

October 12, 2021

U.S. Army Corps of Engineers
10 West 15th Street, Suite 2200
Helena, MT 59626

RE: Comment – Park County Pedestrian Bridge Projects

To Whom it May Concern,

Stahly Engineering & Associates is gathering information for a grant application for the installation of two pedestrian bridges in Park County. The bridges will be constructed to match the existing channel banks and channel bank elevations and be designed to pass the 50-year flood event, at a minimum, per the Park County Transportation Standards.

The bridge locations are listed below (see attached maps):

- Pedestrian Bridge over Fleshman Creek
 - Location 45°40'07"N, 110°32'27"W
 - Anticipated structure to be a single span prefabricated steel bridge with a concrete deck and driven steel pile foundation
- Pedestrian Bridge over the Yellowstone River
 - Location 45°39'57"N, 110°32'20"W
 - Anticipated structure to be a single span prefabricated steel bridge with a concrete deck and driven steel pile foundation

As part of the grant application process, we are required to complete an environmental checklist, necessitating initial comments from several state and federal agencies, yours' being one. Please provide us with initial comment or concerns regarding the above-mentioned project by November 15, 2021.

If you have any questions, please feel free to call me at 522-8594 or e-mail at kthompson@seaeng.com.

Sincerely,

Stahly Engineering & Associates

Kathy Thompson, PE

October 12, 2021

Water Protection Bureau
Montana Department of Environmental Quality
PO Box 200901
Helena, MT 59620-0901

RE: Comment – Park County Pedestrian Bridge Projects

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Stahly Engineering & Associates is gathering information for a grant application for the installation of two pedestrian bridges in Park County. The bridges will be constructed to match the existing channel banks and channel bank elevations and be designed to pass the 50-year flood event, at a minimum, per the Park County Transportation Standards.

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Sincerely,

Stahly Engineering & Associates

Kathy Thompson, PE

October 12, 2021

Park County Floodplain Administrator
Attn: Lawson Moorman
414 East Callender Street
Livingston, MT 59047

RE: Comment – Park County Pedestrian Bridge Projects

Dear Lawson,

Stahly Engineering & Associates is gathering information for a grant application for the installation of two pedestrian bridges in Park County. The bridges will be constructed to match the existing channel banks and channel bank elevations and be designed to pass the 50-year flood event, at a minimum, per the Park County Transportation Standards.

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Sincerely,

Stahly Engineering & Associates

Kathy Thompson, PE

October 12, 2021

Montana Fish, Wildlife & Parks
Attn: Scott Opitz
1354 Highway 10 West
Livingston, MT 59047

RE: Comment – Park County Pedestrian Bridge Projects

Dear Scott

Stahly Engineering & Associates is gathering information for a grant application for the installation of two pedestrian bridges in Park County. The bridges will be constructed to match the existing channel banks and channel bank elevations and be designed to pass the 50-year flood event, at a minimum, per the Park County Transportation Standards.

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Sincerely,

Stahly Engineering & Associates

Kathy Thompson, PE

October 12, 2021

Montana Natural Heritage Program
PO Box 201800
Helena, MT 59620-1800

RE: Comment – Park County Pedestrian Bridge Projects

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Sincerely,

Stahly Engineering & Associates

Kathy Thompson, PE

October 12, 2021

Montana Department of Natural Resources and Conservation
Water Resources Division
Bozeman Regional Office
2273 Boot Hill Court, Suite 110
Bozeman, MT 59715

RE: Comment – Park County Pedestrian Bridge Projects

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Stahly Engineering & Associates is gathering information for a grant application for the installation of two pedestrian bridges in Park County. The bridges will be constructed to match the existing channel banks and channel bank elevations and be designed to pass the 50-year flood event, at a minimum, per the Park County Transportation Standards.

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Sincerely,

Stahly Engineering & Associates

Kathy Thompson, PE

October 12, 2021

State Historic Preservation Office
Attn: Damon Murdo
PO Box 201202
Helena, MT 59620-1202

RE: Comment – Park County Pedestrian Bridge Projects

Dear Damon,

Stahly Engineering & Associates is gathering information for a grant application for the installation of two pedestrian bridges in Park County. The bridges will be constructed to match the existing channel banks and channel bank elevations and be designed to pass the 50-year flood event, at a minimum, per the Park County Transportation Standards.

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If you have any questions, please feel free to call me at 522-8594 or e-mail at kthompson@seaeng.com.

Sincerely,

Stahly Engineering & Associates

Kathy Thompson, PE

October 12, 2021

U.S. Fish and Wildlife Service
Mountain-Prairie Region Office
134 Union Boulevard
Lakewood, CO 80228

RE: Comment – Park County Pedestrian Bridge Projects

To Whom it May Concern,

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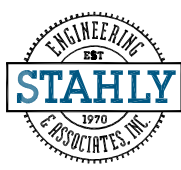
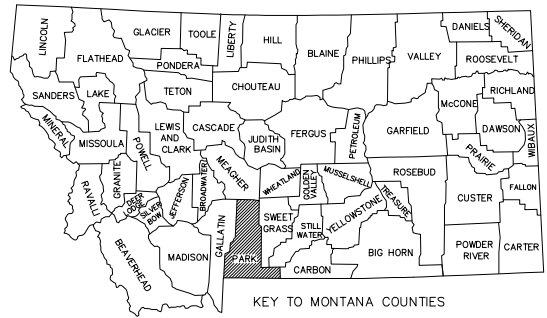
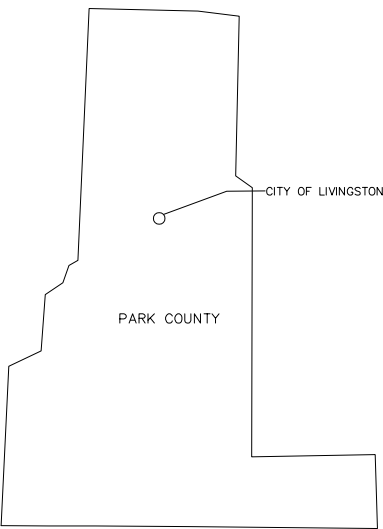
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If you have any questions, please feel free to call me at 522-8594 or e-mail at kthompson@seaeng.com.

Sincerely,

Stahly Engineering & Associates

Kathy Thompson, PE



STAHLY ENGINEERING & ASSOCIATES
 PROFESSIONAL ENGINEERS & SURVEYORS

www.seaeng.com
 2223 MONTANA AVE. SUITE 201 BILLINGS, MT 59101
 Phone: (406)601-4055 Fax: (406)601-4062
 3530 CENTENNIAL DR. HELENA, MT 59601
 Phone: (406)442-8594 Fax: (406)442-8557
 851 BRIDGER DRIVE SUITE 1 BOZEMAN, MT 59715
 Phone: (406)522-8594 Fax: (406)522-9528

PROJECT LOCATION AERIAL PHOTO

PEDESTRIAN BRIDGE LOCATIONS
 YELLOWSTONE RIVER & FLESHMAN CREEK

PARK COUNTY, MONTANA

DESIGNED: KLT
 DRAWN: KLT
 CHECKED: NTP
 DATE: 10/12/21

SHEET
A1.1



PROPOSED ALIGNMENT
PEDESTRIAN BRIDGE OVER
THE YELLOWSTONE RIVER



STAHLY ENGINEERING & ASSOCIATES
PROFESSIONAL ENGINEERS & SURVEYORS

www.seaeng.com

2223 MONTANA AVE.
SUITE 201
BILLINGS, MT 59101
Phone: (406)601-4055
Fax: (406)601-4062

3530 CENTENNIAL DR.
HELENA, MT 59601
Phone: (406)442-8594
Fax: (406)442-8557

851 BRIDGER DRIVE
SUITE 1
BOZEMAN, MT 59715
Phone: (406)522-8594
Fax: (406)522-9528

PROJECT AERIAL PHOTO

PEDESTRIAN BRIDGE OVER
THE YELLOWSTONE RIVER

PARK COUNTY, MONTANA

DESIGNED: KLT
DRAWN: KLT
CHECKED: NTP
DATE: 10/12/21

SHEET

A1.2



PROPOSED ALIGNMENT
PEDESTRIAN BRIDGE
OVER FLESHMAN CREEK



STAHLY ENGINEERING & ASSOCIATES
PROFESSIONAL ENGINEERS & SURVEYORS

www.seaeng.com

2223 MONTANA AVE.
SUITE 201
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Fax: (406)522-9528

PROJECT AERIAL PHOTO

PEDESTRIAN BRIDGE OVER
FLESHMAN CREEK

PARK COUNTY, MONTANA

DESIGNED: KLT
DRAWN: KLT
CHECKED: NTP
DATE: 10/12/21

SHEET
A1.3



MT Fish, Wildlife & Parks
Region 3 Headquarters
1400 S 19th Avenue
Bozeman, MT 59718

November 1, 2021

Kathy Thompson
Stahly Engineering and Associates, Inc.
851 Bridger Drive #1
Bozeman, MT 59715

RE: Park County Pedestrian Bridge Project

Dear Ms. Thompson,

Montana Fish, Wildlife & Parks appreciates the opportunity to comment on this project for construction of two bridges in Park County.

FWP supports the proposed single span bridge crossing the Yellowstone River. Piers in the water are not preferred in the Yellowstone River given the bridge will be located immediately upstream of the boat ramp at Mayor's Landing Fishing Access Site. This bridge is proposed at the location of a prior bridge across the Yellowstone River on an existing road base, so minimal impact would be anticipated.

FWP also supports a single span bridge over Fleishman Creek. We recommend minimizing removal of riparian vegetation at this site to maintain bank stability and retain cover.

For any further questions or concerns, please reach out to the following FWP personnel;

Scott Opitz, Fisheries Biologist (phone: 406-223-3951, email: sopitz@mt.gov)
Michael Yarnall, Wildlife Biologist (phone: 406-224-1162, email: michael.yarnall@mt.gov)
Claire Gower, Wildlife Biologist (phone: 406-577-7866, email: cgower@mt.gov)

Thank you again for the opportunity to comment.

Sincerely,

Marina Yoshioka
Region Three Supervisor



P.O. Box 201800 • 1515 East Sixth Avenue • Helena, MT 59620-1800 • fax 406.444.0266 • tel 406.444.5363 • <http://mtnhp.org>

October 15, 2021

Kathy Thompson
851 Bridger Drive
Suite 1
Bozeman, MT 59715

Dear Kathy Thompson,

Thank you for your request for Natural Heritage information for Pedestrian Bridge Fleshman and Yellowstone, located at Fleshman Creek at 45 40°07'N 110 32°27'W Yellowston River at 45 39°57'N 110 32°20'W. Included with this letter is an Environmental Summary report PDF and a companion Excel workbook summarizing information managed in the Montana Natural Heritage Program's (MTNHP) databases for: (1) species occurrences; (2) other observed species without Species Occurrences; (3) other species potentially present based on their range, presence of associated habitats, or predictive distribution model output if available; (4) structured surveys (organized efforts following a protocol capable of detecting one or more species); (5) land cover mapped as ecological systems; (6) wetland and riparian mapping; (7) land management categories; and (8) biological reports associated with plant and animal observations. The PDF report contains introductory materials and limitations associated with the use of each of these data types, a list of additional information resources, data use terms and conditions, and suggested contacts. The Excel workbook contains worksheets for each data type that can be easily sorted to summarize particular information needs. In addition to these materials, we have included a compilation of one page snapshots containing general description, habitat, spatial and temporal distribution, and conservation status information for each species listed in the species occurrence, other observed species, and other potential species sections of the Environmental Summary report. These three field guide compilations are excerpted from the full accounts found on the Montana Field Guide <http://fieldguide.mt.gov> for general reference use and, if desired, as appendices to environmental review documents.

Please keep in mind the following when using and interpreting the enclosed information:

- (1) This information is intended for distribution or use only within your department, agency, or business. Please see the Data Use Terms and Conditions in the Environmental Summary report PDF for additional guidelines.
- (2) Our minimum search area for standard information requests consists of the requested area buffered by an additional mile in order to capture records that may be immediately adjacent to the requested area. Please let us know if a buffer greater than 1 mile would be of use to your efforts.

Visit the Montana Natural Heritage Program at <http://mtnhp.org>

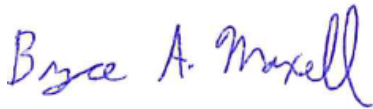
- (3) Additional information on animal, plant, and lichen species and ecological systems in Montana is available on the Montana Field Guide at <http://fieldguide.mt.gov/>
- (4) In addition to the information you receive from us, we encourage you to contact state, federal, and tribal resource management agencies in the area where your project is located (see Environmental Summary report PDF).

In order to help us improve our services to you, we invite you to take a simple survey. The survey is intended to gather some basic information on the value and quality of the information and services you recently received from the Montana Natural Heritage Program. The survey is short and should not take more than a few minutes to complete. All information will be kept confidential and will be used internally to improve the delivery of services and to help document the value of our services. Use this link to go to the survey:

<http://www.surveymonkey.com/s/RYN8Y8L>.

I hope the enclosed information is helpful to you. Please feel free to contact me at the phone or email address below if you have any questions, require additional information, or have suggestions for how we could improve our information resources.

Sincerely,

A handwritten signature in blue ink that reads "Bryce A. Maxell". The signature is written in a cursive style.

Bryce A. Maxell
Montana Natural Heritage Program
(406) 444-3989
bmaxell@mt.gov



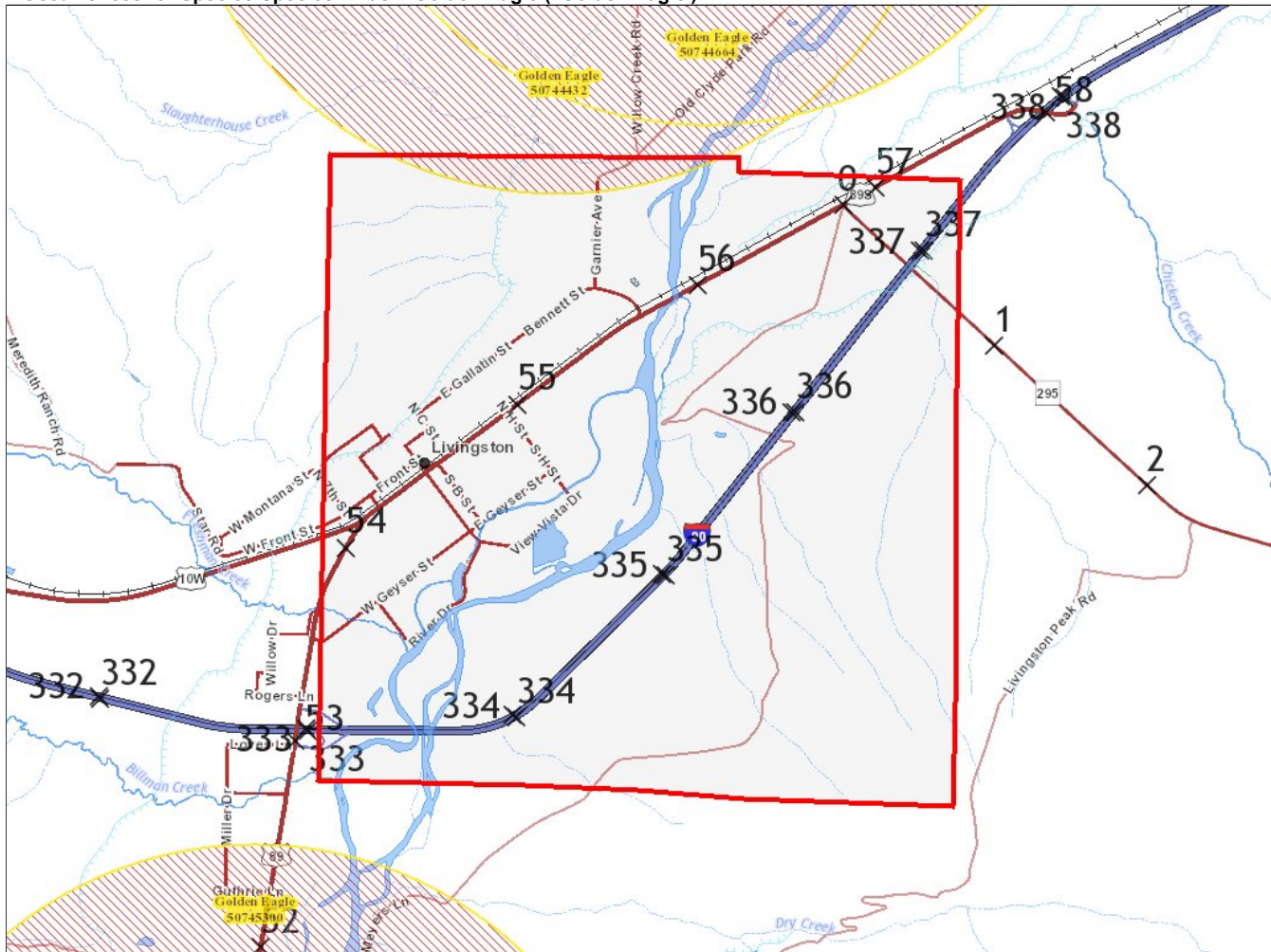
Latitude 45.62608 Longitude -110.43768
 45.69808 -110.64213



Montana SOC Occurrences Report

SOC Occurrences for Species Species.Birds = Golden Eagle ("Golden Eagle")

Report generated 10/15/2021 12:16:27 PM



Birds - Golden Eagle (<i>Aquila chrysaetos</i>)		SO Count: 3	Obs Count: 3	Earliest Obs: 2005	Recent Obs: 2012
Species of Concern	Agency Status	Delineation Criteria			Last Updated
Native Species	USFWS: BGEPA; MBTA	Confirmed nesting area buffered by a minimum distance of 3,000 meters in order to be conservative about encompassing the entire breeding territory and area commonly used for renesting and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters.			Oct 06, 2021
Global Rank: G5	USFS:				
State Rank: S3	BLM: SENSITIVE				
	FWP SWAP: SGCN3				
	PIF:				
SO ID: 5074432	Acres: 6,987	Obs Count: 1	Earliest Obs: 2012	Recent Obs: 2012	
SO ID: 5074464	Acres: 6,987	Obs Count: 1	Earliest Obs: 2010	Recent Obs: 2010	
SO ID: 50745300	Acres: 6,987	Obs Count: 1	Earliest Obs: 2005	Recent Obs: 2005	

Citation for this report:
 Montana SOC Occurrences Report
 SOC Occurrences for Species Species.Birds = Golden Eagle ("Golden Eagle")
 Within Lat/Long: (45.62608,-110.43768) to (45.69808,-110.64213)
 Natural Heritage Map Viewer. Montana Natural Heritage Program.
 Retrieved on October 15, 2021, from https://mtnhp.org/MapView/SOReport.aspx



