

# NATURAL RESOURCES AND CONSERVATION



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## STATE OF MONTANA

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### FINAL ENVIRONMENTAL ASSESSMENT

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| <b>Project Name:</b>                 | Gallatin Conservation District and Valley Ditch Company – Godfrey Canyon Siphon and Blowoff |
| <b>Proposed Implementation Date:</b> | October 2023  |
| <b>Proponent:</b>                    | Gallatin County Conservation District   |
| <b>Location:</b>                     | 45.7538889, -111.28916667   |
| <b>County:</b>                       | Gallatin  |

#### I. TYPE AND PURPOSE OF ACTION

The purpose of this project is to improve the ability of the Valley Ditch to aid in meeting the goals of the *Lower Gallatin Watershed Restoration Plan, December 22, 2014*, by addressing water quality concerns in Godfrey and Camp Creeks. Project goals include improving water quality by addressing some of the total maximum daily load (TMDL) concerns of Godfrey and Camp Creeks, increasing agricultural efficiency, reducing maintenance issues resulting from an open canal, and delivering 100% of water to irrigators thus improving canal efficiency. The project objective is to eliminate 2.3- miles of open canal by designing and installing a siphon and blow-off for the Valley Ditch crossing Godfrey Canyon.

The Valley Ditch serves approximately 2,700 acres of Gallatin Valley farmland, including many acres preserved for agricultural use via conservation easements. Approximately 1,500 acres of land are irrigated from the canal downstream of the project's outlet structure. The proposed project area is located approximately 0.5 miles east of Churchill, Gallatin County, Montana. A figure showing the project location within Montana is attached.

The 2.3-mile section of Valley Ditch proposed to be eliminated and replaced with a siphon is a long, flat stretch of canal that flows along the eastern side of Godfrey Creek, intersects and crosses Godfrey Creek, then wraps around the western side of Godfrey Creek and empties into Camp Creek which eventually flows into the Gallatin River. This stretch of Valley Ditch is subject to frequent needs for maintenance, seaweed build up, solar gain (i.e., adverse increase in water temperature), and nonpoint source pollution. Godfrey and Camp Creeks are both listed on the State's 303(d) list of impaired waterbodies and are impaired for nutrients, sedimentation, and E. coli.

The Gallatin Conservation District (GCD), with support from the Natural Resource Conservation Service (NRCS); Valley Ditch Company; and KV Farms, LLC; proposes to eliminate 2.3-miles of Valley Ditch that is open canal and replace it with a siphon and blow-off system. The project will include installation of 3,700-feet of siphon extending from the tailwater introduction of the Kughen Canal to the westward bend of the Valley Ditch on the west side of Godfrey Creek. The project also includes installation of a blow-off structure and pipeline that would be sufficient to deal with run-off or high stormwater flows from the Valley Ditch and Kughen Ditch tailwater. A figure showing the location of the siphon and blow-off in relation to other project area features is attached.

This project will improve water quality by reducing sediment, nutrient, and other agricultural and suburban runoff load introduction into Godfrey Creek. Other benefits of this project include improved agricultural efficiency, reduced maintenance issues resulting from open canal, and improved canal delivery efficiency since flow will no longer be inhibited by seaweed and seepage loss.

Upon Department of Natural Resource and Conservation (DNRC) approval of American Rescue Plan (ARPA) grant funding for the project, installation of the project is expected to begin in October 2023 and be completed by December 2023. Completion of all projects related paperwork and finalization of the project is expected to be completed by March 2024.

## II. PROJECT DEVELOPMENT

### 1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

*Provide a brief chronology of the scoping and ongoing involvement for this project. List number of individuals contacted, number of responses received, and newspapers in which notices were placed and for how long. Briefly summarize issues received from the public.*

The idea for the project has been ongoing since 2002 when an engineering study was first completed. The current project design was presented to shareholders and chosen at a formal meeting of the Valley Ditch Company as it provided the most improvement in the irrigation system per dollar spent. The Valley Ditch Company, individual farmers, and KV Farms, LLC added their support for the project with pledged funding to move the project along. Those fund pledges were used in making the decision to move forward at the meeting of the Valley Ditch Company in July of 2020. The Valley Ditch Company, KV Farms, LLC, and the NRCS have all signed funding commitment letters.

NRCS engineers responsible for completion of the engineering design met with Valley Ditch users and affected landowners. Ditch users and affected landowners support the project. The project design was completed in 2020; however, increased material costs and supply chain issues have affected the solicitation and implementation of the project.

### 2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

*Examples: cost-share agreement with U.S. Forest Service, 124 Permit, 3A Authorization, Air Quality Major Open Burning Permit.*

Additional funding is being provided by a cost-share between the Valley Ditch Company, KV Farms, LLC, and the NRCS.

A 310 permit is required for crossing Godfrey Creek and for installation of the structure to introduce blow-off water into Godfrey Creek. The GCD is responsible for administering 310 permits.

### 3. ALTERNATIVE DEVELOPMENT:

*Describe alternatives considered and, if applicable, provide brief description of how the alternatives were developed. List alternatives that were considered but eliminated from further analysis and why. Include the No Action alternative.*

From KV Farms, LLC, DNRC – *ARPA Water and Sewer Infrastructure Grant Application letter dated December 30, 2021:*

“The project originally was planned to be a simple buried culvert passing through KV Farm’s land as part of a major KV Farms irrigation infrastructure upgrade. KV Farms and Valley Ditch Company imagined there could be a synergy between the three entities (including the NRCS) and drew up several different solutions that could drastically improve the efficiencies and stewardship of this ditch and irrigation area and aid in improving water quality in the Lower Gallatin Watershed region. We began with four different options. These were studied by the involved shareholders in the project, including NRCS engineers. After careful consideration, this project was chosen at a formal meeting of the Valley Ditch Company. The consensus of the group was that this project provided the most improvement in the irrigation system per dollar spent.”

The proposed alternative identified and agreed upon by shareholders involves eliminating 2.3-miles of Valley Ditch that is an open canal and replacing it with a siphon and blow-off system. The project will include installation of 3,700-feet of siphon extending from the tailwater introduction of the Kughen Canal to the westward bend of the Valley Ditch on the west side of Godfrey Creek. The project also includes installation of a blow-off structure and pipeline that would be sufficient to deal with run-off or high stormwater flows from the Valley Ditch and Kughen Ditch tailwater.

A No Action alternative would result in not meeting the goals of the Lower Gallatin Watershed Restoration Plan and would not address water quality concerns in Godfrey and Camp Creeks.

### III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter “NONE” if no impacts are identified or the resource is not present.*

#### 4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

*Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify direct, indirect, and cumulative effects to soils.*

The project area is within rural, agricultural farmland consisting of mostly flat topography. No unusual geologic features have been identified. The NRCS Web Soil Survey application shows that soils within the project area consist of:

- Glendive Sandy Loam (0 to 2 percent slopes, prime farmland if irrigated),
- Brocko Silt Loam (0 to 4 percent slopes, prime farmland if irrigated),
- Brocko Silt Loam (4 to 8 percent slopes, farmland of statewide importance),
- Brocko silt loam (8 to 15 percent slopes, farmland of local importance),
- Chinook fine sandy loam (4 to 8 percent slopes, prime farmland if irrigated), and
- Quagle Silt Loam (0 to 4 percent slopes, prime farmland if irrigated).

*Proposed Alternative* - Temporary and short-term direct impacts to soil will occur since existing soils will be disturbed during construction activities. Long-term, soils will directly benefit by more efficient use of irrigation water and increased agricultural efficiency. No special reclamation considerations have been identified.

*No Action*- No effect on geology and soil quality, stability and moisture.

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**5. WATER QUALITY, QUANTITY AND DISTRIBUTION:**

*Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify direct, indirect, and cumulative effects to water resources.*

The Valley Ditch flows from the east side of Godfrey Creek and wraps around the west side after intersecting Godfrey Creek. Godfrey Creek empties into Camp Creek, the next drainage to the west, which eventually flows into the Gallatin River. The 2.3-mile stretch of the Valley Ditch associated with the project is an open canal and very flat. The slowed flow rate allows for the accumulation of seaweed, which is currently addressed through application of copper sulfate, and decreased flow resulting in decreased canal delivery to irrigation uses. Additionally, the slow flow and long stretch causes the water temperature to increase resulting in adverse increases in water temperature.

Godfrey and Camp Creeks are listed on the State's 303(d) list of impaired waterbodies and are impaired for nutrients (nitrogen and phosphorous), sedimentation, and E. coli. The focus areas for water quality improvements along Camp Creek and Godfrey Creek include irrigation water management, infrastructure improvements, and irrigation network mapping, including High Line Canal, Low Line Canal, and Valley Ditch (*Lower Gallatin Planning Area TMDLs & Framework Water Quality Improvement Plan, dated March 2013*).

The Montana Bureau of Mine and Geology GWIC mapping application does not identify any important groundwater resources within the project area. Local groundwater resources are primarily used for domestic and stock water purposes.

*Proposed alternative*- Direct benefit to water resources are expected by reducing TMDL's including sediment and nutrient load and solar gain (i.e., adverse increase in water temperature) thus improving water quality. By channeling irrigation water through the siphon, water quality will be improved by reducing sediment and nutrient loads into the water and eliminating solar gain associated with increased water temperature in an open canal. Additionally, this project will reduce the use of copper sulfate, which is currently used to control seaweed growth and maintain sufficient water flow. Direct reduction of TMDLs in Godfrey Creek will result in positive indirect and cumulative effects in Camp Creek and the Lower Gallatin Watershed.

Any direct and/or indirect adverse impacts to water quality, such as surface disturbance near Godfrey Creek during installation of the blow-off feature, will be temporary, short-term, and a 310 permit will be obtained prior to construction.

*No action*- The goals of the *Lower Gallatin Watershed Restoration Plan* would not be met, and water quality concerns in Godfrey and Camp Creeks would not be addressed.

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**6. AIR QUALITY:**

*What pollutants or particulate would be produced (i.e. particulate matter from road use or harvesting, slash pile burning, prescribed burning, etc)? Identify the Airshed and Impact Zone (if any) according to the Montana/Idaho Airshed Group. Identify direct, indirect, and cumulative effects to air quality.*

The project area is not listed as impaired in air quality particulates (Montana DEQ Discover DEQ Throughout Montana web mapping application). However, there is a nearby concrete plant listed as a Montana Air Quality Registered Portable Facility located approximately 1-mile east of the project area.

*Proposed alternative* – Temporary, short-term direct impacts to air quality may occur during construction only. It is expected that dust control methods associated with general construction projects will be implemented during completion of the project.

*No Action* – No effect on air quality.

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**7. VEGETATION COVER, QUANTITY AND QUALITY:**

*What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify direct, indirect, and cumulative effects to vegetation.*

The Valley Ditch serves approximately 2,700-acres of Gallatin Valley farmland, including many acres preserved for agricultural use via conservation easements. Approximately 1,500-acres of land are irrigated from the canal downstream of the project's outlet structure. The proposed project area is located approximately 0.5-miles east of Churchill, Montana. Agricultural products produced on these acres include alfalfa, mixed forage, barley, spring and winter wheat, corn for silage, and seed potatoes.

The Montana Natural Heritage Program shows vegetative cover within the project area to include cultivated cropland (70%); Rocky Mountain lower montane, foothills, and valley grasslands (16%); human developed roads and residential developments (6%); and big sagebrush steppe (2%). Cultivated crops may also include corn, soybeans, small grains, sunflowers, vegetables, and cotton. The Rocky Mountain lower montane, foothills, and valley grasslands system includes vegetation ranging from small meadows to large open parks surrounded by conifers, extensive foothill, and valley grasslands. Soils are relatively deep, fine-textured, often with coarse fragments, and non-saline. This system is typified by cool-season perennial bunch grasses and forb cover, with a sparse shrub cover at lower elevations. No rare plants or cover types have been identified in the project area.

*Proposed alternative* - Direct, indirect, and cumulative benefits to vegetation by improving irrigation delivery efficiency to all users of the Valley Ditch thus improving crop quantity and quality.

*No action* - No effect on vegetative cover, quantity, and quality.

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**8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:**

*Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify direct, indirect, and cumulative effects to fish and wildlife.*

Project location is not identified as a priority area for terrestrial or aquatic conservations efforts within the Montana State Wildlife Action Plan (SWAP). According to the Montana Sage Grouse Habitat Conservation Map mapping application, the project does not exist within boundaries for Montana Sage Grouse habitat. Animal habitat associated with Rocky Mountain lower montane, foothills, and valley grasslands and big sagebrush steppe are present within the larger area surrounding the project.

According to the Montana Natural Heritage Program database, 12 species of concern have been observed in the project area: Bobolink (*Dolichonyx oryzivorus*), Great Bule Heron (*Ardea herodias*), Alberta Snowfly (*Isocapnia integra*), Long-billed Curlew (*Numenius americanus*), Brewer's Sparrow (*Spizella breweri*), American White Pelican (*Pelecanus erythrorhynchos*), Bald Eagle (*Haliaeetus leucocephalus*), Golden Eagle (*Aquila chrysaetos*), Clark's Nutcracker (*Nucifraga columbiana*), Burrowing Owl (*Athene cunicularia*), and Gray-crowned Rosy-Finch (*Leucosticte tephrocotis*; see attached report for full species list). There are an additional 48 species of concern that are potentially present within the project area that include various birds, invertebrates, mammals, vascular plants, amphibians, and reptiles.

*Proposed Action* – No impacts to terrestrial and avian habitats are expected since the project is located on cultivated cropland and no habitat protection areas, critical habitat for threatened and endangered species, or critical sage grouse habitat are located within the project area.

The purpose of this project is to improve the ability of the Valley Ditch to aid in meeting the goals of the Lower Gallatin Watershed Restoration Plan by addressing water quality concerns in Godfrey and Camp Creeks. Project goals include improving water quality by addressing some of the TMDL concerns of Godfrey and Camp Creeks, which includes nonpoint source pollution from the 2.3-mile stretch of the Valley Ditch proposed to be eliminated.

The project will have a direct adverse impact on any aquatic life within the wetland and riparian areas identified along the 2.3-miles of Valley Ditch proposed to be eliminated. However, the project will have a direct beneficial impact to wetland and riparian habitat along Godfrey Creek by reducing sediment, nutrient, and other agricultural runoff introduction from the Valley Ditch into Godfrey Creek. By addressing TMDLs in Godfrey Creek, indirect and cumulative benefits will include addressing water quality concerns in Camp Creek and the Lower Gallatin Watershed.

*No Action* – No impact to terrestrial or avian habitats. Continued adverse impacts to any aquatic life within wetland and riparian habitats located along the 2.3-mile stretch of the Valley Ditch proposed to be eliminated due to continued seaweed buildup and solar gain.

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**9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:**

*Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify direct, indirect, and cumulative effects to these species and their habitat.*

The National Wetlands Inventory (NWI) website was used to determine whether any wetlands were present within the lands adjacent to the project location (map included at the end of this EA). This search indicated that a total of 17 wetland habitats that may occur in/adjacent to the project area: six freshwater emergent wetland habitats, two freshwater forested/shrub wetland habitats, three freshwater pond habitats, and six riverine habitats. Freshwater emergent wetlands are dominated by trees, shrubs, and emergent vegetation that is present for most of the growing season. These wetlands are usually dominated by perennial plants, with surface water present for brief periods during the growing season, but the water table usually lies well below the ground surface for most of the season. Freshwater forested/shrub wetlands are dominated by woody vegetation less than 6 meters tall, shrubs, and persistent emergents. Surface water is present for brief periods during the growing season, but the water table usually lies well below the ground surface for most of the season. Freshwater pond wetlands are generally deepwater habitats dominated by plants that grow principally on or below the surface of the water for most of the growing season. Surface water persists throughout the growing season in most years, but if surface water is absent, it is usually at or very near the land surface. Riverine habitats include all wetlands and deepwater habitats contained within a channel with moving water, and unconsolidated bottom, with surface water persisting throughout the growing season. When surface water is absent, the water table is usually at or very near the land surface.

The Montana Natural Heritage Program and National Wetlands Inventory web mapper application show freshwater emergent and riverine wetlands and forested/shrub habitat present along the 2.3-mile stretch of the Valley Ditch and portion of Godfrey Creek associated with the project. Godfrey Creek is listed on the State's 303(d) list of impaired waterbodies and is listed as impaired for nutrients, sedimentation, and E. coli. The 2.3-mile stretch of the Valley Ditch associated with the project is subject to algae buildup and solar gain resulting in an adverse increase in water temperature. These conditions are representative of typical aquatic life habitat.

Per Montana Fish, Wildlife and Parks and the U.S. Fish and Wildlife Service, the project is not located within wildlife habitat protection area or critical habitat for threatened and endangered species (FWP Wildlife Habitat Protection Area and USFWS Critical Habitat for Threatened and Endangered Species web mapping applications).

