Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. Applicant/Contact name and address: **James K Steen & Lacey J Steen**
493 Stendal Road
Lewistown, MT 59457

2. Type of action: **Application to Change a Water Right No. 30171580**

3. Water source name: **Unnamed Tributary to Big Spring Creek**

4. Location affected by project: **SESESW, Sec. 24 Twp 15N Rge 18E, Fergus County**

5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:
This project will remain a reservoir for stock, with a proposed additional purpose of non-consumptive fishery on an Unnamed Tributary of Big Spring Creek. The applicants propose to stock the reservoir with fish as guided by the Department of Fish Wildlife and Parks. This application is for 151.52 GPM, and one reservoir fill up to 9.00 acre-feet/year in the SESESW, Sec. 24 Twp 15N Rge 18E, Fergus County. The application will be used to serve 20 animal units and a non-consumptive fishery in the SESESW, Sec. 24 Twp 15N Rge 18E, Fergus County year-round by reservoir on the Unnamed Tributary of Big Spring Creek.

The DNRC shall issue a change authorization if an applicant proves the criteria in 85-2-402 MCA are met.

6. Agencies consulted during preparation of the Environmental Assessment: (include agencies with overlapping jurisdiction):

Montana Department of Environmental Quality – Web site
National Wetlands Inventory
Montana Natural Heritage Program
United States Department of Agriculture – Web Soil Survey
Department of Fish, Wildlife, and Parks

Part II. Environmental Review

1. Environmental Impact Checklist:

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity *- Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.*

Determination: **No significant impact.**
The Unnamed Tributary of Big Spring Creek is not chronically dewatered as identified by DFWP and the proposed purpose of non-consumptive fishery will cause no significant impact.

Water quality *- Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.*

Determination: **No significant impact.**
The Unnamed Tributary of Big Spring Creek does not appear on the impaired or threatened water quality list as indicated by DEQ.

Groundwater *- Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.*

Determination: **No significant impact.**
This is an application for surface water and volume proposed for use is unchanged from historical use.

DIVERSION WORKS *- Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.*

Determination: **No significant impact.**
The reservoir is unchanged from historical use, and therefore will not change turbidity, or cause degradation to water quality.

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species *- Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any "species of special concern," or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or "species of special concern."*

Determination: **No significant impact.**

The Montana National Heritage Program Website lists 8 species as "Species of Concern" within Township 15N, Range 18E in sections 13, 14, 23, 24, 25, and 26 as well as Township 15N, Range 19E in sections 18, 19, and 30 which are sections surrounding the location affected in this project. The common names for these species include Northern Redbelly Dace (fish), Suckley's Cuckoo Bumble (invertebrate), Veery (birds), Bobolink (birds), Evening Grosbeak (birds), Great

Blue Heron (birds), Cassin's Finch (birds), and Silver Bladderpod (vascular plants). Other Potential Species can be found in Department file 41S 30171580.

Wetlands - *Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.*

Determination: **No significant impact.**
The location of the proposed change is labeled as PABFh which is a freshwater pond identified by the Department of Fish, Wildlife, and Parks. There is no anticipated impact to surrounding riparian areas because the reservoir has been established as of 2008 with the initial filing of the water right to be changed.

Ponds - *For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

Determination: **No significant impact.**
The application is proposing an addition of a fishery. The pond has been deemed suitable for a fishery by DFWP. Existing species should be taken into consideration with DFWP in the approval process of a fishery and species selection. Applicants have shown contact with DFWP, so no impact is anticipated when stocking the reservoir.

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE - *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

Determination: **No significant impact.**
Indicated by the USDA Web Soil Survey, the area of interest is comprised of 16.9% Timberg-Castner complex, 2 to 8 percent slopes and 83.1% Timberg-Castner complex, 15 to 45 percent slopes. Both are identified as nonsaline to very slightly saline (0.0 to 3.0 mmhos/cm) by the USDA which does not present a significant impact on saline seep. Drainage class is identified as well drained for both soil types. Soil quality, stability, and moisture content are not anticipated to change with the addition of fish to the reservoir.

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

Determination: **No significant impact.**
No change in vegetation cover or establishment or spread of noxious weeds is anticipated with the addition of a fishery. The landowner is expected to prevent the establishment or spread of noxious weeds on their property.

AIR QUALITY - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

Determination: **No significant impact.**
No deterioration of air quality will occur in the proposed project with the addition of a non-consumptive fishery. No construction or disturbance is anticipated with this change.

HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project if it is on State or Federal Lands. If it is not on State or Federal Lands simply state NA-project not located on State or Federal Lands.*

Determination: **No significant impact.**
The project is not located on State or Federal Lands.

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - *Assess any other impacts on environmental resources of land, water and energy not already addressed.*

Determination: **No significant impact.**
The addition of a fishery is non-consumptive, and the impact will remain unchanged.

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - *Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.*

Determination: **No significant impact.**

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

Determination: **No significant impact.**

HUMAN HEALTH - *Assess whether the proposed project impacts on human health.*

Determination: **No significant impact.**

PRIVATE PROPERTY - *Assess whether there are any government regulatory impacts on private property rights.*
*Yes___ No_**X**__ If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.*

Determination: **No significant impact.**

OTHER HUMAN ENVIRONMENTAL ISSUES - *For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.*

Impacts on:

(a) *Cultural uniqueness and diversity?* No

(b) *Local and state tax base and tax revenues?* No

(c) *Existing land uses?* No

(d) *Quantity and distribution of employment?* No

(e) *Distribution and density of population and housing?* No

(f) *Demands for government services?* No

(g) *Industrial and commercial activity?* No

(h) *Utilities?* No

(i) *Transportation?* No

(j) *Safety?* No

(k) *Other appropriate social and economic circumstances?* No

2. *Secondary and cumulative impacts on the physical environment and human population:*

Secondary Impacts: No Secondary impacts identified.

Cumulative Impacts: No Cumulative impacts identified. There are no other pending applications for basin 41S.

3. *Describe any mitigation/stipulation measures:* None identified at this time.

4. *Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:* None identified at this time

PART III. Conclusion

1. Preferred Alternative: No preferred alternative at this time

2 Comments and Response: No comments or responses received at this time.

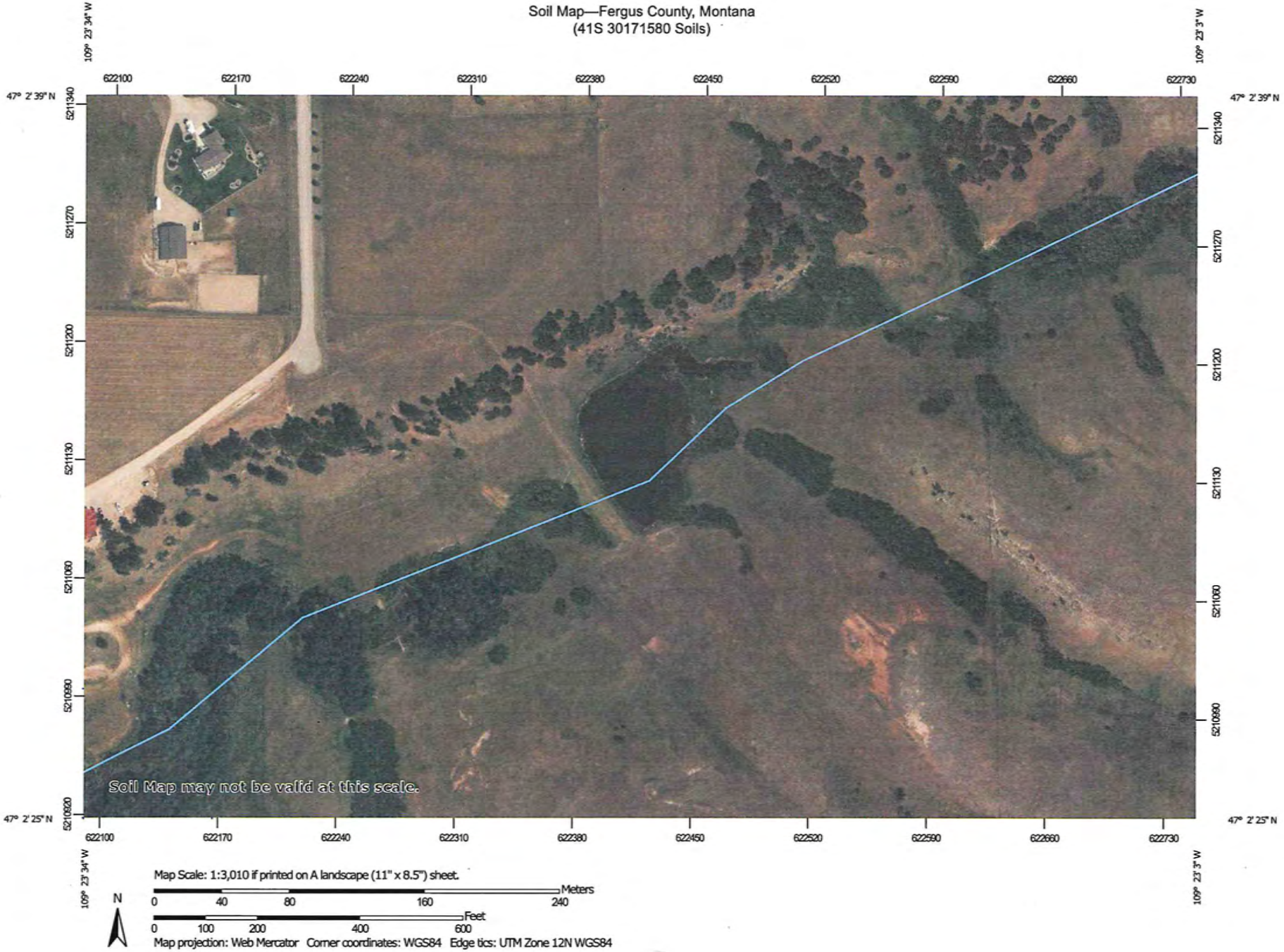
3. *Finding:*
*Yes___ No_**X**__ Based on the significance criteria evaluated in this EA, is an EIS required?*

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action: An EA is adequate for this project. No significant changes are proposed on this reservoir.