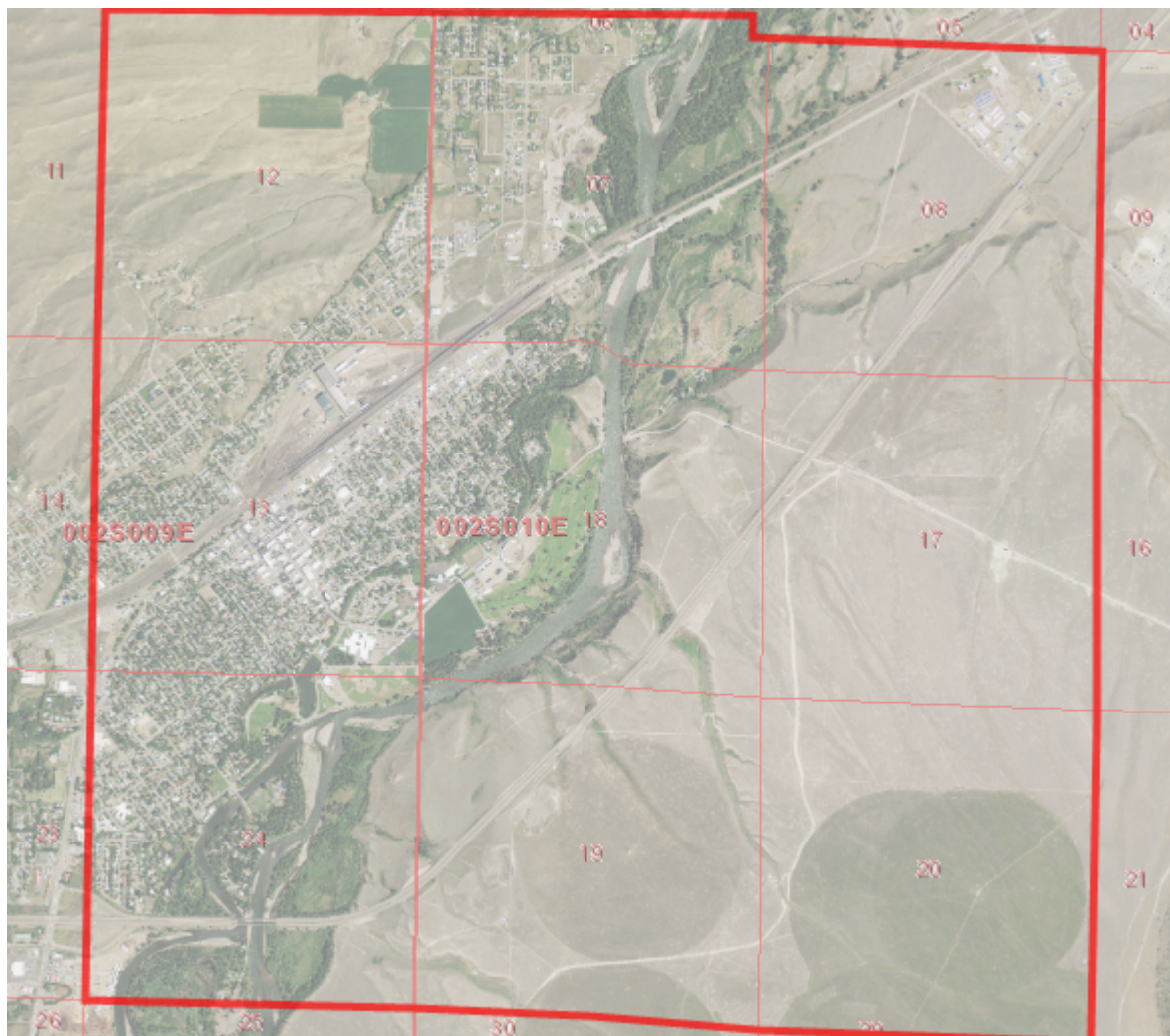
MONTANA Natural Heritage Program

1515 East 6th Avenue
Helena, MT 59620
(406) 444-5363
mtnhp.org



Latitude	Longitude
45.63911	-110.50850
45.68513	-110.57141

Summarized by:
002S010E018
(Buffered PLSS Section)



Suggested Citation

Montana Natural Heritage Program. Environmental Summary Report.
for Latitude 45.63911 to 45.68513 and Longitude -110.50850 to -110.57141. Retrieved on 10/15/2021.

The Montana Natural Heritage Program is part of the Montana State Library's Natural Resource Information System. Since 1985, it has served as a neutral and non-regulatory provider of easily accessible information on Montana's species and biological communities to inform all stakeholders in environmental review, permitting, and planning processes. The program is part of NatureServe, a network of over 80 similar programs in states, provinces, and nations throughout the Western Hemisphere, working to provide current and comprehensive distribution and status information on species and biological communities.



Table of Contents

- [Species Report](#)
- [Structured Surveys](#)
- [Land Cover](#)
- [Wetland and Riparian](#)
- [Land Management](#)
- [Biological Reports](#)
- [Invasive and Pest Species](#)
- [Introduction to Montana Natural Heritage Program](#)
- [Data Use Terms and Conditions](#)
- [Suggested Contacts for Natural Resource Agencies](#)
- [Introduction to Native Species](#)
- [Introduction to Land Cover](#)
- [Introduction to Wetland and Riparian](#)
- [Introduction to Land Management](#)
- [Introduction to Invasive and Pest Species](#)
- [Additional Information Resources](#)

Introduction to Environmental Summary Report

Environmental Summary Reports from the Montana Natural Heritage Program (MTNHP) provide information on species and biological communities to inform all stakeholders in environmental review, permitting, and planning processes. For information on environmental permits in Montana, please see permitting overviews by the [Montana Department of Environmental Quality](#), the [Montana Department of Natural Resources and Conservation](#), the [Index of Environmental Permits for Montana](#) and our [Suggested Contacts for Natural Resource Management Agencies](#). The report for your area of interest consists of introductory and related materials in this PDF and an Excel workbook with worksheets summarizing information managed in the MTNHP databases for: (1) species occurrences; (2) other observed species without species occurrences; (3) other species potentially present based on their range, presence of associated habitats, or predictive distribution model output if available; (4) structured surveys that follow a protocol capable of detecting one or more species; (5) land cover mapped as ecological systems; (6) wetland and riparian mapping; (7) land management categories; and (8) biological reports associated with plant and animal observations. If your area of interest corresponds to a statewide polygon layer (e.g., watersheds, counties, or public land survey sections) information summaries in your report will exactly match those boundaries. However, if your report is for a custom area, users should be aware that summaries do not correspond to the exact boundaries of the polygon they have specified, but instead are a summary across a layer of hexagons intersected by the polygon they specified as shown on the report cover. Summarizing by these hexagons which are one square mile in area and approximately one kilometer in length on each side allows for consistent and rapid delivery of summaries based on a uniform grid that has been used for planning efforts across the western United States (e.g., Western Association of Fish and Wildlife Agencies - [Crucial Habitat Assessment Tool](#)).

In presenting this information, MTNHP is working towards assisting the user with rapidly assessing the known or potential species and biological communities, land management categories, and biological reports associated with the report area. Users are reminded that this information is likely incomplete and may be inaccurate as surveys to document species are lacking in many areas of the state, species' range polygons often include regions of unsuitable habitat, methods of predicting the presence of species or communities are constantly improving, and information is constantly being added and updated in our databases. **Field verification by professional biologists of the absence or presence of species and biological communities in a report area will always be an important obligation of users of our data. Users are encouraged to only use this environmental summary report as a starting point for more in depth analyses and are encouraged to contact state, federal, and tribal resource management agencies for additional data or management guidelines relevant to your efforts. Please see the Appendix for introductory materials to each section of the report, additional information resources, and a list of relevant agency contacts.**

Legend			
Model Icons	Habitat Icons	Range Icons	Num Obs
Suitable (native range)	Common	Introduced	Count of obs with 'good precision' (<=1000m)
Optimal Suitability	Occasional	Year-round	+ indicates additional 'poor precision' obs (1001m-10,000m)
Moderate Suitability		Summer	
Low Suitability		Winter	
Suitable (introduced range)		Migratory	
		Historic	

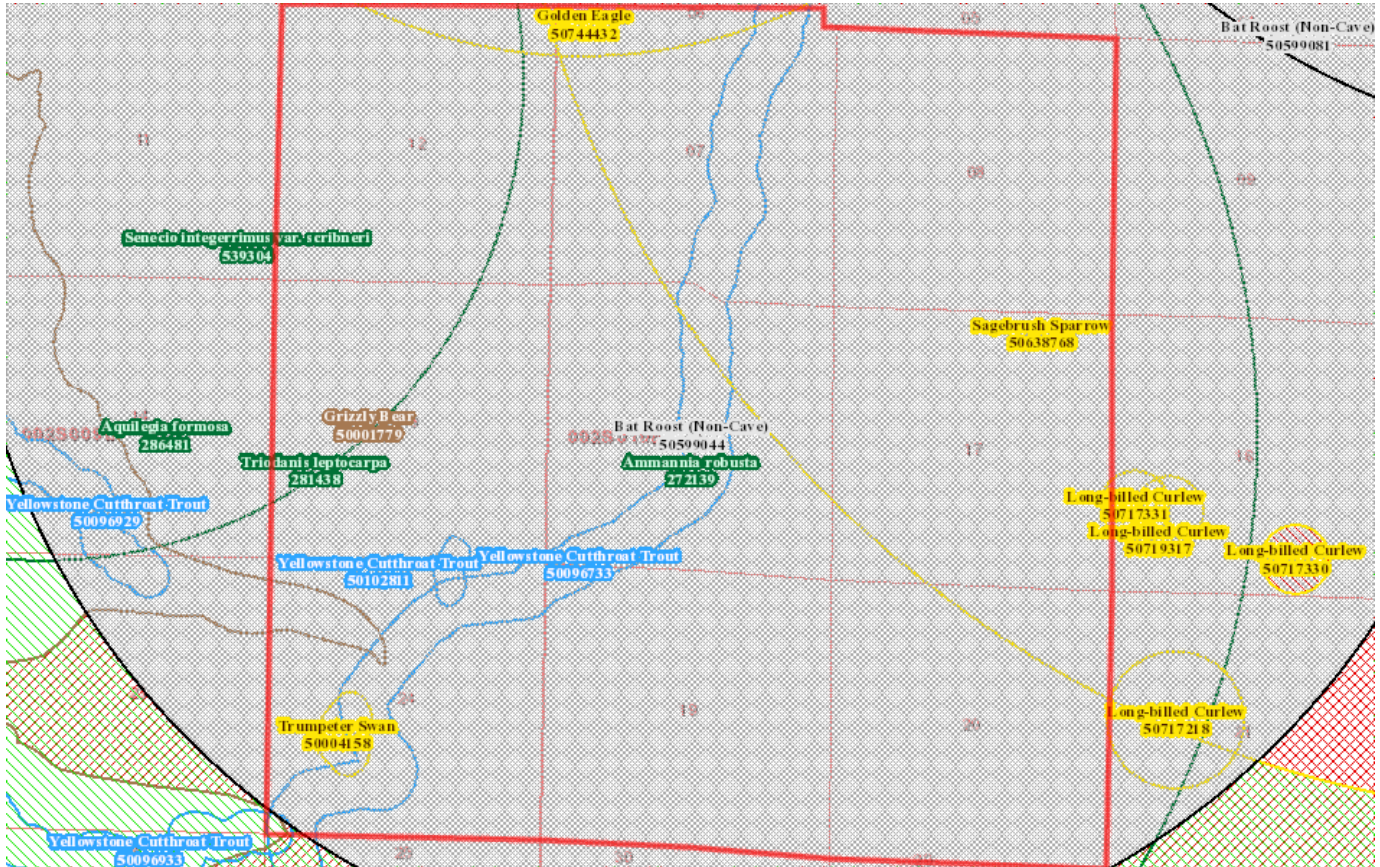
Latitude	Longitude
45.63911	-110.50850
45.68513	-110.57141

Native Species

Summarized by: **002S010E018** (*Buffered PLSS Section*)

Filtered by:

MT_Status='Species of Concern', 'Special Status', 'Important Animal Habitat', 'Potential SOC'



Species Occurrences

Species	USFWS Sec7	# SO	# Obs	Predictive Model	Associated Habitat	Range
V - Ammannia robusta (<i>Scarlet Ammannia</i>) SOC		1	1			Y
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S2 MNPS: 2 Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Sep 06, 2017) Predictive Models: 100% Suitable (native range) (deductive) Associated Habitats: 1% Common						
F - Yellowstone Cutthroat Trout (<i>Oncorhynchus clarkii bouvieri</i>) SOC		3	3		Not Assigned	Y
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native/Non-native Species - (depends on location or taxa) Global: G5T4 State: S2 USFS: Sensitive - Known on Forests (CG) BLM: SENSITIVE FWP SWAP: SGCN2 Delineation Criteria Stream reaches and standing water bodies where the species presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a fisheries biologist due to confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: May 08, 2015) Predictive Models: 64% Suitable (native range) (deductive)						
B - Golden Eagle (<i>Aquila chrysaetos</i>) SOC		1	4			Y
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFWS: BGEPA; MBTA BLM: SENSITIVE FWP SWAP: SGCN3 Delineation Criteria Confirmed nesting area buffered by a minimum distance of 3,000 meters in order to be conservative about encompassing the entire breeding territory and area commonly used for re-nesting and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Oct 06, 2021) Predictive Models: 98% Moderate (inductive), 2% Low (inductive) Associated Habitats: 51% Common, 1% Occasional						
B - Long-billed Curlew (<i>Numenius americanus</i>) SOC		2	4			S M
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S3B USFWS: MBTA; BCC11 BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2 Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 200 meters in order to approximate the breeding territory size reported for the species in Idaho and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Oct 06, 2021) Predictive Models: 60% Moderate (inductive), 40% Low (inductive) Associated Habitats: 40% Common, 11% Occasional						
B - Trumpeter Swan (<i>Cygnus buccinator</i>) SOC		1	21			Y S W M

View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G4 State: S3 USFWS: MBTA USFS: Sensitive - Known on Forests (BD, CG) BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 1 Delineation Criteria Standing water bodies with confirmed nesting areas buffered by 100 meters in order to reflect importance of adjacent terrestrial habitats to breeding success. (Last Updated: Aug 06, 2021) Predictive Models: 7% Moderate (inductive), 93% Low (inductive) Associated Habitats: 14% Common	
M - Grizzly Bear (<i>Ursus arctos</i>) SOC	1
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G4 State: S2S3 USFWS: PS: LT; XN USFS: Threatened on Forests (BD, CG, HLC, KOOT, LOLO) BLM: THREATENED FWP SWAP: SGCN2-3 Delineation Criteria Species Occurrence polygons represent areas delineated by the U.S. Fish and Wildlife Service (USFWS) that encompass both home ranges and potential transitory movements based on verified sightings. Within these areas, the USFWS wants project proponents to consider whether the species may be present when evaluating the potential impacts of a project and to work with the USFWS to develop and implement best management practices to minimize or eliminate project effects on the species. (Last Updated: Oct 06, 2021) Predictive Models: 34% Low (inductive) Associated Habitats: 52% Common, 10% Occasional	
V - Triodanis leptocarpa (<i>Slim-pod Venus-looking-glass</i>) SOC	1 Not Assigned
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5? State: S3 MNPS: 3 Predictive Models: 3% Low (inductive)	
V - Senecio integerrimus var. scribneri (<i>Scribner's Ragwort</i>) SOC	1 Not Available
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5T2T3 State: S2S3 MNPS: 3 Associated Habitats: 9% Common	
B - Sagebrush Sparrow (<i>Artemiosipiza nevadensis</i>) SOC	1 Not Available
View in Field Guide View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S3B USFWS: MBTA BLM: SENSITIVE FWP SWAP: SGCN3 Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 125 meters in order to encompass the majority of breeding territory sizes reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Apr 01, 2020) Associated Habitats: 9% Common	
V - Aquilegia formosa (<i>Sitka Columbine</i>) SOC	1 Not Available
View in Field Guide View Associated Habitat Species of Concern - Native Species Global: G5 State: S3 MNPS: 3 Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Apr 06, 2021) Associated Habitats: 1% Common	
O - Bat Roost (Non-Cave) (<i>Bat Roost (Non-Cave)</i>) IAH	1 Not Available Not Assigned
View in Field Guide Important Animal Habitat - Native Species Global: GNR State: SNR Delineation Criteria Confirmed area of occupancy based on the documented presence of adults or juveniles of any bat species at non-cave natural roost sites (e.g. rock outcrops, trees), below ground human created roost sites (e.g. mines), and above ground human created roost sites (e.g., bridges, buildings). Point observation locations are buffered by a distance of 4,500 meters in order to encompass the 95% confidence interval for nightly foraging distance reported for Townsend's Big-eared Bat (a resident Montana bat Species of Concern) and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Oct 22, 2019)	

Legend			
Model Icons	Habitat Icons	Range Icons	Num Obs
Suitable (native range)	Common	Introduced	Count of obs with 'good precision' (<=1000m)
Optimal Suitability	Occasional	Year-round	+ indicates additional 'poor precision' obs (1001m-10,000m)
Moderate Suitability		Summer	
Low Suitability		Winter	
Suitable (introduced range)		Migratory	
		Historic	



Latitude 45.63911 Longitude -110.50850
Latitude 45.68513 Longitude -110.57141

Native Species

Summarized by: **002S010E018** (*Buffered PLSS Section*)

Filtered by:

MT_Status='Species of Concern', 'Special Status', 'Important Animal Habitat', 'Potential SOC'

