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DRAFT
ENVIRONMENTAL ASSESSMENT

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| **Project Name:** | Ravalli County Economic Development Authority and City of Hamilton Construction of Sanitary Sewer System to Serve Targeted Economic Development |
| **Proposed Implementation Date:** | 03/21/2023 |
| **Proponent:** | Ravalli County |
| **Location:** | Sections 19, 20, 29 and 32, Township 6N, Range 20W |
| **County:** | Ravalli |

## I. TYPE AND PURPOSE OF ACTION

Ravalli County and the Ravalli County Economic Development Authority (RCEDA) have partnered to create a Targeted Economic Development District (TEDD). The TEDD encompasses about 420 acres, with approximately 242 acres of undeveloped and 178 acres of developed property. The developed property consists of the Ravalli County Airport, the Hamilton Trap Club/Gravel Pit, and the property leased to the United States Forest Service (USFS). Ravalli County intends to use tax increment financing, in conjunction with other Federal and local financing, to provide infrastructure to support the development of value-adding industries in Ravalli County.

The focus of this project is an area located adjacent to the City of Hamilton, Montana. The western-most boundary parallels Old Corvallis Road, the northern-most boundary is approximately the same latitude as the historical Daly Mansion, the eastern-most boundary is the Ravalli County Airport, and the southern-most boundary is Golf Course Road. The City of Hamilton is in the Bitterroot Valley, approximately 42 miles south of the City of Missoula, in western Montana. It is positioned between the Bitterroot River to the west and the Sapphire Mountains to the east. The legal description of the TEDD is Township 6 North, Range 20 West, Sections 19, 20, 29 & 32. The latitude and longitude of the approximate center of the TEDD is N46 degrees 15 minutes 27 seconds and W114 degrees 08 minutes 4 seconds respectively.

The Ravalli County Commissioners completed a Preliminary Engineering Report (PER) for the TEDD in 2015 (updated in 2018), which addressed water, wastewater, communication, power, natural gas and transportation. The TEDD is anticipated to have a mixture of business and workforce housing. The Ravalli County Economic Development Authority estimates almost 1,000 additional employees and residents over a 30-to-40-year period.

Ravalli County and the Ravalli County Economic Development Authority have partnered with the City of Hamilton to construct the main backbone sewer system to serve the entire TEDD. Sanitary sewer would be collected via new TEDD infrastructure and connected to the City of Hamilton's wastewater collection system for final treatment. Ravalli County and the City of Hamilton have

completed an Interlocal Agreement to provide contract service for sanitary sewer collection and treatment at the City of Hamilton's wastewater treatment plant. Construction of the TEDD sanitary sewer would include two main pipeline segments – the West Backbone Sewer Collection System and the East Backbone Sewer Collection System.

The project purpose, as outlined in the 2018 Ravalli County TEDD PER is to use federal funds to construct the sanitary sewer infrastructure needed to:

- Provide sanitation services for businesses within the TEDD;
- Bring jobs to Ravalli County and the City of Hamilton area, a strong economic center of western Montana;
- Attract private economic development to increase workforce housing and business opportunities; and
- Promote business development close to existing communities to avoid leap-frog development that stresses rural infrastructure and increases infrastructure costs.

This project is needed by both Ravalli County and the City of Hamilton to develop the sanitary sewer infrastructure in a manner to serve the TEDD, which is currently located remote from the City of Hamilton's existing sanitary sewer collection and treatment system. Extension of the system from the City of Hamilton is needed to enable properties within the TEDD to connect to the City's sanitary sewer infrastructure using impact fees and monthly sewer service charges to receive the needed service. The Ravalli County airport area has a high ground water table. As a result, state and local regulations restrict the installation of new septic systems. Connection of the TEDD wastewater flows to the City of Hamilton's Wastewater Collection and Treatment System will enable all flows to be treated at an established wastewater treatment facility that holds a current MPDES discharge permit. Connection to the City of Hamilton's system will eliminate the amount of nutrients added to groundwater and surface water from the development of the TEDD and will ensure the TEDD discharges are treated to current permit requirements.

## 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.*

Multiple public hearings have been held on the TEDD and the associated Comprehensive Development Plan. Proof of advertisement, meeting minutes and copies of written or oral comments will be included in Appendix F of the Ravalli County TEDD PER.

