNHP. For other species, we are still in the process of compiling such information. Photos and call recordings are provided where available. The Field Guide can be accessed at http://fieldguide.mt.gov/ or through the Natural Heritage Program or Montana Fish, Wildlife, and Parks home pages.

Information on the over 710,000 animal observations in the Montana Natural Heritage Program's statewide databases can be accessed in the context of various statewide map layers via the Natural Heritage Program's **TRACKER** website at: http://nhp.nris.state.mt.us/Tracker/NHTMap.aspx We also encourage the submission of new animal observations via this website.

The NatureServe Explorer website provides information on the status of species throughout North America. It can be found at http://natureserve.org/explorer or from a link on the MTNHP website. This application includes status maps showing the state/provincial ranks across each species' range, assembled from the network of natural heritage programs. Note that updated ranks for Montana animals will not be immediately reflected in NatureServe Explorer since this information is only exchanged on an annual basis.

More detailed data on the occurrence of Montana Species of Concern are available on request from MTNHP, using the "Request Data" link on the website or by contacting appropriate staff.

This report is available in printable electronic format on the MTNHP website under "Reports." Hard copies are available on request from MTNHP or from MFWP (see contact information on back cover).

Comments and Feedback

We welcome comments and suggestions, including recommendations for changes in species' status and new observation data. All comments and information should be directed to the MTNHP Senior Zoologist, Bryce Maxell, at bmaxell@mt.gov or at the address below. Please submit animal observations via the TRACKER website at: http://nhp.nris.state.mt.us/Tracker/NHTMap.aspx

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Species of Concern

Vertebrates

Common Name	*Scientific Name*	Global Rank	State Rank	Federal Status	CFWCS Status[1]	Range Note[2]	Habitat
Mammals							
American Bison (free-ranging herds)	*Bos bison*	G4	S2		I - III	≤ 5% state	grasslands
Arctic Shrew	*Sorex arcticus*	G5	S1S3		II - I	≤ 5% state	wetlands
Black-footed Ferret	*Mustela nigripes*	G1	S1	USFWS - E, XN	I - III	≤ 5% state	grasslands
Black-tailed Jack Rabbit	*Lepus californicus*	G5	S2		II - I	≤ 5% state	sagebrush/grasslands
Black-tailed Prairie Dog	*Cynomys ludovicianus*	G4	S3	USFS, BLM	I - III		grasslands
Canada Lynx	*Lynx canadensis*	G5	S3	USFWS - T	I - III		subalpine conifer forests
Dwarf Shrew	*Sorex nanus*	G4	S2S3		II - II		rocky habitats
Eastern Red Bat	*Lasiurus borealis*	G5	S2S3		II - I		riparian cottonwoods
Fisher	*Martes pennanti*	G5	S3	USFS	II - II		mixed conifer forests
Fringed Myotis	*Myotis thysanodes*	G4G5	S3	BLM	II - II		riparian & dry mixed conifer forests
Gray Wolf	*Canis lupus*	G4	S3	USFWS - DM, BLM	I - III		generalist
Great Basin Pocket Mouse	*Perognathus parvus*	G5	S2S3	USFS, BLM	I - II	≤ 5% state	sagebrush/grasslands
Grizzly Bear	*Ursus arctos*	G4	S2S3	USFWS - T (N), DM (S), BLM	I - III		generalist
Hispid Pocket Mouse	*Chaetodipus hispidus*	G5	S1S3		II - I	≤ 5% state	grasslands
Hoary Bat	*Lasiurus cinereus*	G5	S3		II - II		riparian and forest habitats
Meadow Jumping Mouse	*Zapus hudsonius*	G5	S2	BLM	I - I		wetlands
Merriam's Shrew	*Sorex merriami*	G5	S3		II - II		sagebrush/grasslands
Northern Bog Lemming	*Synaptomys borealis*	G4	S2	USFS	I - I		wetlands
Northern Myotis	*Myotis septentrionalis*	G4	S2S3	BLM	II - I		riparian & mixed forest types
Northern Short-tailed Shrew	*Blarina brevicauda*	G5	S1S3		IV - III	≤ 5% state	wetlands
Pallid Bat	*Antrozous pallidus*	G5	S2	USFS, BLM	I - I		arid land rock outcrops
Preble's Shrew	*Sorex preblei*	G4	S3		II - II	≥ 20% global	sagebrush/grasslands
Pygmy Rabbit	*Brachylagus idahoensis*	G4	S3	USFS, BLM	I - II	≤ 5% state	sagebrush
Spotted Bat	*Euderma maculatum*	G4	S2	USFS, BLM	I - I		arid land rock outcrops
Swift Fox	*Vulpes velox*	G3	S3	BLM	II - II		grasslands
Townsend's Big-eared Bat	*Corynorhinus townsendii*	G4	S2	USFS, BLM	I - I		caves in forested habitats
Uinta Chipmunk	*Tamias umbrinus*	G5	S3		II - I		high elevation conifer forests
Western Spotted Skunk	*Spilogale gracilis*	G5	S1S3		II - I		rock outcrops, shrublands/woodlands
White-tailed Prairie Dog	*Cynomys leucurus*	G4	S1	USFS, BLM	I - III	≤ 5% state	sagebrush/grasslands
Wolverine	*Gulo gulo*	G4	S3	USFS, BLM	II - III		conifer forests
Birds							
Alder Flycatcher	*Empidonax alnorum*	G5	**S3B**		II - I	≤ 5% state	wetlands/shrublands
American Bittern	*Botaurus lentifinosus*	G4	S3B		II - I		wetlands