Other Observed Species

Species	USFWS Sec7	# Obs	Predictive Model	Associated Habitat	Range
B - Pinyon Jay (<i>Gymnorhinus cyanocephalus</i>) SOC		1			
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G3 State: S3 USFWS: MBTA; BCC10; BCC17 FWP SWAP: SGCN3 Predictive Models: 71% Optimal (inductive), 29% Moderate (inductive) Associated Habitats: 11% Common, 8% Occasional					
B - Bald Eagle (<i>Haliaeetus leucocephalus</i>) SSS		13			
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Special Status Species - Native Species Global: G5 State: S4 USFWS: DM; BGEPA; MBTA USFS: Sensitive - Known on Forests (BD, BRT, CG, HLC, KOOT, LOLO) BLM: SENSITIVE PIF: 2 Predictive Models: 18% Optimal (inductive), 45% Moderate (inductive), 34% Low (inductive) Associated Habitats: 14% Common, 40% Occasional					
B - Green-tailed Towhee (<i>Pipilo chlorurus</i>) SOC		1			
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S3B USFWS: MBTA FWP SWAP: SGCN3 PIF: 3 Predictive Models: 86% Moderate (inductive), 14% Low (inductive) Associated Habitats: 62% Common, 1% Occasional					
B - Veery (<i>Catharus fuscescens</i>) SOC		1			
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S3B USFWS: MBTA BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2 Predictive Models: 64% Moderate (inductive), 36% Low (inductive) Associated Habitats: 11% Common, 1% Occasional					
B - Great Blue Heron (<i>Ardea herodias</i>) SOC		2			
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFWS: MBTA FWP SWAP: SGCN3 Predictive Models: 52% Moderate (inductive), 47% Low (inductive) Associated Habitats: 11% Common					
B - Hooded Merganser (<i>Lophodytes cucullatus</i>) PSOC		1			
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: S4 USFWS: MBTA FWP SWAP: SGIN PIF: 2 Predictive Models: 41% Moderate (inductive), 15% Low (inductive) Associated Habitats: 14% Common, 1% Occasional					
B - Barrow's Goldeneye (<i>Bucephala islandica</i>) PSOC		1			
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: S4 USFWS: MBTA FWP SWAP: SGIN PIF: 2 Predictive Models: 7% Moderate (inductive), 83% Low (inductive) Associated Habitats: 14% Common					
B - Cassin's Finch (<i>Haemorhous cassinii</i>) SOC		11			
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFWS: MBTA; BCC10 FWP SWAP: SGCN3 PIF: 3 Predictive Models: 7% Moderate (inductive), 72% Low (inductive) Associated Habitats: 1% Common					
B - Bobolink (<i>Dolichonyx oryzivorus</i>) SOC		1			
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S3B USFWS: MBTA; BCC10; BCC11; BCC17 FWP SWAP: SGCN3 PIF: 3 Predictive Models: 1% Moderate (inductive), 49% Low (inductive) Associated Habitats: 51% Common, 1% Occasional					
B - Evening Grosbeak (<i>Coccothraustes vespertinus</i>) SOC		4			
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFWS: MBTA; BCC10 FWP SWAP: SGCN3 Predictive Models: 68% Low (inductive) Associated Habitats: 21% Common, 2% Occasional					
B - McCown's Longspur (<i>Rhynchophanes mccownii</i>) SOC		2			
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G4 State: S3B USFWS: MBTA; BCC10; BCC11; BCC17 BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2 Predictive Models: 36% Low (inductive) Associated Habitats: 1% Common, 50% Occasional					
B - Brown Creeper (<i>Certhia americana</i>) SOC		1			
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFWS: MBTA FWP SWAP: SGCN3 PIF: 1 Predictive Models: 9% Low (inductive) Associated Habitats: 1% Common, 1% Occasional					
B - Tennessee Warbler (<i>Leiothlypis peregrina</i>) PSOC		1	Not Available		
View in Field Guide View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: S3S4B USFWS: MBTA Associated Habitats: 11% Common					
B - Mountain Plover (<i>Charadrius montanus</i>) SOC		1	Not Available		

[View in Field Guide](#) [View Associated Habitat](#) [View Range Maps](#)

Species of Concern - Native Species Global: **G3** State: **S2B** USFWS: **MBTA; BCC10; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **1**

Associated Habitats: 9% Common, 39% Occasional

B - Horned Grebe (*Podiceps auritus*) **SOC** 1 Not Available

[View in Field Guide](#) [View Associated Habitat](#) [View Range Maps](#)

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Associated Habitats: 3% Common, 1% Occasional

B - American White Pelican (*Pelecanus erythrorhynchos*) **SOC** 5 Not Available

[View in Field Guide](#) [View Associated Habitat](#) [View Range Maps](#)

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**

Associated Habitats: 3% Common

B - Common Loon (*Gavia immer*) **SOC** 4 Not Available

[View in Field Guide](#) [View Associated Habitat](#) [View Range Maps](#)

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** USFS: **Sensitive - Known on Forests (KOOT, LOLO)** FWP SWAP: **SGCN3** PIF: **1**

Associated Habitats: 3% Common

B - Gray-crowned Rosy-Fin (*Leucosticte tephrocotis*) **SOC** 1 Not Available

[View in Field Guide](#) [View Associated Habitat](#) [View Range Maps](#)

Species of Concern - Native Species Global: **G5** State: **S2** USFWS: **MBTA** FWP SWAP: **SGCN2, SGIN**

Associated Habitats: 1% Common

F - Westslope Cutthroat Trout (*Oncorhynchus clarkii lewisi*) **SOC** 1 Not Available | Not Assigned

[View in Field Guide](#) [View Range Maps](#)

Species of Concern - Native/Non-native Species - (depends on location or taxa) Global: **G5T4** State: **S2**

USFS: **Sensitive - Known on Forests (BD, BRT, CG, HLC, KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN2**

Legend			
Model Icons	Habitat Icons	Range Icons	Num Obs
Suitable (native range)	Common	Introduced	Count of obs with 'good precision' (<=1000m)
Optimal Suitability	Occasional	Year-round	+ indicates additional 'poor precision' obs (1001m-10,000m)
Moderate Suitability		Summer	
Low Suitability		Winter	
Suitable (introduced range)		Migratory	
		Historic	



Latitude 45.63911 Longitude -110.50850
45.68513 -110.57141

Native Species

Summarized by: **002S010E018** (*Buffered PLSS Section*)

Filtered by:

MT_Status='Species of Concern', 'Special Status', 'Important Animal Habitat', 'Potential SOC'

Other Potential Species

	USFWS Sec7	Predictive Model	Associated Habitat	Range
M - Spotted Bat (<i>Euderma maculatum</i>) SOC				
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G4 State: S3 USFS: Sensitive - Known on Forests (BD, CG) BLM: SENSITIVE FWP SWAP: SGCN3, SGIN Predictive Models: 51% Optimal (inductive), 46% Moderate (inductive), 3% Low (inductive) Associated Habitats: 65% Common, 10% Occasional				
M - Western Spotted Skunk (<i>Spilogale gracilis</i>) PSOC				
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G5 State: SNR FWP SWAP: SGIN Predictive Models: 42% Optimal (inductive), 58% Moderate (inductive) Associated Habitats: 59% Common, 8% Occasional				
V - Castilleja gracillima (<i>Slender Indian Paintbrush</i>) SOC				
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G3G4 State: S2 MNPS: 3 Predictive Models: 28% Optimal (inductive), 28% Moderate (inductive), 44% Low (inductive) Associated Habitats: 2% Occasional				
V - Dichanthelium acuminatum (<i>Panic Grass</i>) SOC				
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S2S3 MNPS: 2 Predictive Models: 18% Optimal (inductive), 67% Moderate (inductive), 15% Low (inductive)				
R - Western Milksnake (<i>Lampropeltis gentilis</i>) SOC				
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G5 State: S2 USFS: Sensitive - Known on Forests (CG) BLM: SENSITIVE FWP SWAP: SGCN2 Predictive Models: 11% Optimal (inductive), 67% Moderate (inductive), 22% Low (inductive) Associated Habitats: 48% Common, 10% Occasional				
V - Lilium philadelphicum (<i>Wood Lily</i>) SOC				
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 MNPS: 3 Predictive Models: 4% Optimal (inductive), 16% Moderate (inductive), 35% Low (inductive)				
V - Erigeron flabellifolius (<i>Fan-leaved Fleabane</i>) SOC				
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G3 State: S3 MNPS: 3 Predictive Models: 3% Optimal (inductive), 22% Low (inductive)				
M - Merriam's Shrew (<i>Sorex merriami</i>) SOC				
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G4 State: S3 FWP SWAP: SGCN3 Predictive Models: 100% Moderate (inductive) Associated Habitats: 53% Common				
M - Hoary Bat (<i>Lasiurus cinereus</i>) SOC				
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G3G4 State: S3 BLM: SENSITIVE FWP SWAP: SGCN3 Predictive Models: 91% Moderate (inductive), 9% Low (inductive) Associated Habitats: 65% Common, 24% Occasional				
M - Little Brown Myotis (<i>Myotis lucifugus</i>) SOC				
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G3 State: S3 FWP SWAP: SGCN3 Predictive Models: 90% Moderate (inductive), 10% Low (inductive) Associated Habitats: 73% Common, 27% Occasional				
M - Long-legged Myotis (<i>Myotis volans</i>) SOC				
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G4G5 State: S3 Predictive Models: 90% Moderate (inductive), 10% Low (inductive) Associated Habitats: 62% Common, 26% Occasional				
M - Townsend's Big-eared Bat (<i>Corynorhinus townsendii</i>) SOC				
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Species of Concern - Native Species Global: G4 State: S3 USFS: Sensitive - Known on Forests (BD, BRT, CG, HLC, KOOT, LOLO) BLM: SENSITIVE FWP SWAP: SGCN3 Predictive Models: 89% Moderate (inductive), 11% Low (inductive) Associated Habitats: 62% Common, 12% Occasional				
M - Silver-haired Bat (<i>Lasionycteris noctivagans</i>) PSOC				
View in Field Guide View Predicted Models View Associated Habitat View Range Maps Potential Species of Concern - Native Species Global: G3G4 State: S4 Predictive Models: 78% Moderate (inductive), 22% Low (inductive) Associated Habitats: 65% Common, 15% Occasional				
V - Eleocharis rostellata (<i>Beaked Spikerush</i>) SOC				

View in Field Guide	View Predicted Models	View Range Maps	USFS: Sensitive - Known on Forests (BD, CG, HLC)	
Species of Concern - Native Species Global: G5 State: S3 Species of Conservation Concern on Forests (FLAT) MNPS: 2				
Predictive Models: 70% Moderate (inductive), 30% Low (inductive)				
V - <i>Potentilla plattensis</i> (<i>Platte Cinquefoil</i>) SOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species Global: G4 State: S3 MNPS: 4				
Predictive Models: 69% Moderate (inductive), 31% Low (inductive) Associated Habitats: 2% Common				
V - <i>Carex crawei</i> (<i>Crawe's Sedge</i>) SOC				
View in Field Guide	View Predicted Models	View Range Maps		
Species of Concern - Native Species Global: G5 State: S2S3 MNPS: 3				
Predictive Models: 69% Moderate (inductive), 31% Low (inductive)				
M - Long-eared Myotis (<i>Myotis evotis</i>) SOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species Global: G5 State: S3				
Predictive Models: 67% Moderate (inductive), 33% Low (inductive) Associated Habitats: 65% Common, 23% Occasional				
M - Dwarf Shrew (<i>Sorex nanus</i>) SOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species Global: G4 State: S2S3 FWP SWAP: SGCN2-3				
Predictive Models: 57% Moderate (inductive), 43% Low (inductive) Associated Habitats: 10% Common, 43% Occasional				
V - <i>Draba densifolia</i> (<i>Dense-leaf Draba</i>) SOC				
View in Field Guide	View Predicted Models	View Range Maps		
Species of Concern - Native Species Global: G5 State: S2 MNPS: 2				
Predictive Models: 56% Moderate (inductive), 3% Low (inductive)				
V - <i>Ranunculus hyperboreus</i> (<i>High Northern Buttercup</i>) PSOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Potential Species of Concern - Native Species Global: G5 State: S3S4				
Predictive Models: 53% Moderate (inductive), 47% Low (inductive) Associated Habitats: 1% Common				
M - Uinta Ground Squirrel (<i>Urocitellus armatus</i>) PSOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Potential Species of Concern - Native Species Global: G5 State: S3S4 FWP SWAP: SGIN				
Predictive Models: 53% Moderate (inductive), 44% Low (inductive) Associated Habitats: 18% Common				
M - Fringed Myotis (<i>Myotis thysanodes</i>) SOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species Global: G4 State: S3 BLM: SENSITIVE FWP SWAP: SGCN3				
Predictive Models: 51% Moderate (inductive), 49% Low (inductive) Associated Habitats: 62% Common, 26% Occasional				
M - North American Porcupine (<i>Erethizon dorsatum</i>) PSOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Potential Species of Concern - Native Species Global: G5 State: S3S4 FWP SWAP: SGIN				
Predictive Models: 42% Moderate (inductive), 58% Low (inductive) Associated Habitats: 69% Common				
B - Lewis's Woodpecker (<i>Melanerpes lewis</i>) SOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species Global: G4 State: S2B USFWS: MBTA; BCC10; BCC17 BLM: SENSITIVE FWP SWAP: SGCN2 PIF: 2				
Predictive Models: 39% Moderate (inductive), 61% Low (inductive) Associated Habitats: 11% Occasional				
B - Yellow-billed Cuckoo (<i>Coccyzus americanus</i>) SOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species Global: G5 State: S3B USFWS: PS: LT; MBTA USFS: Threatened on Forests (BRT, LOLO) BLM: THREATENED FWP SWAP: SGCN3, SGIN PIF: 2				
Predictive Models: 39% Moderate (inductive), 51% Low (inductive) Associated Habitats: 11% Common				
M - Preble's Shrew (<i>Sorex preblei</i>) SOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species Global: G4 State: S3 FWP SWAP: SGCN3				
Predictive Models: 33% Moderate (inductive), 67% Low (inductive) Associated Habitats: 57% Common				
B - Clark's Nutcracker (<i>Nucifraga columbiana</i>) SOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species Global: G5 State: S3 USFWS: MBTA USFS: Species of Conservation Concern on Forests (FLAT) FWP SWAP: SGCN3 PIF: 3				
Predictive Models: 32% Moderate (inductive), 68% Low (inductive) Associated Habitats: 13% Common				
V - <i>Grayia spinosa</i> (<i>Spiny Hopsage</i>) SOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species Global: G5 State: S2 MNPS: 2				
Predictive Models: 29% Moderate (inductive), 16% Low (inductive) Associated Habitats: 7% Common				
B - Broad-tailed Hummingbird (<i>Selasphorus platycercus</i>) PSOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Potential Species of Concern - Native Species Global: G5 State: S4B USFWS: MBTA; BCC10 FWP SWAP: SGIN				
Predictive Models: 29% Moderate (inductive), 11% Low (inductive) Associated Habitats: 21% Common, 48% Occasional				
M - North American Water Vole (<i>Microtus richardsoni</i>) PSOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Potential Species of Concern - Native Species Global: G5 State: S4				
Predictive Models: 29% Moderate (inductive), 3% Low (inductive) Associated Habitats: 5% Common				
B - Brewer's Sparrow (<i>Spizella breweri</i>) SOC				

View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species Global: G5 State: S3B USFWS: MBTA BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2				
Predictive Models: 21% Moderate (inductive), 79% Low (inductive) Associated Habitats: 9% Common				
V - <i>Erigeron parryi</i> (<i>Parry's Fleabane</i>) SOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species Global: G2G3 State: S2S3 MNPS: 3				
Predictive Models: 21% Moderate (inductive), 38% Low (inductive) Associated Habitats: 40% Common				
A - Northern Leopard Frog (<i>Lithobates pipiens</i>) SOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
USFS: Sensitive - Known on Forests (CG, HLC, KOOT)				
Species of Concern - Native Species Global: G5 State: S1,S4 Sensitive - Suspected on Forests (BRT, LOLO) BLM: SENSITIVE FWP SWAP: SGCN1				
Predictive Models: 18% Moderate (inductive), 81% Low (inductive) Associated Habitats: 3% Common, 11% Occasional				
V - <i>Stipa lettermanii</i> (<i>Letterman's Needlegrass</i>) SOC Not Assigned				
View in Field Guide	View Predicted Models	View Range Maps		
Species of Concern - Native Species Global: G5 State: S1S3 MNPS: 3				
Predictive Models: 18% Moderate (inductive), 35% Low (inductive)				
B - <i>Meesia triquetra</i> (<i>Meesia Moss</i>) SOC Not Assigned				
View in Field Guide	View Predicted Models	View Range Maps		
USFS: Sensitive - Known on Forests (BRT, CG, KOOT)				
Species of Concern - Native Species Global: G5 State: S2 Sensitive - Suspected on Forests (LOLO)				
Species of Conservation Concern on Forests (FLAT)				
Predictive Models: 17% Moderate (inductive), 73% Low (inductive)				
V - <i>Stellaria crassifolia</i> (<i>Fleshy Stitchwort</i>) SOC Not Assigned				
View in Field Guide	View Predicted Models	View Range Maps		
Species of Concern - Native Species Global: G5 State: S2 MNPS: 3				
Predictive Models: 17% Moderate (inductive), 67% Low (inductive)				
R - Greater Short-horned Lizard (<i>Phrynosoma hernandesi</i>) SOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
USFS: Sensitive - Known on Forests (CG)				
Species of Concern - Native Species Global: G5 State: S3 Sensitive - Suspected on Forests (HLC) BLM: SENSITIVE FWP SWAP: SGCN3, SGIN				
Predictive Models: 11% Moderate (inductive), 89% Low (inductive) Associated Habitats: 48% Common, 1% Occasional				
B - Sage Thrasher (<i>Oreoscoptes montanus</i>) SOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species Global: G4 State: S3B USFWS: MBTA BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 3				
Predictive Models: 5% Moderate (inductive), 95% Low (inductive) Associated Habitats: 9% Common				
V - <i>Musineon vaginatum</i> (<i>Rydberg's Parsley</i>) PSOC Not Assigned				
View in Field Guide	View Predicted Models	View Range Maps		
Potential Species of Concern - Native Species Global: G3G4 State: S3S4				
Predictive Models: 3% Moderate (inductive), 51% Low (inductive)				
V - <i>Polygonum austinae</i> (<i>Austin's Knotweed</i>) PSOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
USFS: Sensitive - Known on Forests (BD, HLC)				
Potential Species of Concern - Native Species Global: G5T4 State: S3S4 Sensitive - Suspected on Forests (CG) MNPS: 2				
Predictive Models: 2% Moderate (inductive), 14% Low (inductive) Associated Habitats: 39% Common				
B - Common Poorwill (<i>Phalaenoptilus nuttallii</i>) PSOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Potential Species of Concern - Native Species Global: G5 State: S4B USFWS: MBTA FWP SWAP: SGIN PIF: 3				
Predictive Models: 1% Moderate (inductive), 91% Low (inductive) Associated Habitats: 49% Common, 10% Occasional				
A - Western Toad (<i>Anaxyrus boreas</i>) SOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species Global: G4 State: S2 USFS: Sensitive - Known on Forests (BD, BRT, CG, HLC, KOOT, LOLO) BLM: SENSITIVE				
FWP SWAP: SGCN2				
Predictive Models: 91% Low (inductive) Associated Habitats: 17% Common, 47% Occasional				
V - <i>Erigeron linearis</i> (<i>Linear-leaf Fleabane</i>) SOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species Global: G5 State: S2 MNPS: 2				
Predictive Models: 89% Low (inductive) Associated Habitats: 40% Common				
B - Plumbeous Vireo (<i>Vireo plumbeus</i>) PSOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Potential Species of Concern - Native Species Global: G5 State: S3S4B USFWS: MBTA PIF: 3				
Predictive Models: 64% Low (inductive) Associated Habitats: 11% Common				
B - Rufous Hummingbird (<i>Selasphorus rufus</i>) PSOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Potential Species of Concern - Native Species Global: G4 State: S4B USFWS: MBTA; BCC10 PIF: 3				
Predictive Models: 59% Low (inductive) Associated Habitats: 61% Common, 1% Occasional				
B - Peregrine Falcon (<i>Falco peregrinus</i>) SOC				
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species Global: G4 State: S3 USFWS: DM; MBTA USFS: Sensitive - Known on Forests (BD, BRT, CG, HLC, KOOT, LOLO)				
BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2				
Predictive Models: 58% Low (inductive) Associated Habitats: 42% Common, 4% Occasional				
M - Hayden's Shrew (<i>Sorex haydeni</i>) PSOC				