The coordination of the proposed project will take place between local, state, and federal agencies. Most of the project coordination will occur between the City of Hamilton, DNRC, and the contracted engineering firm. Regulating agencies will be involved in the permitting process and design to provide input and associated approvals. Project Management will be responsible for facilitation of communication and cooperation between the agencies and organizations involved in the project.

Letters regarding environmental issues were sent to the following agencies requesting comments on the proposed project:

- Department of Environmental Quality Permitting and Compliance Division
- Montana Department of Fish, Wildlife and Parks
- Department of Natural Resources and Conservation
- Montana DNRC
- State Historic Preservation Office
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- Bureau of Indian Affairs
- Bureau of Land Management
- U.S. Environmental Protection Agency

Community correspondence, agency correspondence, and public support of the TEDD project are provided in Appendix D of the Ravalli County TEDD PER (Page 159).

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**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.*

Expected permits for the project include, and will be completed prior to the final design:

- Local private property Utility easements
- Local private property Temporary Construction Access easements
- City of Hamilton Excavation and Building Permit
- City of Hamilton and Ravalli County Interlocal Agreement for Provision of Sanitary Sewer
- State of Montana Department of Transportation Utility Encroachment Permit (East Side Highway and Fairgrounds Road)
- State of Montana Department of Environmental Quality Engineering Plan Review (includes planset review checklist, any required deviation requests and plan set review fee). This will result in an approval by MDEQ to construct and connect to the City of Hamilton's wastewater collection and treatment system.
- State of Montana Department of Transportation Utility Maintenance Permit

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**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.*

Sanitary sewer alternatives considered are in Section 3.1.2 of the Ravalli County TEDD Preliminary Engineering Report (PER; attached). Evaluation of the alternatives considered is presented in Section 4 of the Ravalli County TEDD PER. Alternatives evaluated for wastewater treatment systems for the TEDD included:

- No Action
- Individual Subsurface Wastewater Treatment Systems
- Elevated Sand Mounds, Recirculating Media Trickling Filter Systems
- Single Public Wastewater Treatment System

- Multiple Small Public Subsurface Wastewater Treatment Systems
- Public Wastewater Treatment Facility
- Connection to City of Hamilton Wastewater System – Annexation and Connection to the City of Hamilton Wastewater System – Contract Services.
- Connection to City of Hamilton Wastewater System – Backbone Infrastructure Costs Only

Alternatives evaluated for water system service for the TEDD included:

- Individual Private Wells
- Multiple Small Public Water Systems
- Single Public Water System

*Proposed Alternative* –The recommended alternative for wastewater treatment/sewer selection is Connection to the City of Hamilton Wastewater System – Contract Services, presented in Section 3.8 of the Ravalli County TEDD PER. Recommended improvements for the West Backbone Sewer Collection System in Old Corvallis Road and East Backbone Sewer Collection Systems in Fairgrounds Road and the East Side Highway are presented in Section 3.2.8. Figure 3.2.8-1 shows the West Backbone Sewer System and Figure 3.2.8-2 shows the East Backbone Sanitary Sewer System. The recommended alternative for water system services is Multiple Small Public Water Systems.

**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.*

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**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 and surrounding 1-mile buffer are categorized as primarily human land use (75% total; 46% agriculture, 29% developed), grassland systems (17%), wetland and riparian systems (5%), recently disturbed or modified systems (3%), and forest and woodland systems (<1%; Montana Natural Heritage Program database; MTNHP). Fifteen (15) different soil types are identified in the project area (USDA Web Soil Survey). The dominant soils in the project area are Fairway, sodic-Overwhich complex (23.7% of project area, 0 to 2 percent slopes); Overwhich-Holloron, sodic complex (21.0% of project area, 0 to 2 percent slopes); Overwhich-Bandy complex (8.3% of project area, 0 to 2 percent slopes); Wimper sandy loam (7.7% of project area, 0 to 4 percent slopes); Holloron loam (7.2% of project area; 0 to 4 percent slopes); and Hamilton silt loam (7.0% of project area, 0 to 4 percent slopes).

The areas identified by soil type 120B Holloran loam, 130B Hamilton silt loam, and 156A Overwhich loam are Prime Farmland if Irrigated. The following soil types are classified as Farmland of Statewide Importance: Losttrail-Wimper; Wimper sandy loam; Quast silt loam; Fairway, sodic-Overwhich complex, and Overwhich-Holloron, sodic complex. The following soil types are classified as Farmland of Local Importance: Riverside-Losttrail complex (4 to 8 percent slopes); Riverside-

Losttrail complex (8 to 15 percent slopes); Holloron-Tiechute complex; Gash, occasionally flooded-Riverrun, rarely flooded complex; and Overwhich-Bandy complex.