[1] Conservation Tier - Inventory Tier [2] ≤ 5% state = species' current breeding range occupies ≤ 5% of Montana; and ≥ 20% global = ≥ 20% of species' current global breeding range is in Montana

Common Name	*Scientific Name*	Global Rank	State Rank	Federal Status	CFWCS Status[1]	Range Note[2]	Habitat
Birds (continued)							
American White Pelican	*Pelecanus erythrorhynchos*	**G4**	S3B		III - III	≤ 5% state	lakes
Baird's Sparrow	*Ammodramus bairdii*	G4	**S3B**	BLM	II - III	≥ 20% global	grasslands
Bald Eagle	*Haliaeetus leucocephalus*	G5	S3	USFWS - DM, BLM	I - III		riparian forest
Black Rosy-Finch	*Leucosticte atrata*	G4	S2		II - I	≥ 20% global	alpine
Black Swift	*Cypseloides niger*	G4	**S1B**		II - I		cliffs/waterfalls
Black Tern	*Chlidonias niger*	G4	S3B	BLM	I - II		wetlands
Black-backed Woodpecker	*Picoides arcticus*	G5	**S3**	USFS, BLM	I - III		conifer forest burns
Black-billed Cuckoo	*Coccyzus erythropthalmus*	G5	**S3B**		II - I		prairie riparian forests
Black-crowned Night-heron	*Nycticorax nycticorax*	G5	S3B	BLM	II - I		wetland/lake w/ emergent vegetation
Black-necked Stilt	*Himantopus mexicanus*	G5	**S3B**		III - II		wetlands
Blue-gray Gnatcatcher	*Polioptila caerulea*	G5	**S2B**	USFS, BLM	II - I	≤ 5% state	utah juniper
Bobolink	*Dolichonyx oryzivorus*	G5	**S3B**	BLM	III - III		moist grasslands
Boreal Chickadee	*Poecile hudsonica*	G5	**S3**		II - II		spruce fir forests
Brewer's Sparrow	*Spizella breweri*	G5	**S3B**	BLM	II - III		sagebrush
Brown Creeper	*Certhia americana*	G5	S3		II - II		mixed conifer forests
Burrowing Owl	*Athene cunicularia*	G4	**S3B**	USFS, BLM	I - III		grasslands
Caspian Tern	*Hydroprogne caspia*	G5	S2B		II - II	≤ 5% state	large rivers and lakes
Cassin's Finch	*Carpodacus cassinii*	G5	S3		II - III		conifer forest
Chestnut-collared Longspur	*Calcarius ornatus*	G5	**S2B**	BLM	III - III	≥ 20% global	grasslands
Clark's Grebe	*Aechmophorus clarkii*	G5	S3B		III - II	≤ 5% state	large lakes
Clark's Nutcracker	*Nucifraga columbiana*	G5	S3		III - III		conifer forest
Common Loon	*Gavia immer*	G5	**S3B**	USFS, BLM	I - III		mountain lakes w/ emergent veg.
Common Tern	*Sterna hirundo*	G5	S3B		II - II		large rivers and lakes
Ferruginous Hawk	*Buteo regalis*	G4	S3B	BLM	II - III		sagebrush/grasslands
Flammulated Owl	*Otus flammeolus*	G4	S3B	USFS, BLM	I - III		conifer forest
Forster's Tern	*Sterna forsteri*	G5	**S3B**		II - II		wetlands
Franklin's Gull	*Larus pipixcan*	G4G5	S3B	BLM	II - II		wetland/lake w/ emergent vegetation
Golden Eagle	*Aquila chrysaetos*	G5	**S3**	BLM	II - III		generalist
Grasshopper Sparrow	*Ammodramus savannarum*	G5	S3B		II - III		grasslands
Gray-crowned Rosy-Finch	*Leucosticte tephrocotis*	G5	S2B, S5N[3]		II - II		alpine
Great Blue Heron	*Ardea herodias*	G5	**S3**		III - III		riparian woodlands
Great Gray Owl	*Strix nebulosa*	G5	S3	BLM	II - III		conifer forest
Greater Sage-Grouse	*Centrocercus urophasianus*	G4	**S2**	USFS, BLM	I - III		sagebrush
Harlequin Duck	*Histrionicus histrionicus*	G4	S2B	USFS, BLM	I - III		mountain streams
Horned Grebe	*Podiceps auritus*	G5	**S3B**		II - II		Lakes and wetlands
Least Tern (Interior population)	*Sternula antillarum*	G4	S1B	USFWS - E	I - III		large prairie rivers