Name of person(s) responsible for preparation of EA:

Name: Claire Blomquist
Title: Water Conservation Specialist 2
Date: 1/26/2026

Soil Map—Fergus County, Montana
(41S 30171580 Soils)



Map Scale: 1:3,010 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 40 80 160 240

Feet
0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Fergus County, Montana
Survey Area Data: Version 26, Aug 30, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 13, 2021—Sep 30, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
240	Timberg-Castner complex, 2 to 8 percent slopes	7.2	16.9%
242	Timberg-Castner complex, 15 to 45 percent slopes	35.2	83.1%
Totals for Area of Interest		**42.3**	**100.0%**

Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named, soils that are similar to the named components, and some minor components that differ in use and management from the major soils.

Most of the soils similar to the major components have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Some minor components, however, have properties and behavior characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Fergus County, Montana

240—Timberg-Castner complex, 2 to 8 percent slopes

Map Unit Setting

National map unit symbol: chcr
Elevation: 3,900 to 4,800 feet
Mean annual precipitation: 15 to 19 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 90 to 125 days

Farmland classification: Not prime farmland

Map Unit Composition

Timberg and similar soils: 50 percent
Castner and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Timberg

Setting

Landform: Plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey residuum over semiconsolidated sandstone and shale

Typical profile

A - 0 to 6 inches: clay loam
Bw - 6 to 37 inches: silty clay
Cr - 37 to 60 inches: weathered bedrock

Properties and qualities

Slope: 2 to 8 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 3.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R046XN247MT - Clayey (Cy) RRU 46-N 13-19 PZ
Hydric soil rating: No

Description of Castner

Setting

Landform: Plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum over hard sandstone

Typical profile

A - 0 to 7 inches: channery loam

C - 7 to 14 inches: extremely channery loam
R - 14 to 60 inches: unweathered bedrock

Properties and qualities

Slope: 2 to 8 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R046XC506MT - Shallow (Sw) RRU 46-C 13-19 PZ
Hydric soil rating: No

Minor Components

Hibar

Percent of map unit: 5 percent
Landform: Plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R046XC508MT - Silty (Si) RRU 46-C 13-19 PZ
Hydric soil rating: No

Castner

Percent of map unit: 5 percent
Landform: Plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R046XC506MT - Shallow (Sw) RRU 46-C 13-19 PZ
Hydric soil rating: No

Data Source Information

Soil Survey Area: Fergus County, Montana
Survey Area Data: Version 26, Aug 30, 2025

Map Unit Description

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The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Fergus County, Montana

242—Timberg-Castner complex, 15 to 45 percent slopes

Map Unit Setting

National map unit symbol: chct
Elevation: 3,900 to 4,800 feet
Mean annual precipitation: 15 to 19 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 110 to 125 days

Farmland classification: Not prime farmland

Map Unit Composition

Timberg and similar soils: 50 percent
Castner and similar soils: 25 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Timberg

Setting

Landform: Hills, Plains
Landform position (two-dimensional): Backslope, footslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey residuum over semiconsolidated sandstone and shale

Typical profile

A - 0 to 6 inches: clay loam
Bw - 6 to 37 inches: silty clay
Cr - 37 to 60 inches: weathered bedrock

Properties and qualities

Slope: 15 to 45 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 3.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R046XN247MT - Clayey (Cy) RRU 46-N 13-19 PZ
Hydric soil rating: No

Description of Castner

Setting

Landform: Hills, Plains
Landform position (two-dimensional): Summit, shoulder
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Residuum over hard sandstone

Typical profile

A - 0 to 7 inches: stony loam
C - 7 to 14 inches: extremely channery loam
R - 14 to 60 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 45 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R046XC506MT - Shallow (Sw) RRU 46-C 13-19 PZ
Hydric soil rating: No

Minor Components

Bitton

Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Backslope, footslope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R046XC508MT - Silty (Si) RRU 46-C 13-19 PZ
Hydric soil rating: No

Fergus

Percent of map unit: 5 percent
Landform: Stream terraces, Alluvial fans
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R046XN247MT - Clayey (Cy) RRU 46-N 13-19 PZ
Hydric soil rating: No

Timberg

Percent of map unit: 5 percent
Landform: Hills, Plains
Landform position (two-dimensional): Backslope, footslope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R046XN247MT - Clayey (Cy) RRU 46-N 13-19 PZ
Hydric soil rating: No

Twin creek

Percent of map unit: 5 percent
Landform: Alluvial fans, Stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R046XC508MT - Silty (Si) RRU 46-C 13-19 PZ
Hydric soil rating: No

Rock outcrop

Percent of map unit: 5 percent
Hydric soil rating: No

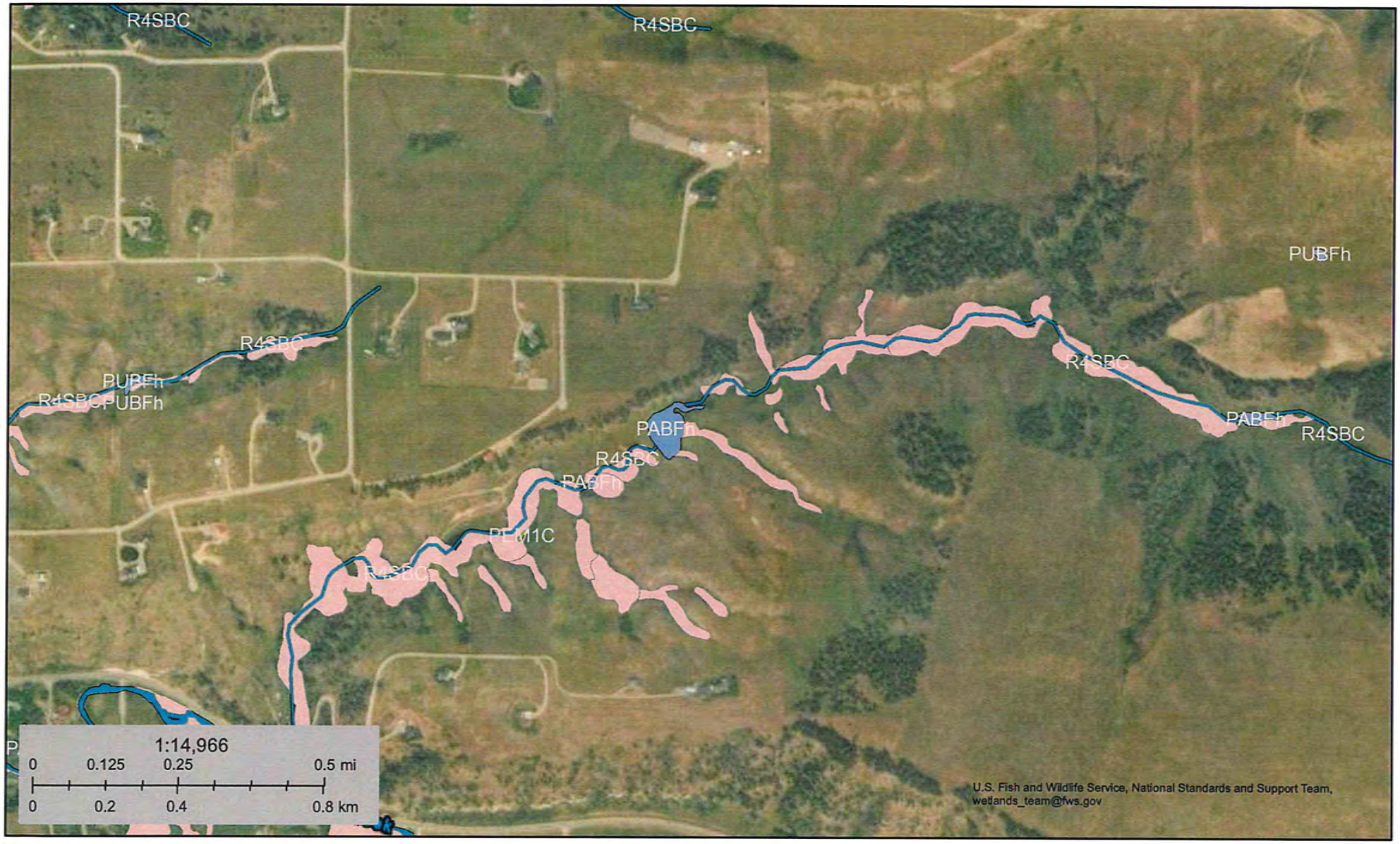
Data Source Information

Soil Survey Area: Fergus County, Montana
Survey Area Data: Version 26, Aug 30, 2025

U.S. Fish and Wildlife Service

National Wetlands Inventory

41S 30171580



January 27, 2026

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

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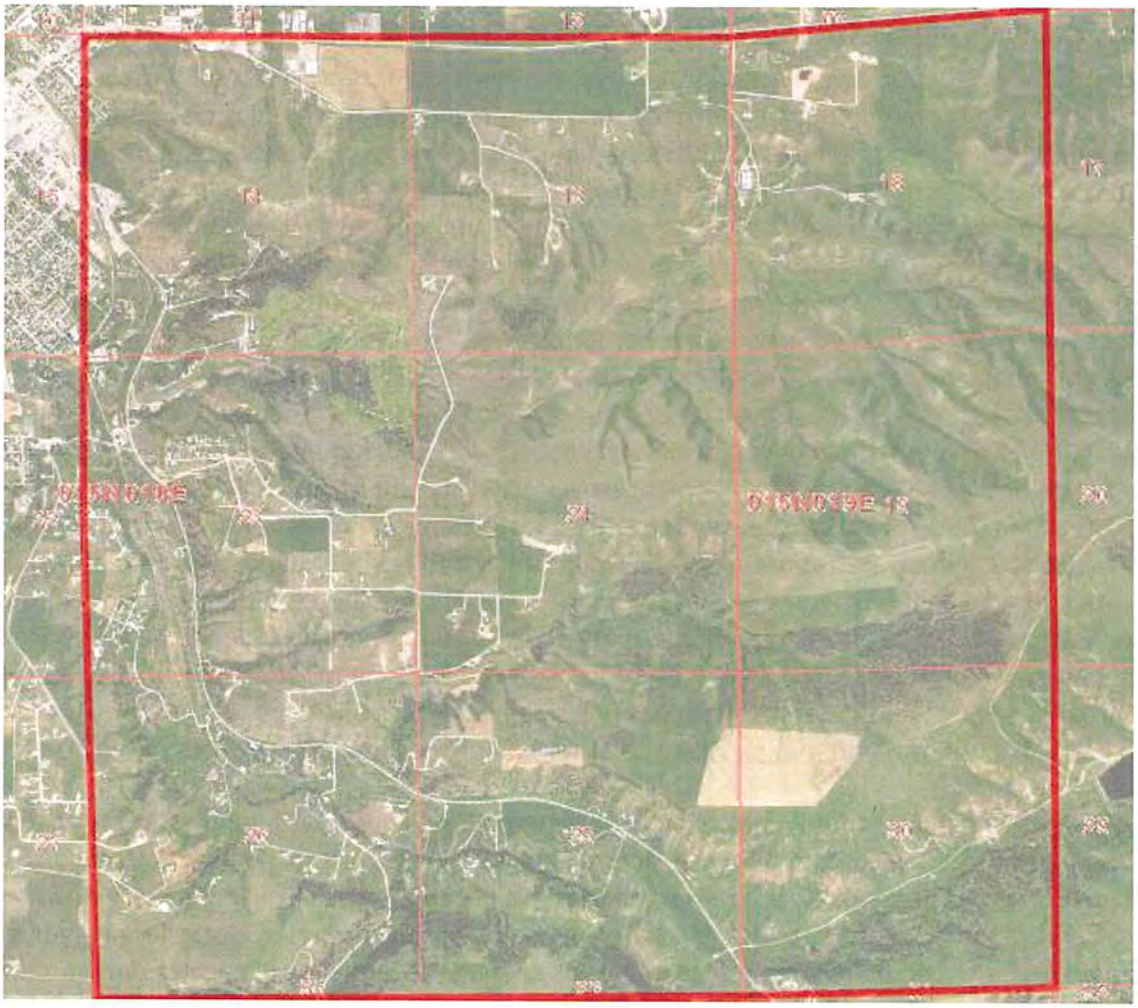
NATURAL HERITAGE PROGRAM mtnhp.mt.gov
1201 11th Ave • P.O. Box 201800 • Helena, MT 59620-1800 • fax 406-444-0266 • phone 406-444-3989