According to the *Surficial Geologic Map of the Bitterroot Valley* from the *Montana Bureau of Mines and Geology,* there are a few different formations underlying the area. The areas that are closest to Hamilton and Riverside consist of alluvial deposits of both the Hamilton and Riverside Terraces (Qath & Qatr). The area more west within the TEDD consists of ancestral Bitterroot River gravel (Tbg), older alluvial fan deposits (Qafo) as well as younger alluvial fan deposits (Qafy) from Gird Creek oriented from southeast to northwest. A copy of the geologic map is in Appendix A of the PER.

*Proposed Alternative* – The proposed project will have no long-term impacts on geology, soil quality, stability and moisture. In order to install infrastructure for the TEDD, a portion of the site will be cleared of vegetation (pasture grasses and/or crops) and soils disturbed. When possible, new infrastructure will be installed in areas that have already been developed. Since the entire area within the TEDD is not developed, disturbance of native soil will have a short-term negative impact to soil communities. The proposed sanitary sewer project will impact approximately 7 acres during construction. Approximately 3 acres of the affected area are existing asphalt or concrete surfacing of Old Corvallis Road, Fairgrounds Road, and the East Side Highway (Ravalli County TEDD PER).

*No Action* – No impact to 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 Bitterroot River is the primary surface water body in the area and is located at the western fringe of Hamilton. Waters in this river are classified by MDEQ as "B-1" and are considered suitable for drinking after conventional treatment. Other suitable uses under this classification include bathing, swimming, and aquatic recreation, growth and propagation of salmonid fishes and aquatic life, waterfowl and furbearer habitat, and agricultural and industrial water supply. Flows in the river are regulated to a considerable extent by the Painted Rocks Reservoir. Flows from the river and some of the primary tributary streams are diverted into irrigation ditches to support agricultural activities in the valley. There are three irrigation ditches within the TEDD (Ravalli County TEDD PER) and several other small waterbodies.

According to the FEMA website, the floodplain of the Bitterroot River is located approximately 1 mile northwest of the western-most part of the project area (Accessed 01/16/2023). Proposed construction will be conducted outside of the 100-year floodplain of the Bitterroot River and its tributaries.

Groundwater depths within the TEDD vary. Based on Groundwater Information Center (GWIC), higher groundwater levels are typically seen in Sections 19 and 29 than in Sections 20 and 32. A review of well logs in Section 19B, C and D indicates that typical depths to groundwater are in the range of 10 to 18 feet below the ground surface (BGS). The average depth to groundwater within the entire area of Section 19 is 22 feet. Well logs in Section 20C indicate that typical depths to groundwater are in the range of 12 to 30 feet BGS. The average depth to groundwater within the entire area of Section 20 is 34.50 feet. Well logs in Section 29 B and C indicate that typical depths to groundwater are in the range of 10 to 20 feet BGS. The average depth to groundwater within the

entire area of Section 29 is 21.50 feet. Well logs in Section 32 indicate that typical depths to groundwater are in the range of 14 to 95 feet BGS. The average depth to groundwater within the entire area of Section 32 is 67 feet.

Since there are irrigation ditches in the vicinity, it is likely that the depth to groundwater varies during the irrigation season. Dewatering of pipeline trenches and structure foundations will likely be required during construction due to the anticipated high ground water in the area. The general direction of groundwater flow underlying the area is pointed northwest towards the Bitterroot River. The river surface generally represents the governing "line sink" relative to groundwater levels and localized hydrology (Ravalli County PER).

*Proposed Alternative* – The proposed alternative would have an immediate and long-term beneficial impact on the groundwater by conveying wastewater to the City of Hamilton Treatment Plant and eliminating the use of under-sized septic systems. The project will discharge sanitary sewer to the City of Hamilton's sanitary sewer collection and treatment system. The Hamilton sanitary sewer treatment plant holds a current MPDES Discharge Permit, and will meet all required treatment requirements governed by the permit. Connecting to the City of Hamilton's wastewater treatment enables the TEDD to avoid local discharge of sanitary sewer into onsite septic systems. No impacts are anticipated for floodplains and floodplain management.