View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Potential Species of Concern - Native Species				Global: G5 State: S3S4
Predictive Models: 52% Low (inductive)		Associated Habitats: 57% Common		
B - Black-billed Cuckoo (<i>Coccyzus erythrophthalmus</i>) SOC				S M
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species				Global: G5 State: S3B USFWS: MBTA; BCC11; BCC17 BLM: SENSITIVE FWP SWAP: SGCN3, SGIN PIF: 2
Predictive Models: 52% Low (inductive)		Associated Habitats: 11% Common		
M - Black-tailed Prairie Dog (<i>Cynomys ludovicianus</i>) SOC				Y
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species				Global: G4 State: S3 USFS: Sensitive - Known on Forests (CG) BLM: SENSITIVE FWP SWAP: SGCN3
Predictive Models: 52% Low (inductive)		Associated Habitats: 9% Common, 51% Occasional		
V - Elodea bifoliata (<i>Long-sheath Waterweed</i>) SOC				Y
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species				Global: G4G5 State: S2? MNPS: 3
Predictive Models: 52% Low (inductive)		Associated Habitats: 3% Common		
B - Great Gray Owl (<i>Strix nebulosa</i>) SOC				Y
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species				Global: G5 State: S3 USFWS: MBTA BLM: SENSITIVE FWP SWAP: SGCN3, SGIN PIF: 3
Predictive Models: 44% Low (inductive)		Associated Habitats: 13% Common, 1% Occasional		
B - Ferruginous Hawk (<i>Buteo regalis</i>) SOC				S M
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species				Global: G4 State: S3B USFWS: MBTA; BCC17 BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2
Predictive Models: 43% Low (inductive)		Associated Habitats: 49% Common, 1% Occasional		
V - Cypripedium parviflorum (<i>Small Yellow Lady's-slipper</i>) PSOC				Not Assigned Y
View in Field Guide	View Predicted Models	View Range Maps		
Potential Species of Concern - Native Species				USFS: Sensitive - Known on Forests (CG, HLC, KOOT, LOLO)
Predictive Models: 42% Low (inductive)		Global: G5 State: S3S4 Sensitive - Suspected on Forests (BRT) MNPS: 2		
B - Greater Sage-Grouse (<i>Centrocercus urophasianus</i>) SOC				Y
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species				USFS: Sensitive - Known on Forests (BD)
Predictive Models: 34% Low (inductive)		Global: G3G4 State: S2 Sensitive - Suspected on Forests (CG, HLC) BLM: SENSITIVE FWP SWAP: SGCN2 PIF: 1		
Associated Habitats: 10% Common, 1% Occasional				
V - Isoetes echinospora (<i>Spiny-spore Quillwort</i>) SOC				Not Assigned Y
View in Field Guide	View Predicted Models	View Range Maps		
Species of Concern - Native Species				Global: G5 State: S3 MNPS: 3
Predictive Models: 32% Low (inductive)				
M - Canada Lynx (<i>Lynx canadensis</i>) SOC				7 Y
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species				USFS: Threatened on Forests (BD, BRT)
Predictive Models: 31% Low (inductive)		Global: G5 State: S3 USFWS: LT; CH Threatened, Critical Habitat on Forests (CG, HLC, KOOT, LOLO) BLM: THREATENED		
Associated Habitats: 1% Common, 2% Occasional		FWP SWAP: SGCN3		
B - American Bittern (<i>Botaurus lentiginosus</i>) SOC				S M
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species				Global: G5 State: S3B USFWS: MBTA BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 3
Predictive Models: 28% Low (inductive)		Associated Habitats: 11% Common		
V - Kobresia simpliciuscula (<i>Simple Kobresia</i>) SOC				Y
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species				Global: G5 State: S3 MNPS: 3
Predictive Models: 24% Low (inductive)		Associated Habitats: 1% Common		
B - Ovenbird (<i>Seiurus aurocapilla</i>) PSOC				S M
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Potential Species of Concern - Native Species				Global: G5 State: S4B USFWS: MBTA PIF: 3
Predictive Models: 18% Low (inductive)		Associated Habitats: 1% Common, 1% Occasional		
V - Adoxa moschatellina (<i>Musk-root</i>) SOC				Not Assigned Y
View in Field Guide	View Predicted Models	View Range Maps		
Species of Concern - Native Species				Global: G5 State: S3 USFS: Sensitive - Known on Forests (BD, CG, LOLO) MNPS: 3
Predictive Models: 18% Low (inductive)				
V - Townsendia spatulata (<i>Sword Townsend-daisy</i>) PSOC				Not Assigned Y
View in Field Guide	View Predicted Models	View Range Maps		
Potential Species of Concern - Native Species				Global: G3 State: S3S4 MNPS: 3
Predictive Models: 16% Low (inductive)				
V - Botrychium simplex (<i>Least Moonwort</i>) SOC				Y
View in Field Guide	View Predicted Models	View Associated Habitat	View Range Maps	
Species of Concern - Native Species				Global: G5 State: S2 MNPS: 4
Predictive Models: 11% Low (inductive)		Associated Habitats: 2% Common		
V - Botrychium hesperium (<i>Western Moonwort</i>) SOC				Not Assigned Y
View in Field Guide	View Predicted Models	View Range Maps		
Species of Concern - Native Species				Global: G4 State: S3 USFS: Sensitive - Known on Forests (BD, KOOT) MNPS: 4
Predictive Models: 11% Low (inductive)				

View in Field Guide	View Associated Habitat	View Range Maps								
Potential Species of Concern - Native Species			Global: G5	State: S2S4						
Associated Habitats: 3% Occasional										
V - Noccaea parviflora (<i>Small-flowered Pennycress</i>) SOC							Not Available	<input type="text"/>		
View in Field Guide	View Associated Habitat	View Range Maps								
Species of Concern - Native Species			Global: G3	State: S3	MNPS: 3					
Associated Habitats: 3% Common										
B - White-faced Ibis (<i>Plegadis chihi</i>) SOC							Not Available	<input type="text"/>		
View in Field Guide	View Associated Habitat	View Range Maps								
Species of Concern - Native Species			Global: G5	State: S3B	USFWS: MBTA	BLM: SENSITIVE	FWP SWAP: SGCN3	PIF: 2		
Associated Habitats: 3% Common										
B - Black-crowned Night-Heron (<i>Nycticorax nycticorax</i>) SOC							Not Available	<input type="text"/>		
View in Field Guide	View Associated Habitat	View Range Maps								
Species of Concern - Native Species			Global: G5	State: S3B	USFWS: MBTA	FWP SWAP: SGCN3	PIF: 3			
Associated Habitats: 3% Common										
B - Common Tern (<i>Sterna hirundo</i>) SOC							Not Available	<input type="text"/>		
View in Field Guide	View Associated Habitat	View Range Maps								
Species of Concern - Native Species			Global: G5	State: S3B	USFWS: MBTA	BLM: SENSITIVE	FWP SWAP: SGCN3	PIF: 2		
Associated Habitats: 3% Common										
B - Piping Plover (<i>Charadrius melodus</i>) SOC							Not Available	<input type="text"/>		
View in Field Guide	View Associated Habitat	View Range Maps								
Species of Concern - Native Species			Global: G3	State: S2B	USFWS: LT; CH; MBTA	BLM: THREATENED	FWP SWAP: SGCN2	PIF: 1		
Associated Habitats: 3% Common										
M - Wolverine (<i>Gulo gulo</i>) SOC							7	Not Available	<input type="text"/>	
View in Field Guide	View Associated Habitat	View Range Maps								
Species of Concern - Native Species			Global: G4	State: S3	USFS: Proposed on Forests (BD, BRT, CG, HLC, KOOT, LOLO)	BLM: SENSITIVE	FWP SWAP: SGCN3			
Associated Habitats: 2% Common, 11% Occasional										
B - Boreal Owl (<i>Aegolius funereus</i>) PSOC							Not Available	<input type="text"/>		
View in Field Guide	View Associated Habitat	View Range Maps								
Potential Species of Concern - Native Species			Global: G5	State: S3S4	USFWS: MBTA	FWP SWAP: SGIN	PIF: 3			
Associated Habitats: 2% Common, 1% Occasional										
V - Botrychium ascendens (<i>Upward-lobed Moonwort</i>) SOC							Not Available	<input type="text"/>		
View in Field Guide	View Associated Habitat	View Range Maps								
Species of Concern - Native Species			Global: G3	State: S3	USFS: Sensitive - Known on Forests (HLC, KOOT)	MNPS: 4				
Associated Habitats: 2% Common										
V - Botrychium crenulatum (<i>Wavy Moonwort</i>) SOC							Not Available	<input type="text"/>		
View in Field Guide	View Associated Habitat	View Range Maps								
Species of Concern - Native Species			Global: G4	State: S3	USFS: Sensitive - Known on Forests (BD, HLC, KOOT, LOLO)	MNPS: 4				
Associated Habitats: 2% Common										
V - Botrychium paradoxum (<i>Peculiar Moonwort</i>) SOC							Not Available	<input type="text"/>		
View in Field Guide	View Associated Habitat	View Range Maps								
Species of Concern - Native Species			Global: G3G4	State: S3	USFS: Sensitive - Known on Forests (BD, HLC, KOOT) Sensitive - Suspected on Forests (LOLO)	Species of Conservation Concern on Forests (FLAT)	BLM: SENSITIVE	MNPS: 4		
Associated Habitats: 2% Common										
B - Northern Hawk Owl (<i>Surnia ulula</i>) SOC							Not Available	<input type="text"/>		
View in Field Guide	View Associated Habitat	View Range Maps								
Species of Concern - Native Species			Global: G5	State: S3	USFWS: MBTA	FWP SWAP: SGCN3, SGIN				
Associated Habitats: 2% Common										
M - Swift Fox (<i>Vulpes velox</i>) SOC							Not Available	<input type="text"/>		
View in Field Guide	View Associated Habitat	View Range Maps								
Species of Concern - Native Species			Global: G3	State: S3	BLM: SENSITIVE	FWP SWAP: SGCN3				
Associated Habitats: 1% Common, 46% Occasional										
I - Argia vivida (<i>Vivid Dancer</i>) PSOC							Not Available	<input type="text"/>		
View in Field Guide	View Associated Habitat	View Range Maps								
Potential Species of Concern - Native Species			Global: G5	State: S3S5						
Associated Habitats: 1% Common, 14% Occasional										
I - Colias gigantea (<i>Giant Sulphur</i>) PSOC							Not Available	<input type="text"/>		
View in Field Guide	View Associated Habitat	View Range Maps								
Potential Species of Concern - Native Species			Global: G5	State: S3						
Associated Habitats: 1% Common, 11% Occasional										
I - Aeshna juncea (<i>Sedge Darner</i>) PSOC							Not Available	<input type="text"/>		
View in Field Guide	View Associated Habitat	View Range Maps								
Potential Species of Concern - Native Species			Global: G5	State: S3S5						
Associated Habitats: 1% Common, 3% Occasional										
I - Enallagma clausum (<i>Alkali Bluet</i>) PSOC							Not Available	<input type="text"/>		
View in Field Guide	View Associated Habitat	View Range Maps								
Potential Species of Concern - Native Species			Global: G5	State: S2S4						
Associated Habitats: 1% Common, 3% Occasional										
I - Leucorrhinia borealis (<i>Boreal Whiteface</i>) SOC							Not Available	<input type="text"/>		

Structured Surveys

Summarized by: **002S010E018** (*Buffered PLSS Section*)

The Montana Natural Heritage Program (MTNHP) records information on the locations where more than 80 different types of well-defined repeatable survey protocols capable of detecting an animal species or suite of animal species have been conducted by state, federal, tribal, university, or private consulting biologists. Examples of structured survey protocols tracked by MTNHP include: visual encounter and dip net surveys for pond breeding amphibians, point counts for birds, call playback surveys for selected bird species, visual surveys of migrating raptors, kick net stream reach surveys for macroinvertebrates, visual encounter cover object surveys for terrestrial mollusks, bat acoustic or mist net surveys, pitfall and/or snap trap surveys for small terrestrial mammals, track or camera trap surveys for large mammals, and trap surveys for turtles. Whenever possible, photographs of survey locations are stored in MTNHP databases.

MTNHP does not typically manage information on structured surveys for plants; surveys for invasive species may be a future exception.

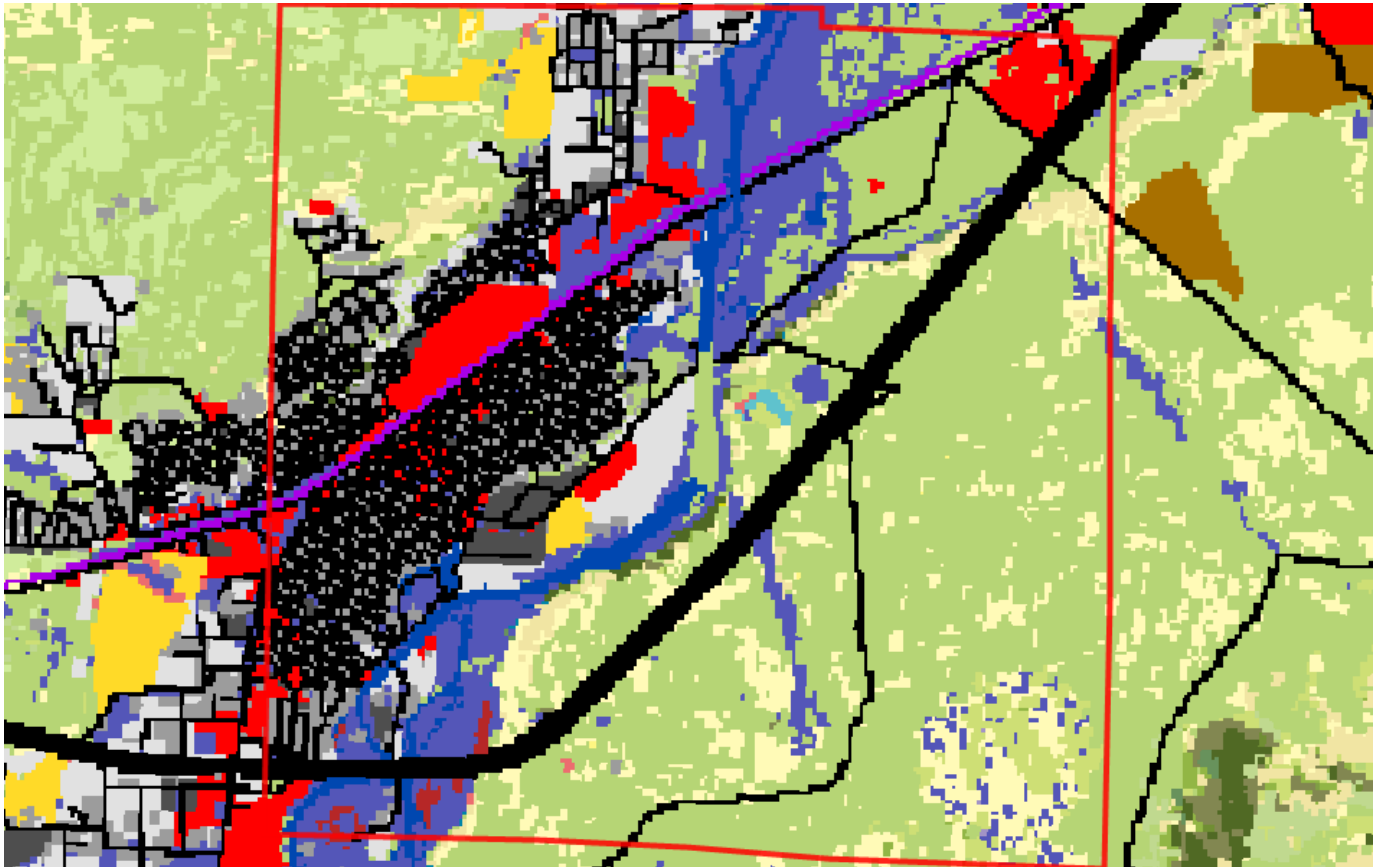
Within the report area you have requested, structured surveys are summarized by the number of each type of structured survey protocol that has been conducted, the number of species detections/observations resulting from these surveys, and the most recent year a survey has been conducted.