Latitude	Longitude
47.02695	-109.35449
47.07151	-109.41843

Summarized by:
015N018E024
(Buffered PLSS Section)



Suggested Citation
Montana Natural Heritage Program. Environmental Summary Report.
for Latitude 47.02695 to 47.07151 and Longitude -109.35449 to -109.41843. Retrieved on 1/26/2026.

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 the NatureServe network that is composed of over 60 member programs across North America that work to provide current and comprehensive distribution and status information on species and biological communities.

MONTANA STATE LIBRARY NATURAL HERITAGE PROGRAM

NATURESERVE

Environmental Summary

Table of Contents

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 North America.

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.**

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Legend

Model Icons
- N Suitable (native range)
- O Optimal Suitability
- M Moderate Suitability
- L Low Suitability
- I Suitable (introduced range)

Habitat Icons
- C Common
- O Occasional

Range Icons
- Y Native / Year-round
- S Summer
- W Winter
- M Migratory
- N Non-native
- H Historical

Num Obs
Count of obs with 'good precision' (<=1000m)
+ indicates additional 'poor precision' obs (1001m-10,000m)

Latitude	Longitude
47.02695	-109.35449
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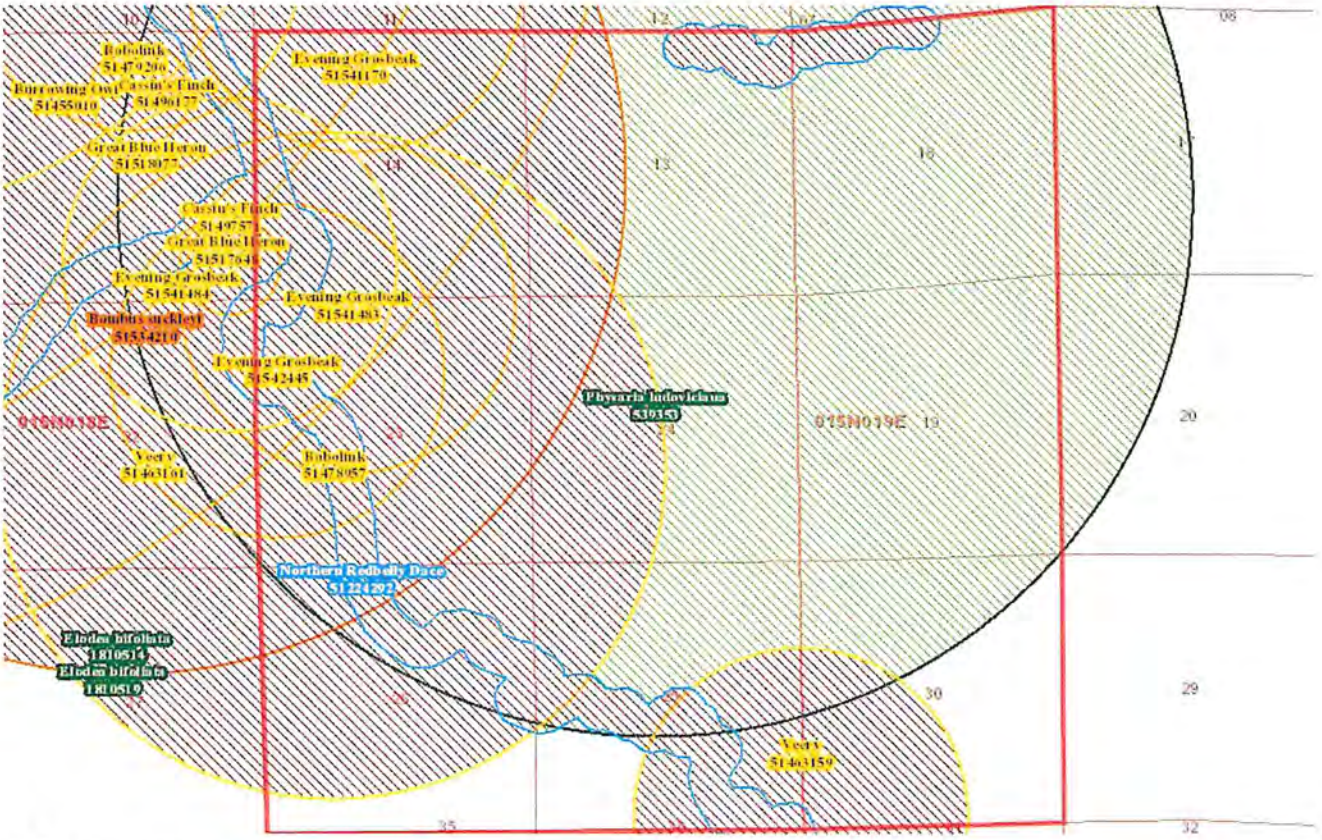
Native Species

Summarized by: **015N018E024** *(Buffered PLSS Section)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern



Species Occurrences

	USFWS Sec7	# SO	# Obs	Predicted Model	Range
F - Northern Redbelly Dace *(Chrosomus eos)* SOC		1	2		Y

View In Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2** FWP SWAP: **SGCN**

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: Mar 19, 2024)

Predicted Models: N 66% Suitable (native range) (deductive)

B - Veery *(Catharus fuscescens)* SOC		2	5		S M

View In Field Guide | View Predicted Models | View Range Maps

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

Delineation Criteria Observations with evidence of breeding activity buffered by a minimum distance of 300 meters in order to be conservative about encompassing home ranges and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 20, 2024)

Predicted Models: O 15% Optimal (inductive), M 34% Moderate (inductive), L 51% Low (inductive)

I - Bombus suckleyi *(Suckley's Cuckoo Bumble Bee)* SOC		1			Y

View In Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G2G3** State: **S1** USFWS: **P** FWP SWAP: **SGCN**

Delineation Criteria Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 1700 meters in order to encompass the home range of the individual as well as adjacent habitat likely to support other individuals and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Sep 24, 2025)

Predicted Models: M 35% Moderate (inductive), L 65% Low (inductive)

B - Bobolink *(Dolichonyx oryzivorus)* SOC		2	6		S M

View In Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** FWP SWAP: **SGCN** PIF: **3**

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 150 meters in order to conservatively encompass male territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 20, 2024)

Predicted Models: M 25% Moderate (inductive), L 74% Low (inductive)

B - Evening Grosbeak *(Coccothraustes vespertinus)* SOC

4 7 Y W M

View in Field Guide View Predicted Models View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA; BCC10** FWP SWAP: **SGCN**

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 1,000 meters in order to encompass the maximum foraging distance from nests reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 22, 2025)

Predicted Models: 25% Moderate (inductive), 56% Low (inductive)

B - Great Blue Heron *(Ardea herodias)* SOC

2 18 Y S M

View in Field Guide View Predicted Models View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN**

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 6,500 meters in order to be conservative about encompassing the areas commonly used for foraging near the breeding colony. If the locational uncertainty associated with the observation is greater than 5,000 meters, the observation is not valid for creation of a species occurrence. (Last Updated: May 02, 2025)

Predicted Models: 8% Moderate (inductive), 85% Low (inductive)

B - Cassin's Finch *(Haemorhous cassinii)* SOC

1 1 Y

View in Field Guide View Predicted Models View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA; BCC10** FWP SWAP: **SGCN** PIF: **3**

Delineation Criteria Observations with evidence of breeding activity buffered by a minimum distance of 300 meters in order to be conservative about encompassing the courtship and foraging distance from nesting areas and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 26, 2024)

Predicted Models: 4% Moderate (inductive), 43% Low (inductive)

V - Physaria ludoviciana *(Silver Bladderpod)* SOC

1 Y

View in Field Guide View Predicted Models View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2S3** Plant Threat Score: **No Known Threats**

Predicted Models: 11% Low (inductive)

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- L Low Suitability
- I Suitable (introduced range)

Habitat Icons
- C Common
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Range Icons
- Y Native / Year-round
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- W Winter
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- N Non-native
- H Historical

Num Obs
Count of obs with 'good precision' (<=1000m)
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Latitude	Longitude
47.02695	-109.35449
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Native Species

Summarized by: **015N018E024** *(Buffered PLSS Section)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern

Other Observed Species

	USFWS Sec7	# Obs	Predicted Model	Range
I - Bombus occidentalis *(Western Bumble Bee)* SOC		1		Y
B - American White Pelican *(Pelecanus erythrorhynchos)* SOC		1		B M
B - Long-billed Curlew *(Numenius americanus)* SOC		1		B M
B - Clark's Nutcracker *(Nucifraga columbiana)* SOC		1		Y
B - Sharp-tailed Grouse *(Tympanuchus phasianellus)* SOC		10		Y
B - Brewer's Sparrow *(Spizella breweri)* SOC		1		B M
B - Ferruginous Hawk *(Buteo regalis)* SOC		1		B M
B - Golden Eagle *(Aquila chrysaetos)* SOC		5		Y
B - American Goshawk *(Astur atricapillus)* SOC		1		Y W M
B - Brown Creeper *(Certhia americana)* SOC		1	Not Assessed	Y
V - Muhlenbergia minutissima *(Annual Muhly)* SOC		1	Not Assessed	Y
B - Solitary Sandpiper *(Tringa solitaria)* SOC		1	Not Assessed	M
B - Trumpeter Swan *(Cygnus buccinator)* SOC		1	Not Assessed	M

I - Bombus occidentalis *(Western Bumble Bee)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G3** State: **S2** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT)** BLM: **SENSITIVE** FWP SWAP: **SGCN**
Predicted Models: M 94% Moderate (inductive), L 6% Low (inductive)

B - American White Pelican *(Pelecanus erythrorhynchos)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN** PIF: **3**
Predicted Models: M 79% Moderate (inductive), L 21% Low (inductive)

B - Long-billed Curlew *(Numenius americanus)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC11** BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **2**
Predicted Models: M 23% Moderate (inductive), L 75% Low (inductive)

B - Clark's Nutcracker *(Nucifraga columbiana)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** USFS: **Species of Conservation Concern in Forests (FLAT)** FWP SWAP: **SGCN** PIF: **3**
Predicted Models: M 18% Moderate (inductive), L 54% Low (inductive)

B - Sharp-tailed Grouse *(Tympanuchus phasianellus)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3S4** FWP SWAP: **SGCN** PIF: **2**
Predicted Models: L 98% Low (inductive)

B - Brewer's Sparrow *(Spizella breweri)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **2**
Predicted Models: L 65% Low (inductive)

B - Ferruginous Hawk *(Buteo regalis)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **2**
Predicted Models: L 65% Low (inductive)

B - Golden Eagle *(Aquila chrysaetos)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **BGEPA; MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN**
Predicted Models: L 64% Low (inductive)

B - American Goshawk *(Astur atricapillus)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN** PIF: **2**
Predicted Models: L 13% Low (inductive)

B - Brown Creeper *(Certhia americana)* SOC

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN** PIF: **1**

V - Muhlenbergia minutissima *(Annual Muhly)* SOC

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** Plant Threat Score: **No Known Threats**

B - Solitary Sandpiper *(Tringa solitaria)* SOC

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2B** USFWS: **MBTA** FWP SWAP: **SGCN**

B - Trumpeter Swan *(Cygnus buccinator)* SOC

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **1**

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Legend

Model Icons
- Suitable (native range)
- Optimal Suitability
- Moderate Suitability
- Low Suitability
- Suitable (introduced range)

Habitat Icons
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Native Species

Summarized by: **015N018E024** *(Buffered PLSS Section)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern

Other Potential Species

	USFWS Sec7	Predicted Model	Range
I - Danaus plexippus *(Monarch)* SOC			

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2S3** USFWS: **P** USFS: **Sensitive - Migratory in Forests (BD, BRT, KOOT)** FWP SWAP: **SGCN**
Predicted Models: 1% Optimal (inductive), 57% Moderate (inductive), 42% Low (inductive)

R - Plains Hog-nosed Snake *(Heterodon nasicus)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5T5** State: **S2** BLM: **SENSITIVE** FWP SWAP: **SGCN**
Predicted Models: 1% Optimal (inductive), 8% Moderate (inductive), 51% Low (inductive)

V - Carex crawei *(Crawe's Sedge)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2S3** Plant Threat Score: **Low**
Predicted Models: 68% Moderate (inductive), 32% Low (inductive)

M - Northern Hoary Bat *(Lasiurus cinereus)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S3B** BLM: **SENSITIVE** FWP SWAP: **SGCN**
Predicted Models: 68% Moderate (inductive), 32% Low (inductive)

I - Bombus pensylvanicus *(American Bumble Bee)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S3** FWP SWAP: **SGCN**
Predicted Models: 57% Moderate (inductive), 35% Low (inductive)

M - Townsend's Big-eared Bat *(Corynorhinus townsendii)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known in Forests (LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN**
Predicted Models: 43% Moderate (inductive), 44% Low (inductive)

M - Eastern Red Bat *(Lasiurus borealis)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S3B** BLM: **SENSITIVE** FWP SWAP: **SGCN**
Predicted Models: 34% Moderate (inductive), 54% Low (inductive)

M - Little Brown Myotis *(Myotis lucifugus)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S2S3** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT)** FWP SWAP: **SGCN**
Predicted Models: 33% Moderate (inductive), 67% Low (inductive)

M - Fringed Myotis *(Myotis thysanodes)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN**
Predicted Models: 32% Moderate (inductive), 44% Low (inductive)

I - Oreohelix strigosa berryi *(Berry's Mountainsnail)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5T2** State: **S1S2**
Predicted Models: 28% Moderate (inductive), 42% Low (inductive)

V - Physaria brassicoides *(Double Bladderpod)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** Plant Threat Score: **No Known Threats**
Predicted Models: 24% Moderate (inductive), 44% Low (inductive)

M - Merriam's Shrew *(Sorex merriami)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** FWP SWAP: **SGCN**
Predicted Models: 20% Moderate (inductive), 80% Low (inductive)

B - Yellow-billed Cuckoo *(Coccyzus americanus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **PS: LT; MBTA** BLM: **THREATENED** FWP SWAP: **SGCN** PIF: **2**

Predicted Models: M 20% Moderate (inductive), L 38% Low (inductive)

M - Long-eared Myotis *(Myotis evotis)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** FWP SWAP: **SGCN**

Predicted Models: M 15% Moderate (inductive), L 85% Low (inductive)

M - Long-legged Myotis *(Myotis volans)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4G5** State: **S3** FWP SWAP: **SGCN**

Predicted Models: M 15% Moderate (inductive), L 85% Low (inductive)

M - Silver-haired Bat *(Lasionycteris noctivagans)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** FWP SWAP: **SGCN**

Predicted Models: M 15% Moderate (inductive), L 85% Low (inductive)

A - Northern Leopard Frog *(Lithobates pipiens)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3S4** USFS: **Sensitive - Suspected in Forests (KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN**

Predicted Models: M 15% Moderate (inductive), L 74% Low (inductive)

B - Green-tailed Towhee *(Pipilo chlorurus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN** PIF: **3**

Predicted Models: M 12% Moderate (inductive), L 68% Low (inductive)

B - Baird's Sparrow *(Centronyx bairdii)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **1**

Predicted Models: M 10% Moderate (inductive), L 56% Low (inductive)

M - Preble's Shrew *(Sorex preblei)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** FWP SWAP: **SGCN**

Predicted Models: M 8% Moderate (inductive), L 39% Low (inductive)

V - Potentilla plattensis *(Platte Cinquefoil)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** Plant Threat Score: **No Known Threats** CCVI: **Highly Vulnerable**

Predicted Models: M 8% Moderate (inductive), L 30% Low (inductive)

B - Red-headed Woodpecker *(Melanerpes erythrocephalus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **2**

Predicted Models: M 1% Moderate (inductive), L 57% Low (inductive)

M - Grizzly Bear *(Ursus arctos)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** USFWS: **LT** BLM: **THREATENED**

Predicted Models: L 99% Low (inductive)

V - Elodea bifoliata *(Long-sheath Waterweed)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4G5** State: **S2?** Plant Threat Score: **No Known Threats**

Predicted Models: L 88% Low (inductive)

B - Black-billed Cuckoo *(Coccyzus erythropthalmus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **2**

Predicted Models: L 81% Low (inductive)

B - Sprague's Pipit *(Anthus spragueii)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G3G4** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **1**

Predicted Models: L 75% Low (inductive)

B - Pinyon Jay *(Gymnorhinus cyanocephalus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G3** State: **S3** USFWS: **MBTA; BCC10; BCC17** FWP SWAP: **SGCN**

Predicted Models: L 70% Low (inductive)

R - Western Milksnake *(Lampropeltis gentilis)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2** BLM: **SENSITIVE** FWP SWAP: **SGCN**

Predicted Models: L 67% Low (inductive)

B - Loggerhead Shrike *(Lanius ludovicianus)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **2**
Predicted Models: 55% Low (inductive)

V - Chenopodium subglabrum *(Smooth Goosefoot)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S2** Plant Threat Score: **Unknown** CCVI: **Highly Vulnerable**
Predicted Models: 51% Low (inductive)

V - Cyperus schweinitzii *(Schweinitz's Flatsedge)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** Plant Threat Score: **Low** FWP SWAP: **SGCN**
Predicted Models: 47% Low (inductive)

B - Lewis's Woodpecker *(Melanerpes lewis)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2B** USFWS: **MBTA; BCC10; BCC17** USFS: **Species of Conservation Concern in Forests (HLC)**
BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **2**
Predicted Models: 45% Low (inductive)

B - Sage Thrasher *(Oreoscoptes montanus)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **3**
Predicted Models: 41% Low (inductive)

A - Great Plains Toad *(Anaxyrus cognatus)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN**
Predicted Models: 40% Low (inductive)

R - Greater Short-horned Lizard *(Phrynosoma hernandesi)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN**
Predicted Models: 30% Low (inductive)

B - American Bittern *(Botaurus lentiginosus)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **3**
Predicted Models: 25% Low (inductive)

B - Common Tern *(Sterna hirundo)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **2**
Predicted Models: 22% Low (inductive)

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47.02695	-109.35449
47.07151	-109.41843

Structured Surveys

Summarized by: **015N018E024** *(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.