Construction activities may potentially cause short-term adverse impacts to ground and surface water quality. To help mitigate some of the construction impacts, Best Management Practices (BMPs) for control of storm water runoff from disturbed areas will be used during construction. BMPs will include the use of silt fences at constructions sites and silt fences and check dams adjacent to installations. The quantity and distribution of each irrigation system will not be affected. As mentioned, construction will occur during the irrigation off-season.

*No Action* – The No Action alternative will continue to have adverse impacts on groundwater quality, and potentially impact surface water quality with increased sediment and nutrients seeping from the septic systems.

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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 proposed project is not located in an air quality Attainment Area, as set by the U.S. Environmental Protection Agency's National Ambient Air Quality Standards. The project area is not listed as impaired in air quality particulates per the Montana DEQ Air Quality Nonattainment Status list (Montana DEQ Air Quality Website).

*Proposed Alternative* – Potentially adverse direct, short-term impacts to air quality from dust associated with construction activities. If excessive dust is generated, contractors will be responsible for dust abatement through water application.

*No Action* – No impact to current air quality.

## 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 project area is surrounded by approximately 90% private lands, with the remaining 10% on public lands (MTNHP database). The project area is primarily human land use (75% total; 46% agriculture, 29% developed), grassland systems (17%), wetland and riparian systems (5%), recently disturbed or modified systems (3%), and forest and woodland systems (<1%). There are ten Species of Concern listed for Ravalli County (MTNHP database) and four threatened and/or endangered plant species listed on the NRCS website that could occur in the project area (USDA NRCS plants database).

Most, if not all of the original native vegetation within the TEDD boundary has been replaced with cultivated varieties of trees, shrubs and grasses. Outside of the TEDD boundary, the land is a mix of developed urban and large amounts of pasture and hay fields, areas used for the production of graminoid crops (wheat, barley, oats, etc.) and grasslands/herbaceous areas.

*Proposed Alternative* – The proposed project is expected to have short-term adverse impacts to vegetation, as construction activities will remove plants and trees. This may become a long-term beneficial impact due to revegetation with native species after construction is completed, which will replace removed non-native and cropland plant species (Ravalli County TEDD PER).

*No Action* – Existing vegetation cover will remain the same, which is a potential adverse impact if that vegetation cover is comprised of non-native, invasive species.

## 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 lies adjacent to two areas identified as priority areas for terrestrial conservation efforts within the Montana State Wildlife Action Plan (SWAP; Montana Fish, Wildlife, and Parks web map GIS data): Bitterroot – Clark Fork Riparian Corridor focal area and the East Bitterroot Grasslands focal area. Project area is not located in areas identified as priority for aquatic conservation efforts. The project area does not fall within an Executive Order – General/Priority habitat area for sage (Montana Sage Grouse Habitat Conservation web map GIS data). Though the project area does not appear to be impacting crucial and/or critical habitat areas, there are 118 Species of Concern listed for Ravalli County that may occur in the project area in a broad range of taxa, including bats, birds, reptiles, amphibians, fish, insects, and plants (MTNHP database).

*Proposed Alternative* – The proposed project may have a short-term adverse impact on the habitat during construction. There is a potential adverse short and long-term impact from invasive species that may be introduced and colonize disturbed areas during or after construction activities.

*No Action* – There will likely be no impact to the current terrestrial or avian species and habitats given the project is not located within critical and/or crucial habitat areas. Existing vegetation cover and habitats will remain the same, which is a potential adverse impact if those habitats and vegetation species are non-native, invasive species.

**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 website was used to determine whether any wetlands were present within the lands adjacent to the project location. This search indicated that several wetland types are present within the project area and the adjacent habitat: four types of Freshwater Emergent Wetland, one type of Freshwater Pond, and three types of Riverine habitats. The Freshwater Emergent wetlands are seasonally flooded, contain vegetation for most of the year, and contain hydrophytic plants. The Riverine habitats are generally deepwater habitats contained within a channel, permanently flooded, with intermittent and seasonally flooded channels.