[1] Conservation Tier - Inventory Tier [2] ≤ 5% state = species' current breeding range occupies ≤ 5% of Montana; and ≥ 20% global = ≥ 20% of species' current global breeding range is in Montana [3] = S2B - *L.t. tephrocotis*; S5N - *L.t. littoralis*

Common Name	*Scientific Name*	Global Rank	State Rank	Federal Status	CFWCS Status[1]	Range Note[2]	Habitat
Birds (continued)							
Le Conte's Sparrow	*Ammodramus leconteii*	G4	S3B	BLM	II - I		prairie wetlands
Lewis's Woodpecker	*Melanerpes lewis*	G4	S2B		II - II		riparian forest
Loggerhead Shrike	*Lanius ludovicianus*	G4	S3B	BLM	II - II		shrublands
Long-billed Curlew	*Numenius americanus*	G5	**S3B**	BLM	I - II		grasslands
McCown's Longspur	*Calcarius mccownii*	G4	**S3B**	BLM	II - III	≥ 20% global	grasslands
Mountain Plover	*Charadrius montanus*	**G3**	S2B	BLM	I - III	≥ 20% global	grasslands
Nelson's Sharp-tailed Sparrow	*Ammodramus nelsoni*	G5	S3B	BLM	I - I	≤ 5% state	prairie wetlands
Northern Goshawk	*Accipiter gentilis*	G5	**S3**	BLM	II - I		mixed conifer forest
Peregrine Falcon	*Falco peregrinus*	G4	**S3**	USFWS - DM, USFS, BLM	II - III		cliffs
Pileated Woodpecker	*Dryocopus pileatus*	G5	S3		II - III		conifer forests with large trees
Pinyon Jay	*Gymnorhinus cyanocephalus*	G5	S3		II - III		pinyon pine-juniper woodlands
Piping Plover	*Charadrius melodus*	G3	S2B	USFWS - T	I - III		prairie lake and river shorelines
Red-headed Woodpecker	*Melanerpes erythrocephalus*	G5	S3B	BLM	II - II		riparian forest
Sage Sparrow	*Amphispiza belli*	G5	**S3B**	BLM	III - III		sagebrush
Sage Thrasher	*Oreoscoptes montanus*	G5	S3B	BLM	III - III		sagebrush
Sedge Wren	*Cistothorus platensis*	G5	**S3B**	BLM	I - I	≤ 5% state	prairie wetlands
Sharp-tailed Grouse (Columbian)	*Tympanuchus phasianellus columbianus*	G4T3	S1		I - I		grasslands
Sprague's Pipit	*Anthus spragueii*	G4	**S3B**	BLM	II - III		grasslands
Trumpeter Swan	*Cygnus buccinator*	G4	**S3**	BLM	I - III		shallow lakes and wetlands
Veery	*Catharus fuscescens*	G5	S3B		II - III		riparian forests / shrubby habitats
White-faced Ibis	*Plegadis chihi*	G5	**S3B**	BLM	II - I		wetland/lake w/ emergent vegetation
White-tailed Ptarmigan	*Lagopus leucurus*	G5	S3		II - III		alpine
Whooping Crane	*Grus americana*	G1	S1M	USFWS - E	I - III		wetlands
Winter Wren	*Troglodytes troglodytes*	G5	S3		II - III		conifer / riparian forests
Yellow Rail	*Coturnicops noveboracensis*	G4	**S3B**	BLM	I - I	≤ 5% state	wetlands
Yellow-billed Cuckoo	*Coccyzus americanus*	G5	S3B	USFWS - C (w. pop.), BLM	II - I		prairie riparian forests
Reptiles							
Common Sagebrush Lizard	*Sceloporus graciosus*	G5	S3		II - II		rock outcrops
Greater Short-horned Lizard	*Phrynosoma hernandesi*	G5	S3	USFS, BLM	II - II		sandy/gravelly soils
Milksnake	*Lampropeltis triangulum*	G5	S2	USFS, BLM	I - I		rock outcrops
Northern Alligator Lizard	*Elgaria coerulea*	G5	S3		II - I		talus/rock outcrops
Smooth Green Snake	*Opheodrys vernalis*	G5	S2		I - I	≤ 5% state	wetlands
Snapping Turtle	*Chelydra serpentina*	G5	S3	BLM	I - I		prairie streams and rivers
Spiny Softshell	*Apalone spinifera*	G5	S3	BLM	I - I		prairie rivers & larger streams
Western Hognose Snake	*Heterodon nasicus*	G5	S2	USFS, BLM	I - I		floodplain friable soils
Western Skink	*Eumeces skiltonianus*	G5	S3		II - I		grasslands / open conifer forest

[1] Conservation Tier - Inventory Tier [2] ≤ 5% state = species' current breeding range occupies ≤ 5% of Montana; and ≥ 20% global = ≥ 20% of species' current global breeding range is in Montana