E-Eastern Heath Snail *(Eastern Heath Snail Survey)*	Survey Count: 3	Obs Count:	Recent Survey: 2012
E-Eurasian Water-milfoil Rake *(Rake tows/pulls for Eurasian Water-milfoil)*	Survey Count: 8	Obs Count: 10	Recent Survey: 2023
E-Invasive Mussel Plankton Tow *(Plankton tows for veligers of Invasive Mussels)*	Survey Count: 31	Obs Count:	Recent Survey: 2024
E-Kicknet *(Kicknet Collection Survey for Invasive Mussels and Snails)*	Survey Count: 54	Obs Count: 14	Recent Survey: 2025
E-Noxious Weed, Road-based *(Noxious Weed Road-based Visual Surveys)*	Survey Count: 11	Obs Count: 10	Recent Survey: 2003
E-Noxious Weed, Visual *(Noxious Weed Visual Surveys)*	Survey Count: 1	Obs Count: 21	Recent Survey: 2007
E-Visual Aquatic Invasives *(Visual Encounter Surveys for Aquatic Invasives on Shorelines or Underwater)*	Survey Count: 55	Obs Count: 19	Recent Survey: 2025
F-Fish Other Survey *(Fish Other Survey (FWP Survey Type))*	Survey Count: 4	Obs Count: 4	Recent Survey: 2006
I-Aquatic Invert Lotic Dipnet *(Invertebrate Lotic Site Dipnet and Visual Encounter Survey)*	Survey Count: 4	Obs Count: 53	Recent Survey: 2023
I-Bumble Bee *(Bumble Bee Collection Surveys)*	Survey Count: 2	Obs Count: 4	Recent Survey: 2011
I-Odonates/Butterfly VES *(Visual Encounter Survey for Damselfly/Dragonfly/Butterfly)*	Survey Count: 1	Obs Count: 1	Recent Survey: 1957
M-Bat Roost (Active Season) *(Bat Roost (Active Season) Survey)*	Survey Count: 1	Obs Count:	Recent Survey: 2017
P-Algal scraping *(Algal Scraping)*	Survey Count: 2	Obs Count: 72	Recent Survey: 2001

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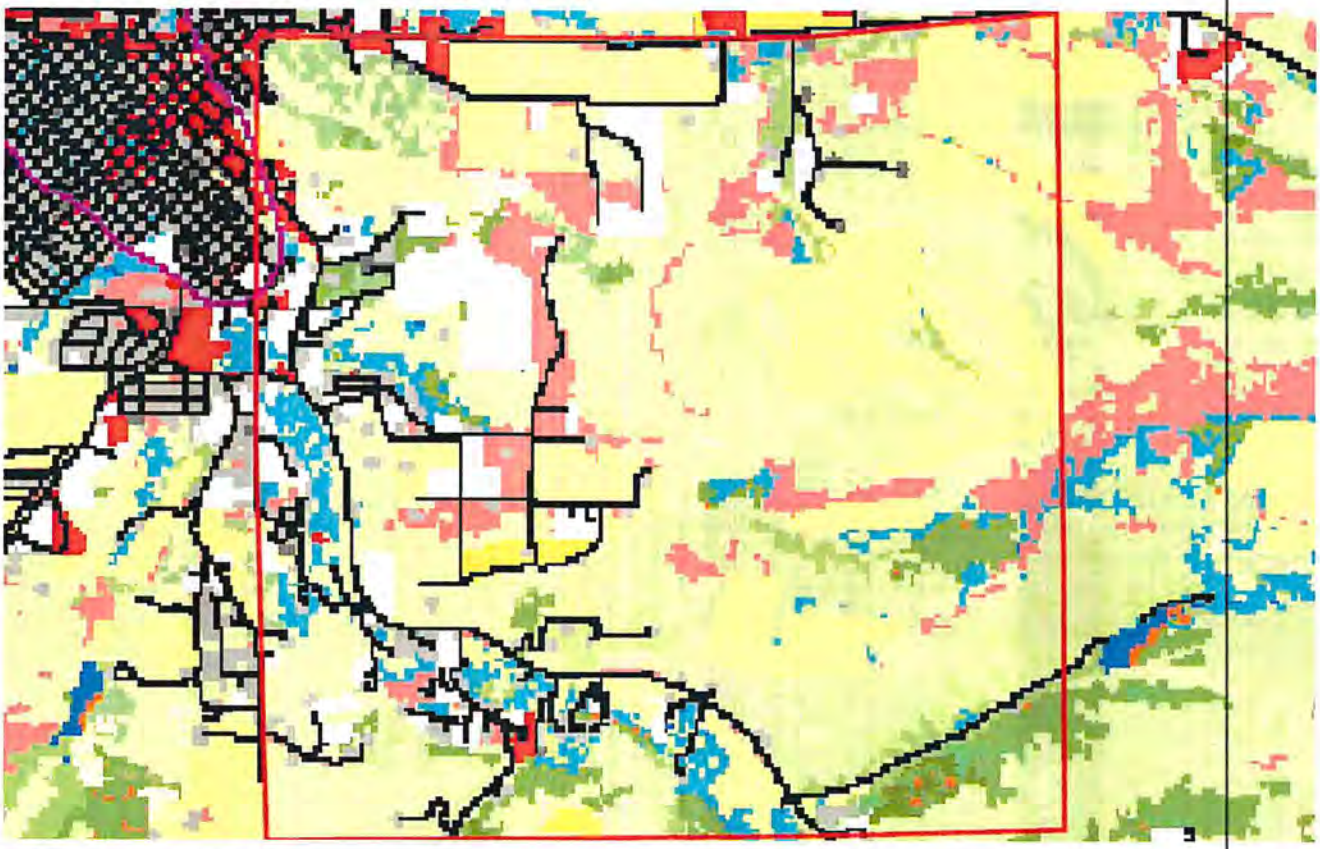
Land Cover

Summarized by: **015N018E024** *(Buffered PLSS Section)*



25% (1,450 Acres)

Grassland Systems
Lowland/Prairie Grassland

Great Plains Mixedgrass Prairie

The system covers much of the eastern two-thirds of Montana, occurring continuously for hundreds of square kilometers, interrupted only by wetland/riparian areas or sand prairies. Soils are primarily fine and medium-textured. The growing season averages 115 days, ranging from 100 days on the Canadian border to 130 days on the Wyoming border. Climate is typical of mid-continental regions with long severe winters and hot summers. Grasses typically comprise the greatest canopy cover, and western wheatgrass (*Pascopyrum smithii*) is usually dominant. Other species include thickspike wheatgrass (*Elymus lanceolatus*), green needlegrass (*Nassella viridula*), blue grama (*Bouteloua gracilis*), and needle and thread (*Hesperostipa comata*). Near the Canadian border in north-central Montana, this system grades into rough fescue (*Festuca campestris)* and Idaho fescue (*Festuca idahoensis*) grasslands. Remnants of shortbristle needle and thread *(Hesperostipa curtiseta)* dominated vegetation are found in northernmost Montana and North Dakota, and are associated with productive sites, now mostly converted to farmland. Forb diversity is typically high. In areas of southeastern and central Montana where sagebrush steppe borders the mixed grass prairie, common plant associations include Wyoming big sagebrush-western wheatgrass (*Artemisia tridentata* ssp. *wyomingensis/ Pascopyrum smithii*). Fire and grazing are the primary drivers of this system. Drought can also impact it, in general favoring the shortgrass component at the expense of the mid-height grasses. With intensive grazing, cool season exotics such as Kentucky bluegrass (*Poa pratensis*), smooth brome (*Bromus inermis*), and Japanese brome (*Bromus japonicus*) increase in dominance; both of these rhizomatous species have been shown to markedly decrease species diversity. Previously cultivated acres that have been re-vegetated with non-native plants have been transformed into associations such as Kentucky bluegrass (*Poa pratensis*)/western wheatgrass *(Pascopyrum smithii)* or into pure crested wheatgrass (*Agropyron cristatum)* stands.

19% (1,072 Acres)

Shrubland, Steppe and Savanna Systems
Deciduous Shrubland

Great Plains Shrubland

This ecological system is found from southern Alberta through northern Montana's glaciated and unglaciated plains, typically at elevations ranging from 1,220 to 1,524 meters (4,000-5,000 feet). It can occur on all aspects but is more common on mesic sites with moderately shallow or deep, fine to sandy loam soils. Often it is located on slopes near breaklands and on the edge of coulees, or on upper terraces of rivers and streams. It differs from the Northwestern Great Plains Mixedgrass Prairie in that shrub cover is more than 10%, although the grass component is similar, and may occur where fire suppression in grasslands has allowed shrubs to establish. Dominant shrubs include serviceberry (*Amelanchier alnifolia*), skunkbush sumac (*Rhus trilobata*), snowberry (*Symphoricarpos* species), silver buffaloberry (Sheperdia argentea), shrubby cinquefoil (*Dasiphora fruticosa ssp. floribunda*), silverberry (*Elaeagnus commutata*) and horizontal rug juniper (*Juniperus horizontalis*). Silver sage (*Artemisia cana ssp. cana*) shrublands may occur on flat alluvial deposits on floodplains, terraces or benches, and alluvial fans.

17% (967 Acres)

Human Land Use
Agriculture

Pasture/Hay

These agriculture lands typically have perennial herbaceous cover (e.g. regularly-shaped plantings) used for livestock grazing or the production of hay. There are obvious signs of management such as irrigation and haying that distinguish it from natural grasslands. Identified CRP lands are included in this land cover type.

6% (371 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.

6% (363 Acres)

Recently Disturbed or Modified
Introduced Vegetation

Introduced Upland Vegetation - Annual and Biennial Forbland

Land cover is significantly altered/disturbed by introduced annual and biennial forbs. Natural vegetation types are no longer recognizable. Typical species that dominate these areas are knapweed, oxeye daisy, Canada thistle, leafy spurge, pepperweed, and yellow sweetclover.

No image

6% (321 Acres)

Human Land Use
Developed

Other Roads

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

4% (229 Acres)

Wetland and Riparian Systems
Floodplain and Riparian

Great Plains Riparian

This system is associated with perennial to intermittent or ephemeral streams throughout the northwestern Great Plains. In Montana, it occurs along smaller tributaries of the Yellowstone and Missouri rivers, as well as tributaries to the large floodplain rivers that feed them (e.g. the Milk, Marias, Musselshell, Powder, Clark's Fork Yellowstone, Tongue, etc). In areas adjacent to the mountain ranges of central and southeastern Montana, and near the Rocky Mountain Front, it grades into Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland systems. This system is found on alluvial soils in highly variable landscape settings, from confined, deep cut ravines to wide, braided streambeds. Channel migration occurs in less-confined areas, but within a more narrow range than would occur in broad, alluvial floodplains. Typically, the rivers are wadeable by mid-summer.