B-Long-billed Curlew (<i>Long-billed Curlew, Road-based, Point Count</i>)	Survey Count: 2	Obs Count:	Recent Survey: 2015
B-Raptor nest (<i>Raptor Nest Survey</i>)	Survey Count: 11	Obs Count: 11	Recent Survey: 2020
E-Eastern Heath Snail (<i>Eastern Heath Snail Survey</i>)	Survey Count: 1	Obs Count:	Recent Survey: 2012
E-Eurasian Water-milfoil Rake (<i>Rake tows/pulls for Eurasian Water-milfoil</i>)	Survey Count: 25	Obs Count:	Recent Survey: 2020
E-Invasive Mussel Plankton Tow (<i>Plankton tows for veligers of Invasive Mussels</i>)	Survey Count: 5	Obs Count:	Recent Survey: 2020
E-Kicknet (<i>Kicknet Collection Survey for Invasive Mussels and Snails</i>)	Survey Count: 7	Obs Count:	Recent Survey: 2020
E-Noxious Weed, Road-based (<i>Noxious Weed Road-based Visual Surveys</i>)	Survey Count: 16	Obs Count: 112	Recent Survey: 2003
E-Noxious Weed, Visual (<i>Noxious Weed Visual Surveys</i>)	Survey Count: 2	Obs Count: 21	Recent Survey: 2007
E-Visual Aquatic Invasives (<i>Visual Encounter Surveys for Aquatic Invasives on Shorelines or Underwater</i>)	Survey Count: 66	Obs Count: 54	Recent Survey: 2020
F-Fish Electrofishing (<i>Fish Electrofishing Surveys</i>)	Survey Count: 4	Obs Count: 12	Recent Survey: 1991
F-Fish Other Survey (<i>Fish Other Survey (FWP Survey Type)</i>)	Survey Count: 15	Obs Count: 36	Recent Survey: 1986
I-Mosquito CDC Trap (<i>Montana Mosquito Surveillance Project</i>)	Survey Count: 12	Obs Count: 70	Recent Survey: 2006
I-Mussel (<i>Stream Mussel Survey</i>)	Survey Count: 1	Obs Count:	Recent Survey: 2009
M-Bat Roost (Active Season) (<i>Bat Roost (Active Season) Survey</i>)	Survey Count: 1	Obs Count: 1	Recent Survey: 2019
P-Algal scraping (<i>Algal Scraping</i>)	Survey Count: 1	Obs Count: 75	Recent Survey: 2000



Land Cover

Summarized by: **002S010E018** (Buffered PLSS Section)



Grassland Systems Montane Grassland

Rocky Mountain Lower Montane, Foothill, and Valley Grassland

39% (2,287
Acres)

This grassland system of the northern Rocky Mountains is found at lower montane to foothill elevations in mountains and valleys throughout Montana. These grasslands are floristically similar to Big Sagebrush Steppe but are defined by shorter summers, colder winters, and young soils derived from recent glacial and alluvial material. They are found at elevations from 548 - 1,650 meters (1,800-5,413 feet). In the lower montane zone, they range from small meadows to large open parks surrounded by conifers; below the lower treeline, they occur as extensive foothill and valley grasslands. Soils are relatively deep, fine-textured, often with coarse fragments, and non-saline. Microphytic crust may be present in high-quality occurrences. This system is typified by cool-season perennial bunch grasses and forbs (>25%) cover, with a sparse shrub cover (<10%). Rough fescue (*Festuca campestris*) is dominant in the northwestern portion of the state and Idaho fescue (*Festuca idahoensis*) is dominant or co-dominant throughout the range of the system. Bluebunch wheatgrass (*Pseudoroegneria spicata*) occurs as a co-dominant throughout the range as well, especially on xeric sites. Western wheatgrass (*Pascopyrum smithii*) is consistently present, often with appreciable coverage (>10%) in lower elevation occurrences in western Montana and virtually always present, with relatively high coverages (>25%), on the edge of the Northwestern Great Plains region. Species diversity ranges from a high of more than 50 per 400 square meter plot on mesic sites to 15 (or fewer) on xeric and disturbed sites. Most occurrences have at least 25 vascular species present. Farmland conversion, noxious species invasion, fire suppression, heavy grazing and oil and gas development are major threats to this system.

No Image

Human Land Use Developed

Other Roads

14% (800
Acres)

County, city and or rural roads generally open to motor vehicles.



Wetland and Riparian Systems Floodplain and Riparian

Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland

11% (649 Acres)

This ecological system is found throughout the Rocky Mountain and Colorado Plateau regions. In Montana, it ranges from approximately 945 to 2,042 meters (3,100 to 6,700 feet), characteristically occurring as a mosaic of multiple communities that are tree-dominated with a diverse shrub component. It is dependent on a natural hydrologic regime, especially annual to episodic flooding. Occurrences are found within the flood zone of rivers, on islands, sand or cobble bars, and on immediate streambanks. It can form large, wide occurrences on mid-channel islands in larger rivers or narrow bands on small, rocky canyon tributaries and well-drained benches. It is also typically found in backwater channels and other perennially wet but less scoured sites, such as floodplains swales and irrigation ditches. In some locations, occurrences extend into moderately high intermountain basins where the adjacent vegetation is sage steppe. Dominant trees may include boxelder maple (*Acer negundo*), narrowleaf cottonwood (*Populus angustifolia*), Plains cottonwood (*Populus deltoides*), Douglas-fir (*Pseudotsuga menziesii*), peachleaf willow (*Salix amygdaloides*), or Rocky Mountain juniper (*Juniperus scopulorum*). Dominant shrubs include Rocky Mountain maple (*Acer glabrum*), thinlineaf alder (*Alnus incana*), river birch (*Betula occidentalis*), redbud (*Cornus sericea*), hawthorne (*Crataegus spp.*), chokecherry (*Prunus virginiana*), skunkbush sumac (*Rhus trilobata*), Drummond's willow (*Salix drummondiana*), sandbar willow (*Salix exigua*), Pacific willow (*Salix lucida*), rose (*Rosa species*), silver buffaloberry (*Shepherdia argentea*), or snowberry (*Symphoricarpos species*). Exotic trees of Russian olive (*Elaeagnus angustifolia*) and saltcedar (*Tamarix species*) may invade some stands in southeastern and south-central Montana.



7% (440 Acres)

Shrubland, Steppe and Savanna Systems Sagebrush Steppe

Big Sagebrush Steppe

This widespread ecological system occurs throughout much of central Montana, and north and east onto the western fringe of the Great Plains. In central Montana, where this system occurs on both glaciated and non-glaciated landscapes, it differs slightly, with more summer rain than winter precipitation and more precipitation annually. Throughout its distribution, soils are typically deep and non-saline, often with a microphytic crust. This shrub-steppe is dominated by perennial grasses and forbs with greater than 25% cover. Overall shrub cover is less than 10 percent. In Montana and Wyoming, stands are more mesic, with more biomass of grass, and have less shrub diversity than stands farther to the west, and 50 to 90% of the occurrences are dominated by Wyoming big sagebrush with western wheatgrass (*Pascopyrum smithii*). Japanese brome (*Bromus japonicus*) and cheatgrass (*Bromus tectorum*) are indicators of disturbance, but cheatgrass is typically not as abundant as in the Intermountain West, possibly due to a colder climate. The natural fire regime of this ecological system maintains a patchy distribution of shrubs, preserving the steppe character. Shrubs may increase following heavy grazing and/or with fire suppression. In central and eastern Montana, complexes of prairie dog towns are common in this ecological system.

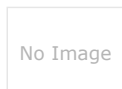


5% (278 Acres)

Human Land Use Developed

Low Intensity Residential

Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20-50% of total cover. These areas most commonly include single-family housing units in rural and suburban areas. Paved roadways may be classified into this category.

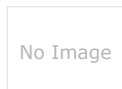


4% (247 Acres)

Human Land Use Developed

Interstate

National Highway System (NHS) limited access highways and their shoulders and rights of way.



4% (243 Acres)

Human Land Use Developed

Commercial / Industrial

Businesses, industrial parks, hospitals, airports; utilities in commercial/industrial areas.



4% (211 Acres)

Human Land Use Developed

Developed, Open Space

Vegetation (primarily grasses) planted in developed settings for recreation, erosion control, or aesthetic purposes. Impervious surfaces account for less than 20% of total cover. This category often includes highway and railway rights of way and graveled rural roads.



3% (162 Acres)

Wetland and Riparian Systems Open Water

Open Water

All areas of open water, generally with less than 25% cover of vegetation or soil



2% (100 Acres)

Grassland Systems Montane Grassland

Rocky Mountain Subalpine-Montane Mesic Meadow

This system is restricted to sites from lower montane to subalpine elevations where finely textured soils, snow deposition, or windswept conditions limit tree establishment. Many occurrences are small patches, and are often found in mosaics within woodlands, dense shrublands, or just below alpine communities. Elevations range from 600 to 2,011 meters (2,000-6,600 feet) in the northern Rocky Mountains and up to 2,286- 2,682 meters (7,500-8,800 feet) in the mountains of southwestern Montana. This system occurs on gentle to moderate-gradient slopes and in relatively moist habitats. Soils are typically seasonally moist to saturated in the spring, but dry out later in the growing season. At montane elevations, soils are usually clays or silt loams, and some occurrences may have inclusions of hydric soils in low, depressional areas. At subalpine elevations, soils are derived a variety of parent materials, and are usually rocky or gravelly with good aeration and drainage, but with a well developed organic layer. Some occurrences are more heavily dominated by grasses, while others are more dominated by forbs. Common grasses include tufted hairgrass (*Deschampsia caespitosa*), showy oniongrass (*Melica spectabilis*), mountain brome (*Bromus carinatus*), blue wildrye (*Elymus glaucus*), awned sedge (*Carex atherodes*), and small wing sedge (*Carex microptera*). Forb dominated meadows usually comprise a wide species diversity which differs from montane to subalpine elevations. Shrubs such as shrubby cinquefoil (*Dasiphora fruticosa ssp. floribunda*) and snowberry (*Symphoricarpos species*) are occasional but not abundant. This system differs from the Rocky Mountain Alpine Montane Wet Meadow system in that its soils dry out by mid-summer.

Additional Limited Land Cover

1% (78 Acres) **Great Plains Mixedgrass Prairie**

1% (77 Acres) **Montane Sagebrush Steppe**

1% (76 Acres) **Cultivated Crops**

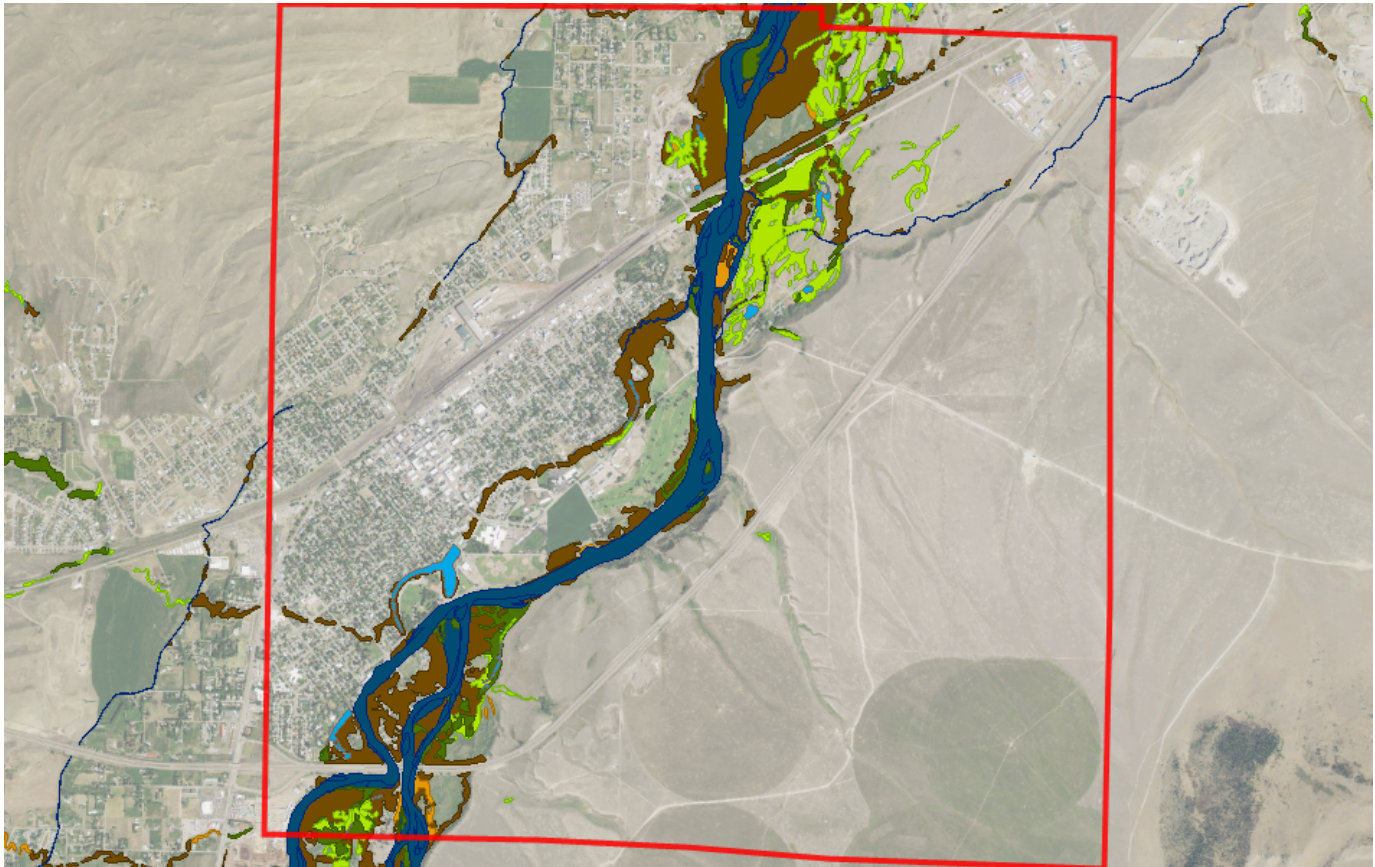
1% (67 Acres) **Major Roads**

- 1% (65 Acres) ■ [High Intensity Residential](#)
- 1% (51 Acres) ■ [Railroad](#)
- <1% (18 Acres) ■ [Rocky Mountain Montane Douglas-fir Forest and Woodland](#)
- <1% (18 Acres) ■ [Introduced Riparian and Wetland Vegetation](#)
- <1% (7 Acres) ■ [Rocky Mountain Montane-Foothill Deciduous Shrubland](#)
- <1% (6 Acres) ■ [Great Plains Saline Depression Wetland](#)
- <1% (5 Acres) ■ [Introduced Upland Vegetation - Annual and Biennial Forbland](#)
- <1% (4 Acres) ■ [Great Plains Shrubland](#)
- <1% (4 Acres) ■ [Aspen Forest and Woodland](#)
- <1% (2 Acres) ■ [Rocky Mountain Foothill Limber Pine - Juniper Woodland](#)
- <1% (2 Acres) ■ [Great Plains Floodplain](#)
- <1% (1 Acres) ■ [Great Plains Wooded Draw and Ravine](#)
- <1% (1 Acres) ■ [Low Sagebrush Shrubland](#)
- <1% (1 Acres) ■ [Alpine-Montane Wet Meadow](#)
- <1% (0 Acres) ■ [Rocky Mountain Lower Montane-Foothill Shrubland](#)



Wetland and Riparian

Summarized by: **002S010E018** (Buffered PLSS Section)



Wetland and Riparian Mapping

[Explain](#)

P - Palustrine

AB - Aquatic Bed

F - Semipermanently Flooded	11 Acres
(no modifier)	7 Acres PABF
h - Diked/Impounded	4 Acres PABFh
G - Intermittently Exposed	8 Acres
h - Diked/Impounded	8 Acres PABGh
K - Artificially Flooded	<1 Acres
x - Excavated	<1 Acres PABKx

P - Palustrine, AB - Aquatic Bed

Wetlands with vegetation growing on or below the water surface for most of the growing season.

EM - Emergent

A - Temporarily Flooded	95 Acres
(no modifier)	95 Acres PEMA
C - Seasonally Flooded	9 Acres
(no modifier)	9 Acres PEMC

P - Palustrine, EM - Emergent

Wetlands with erect, rooted herbaceous vegetation present during most of the growing season.

SS - Scrub-Shrub

A - Temporarily Flooded	53 Acres
(no modifier)	53 Acres PSSA
C - Seasonally Flooded	2 Acres
(no modifier)	2 Acres PSSC

P - Palustrine, SS - Scrub-Shrub

Wetlands dominated by woody vegetation less than 6 meters (20 feet) tall. Woody vegetation includes tree saplings and trees that are stunted due to environmental conditions.

R - Riverine (Rivers)

3 - Upper Perennial

UB - Unconsolidated Bottom

H - Permanently Flooded	162 Acres
(no modifier)	162 Acres R3UBH

R - Riverine (Rivers), 3 - Upper Perennial, UB - Unconsolidated Bottom

Stream channels where the substrate is at least 25% mud, silt or other fine particles.

US - Unconsolidated Shore

A - Temporarily Flooded	29 Acres
(no modifier)	29 Acres R3USA

R - Riverine (Rivers), 3 - Upper Perennial, US - Unconsolidated Shore

Shorelines with less than 75% areal cover of stones, boulders, or bedrock and less than 30% vegetation cover. The area is

C - Seasonally Flooded
(no modifier) 18 Acres
18 Acres R3USC

also irregularly exposed due to seasonal or irregular flooding and subsequent drying.

4 - Intermittent

■ SB - Stream Bed
C - Seasonally Flooded 4 Acres
x - Excavated **4 Acres R4SBCx**

R - Riverine (Rivers), 4 - Intermittent, SB - Stream Bed
Active channel that contains periodic water flow.

Rp - Riparian

1 - Lotic

■ SS - Scrub-Shrub
(no modifier) **10 Acres Rp1SS**

Rp - Riparian, 1 - Lotic, SS - Scrub-Shrub
This type of riparian area is dominated by woody vegetation that is less than 6 meters (20 feet) tall. Woody vegetation includes tree saplings and trees that are stunted due to environmental conditions.

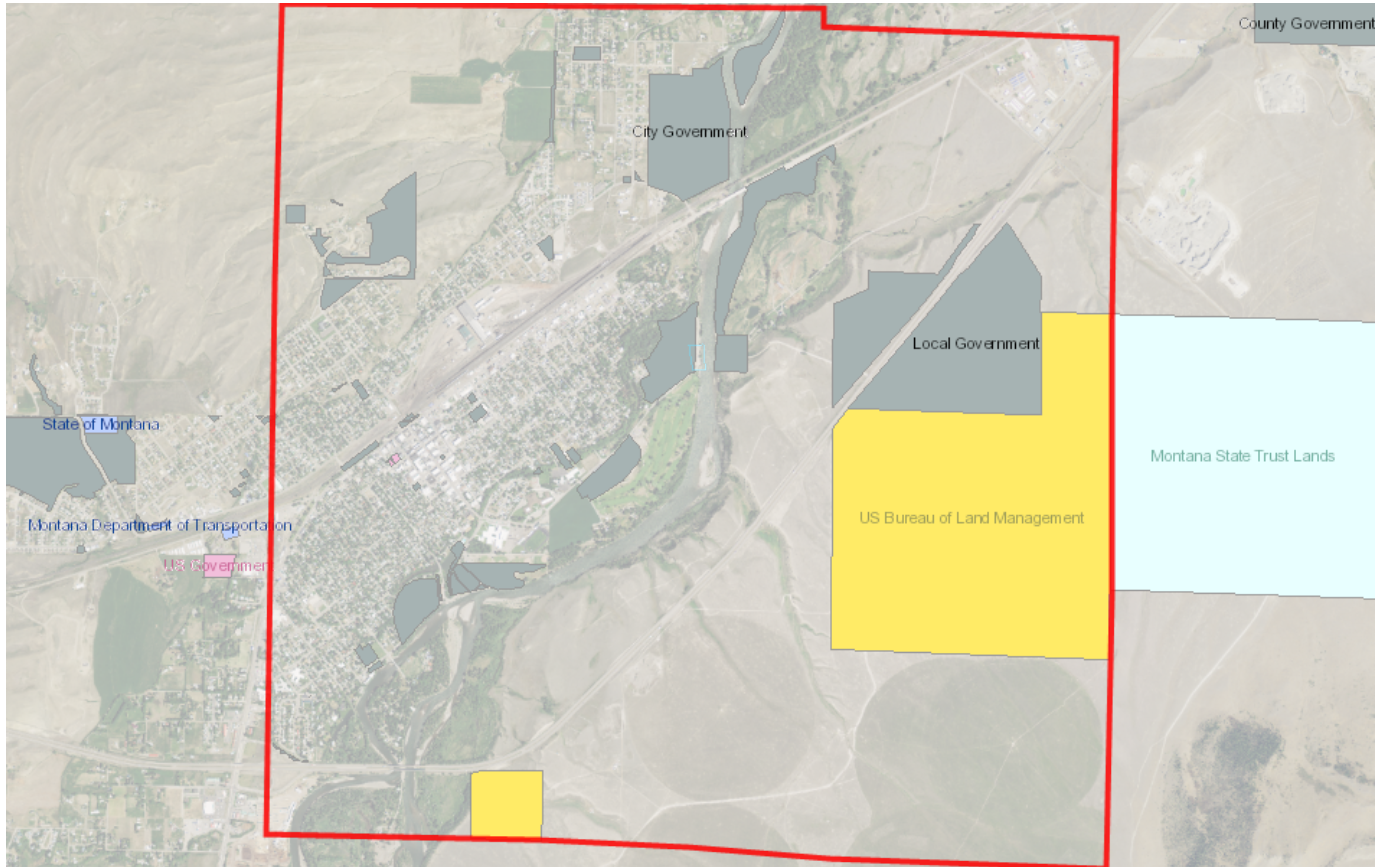
■ FO - Forested
(no modifier) **281 Acres Rp1FO**

Rp - Riparian, 1 - Lotic, FO - Forested
This riparian class has woody vegetation that is greater than 6 meters (20 feet) tall.