Common Name	*Scientific Name*	Global Rank	State Rank	Federal Status	CFWCS Status[1]	Range Note[2]	Habitat
Amphibians							
Coeur d'Alene Salamander	*Plethodon idahoensis*	G4	S2	USFS, BLM	I - I	*	spring/seep, waterfall, fractured rock
Great Plains Toad	*Bufo cognatus*	G5	S2	USFS, BLM	II - I		wetlands, floodplain pools
Idaho Giant Salamander	*Dicamptodon aterrimus*	G3	S2	USFS	IV - III	≤ 5% state	mountain streams/moist conifer forest
Northern Leopard Frog	*Rana pipiens* (Intermountain valleys)	G5	S1	USFS, BLM	I - I		wetlands, floodplain pools
Plains Spadefoot	*Spea bombifrons*	G5	S3	USFS, BLM	II - I		wetlands, floodplain pools
Western Toad	*Bufo boreas*	G4	S2	USFS, BLM	I - I		wetlands, lakes, floodplain pools
Fish							
Arctic Grayling	*Thymallus arcticus*	G5	S1	BLM	I - III	≤ 5% state	mountain rivers, lakes
Blue Sucker	*Cycleptus elongatus*	G3G4	S2S3	BLM	I - III		large prairie rivers
Bull Trout	*Salvelinus confluentus*	G3	S2	USFWS - T	I - III		mountain streams, rivers, lakes
Columbia River Redband Trout	*Oncorhynchus mykiss gairdneri*	G5T4	S1	USFS	I - III	≤ 5% state	mountain streams, rivers
Lake Trout (Native)	*Salvelinus namaycush*	G5	S2		I - I	≤ 5% state	deep mountain lakes
Northern Redbelly X Finescale Dace	*Phoxinus eos x Phoxinus neogaeus*	HYB	S3	BLM	II - II		small prairie streams
Paddlefish	*Polyodon spathula*	G4	S1S2	BLM	I - III	≤ 5% state	large prairie rivers
Pallid Sturgeon	*Scaphirhynchus albus*	G2	S1	USFWS - E	I - II	≤ 5% state	large prairie rivers
Pearl Dace	*Margariscus margarita*	G5	S2	BLM	I - I	≤ 5% state	small prairie streams
Sauger	*Sander canadensis*	G5	S2	BLM	I - III		large prairie rivers
Shortnose Gar	*Lepisosteus platostomus*	G5	S1		I - I	≤ 5% state	large prairie rivers
Sicklefin Chub	*Macrhybopsis meeki*	G3	S1		I - II	≤ 5% state	large prairie rivers
Spoonhead Sculpin	*Cottus ricei*	G5	S3		II - I	≤ 5% state	mountain streams, rivers, lakes
Sturgeon Chub	*Macrhybopsis gelida*	G3	**S2S3**	USFS, BLM	I - II		large prairie rivers
Torrent Sculpin	*Cottus rhotheus*	G5	S3		II - I	≤ 5% state	mountain streams
Trout-perch	*Percopsis omiscomaycus*	G5	S2		I - I		deep lakes, mountain streams
Westslope Cutthroat Trout	*Oncorhynchus clarki lewisi*	G4T3	S2	USFS, BLM	I - III		mountain streams, rivers, lakes
White Sturgeon	*Acipenser transmontanus*	G4	S1	USFWS - E	I - III	≤ 5% state	large mountain rivers
Yellowstone Cutthroat Trout	*Oncorhynchus clarki bouvieri*	G4T2	S2	USFS, BLM	I - III		mountain streams, rivers, lakes
Invertebrates							
Mollusks							
A Spring Snail	*Pyrgulopsis bedfordensis*	G1	S1		-	*	springs
Alpine Mountainsnail	*Oreohelix alpina*	G1	S1		-	≤ 5% state	limestone talus, alpine
Berry's Mountainsnail	*Oreohelix strigosa berryi*	G5T2	S1S2		-	≤ 5% state	limestone talus
Bitterroot Mountainsnail	*Oreohelix amariradix*	G1G2	S1S2		-	≤ 5% state	talus, dry conifer forests
Carinate Mountainsnail	*Oreohelix elrodi*	G1	S1		-	≤ 5% state	talus, mixed mesic conifer forests
Columbia Pebblesnial	*Fluminicola fuscus*	G2	SH		-		mountain rivers
Gallatin Mountainsnail	*Oreohelix yavapai mariae*	G4T1	S1		-	≤ 5% state	limestone talus