The primary inputs of water to these systems include groundwater discharge, overland flow, and subsurface interflow from the adjacent upland. Flooding is the key ecosystem process, creating suitable sites for seed dispersal and seedling establishment, and controlling vegetation succession. Communities within this system range from riparian forests and shrublands to tallgrass wet meadows and gravel/sand flats. Dominant species are similar to those found in the Great Plains Floodplain System. In the western part of the system's range in Montana, the dominant overstory species is black cottonwood (*Populus balsamifera ssp. trichocarpa*) with narrowleaf cottonwood *(Populus angustifolia)* and Plains cottonwood (*Populus deltoides)* occurring as co-dominants in the riparian/floodplain interface near the mountains. Further east, narrowleaf cottonwood and Plains cottonwood become dominant. In wetter systems, the understory is typically willow (*Salix spp.*) and redosier dogwood (*Cornus stolonifera*) with graminoids such as western wheatgrass (*Pascopyrum smithii*) and forbs like American licorice (*Glycyrrhiza lepidota*). In areas where the channel is incised, the understory may be dominated by big sagebrush (*Artemisia tridentata*) or silver sagebrush (*Artemisia cana*). Like floodplain systems, riparian systems are often subjected to overgrazing and/or agriculture and can be heavily degraded, with salt cedar (*Tamarix ramosissima*) and Russian olive (*Eleagnus angustifolia*) replacing native woody vegetation and regrowth. Groundwater depletion and lack of fire have resulted in additional species changes.

4% (215 Acres)

Forest and Woodland Systems
Conifer-dominated forest and woodland (xeric-mesic)

Great Plains Ponderosa Pine Woodland and Savanna

These ponderosa pine (*Pinus ponderosa*) occurrences differ from the Rocky Mountain Ponderosa Pine Woodland and Savanna systems in that they are typically found within the matrix of the Great Plains grassland systems. They are often surrounded by mixed-grass prairie, in places where available soil moisture is higher or soils are more coarse and rocky. Elevation ranges from 1,189 meters (3,900 feet) in southeastern Montana to 1,646 m (5,400 feet) in north-central Montana. Occurrences are usually on east- and north-facing aspects. These woodlands can be physiognomically variable, ranging from very sparse patches of trees on drier sites, to nearly closed-canopy forest stands on north slopes or in draws where available soil moisture is higher.

3% (168 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.

2% (115 Acres)

Forest and Woodland Systems
Deciduous dominated forest and woodland

Great Plains Wooded Draw and Ravine

This system is typically associated with highly intermittent or ephemeral streams. It may occur on steep northern slopes or within canyon bottoms where soil moisture and topography produce higher moisture levels than are common throughout most of the area. In some areas of the western Great Plains, in higher elevation draws and ravines, Rocky Mountain juniper (*Juniperus scopulorum)* can dominate the canopy. Aspen (*Populus tremuloides*), paper birch (*Betula papyrifera*), or boxelder maple (*Acer negundo*) are commonly present in portions of the northwestern Great Plains. In central and eastern Montana, green ash (*Fraxinus pennsylvanicus*) or chokecherry (*Prunus virginiana*) are the usual dominants. Douglas hawthorne (*Crataegus douglasii*) is occasionally seen as a dominant in south-central Montana, especially around the Pryor Mountains. This system is found in ravines formed by ephemeral and intermittent streams, and on toeslopes and north-facing backslopes. Generally, these systems are less than 50 meters (165 feet) wide, although the linear extent may be considerable. Soils are usually deep and loamy. Flooding is very short in duration when it occurs, as water is rapidly channeled downslope.

2% (*91 Acres*)

Forest and Woodland Systems

Conifer-dominated forest and woodland (xeric-mesic)

Rocky Mountain Foothill Woodland-Steppe Transition

This inland Pacific Northwest ecological system occurs in the foothills of the Montana Rocky Mountains, where it forms a broad ecotone between true forests ad true steppe, shrublands, or grasslands, typically on warm, dry, exposed sites too droughty to support a closed tree canopy. This is not a fire-maintained system. The "steppe" character results from a climate-edaphic interaction that results in a graminiod-dominated landscape with widely scattered trees; even in the absence of fire, a "woodland" or "forest" structure will not be obtained. Occurrences are found on all slopes and aspects; however, moderately steep to very steep slopes or ridgetops on southerly or western aspects are most common. They can be found on glacial till, glacio-fluvial sand and gravel, dune, basaltic rubble, colluvium, deep loess or volcanic ash-derived soils, with characteristic features of good aeration and drainage, coarse texture, and an abundance of mineral material. Ponderosa pine (*Pinus ponderosa*) or Douglas-fir (*Pseudotsuga menziesii*)are the predominant conifers. Limber pine (*Pinus flexilis*)may be present in some occurrences. In fire-protected transition areas with big sagebrush steppe systems, antelope bitterbrush (*Purshia tridentata*), Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis),* big sagebrush (*Artemisia tridentata* ssp. *tridentata*), and three-tip sagebrush (*Artemisia tripartita*) may be common. Deciduous shrubs such as common ninebark (*Physocarpus malvaceus*), commonsnowberry (*Symphoricarpos albus*), or birch leaf spiraea (*Spiraea betulifolia)may* be abundant in occurrences west of the Continental Divide. Important grass species include bluebunch wheatgrass (*Pseudoroegneria spicata*), Sandberg's bluegrass (*Poa secunda*), needle and thread (*Hesperostipa comata*), needlegrass (*Achnatherum*species), and bottlebrush squirreltail (*Elymus elymoides*). This system is very similar to Northern Rocky Mountain Ponderosa Pine Woodland and Savanna, but with more widely scattered trees.

Additional Limited Land Cover

1% (*82 Acres*) Rocky Mountain Lower Montane, Foothill, and Valley Grassland

1% (*73 Acres*) Major Roads

1% (*38 Acres*) Cultivated Crops

1% (*35 Acres*) Big Sagebrush Steppe

1% (*33 Acres*) Commercial / Industrial

1% (*31 Acres*) Rocky Mountain Cliff, Canyon and Massive Bedrock

<1% (*21 Acres*) Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest

<1% (*16 Acres*) High Intensity Residential

<1% (*14 Acres*) Aspen and Mixed Conifer Forest

<1% (*9 Acres*) Railroad

<1% (*5 Acres*) Insect-Killed Forest

<1% (*2 Acres*) Great Plains Sand Prairie

<1% (*2 Acres*) Open Water

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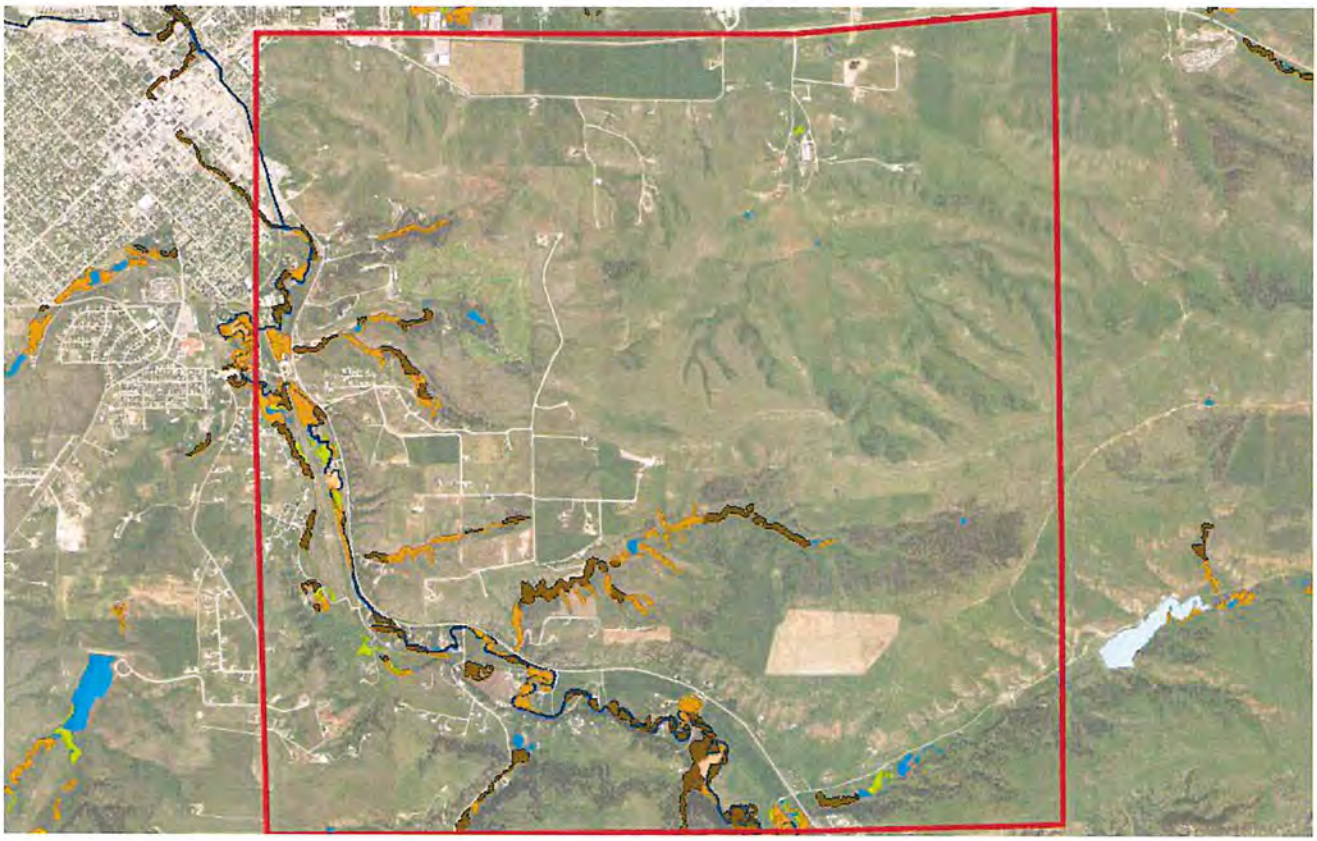
Wetland and Riparian

Summarized by: **015N018E024** *(Buffered PLSS Section)*



Wetland and Riparian Mapping

P - Palustrine

UB - Unconsolidated Bottom

F - Semipermanently Flooded	1 Acres	
h - Diked/Impounded	**1 Acres**	**PUBFh**

P - Palustrine, UB - Unconsolidated Bottom
Wetlands where mud, silt or similar fine particles cover at least 25% of the bottom, and where vegetation cover is less than 30%.