As mentioned in the previous section, there are 60 species of concern listed as present or potentially present using the project area as viable habitat. DNRC also used the U.S. Fish and Wildlife Service Information for Planning and Consultation (IPaC) tool to generate a resource list summarizing any endangered or threatened species that are known or expected to be near the project area. The IPaC list generated five Federally listed species under the Endangered Species Act as potentially occurring in the greater project area: Canada Lynx (*Lynx canadensis*), Grizzly Bear (*Ursus arctos horribilis*), North American Wolverine (*Gulo gulo luscus*), Monarch Butterfly (*Danaus plexippus*), and Ute's Ladies'-tresses (*Spiranthes diluvialis*); and eight (8) migratory bird species: Bald Eagle, Bobolink, Cassin's Finch (*Carpodacus cassinii*), Evening Grosbeak (*Coccothraustes vespertinus*), Golden Eagle, Lesser Yellowlegs (*Tringa flavipes*), Pinyon Jay (*Gymnorhinus cyanocephalus*), and Western Grebe (*Aechmophorus occidentalis*; report attached). The eight bird species are protected under the Migratory Bird Treaty Act of 1918, the eagles are protected under the Bald and Golden Eagle Protection Act of 1940, and the Bald Eagle is also protected under the Montana Bald Eagle Management Plan, and Lacey Act of 1900.

*Proposed Action* – No effect on threatened and endangered species and habitats since none are present. Primary ground disturbance will occur on cultivated farmland, will be temporary and short-term, and is not likely to affect any identified species of concern or special status species habitat. A 310 permit will be obtained that will address disturbances to freshwater emergent wetland habitat on Godfrey Creek that may potentially be disturbed during installation of the blow-off outlet.

The purpose of this project is to improve the ability of the Valley Ditch to aid in meeting the goals of the Lower Gallatin Watershed Restoration Plan by addressing water quality concerns in Godfrey and Camp Creeks. Project goals include improving water quality by addressing some of the TMDL concerns of Godfrey and Camp Creeks, which includes nonpoint source pollution from the 2.3-mile stretch of the Valley Ditch proposed to be eliminated.

The project will have a direct adverse impact to any aquatic life within the wetland and riparian areas identified along the 2.3-miles of Valley Ditch proposed to be eliminated. However, the project will have a direct beneficial impact to wetland and riparian habitat along Godfrey Creek by reducing sediment, nutrient, and other agricultural runoff introduction from the Valley Ditch into Godfrey Creek. By addressing TMDLs in Godfrey Creek, indirect and cumulative benefits will include addressing water quality concerns in Camp Creek and the Lower Gallatin Watershed.

*No Action* – No impact to unique, endangered, fragile, or limited resources.

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## **10. HISTORICAL AND ARCHAEOLOGICAL SITES:**

*Identify and determine direct, indirect, and cumulative effects to historical, archaeological or paleontological resources.*

NRCS field personnel have reviewed the project area for cultural resources (archaeological and historic). No historical, archaeological, or paleontological resources concerns have been identified. However, the possibility exists for accidental discoveries during construction. If cultural material (cut or burned bones, fire cracked rocks, projectile points, foundations, fire hearths, etc.) is discovered during implementation of the project, work will stop until cultural resource concerns or mitigation actions are addressed through consultation with a NRCS Cultural Resource Specialist.

*Proposed Alternative* – No cultural or historical resource impacts are anticipated.

*No Action* – No impact to historical or archaeological sites.

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## **11. AESTHETICS:**

*Determine if the project is located on a prominent topographic feature or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify direct, indirect, and cumulative effects to aesthetics.*

The proposed project is located on rural, private agricultural farmland comprised primarily of cultivated cropland located approximately 0.5-miles east of Churchill, MT. No prominent topographic features or scenic areas have been identified within the project area.

*Proposed Alternative* – No effect on any prominent topographic features or scenic areas is expected

since none are present within the project area. The project is also expected to have no effect on populated areas since it is located approximately 0.5-miles from the nearest town on rural farmland.

Noise associated with general construction activities would occur during completion of the project. Adverse impacts would be temporary and short-term. Only construction personnel would be subject to noise associated with the project. It is expected that hearing projection would be required by a project health and safety plan that would mitigate any direct, indirect, and cumulative effects from noise.

Ground disturbance during installation of the project will be temporary and short-term. Since the project is located on cultivated farmland and the siphon and blow-off pipes will be buried, no long term adverse direct, indirect, or cumulative visual or overall aesthetic effects are anticipated.

There are no light impacts.

*No Action* – No impact to aesthetics.

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**12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:**

*Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify direct, indirect, and cumulative effects to environmental resources.*

The project proposes to eliminate 2.3-miles of the Valley Ditch and replace it with 3,700 feet of siphon extending from the tailwater introduction of the Kughen Canal to the westward bend of the Valley Ditch on the west side of Godfrey Creek. The siphon would be a 30-inch pipe and would be able to deliver 100% of water to users downstream. It is assumed that the amount of water used will be like current conditions, and no increases in demands on environmental resources of land, water, air, or energy will occur.

*Proposed Alternative* – No impact to demands on environmental resources of land, water, air, or energy beyond the expected fuel consumption associated with operation of heavy construction equipment are expected. The project will have direct, indirect, and cumulative benefits to irrigation users of the Valley Ditch since the project will result in improved canal delivery of irrigation water and improved agricultural efficiency since flow will no longer be inhibited by seaweed and seepage loss.

*No Action*- The current Valley Ditch irrigation delivery system would continue to require resources for maintenance of the open canal, seaweed removal, and decreased delivery efficiency due to the loss of water through seepage.

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**13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:**

*List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.*

No other current studies, plans, or projects within the project area have been identified. No other current private, state, or federal actions within the project area have been identified. No future

proposed state actions that are under MEPA review or permitting have been identified within the project area.

The proposed project is part of a larger effort to improve water quality in the Lower Gallatin Watershed and aid in meeting the goals of the *Lower Gallatin Watershed Restoration Plan, December 22, 2014*. According to the Montana Natural Heritage Program, there have been a few structured surveys within the greater project area including nocturnal breeding amphibian calling (2011), eastern health snail survey (2012), noxious weeds road-based visual survey (2004), and bumble bee collection survey (2015).

Prior to implementation of the project, a 310 permit is required for crossing Godfrey Creek and for installation of the structure to introduce blow-off water into Godfrey Creek. The GCD is responsible for administering the 310 permit.

*Proposed Alternative* – No direct, indirect, or cumulative effect on other environmental documents pertinent to the area are expected. The project will aid in meeting the goals of the *Lower Gallatin Restoration Plan*.

*No Action* – No impact to other environmental documents pertinent to the area.

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| <b>IV. IMPACTS ON THE HUMAN POPULATION</b> |
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| <ul style="list-style-type: none"><li>• <i>RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.</i></li><li>• <i>Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.</i></li><li>• <i>Enter "NONE" If no impacts are identified or the resource is not present.</i></li></ul> |
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**14. HUMAN HEALTH AND SAFETY:**

*Identify any health and safety risks posed by the project.*

The project area consists of rural, private agricultural farmland. There are no Montana Department of Environmental Quality (DEQ) or U.S. Environmental Protection agency permitted facilities that may pose a threat to human health and safety located within the project area (Montana DEQ Discover DEQ Throughout Montana, NEPAAssist web mapping applications).

*Proposed Alternative* – Potentially direct adverse effects to human health and safety during completion of the project only. Human health and safety concerns include those associated with operation of heavy construction equipment and dust associated with general construction projects. The project is located on private property in an area not generally accessible to the public, so health and safety concerns are limited to project personnel. It is expected that health and safety concerns associated with construction of the project would be addressed by a project health and safety plan.

*No Action* – No impact to human health and safety.

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**15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:**

*Identify how the project would add to or alter these activities.*

The Valley Ditch serves approximately 2,700-acres of Gallatin Valley farmland, including many acres preserved for agricultural use via conservation easements. Approximately 1,500-acres of land are irrigated from the canal downstream of the project's outlet structure. Agricultural products produced on these acres include alfalfa, mixed forage, barley, spring and winter wheat, corn for silage, and seed potatoes.

The 2.3-mile stretch of the Valley Ditch proposed to be eliminated as part of the project and replaced with a siphon is subject to frequent needs for maintenance, removal of seaweed build up, and subject to seepage loss. The decreased flowrate caused by algae build up and seepage loss results in decreased canal delivery to irrigation users.

*Proposed alternative* – Positive direct, indirect, and cumulative effects to users of the Valley Ditch and associated agricultural production. Maintenance issues associated with an open canal will be eliminated, and the efficiency of canal delivery to irrigation users will be improved since flow would no longer be inhibited by seaweed and seepage loss. Improved irrigation delivery is expected to result in improved agricultural efficiency and production.

*No action*- The current Valley Ditch irrigation delivery system will continue to require maintenance of the open canal, seaweed removal, and decreased delivery efficiency due to the loss of water through seepage which may result in decreased agricultural production.

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#### **16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:**

*Estimate the number of jobs the project would create, move or eliminate. Identify direct, indirect, and cumulative effects to the employment market.*

The population of Gallatin County in 2020 was 118,960. The population of the town of Churchill (nearest town to the project area) in 2020 was estimated at 1,030 individuals (United States Census Bureau). Implementation of the project is expected to use standard construction equipment that is also expected to be locally available. Construction of the project is expected to be performed by existing local contractors and project personnel living and working within Gallatin County. It is not expected that the proposed project would create, move, or eliminate jobs.

*Proposed Alternative* – Potentially short-term direct and indirect benefits to the local employment market by creating a job opportunity for local contractors and material suppliers. Creation of new jobs is not expected.

*No Action* – No impact to quantity or distribution of employment.

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#### **17. LOCAL AND STATE TAX BASE AND TAX REVENUES:**

*Estimate tax revenue the project would create or eliminate. Identify direct, indirect, and cumulative effects to taxes and revenue.*

Per the Montana Department of Revenue, the 2022 market value for parcels within the project area range from \$273,139 to \$799,801. The taxable value of those parcels' ranges from approximately \$4,764 to \$11,826.

*Proposed Alternative* – Potentially direct and indirect benefits to the local and state tax base and tax revenues by increasing canal delivery to irrigation users resulting in increased agricultural

production. There may be local and state revenue benefit through selling of additional agricultural products produced on land irrigated by the Valley Ditch.

*No Action* – No impact is expected to local and state tax base and tax revenues.

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**18. DEMAND FOR GOVERNMENT SERVICES:**

*Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify direct, indirect, and cumulative effects of this and other projects on government services*

The project is located approximately 0.5-miles east of Churchill, Montana on rural, privately owned farmland and is accessed via private property. The project is expected to be short-term with no increases to traffic, changes to traffic patterns, or changes to fire protection, police, schools, etc.

NRCS technicians will conduct periodic or continuous inspections of materials, workmanship, and quantities during construction of the project.

*Proposed Alternative* – NRCS is a supporting agency for the proposed project. Per project design requirements, NRCS personnel will review and inspect work during implementation of the project. Direct, indirect, and cumulative effects to government services are not expected as NRCS personnel's time required to inspect the project is not expected to be more than that required to perform typical job duties.

*No Action* – No impact to demand for government services.

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**19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:**

*List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.*

The Montana Fish Wildlife and Parks, Wildlife Habitat Protection Area Search mapping applications show that the proposed project is not located within crucial and/or critical habitat areas; therefore, it is not subject to necessary permits/coordination with state agencies. There are no other known zoning or management plans for the project area.

*Proposed Alternative* – No impact on locally adopted environmental plans and goals is expected.

*No Action* – No impact on locally adopted environmental plans and goals.

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**20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:**

*Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify direct, indirect, and cumulative effects to recreational and wilderness activities.*

The project is located on rural, private agricultural land. There are no access routes through the project area to wilderness or recreational areas. The town of Churchill, Montana is located approximately 0.5-miles west of the project area where a school and numerous open spaces provide the public with recreational opportunities.

*Proposed Alternative* – No impact to access and quality of recreational and wilderness activities is expected.

*No Action* – No impact to access and quality of recreational and wilderness activities.

---

**21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:**

*Estimate population changes and additional housing the project would require. Identify direct, indirect, and cumulative effects to population and housing.*

The population of Gallatin County in 2020 was 118,960 with 52,835 housing units. The population of the town of Churchill (nearest town to the project area) in 2020 was estimated at 1,030 individuals and 367 housing units (United States Census Bureau).

*Proposed Alternative* – No impact to the density and distribution of the population within the project area and Gallatin County is expected. The project is expected to be short-term and performed by local contractors and project personnel living and working within Gallatin County; no additional housing is expected.

*No Action* – No impact to density and distribution of population and housing.

---

**22. SOCIAL STRUCTURES AND MORES:**

*Identify potential disruption of native or traditional lifestyles or communities.*

Agriculture provides the most common type of lifestyle/community for the area. No federally recognized Tribal land is within the project area; however, the project does take place on land traditionally inhabited or used by the Cayuse, Umatilla, Walla Walla, Salish, Cheyenne, Crow, and Blackfeet Tribes (Native Land Digital web mapping application).

*Proposed Alternative* – No impact on social structures and/or traditional lifestyles or communities is expected. Potential direct and indirect benefits to the existing community may result from improved agricultural production and any associated revenue.

*No Action* – No impact on social structures is expected.

---

**23. CULTURAL UNIQUENESS AND DIVERSITY:**

*How would the action affect any unique quality of the area?*

The project is located on rural, private agricultural farmland. No cultural uniqueness and diversity have been identified in the project area.

*Proposed Alternative* – No impact on any unique quality of the project area or nearby communities is expected. The area would remain agricultural farmland.

*No Action* – No impact to cultural uniqueness and diversity.

---

**24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:**

*Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify direct, indirect, and cumulative economic and social effects likely to occur as a result of the proposed action.*

No other economic or social concerns specific to the proposed project have been identified. The project area is rural, agricultural farmland, and the future use is not likely to change.

*Proposed Alternative* – No impact is expected to any other appropriate social and economic circumstances. The proposed project is expected to be short-term and performed by local contractors and project personnel living and working within Gallatin County. Direct, indirect, and cumulative economic and social effects are not expected to occur because of the project.

*No Action* – No impact to cultural uniqueness and diversity.

---

**25. DRINKING WATER AND/OR CLEAN WATER**

*Identify potential impacts to water and/or sewer infrastructure (e.g., community water supply, stormwater, sewage system, solid waste management) and identify direct, indirect, and cumulative effects likely to occur as a result of the proposed action.*

The project is located on rural, private agricultural farmland. The Valley Ditch serves approximately 2,700-acres of prime Gallatin Valley farmland. The Valley Ditch crosses Godfrey Creek, and its tailwater discharges to Camp Creek which eventually flows into the Gallatin River. Godfrey Creek and Camp Creek are both listed on the State's 303(d) list of impaired waterbodies(s) and are listed as impaired for nutrients, sedimentation, and E. coli. These creeks are not used as drinking water sources, and there is no drinking water or sewer infrastructure related to the project.

*Proposed Alternative* – No direct, indirect, or cumulative effects or impacts are expected to drinking water and/or clean water since no drinking water and/or sewer infrastructure is located within the project area. The project will improve surface water quality in Godfrey Creek, Camp Creek, and ultimately the Lower Gallatin Watershed by reducing sediment, nutrient, and other agricultural and suburban runoff load introduction into Godfrey Creek.

*No Action* – No impact on drinking water and/or clean water.

---

**26. ENVIRONMENTAL JUSTICE**

*Will the proposed project result in disproportionately high or adverse human health or environmental effects on minority or low-income populations per the Environmental Justice Executive Order 12898? Identify potential impacts to and identify direct, indirect, and cumulative effects likely to occur as a result of the proposed action.*

In 2021, the median household income in Gallatin County was \$78,910, and people in poverty was 8.8% which is a -2.6% change from 2016 to 2021 (Montana Department of Commerce).

*Proposed Alternative* – No impact is expected as the proposed project will not result in disproportionately high or adverse human health or environmental effects on minority or low-income populations. Direct, indirect, and cumulative effects likely to occur because of the project are expected to affect users of the irrigation system proportionality. No disproportionate effects

among any portion of the community or users of the irrigation system are expected.

*No Action* – No impact to environmental justice.

|                            |   |   |
|----------------------------|---|---|
| <b>EA Prepared<br/>By:</b> | <b>Name:</b> Samantha Treu<br><b>Title:</b> MEPA/NEPA Coordinator | <b>Date:</b> 05/31/2023<br><b>Email:</b> samantha.treu@mt.gov |
|----------------------------|---|---|

## V. FINDING

### 27. ALTERNATIVE SELECTED:

*Proposed Alternative* - Eliminate 2.3 mile of Valley Ditch that is open canal and replace it with a siphon (i.e., underground piping) and blow-off system. The project will include installation of 3,700 feet of siphon extending from the tailwater introduction of the Kughen Canal to the westward bend of the Valley Ditch on the west side of Godfrey Creek. The project also includes installation of a blow-off structure and pipeline that would be sufficient to deal with run-off or high stormwater flows from the Valley Ditch and Kughen Ditch tailwater.

### 28. SIGNIFICANCE OF POTENTIAL IMPACTS:

Finding of No SIGNIFICANT ADVERSE Impacts. Below are suggested mitigation measures:

#### **Geology and Soil Quality, Stability and Moisture**

Temporary and short-term direct impacts to soil will occur since existing soils will be disturbed during construction activities. Long-term, soils will directly benefit by more efficient use of irrigation water and increased agricultural efficiency.