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Common Name	*Scientific Name*	Global Rank	State Rank	Federal Status	CFWCS Status[1]	Range Note[2]	Habitat
Mollusks (continued)							
Humped Coin	*Polygyrella polygyrella*	G3	S1S2		-	≤ 5% state	moist conifer forests
Keeled Mountainsnail	*Oreohelix carinifera*	G1	S1		-	≤ 5% state	limestone, dry conifer forests
Lake Disc	*Discus brunsoni*	G1	S1		-	≤ 5% state	talus, mesic conifer forests
Large-mantle Physa	*Physa megalochlamys*	G3	S1		-	*	wetland/lake w/ emergent vegetation
Lyre Mantleslug	*Udosarx lyrata*	G2	S1		-	≤ 5% state	moist conifer forests
Magnum Mantleslug	*Magnipelta mycophaga*	G3	S2S3		-		moist conifer forests
Marbled Jumping-slug	*Hemphillia danielsi*	G2G3	S1S2		-	≤ 5% state	mesic/moist conifer forests
Pale Jumping-slug	*Hemphillia camelus*	G4	S1S2		-	≤ 5% state	mesic/moist conifer forests
Pygmy Slug	*Kootenaia burkei*	G2	S1S2		-	≤ 5% state	moist conifer forests
Reticulate Taildropper	*Prophysaon andersoni*	G5	S1S2		-	≤ 5% state	moist conifer forests
Robust Lancetooth	*Haplotrema vancouvernese*	G5	S1S2		-	≤ 5% state	moist conifer forests
Rocky Mountain Capshell	*Acroloxus coloradensis*	G3	S1		-	*	lakes
Rocky Mountain Duskysnail	*Colligyrus greggi*	G4	S1		-	*	springs, cold mountain streams
Sheathed Slug	*Zacoleus idahoensis*	G3G4	S2S3		-		mesic/moist conifer forests
Shortface Lanx	*Fisherola nuttalli*	G2	SH		-		lakes
Smoky Taildropper	*Prophysaon humile*	G3	S2S3		-		moist conifer forests
Striate Disc	*Discus shimekii*	G5	S1		-		aspen
Western Pearlshell	*Margaritifera falcata*	G4G5	S2		-		mountain streams/rivers
Crustaceans							
A cave obligate Amphipod	*Stygobromus montanensis*	G1G2	S1S2		-	*	cave springs
A cave obligate Amphipod	*Stygobromus obscurus*	G1G2	S1S2		-	*	cave springs
A cave obligate Amphipod	*Stygobromus puteanus*	G1G2	S1S2		-	*	cave springs
A cave obligate Amphipod	*Stygobromus tritus*	G1G2	S1S2		-	*	cave springs
A cave obligate Isopod	*Salmasellus steganothrix*	G2G3	S1S2		-	*	cave springs
Glacier Amphipod	*Stygobromus glacialis*	G1G3	S1S2		-	*	cave springs
Insects							
Beetles							
Brown's Microcylloepus Riffle Beetle	*Microcylloepus browni*	G1	S1		-	*	springs
Warm Spring Zaitzevian Riffle Beetle	*Zaitzevia thermae*	G1	S1		-	*	springs
Butterflies							
Alberta Fritillary	*Boloria alberta*	G3	S2S3		-	≤ 5% state	alpine
Frigga Fritillary	*Boloria frigga*	G5	S1S2		-		montane wetlands
Gillett's Checkerspot	*Euphydryas gillettii*	G2G3	S2		-		wet meadows
Gray Comma	*Polygonia progne*	G4G5	S2		-		parklands
Magdalena Alpine	*Erebia magdalena*	G5	S2		-	≤ 5% state	alpine

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Common Name	*Scientific Name*	Global Rank	State Rank	Federal Status	CFWCS Status[1]	Range Note[2]	Habitat
Insects (continued)							
Butterflies (continued)							
Ottoe Skipper	*Hesperia ottoe*	G3G4	S2S3		-		grasslands
Caddisflies							
A Rhyacophilan Caddisfly	*Rhyacophila ebria*	G2G3	S1		-	*	alpine mountain streams
A Rhyacophilan Caddisfly	*Rhyacophila gemona*	G2G3	S2		-	*	forested mountain springs
A Rhyacophilan Caddisfly	*Rhyacophila rickeri*	G2G3	S2		-	*	forested mountain springs
A Rhyacophilan Caddisfly	*Rhyacophila glaciera*	G3	S1		-	*	alpine mountain streams
A Rhyacophilan Caddisfly	*Rhyacophila newelli*	G2	S2		-	*	alpine mountain streams
A Rhyacophilan Caddisfly	*Rhyacophila potteri*	G1G2	S2		-	*	forested mountain springs
Alexander's Rhyacophilan Caddisfly	*Rhyacophila alexanderi*	G2	S2		-	*	mountain/alpine streams
NRMR Caddisfly[3]	*Goereilla baumanni*	**G2**	S2		-	*	forested mountain springs
NRMR Caddisfly[3]	*Rossiana montana*	G2G3	S2		-	*	forested mountain springs
Damselflies							
Last Best Place Damselfly	*Enallagma optimolocus*	G1G3Q	S1S3		-	*	wetlands
Subarctic Bluet	*Coenagrion interrogatum*	G5	S1S2		-	≤ 5% state	wetlands
Dragonflies							
Boreal Whiteface	*Leucorrhinia borealis*	G5	S1		-		wetlands
Brimstone Clubtail	*Stylurus intricatus*	G4	S1		-		large prairie rivers
Brush-tipped Emerald	*Somatochlora walshii*	G5	S1S2		-		wetlands
Eastern Ringtail	*Erpetogomphus designatus*	G5	S1		-	≤ 5% state	large prairie rivers
Subarctic Darner	*Aeshna subarctica*	G5	S1S2		-		wetlands
Western Pondhawk	*Erythemis collocata*	G5	S1S2		-		wetlands
Mayflies							
A Mayfly	*Caenis youngi*	G4	S2		-		sloughs/backwaters
A Mayfly	*Lachlania saskatchewanensis*	G4	S1		-	*	large prairie rivers
A Mayfly	*Raptoheptagenia cruentata*	G4	S2		-	*	large prairie rivers
A Sand-dwelling Mayfly	*Anepeorus rusticus*	G2	S1		-	*	large prairie rivers
A Sand-dwelling Mayfly	*Homoeoneuria alleni*	G4	S2		-	*	large prairie rivers
A Sand-dwelling Mayfly	*Macdunnoa nipawinia*	G2G3	S2		-	*	large prairie rivers
Lolo Mayfly	*Caurinella idahoensis*	G3	S2		-	*	small forested mountain streams
Springtails							
A Springtail	*Oncopodura cruciata*	G1G2	S1S2		-	≤ 5% state	caves
Stoneflies							
A Stonefly	*Isocapnia crinita*	G4	S2		-	*	alpine mountain streams
A Stonefly	*Isocapnia integra*	G4	S2		-	*	alpine mountain streams