As mentioned in the previous section, there are 118 species of concern listed as potentially using the project area and surrounding lands as viable habitat (MTNHP database). The Bitterroot River likely provides critical spawning and rearing habitat for multiple native migratory and resident fishes, including brown trout, largescale sucker, longnose sucker, mountain whitefish, northern pike minnow, rainbow trout, bull trout, and westslope cutthroat trout (Montana Fish, Wildlife, and Parks FishMT). The U.S. Fish and Wildlife Service IPaC tool was also used 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 (5) Federally listed species as potentially occurring in the greater project area: monarch butterfly (*Danaus plexippus*), Canada Lynx (*Lynx canadensis*), North American wolverine (*Gulo gulo luscus*), bull trout (*Salvelinus confluentus*), and Yellow-billed cuckoo (*Coccyzus americanus*). Migratory bird species listed as potentially occurring in the greater project area: Bald Eagle (*Haliaeetus leucocephalus*), Golden Eagle (*Aquila chrysaetos*), Bobolink (*Dolichonyx oryzivorus*), Cassin's Finch (*Carpodacus cassinii*), Evening Grosebeak (*Coccothraustes vespertinus*), Lewis's Woodpecker (*Melanerpes lewis*), Olive-sided Flycatcher (*Contopus cooperi*), and Rufous Hummingbird (*Selasphorus rufus* ; USFWS IPaC report. Date accessed: 2/24/2023). The eight bird species are protected under the Migratory Bird Treaty Act, and the Bald Eagle and Golden Eagle are also protected under the Montana Bald Eagle Management Plan, Bald and Golden Eagle Protection Act, and Lacey Act.

*Proposed Alternative* – The proposed alternative may potentially benefit the species of concern, as the proposed project will have a beneficial effect on the environmental resources and endangered species in the area by reducing contaminant leaching into the Bitterroot River (MTNHP Species Report). Some of the small area wetlands parallel irrigation ditches and drainage routes, where new infrastructure may need to cross the irrigation ditches and wetlands. Appropriate permits, if necessary, will be pursued and efforts will be made to minimize the impacts on wetlands and water quality. BMPs will be in place during construction to assure protection. The Wetland Inventory map is located in Appendix A of the PER. See Army Corps of Engineers response letter in Appendix C.

The Montana Natural Heritage Program database indicates there is a bald eagle nest adjacent to the Daly Mansion Pond. Although the pond is in close proximity to the TEDD boundary, it is located over one half mile from the planned sanitary sewer construction in Old Corvallis Road. Regardless, compliance with the recommended temporary seasonal and distance construction buffers stipulated in the 2010 Montana Bald Eagle Management Guidelines) for any construction within one half mile of the bald eagle nest) will be followed. If an active eagle nest is identified in proximity to the project area during the construction phase of the proposed project, potential construction

restrictions will be evaluated.

*No Action* – The unique, endangered, or fragile environmental resources in the project area may be adversely impacted by the no action alternative, particularly the aquatic species, if high sediment loads seep into the aquatic sources.

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**10. HISTORICAL AND ARCHAEOLOGICAL SITES:**

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

The project area is primarily within previously developed areas, agricultural use areas, and previously disturbed areas with no known archeological resources in the area.

*Proposed Alternative* – There are no historic properties or archaeological resources that have been identified in the project area. If previously unknown cultural or paleontological materials are identified during project related activities, the DNRC grant manager will be notified, and all work will cease until a professional assessment of such resources can be made.

*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.*

According to Montana Natural Resource Information System (NRIS) and site visits, the current land use in the project area is mostly agricultural rangeland, grassland and established commercial development (airport). The TEDD limits the type of land use within its boundaries. Approved uses are mostly industrial, government, education, and commercial operations. These types of facilities will tie-in nicely with the existing commercial sector on the west side of the TEDD and the airport on the east side. The TEDD, for the most part, is surrounded by un-developed land. However, on the south end on the TEDD, there is a residential area.

The proposed infrastructure will be sufficient to accommodate the utility needs of the TEDD and the anticipated growth. The project is not located within the City of Hamilton's city limit, but sanitary service will be provided by the City of Hamilton under an Interlocal Agreement between the City of Hamilton and Ravalli County (Ravalli County TEDD PER)

*Proposed Alternative* – The proposed project will have direct, short-term impacts on the aesthetics immediately around the project area during construction. Some nuisance noise and visual impairment will be expected during construction activities, and the contractors will be required to follow any local regulations or ordinances pertaining to the operation of machinery, perform all construction activities during daylight hours when possible, and to minimize nuisances.

*No Action* – No impact to aesthetics and no nuisances.

**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 intent of the proposed project is to accommodate future development of the TEDD by connecting new water and sewer infrastructure to existing city facilities.