#### **Water Quality, Quantity and Distribution**

Any direct and/or indirect adverse impacts to water quality, such as surface disturbance near Godfrey Creek during installation of the blow-off feature, will be temporary, short-term, and a 310 permit will be obtained prior to construction.

#### **Air Quality**

Temporary, short-term direct impacts to air quality may occur during construction only. It is expected that dust control methods associated with general construction projects will be implemented during completion of the project.

#### **Terrestrial, Avian and Aquatic Life and Habitats & Unique, Endangered, Fragile or Limited Environmental Resources**

The Montana Natural Heritage Program and National Wetlands Inventory web mapper application show freshwater emergent and riverine wetlands and forested/shrub habitat are present along the 2.3-mile stretch of the Valley Ditch and portion of Godfrey Creek associated with the project.

The project will have a direct adverse impact to any aquatic life within the wetland and riparian areas identified along the 2.3-miles of Valley Ditch proposed to be eliminated. However, the project will have a direct beneficial impact to wetland and riparian habitat along Godfrey Creek by reducing sediment, nutrient, and other agricultural runoff introduction from this 2.3-mile stretch of the Valley Ditch into Godfrey Creek. By addressing TMDLs in Godfrey Creek, indirect and cumulative benefits will include addressing water quality concerns in Camp Creek and the Lower Gallatin Watershed.

**Aesthetics**

Noise associated with general construction activities would occur during completion of the project. Impacts would be temporary and short-term. Only construction personnel would be subject to noise associated with the project. It is expected that hearing protection would be required by a project health and safety plan that would mitigate any direct, indirect, and cumulative effects from noise.

Ground disturbance during installation of the project will be temporary and short-term. Since the project is located on cultivated farmland and the siphon and blow-off pipes will be buried, no long term adverse direct, indirect, or cumulative visual or overall aesthetic effects are anticipated.

**Human Health and Safety**

Potentially direct adverse effects to human health and safety during completion of the project only. Human health and safety concerns include those associated with operation of heavy construction equipment and dust associated with general construction projects. The project is not located on private property in an area generally accessible to the public, so health and safety concerns are limited to project personnel. It is expected that health and safety concerns associated with construction of the project would be addressed by a project health and safety plan.

---

**29. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:**

No mitigated EA or EIS is required.

THIS IS THE FINAL ENVIRONMENTAL ASSESSMENT.

EIS

More Detailed EA

No Further Analysis

|                        |  |
|------------------------|--|
| <b>EA Approved By:</b> | <b>Name:</b> Mark W Bostrom            |
|                        | <b>Title:</b> Division Administrator   |
| <b>Signature:</b>      | <b>Date:</b> 7/3/2023   9:37:35 AM MDT |

DocuSigned by:  
*Mark W Bostrom*  
BF7A1C50B2AF4DE...

Project Location Within Montana

**INDEX OF DRAWINGS**

| SHEET TITLE                            | NUMBER |
|--|--------|
| COVER SHEET                            | SHT 1  |
| SYSTEM PLAN MAP                        | SHT 2  |
| SIPHON PROFILE                         | SHT 3  |
| BLOWOFF PROFILE                        | SHT 4  |
| BLOWOFF PROFILE & THRUST BLOCK DETAILS | SHT 5  |
| CONSTRUCTION DETAILS                   | SHT 6  |
| GENERAL STRUCTURE DETAILS              | SHT 7  |
| INLET DETAILS                          | SHT 8  |
| INLET STEEL                            | SHT 9  |
| SIPHON OUTLET DETAILS                  | SHT 10 |
| SIPHON OUTLET STEEL                    | SHT 11 |
| BLOWOFF DETAILS                        | SHT 11 |

**SUMMARY OF ESTIMATED QUANTITIES**

| ITEM   | UNIT  | NO.   |
|--|-------|-------|
| <b>SIPHON</b>  |       |       |
| 30" 80 PSI C900 PVC PIPE   | LF    | 3162  |
| 30" PVC ELBOW - 30" (PC 80)  | EA    | 1     |
| <b>PUMP OUT ASSEMBLY</b>   |       |       |
| 30" GASKETED X 6" GLUED TEE (PC 80)                                    |       |       |
| 6" DIA. x 6' SCH. 40 PVC PIPE  |       |       |
| 36" DIA. X 7' CMP w/ LID   |       |       |
| 6" X 6" X 2" SCH 40 PVC TEE  |       |       |
| 2" GATE VALVE  |       |       |
| <b>VENT ASSEMBLY</b>   |       |       |
| 30" GASKETED X 24" GLUED TEE (PC 80)                                   | EA    | 1     |
| 24" X 4" GLUED REDUCER (PC 80)   |       |       |
| 4" DIA. SCH. 40 PVC PIPE (LENGTH AS NEEDED)                            |       |       |
| TWO 4" DIA. SCH 40 PVC 90° ELBOWS                                      |       |       |
| 30" COATED WELD ON STARTED COUPLER                                     | EA    | 2     |
| 30" PVC ELBOW - 5" (PC 80)   | EA    | 2     |
| 30" PVC ELBOW - 45" (PC 80)  | EA    | 1     |
| 30" WATERMAN C-10 (OR EQUIVALENT)                                      | EA    | 2     |
| EXCAVATION (WORST CASE SOILS)  | CY    | 9500  |
| INITIAL BACKFILL   | CY    | 1235  |
| THRUST BLOCKS (2 CY/EA)  | EA    | 4     |
| <b>BLOWOFF</b>   |       |       |
| 24" 80 PSI PIP PVC PIPE  | LF    | 410   |
| 27" 80 PSI PIP PVC PIPE  | LF    | 240   |
| 30" 80 PSI C900 PVC PIPE   | LF    | 505   |
| 36" 80 PSI C906 HDPE PIPE  | LF    | 305   |
| HDPE FUSION WELDS  | JOB   | 1     |
| 30" COATED WELD ON STARTED COUPLER                                     | EA    | 1     |
| WELDED STEEL BLOWOFF INLET FITTING                                     | EA    | 1     |
| 36" STEEL PIPE 1/8" THICKNESS  |       |       |
| 36" STEEL 90° ELBOW 1/8" THICKNESS                                     |       |       |
| 30" STEEL PIPE 1/8" THICKNESS  |       |       |
| 36" TO 30" CONCENTRIC REDUCER  |       |       |
| <b>VENT ASSEMBLY (AS NOTED ABOVE)</b>                                  |       |       |
| 30" PVC ELBOW - 45" (PC 80)  | EA    | 1     |
| 30" PVC ELBOW - 22" (PC 80)  | EA    | 1     |
| PVC REDUCER: 30" C900 GASKET to 24" PIP SPIGOT (PC 80)                 | EA    | 1     |
| PVC REDUCER: 27" PIP SPIGOT to 24" PIP GASKET (PC 80)                  | EA    | 1     |
| TRANSITION FITTING: 27" PIP PVC GASKET to 36" C906 HDPE SPIGOT (PC 80) | EA    | 1     |
| EXCAVATION (WORST CASE SOILS)  | CY    | 5200  |
| INITIAL BACKFILL   | CY    | 555   |
| <b>CONCRETE STRUCTURES</b>   |       |       |
| <b>INLET STRUCTURE</b>   |       |       |
| 4000 PSI CONCRETE  | CY    | 5.6   |
| #4 GRADE 60 REBAR  | FT-IN | 934-7 |
| #5 GRADE 60 REBAR  | FT-IN | 173-6 |
| TOTAL REBAR WEIGHT   | LBS   | 805.3 |
| EXCAVATION   | CY    | 70    |
| SAND FILTER  | CY    | 7     |
| <b>SIPHON OUTLET</b>   |       |       |
| 4000 PSI CONCRETE  | CY    | 3.1   |
| # 4 GRADE 60 REBAR   | FT-IN | 612-1 |
| TOTAL REBAR WEIGHT   | LBS   | 408.8 |
| EXCAVATION   | CY    | 74    |
| SAND FILTER  | CY    | 7     |
| <b>BLOWOFF OUTLET</b>  |       |       |
| PRECAST STRUCTURE  | EA    | 1     |
| EXCAVATION   | CY    | 140   |
| SAND FILTER  | CY    | 7     |

**PROJECT LOCATION**

## KV Farms / Valley Ditch Company

### Godfrey Creek Siphon & Blowoff

Township 1N Range 3E Section 12 & 13  
Gallatin County, MT

**LOCATION MAP**

**811**  
CALL before you DIG

ENGINEERING JOB CLASS VI

The excavator assumes all responsibility for marking private underground utilities affected by the project. The excavator will call the utility notification center at least 48 hours before excavation begins to ensure that all publicly owned underground utilities will be marked. The "Call Before You Dig" No. for Montana is 811 or 1-800-424-5555.

All excavations shall be in compliance with OSHA 1926 Sub Part P "Excavations"

The owner is responsible for obtaining Local, State, and Federal Permits necessary to construct and maintain the practice.

Construction must be in conformance with these NRCS-approved drawings and specifications. No changes or modifications shall be made to these designs without full prior approval of the designer. Any material deviation from these drawings and specifications may constitute a breach of contract resulting in a discharge of NRCS from its obligation to provide cost-share under terms of the NRCS contract.

I have reviewed these design drawings and concur that they meet the needs of the conservation plan. I will ensure that the contracted quantities in the Schedule of Operations match the design amounts in these drawings prior to project commencement.

DC/Planner \_\_\_\_\_ Date \_\_\_\_\_

I have reviewed and approve these design drawings and specifications. I agree to construct in accordance with them:

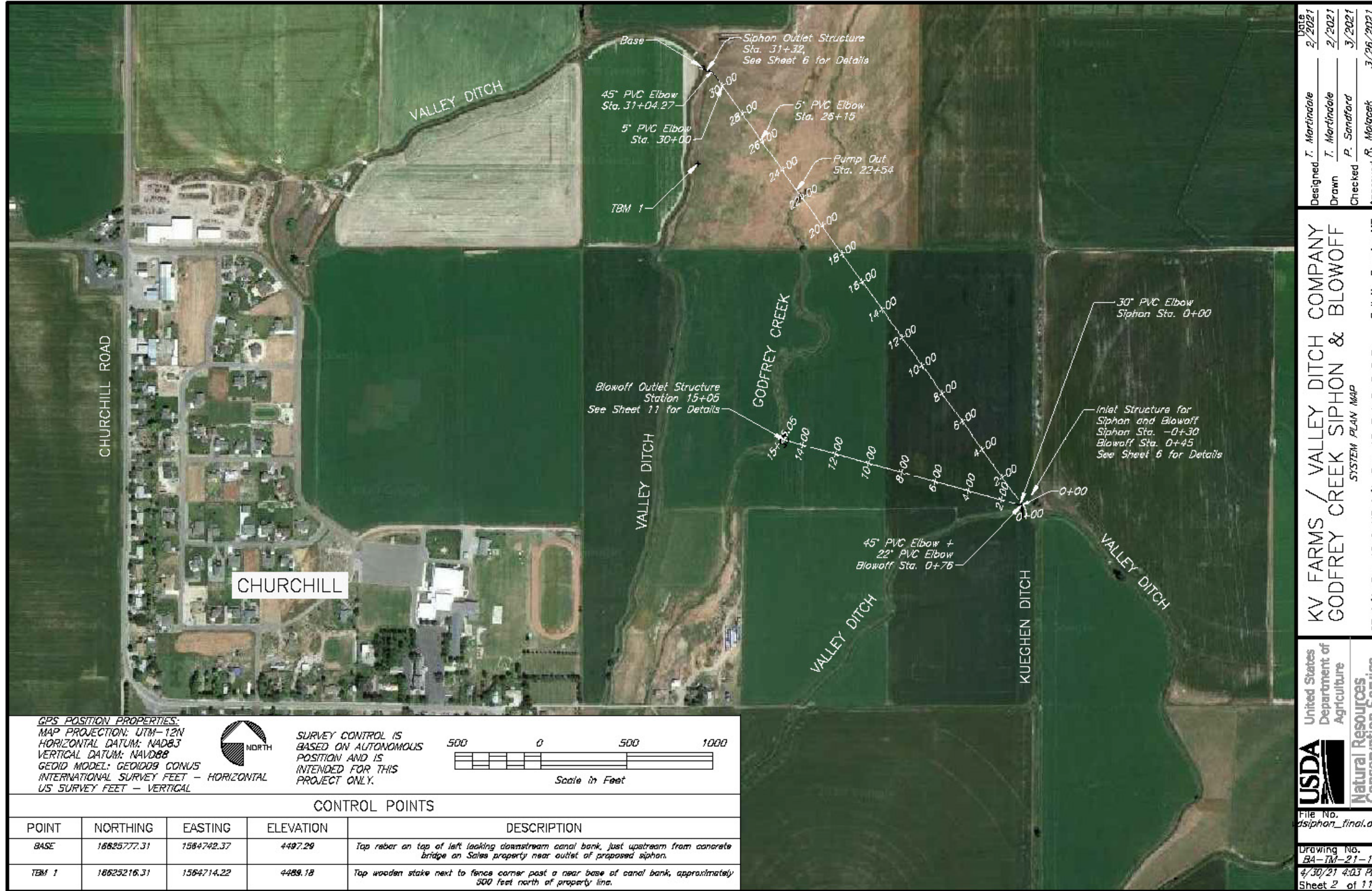
owner/operator \_\_\_\_\_ Date \_\_\_\_\_

United States Department of Agriculture  
**USDA**  
Natural Resources Conservation Service

File No. vdsiphon\_final.dwg  
Drawing No. BA-TM-21-1  
4/30/21 4:03 PM  
Sheet 1 of 11

Designed: P. Martindale & T. Smidansky 2/2021  
 Drawn: T. Martindale 2/2021  
 Checked: P. Sandford 3/2021  
 Approved: R. Molacek 3/26/2021  
 SE 1/4, Sec 12 & NE 1/4, Sec 13, T. 1 S., R. 3 E. Gallatin County, MT

Siphon & Blow-off Location & Site Features





# MONTANA Natural Heritage Program

1515 East 6th Avenue  
Helena, MT 59620  
(406) 444-5363  
[mtnhp.org](http://mtnhp.org)



Latitude Longitude  
45.72808 -111.26876  
45.77393 -111.33063

Summarized by:  
**001S003E013**  
(Buffered PLSS Section)



### Suggested Citation

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



Environmental Summary

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- [Wetland and Riparian](#)
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- [Introduction to Native Species](#)
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## Introduction to Environmental Summary Report

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

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



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



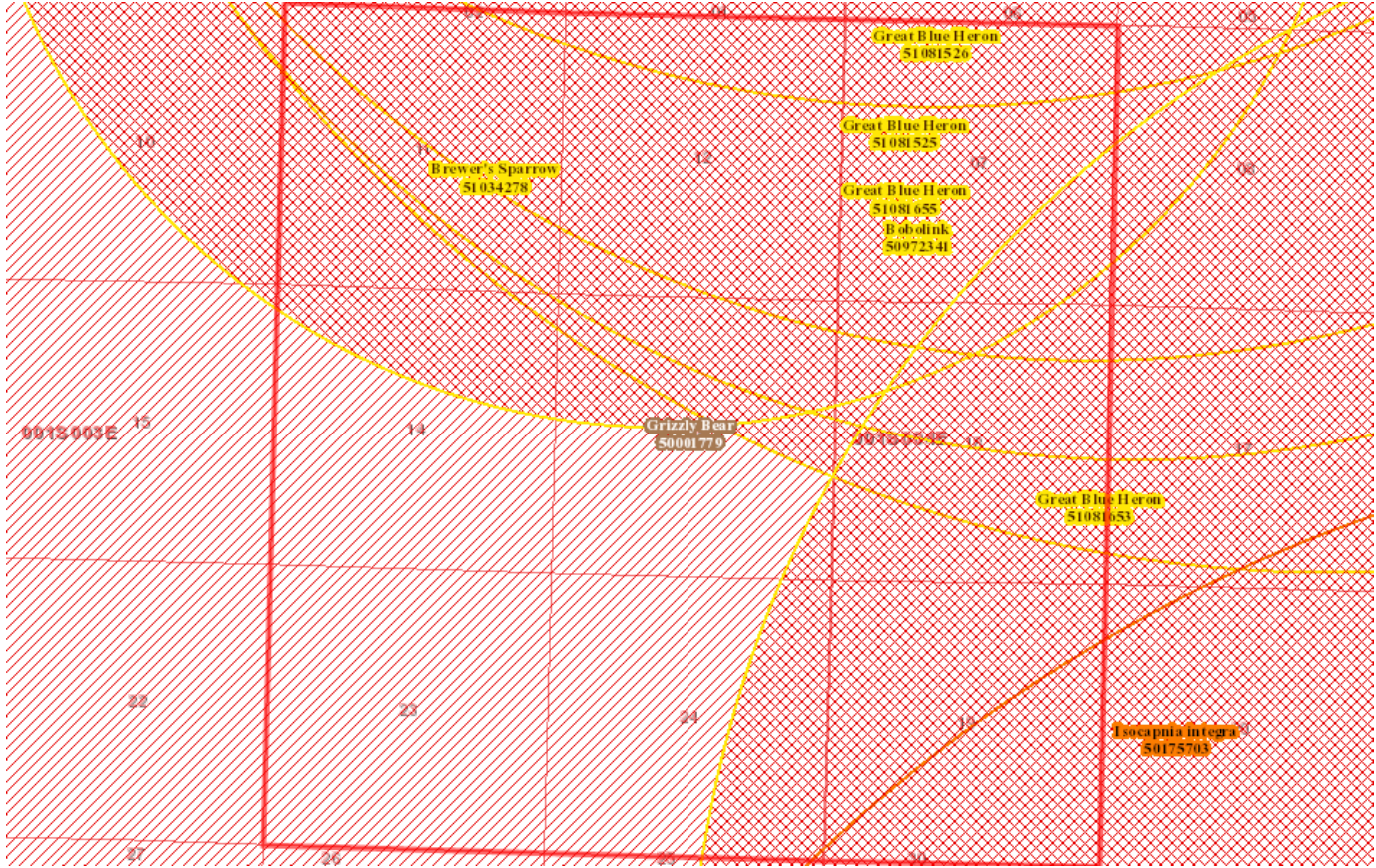
Latitude 45.72808  
Longitude -111.26876  
45.77393 -111.33063