AB - Aquatic Bed

F - Semipermanently Flooded	12 Acres	
(no modifier)	**5 Acres**	**PABF**
h - Diked/Impounded	**7 Acres**	**PABFh**
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	<1 Acres	
(no modifier)	**<1 Acres**	**PEMA**
h - Diked/Impounded	**<1 Acres**	**PEMAh**
C - Seasonally Flooded	10 Acres	
(no modifier)	**8 Acres**	**PEMC**
h - Diked/Impounded	**2 Acres**	**PEMCh**

P - Palustrine, EM - Emergent
Wetlands with erect, rooted herbaceous vegetation present during most of the growing season.

R - Riverine (Rivers)

2 - Lower Perennial

UB - Unconsolidated Bottom

G - Intermittently Exposed	29 Acres	
(no modifier)	**28 Acres**	**R2UBG**
x - Excavated	**1 Acres**	**R2UBGx**

R - Riverine (Rivers), 2 - Lower Perennial, UB - Unconsolidated Bottom
Stream channels where the substrate is at least 25% mud, silt or other fine particles.

Rp - Riparian

1 - Lotic

SS - Scrub-Shrub

(no modifier)	**55 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)	**80 Acres** Rp1FO	**Rp - Riparian, 1 - Lotic, FO - Forested** *This riparian class has woody vegetation that is greater than 6 meters (20 feet) tall.*
EM - Emergent (no modifier)	**3 Acres** Rp1EM	**Rp - Riparian, 1 - Lotic, EM - Emergent** *Riparian areas that have erect, rooted herbaceous vegetation during most of the growing season.*

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Land Management

Summarized by: **015N018E024** *(Buffered PLSS Section)*

Land Management Summary

	Ownership	Tribal	Easements	Other Boundaries (possible overlap)
Public Lands	**110 Acres (2%)**			
State	23 Acres (<1%)			
Montana Fish, Wildlife and Parks	23 Acres (<1%)			
MTFWP Owned	23 Acres (<1%)			
MTFWP Fishing Access Sites				85 Acres
Brewery Flats Fishing Access Site				23 Acres
Spring Creek Fishing Access Site				62 Acres
Local	87 Acres (2%)			
Local Government	87 Acres (2%)			
Local Government Owned	87 Acres (2%)			
Conservation Easements			**56 Acres (1%)**	
State & Local			56 Acres (1%)	
Montana Fish, Wildlife and Parks			56 Acres (1%)	
Private Lands or Unknown Ownership	**5,544 Acres (97%)**			

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Biological Reports

Summarized by: **015N018E024** *(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

Land & Water Consulting: A Division of Post, Buckley, Schuh, and Jernigan (PBSJ). 2004. Big Spring Creek, Lewistown, Montana, Montana Department of Transportation Wetland Mitigation Monitoring Report: Year 2004. Helena, MT: Land & Water Consulting: A Division of Post, Buckley, Schuh, and Jernigan (PBSJ). 18 p plus appendices.

Lesnik, Mike. 2019. ***Email with tabular data of wintering bird observations around Lewiston, MT***, 22 February 2019.

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Legend

Model Icons
- N Suitable (native range)
- O Optimal Suitability
- M Moderate Suitability
- L Low Suitability
- I Suitable (introduced range)

Habitat Icons
- C Common
- O Occasional

Range Icons
- N Non-native

Num Obs
Count of obs with 'good precision' (<=1000m)
+ indicates additional 'poor precision' obs (1001m-10,000m)

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Invasive and Pest Species

Summarized by: **015N018E024** *(Buffered PLSS Section)*

	# Obs	Predicted Model	Range

Aquatic Invasive Species

V - Myriophyllum spicatum *(Eurasian Water-milfoil)* N2A/AIS

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 21% Low (inductive)

V - Nymphaea odorata *(American Water-lily)* AIS

View in Field Guide | View Predicted Models | View Range Maps

Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**

Predicted Models: I 79% Suitable (introduced range) (deductive)

V - Nymphoides peltata *(Yellow Floating Heart)* AIS

View in Field Guide | View Predicted Models | View Range Maps

Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**

Predicted Models: I 79% Suitable (introduced range) (deductive)

F - Common Carp *(Cyprinus carpio)* AIS

View in Field Guide | View Predicted Models | View Range Maps

Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**

Predicted Models: I 23% Suitable (introduced range) (deductive)

Noxious Weeds: Priority 1A

V - Isatis tinctoria *(Dyer's Woad)* N1A

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 20% Optimal (inductive), M 36% Moderate (inductive), L 44% Low (inductive)

V - Phragmites australis ssp. australis *(European Common Reed)* N1A

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1A - Non-native Species Global: **G5T5** State: **SNA**

Predicted Models: M 17% Moderate (inductive), L 61% Low (inductive)

V - Centaurea solstitialis *(Yellow Starthistle)* N1A

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 4% Moderate (inductive), L 88% Low (inductive)

V - Taeniatherum caput-medusae *(Medusahead)* N1A

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1A - Non-native Species Global: **G4G5** State: **SNA**

Predicted Models: L 31% Low (inductive)

Noxious Weeds: Priority 1B

V - Polygonum cuspidatum *(Japanese Knotweed)* N1B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1B - Non-native Species Global: **GNRTNR** State: **SNA**

Predicted Models: O 9% Optimal (inductive), M 27% Moderate (inductive), L 44% Low (inductive)

V - Lythrum salicaria *(Purple Loosestrife)* N1B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1B - Non-native Species Global: **G5** State: **SNA**

Predicted Models: M 35% Moderate (inductive), L 64% Low (inductive)

V - Cytisus scoparius *(Scotch Broom)* N1B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 76% Low (inductive)

V - Chondrilla juncea *(Rush Skeletonweed)* N1B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 41% Low (inductive)

V - Echium vulgare *(Blueweed)* N1B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 20% Low (inductive)

Noxious Weeds: Priority 2A

V - Rhamnus cathartica *(Common Buckthorn)* N2A

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: 20% Optimal (inductive), 25% Moderate (inductive), 36% Low (inductive)

V - Ventenata dubia *(Ventenata)* N2A

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: 55% Moderate (inductive), 45% Low (inductive)

V - Hieracium piloselloides *(Tall Hawkweed)* N2A

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: 32% Moderate (inductive), 11% Low (inductive)

V - Ranunculus acris *(Tall Buttercup)* N2A

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **G5** State: **SNA**

Predicted Models: 31% Moderate (inductive), 49% Low (inductive)

V - Lepidium latifolium *(Perennial Pepperweed)* N2A

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: 12% Moderate (inductive), 88% Low (inductive)

V - Hieracium praealtum *(Kingdevil Hawkweed)* N2A

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: 12% Moderate (inductive), 46% Low (inductive)

V - Hieracium aurantiacum *(Orange Hawkweed)* N2A

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: 59% Low (inductive)

V - Hieracium caespitosum *(Meadow Hawkweed)* N2A

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: 58% Low (inductive)

V - Myriophyllum spicatum *(Eurasian Water-milfoil)* N2A/AIS

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: 21% Low (inductive)

Noxious Weeds: Priority 2B

V - Lepidium draba *(Whitetop)* N2B 2

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: 44% Optimal (inductive), 34% Moderate (inductive), 21% Low (inductive)

V - Linaria dalmatica *(Dalmatian Toadflax)* N2B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**

Predicted Models: 11% Optimal (inductive), 78% Moderate (inductive), 11% Low (inductive)

V - Centaurea diffusa *(Diffuse Knapweed)* N2B 1

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: 11% Optimal (inductive), 70% Moderate (inductive), 19% Low (inductive)

V - Convolvulus arvensis *(Field Bindweed)* N2B 2

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: 10% Optimal (inductive), 68% Moderate (inductive), 22% Low (inductive)

V - Berteroa incana *(Hoary False-alyssum)* N2B 1

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: 8% Optimal (inductive), 27% Moderate (inductive), 54% Low (inductive)

V - Cynoglossum officinale *(Common Hound's-tongue)* N2B 9

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: 89% Moderate (inductive), 11% Low (inductive)

V - Centaurea stoebe *(Spotted Knapweed)* N2B 9

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: 87% Moderate (inductive), 13% Low (inductive)

V - Euphorbia virgata *(Leafy Spurge)* **N2B** 10

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 87% Moderate (inductive), L 13% Low (inductive)

V - Cirsium arvense *(Canada Thistle)* **N2B** 19

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**

Predicted Models: M 67% Moderate (inductive), L 33% Low (inductive)

V - Acroptilon repens *(Russian Knapweed)* **N2B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 46% Moderate (inductive), L 42% Low (inductive)

V - Tanacetum vulgare *(Common Tansy)* **N2B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 22% Moderate (inductive), L 66% Low (inductive)

V - Linaria vulgaris *(Yellow Toadflax)* **N2B** 2

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 11% Moderate (inductive), L 76% Low (inductive)

V - Potentilla recta *(Sulphur Cinquefoil)* **N2B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 87% Low (inductive)

V - Leucanthemum vulgare *(Oxeye Daisy)* **N2B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 80% Low (inductive)

V - Hypericum perforatum *(Common St. John's-wort)* **N2B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 55% Low (inductive)

Regulated Weeds: Priority 3

V - Elaeagnus angustifolia *(Russian Olive)* **R3**

View in Field Guide | View Predicted Models | View Range Maps

Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 1% Optimal (inductive), M 31% Moderate (inductive), L 68% Low (inductive)

V - Bromus tectorum *(Cheatgrass)* **R3**

View in Field Guide | View Predicted Models | View Range Maps

Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 17% Moderate (inductive), L 83% Low (inductive)

Agricultural Pests

I - Xerolenta obvia *(Eastern Heath Snail)* **PESTA**

View in Field Guide | View Predicted Models | View Range Maps

Agricultural Pest - Non-native Species Global: **G5** State: **SNA**

Predicted Models: O 10% Optimal (inductive), M 79% Moderate (inductive), L 9% Low (inductive)

Biocontrol Species

I - Aphthona nigriscutis *(Black Dot Leafy Spurge Flea Beetle)* **BIOCNTRL**

View in Field Guide | View Predicted Models | View Range Maps

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 15% Optimal (inductive), M 65% Moderate (inductive), L 20% Low (inductive)

I - Aphthona lacertosa *(Brown-legged Leafy Spurge Flea Beetle)* **BIOCNTRL**

View in Field Guide | View Predicted Models | View Range Maps

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 9% Optimal (inductive), M 91% Moderate (inductive)

I - Mecinus janthinus *(Yellow Toadflax Stem-boring Weevil)* **BIOCNTRL**

View in Field Guide | View Predicted Models | View Range Maps

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 1% Optimal (inductive), M 34% Moderate (inductive), L 56% Low (inductive)

I - Mecinus janthiniformis *(Dalmatian Toadflax Stem-boring Weevil)* **BIOCNTRL**

View in Field Guide | View Predicted Models | View Range Maps

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 100% Moderate (inductive)

I - Cyphocleonus achates *(Knapweed Root Weevil)* **BIOCNTRL**

View in Field Guide **View Predicted Models** **View Range Maps**

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: 80% Moderate (inductive), 20% Low (inductive)

I - Oberea erythrocephala *(Red-headed Leafy Spurge Stem Borer)* **BIOCNTRL**

View in Field Guide **View Predicted Models** **View Range Maps**

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: 20% Moderate (inductive), 60% Low (inductive)

I - Urophora cardui *(Canada Thistle Stem Gall Fly)* **BIOCNTRL** 1 Not Assessed

View in Field Guide

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Introduction to Montana Natural Heritage Program

MONTANA STATE LIBRARY
NATURAL HERITAGE PROGRAM

PO Box 201800 • 1201 11th Avenue • Helena, MT 59620-1800 • fax 406.444.0266 • phone 406.444.3989 • mtnhp.mt.gov

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 60 natural heritage programs that are distributed across North America.