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Common Name	*Scientific Name*	Global Rank	State Rank	Federal Status	CFWCS Status[1]	Range Note[2]	Habitat
Insects (continued)							
Stoneflies (continued)							
A Stonefly	*Isoperla petersoni*	G5	S2		-	≤ 5% state	alpine mountain streams
A Stonefly	*Utacapnia columbiana*	G4	S2		-	*	alpine mountain streams
A Stonefly	*Zapada cordillera*	G3	S2		-	*	alpine mountain streams
Clearwater Roachfly	*Soliperla salish*	G2	S2		-	*	small forested mountain streams
Meltwater Lednian Stonefly	*Lednia tumana*	G1	S1		-	*	alpine streams
NRMR Stonefly[3]	*Soyedina potteri*	**G2**	**S2**		-	*	small forested mountain streams
Western Glacier Stonefly	*Zapada glacier*	G2	S1		-	*	alpine streams
Other - Spiders, Sponges, Millipedes							
A cave obligate Harvestman	*Cryptobunus cavicolus*	G1G2	S1S2		-	≤ 5% state	caves
A Freshwater Sponge	*Ephydatia cooperensis*	G1G3	S1S3		-	*	lakes
A Millipede	*Adrityla cucullata*	G1G3	S1S3		-		dry mixed conifer forest clearings
A Millipede	*Austrotyla montani*	G1G3	S1S3		-		mixed conifer forests
A Millipede	*Corypus cochlearis*	G1G3	S1S3		-		mixed conifer forests
A Millipede	*Endopus parvipes*	G1G3	S1S3		-		subalpine mixed conifer forests
A Millipede	*Lophomus laxus*	G1G3	S1S3		-		mixed conifer forests
A Millipede	*Orophe cabinetus*	G1G3	S1S3		-		moist mixed conifer forests
A Millipede	*Orthogmus oculatus*	G1G3	S1S3		-		mixed conifer forests
A Millipede	*Taiyutyla curvata*	G1G3	S1S3		-		moist mixed conifer forests

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Potential Species of Concern