## Native Species

Summarized by: **001S003E013** (*Buffered PLSS Section*)

Filtered by:

**Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC**



## Species Occurrences

| Species   | USFWS Sec7 | # SO | # Obs | Predicted Model | Range |
|---|------------|------|-------|-----------------|-------|
| <b>B - Bobolink</b> ( <i>Dolichonyx oryzivorus</i> ) <b>SOC</b>   |            | 1    | 1     |                 |       |
| <a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a><br><b>Species of Concern - Native Species</b> Global: <b>G5</b> State: <b>S3B</b> USFWS: <b>MBTA; BCC10; BCC11; BCC17</b> FWP SWAP: <b>SGCN3</b> PIF: <b>3</b><br><b>Delineation Criteria</b> 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 10,000 meters. (Last Updated: Dec 28, 2022)<br><b>Predicted Models:</b> 7% Moderate (inductive),  93% Low (inductive) |            |      |       |                 |       |
| <b>B - Great Blue Heron</b> ( <i>Ardea herodias</i> ) <b>SOC</b>  |            | 4    |       |                 |       |
| <a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a><br><b>Species of Concern - Native Species</b> Global: <b>G5</b> State: <b>S3</b> USFWS: <b>MBTA</b> FWP SWAP: <b>SGCN3</b><br><b>Delineation Criteria</b> 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 and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Mar 22, 2023)<br><b>Predicted Models:</b> 1% Moderate (inductive),  28% Low (inductive)   |            |      |       |                 |       |
| <b>I - Isocapnia integra</b> ( <i>Alberta Snowfly</i> ) <b>SOC</b>  |            | 1    |       | Not Assessed    |       |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Species of Concern - Native Species</b> Global: <b>G4G5</b> State: <b>S2</b><br><b>Delineation Criteria</b> Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 100 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: Mar 22, 2016)  |            |      |       |                 |       |



**Montana Natural Heritage Program**

A program of the Montana State Library's Natural Resource Information System

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



Latitude: 45.72808  
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45.77393 -111.33063

## Native Species

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Filtered by:

**Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC**

## Other Observed Species

|   | USFWS Sec7 | # Obs | Predicted Model | Range |
|---|------------|-------|-----------------|-------|
| <input type="checkbox"/> <b>B - Bald Eagle</b> ( <i>Haliaeetus leucocephalus</i> ) <b>SSS</b>   |            | 3     |                 |       |
| <a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a><br><b>Special Status Species - Native Species</b> Global: <b>G5</b> State: <b>S4</b> USFWS: <b>BGEPA; MBTA</b> USFS: <b>Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)</b> BLM: <b>SENSITIVE</b><br>PIF: <b>2</b><br>Predicted Models:  55% Low (inductive) |            |       |                 |       |



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



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## Native Species

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## Other Potential Species

|  | USFWS Sec7 | Predicted Model | Range |
|--|------------|-----------------|-------|
| <p><b>V - Senecio hydrophilus</b> (<i>Alkali-marsh Ragwort</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native Species</b> Global: <b>G5</b> State: <b>S3</b> Plant Threat Score: <b>No Known Threats</b></p> <p><b>Predicted Models:</b>  1% Suitable (native range) (deductive)</p>   |            |                 |       |
| <p><b>M - Wyoming Ground Squirrel</b> (<i>Urocyon elegans</i>) <b>PSOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Potential Species of Concern - Native Species</b> Global: <b>G5</b> State: <b>S3S4</b></p> <p><b>Predicted Models:</b>  100% Moderate (inductive)</p>  |            |                 |       |
| <p><b>M - Uinta Ground Squirrel</b> (<i>Urocyon armatus</i>) <b>PSOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Potential Species of Concern - Native Species</b> Global: <b>G5</b> State: <b>S3S4</b> FWP SWAP: <b>SGIN</b></p> <p><b>Predicted Models:</b>  100% Moderate (inductive)</p>  |            |                 |       |
| <p><b>I - Bombus suckleyi</b> (<i>Suckley Cuckoo Bumble Bee</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native Species</b> Global: <b>G2G3</b> State: <b>S1</b></p> <p><b>Predicted Models:</b>  100% Moderate (inductive)</p>   |            |                 |       |
| <p><b>V - Eleocharis rostellata</b> (<i>Beaked Spikerush</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native Species</b> Global: <b>G5</b> State: <b>S3</b> USFS: <b>Species of Conservation Concern in Forests (CG, FLAT, HLC)</b> Plant Threat Score: <b>Unknown</b><br/>CCVI: <b>Less Vulnerable</b></p> <p><b>Predicted Models:</b>  83% Moderate (inductive),  17% Low (inductive)</p> |            |                 |       |
| <p><b>B - Yellow-billed Cuckoo</b> (<i>Coccyzus americanus</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native Species</b> Global: <b>G5</b> State: <b>S3B</b> USFWS: <b>PS: LT; MBTA</b> BLM: <b>THREATENED</b> FWP SWAP: <b>SGCN3, SGIN</b> PIF: <b>2</b></p> <p><b>Predicted Models:</b>  72% Moderate (inductive),  28% Low (inductive)</p>   |            |                 |       |
| <p><b>M - Dwarf Shrew</b> (<i>Sorex nanus</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native Species</b> Global: <b>G4</b> State: <b>S2S3</b> FWP SWAP: <b>SGCN2-3</b></p> <p><b>Predicted Models:</b>  36% Moderate (inductive),  58% Low (inductive)</p>   |            |                 |       |
| <p><b>M - Western Spotted Skunk</b> (<i>Spilogale gracilis</i>) <b>PSOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Potential Species of Concern - Native Species</b> Global: <b>G5</b> State: <b>SU</b> FWP SWAP: <b>SGIN</b></p> <p><b>Predicted Models:</b>  30% Moderate (inductive),  65% Low (inductive)</p>  |            |                 |       |
| <p><b>M - North American Porcupine</b> (<i>Erethizon dorsatum</i>) <b>PSOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Potential Species of Concern - Native Species</b> Global: <b>G5</b> State: <b>S3S4</b> FWP SWAP: <b>SGIN</b></p> <p><b>Predicted Models:</b>  29% Moderate (inductive),  71% Low (inductive)</p>   |            |                 |       |
| <p><b>B - Broad-tailed Hummingbird</b> (<i>Selasphorus platycercus</i>) <b>PSOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Potential Species of Concern - Native Species</b> Global: <b>G5</b> State: <b>S4B</b> USFWS: <b>MBTA; BCC10</b> FWP SWAP: <b>SGIN</b></p> <p><b>Predicted Models:</b>  11% Moderate (inductive),  89% Low (inductive)</p>   |            |                 |       |
| <p><b>B - Hooded Merganser</b> (<i>Lophodytes cucullatus</i>) <b>PSOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Potential Species of Concern - Native Species</b> Global: <b>G5</b> State: <b>S4</b> USFWS: <b>MBTA</b> FWP SWAP: <b>SGIN</b> PIF: <b>2</b></p> <p><b>Predicted Models:</b>  11% Moderate (inductive),  89% Low (inductive)</p>   |            |                 |       |
| <p><b>B - American White Pelican</b> (<i>Pelecanus erythrorhynchos</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native Species</b> Global: <b>G4</b> State: <b>S3B</b> USFWS: <b>MBTA</b> FWP SWAP: <b>SGCN3</b> PIF: <b>3</b></p> <p><b>Predicted Models:</b>  11% Moderate (inductive),  89% Low (inductive)</p>  |            |                 |       |
| <p><b>V - Carex crawei</b> (<i>Crawe's Sedge</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native Species</b> Global: <b>G5</b> State: <b>S2S3</b> Plant Threat Score: <b>Low</b></p> <p><b>Predicted Models:</b>  11% Moderate (inductive),  89% Low (inductive)</p>  |            |                 |       |

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| <p><b>B - Rufous Hummingbird</b> (<i>Selasphorus rufus</i>) <b>PSOC</b></p> <p>DocuSign Envelope ID: EBF3429-326F-4798-BF2D-E4AE6D2E0E30</p> <p><b>Potential Species of Concern - Native Species</b> Global: <b>G4</b> State: <b>S4B</b> USFWS: <b>MBTA; BCC10</b> PIF: <b>3</b></p> <p><b>Predicted Models:</b> <b>M</b> 11% Moderate (inductive), <b>L</b> 44% Low (inductive)</p>   |  |
| <p><b>M - Hoary Bat</b> (<i>Lasiurus cinereus</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native Species</b> Global: <b>G3G4</b> State: <b>S3B</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN3</b></p> <p><b>Predicted Models:</b> <b>M</b> 1% Moderate (inductive), <b>L</b> 99% Low (inductive)</p>   |  |
| <p><b>M - Merriam's Shrew</b> (<i>Sorex merriami</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native Species</b> Global: <b>G4</b> State: <b>S3</b> FWP SWAP: <b>SGCN3</b></p> <p><b>Predicted Models:</b> <b>M</b> 1% Moderate (inductive), <b>L</b> 99% Low (inductive)</p>   |  |
| <p><b>V - Erigeron linearis</b> (<i>Linear-leaf Fleabane</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native Species</b> Global: <b>G5</b> State: <b>S2</b> Plant Threat Score: <b>Low</b> CCVI: <b>Less Vulnerable</b></p> <p><b>Predicted Models:</b> <b>M</b> 1% Moderate (inductive), <b>L</b> 98% Low (inductive)</p>                                |  |
| <p><b>R - Snapping Turtle</b> (<i>Chelydra serpentina</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native/Non-native Species - (depends on location or taxa)</b> Global: <b>G5</b> State: <b>S3</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN3, SGIN</b></p> <p><b>Predicted Models:</b> <b>M</b> 1% Moderate (inductive), <b>L</b> 61% Low (inductive)</p> |  |
| <p><b>R - Western Milksnake</b> (<i>Lampropeltis gentilis</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native Species</b> Global: <b>G5</b> State: <b>S2</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN2</b></p> <p><b>Predicted Models:</b> <b>M</b> 1% Moderate (inductive), <b>L</b> 51% Low (inductive)</p>  |  |
| <p><b>B - Veery</b> (<i>Catharus fuscescens</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native Species</b> Global: <b>G5</b> State: <b>S3B</b> USFWS: <b>MBTA</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN3</b> PIF: <b>2</b></p> <p><b>Predicted Models:</b> <b>M</b> 1% Moderate (inductive), <b>L</b> 51% Low (inductive)</p>                          |  |
| <p><b>B - White-faced Ibis</b> (<i>Plegadis chihi</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native Species</b> Global: <b>G5</b> State: <b>S3B</b> USFWS: <b>MBTA</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN3</b> PIF: <b>2</b></p> <p><b>Predicted Models:</b> <b>M</b> 1% Moderate (inductive), <b>L</b> 46% Low (inductive)</p>                    |  |
| <p><b>V - Impatiens aurella</b> (<i>Pale-yellow Jewel-weed</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native Species</b> Global: <b>G4</b> State: <b>S3</b> Plant Threat Score: <b>No Known Threats</b></p> <p><b>Predicted Models:</b> <b>M</b> 1% Moderate (inductive), <b>L</b> 46% Low (inductive)</p>  |  |
| <p><b>V - Potentilla plattensis</b> (<i>Platte Cinquefoil</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native Species</b> Global: <b>G4</b> State: <b>S3</b> Plant Threat Score: <b>No Known Threats</b> CCVI: <b>Highly Vulnerable</b></p> <p><b>Predicted Models:</b> <b>M</b> 1% Moderate (inductive), <b>L</b> 11% Low (inductive)</p>                |  |
| <p><b>V - Dichanthelium acuminatum</b> (<i>Panic Grass</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native Species</b> Global: <b>G5</b> State: <b>S2S3</b> Plant Threat Score: <b>Unknown</b></p> <p><b>Predicted Models:</b> <b>M</b> 1% Moderate (inductive), <b>L</b> 11% Low (inductive)</p>   |  |
| <p><b>V - Oxytropis lagopus var. conjugans</b> (<i>Hare's-foot Locoweed</i>) <b>PSOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Potential Species of Concern - Native Species</b> Global: <b>G4G5T3T4</b> State: <b>S3S4</b></p> <p><b>Predicted Models:</b> <b>M</b> 1% Moderate (inductive), <b>L</b> 4% Low (inductive)</p>   |  |
| <p><b>B - Sharp-tailed Grouse</b> (<i>Tympanuchus phasianellus</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native Species</b> Global: <b>G5</b> State: <b>SX,S4</b> FWP SWAP: <b>SGCN1</b> PIF: <b>2</b></p> <p><b>Predicted Models:</b> <b>L</b> 100% Low (inductive)</p>   |  |
| <p><b>B - Black-billed Cuckoo</b> (<i>Coccyzus erythrophthalmus</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native Species</b> Global: <b>G5</b> State: <b>S3B</b> USFWS: <b>MBTA; BCC11; BCC17</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN3, SGIN</b> PIF: <b>2</b></p> <p><b>Predicted Models:</b> <b>L</b> 100% Low (inductive)</p>                   |  |
| <p><b>V - Stellaria crassifolia</b> (<i>Fleshy Stitchwort</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native Species</b> Global: <b>G5</b> State: <b>S2</b> Plant Threat Score: <b>No Known Threats</b></p> <p><b>Predicted Models:</b> <b>L</b> 96% Low (inductive)</p>   |  |
| <p><b>M - Little Brown Myotis</b> (<i>Myotis lucifugus</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native Species</b> Global: <b>G3G4</b> State: <b>S3</b> FWP SWAP: <b>SGCN3</b></p> <p><b>Predicted Models:</b> <b>L</b> 89% Low (inductive)</p>   |  |
| <p><b>B - Trumpeter Swan</b> (<i>Cygnus buccinator</i>) <b>SOC</b></p> <p><a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a></p> <p><b>Species of Concern - Native Species</b> Global: <b>G4</b> State: <b>S3</b> USFWS: <b>MBTA</b> USFS: <b>Sensitive - Known in Forests (BD)</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN3</b> PIF: <b>1</b></p> <p><b>Predicted Models:</b> <b>L</b> 78% Low (inductive)</p>       |  |