Land Management

Summarized by: **002S010E018** (Buffered PLSS Section)



Land Management Summary

[Explain](#)

	Ownership	Tribal	Easements	Other Boundaries (possible overlap)
Public Lands	1,186 Acres (20%)			
Federal	667 Acres (11%)			
US Bureau of Land Management	666 Acres (11%)			
BLM Owned	666 Acres (11%)			
US Government	1 Acres (<1%)			
US Government Owned	1 Acres (<1%)			
State	2 Acres (<1%)			
Montana State Trust Lands	2 Acres (<1%)			
MT State Trust Owned	2 Acres (<1%)			
Montana Fish, Wildlife and Parks				
MTFWP Fishing Access Sites				3 Acres
Mayor's Landing Fishing Access Site				3 Acres
Local	517 Acres (9%)			
Local Government	517 Acres (9%)			
Local Government Owned	517 Acres (9%)			
Private Lands or Unknown Ownership	4,714 Acres (80%)			

Biological Reports

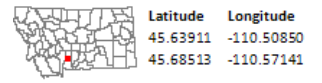
Summarized by: **002S010E018** (*Buffered PLSS Section*)

Within the report area you have requested, citations for all reports and publications associated with plant or animal observations in Montana Natural Heritage Program (MTNHP) databases are listed and, where possible, links to the documents are included.

The MTNHP plans to include reports associated with terrestrial and aquatic communities in the future as allowed for by staff resources. If you know of reports or publications associated with species or biological communities within the report area that are not shown in this report, please let us know: mtnhp@mt.gov

- Dubovsky, James. 2004. Trumpeter Swan Survey of the Rocky Mountain Population, U.S. Breeding Segment Fall 2004. USFWS Migratory Birds and State Programs. Mountain-Prairie Region. Lakewood, CO.
- Dubovsky, James. 2005. Trumpeter Swan Survey of the Rocky Mountain Population, U.S. Breeding Segment Fall 2005. USFWS Migratory Birds and State Programs. Mountain-Prairie Region. Lakewood, CO.
- Dubovsky, Jim. 2002. Trumpeter Swan Survey of the Rocky Mountain Population Fall 2002. US Fish and Wildlife Service Mountain-Prairie Region. Lakewood, CO. 28 pages including appendices plus errata.
- Dubovsky, Jim. 2003. Trumpeter Swan Survey of the Rocky Mountain Population, US Breeding segment Fall 2003. US Fish and Wildlife Service, Mountain-Prairie Region. Lakewood CO. 28 pages including appendices.
- Fuller, Pam and A. Benson. U.S. Department of the Interior. USGS NAS: ***Nonindigenous Aquatic Species Database***. 2017. Accessed 10 October 2017. <https://nas.er.usgs.gov/>
- Gomez, Daniel. 1995. 1995 mid-winter survey Rocky Mountain population trumpeter swans. Red Rock Lakes National Wildlife Refuge. USFWS Lakeview, Montana. 10pp.
- Gomez, Daniel. 1996. 1996 mid-winter survey Rocky Mountain population trumpeter swans. Red Rock Lakes National Wildlife Refuge. US Fish and Wildlife Service Lakeview, Montana. 24 pp.
- Gomez, Daniel. 1997. Trumpeter swan survey of the Rocky Mountain population/U.S. flocks, Fall 1997. Unpublished report from the Red Rock Lakes NWR.
- Gomez, Daniel. 1998. Trumpeter swan survey of the Rocky Mountain population/U.S. flocks, fall 1998. Red Rock Lakes NWR.
- Gomez, Daniel. 1999. 1999 mid-winter survey Rocky Mountain population trumpeter swans. Red Rock Lakes National Wildlife Refuge USFWS Lakeview, MT.
- Gomez, Daniel. 1999. Trumpeter swan survey of the Rocky Mountain population/U.S. flocks, fall 1999. Red Rock Lakes NWR.
- Olson, Dave. 2001. 2001 mid-winter survey Rocky Mountain population trumpeter swans. Red Rock Lakes National Wildlife Refuge USFWS Lakeview, MT.
- Olson, Dave. 2001. Trumpeter swan survey of the Rocky Mountain population Fall 2001. US Fish and Wildlife Service, Red Rock Lakes National Wildlife Refuge, Lakeview, MT. 7 pp. plus appendices.
- Olson, Dave. 2002. 2002 mid-winter survey Rocky Mountain population trumpeter swans. Red Rock Lakes National Wildlife Refuge USFWS Lakeview, MT.
- Reed, Tom and Daniel Gomez. 2000. 2000 mid-winter survey Rocky Mountain population trumpeter swans. Red Rock Lakes National Wildlife Refuge USFWS Lakeview, MT.
- Reed, Tom. 2000. Trumpeter Swan Survey of the US sub-population of the Rocky Mountain population Fall 2000. US Fish and Wildlife Service. Red Rock Lakes NWR. Lakeview, MT. 15pp.
- Regele, Deb. 2020. ***Email with tabular data detailing nesting records for osprey on the Yellowstone River***. 30 November 2020.
- Tobalske, Claudine and Linda Vance. 2017. ***Predicting the distribution of Russian Olive stands in eastern Montana valley bottoms using NAIP imagery***. Report to the US EPA. Montana Natural Heritage Program. Helena, MT. 40pp.

Legend			
Model Icons	Habitat Icons	Range Icons	Num Obs
Suitable (native range)	Common	Suspect (invasive / pest)	Count of obs with 'good precision' (<=1000m)
Optimal Suitability	Occasional	Documented (invasive / pest)	+ indicates additional 'poor precision' obs (1001m-10,000m)
Moderate Suitability		Released (biocontrol)	
Low Suitability		Established (biocontrol)	
Suitable (introduced range)			



Invasive and Pest Species

Summarized by: **002S010E018** (*Buffered PLSS Section*)

	# Obs	Predictive Model	Associated Habitat	Range
Aquatic Invasive Species				
V - <i>Iris pseudacorus</i> (Yellowflag Iris) N2A/AIS			Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: GNR State: SNA Predictive Models: 53% Optimal (inductive), 19% Moderate (inductive), 28% Low (inductive)				
V - <i>Myriophyllum spicatum</i> (Eurasian Water-milfoil) N2A/AIS			Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: GNR State: SNA Predictive Models: 1% Moderate (inductive), 72% Low (inductive)				
V - <i>Butomus umbellatus</i> (Flowering-rush) N2A/AIS			Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: G5 State: SNA Predictive Models: 53% Low (inductive)				
V - <i>Nymphaea odorata</i> (American Water-lily) AIS		Not Available		
View in Field Guide View Associated Habitat View Range Maps Aquatic Invasive Species - Non-native Species Global: G5 State: SNA Associated Habitats: 3% Common				
I - <i>Potamopyrgus antipodarum</i> (New Zealand Mudsnail) AIS	1	Not Available	Not Assigned	
View in Field Guide Aquatic Invasive Species - Non-native Species Global: G5 State: SNA				
Noxious Weeds: Priority 1A				
V - <i>Centaurea solstitialis</i> (Yellow Starthistle) N1A			Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1A - Non-native Species Global: GNR State: SNA Predictive Models: 53% Optimal (inductive), 30% Moderate (inductive), 16% Low (inductive)				
V - <i>Isatis tinctoria</i> (Dyer's Woad) N1A			Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1A - Non-native Species Global: GNR State: SNA Predictive Models: 46% Optimal (inductive), 30% Moderate (inductive), 24% Low (inductive)				
V - <i>Taeniatherum caput-medusae</i> (Medusahead) N1A			Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1A - Non-native Species Global: G4G5 State: SNA Predictive Models: 96% Low (inductive)				
Noxious Weeds: Priority 1B				
V - <i>Lythrum salicaria</i> (Purple Loosestrife) N1B	1		Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1B - Non-native Species Global: G5 State: SNA Predictive Models: 43% Optimal (inductive), 33% Moderate (inductive), 11% Low (inductive)				
V - <i>Polygonum cuspidatum</i> (Japanese Knotweed) N1B	1		Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1B - Non-native Species Global: GNRTNR State: SNA Predictive Models: 40% Optimal (inductive), 35% Moderate (inductive), 24% Low (inductive)				
V - <i>Echium vulgare</i> (Blueweed) N1B			Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1B - Non-native Species Global: GNR State: SNA Predictive Models: 18% Optimal (inductive), 48% Moderate (inductive), 34% Low (inductive)				
V - <i>Cytisus scoparius</i> (Scotch Broom) N1B			Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1B - Non-native Species Global: GNR State: SNA Predictive Models: 57% Moderate (inductive), 43% Low (inductive)				
V - <i>Chondrilla juncea</i> (Rush Skeletonweed) N1B			Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1B - Non-native Species Global: GNR State: SNA Predictive Models: 62% Low (inductive)				
Noxious Weeds: Priority 2A				
V - <i>Rhamnus cathartica</i> (Common Buckthorn) N2A			Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2A - Non-native Species Global: GNR State: SNA Predictive Models: 74% Optimal (inductive), 22% Moderate (inductive), 4% Low (inductive)				
V - <i>Iris pseudacorus</i> (Yellowflag Iris) N2A/AIS			Not Assigned	

View in Field Guide View Predicted Models View Range Maps		Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species		Global: GNR	State: SNA		
Predictive Models:		■ 53% Optimal (inductive),	■ 19% Moderate (inductive),	■ 28% Low (inductive)			
V - <i>Ventenata dubia</i> (<i>Ventenata</i>) N2A						Not Assigned	D
View in Field Guide View Predicted Models View Range Maps		Noxious Weed: Priority 2A - Non-native Species		Global: GNR	State: SNA		
Predictive Models:		■ 35% Optimal (inductive),	■ 54% Moderate (inductive),	■ 11% Low (inductive)			
V - <i>Hieracium praealtum</i> (<i>Kingdevil Hawkweed</i>) N2A						Not Assigned	D
View in Field Guide View Predicted Models View Range Maps		Noxious Weed: Priority 2A - Non-native Species		Global: GNR	State: SNA		
Predictive Models:		■ 17% Optimal (inductive),	■ 36% Moderate (inductive),	■ 47% Low (inductive)			
V - <i>Ranunculus acris</i> (<i>Tall Buttercup</i>) N2A						Not Assigned	D
View in Field Guide View Predicted Models View Range Maps		Noxious Weed: Priority 2A - Non-native Species		Global: G5	State: SNA		
Predictive Models:		■ 42% Moderate (inductive),	■ 33% Low (inductive)				
V - <i>Lepidium latifolium</i> (<i>Perennial Pepperweed</i>) N2A						Not Assigned	D
View in Field Guide View Predicted Models View Range Maps		Noxious Weed: Priority 2A - Non-native Species		Global: GNR	State: SNA		
Predictive Models:		■ 18% Moderate (inductive),	■ 76% Low (inductive)				
V - <i>Myriophyllum spicatum</i> (<i>Eurasian Water-milfoil</i>) N2A/AIS						Not Assigned	D
View in Field Guide View Predicted Models View Range Maps		Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species		Global: GNR	State: SNA		
Predictive Models:		■ 1% Moderate (inductive),	■ 72% Low (inductive)				
V - <i>Butomus umbellatus</i> (<i>Flowering-rush</i>) N2A/AIS						Not Assigned	D
View in Field Guide View Predicted Models View Range Maps		Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species		Global: G5	State: SNA		
Predictive Models:		■ 53% Low (inductive)					
V - <i>Senecio jacobaea</i> (<i>Tansy Ragwort</i>) N2A						Not Assigned	D
View in Field Guide View Predicted Models View Range Maps		Noxious Weed: Priority 2A - Non-native Species		Global: GNR	State: SNA		
Predictive Models:		■ 35% Low (inductive)					
V - <i>Hieracium aurantiacum</i> (<i>Orange Hawkweed</i>) N2A						Not Assigned	D
View in Field Guide View Predicted Models View Range Maps		Noxious Weed: Priority 2A - Non-native Species		Global: GNR	State: SNA		
Predictive Models:		■ 1% Low (inductive)					
Noxious Weeds: Priority 2B							
V - <i>Centaurea diffusa</i> (<i>Diffuse Knapweed</i>) N2B						Not Assigned	D
View in Field Guide View Predicted Models View Range Maps		Noxious Weed: Priority 2B - Non-native Species		Global: GNR	State: SNA		
Predictive Models:		■ 44% Optimal (inductive),	■ 47% Moderate (inductive),	■ 9% Low (inductive)			
V - <i>Linaria dalmatica</i> (<i>Dalmatian Toadflax</i>) N2B					14	Not Assigned	D
View in Field Guide View Predicted Models View Range Maps		Noxious Weed: Priority 2B - Non-native Species		Global: G5	State: SNA		
Predictive Models:		■ 28% Optimal (inductive),	■ 72% Moderate (inductive)				
V - <i>Berteroa incana</i> (<i>Hoary False-allysum</i>) N2B						Not Assigned	D
View in Field Guide View Predicted Models View Range Maps		Noxious Weed: Priority 2B - Non-native Species		Global: GNR	State: SNA		
Predictive Models:		■ 18% Optimal (inductive),	■ 25% Moderate (inductive),	■ 57% Low (inductive)			
V - <i>Linaria vulgaris</i> (<i>Yellow Toadflax</i>) N2B						Not Assigned	D
View in Field Guide View Predicted Models View Range Maps		Noxious Weed: Priority 2B - Non-native Species		Global: GNR	State: SNA		
Predictive Models:		■ 11% Optimal (inductive),	■ 34% Moderate (inductive),	■ 55% Low (inductive)			
V - <i>Lepidium draba</i> (<i>Whitetop</i>) N2B					18	Not Assigned	D
View in Field Guide View Predicted Models View Range Maps		Noxious Weed: Priority 2B - Non-native Species		Global: GNR	State: SNA		
Predictive Models:		■ 7% Optimal (inductive),	■ 93% Moderate (inductive)				
V - <i>Tanacetum vulgare</i> (<i>Common Tansy</i>) N2B					2	Not Assigned	D
View in Field Guide View Predicted Models View Range Maps		Noxious Weed: Priority 2B - Non-native Species		Global: GNR	State: SNA		
Predictive Models:		■ 7% Optimal (inductive),	■ 46% Moderate (inductive),	■ 24% Low (inductive)			
V - <i>Convolvulus arvensis</i> (<i>Field Bindweed</i>) N2B					26	Not Assigned	D
View in Field Guide View Predicted Models View Range Maps		Noxious Weed: Priority 2B - Non-native Species		Global: GNR	State: SNA		
Predictive Models:		■ 3% Optimal (inductive),	■ 27% Moderate (inductive),	■ 68% Low (inductive)			
V - <i>Cynoglossum officinale</i> (<i>Common Hound's-tongue</i>) N2B					16	Not Assigned	D
View in Field Guide View Predicted Models View Range Maps		Noxious Weed: Priority 2B - Non-native Species		Global: GNR	State: SNA		
Predictive Models:		■ 2% Optimal (inductive),	■ 89% Moderate (inductive),	■ 9% Low (inductive)			
V - <i>Centaurea stoebe</i> (<i>Spotted Knapweed</i>) N2B					22	Not Assigned	D