Vertebrates

Common Name	*Scientific Name*	Global Rank	State Rank	Federal Status	CFWCS Status[1]	Range Note[2]	Habitat
Mammals							
Hayden's Shrew	*Sorex haydeni*	G4	S3S4		II - II		sagebrush/grasslands
Hoary Marmot	*Marmota calagata*	G5	S3S4		I - I		alpine/subalpine meadow/rock outcrop
Idaho Pocket Gopher	*Thomomys idahoensis*	G4	S2S4		II - I	≥ 20% global	sagebrush/grasslands in deep soils
Silver-haired Bat	*Lasionycteris noctivagans*	G5	**S4**		II - II		riparian and forest habitats
Uinta Ground Squirrel	*Spermophilus armatus*	G5	S3S4		II - I		subalpine meadows
Wyoming Ground Squirrel	*Spermophilus elegans*	G5	S3S4		II - I	≥ 20% global	sagebrush/grasslands, rock outcrops
Yuma Myotis	*Myotis yumanensis*	G5	S3S4		II - II		riparian and mixed forest habitats
Birds							
Barrow's Goldeneye	*Bucephala islandica*	G5	S4		III - III		riparian forests
Black-and-white Warbler	*Mniotilta varia*	G5	**S4B**		II - I		deciduous forests
Broad-tailed Hummingbird	*Selasphorus platycercus*	G5	**S4B**		II - II	≤ 5% state	montane shrublands/woodlands
Cassin's Kingbird	*Tyrannus vociferans*	G5	**S4B**		II - II		grasslands
Chimney Swift	*Chaetura pelagica*	G5	S3S4B		III - I		human habitation
Common Poorwill	*Phalaenoptilus nuttallii*	G5	**S4B**		III - I		open confier woodlands
Dickcissel	*Spiza americana*	G5	**S4B**	BLM	II - II		tall grasslands
Eastern Bluebird	*Sialia sialis*	G5	**S4B**		II - I		prairie woodlands
Eastern Screech-Owl	*Megascops asio*	G5	S3S4		III - II		prairie riparian forests
Hooded Merganser	*Lophodytes cucullatus*	G5	S4		II - III		riparian forests
Northern Hawk Owl	*Surnia ulula*	G5	**S4**		III - I	≤ 5% state	conifer forest
Ovenbird	*Seiurus aurocapilla*	G5	**S4B**		III - III		mixed conifer forests
Plumbeous Vireo	*Vireo plumbeus*	G5	S3S4B		-		conifer forest and riparian
Rufous Hummingbird	*Selasphorus rufus*	G5	S4B		III - II		open and brushy forests
Short-eared Owl	*Asio flammeus*	G5	**S4**		III - II		grasslands
Swainson's Hawk	*Buteo swainsoni*	G5	**S4B**	BLM	II - II		sage/grassland w/ woody vegetation
Tennessee Warbler	*Vermivora peregrina*	G5	**S3S4B**		III - III		mixed conifer forests
Western Screech-Owl	*Megascops kennicottii*	G5	S3S4		III - III		western riparian forest
Amphians							
Northern Leopard Frog	*Rana pipiens* (Great Plains)	G5	**S4**	USFS, BLM	I - I		wetlands, floodplain pools
Fish							
Brassy Minnow	*Hybognathus hankinsoni*	G5	SU		III - I		small prairie rivers
Brook Stickleback	*Culaea inconstans*	G5	SU		III - III		small prairie rivers
Burbot	*Lota lota*	G5	SU		I - II		large rivers/lakes
Creek Chub	*Semotilus atromaculatus*	G5	SU		III - II		small prairie rivers

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Common Name	*Scientific Name*	Global Rank	State Rank	Federal Status	CFWCS Status[1]	Range Note[2]	Habitat
Fish (continued)							
Iowa Darter	*Etheostoma exile*	G5	SU		III - I		small prairie rivers
Northern Redbelly Dace	*Phoxinus eos*	G5	SU		III - II		small prairie rivers
Plains Minnow	*Hybognathus placitus*	G4	SU		III - I		small & large prairie rivers
Pygmy Whitefish	*Prosopium coulteri*	G5	SU		III - III	≤ 5% state	lakes
Invertebrates							
Mollusks							
Fir Pinwheel	*Radiodiscus abietum*	G4	S3S4		-		moist conifer forests
Threeridge Valvata	*Valvata tricarnata*	G5	S2S3		-	≤ 5% state	large coldwater rivers
Insects							
Beetles							
Coppery Tiger Beetle	*Cicindela cuprascens*	G5	S3		-		sandy beaches
Sandy Tiger Beetle	*Cicindela limbata*	**G4**	S3		-		sandy sagebrush/grasslands
Butterflies							
Astarte Fritillary	*Boloria astarte*	G5	S2S3		-	≤ 5% state	alpine
Colorado Alpine	*Erebia callias*	G5	S2S3		-	≤ 5% state	alpine
Eyed Brown	*Satyrodes eurydice*	G4	S2S3		-		wetlands
Freija Fritillary	*Boloria freija*	G5	S3S5		-		subalpine willows
Giant Sulphur	*Colias gigantea*	G5	S3		-		montane willows
Indra Swallowtail	*Papillo indra*	G5	S2S3		-		grasslands/rock outcrops
Labrador Sulphur	*Colias nastes*	G5	S2S3		-		alpine
Melissa Arctic	*Oeneis melissa*	G5	S2S3		-		alpine
Mormon Metalmark	*Apodemia mormo*	G5	S3S5		-		sagebrush/grasslands
Northern Marble	*Euchloe creusa*	G5	S1S3		-	≤ 5% state	subalpine forest openings
Red-disked Alpine	*Erebia discoidalis*	G5	S3S5		-		grasslands
Rockslide Checkerspot	*Chlosyne whitneyi*	G4G5	S3S5		-		alpine
Tawny Crescent	*Phyciodes batesii*	G4	S2S3		-		grasslands
White Admiral	*Limenitis arthemis*	G5	S2S3		-		riparian forest
White-veined Arctic	*Oeneis bore*	G5	S2S3		-	≤ 5% state	alpine
Caddisflies							
An Agapetus Caddisfly	*Agapetus montanus*	G3	S3		-	≥ 20% global	valley/mountain forested streams
NRMR Caddisfly[3]	*Sericostriata surdickae*	G2G3	S3		-	*	small forested mountain streams
Damselflies							
Alkali Bluet	*Enallagma clausum*	G5	S2S4		-		wetland/lake w/ emergent vegetation
Arroyo Bluet	*Enallagma praevarum*	G5	S3S5		-		wetland/lake w/ emergent vegetation