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| <b>V - Atriplex truncata</b> ( <i>Wedge-leaf Saltbush</i> ) <b>SOC</b>             | Global: <b>G5</b> State: <b>S3</b> Plant Threat Score: <b>Unknown</b>  | Predicted Models: <b>78%</b> Low (inductive) |  |
| <b>B - Long-billed Curlew</b> ( <i>Numenius americanus</i> ) <b>SOC</b>            | Global: <b>G5</b> State: <b>S3B</b> USFWS: <b>MBTA; BCC11</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN3</b> PIF: <b>2</b>   | Predicted Models: <b>74%</b> Low (inductive) |  |
| <b>B - Black-crowned Night-Heron</b> ( <i>Nycticorax nycticorax</i> ) <b>SOC</b>   | Global: <b>G5</b> State: <b>S3B</b> USFWS: <b>MBTA</b> FWP SWAP: <b>SGCN3</b> PIF: <b>3</b>  | Predicted Models: <b>72%</b> Low (inductive) |  |
| <b>B - Common Poorwill</b> ( <i>Phalaenoptilus nuttallii</i> ) <b>PSOC</b>         | Global: <b>G5</b> State: <b>S4B</b> USFWS: <b>MBTA</b> FWP SWAP: <b>SGIN</b> PIF: <b>3</b>   | Predicted Models: <b>69%</b> Low (inductive) |  |
| <b>B - Barrow's Goldeneye</b> ( <i>Bucephala islandica</i> ) <b>PSOC</b>           | Global: <b>G5</b> State: <b>S4</b> USFWS: <b>MBTA</b> FWP SWAP: <b>SGIN</b> PIF: <b>2</b>  | Predicted Models: <b>68%</b> Low (inductive) |  |
| <b>M - Spotted Bat</b> ( <i>Euderma maculatum</i> ) <b>SOC</b>                     | Global: <b>G4</b> State: <b>S3</b> USFS: <b>Sensitive - Known in Forests (BD)</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN3, SGIN</b>   | Predicted Models: <b>67%</b> Low (inductive) |  |
| <b>B - American Bittern</b> ( <i>Botaurus lentiginosus</i> ) <b>SOC</b>            | Global: <b>G5</b> State: <b>S3B</b> USFWS: <b>MBTA</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN3</b> PIF: <b>3</b>  | Predicted Models: <b>67%</b> Low (inductive) |  |
| <b>B - Black-necked Stilt</b> ( <i>Himantopus mexicanus</i> ) <b>SOC</b>           | Global: <b>G5</b> State: <b>S3B</b> USFWS: <b>MBTA</b> FWP SWAP: <b>SGCN3</b> PIF: <b>3</b>  | Predicted Models: <b>53%</b> Low (inductive) |  |
| <b>B - Short-eared Owl</b> ( <i>Asio flammeus</i> ) <b>PSOC</b>                    | Global: <b>G5</b> State: <b>S4</b> USFWS: <b>MBTA; BCC11; BCC17</b> PIF: <b>3</b>  | Predicted Models: <b>51%</b> Low (inductive) |  |
| <b>M - Fringed Myotis</b> ( <i>Myotis thysanodes</i> ) <b>SOC</b>                  | Global: <b>G4</b> State: <b>S3</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN3</b>  | Predicted Models: <b>34%</b> Low (inductive) |  |
| <b>M - Silver-haired Bat</b> ( <i>Lasiorycteris noctivagans</i> ) <b>PSOC</b>      | Global: <b>G3G4</b> State: <b>S4</b>   | Predicted Models: <b>29%</b> Low (inductive) |  |
| <b>B - Sage Thrasher</b> ( <i>Oreoscoptes montanus</i> ) <b>SOC</b>                | Global: <b>G4</b> State: <b>S3B</b> USFWS: <b>MBTA</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN3</b> PIF: <b>3</b>  | Predicted Models: <b>24%</b> Low (inductive) |  |
| <b>A - Northern Leopard Frog</b> ( <i>Lithobates pipiens</i> ) <b>SOC</b>          | USFS: <b>Sensitive - Known in Forests (KOOT)</b><br>Global: <b>G5</b> State: <b>S1,S4</b> <b>Sensitive - Suspected in Forests (BRT, LOLO)</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN1</b> | Predicted Models: <b>21%</b> Low (inductive) |  |
| <b>B - Thick-billed Longspur</b> ( <i>Rhynchophanes mccownii</i> ) <b>SOC</b>      | Global: <b>G4</b> State: <b>S3B</b> USFWS: <b>MBTA; BCC10; BCC11; BCC17</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN3</b> PIF: <b>2</b>   | Not Assessed                                 |  |
| <b>M - Bison</b> ( <i>Bos bison</i> ) <b>SOC</b>                                   | Global: <b>G4</b> State: <b>S2</b> FWP SWAP: <b>SGCN2</b>  | Not Assessed                                 |  |
| <b>R - Greater Short-horned Lizard</b> ( <i>Phrynosoma hernandesi</i> ) <b>SOC</b> | Global: <b>G5</b> State: <b>S3</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN3, SGIN</b>  | Not Assessed                                 |  |
| <b>V - Astragalus terminalis</b> ( <i>Railhead Milkvetch</i> ) <b>SOC</b>          | Global: <b>G3</b> State: <b>S2S3</b> BLM: <b>SENSITIVE</b> Plant Threat Score: <b>Unknown</b> CCVI: <b>Moderately Vulnerable</b>   | Not Assessed                                 |  |
| <b>V - Erigeron parryi</b> ( <i>Parry's Fleabane</i> ) <b>SOC</b>                  | Global: <b>G2G3</b> State: <b>S2S3</b> Plant Threat Score: <b>No Known Threats</b> CCVI: <b>Moderately Vulnerable</b>  | Not Assessed                                 |  |

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| <b>V - Eriogonum caespitosum</b> ( <i>Mat Buckwheat</i> ) <b>SOC</b>  | Global: <b>G5</b> State: <b>S2S3</b> Plant Threat Score: <b>No Known Threats</b>  | Not Assessed: <b>Y</b>     |
| <b>B - Sprague's Pipit</b> ( <i>Anthus spragueii</i> ) <b>SOC</b>   |   | 7 Not Assessed: <b>S M</b> |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Species of Concern - Native Species</b>           | Global: <b>G3G4</b> State: <b>S3B</b> USFWS: <b>MBTA; BCC11; BCC17</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN3</b> PIF: <b>1</b>                         |                            |
| <b>V - Polygonum austinae</b> ( <i>Austin's Knotweed</i> ) <b>PSOC</b>  |   | Not Assessed: <b>Y</b>     |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Potential Species of Concern - Native Species</b> | USFS: <b>Sensitive - Known in Forests (BD)</b><br>Global: <b>G5T4</b> State: <b>S3S4</b> <b>Species of Conservation Concern in Forests (HLC)</b>          |                            |
| <b>A - Western Toad</b> ( <i>Anaxyrus boreas</i> ) <b>SOC</b>   |   | Not Assessed: <b>Y</b>     |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Species of Concern - Native Species</b>           | Global: <b>G4</b> State: <b>S2</b> USFWS: <b>Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN2</b>          |                            |
| <b>B - Black-and-white Warbler</b> ( <i>Mniotilta varia</i> ) <b>PSOC</b>   |   | Not Assessed: <b>M</b>     |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Potential Species of Concern - Native Species</b> | Global: <b>G5</b> State: <b>S4B</b> USFWS: <b>MBTA</b>  |                            |
| <b>B - Burrowing Owl</b> ( <i>Athene cunicularia</i> ) <b>SOC</b>   |   | Not Assessed: <b>S M</b>   |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Species of Concern - Native Species</b>           | Global: <b>G4</b> State: <b>S3B</b> USFWS: <b>MBTA; BCC17</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN3</b> PIF: <b>1</b>                                  |                            |
| <b>B - Mountain Plover</b> ( <i>Charadrius montanus</i> ) <b>SOC</b>  |   | Not Assessed: <b>S M</b>   |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Species of Concern - Native Species</b>           | Global: <b>G3</b> State: <b>S2B</b> USFWS: <b>MBTA; BCC10; BCC11; BCC17</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN2</b> PIF: <b>1</b>                    |                            |
| <b>B - Clark's Nutcracker</b> ( <i>Nucifraga columbiana</i> ) <b>SOC</b>  |   | Not Assessed: <b>Y</b>     |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Species of Concern - Native Species</b>           | Global: <b>G5</b> State: <b>S3</b> USFWS: <b>MBTA</b> USFS: <b>Species of Conservation Concern in Forests (FLAT)</b> FWP SWAP: <b>SGCN3</b> PIF: <b>3</b> |                            |
| <b>B - Great Gray Owl</b> ( <i>Strix nebulosa</i> ) <b>SOC</b>  |   | Not Assessed: <b>Y</b>     |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Species of Concern - Native Species</b>           | Global: <b>G5</b> State: <b>S3</b> USFWS: <b>MBTA</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN3, SGIN</b> PIF: <b>3</b>                                    |                            |
| <b>B - Sagebrush Sparrow</b> ( <i>Artemisiospiza nevadensis</i> ) <b>SOC</b>  |   | Not Assessed: <b>S M</b>   |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Species of Concern - Native Species</b>           | Global: <b>G5</b> State: <b>S3B</b> USFWS: <b>MBTA</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN3</b>   |                            |
| <b>M - Black-footed Ferret</b> ( <i>Mustela nigripes</i> ) <b>SOC</b>   |   | Not Assessed: <b>H</b>     |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Species of Concern - Native Species</b>           | Global: <b>G1</b> State: <b>S1</b> USFWS: <b>LE; XN</b> BLM: <b>ENDANGERED</b> FWP SWAP: <b>SGCN1</b>   |                            |
| <b>B - Franklin's Gull</b> ( <i>Leucophaeus pipixcan</i> ) <b>SOC</b>   |   | Not Assessed: <b>S M</b>   |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Species of Concern - Native Species</b>           | Global: <b>G5</b> State: <b>S3B</b> USFWS: <b>MBTA; BCC10; BCC11; BCC17</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN3</b> PIF: <b>2</b>                    |                            |
| <b>I - Euphryas gillettii</b> ( <i>Gillette's Checkerspot</i> ) <b>SOC</b>  |   | Not Assessed: <b>Y</b>     |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Species of Concern - Native Species</b>           | Global: <b>G3</b> State: <b>S2</b>  |                            |
| <b>V - Brickellia oblongifolia</b> ( <i>Mojave Brickellbush</i> ) <b>SOC</b>  |   | Not Assessed: <b>Y</b>     |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Species of Concern - Native Species</b>           | Global: <b>G5</b> State: <b>S1S2</b> Plant Threat Score: <b>High - Low</b>  |                            |
| <b>M - Wolverine</b> ( <i>Gulo gulo</i> ) <b>SOC</b>  |   | 7 Not Assessed: <b>Y</b>   |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Species of Concern - Native Species</b>           | Global: <b>G4</b> State: <b>S3</b> USFWS: <b>Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)</b> BLM: <b>SENSITIVE</b> FWP SWAP: <b>SGCN3</b>          |                            |
| <b>I - Aeshna juncea</b> ( <i>Sedge Darter</i> ) <b>PSOC</b>  |   | Not Assessed: <b>Y</b>     |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Potential Species of Concern - Native Species</b> | Global: <b>G5</b> State: <b>S3S5</b>  |                            |
| <b>I - Aeshna sitchensis</b> ( <i>Zigzag Darter</i> ) <b>PSOC</b>   |   | Not Assessed: <b>Y</b>     |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Potential Species of Concern - Native Species</b> | Global: <b>G5</b> State: <b>S2S3</b>  |                            |
| <b>I - Argia alberta</b> ( <i>Paiute Dancer</i> ) <b>PSOC</b>   |   | Not Assessed: <b>Y</b>     |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Potential Species of Concern - Native Species</b> | Global: <b>G4</b> State: <b>S2S3</b>  |                            |
| <b>I - Argia emma</b> ( <i>Emma's Dancer</i> ) <b>PSOC</b>  |   | Not Assessed: <b>Y</b>     |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Potential Species of Concern - Native Species</b> | Global: <b>G5</b> State: <b>S3S5</b>  |                            |
| <b>I - Argia vivida</b> ( <i>Vivid Dancer</i> ) <b>PSOC</b>   |   | Not Assessed: <b>Y</b>     |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Potential Species of Concern - Native Species</b> | Global: <b>G5</b> State: <b>S3S5</b>  |                            |
| <b>I - Boloria freija</b> ( <i>Freija Fritillary</i> ) <b>PSOC</b>  |   | Not Assessed: <b>Y</b>     |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Potential Species of Concern - Native Species</b> | Global: <b>G5</b> State: <b>S3S5</b>  |                            |
| <b>I - Colias gigantea</b> ( <i>Giant Sulphur</i> ) <b>PSOC</b>   |   | Not Assessed: <b>Y</b>     |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><b>Potential Species of Concern - Native Species</b> | Global: <b>G5</b> State: <b>S3</b>  |                            |

|  |  |                                  |
|--|--|----------------------------------|
| <a href="#">Species of Concern - Native Species</a> Global: <b>G5</b> State: <b>S1</b>   |  | Not Assessed: <b>Y</b>           |
| <b>I - Libellula saturata (Flame Skimmer) PSOC</b>   |  |                                  |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><a href="#">Potential Species of Concern - Native Species</a> Global: <b>G5</b> State: <b>S2S4</b>  |  | Not Assessed: <b>Y</b>           |
| <b>I - Somatochlora minor (Ocellated Emerald) PSOC</b>   |  |                                  |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><a href="#">Potential Species of Concern - Native Species</a> Global: <b>G5</b> State: <b>S2S4</b>  |  | Not Assessed: <b>Y</b>           |
| <b>I - Sympetrum madidum (Red-veined Meadowhawk) PSOC</b>  |  |                                  |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><a href="#">Potential Species of Concern - Native Species</a> Global: <b>G5</b> State: <b>S2S3</b>  |  | Not Assessed: <b>Y</b>           |
| <b>B - Black-backed Woodpecker (Picoides arcticus) SOC</b>   |  |                                  |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><a href="#">Species of Concern - Native Species</a> Global: <b>G5</b> State: <b>S3</b> USFWS: <b>MBTA</b> USFS: <b>Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)</b> BLM: <b>SENSITIVE</b><br>FWP SWAP: <b>SGCN3</b> PIF: <b>1</b> |  | Not Assessed: <b>Y</b>           |
| <b>B - Boreal Owl (Aegolius funereus) PSOC</b>   |  |                                  |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><a href="#">Potential Species of Concern - Native Species</a> Global: <b>G5</b> State: <b>S3S4</b> USFWS: <b>MBTA</b> FWP SWAP: <b>SGIN</b> PIF: <b>3</b>   |  | Not Assessed: <b>Y</b>           |
| <b>B - Brown Creeper (Certhia americana) SOC</b>   |  |                                  |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><a href="#">Species of Concern - Native Species</a> Global: <b>G5</b> State: <b>S3</b> USFWS: <b>MBTA</b> FWP SWAP: <b>SGCN3</b> PIF: <b>1</b>  |  | Not Assessed: <b>Y</b>           |
| <b>B - Northern Goshawk (Accipiter gentilis) SOC</b>   |  |                                  |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><a href="#">Species of Concern - Native Species</a> Global: <b>G5</b> State: <b>S3</b> USFWS: <b>MBTA</b> FWP SWAP: <b>SGCN3</b> PIF: <b>2</b>  |  | Not Assessed: <b>Y</b> <b>WM</b> |
| <b>B - Pacific Wren (Troglodytes pacificus) SOC</b>  |  |                                  |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><a href="#">Species of Concern - Native Species</a> Global: <b>G5</b> State: <b>S3</b> USFWS: <b>MBTA</b> FWP SWAP: <b>SGCN3</b> PIF: <b>2</b>  |  | Not Assessed: <b>Y</b>           |
| <b>I - Aeshna constricta (Lance-tipped Darner) PSOC</b>  |  |                                  |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><a href="#">Potential Species of Concern - Native Species</a> Global: <b>G5</b> State: <b>S1S3</b>  |  | Not Assessed: <b>Y</b>           |
| <b>I - Aeshna eremita (Lake Darner) PSOC</b>   |  |                                  |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><a href="#">Potential Species of Concern - Native Species</a> Global: <b>G5</b> State: <b>S3S4</b>  |  | Not Assessed: <b>Y</b>           |
| <b>I - Boloria frigga (Frigga Fritillary) SOC</b>  |  |                                  |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><a href="#">Species of Concern - Native Species</a> Global: <b>G5</b> State: <b>S1S2</b>  |  | Not Assessed: <b>Y</b>           |
| <b>I - Enallagma civile (Familiar Bluet) PSOC</b>  |  |                                  |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><a href="#">Potential Species of Concern - Native Species</a> Global: <b>G5</b> State: <b>S2S4</b>  |  | Not Assessed: <b>Y</b>           |
| <b>I - Enallagma clausum (Alkali Bluet) PSOC</b>   |  |                                  |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><a href="#">Potential Species of Concern - Native Species</a> Global: <b>G5</b> State: <b>S2S4</b>  |  | Not Assessed: <b>Y</b>           |
| <b>I - Polygonia progne (Gray Comma) SOC</b>   |  |                                  |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><a href="#">Species of Concern - Native Species</a> Global: <b>G5</b> State: <b>S2</b>  |  | Not Assessed: <b>Y</b>           |
| <b>I - Rhionaeschna californica (California Darner) PSOC</b>   |  |                                  |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><a href="#">Potential Species of Concern - Native Species</a> Global: <b>G5</b> State: <b>S3S5</b>  |  | Not Assessed: <b>Y</b>           |
| <b>I - Rhionaeschna multicolor (Blue-eyed Darner) PSOC</b>   |  |                                  |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><a href="#">Potential Species of Concern - Native Species</a> Global: <b>G5</b> State: <b>S2S4</b>  |  | Not Assessed: <b>Y</b>           |
| <b>I - Somatochlora hudsonica (Hudsonian Emerald) PSOC</b>   |  |                                  |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><a href="#">Potential Species of Concern - Native Species</a> Global: <b>G5</b> State: <b>S2S4</b>  |  | Not Assessed: <b>Y</b>           |
| <b>I - Somatochlora semicircularis (Mountain Emerald) PSOC</b>   |  |                                  |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><a href="#">Potential Species of Concern - Native Species</a> Global: <b>G5</b> State: <b>S3S5</b>  |  | Not Assessed: <b>Y</b>           |
| <b>V - Balsamorhiza macrophylla (Large-leaved Balsamroot) PSOC</b>   |  |                                  |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><a href="#">Potential Species of Concern - Native Species</a> Global: <b>G3G5</b> State: <b>S3S4</b> USFS: <b>Sensitive - Known in Forests (BD)</b> Plant Threat Score: <b>No Known Threats</b>   |  | Not Assessed: <b>Y</b>           |
| <b>V - Botrychium ascendens (Upward-lobed Moonwort) SOC</b>  |  |                                  |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><a href="#">Species of Concern - Native Species</a> Global: <b>G4</b> State: <b>S3</b> USFS: <b>Sensitive - Known in Forests (KOOT)</b> CCVI: <b>Less Vulnerable</b>  |  | Not Assessed: <b>Y</b>           |
| <b>V - Botrychium crenulatum (Wavy Moonwort) SOC</b>   |  |                                  |
| <a href="#">View in Field Guide</a> <a href="#">View Range Maps</a><br><a href="#">Species of Concern - Native Species</a> Global: <b>G4</b> State: <b>S3</b> USFS: <b>Sensitive - Known in Forests (BD, KOOT, LOLO)</b> <b>Species of Conservation Concern in Forests (HLC)</b> CCVI: <b>Less Vulnerable</b>  |  | Not Assessed: <b>Y</b>           |