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 to allow users to save time and money, speed environmental reviews, and make informed decisions.

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
Aquatic Invasive Species	Tom Woolf thomas.woolf@mt.gov (406) 444-1230
American Bison Black-footed Ferret Black-tailed Prairie Dog Bald Eagle Golden Eagle Common Loon Least Tern Piping Plover Whooping Crane	Kristina 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 Data	Adam Messer – MFWP GIS Coordinator amesser@mt.gov (406) 444-0095
Fisheries Data and Nongame Animal Data	Adam Messer – MFWP GIS Coordinator amesser@mt.gov (406) 444-0095
Wildlife and Fisheries Scientific Collector's Permits	https://fwp.mt.gov/buyandapply/commercialwildlifeandscientificpermits/scientific Kristina Smucker for Wildlife ksmucker@mt.gov (406) 444-5209 Dave Schmetterling for Fisheries dschmetterling@mt.gov (406) 542-5514
Fish and Wildlife Recommendations for Subdivision Development	Stevie Burton stevie.burton@mt.gov (406) 594-7354 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 Conservation Districts
Clickable map for contact information across Montana: https://macdnet.org/conservation-district-map/
Montana Association of Conservation Districts Resources Directory: https://macdnet.org/resources

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
Opencut Mining Web Mapping Application for review of opencut mining applications
https://gis.mtdeq.us/portal/apps/webappviewer/index.html?id=7b60084bc4c444a19c9a7a0867e7635a

Montana Department of Natural Resources and Conservation
Permits and Services: https://dnrc.mt.gov/Permits-Services

Stream Permitting (310, 404, Section 10, SPA 124, floodplain, 318, Navigable Water, and other stream permits)
https://dnrc.mt.gov/licenses-and-permits/stream-permitting/

Wildfire Resources: https://dnrc.mt.gov/Forestry/Wildfire

Regional Office Contacts: https://dnrc.mt.gov/TrustLand/About/Regional-Offices

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/
Email for questions: Montana.Reg@usace.army.mil
Phone for questions: (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://ipac.ecosphere.fws.gov
Montana Ecological Services Field Office: https://www.fws.gov/office/montana-ecological-services (406) 449-5225

United States Forest Service

Regional Office – Missoula, Montana Contacts

Assistant Regional TES PM	Diane Probasco	diane.probasco@usda.gov	(307) 709-2292
Assessment/Planning Wildlife Ecologist	T.J. Fontaine	jospeh.fontaine@usda.gov	(406) 802-0617
Interagency Grizzly Bear Coordinator	Scott Jackson	scott.jackson@usda.gov	(406) 329-3664
Regional Botanist	Amanda Hendrix	amanda.hendrix@usda.gov	(651) 447-3016
Regional Vegetation Ecologist	Mary Manning	mary.manning@usda.gov	(406) 329-3304
Invasive Species Program Manager	Michelle Cox	michelle.cox2@usda.gov	(406) 329-3669
Regional Hydrologist	Andy Efta	james.efta@usda.gov	(406) 329-3447

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

General

Montana Invasive Species Council (MISC)
Central and Eastern Montana Invasive Species Team (CEMIST)
Montana State University Integrated Pest Management Extension

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
Western Montana Conservation Commission

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
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 filtered or requested as "Additional Species" or Species of Concern without suitable documentation to create Species Occurrence polygons; and (3) other non-documented Species of Concern or additionally filtered or requested 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 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, 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 or plant observations that you would like to contribute, you can also submit them via Excel spreadsheets, geodatabases, iNaturalist, or a Survey123 form. Various methods of data submission are reviewed in this playlist of videos: https://www.youtube.com/playlist?list=PLRaydtZpHu2qOHPoSPq9cnM9uXGmEXACx

Observations

An observation is a visual, audio, specimen, genetic, or other documentation of a particular species at a location with an assigned spatial precision on a given date. Most 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 5,000 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 Concern, Potential Species of Concern, and Special Status Species to determine whether they are worthy of inclusion in the Species Occurrence (SO) (also known as an "element occurrence" or EO) 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) 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:

Botanical Species

A documented location of a specimen collection or observed plant, lichen, or fungi 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.

Animal Species

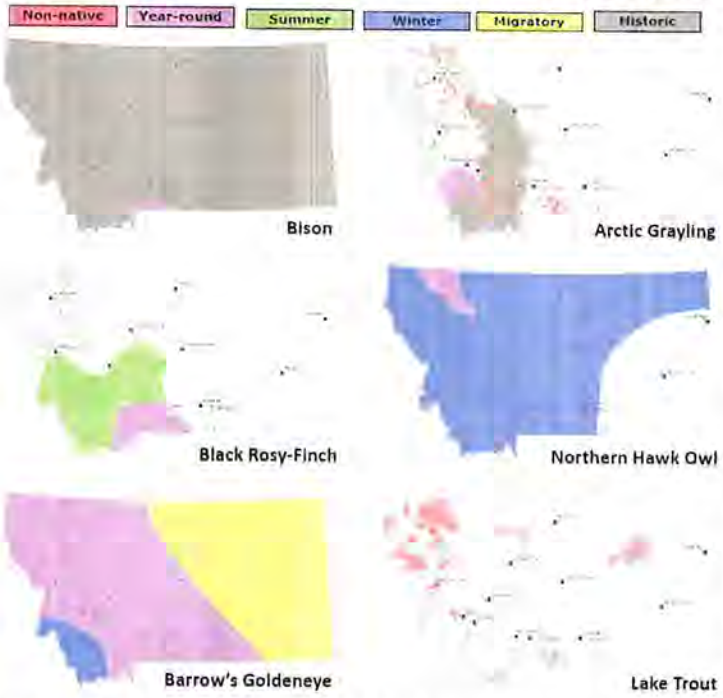
The location of a verified observation or specimen record typically known or assumed to represent a breeding population or a portion of a breeding population. Animal SO's are generally: (1) buffers of terrestrial point observations based on documented species' home range sizes; (2) buffers of stream 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).

Other

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

Range polygons have been created for native vascular plants and vertebrate animal species with sufficient data and are being created for other taxa as staff time is available. Range polygons are refined over time with assistance of additional survey and observation data and predicted habitat suitability models. Range polygons are classified as native year-round, summer, winter, migratory, historical, and non-native year-round (see examples to the left). Range polygons for native species and non-native aquatic species typically bound the extent of known or likely occupied habitats for non-migratory and relatively 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. Unless predicted invasion risk models indicate unsuitable habitat for large portions of Montana, range polygons for non-native vascular plant species are typically mapped as statewide to reflect their possible invasion across Montana; please see relative density maps for reported distributions of these species. 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 non-native species are represented more patchily when supported by data. Some ranges are mapped more broadly than actual distributions to be visible on statewide maps (e.g., streams with fish are buffered for visibility)



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.

Other Habitat Information for Species

1. The excel spreadsheet accompanying this report contains a field labeled "Habitat" in all the species related worksheets that contains brief text describing the predominant habitat or habitats each species is dependent on. This field can be useful for quickly determining whether a species needs considerations in environmental permitting and planning. For example, if the report area includes a large area of forest and grassland habitat and the project is only affecting a small portion of the grassland habitat without any disturbance to the forest habitat, the Habitat field can be useful for removing the forest dependent species from further consideration.
2. Species accounts in the Montana Field Guide each contain a section on Ecological Communities Associated with this Species that lists and links to accounts for associated natural habitats.
3. Accounts for natural habitats in the Ecological Communities portion of the Montana Field Guide each contain a section on Species Associated with this Community that lists and links to accounts for associated species. This is divided between: (1) Species of Concern Associated with this Community; (2) Diagnostic, Dominant, or Codominant Plant Species for this Community; and (3) Other Native Species Commonly Associated with this Community.

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 from the Montana State Library's GIS Data List More information on the land cover layer is available at: https://msl.mt.gov/geoinfo/msdi/land_use_land_cover/

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 detailed overviews, with examples, of both wetland and riparian classification systems and associated codes as a storymap and companion guide

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 landowner. 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 animal or plant observations that you would like to contribute, you can also submit them via Excel spreadsheets, geodatabases, iNaturalist, or a Survey123 form. Various methods of data submission are reviewed in this playlist of videos:
https://www.youtube.com/playlist?list=PLRaydtZpHu2qOHPoSPq9cnM9uXGmEXACx

Additional Information Resources

Effects of Recreation on Rocky Mountain Wildlife
Gilly – tool for simplifying stream, wetland, and floodplain permitting applications
Laws, Treaties, Regulations, and Agreements on Animals and Plants
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 Climate Office
Montana Code Annotated
Montana Fisheries Information System
Montana Fish, Wildlife, and Parks Subdivision Recommendations
Montana Forestry Best Management Practices
Montana GIS Data Layers
Montana GIS Data Bundler
Montana Greater Sage-Grouse Project Submittal Site
Montana Guide to Streamside Management Zone Law and Rules
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
Montana Native Plant Conservation Strategy
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)
Rangeland Analysis Platform
U.S. Fish and Wildlife Service Information for Planning and Consultation (Section 7 Consultation)
Uses of Information from the Montana Natural Heritage Program
Web Soil Survey Tool
Xerces Society for Invertebrate Conservation Resources