View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Non-native Species Global: GNR State: SNA Predictive Models: 62% Moderate (inductive), 38% Low (inductive)		15		Not Assigned	
V - Euphorbia virgata (<i>Leafy Spurge</i>) N2B					
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Non-native Species Global: GNR State: SNA Predictive Models: 57% Moderate (inductive), 43% Low (inductive)				Not Assigned	
V - Leucanthemum vulgare (<i>Oxeye Daisy</i>) N2B					
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Non-native Species Global: GNR State: SNA Predictive Models: 32% Moderate (inductive), 44% Low (inductive)				Not Assigned	
V - Tamarix ramosissima (<i>Salt Cedar</i>) N2B		1		Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Non-native Species Global: GNR State: SNA Predictive Models: 18% Moderate (inductive), 50% Low (inductive)				Not Assigned	
V - Cirsium arvense (<i>Canada Thistle</i>) N2B		18		Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Non-native Species Global: G5 State: SNA Predictive Models: 16% Moderate (inductive), 84% Low (inductive)				Not Assigned	
V - Potentilla recta (<i>Sulphur Cinquefoil</i>) N2B		3		Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Non-native Species Global: GNR State: SNA Predictive Models: 16% Moderate (inductive), 84% Low (inductive)				Not Assigned	
V - Acroptilon repens (<i>Russian Knapweed</i>) N2B				Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Non-native Species Global: GNR State: SNA Predictive Models: 71% Low (inductive)				Not Assigned	
V - Hypericum perforatum (<i>Common St. John's-wort</i>) N2B				Not Assigned	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Non-native Species Global: GNR State: SNA Predictive Models: 60% Low (inductive)				Not Assigned	
Regulated Weeds: Priority 3					
V - Bromus tectorum (<i>Cheatgrass</i>) R3		2		Not Assigned	
View in Field Guide View Predicted Models View Range Maps Regulated Weed: Priority 3 - Non-native Species Global: GNR State: SNA Predictive Models: 54% Moderate (inductive), 46% Low (inductive)				Not Assigned	
V - Elaeagnus angustifolia (<i>Russian Olive</i>) R3		3		Not Assigned	
View in Field Guide View Predicted Models View Range Maps Regulated Weed: Priority 3 - Non-native Species Global: GNR State: SNA Predictive Models: 51% Low (inductive)				Not Assigned	
Biocontrol Species					
I - Oberea erythrocephala (<i>Red-headed Leafy Spurge Stem Borer</i>) BIOCNTL				Not Assigned	
View in Field Guide View Predicted Models View Range Maps Biocontrol Species - Non-native Species Global: GNR State: SNA Predictive Models: 29% Optimal (inductive), 68% Moderate (inductive), 3% Low (inductive)				Not Assigned	
I - Aphthona lacertosa (<i>Brown-legged Leafy Spurge Flea Beetle</i>) BIOCNTL				Not Assigned	
View in Field Guide View Predicted Models View Range Maps Biocontrol Species - Non-native Species Global: GNR State: SNA Predictive Models: 88% Moderate (inductive), 12% Low (inductive)				Not Assigned	
I - Mecinus janthiniformis (<i>Dalmatian Toadflax Stem-boring Weevil</i>) BIOCNTL				Not Assigned	
View in Field Guide View Predicted Models View Range Maps Biocontrol Species - Non-native Species Global: GNR State: SNA Predictive Models: 58% Moderate (inductive), 42% Low (inductive)				Not Assigned	
I - Cyphocleonus achates (<i>Knapweed Root Weevil</i>) BIOCNTL				Not Assigned	
View in Field Guide View Predicted Models View Range Maps Biocontrol Species - Non-native Species Global: GNR State: SNA Predictive Models: 39% Moderate (inductive), 58% Low (inductive)				Not Assigned	
I - Aphthona nigriscutis (<i>Black Dot Leafy Spurge Flea Beetle</i>) BIOCNTL				Not Assigned	
View in Field Guide View Predicted Models View Range Maps Biocontrol Species - Non-native Species Global: GNR State: SNA Predictive Models: 22% Moderate (inductive), 70% Low (inductive)				Not Assigned	
I - Mecinus janthinus (<i>Yellow Toadflax Stem-boring Weevil</i>) BIOCNTL				Not Assigned	
View in Field Guide View Predicted Models View Range Maps Biocontrol Species - Non-native Species Global: GNR State: SNA Predictive Models: 53% Low (inductive)				Not Assigned	

Introduction to Montana Natural Heritage Program



P.O. Box 201800 • 1515 East Sixth Avenue • Helena, MT 59620-1800 • fax 406.444.0266 • phone 406.444.5363 • mtnhp.org

INTRODUCTION

The Montana Natural Heritage Program (MTNHP) is Montana's source for reliable and objective information on Montana's native species and habitats, emphasizing those of conservation concern. MTNHP was created by the Montana legislature in 1983 as part of the Natural Resource Information System (NRIS) at the Montana State Library (MSL). MTNHP is "a program of information acquisition, storage, and retrieval for data relating to the flora, fauna, and biological community types of Montana" (MCA 90-15-102). MTNHP's activities are guided by statute as well as through ongoing interaction with, and feedback from, principal data source agencies such as Montana Fish, Wildlife, and Parks, the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation, the Montana University System, the US Forest Service, and the US Bureau of Land Management. Since the first staff was hired in 1985, the Program has logged a long record of success, and developed into a highly respected, service-oriented program. MTNHP is widely recognized as one of the most advanced and effective of over 80 natural heritage programs throughout the Western Hemisphere.

VISION

Our vision is that public agencies, the private sector, the education sector, and the general public will trust and rely upon MTNHP as the source for information and expertise on Montana's species and habitats, especially those of conservation concern. We strive to provide easy access to our information in order for users to save time and money, speed environmental reviews, and inform decision making.

CORE VALUES

- We endeavor to be a single statewide source of accurate and up-to-date information on Montana's plants, animals, and aquatic and terrestrial biological communities.
- We actively listen to our data users and work responsively to meet their information and training needs.
- We strive to provide neutral, trusted, timely, and equitable service to all of our information users.
- We make every effort to be transparent to our data users in setting work priorities and providing data products.

CONFIDENTIALITY

All information requests made to the Montana Natural Heritage Program are considered library records and are protected from disclosure by the Montana Library Records Confidentiality Act (MCA 22-1-11).

INFORMATION MANAGED

Information managed at the Montana Natural Heritage Program is botanical, zoological, and ecological information that describes the distribution (e.g., observations, structured surveys, range polygons, predicted habitat suitability models), conservation status (e.g., global and state conservation status ranks, including threats), and other supporting information (e.g., accounts and references) on the biology and ecology of species and biological communities.

Data Use Terms and Conditions


- Montana Natural Heritage Program (MTNHP) products and services are based on biological data and the objective interpretation of those data by professional scientists. MTNHP does not advocate any particular philosophy of natural resource protection, management, development, or public policy.
- MTNHP has no natural resource management or regulatory authority. Products, statements, and services from MTNHP are intended to inform parties as to the state of scientific knowledge about certain natural resources, and to further develop that knowledge. The information is not intended as natural resource management guidelines or prescriptions or a determination of environmental impacts. MTNHP recommends consultation with appropriate state, federal, and tribal resource management agencies and authorities in the area where your project is located.
- Information on the status and spatial distribution of biological resources produced by MTNHP are intended to inform parties of the state-wide status, known occurrence, or the likelihood of the presence of those resources. **These products are not intended to substitute for field-collected data, nor are they intended to be the sole basis for natural resource management decisions.**
- MTNHP does not portray its data as exhaustive or comprehensive inventories of rare species or biological communities. **Field verification of the absence or presence of sensitive species and biological communities will always be an important obligation of users of our data.**
- MTNHP responds equally to all requests for products and services, regardless of the purpose or identity of the requester.
- Because MTNHP constantly updates and revises its databases with new data and information, products will become outdated over time. Interested parties are encouraged to obtain the most current information possible from MTNHP, rather than using older products. We add, review, update, and delete records on a daily basis. Consequently, we strongly advise that you update your MTNHP data sets at a minimum of every four months for most applications of our information.
- MTNHP data require a certain degree of biological expertise for proper analysis, interpretation, and application. Our staff is available to advise you on questions regarding the interpretation or appropriate use of the data that we provide. See [Contact Information for MTNHP Staff](#)
- The information provided to you by MTNHP may include sensitive data that if publicly released might jeopardize the welfare of threatened, endangered, or sensitive species or biological communities. This information is intended for distribution or use only within your department, agency, or business. Subcontractors may have access to the data during the course of any given project, but should not be given a copy for their use on subsequent, unrelated work.
- MTNHP data are made freely available. Duplication of hard-copy or digital MTNHP products with the intent to sell is prohibited without written consent by MTNHP. Should you be asked by individuals outside your organization for the type of data that we provide, please refer them to MTNHP.
- MTNHP and appropriate staff members should be appropriately acknowledged as an information source in any third-party product involving MTNHP data, reports, papers, publications, or in maps that incorporate MTNHP graphic elements.
- Sources of our data include museum specimens, published and unpublished scientific literature, field surveys by state and federal agencies and private contractors, and reports from knowledgeable individuals. MTNHP actively solicits and encourages additions, corrections and updates, new observations or collections, and comments on any of the data we provide.
- MTNHP staff and contractors do not enter or cross privately-owned lands without express permission from the landowner. However, the program cannot guarantee that information provided to us by others was obtained under adherence to this policy.

Suggested Contacts for Natural Resource Management Agencies

As required by Montana statute (MCA 90-15), the Montana Natural Heritage Program works with state, federal, tribal, nongovernmental organizations, and private partners to ensure that the latest animal and plant distribution and status information is incorporated into our databases so that it can be used to inform a variety of permitting and planning processes and management decisions. We encourage you to contact state, federal, and tribal resource management agencies in the area where your project is located and review the permitting overviews by the [Montana Department of Environmental Quality](#), the [Montana Department of Natural Resources and Conservation](#) and the [Index of Environmental Permits for Montana](#) for guidelines relevant to your efforts. In particular, we encourage you to contact the Montana Department of Fish, Wildlife, and Parks for the latest data and management information regarding hunted and high-profile management species and to use the U.S. Fish and Wildlife Service's [Information Planning and Consultation \(IPAC\) website](#) regarding U.S. Endangered Species Act listed Threatened, Endangered, or Candidate species.

For your convenience, we have compiled a list of relevant agency contacts and links below:

Montana Fish, Wildlife, and Parks

Fish Species	Zachary Shattuck zshattuck@mt.gov (406) 444-1231 or Eric Roberts eroberts@mt.gov (406) 444-5334
American Bison Black-footed Ferret Black-tailed Prairie Dog Bald Eagle Golden Eagle Common Loon Least Tern Piping Plover Whooping Crane	Kristian Smucker KSmucker@mt.gov (406) 444-5209
Grizzly Bear Greater Sage Grouse Trumpeter Swan Big Game Upland Game Birds Furbearers	Brian Wakeling Brian.Wakeling@mt.gov (406) 444-3940
Managed Terrestrial Game and Nongame Animal Data	Smith Wells – MFWP Data Analyst smith.wells@mt.gov (406) 444-3759
Fisheries Data	Ryan Alger – MFWP Data Analyst ryan.alger@mt.gov (406) 444-5365
Wildlife and Fisheries Scientific Collector's Permits	https://fwp.mt.gov/buyandapply/commercialwildlifeandscientificpermits/scientific Kammi McClain for Wildlife Kammi.McClain@mt.gov (406) 444-2612 Kim Wedde for Fisheries kim.wedde@mt.gov (406) 444-5594
Fish and Wildlife Recommendations for Subdivision Development	Charlie Sperry CSperry@mt.gov (406) 444-3888 See https://fwp.mt.gov/conservation/living-with-wildlife/subdivision-recommendations
Regional Contacts 	Region 1 (Kalispell) (406) 752-5501 fwprg12@mt.gov Region 2 (Missoula) (406) 542-5500 fwprg22@mt.gov Region 3 (Bozeman) (406) 577-7900 fwprg3@mt.gov Region 4 (Great Falls) (406) 454-5840 fwprg42@mt.gov Region 5 (Billings) (406) 247-2940 fwprg52@mt.gov Region 6 (Glasgow) (406) 228-3700 fwprg62@mt.gov Region 7 (Miles City) (406) 234-0900 fwprg72@mt.gov

Montana Department of Agriculture

General Contact Information: <https://agr.mt.gov/About/Office-Locations/Office-Locations-and-Field-Offices>

Noxious Weeds: <https://agr.mt.gov/Noxious-Weeds>

Montana Department of Environmental Quality

Permitting and Operator Assistance for all Environmental Permits: <https://deq.mt.gov/Permitting>

Montana Department of Natural Resources and Conservation

Overview of, and contacts for, licenses and permits for state lands, water, and forested lands:

<http://dnrc.mt.gov/licenses-and-permits>

Stream Permitting (310 permits) and an overview of various water and stream related permits (e.g., Stream Protection Act 124, Federal Clean Water Act 404, Federal Rivers and Harbors Act Section 10, Short-term Water Quality Standard for Turbidity 318 Authorization, etc.).

<http://dnrc.mt.gov/divisions/cadd/conservation-districts/the-310-law>

Flood and Fire Resources: <http://dnrc.mt.gov/flood-and-fire>

Bureau of Land Management

Montana Field Office Contacts:	
	
Billings	(406) 896-5013
Butte	(406) 533-7600
Dillon	(406) 683-8000
Glasgow	(406) 228-3750
Havre	(406) 262-2820
Lewistown	(406) 538-1900
Malta	(406) 654-5100
Miles City	(406) 233-2800
Missoula	(406) 329-3914

United States Army Corps of Engineers

Montana Regulatory Office for federal permits related to construction in water and wetlands

<https://www.nwo.usace.army.mil/Missions/Regulatory-Program/Montana/> (406) 441-1375

United States Environmental Protection Agency

Environmental information, notices, permitting, and contacts <https://www.epa.gov/mt>

Gateway to state resource locators <https://www.envcap.org/srl/index.php>

United States Fish and Wildlife Service

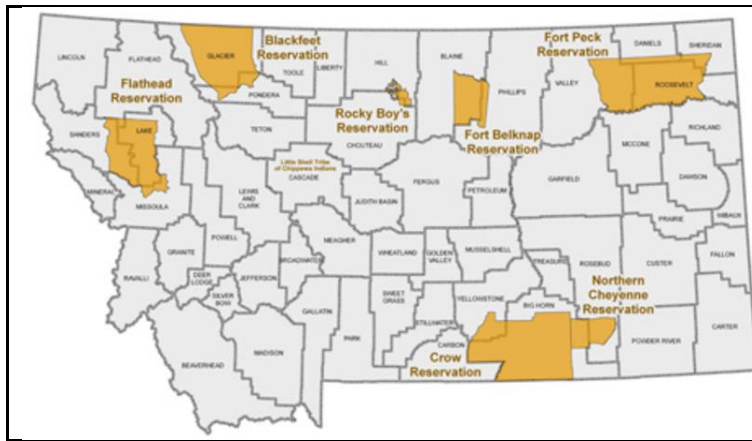
Information Planning and Conservation (IPAC) website: <https://ecos.fws.gov/ipac/>

Montana Ecological Services Field Office: <https://www.fws.gov/montanafieldoffice/> (406) 449-5225

United States Forest Service

Regional Office – Missoula, Montana Contacts			
Wildlife Program Leader	Tammy Fletcher	tammy.fletcher2@usda.gov	(406) 329-3086
Wildlife Ecologist	Cara Staab	cara.staab@usda.gov	(406) 329-3677
Fish Program Leader	Scott Spaulding	scott.spaulding@usda.gov	(406) 329-3287
Fish Ecologist	Cameron Thomas	cameron.thomas@usda.gov	(406) 329-3087
TES Program	Lydia Allen	lydia.allen@usda.gov	(406) 329-3558
Interagency Grizzly Bear Coordinator	Scott Jackson	scott.jackson@usda.gov	(406) 329-3664
Acting Regional Botanist	Amanda Hendrix	amanda.hendrix@usda.gov	(651) 447-3016
Regional Vegetation Ecologist	Mary Manning	marry.manning@usda.gov	(406) 329-3304
Invasive Species Program Manager	Michelle Cox	michelle.cox2@usda.gov	(406) 329-3669

Tribal Nations



[Assiniboine & Gros Ventre Tribes – Fort Belknap Reservation](#)

[Assiniboine & Sioux Tribes – Fort Peck Reservation](#)

[Blackfeet Tribe - Blackfeet Reservation](#)

[Chippewa Creek Tribe - Rocky Boy's Reservation](#)

[Crow Tribe – Crow Reservation](#)

[Little Shell Chippewa Tribe](#)

[Northern Cheyenne Tribe – Northern Cheyenne Reservation](#)

[Salish & Kootenai Tribes - Flathead Reservation](#)

Natural Heritage Programs and Conservation Data Centers in Surrounding States and Provinces

[Alberta Conservation Information Management System](#)

[British Columbia Conservation Data Centre](#)

[Idaho Natural Heritage Program](#)

[North Dakota Natural Heritage Program](#)

[Saskatchewan Conservation Data Centre](#)

[South Dakota Natural Heritage Program](#)

[Wyoming Natural Diversity Database](#)

Invasive Species Management Contacts and Information

Aquatic Invasive Species

[Montana Fish, Wildlife, and Parks Aquatic Invasive Species staff](#)

[Montana Department of Natural Resources and Conservation's Aquatic Invasive Species Grant Program](#)

[Montana Invasive Species Council \(MISC\)](#)

[Upper Columbia Conservation Commission \(UC3\)](#)

Noxious Weeds

[Montana Weed Control Association Contacts Webpage](#)

[Montana Biological Weed Control Coordination Project](#)

[Montana Department of Agriculture - Noxious Weeds](#)

[Montana Weed Control Association](#)

[Montana Fish, Wildlife, and Parks - Noxious Weeds](#)

[Montana State University Integrated Pest Management Extension](#)

[Integrated Noxious Weed Management after Wildfires](#)

[Fire Management and Invasive Plants](#)

Introduction to Native Species

Within the report area you have requested, separate summaries are provided for: (1) Species Occurrences (SO) for plant and animal Species of Concern, Special Status Species (SSS), Important Animal Habitat (IAH) and some Potential Plant Species of Concern; (2) other observed non Species of Concern or Species of Concern without suitable documentation to create Species Occurrence polygons; and (3) other non-documented species that are potentially present based on their range, predicted suitable habitat model output, or presence of associated habitats. Each of these summaries provides the following information when present for a species: (1) the number of [Species Occurrences](#) and associated delineation criteria for construction of these polygons that have long been used for considerations of documented Species of Concern in environmental reviews; (2) the number of observations of each species; (3) the geographic range polygons for each species that the report area overlaps; (4) predicted relative habitat suitability classes that are present if a predicted suitable habitat model has been created; (5) the percent of the report area that is mapped as commonly associated or occasionally associated habitat as listed for each species in the [Montana Field Guide](#); and (6) a variety of conservation status ranks and links to species accounts in the [Montana Field Guide](#). Details on each of these information categories are included under relevant section headers below or are defined on our [Species Status Codes](#) page. In presenting this information, the Montana Natural Heritage Program (MTNHP) is working towards assisting the user with rapidly determining what species have been documented and what species are potentially present in the report area. We remind users that this information is likely incomplete as surveys to document native and introduced species are lacking in many areas of the state, information on introduced species has only been tracked relatively recently, the MTNHP's staff and resources are restricted by budgets, and information is constantly being added and updated in our databases. **Thus, field verification by professional biologists of the absence or presence of species and biological communities will always be an important obligation of users of our data.**

If you are aware of observation datasets that the MTNHP is missing, please report them to the Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov. If you have animal observations that you would like to contribute, you can submit them to our [Animal Observation Entry Tool](#). You can also submit plant and animal observations via Excel spreadsheets posted at <https://mtnhp.org/observations.asp> or via the [Montana Natural Heritage Observations project in iNaturalist](#)

Observations

The MTNHP manages information on several million animal and plant observations that have been reported by professional biologists and private citizens from across Montana. The majority of these observations are submitted in digital format from standardized databases associated with research or monitoring efforts and spreadsheets of incidental observations submitted by professional biologists and amateur naturalists. At a minimum, accepted observation records must contain a credible species identification (i.e. appropriate geographic range, date, and habitat and, if species are difficult to identify, a photograph and/or notes on key identifying features), a date or date range, observer name, locational information (ideally with latitude and longitude in decimal degrees), notes on numbers observed, and species behavior or habitat use (e.g., is the observation likely associated with reproduction). Bird records are also required to have information associated with date-appropriate breeding or overwintering status of the species observed. MTNHP reviews observation records to ensure that they are mapped correctly, occur within date ranges when the species is known to be present or detectable, occur within the known seasonal geographic range of the species, and occur in appropriate habitats. MTNHP also assigns each record a locational uncertainty value in meters to indicate the spatial precision associated with the record's mapped coordinates. Only records with locational uncertainty values of 10,000 meters or less are included in environmental summary reports and number summaries are only provided for records with locational uncertainty values of 1,000 meters or less.