USFS: **Sensitive - Known in Forests (BD, KOOT)**  
**Sensitive - Suspected in Forests (LOLO)**  
Species of Conservation Concern in Forests (CG, FLAT, HLC) BLM: **SENSITIVE**

**Species of Concern - Native Species**  
CCVI: **Moderately Vulnerable**

Global: **G3G4** State: **S3**

**V - Botrychium simplex** (*Least Moonwort*) **SOC**

Not Assessed: Y

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

**Species of Concern - Native Species**

Global: **G5** State: **S2** CCVI: **Less Vulnerable**

**V - Braya humilis** (*Low Braya*) **SOC**

Not Assessed: Y

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

**Species of Concern - Native Species**

Global: **G5** State: **S2** USFS: **Species of Conservation Concern in Forests (HLC)** Plant Threat Score: **Unknown**  
CCVI: **Highly Vulnerable**

**V - Castilleja exilis** (*Annual Indian Paintbrush*) **SOC**

Not Assessed: Y

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

**Species of Concern - Native Species**

Global: **G5T5** State: **S2** USFS: **Species of Conservation Concern in Forests (CG)** Plant Threat Score: **Low**  
CCVI: **Extremely Vulnerable**

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

Not Assessed: Y

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

**Species of Concern - Native Species**

Global: **G4G5** State: **S2?** Plant Threat Score: **No Known Threats**

**V - Hornungia procumbens** (*Hutchinsia*) **SOC**

Not Assessed: Y

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

**Species of Concern - Native Species**

Global: **G5** State: **S2** Plant Threat Score: **No Known Threats** CCVI: **Highly Vulnerable**

**V - Kobresia simpliciuscula** (*Simple Kobresia*) **SOC**

Not Assessed: Y

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

**Species of Concern - Native Species**

Global: **G5** State: **S3** Plant Threat Score: **Unknown**

**V - Ranunculus pedatifidus** (*Northern Buttercup*) **SOC**

Not Assessed: Y

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

**Species of Concern - Native Species**

Global: **G5** State: **S3** USFS: **Species of Conservation Concern in Forests (HLC)** Plant Threat Score: **Unknown**

**V - Senecio eremophilus** (*Desert Groundsel*) **SOC**

Not Assessed: Y

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

**Species of Concern - Native Species**

Global: **G5** State: **S1S2** Plant Threat Score: **No Known Threats**

**V - Sphaeralcea munroana** (*White-stemmed globemallow*) **PSOC**

Not Assessed: Y

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

**Potential Species of Concern - Native Species**

Global: **G4** State: **S3S4**

**B - Black Rosy-Finch** (*Leucosticte atrata*) **SOC**

Not Assessed: S M

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

**Species of Concern - Native Species**

Global: **G4** State: **S2** USFWS: **MBTA; BCC10** FWP SWAP: **SGCN2, SGIN** PIF: **2**

**B - Flammulated Owl** (*Psiloscops flammeolus*) **SOC**

Not Assessed: S M

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

**Species of Concern - Native Species**

USFS: **Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)**

**Species of Concern - Native Species**

Global: **G4** State: **S3B** USFWS: **MBTA; BCC10** **Species of Conservation Concern in Forests (FLAT, HLC)** BLM: **SENSITIVE**  
FWP SWAP: **SGCN3** PIF: **1**

**B - Varied Thrush** (*Ixoreus naevius*) **SOC**

Not Assessed: S M

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

**Species of Concern - Native Species**

Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**

**B - Gray-crowned Rosy-Finch** (*Leucosticte tephrocotis*) **SOC**

Not Assessed: W M

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

**Species of Concern - Native Species**

Global: **G5** State: **S2** USFWS: **MBTA** FWP SWAP: **SGCN2, SGIN**

**B - Northern Hawk Owl** (*Surnia ulula*) **SOC**

Not Assessed: W M

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

**Species of Concern - Native Species**

Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3, SGIN**

**B - Caspian Tern** (*Hydroprogne caspia*) **SOC**

Not Assessed: M

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

**Species of Concern - Native Species**

Global: **G5** State: **S2B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **2**

**B - Clark's Grebe** (*Aechmophorus clarkii*) **SOC**

Not Assessed: M

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

**Species of Concern - Native Species**

Global: **G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11** FWP SWAP: **SGCN3** PIF: **3**

**B - Common Loon** (*Gavia immer*) **SOC**

Not Assessed: M

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

**Species of Concern - Native Species**

Global: **G5** State: **S3B** USFWS: **MBTA** USFS: **Sensitive - Known in Forests (KOOT, LOLO)** FWP SWAP: **SGCN3** PIF: **1**

**B - Common Tern** (*Sterna hirundo*) **SOC**

Not Assessed: M

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

**Species of Concern - Native Species**

Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

**B - Forster's Tern** (*Sterna forsteri*) **SOC**

Not Assessed: M

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

**Species of Concern - Native Species**

Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

**B - Horned Grebe** (*Podiceps auritus*) **SOC**

Not Assessed: M

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

**Species of Concern - Native Species**

Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**



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Potential Species of Concern - Native Species

Global: G5 State: S3S4B USFWS: MBTA



## Structured Surveys

Summarized by: **001S003E013** (*Buffered PLSS Section*)

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

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

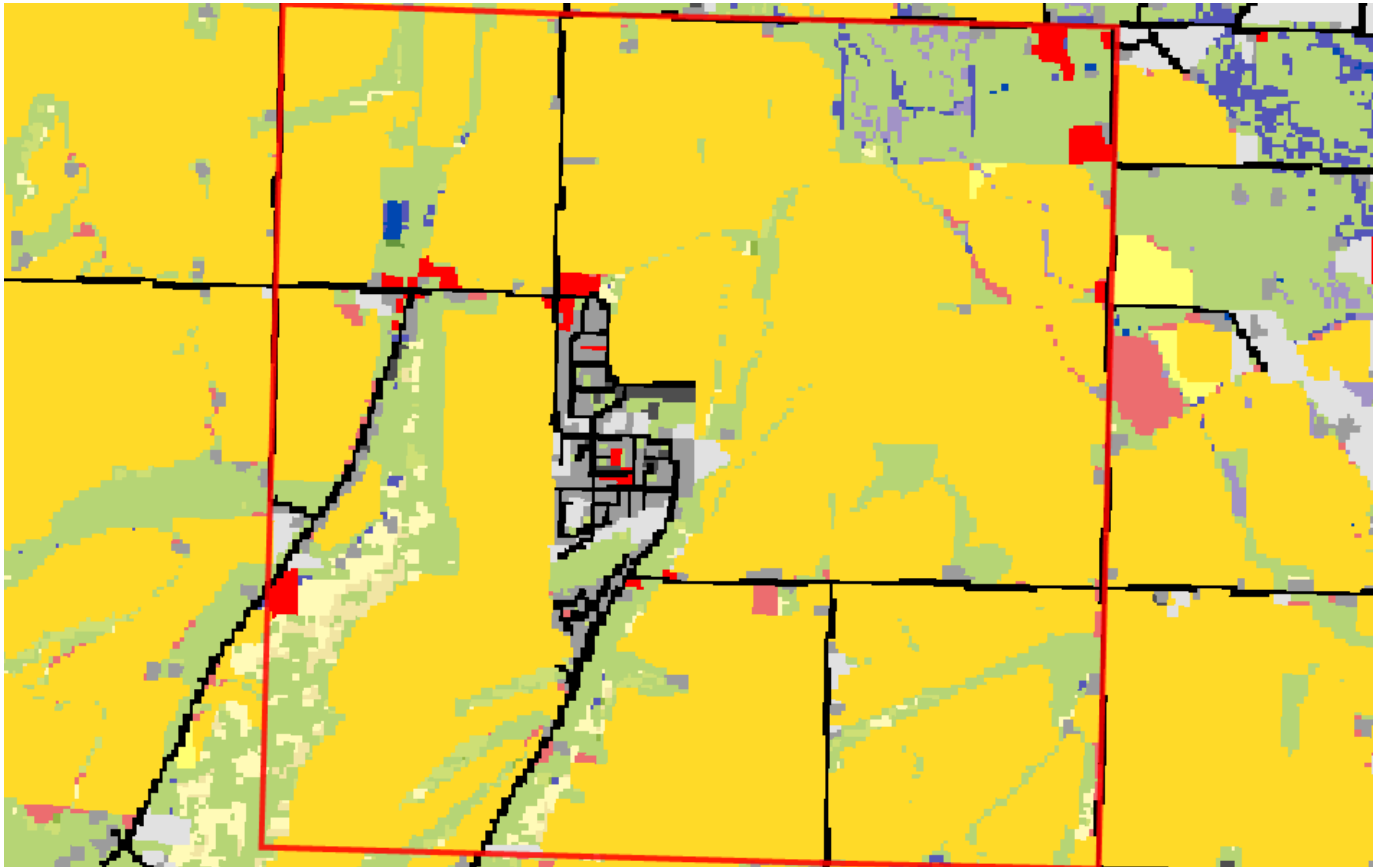
Within the report area you have requested, structured surveys are summarized by the number of each type of structured survey protocol that has been conducted, the number of species detections/observations resulting from these surveys, and the most recent year a survey has been conducted.

|   |                 |               |                     |
|---|-----------------|---------------|---------------------|
| <b>A-Nocturnal Calling Amphibian</b> ( <i>Nocturnal Breeding Amphibian Calling Survey</i> ) | Survey Count: 2 | Obs Count: 1  | Recent Survey: 2011 |
| <b>E-Eastern Heath Snail</b> ( <i>Eastern Heath Snail Survey</i> )                          | Survey Count: 1 | Obs Count:    | Recent Survey: 2012 |
| <b>E-Noxious Weed, Road-based</b> ( <i>Noxious Weed Road-based Visual Surveys</i> )         | Survey Count: 4 | Obs Count: 7  | Recent Survey: 2004 |
| <b>I-Bumble Bee</b> ( <i>Bumble Bee Collection Surveys</i> )                                | Survey Count: 9 | Obs Count: 11 | Recent Survey: 2015 |



## Land Cover

Summarized by: **001S003E013** (Buffered PLSS Section)



### Human Land Use Agriculture

#### Cultivated Crops

70% (4,029  
Acres)

These areas used for the production of crops, such as corn, soybeans, small grains, sunflowers, vegetables, and cotton, typically on an annual cycle. Agricultural plant cover is variable depending on season and type of farming. Other areas include more stable land cover of orchards and vineyards.



### Grassland Systems Montane Grassland

#### Rocky Mountain Lower Montane, Foothill, and Valley Grassland

16% (937  
Acres)

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

No Image

### Human Land Use Developed

#### Other Roads

3% (163  
Acres)

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



### Human Land Use Developed

#### Low Intensity Residential

3% (162  
Acres)

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% (90 Acres)

### Big Sagebrush Steppe

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

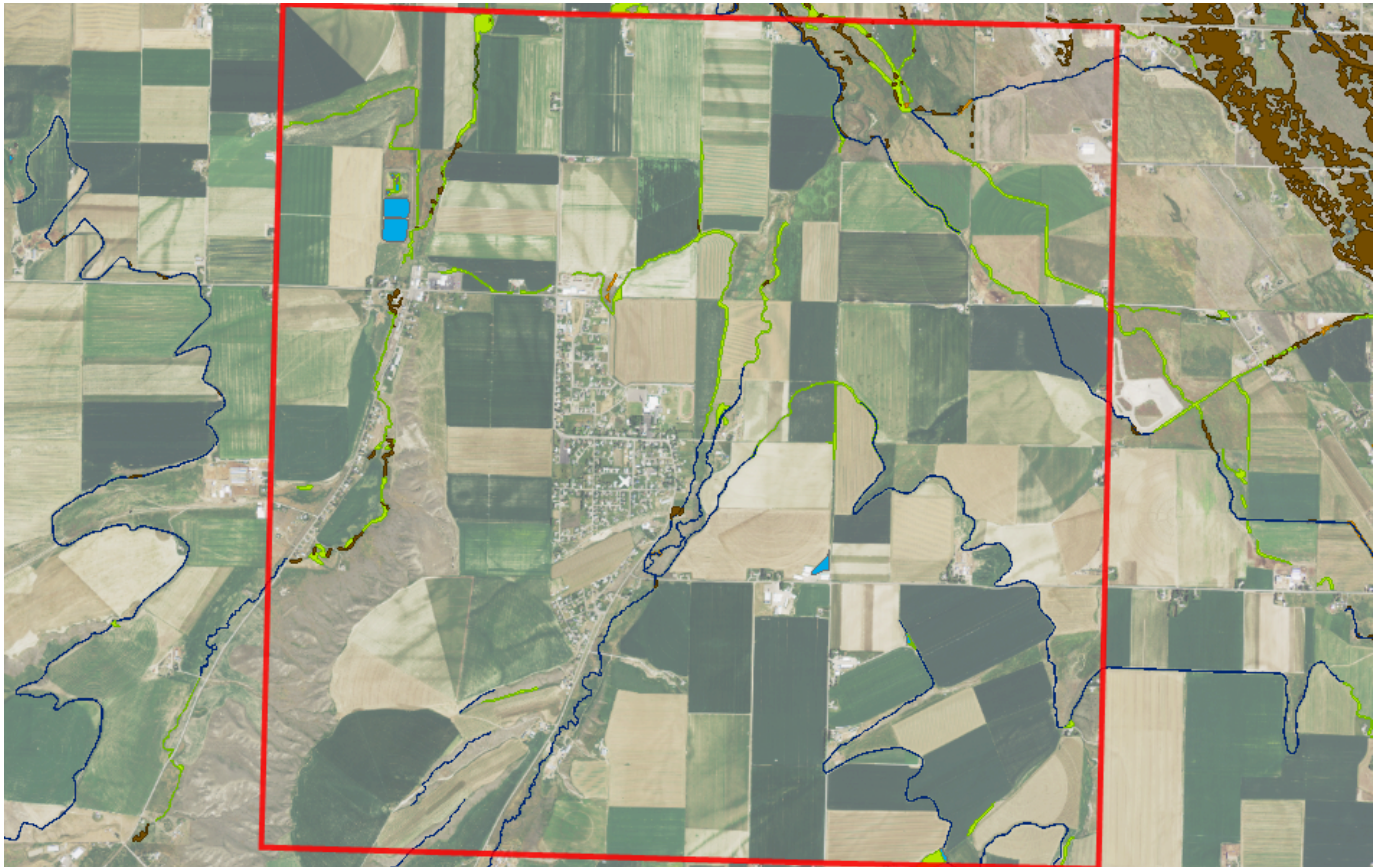
#### Additional Limited Land Cover

- 1% (67 Acres) [Developed, Open Space](#)
- 1% (63 Acres) [Commercial / Industrial](#)
- 1% (62 Acres) [Major Roads](#)
- 1% (45 Acres) [Rocky Mountain Subalpine-Montane Mesic Meadow](#)
- 1% (36 Acres) [Montane Sagebrush Steppe](#)
- 1% (35 Acres) [Introduced Upland Vegetation - Annual and Biennial Forbland](#)
- <1% (28 Acres) [Alpine-Montane Wet Meadow](#)
- <1% (27 Acres) [Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland](#)
- <1% (16 Acres) [High Intensity Residential](#)
- <1% (7 Acres) [Open Water](#)
- <1% (4 Acres) [Pasture/Hay](#)
- <1% (2 Acres) [Rocky Mountain Montane-Foothill Deciduous Shrubland](#)
- <1% (1 Acres) [Rocky Mountain Lodgepole Pine Forest](#)



## Wetland and Riparian

Summarized by: **001S003E013** (Buffered PLSS Section)



### Wetland and Riparian Mapping

[Explain](#)

#### P - Palustrine

##### AB - Aquatic Bed

|                             |                      |
|-----------------------------|----------------------|
| F - Semipermanently Flooded | 3 Acres              |
| h - Diked/Impounded         | <b>2 Acres PABFh</b> |
| x - Excavated               | <b>1 Acres PABFx</b> |
| K - Artificially Flooded    | 8 Acres              |
| x - Excavated               | <b>8 Acres PABKx</b> |

##### 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 | 27 Acres              |
| (no modifier)           | <b>18 Acres PEMA</b>  |
| h - Diked/Impounded     | <b>2 Acres PEMAh</b>  |
| x - Excavated           | <b>7 Acres PEMAx</b>  |
| C - Seasonally Flooded  | 26 Acres              |
| (no modifier)           | <b>1 Acres PEMC</b>   |
| x - Excavated           | <b>25 Acres PEMCx</b> |

##### P - Palustrine, EM - Emergent

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

##### SS - Scrub-Shrub

|                         |                     |
|-------------------------|---------------------|
| A - Temporarily Flooded | 1 Acres             |
| (no modifier)           | <b>1 Acres PSSA</b> |

##### P - Palustrine, SS - Scrub-Shrub

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

#### R - Riverine (Rivers)

##### 4 - Intermittent

##### SB - Stream Bed

|                         |                        |
|-------------------------|------------------------|
| A - Temporarily Flooded | 1 Acres                |
| x - Excavated           | <b>1 Acres R4SBAx</b>  |
| C - Seasonally Flooded  | 14 Acres               |
| (no modifier)           | <b>4 Acres R4SBC</b>   |
| x - Excavated           | <b>10 Acres R4SBCx</b> |

##### R - Riverine (Rivers), 4 - Intermittent, SB - Stream Bed

Active channel that contains periodic water flow.