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Common Name	*Scientific Name*	Global Rank	State Rank	Federal Status	CFWCS Status[1]	Range Note[2]	Habitat
Insects (continued)							
Damselflies (continued)							
Emma's Dancer	*Argia emma*	G5	S3S5		-		wetland/lake w/ emergent vegetation
Familiar Bluet	*Enallagma civile*	G5	S2S4		-		wetland/lake w/ emergent vegetation
Paiute Dancer	*Argia alberta*	G4	S2S3		-		wetland/lake w/ emergent vegetation
Prairie Bluet	*Coenagrion angulatum*	G5	S1S3		-		small prairie streams/wetlands
Vivid Dancer	*Argia vivida*	G5	S3S5		-		wetland/lake w/ emergent vegetation
Dragonflies							
Black-tipped Darner	*Aeshna tuberculifera*	G4	S2S4		-		wetland/lake w/ emergent vegetation
Blue-eyed Darner	*Rhionaeshna multicolor*	G5	S2S4		-		wetland/lake w/ emergent vegetation
California Darner	*Rhionaeshna californica*	G5	S3S5		-		wetland/lake w/ emergent vegetation
Chalk-fronted Corporal	*Ladona julia*	G5	S3S4		-		wetland/lake w/ emergent vegetation
Crimson-ringed Whiteface	*Leucorrhinia glacialis*	G5	S3		-		wetland/lake w/ emergent vegetation
Flame Skimmer	*Libellula saturata*	G5	S2S4		-		wetland/lake w/ emergent vegetation
Horned Clubtail	*Arigomphus cornutus*	G4	S2S4		-		large prairie rivers
Hudsonian Emerald	*Somatochlora hudsonica*	G5	S2S4		-		wetland/lake w/ emergent vegetation
Lake Darner	*Aeshna eremita*	G5	S3S4		-		wetland/lake w/ emergent vegetation
Lance-tipped Darner	*Aeshna constricta*	G5	S1S3		-		wetland/lake w/ emergent vegetation
Mountain Emerald	*Somatochlora semicircularis*	G5	S3S5		-		wetlands
Ocellated Emerald	*Somatochlora minor*	G5	S2S4		-		wetland/lake w/ emergent vegetation
Plains Clubtail	*Gomphus externus*	G5	S2S4		-		large prairie rivers
Pronghorn Clubtail	*Gomphus graslinellus*	G5	S3S5		-		large prairie rivers
Red-veined Meadowhawk	*Sympetrum madidum*	G4	S2S3		-		wetland/lake w/ emergent vegetation
Ringed Emerald	*Somatochlora albicincta*	G5	S1S3		-		wetlands
Sedge Darner	*Aeshna juncea*	G5	S3S5		-		wetlands
Sinuous Snaketail	*Ophiogomphus occidentis*	G4	S2S4		-		large cold rivers
Spiny Baskettail	*Epitheca spinigera*	G5	S3S5		-		wetland/lake w/ emergent vegetation
Zigzag Darner	*Aeshna sitchensis*	G5	S2S3		-		large prairie rivers
Mayflies							
A Sand-dwelling Mayfly	*Analetris eximia*	G3	S3		-		large prairie rivers
NRMR Mayfly[3]	*Caudatella edmundsi*	G3	S3		-	≥ 20% global	small forested mountain streams
Sponges							
A Freshwater Sponge	*Heteromeyenia baileyi*	G5	S1S3		-		lakes

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Habitat Association Summaries by Animal Group for Species of Concern and Potential Species of Concern

Mammals

Sagebrush/Grassland	38%
Riparian Forest	16%
Conifer Forest	11%
Rock Outcrop	11%
Wetlands	11%
Alpine	5%
Other/Generalist	5%
Caves	3%

Birds

Sagebrush/Grassland	23%
Conifer Forest	21%
Wetlands	16%
Riparian Forest	13%
Streams/Rivers/Lakes	12%
Other/Generalist	11%
Alpine	4%

Reptiles

Rock Outcrop	33%
Streams/Rivers/Lakes	33%
Other/Generalist	11%
Sagebrush/Grassland	11%
Wetlands	11%

Amphibians

Wetlands	83%
Streams/Rivers/Lakes	17%

Fish

Mountain Streams/Rivers/Lakes	37%
Prairie Streams/Rivers/Lakes	56%
Large Rivers/Lakes	7%

Invertebrates

Streams/Rivers/Lakes	34%
Wetlands	26%
Conifer Forest	14%
Alpine	8%
Caves	6%
Rock Outcrop	5%
Sagebrush/Grassland	5%
Other/Generalist	2%
Riparian Forest	1%

Montana Natural Heritage Program
P.O. Box 201800
1515 East Sixth Avenue
Helena, MT 59620-1800
(406) 444-3655 Fax (406) 444-0581
mtnhp.org
bmaxell@mt.gov

Montana Fish, Wildlife and Parks
P.O.Box 200701
1420 E. 6th. Ave.
Helena, MT 59620-0701
(406) 444-7778 Fax (406) 444-0581
fwp.mt.gov
LHanauska-Brown@mt.gov