Species Occurrences

The MTNHP evaluates plant and animal observation records for species of higher conservation concern to determine whether they are worthy of inclusion in the [Species Occurrence](#) (SO) layer for use in environmental reviews; observations not worthy of inclusion in this layer include long distance dispersal events, migrants observed away from key migratory stopover habitats, and winter observations. An SO is a polygon depicting what is known about a species occupancy from direct observation with a defined level of locational uncertainty and any inference that can be made about adjacent habitat use from the latest peer-reviewed science. If an observation can be associated with a map feature that can be tracked (e.g., a wetland boundary for a wetland associated plant) then this polygon feature is used to represent the SO. Areas that can be inferred as probable occupied habitat based on direct observation of a species location and what is known about the foraging area or home range size of the species may be incorporated into the SO. Species Occurrences generally belong to one of the following categories:

Plant Species Occurrences

A documented location of a specimen collection or observed plant population. In some instances, adjacent, spatially separated clusters are considered subpopulations and are grouped as one occurrence (e.g., the subpopulations occur in ecologically similar habitats, and their spatial proximity likely allows them to interbreed). Tabular information for multiple observations at the same SO location is generally linked to a single polygon. Plant SO's are only created for Species of Concern and Potential Species of Concern.

Animal Species Occurrences

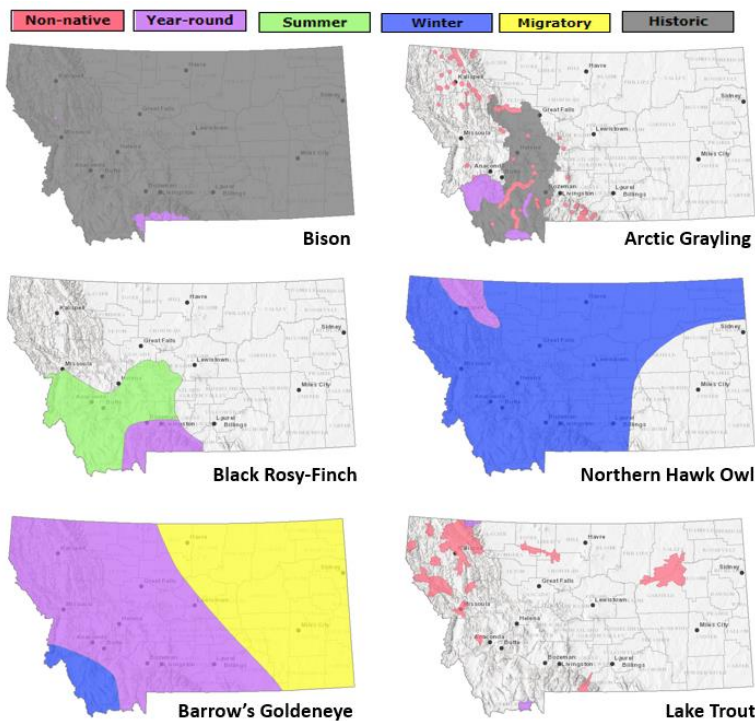
The location of a verified observation or specimen record typically known or assumed to represent a breeding population or a portion of a breeding population. Animal SO's are generally: (1) buffers of terrestrial point observations based on documented species' home range sizes; (2) buffers of stream segments to encompass occupied streams and immediate adjacent riparian habitats; (3) polygonal features encompassing known or likely breeding populations (e.g., a wetland for some amphibians or a forested portion of a mountain range for some wide ranging carnivores); or (4) combinations of the above. Tabular information for multiple observations at the same SO location is generally linked to a single polygon. Species Occurrence polygons may encompass some unsuitable habitat in some instances in order to avoid heavy data processing associated with clipping out habitats that are readily assessed as unsuitable by the data user (e.g., a point buffer of a terrestrial species may overlap into a portion of a lake that is obviously inappropriate habitat for the species). Animal SO's are only created for Species of Concern and Special Status Species (e.g., Bald Eagle).

Other Occurrence Polygons

These include significant biological features not included in the above categories, such as Important Animal Habitats like bird rookeries and bat roosts, and peatlands or other wetland and riparian communities that support diverse plant and animal communities.

Geographic Range Polygons

Geographic range polygons are still under development for most plant and invertebrate species. Native year-round, summer, winter, migratory and historic geographic range polygons as well as polygons for introduced



populations have been defined for most vertebrate animal species for which there are enough observations, surveys, and knowledge of appropriate seasonal habitat use to define them (see examples to left). These native or introduced range polygons bound the extent of known or likely occupied habitats for non-migratory and relative sedentary species and the regular extent of known or likely occupied habitats for migratory and long-distance dispersing species; polygons may include unsuitable intervening habitats. For most species, a single polygon can represent the year-round or seasonal range, but breeding ranges of some colonial nesting water birds and some introduced species are represented more patchily when supported by data. Some ranges are mapped more broadly than actual distributions in order to be visible on statewide maps (e.g., fish).

Predicted Suitable Habitat Models

Predicted habitat suitability models have been created for plant and animal Species of Concern and are undergoing development for non-Species of Concern. For species for which models have been completed, the environmental summary report includes simple rule-based associations with streams for aquatic species and seasonal habitats for game species as well as mathematically complex Maximum Entropy models (Phillips et al. 2006, *Ecological Modeling* 190:231-259) constructed from a variety of statewide biotic and abiotic layers and presence only data for individual species for most terrestrial species. For the Maximum Entropy models, we reclassified 90 x 90-meter continuous model output into suitability classes (unsuitable, low, moderate, and optimal) then aggregated that into the one square mile hexagons used in the environmental summary report; this is the finest spatial scale we suggest using this information in management decisions and survey planning. Full model write ups for individual species that discuss model goals, inputs, outputs, and evaluation in much greater detail are posted on the MTNHP's [Predicted Suitable Habitat Models](#) webpage. Evaluations of predictive accuracy and specific limitations are included with the metadata for models of individual species. **Model outputs should not be used in place of on-the-ground surveys for species. Instead model outputs should be used in conjunction with habitat evaluations to determine the need for on-the-ground surveys for species.** We suggest that the percentage of predicted optimal and moderate suitable habitat within the report area be used in conjunction with geographic range polygons and the percentage of commonly associated habitats to generate lists of potential species that may occupy broader landscapes for the purposes of landscape-level planning.

Associated Habitats

Within the boundary of the intersected hexagons, we provide the approximate percentage of commonly or occasionally associated habitat for vertebrate animal species that regularly breed, overwinter, or migrate through the state; a detailed list of commonly and occasionally associated habitats is provided in individual species accounts in the [Montana Field Guide](#). We assigned common or occasional use of each of the ecological

systems mapped in Montana by: (1) using personal knowledge and reviewing literature that summarizes the breeding, overwintering, or migratory habitat requirements of each species; (2) evaluating structural characteristics and distribution of each ecological system relative to the species' range and habitat requirements; (3) examining the observation records for each species in the state-wide point observation database associated with each ecological system; and (4) calculating the percentage of observations associated with each ecological system relative to the percent of Montana covered by each ecological system to get a measure of numbers of observations versus availability of habitat. Species that breed in Montana were only evaluated for breeding habitat use, species that only overwinter in Montana were only evaluated for overwintering habitat use, and species that only migrate through Montana were only evaluated for migratory habitat use. In general, species were listed as associated with an ecological system if structural characteristics of used habitat documented in the literature were present in the ecological system or large numbers of point observations were associated with the ecological system. However, species were not listed as associated with an ecological system if there was no support in the literature for use of structural characteristics in an ecological system, even if point observations were associated with that system. Common versus occasional association with an ecological system was assigned based on the degree to which the structural characteristics of an ecological system matched the preferred structural habitat characteristics for each species as represented in the scientific literature. The percentage of observations associated with each ecological system relative to the percent of Montana covered by each ecological system was also used to guide assignment of common versus occasional association.

We suggest that the percentage of commonly associated habitat within the report area be used in conjunction with geographic range polygons and the percentage of predicted optimal and moderate suitable habitat from predictive models to generate lists of potential species that may occupy broader landscapes for the purposes of landscape-level planning. Users of this information should be aware that land cover mapping accuracy is particularly problematic when the systems occur as small patches or where the land cover types have been altered over the past decade. Thus, particular caution should be used when using the associations in assessments of smaller areas (e.g., evaluations of public land survey sections).

Introduction to Land Cover

Land Use/Land Cover is one of 15 [Montana Spatial Data Infrastructure](#) framework layers considered vital for making statewide maps of Montana and understanding its geography. The layer records all Montana natural vegetation, land cover and land use, classified from satellite and aerial imagery, mapped at a scale of 1:100,000, and interpreted with supporting ground-level data. The baseline map is adapted from the Northwest ReGAP (NWGAP) project land cover classification, which used 30m resolution multi-spectral Landsat imagery acquired between 1999 and 2001. Vegetation classes were drawn from the Ecological System Classification developed by NatureServe (Comer et al. 2003). The land cover classes were developed by Anderson et al. (1976). The NWGAP effort encompasses 12 map zones. Montana overlaps seven of these zones. The two NWGAP teams responsible for the initial land cover mapping effort in Montana were Sanborn and NWGAP at the University of Idaho. Both Sanborn and NWGAP employed a similar modeling approach in which Classification and Regression Tree (CART) models were applied to Landsat ETM+ scenes. The Spatial Analysis Lab within the Montana Natural Heritage Program was responsible for developing a seamless Montana land cover map with a consistent statewide legend from these two separate products. Additionally, the Montana land cover layer incorporates several other land cover and land use products (e.g., MSDI Structures and Transportation themes and the Montana Department of Revenue Final Land Unit classification) and reclassifications based on plot-level data and the latest NAIP imagery to improve accuracy and enhance the usability of the theme. Updates are done as partner support and funding allow, or when other MSDI datasets can be incorporated. Recent updates include fire perimeters and agricultural land use (annually), energy developments such as wind, oil and gas installations (2014), roads, structures and other impervious surfaces (various years): and local updates/improvements to specific ecological systems (e.g., central Montana grassland and sagebrush ecosystems). Current and previous versions of the Land Use/Land Cover layer with full metadata are available for download at the Montana State Library's [Geographic Information Clearinghouse](#)

Within the report area you have requested, land cover is summarized by acres of Level 1, Level 2, and Level 3 Ecological Systems.

Literature Cited

- Anderson, J.R. E.E. Hardy, J.T. Roach, and R.E. Witmer. 1976. A land use and land cover classification system for use with remote sensor data. U.S. Geological Survey Professional Paper 964.
- Comer, P., D. Faber-Langendoen, R. Evans, S. Gawler, C. Josse, G. Kittel, S. Menard, M. Pyne, M. Reid, K. Schulz, K. Snow, and J. Teague. 2003. Ecological systems of the United States: A working classification of U.S. terrestrial systems. NatureServe, Arlington, VA.

Introduction to Wetland and Riparian

Within the report area you have requested, wetland and riparian mapping is summarized by acres of each classification present. Summaries are only provided for modern MTNHP wetland and riparian mapping and not for outdated (NWI Legacy) or incomplete (NWI Scalable) mapping efforts; [described here](#). MTNHP has made all three of these datasets and associated metadata available for separate download on the [Montana Wetland and Riparian Framework](#) web page.

Wetland and Riparian mapping is one of 15 [Montana Spatial Data Infrastructure](#) framework layers considered vital for making statewide maps of Montana and understanding its geography. The wetland and riparian framework layer consists of spatial data representing the extent, type, and approximate location of wetlands, riparian areas, and deep water habitats in Montana.

Wetland and riparian mapping is completed through photointerpretation of 1-m resolution color infrared aerial imagery acquired from 2005 or later. A coding convention using letters and numbers is assigned to each mapped wetland. These letters and numbers describe the broad landscape context of the wetland, its vegetation type, its water regime, and the kind of alterations that may have occurred. Ancillary data layers such as topographic maps, digital elevation models, soils data, and other aerial imagery sources are also used to improve mapping accuracy. Wetland mapping follows the federal Wetland Mapping Standard and classifies wetlands according to the Cowardin classification system of the National Wetlands Inventory (NWI) (Cowardin et al. 1979, FGDC Wetlands Subcommittee 2013). Federal, State, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands differently than the NWI. Similar coding, based on U.S. Fish and Wildlife Service conventions, is applied to riparian areas (U.S. Fish and Wildlife Service 2009). These are mapped areas where vegetation composition and growth is influenced by nearby water bodies, but where soils, plant communities, and hydrology do not display true wetland characteristics. **These data are intended for use at a scale of 1:12,000 or smaller. Mapped wetland and riparian areas do not represent precise boundaries and digital wetland data cannot substitute for an on-site determination of jurisdictional wetlands.**

See a detailed overview, with examples, of both [wetland and riparian classification systems and associated codes](#)

Literature Cited

- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service, FWS/OBS-79/31. Washington, D.C. 103pp.
- Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, D.C.
- U.S. Fish and Wildlife Services. 2009. A system for mapping riparian areas in the western United States. Division of Habitat and Resource Conservation, Branch of Resource and Mapping Support, Arlington, Virginia.

Introduction to Land Management

Within the report area you have requested, land management information is summarized by acres of federal, state, and local government lands, tribal reservation boundaries, private conservation lands, and federal, state, local, and private conservation easements. Acreage for “Owned”, “Tribal”, or “Easement” categories represents non-overlapping areas that may be totaled. However, “Other Boundaries” represents managed areas such as National Forest boundaries containing private inholdings and other mixed ownership which may cause boundaries to overlap (e.g. a wilderness area within a forest). Therefore, acreages may not total in a straight-forward manner.

Because information on land stewardship is critical to effective land management, the Montana Natural Heritage Program (MTNHP) began compiling ownership and management data in 1997. The goal of the Montana Land Management Database is to manage a single, statewide digital data set that incorporates information from both public and private entities. The database assembles information on public lands, private conservation lands, and conservation easements held by state and federal agencies and land trusts and is updated on a regular basis. Since 2011, the Information Management group in the Montana State Library’s Digital Library Division has led the Montana Land Management Database in partnership with the MTNHP.

Public and private conservation land polygons are attributed with the name of the entity that owns it. The data are derived from the statewide [Montana Cadastral Parcel layer](#). Conservation easement data shows land parcels on which a public agency or qualified land trust has placed a conservation easement in cooperation with the land owner. The dataset contains no information about ownership or status of the mineral estate. For questions about the dataset or to report errors, please contact the Montana Natural Heritage Program at (406) 444-5363 or mtnhp@mt.gov. You can download various components of the Land Management Database and view associated metadata at the Montana State Library’s [GIS Data List](#) at the following links:

[Public Lands](#)

[Conservation Easements](#)

[Private Conservation Lands](#)

[Managed Areas](#)

Map features in the Montana Land Management Database or summaries provided in this report are not intended as a legal depiction of public or private surface land ownership boundaries and should not be used in place of a survey conducted by a licensed land surveyor. Similarly, map features do not imply public access to any lands. The Montana Natural Heritage Program makes no representations or warranties whatsoever with respect to the accuracy or completeness of this data and assumes no responsibility for the suitability of the data for a particular purpose. The Montana Natural Heritage Program will not be liable for any damages incurred as a result of errors displayed here. Consumers of this information should review or consult the primary data and information sources to ascertain the viability of the information for their purposes.

Introduction to Invasive and Pest Species

Within the report area you have requested, separate summaries are provided for: Aquatic Invasive Species, Noxious Weeds, Agricultural Pests, Forest Pests, and Biocontrol species that have been documented or potentially occur there based on the predicted suitability of habitat. Definitions for each of these invasive and pest species categories can be found on our [Species Status Codes](#) page.

Each of these summaries provides the following information when present for a species: (1) the number of observations of each species; (2) the geographic range polygons for each species, if developed, that the report area overlaps; (3) predicted relative habitat suitability classes that are present if a predicted suitable habitat model has been created; (4) the percent of the report area that is mapped as commonly associated or occasionally associated habitat as listed for each species in the [Montana Field Guide](#); and (5) links to species accounts in the [Montana Field Guide](#). Details on each of these information categories are included under relevant section headers under the Introduction to Native Species above or are defined on our [Species Status Codes](#) page. In presenting this information, the Montana Natural Heritage Program (MTNHP) is working towards assisting the user with rapidly determining what invasive and pest species have been documented and what species are potentially present in the report area. We remind users that this information is likely incomplete as surveys to document introduced species are lacking in many areas of the state, information on introduced species has only been tracked relatively recently, the MTNHP's staff and resources are limited, and information is constantly being added and updated in our databases. **Thus, field verification by professional biologists of the absence or presence of species will always be an important obligation of users of our data.**

If you are aware of observation or survey datasets for invasive or pest species that the MTNHP is missing, please report them to the Program Coordinator bmaxell@mt.gov Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov. If you have observations that you would like to contribute, you can submit animal observations using our online data entry system at mtnhp.org/AddObs or via Excel spreadsheets posted at mtnhp.org/observations.asp

Additional Information Resources

[MTNHP Staff Contact Information](#)

[Montana Field Guide](#)

[MTNHP Species of Concern Report - Animals and Plants](#)

[MTNHP Species Status Codes - Explanation](#)

[MTNHP Predicted Suitable Habitat Models](#) (for select Animals and Plants)

[MTNHP Request Information page](#)

[Montana Cadastral](#)

[Montana Code Annotated](#)

[Montana Fisheries Information System](#)

[Montana Fish, Wildlife, and Parks Subdivision Recommendations](#)

[Montana GIS Data Layers](#)

[Montana GIS Data Bundler](#)

[Montana Greater Sage-Grouse Project Submittal Site](#)

[Montana Ground Water Information Center](#)

[Montana Index of Environmental Permits, 21st Edition \(2018\)](#)

[Montana Environmental Policy Act \(MEPA\)](#)

[Montana Environmental Policy Act Analysis Resource List](#)

[Laws, Treaties, Regulations, and Agreements on Animals and Plants](#)

[Montana Spatial Data Infrastructure Layers](#)

[Montana State Historic Preservation Office Review and Compliance](#)

[Montana Stream Permitting: a guide for conservation district supervisors and others](#)

[Montana Water Information System](#)

[Montana Web Map Services](#)

[National Environmental Policy Act](#)

[Penalties for Misuse of Fish and Wildlife Location Data](#) (MCA 87-6-222)

[U.S. Fish and Wildlife Service Information for Planning and Consultation](#) (Section 7 Consultation)

[Web Soil Survey Tool](#)