#### Rp - Riparian

##### 1 - Lotic

■ SS - Scrub-Shrub

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

■ FO - Forested  
(no modifier)

**15 Acres Rp1FO**

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



## Land Management

Summarized by: **001S003E013** (Buffered PLSS Section)



### Land Management Summary

[Explain](#)

|   | Ownership                | Tribal | Easements             | Other Boundaries<br>(possible overlap) |
|---|--------------------------|--------|-----------------------|--|
| <b>Public Lands</b>                       | <b>10 Acres (&lt;1%)</b> |        |                       |  |
| Local                                     | 10 Acres (<1%)           |        |                       |  |
| Local Government                          | 10 Acres (<1%)           |        |                       |  |
| Local Government Owned                    | 10 Acres (<1%)           |        |                       |  |
| <b>Conservation Easements</b>             |                          |        | <b>333 Acres (6%)</b> |  |
| Private                                   |                          |        | 333 Acres (6%)        |  |
| Gallatin Valley Land Trust                |                          |        | 333 Acres (6%)        |  |
| <b>Private Lands or Unknown Ownership</b> | <b>5,429 Acres (94%)</b> |        |                       |  |



## Biological Reports

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Summarized by: **001S003E013** (*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 (MNHHP) databases are listed and, where possible, links to the documents are included.

The MNHHP 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](mailto:mtnhp@mt.gov)

- Corr, D.R. 1988. ***Effects of stress inducing factors on musk thistle (Carduus nutans L.) including--grass competition, Rhinocyllus conicus Froel., terminal flower loss, and insecticides.*** M.Sc. Thesis. Bozeman, MT: Montana State University. 86 p.
- Greater Yellowstone Coordinating Committee. ***GYA Weed Mapping Update and Database Augmentation.*** 2000-04.



| Model Icons                 | Habitat Icons | Range Icons | Num Obs   |
|-----------------------------|---------------|-------------|---|
| Suitable (native range)     | Common        | Non-native  | Count of obs with 'good precision' (<=1000m)                |
| Optimal Suitability         | Occasional    |             | + indicates additional 'poor precision' obs (1001m-10,000m) |
| Moderate Suitability        |               |             |   |
| Low Suitability             |               |             |   |
| Suitable (introduced range) |               |             |   |



Latitude 45.72808  
 Longitude -111.26876  
 45.77393 -111.33063

## Invasive and Pest Species

Summarized by: **001S003E013** (*Buffered PLSS Section*)

|   | # Obs | Predicted Model | Range |
|---|-------|-----------------|-------|
| <b>Aquatic Invasive Species</b>   |       |                 |       |
| <b>V - Iris pseudacorus</b> ( <i>Yellowflag Iris</i> ) <b>N2A/AIS</b>   |       |                 |       |
| <a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a><br>Noxious Weed: <b>Priority 2A - Aquatic Invasive Species - Non-native Species</b> Global: <b>GNR</b> State: <b>SNA</b><br>Predicted Models:  11% Optimal (inductive),  65% Moderate (inductive),  24% Low (inductive) |       |                 |       |
| <b>V - Potamogeton crispus</b> ( <i>Curly-leaf Pondweed</i> ) <b>N2B/AIS</b>  |       |                 |       |
| <a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a><br>Noxious Weed: <b>Priority 2B - Aquatic Invasive Species - Non-native Species</b> Global: <b>G5</b> State: <b>SNA</b><br>Predicted Models:  49% Low (inductive)   |       |                 |       |
| <b>V - Myriophyllum spicatum</b> ( <i>Eurasian Water-milfoil</i> ) <b>N2A/AIS</b>   |       |                 |       |
| <a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a><br>Noxious Weed: <b>Priority 2A - Aquatic Invasive Species - Non-native Species</b> Global: <b>GNR</b> State: <b>SNA</b><br>Predicted Models:  21% Low (inductive)  |       |                 |       |
| <b>V - Nymphaea odorata</b> ( <i>American Water-lily</i> ) <b>AIS</b>   |       |                 |       |
| <a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a><br>Aquatic Invasive Species - Non-native Species   Global: <b>G5</b> State: <b>SNA</b><br>Predicted Models:  35% Suitable (introduced range) (deductive)  |       |                 |       |
| <b>Noxious Weeds: Priority 1A</b>   |       |                 |       |
| <b>V - Centaurea solstitialis</b> ( <i>Yellow Starthistle</i> ) <b>N1A</b>  |       |                 |       |
| <a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a><br>Noxious Weed: <b>Priority 1A - Non-native Species</b> Global: <b>GNR</b> State: <b>SNA</b><br>Predicted Models:  47% Optimal (inductive),  53% Moderate (inductive)  |       |                 |       |
| <b>V - Isatis tinctoria</b> ( <i>Dyer's Woad</i> ) <b>N1A</b>   |       |                 |       |
| <a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a><br>Noxious Weed: <b>Priority 1A - Non-native Species</b> Global: <b>GNR</b> State: <b>SNA</b><br>Predicted Models:  11% Optimal (inductive),  72% Moderate (inductive),  17% Low (inductive)                            |       |                 |       |
| <b>V - Taeniatherum caput-medusae</b> ( <i>Medusahead</i> ) <b>N1A</b>  |       |                 |       |
| <a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a><br>Noxious Weed: <b>Priority 1A - Non-native Species</b> Global: <b>G4G5</b> State: <b>SNA</b><br>Predicted Models:  44% Low (inductive)  |       |                 |       |
| <b>Noxious Weeds: Priority 1B</b>   |       |                 |       |
| <b>V - Lythrum salicaria</b> ( <i>Purple Loosestrife</i> ) <b>N1B</b>   |       |                 |       |
| <a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a><br>Noxious Weed: <b>Priority 1B - Non-native Species</b> Global: <b>G5</b> State: <b>SNA</b><br>Predicted Models:  16% Optimal (inductive),  59% Moderate (inductive),  25% Low (inductive)                             |       |                 |       |
| <b>V - Polygonum cuspidatum</b> ( <i>Japanese Knotweed</i> ) <b>N1B</b>   |       |                 |       |
| <a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a><br>Noxious Weed: <b>Priority 1B - Non-native Species</b> Global: <b>GNRTNR</b> State: <b>SNA</b><br>Predicted Models:  22% Moderate (inductive),  78% Low (inductive)   |       |                 |       |
| <b>V - Polygonum x bohemicum</b> ( <i>Bohemian Knotweed</i> ) <b>N1B</b>  |       |                 |       |
| <a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a><br>Noxious Weed: <b>Priority 1B - Non-native Species</b> Global: <b>GNA</b> State: <b>SNA</b><br>Predicted Models:  14% Moderate (inductive),  1% Low (inductive)   |       |                 |       |
| <b>V - Echium vulgare</b> ( <i>Blueweed</i> ) <b>N1B</b>  |       |                 |       |
| <a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a><br>Noxious Weed: <b>Priority 1B - Non-native Species</b> Global: <b>GNR</b> State: <b>SNA</b><br>Predicted Models:  100% Low (inductive)  |       |                 |       |
| <b>Noxious Weeds: Priority 2A</b>   |       |                 |       |
| <b>V - Iris pseudacorus</b> ( <i>Yellowflag Iris</i> ) <b>N2A/AIS</b>   |       |                 |       |
| <a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a><br>Noxious Weed: <b>Priority 2A - Aquatic Invasive Species - Non-native Species</b> Global: <b>GNR</b> State: <b>SNA</b><br>Predicted Models:  11% Optimal (inductive),  65% Moderate (inductive),  24% Low (inductive) |       |                 |       |
| <b>V - Ventenata dubia</b> ( <i>Ventenata</i> ) <b>N2A</b>  |       |                 |       |
| <a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a><br>Noxious Weed: <b>Priority 2A - Non-native Species</b> Global: <b>GNR</b> State: <b>SNA</b><br>Predicted Models:  1% Optimal (inductive),  60% Moderate (inductive),  39% Low (inductive)                             |       |                 |       |
| <b>V - Rhamnus cathartica</b> ( <i>Common Buckthorn</i> ) <b>N2A</b>  |       |                 |       |
| <a href="#">View in Field Guide</a> <a href="#">View Predicted Models</a> <a href="#">View Range Maps</a><br>Noxious Weed: <b>Priority 2A - Non-native Species</b> Global: <b>GNR</b> State: <b>SNA</b><br>Predicted Models:  1% Optimal (inductive),  26% Moderate (inductive),  32% Low (inductive)                             |       |                 |       |

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

**Predicted Models:** 23% Moderate (inductive), 77% 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:** 55% 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** (*Whitewort*) **N2B**

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

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

**Predicted Models:** 1% Optimal (inductive), 60% Moderate (inductive), 39% Low (inductive)

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

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

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

**Predicted Models:** 1% Optimal (inductive), 26% Moderate (inductive), 73% Low (inductive)

**V - Centaurea stoebe** (*Spotted 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:** 60% Moderate (inductive), 40% Low (inductive)

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

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

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

**Predicted Models:** 52% Moderate (inductive), 48% 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:** 44% Moderate (inductive), 56% Low (inductive)

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

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

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

**Predicted Models:** 29% Moderate (inductive), 71% 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:** 11% Moderate (inductive), 78% Low (inductive)

**V - Centaurea diffusa** (*Diffuse 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:** 11% Moderate (inductive), 63% Low (inductive)

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

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

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

**Predicted Models:** 7% Moderate (inductive), 93% Low (inductive)

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

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

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

**Predicted Models:** 1% Moderate (inductive), 99% Low (inductive)

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

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

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

**Predicted Models:** 1% Moderate (inductive), 50% 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:** 100% 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:** 89% 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:** 60% Low (inductive)

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

**Predicted Models:** 49% Low (inductive)

**V - Tamarix ramosissima** (*Salt Cedar*) **N2B**

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

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

**Predicted Models:** 42% Low (inductive)

**Regulated Weeds: Priority 3**

**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:** 33% Low (inductive)

**Biocontrol Species**

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

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

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

**Predicted Models:** 37% Optimal (inductive), 44% Moderate (inductive), 19% Low (inductive)

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

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

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

**Predicted Models:** 90% Moderate (inductive), 10% Low (inductive)

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

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

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

**Predicted Models:** 32% Moderate (inductive), 45% Low (inductive)

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

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

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

**Predicted Models:** 1% Moderate (inductive), 41% Low (inductive)

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

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

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

**Predicted Models:** 1% Moderate (inductive), 11% Low (inductive)

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

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

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

**Predicted Models:** 1% Moderate (inductive), 11% Low (inductive)

**I - Rhinocyllus conicus** (*Thistle Seedhead Weevil*) **BIOCNTL**

[View in Field Guide](#)

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

1

2

Not Assessed

# Introduction to Montana Natural Heritage Program



P.O. Box 201800 • 1515 East Sixth Avenue • Helena, MT 59620-1800 • fax 406.444.0266 • phone 406.444.5363 • [mtnhp.org](http://mtnhp.org)

## INTRODUCTION

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

## VISION

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

## CORE VALUES

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

## CONFIDENTIALITY

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

## INFORMATION MANAGED

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

# Data Use Terms and Conditions


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

## Suggested Contacts for Natural Resource Management Agencies

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

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

### Montana Fish, Wildlife, and Parks

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

**Montana Department of Agriculture**

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

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

**Montana Department of Environmental Quality**

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

**Montana Department of Natural Resources and Conservation**

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

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

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

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

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

**Bureau of Land Management**

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

**United States Army Corps of Engineers**

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

<https://www.nwo.usace.army.mil/Missions/Regulatory-Program/Montana/>

(406) 441-1375

**United States Environmental Protection Agency**

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

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

**United States Fish and Wildlife Service**

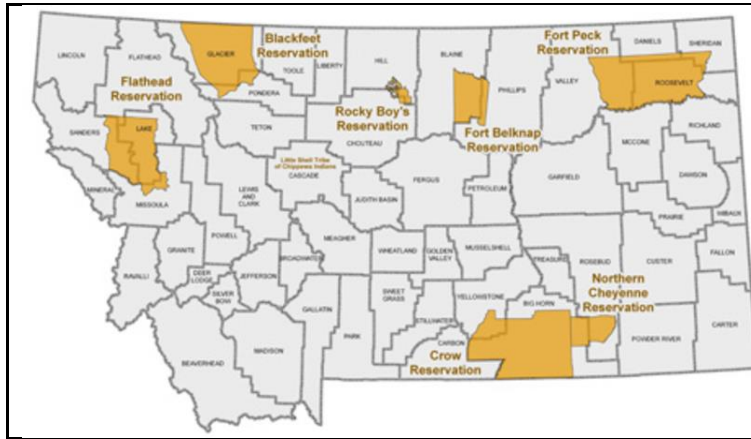
Information Planning and Conservation (IPAC) website: <https://ecos.fws.gov/ipac/>

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

**United States Forest Service**

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

## Tribal Nations



- [Assiniboine & Gros Ventre Tribes – Fort Belknap Reservation](#)
- [Assiniboine & Sioux Tribes – Fort Peck Reservation](#)
- [Blackfeet Tribe - Blackfeet Reservation](#)
- [Chippewa Creek Tribe - Rocky Boy's Reservation](#)
- [Crow Tribe – Crow Reservation](#)
- [Little Shell Chippewa Tribe](#)
- [Northern Cheyenne Tribe – Northern Cheyenne Reservation](#)
- [Salish & Kootenai Tribes - Flathead Reservation](#)

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

- [Alberta Conservation Information Management System](#)
- [British Columbia Conservation Data Centre](#)
- [Idaho Natural Heritage Program](#)
- [North Dakota Natural Heritage Program](#)
- [Saskatchewan Conservation Data Centre](#)
- [South Dakota Natural Heritage Program](#)
- [Wyoming Natural Diversity Database](#)

## Invasive Species Management Contacts and Information

### Aquatic Invasive Species

- [Montana Fish, Wildlife, and Parks Aquatic Invasive Species staff](#)
- [Montana Department of Natural Resources and Conservation's Aquatic Invasive Species Grant Program](#)
- [Montana Invasive Species Council \(MISC\)](#)
- [Upper Columbia Conservation Commission \(UC3\)](#)

### Noxious Weeds

- [Montana Weed Control Association Contacts Webpage](#)
- [Montana Biological Weed Control Coordination Project](#)
- [Montana Department of Agriculture - Noxious Weeds](#)
- [Montana Weed Control Association](#)
- [Montana Fish, Wildlife, and Parks - Noxious Weeds](#)
- [Montana State University Integrated Pest Management Extension](#)
- [Integrated Noxious Weed Management after Wildfires](#)
- [Fire Management and Invasive Plants](#)

# Introduction to Native Species

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

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

## **Observations**

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

## Species Occurrences

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

### Plant Species Occurrences

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

### Animal Species Occurrences

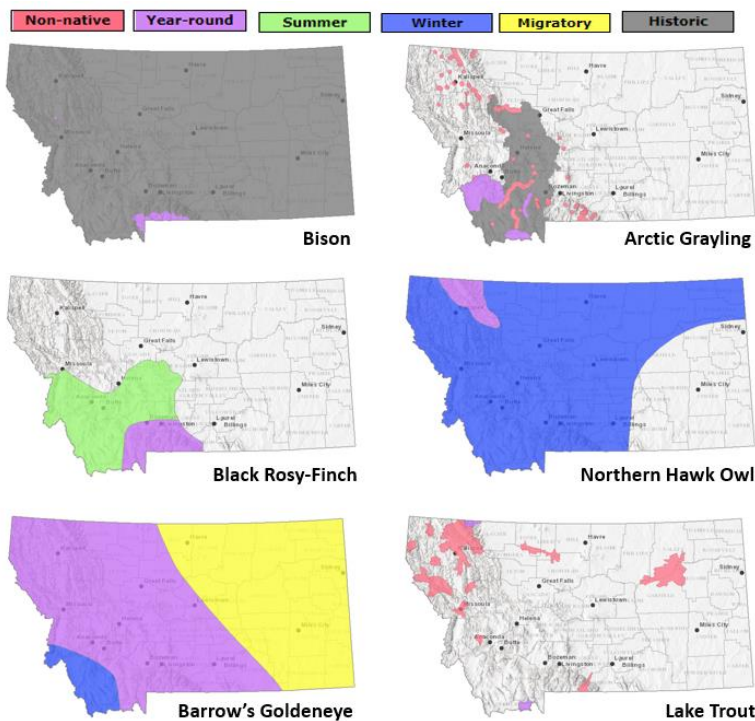
The location of a verified observation or specimen record typically known or assumed to represent a breeding population or a portion of a breeding population. Animal SO's are generally: (1) buffers of terrestrial point observations based on documented species' home range sizes; (2) buffers of stream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

### Other Occurrence Polygons

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

## Geographic Range Polygons

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



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

## Predicted Suitable Habitat Models

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

## Associated Habitats

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

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

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

# Introduction to Land Cover

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

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

## Literature Cited

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

# Introduction to Wetland and Riparian

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

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

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

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

## Literature Cited

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

# Introduction to Land Management

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

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

Public and private conservation land polygons are attributed with the name of the entity that owns it. The data are derived from the statewide [Montana Cadastral Parcel layer](#). Conservation easement data shows land parcels on which a public agency or qualified land trust has placed a conservation easement in cooperation with the land owner. The dataset contains no information about ownership or status of the mineral estate. For questions about the dataset or to report errors, please contact the Montana Natural Heritage Program at (406) 444-5363 or [mtnhp@mt.gov](mailto: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](mailto:bmaxell@mt.gov) Program Botanist [apipp@mt.gov](mailto:apipp@mt.gov) or Senior Zoologist [dbachen@mt.gov](mailto:dbachen@mt.gov). If you have observations that you would like to contribute, you can submit animal observations using our online data entry system at [mtnhp.org/AddObs](http://mtnhp.org/AddObs) or via Excel spreadsheets posted at [mtnhp.org/observations.asp](http://mtnhp.org/observations.asp)

## Additional Information Resources

[MTNHP Staff Contact Information](#)

[Montana Field Guide](#)

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

[MTNHP Species Status Codes - Explanation](#)

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

[MTNHP Request Information page](#)

[Montana Cadastral](#)

[Montana Code Annotated](#)

[Montana Fisheries Information System](#)

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

[Montana GIS Data Layers](#)

[Montana GIS Data Bundler](#)

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

[Montana Ground Water Information Center](#)

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

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

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

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

[Montana Spatial Data Infrastructure Layers](#)

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

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

[Montana Water Information System](#)

[Montana Web Map Services](#)

[National Environmental Policy Act](#)

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

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

[Web Soil Survey Tool](#)

# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

## Location

Gallatin County, Montana



## Local office

Montana Ecological Services Field Office

☎ (406) 449-5225

📠 (406) 449-5339

585 Shenhard Way Suite 1

300 Stephanie Way, Suite 1  
Helena, MT 59601-6287

NOT FOR CONSULTATION

# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

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1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

## Mammals

| NAME  | STATUS              |
|---|---------------------|
| <p>Canada Lynx <i>Lynx canadensis</i></p> <p>There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat.</p> <p><a href="https://ecos.fws.gov/ecp/species/3652">https://ecos.fws.gov/ecp/species/3652</a></p> | Threatened          |
| <p>Grizzly Bear <i>Ursus arctos horribilis</i></p> <p>There is <b>proposed</b> critical habitat for this species.</p> <p><a href="https://ecos.fws.gov/ecp/species/7642">https://ecos.fws.gov/ecp/species/7642</a></p>  | Threatened          |
| <p>North American Wolverine <i>Gulo gulo luscus</i></p> <p>Wherever found</p> <p>No critical habitat has been designated for this species.</p> <p><a href="https://ecos.fws.gov/ecp/species/5123">https://ecos.fws.gov/ecp/species/5123</a></p>                 | Proposed Threatened |

## Insects

| NAME   | STATUS    |
|--|-----------|
| <p>Monarch Butterfly <i>Danaus plexippus</i></p> <p>Wherever found</p> <p>No critical habitat has been designated for this species.</p> <p><a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a></p> | Candidate |

## Flowering Plants

| NAME  | STATUS     |
|---|------------|
| <p>Ute Ladies'-tresses <i>Spiranthes diluvialis</i></p> <p>Wherever found</p> <p>No critical habitat has been designated for this species.</p> <p><a href="https://ecos.fws.gov/ecp/species/2159">https://ecos.fws.gov/ecp/species/2159</a></p> | Threatened |

## Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

## Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your

list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

| NAME  | BREEDING SEASON         |
|---|-------------------------|
| <p><b>Bald Eagle</b> <i>Haliaeetus leucocephalus</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>   | Breeds Jan 1 to Aug 31  |
| <p><b>Bobolink</b> <i>Dolichonyx oryzivorus</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>   | Breeds May 20 to Jul 31 |
| <p><b>Cassin's Finch</b> <i>Carpodacus cassinii</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br/> <a href="https://ecos.fws.gov/ecp/species/9462">https://ecos.fws.gov/ecp/species/9462</a></p>  | Breeds May 15 to Jul 15 |
| <p><b>Evening Grosbeak</b> <i>Coccothraustes vespertinus</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>  | Breeds May 15 to Aug 10 |
| <p><b>Golden Eagle</b> <i>Aquila chrysaetos</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.<br/> <a href="https://ecos.fws.gov/ecp/species/1680">https://ecos.fws.gov/ecp/species/1680</a></p> | Breeds Jan 1 to Aug 31  |
| <p><b>Lesser Yellowlegs</b> <i>Tringa flavipes</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br/> <a href="https://ecos.fws.gov/ecp/species/9679">https://ecos.fws.gov/ecp/species/9679</a></p>   | Breeds elsewhere        |

**Pinyon Jay** *Gymnorhinus cyanocephalus*

Breeds Feb 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9420>

**Western Grebe** *Aechmophorus occidentalis*

Breeds Jun 1 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/6743>

## Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.



Western Grebe  
BCC Rangewide  
(CON)



**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

**What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

**How do I know if a bird is breeding, wintering or migrating in my area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird

on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### **What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### **Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### **What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### **Proper Interpretation and Use of Your Migratory Bird Report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is

the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

## Facilities

### National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

### Fish hatcheries

There are no fish hatcheries at this location.

### Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

[PEM1A](#)  
[PEM1Cx](#)  
[PEM1Ax](#)  
[PEM1C](#)  
[PEM1Ah](#)  
[PEM1Fx](#)

FRESHWATER FORESTED/SHRUB WETLAND

[PSSA](#)  
[PSSAx](#)

FRESHWATER POND

[PABKx](#)  
[PABFh](#)  
[PABFx](#)

RIVERINE

[R4SBCx](#)  
[R4SBC](#)  
[R3UBG](#)  
[R4SBA](#)  
[R4SBAx](#)  
[R5UBFx](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

**NOTE:** This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

**Data limitations**

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

#### **Data exclusions**

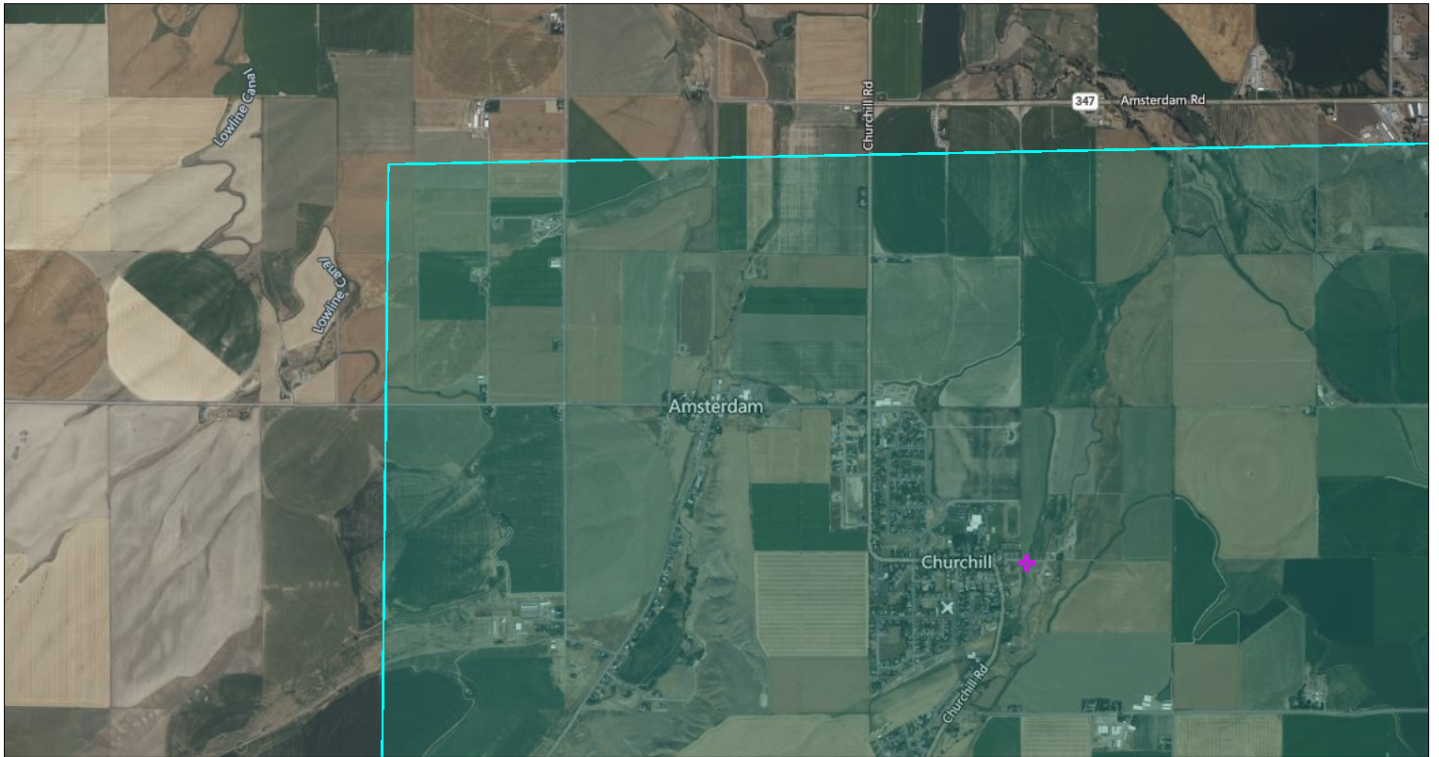
Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

#### **Data precautions**

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

# NEPAssist Report

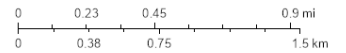
## Godfrey Ditch



June 2, 2023

- Godfrey Ditch
- + Search Result (point)

1:27,126



© 2023 Microsoft Corporation © 2023 Maxar ©CNES (2023) Distribution Airbus DS © 2023 TomTom

|  |                    |
|--|--------------------|
| Input Coordinates: 45.769727,-111.342633,45.770865,-111.261952,45.729480,-111.260579,45.729779,-111.343234,45.769727,-111.342633 |                    |
| <b>Project Area</b>  | <b>11.09 sq mi</b> |
| Within an Ozone 8-hr (1997 standard) Non-Attainment/Maintenance Area?  | no                 |
| Within an Ozone 8-hr (2008 standard) Non-Attainment/Maintenance Area?  | no                 |
| Within a Lead (2008 standard) Non-Attainment/Maintenance Area?   | no                 |
| Within a SO2 1-hr (2010 standard) Non-Attainment/Maintenance Area?   | no                 |
| Within a PM2.5 24hr (2006 standard) Non-Attainment/Maintenance Area?   | no                 |
| Within a PM2.5 Annual (1997 standard) Non-Attainment/Maintenance Area?   | no                 |
| Within a PM2.5 Annual (2012 standard) Non-Attainment/Maintenance Area?   | no                 |
| Within a PM10 (1987 standard) Non-Attainment/Maintenance Area?   | no                 |
| Within a Federal Land?   | no                 |
| Within an impaired stream?   | yes                |
| Within an impaired waterbody?  | no                 |
| Within a waterbody?  | yes                |
| Within a stream?   | yes                |
| Within an NWI wetland?   | Available Online   |
| Within a Brownfields site?   | no                 |
| Within a Superfund site?   | no                 |
| Within a Toxic Release Inventory (TRI) site?   | no                 |
| Within a water discharger (NPDES)?   | yes                |
| Within a hazardous waste (RCRA) facility?  | yes                |

|  |     |
|--|-----|
| Within an air emission facility?   | no  |
| Within a school?   | yes |
| Within an airport?   | no  |
| Within a hospital?   | no  |
| Within a designated sole source aquifer?   | no  |
| Within a historic property on the National Register of Historic Places?                                    | no  |
| Within a Toxic Substances Control Act (TSCA) site?   | no  |
| Within a Land Cession Boundary?  | yes |
| Within a tribal area (lower 48 states)?  | no  |
| Within the service area of a mitigation or conservation bank?  | yes |
| Within the service area of an In-Lieu-Fee Program?   | yes |
| Within a Public Property Boundary of the Formerly Used Defense Sites?                                      | no  |
| Within a Munitions Response Site?  | no  |
| Within an Essential Fish Habitat (EFH)?  | no  |
| Within a Habitat Area of Particular Concern (HAPC)?  | no  |
| Within an EFH Area Protected from Fishing (EFHA)?  | no  |
| Within a Bureau of Land Management Area of Critical Environmental Concern?                                 | no  |
| Within an ESA-designated Critical Habitat Area per U.S. Fish & Wildlife Service?                           | no  |
| Within an ESA-designated Critical Habitat river, stream or water feature per U.S. Fish & Wildlife Service? | no  |

Created on: 6/2/2023 12:21:52 AM



Sign In

### Montana State Wildlife Action Plan (SWAP) - Aquatic Focal Areas (Watersheds)

250 records

45.75070, -111.29894

Montana Fish, Wildlife and Parks  
Private Organization

#### Summary

To assist in the delineation of priority aquatic habitats for the Montana SWAP.

[View Full Details](#)

[Download](#)

#### Details

- Dataset**  
Feature Layer
- As Needed**  
Info Updated: September 23, 2022
- Not Planned**  
Data Updated: September 23, 2022
- January 23, 2016**  
Published Date
- 250 Records**  
[View data table](#)
- Public**  
Anyone can see this content
- Custom License**  
[View license details](#)

I want to use this >

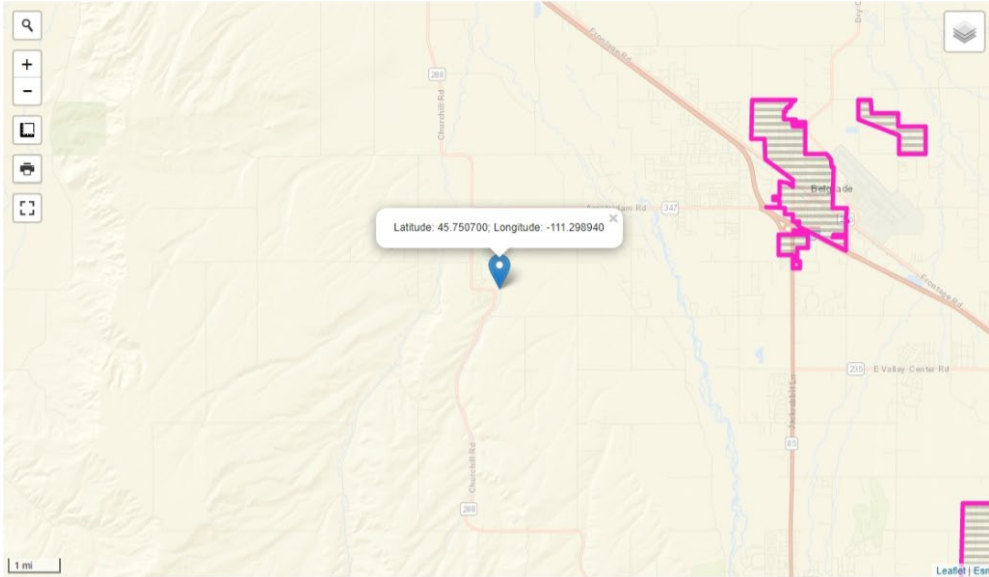
Bureau of Land Management, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, EPA | Esri, HERE  
Powered by Esri



## Montana Sage Grouse Habitat Conservation Map

Use this map to view and explore types of sage grouse habitat designated as core (blue), general (green), connectivity (light-blue) habitats or BLM priority areas. To zoom into an area, hold the Shift key and draw a rectangle. Anyone proposing new development activities in sage grouse habitat must submit a development project application for consultation.

If your project is close to designated sage grouse habitat or BLM Priority area, or if you are unsure your project is within designated sage grouse habitat or BLM Priority area, please submit your project for review as permitting agencies will be checking to see if your project is located within these designated sage grouse habitats. If your permitting agency requires evidence that your project is outside of designated sage grouse habitat, we recommend that you log in and start a project application and take a screenshot of your project's location.



MONTANA SAGE GROUSE HABITAT CONSERVATION PROGRAM  
1539 ELEVENTH AVE. HELENA, MT 59601 | SAGEGROUSE@MT.GOV | 406-444-6340

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Last Built on 04/04/2023 10:44 AM