*Proposed Alternative* – The proposed alternative will have short and long-term impacts on environmental resources. Short-term increases in energy consumption are expected during construction activities, and long-term impacts to energy use will occur as the TEDD is developed. The community water supply will be impacted, and the proposed alternative will require a beneficial water use permit from the Montana Department of Natural Resources and Conservation. Irrigation and/or stock water rights may need to be changed as mitigation to the new public water supply for the TEDD, but minimal impact is expected on the aquifer or surface waters of the Bitterroot River (Ravalli County TEDD PER).

*No Action* – No impact to environmental resources.

**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.*

*City of Hamilton, MT Growth Policy* - 2009

Expected permits for the project include, and will be completed prior to the final design:

- Local private property Utility easements
- Local private property Temporary Construction Access easements
- City of Hamilton Excavation and Building Permit
- City of Hamilton and Ravalli County Interlocal Agreement for Provision of Sanitary Sewer
- State of Montana Department of Transportation Utility Encroachment Permit (East Side Highway and Fairgrounds Road)
- State of Montana Department of Environmental Quality Engineering Plan Review (includes planset review checklist, any required deviation requests and plan set review fee). This will result in an approval by MDEQ to construct and connect to the City of Hamilton's wastewater collection and treatment system.
- State of Montana Department of Transportation Utility Maintenance Permit

## IV. IMPACTS ON THE HUMAN POPULATION

- *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.*

**14. HUMAN HEALTH AND SAFETY:**

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

Limited water, sewer, road and dry utilities exist within the TEDD boundary. The primary concentration of utilities exists at the Ravalli County Airport. Based on past communication from Ravalli County Environmental Health, the wastewater system at the airport is currently undersized and in need of expansion or replacement.

Leaking sanitary sewer systems allow untreated wastewater to enter the groundwater system and surrounding surface water. Water contaminated with raw wastewater may contain pathogens – disease-producing micro-organisms, which include bacteria, viruses, and parasites. These pathogens can cause a wide range of illnesses that negatively impact human health, such as gastroenteritis, salmonella infection, dysentery, shigellosis, hepatitis, and giardiasis. Additionally, extended exposure to nitrogen in drinking water can be damaging or even fatal. Since the City obtains its drinking water from the local aquifer and many people recreate in and around the Bitterroot River near Hamilton, groundwater and surface water contamination is a potentially serious health issue.

*Proposed Alternative* – The proposed project is expected to have an overall beneficial impact to human health and safety by eliminating individual septic systems and decreasing the risk of seepage and leaking. No suspect paints or building materials are anticipated for the planned project. Environmental databases were consulted to see if any existing NPL sites, Hazardous Waste Cleanups, or LUST sites may impact the project area. There are three water dischargers (NPDES) sites and one hazardous waste (RCRAInfo) site within the TEDD boundaries, with an additional two NCRAInfo and three NPDES sites located immediately outside (EPA NEPAssist database). None of these identified sites are expected to impact the project.

*No Action* – Potentially adverse impact to human health and safety if septic systems leak or seep into ground/surface water sources.

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

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

Work will occur just outside of the limits of the City of Hamilton, in Ravalli County, Montana.

*Proposed Alternative* –The proposed project could potentially benefit commercial or industrial facilities, expected to be developed within the TEDD, by providing safe drinking water and sewer connection. The project will primarily take place on previously disturbed land. The project will not result in displacement or relocation of businesses or residents. The project will affect land use compatibility, land use changes, development activity, or land uses and potential conflicts as the TEDD is developed over the next 30-40 years.

*No Action* – A potential adverse impact to agricultural activities, both direct and indirect, if the septic systems remain in place and continue to pose a contamination threat to the local aquifers and surface waters. Agricultural lands downstream of Hamilton draw water from the Bitterroot River to water crops and could potentially draw contaminated water, adversely impacting agricultural activities.

**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 project is located immediately outside the city limits of the City of Hamilton, Montana. The population for Ravalli County was 45,959 people in 2021, with 4,905 people residing in the City of Hamilton (Montana Department of Commerce, Census and Economic Information Center). The project focuses on the targeted economic development of the greater Hamilton area, with project scope consisting of installing sewer and water connection from the City of Hamilton to the new development site.

*Proposed Alternative* - A short-term beneficial impact to local jobs and an associated economic benefit is anticipated, with a potential long-term benefit. The project will employ short-term contractors and suppliers. Long-term employment and income patterns are likely to be impacted by the project when development occurs within the TEDD. In addition, creating the TEDD is intended to draw businesses (industrial, technology, etc.) to the area, which would benefit the area by enhancing job opportunities and community. The Ravalli County Economic Development Authority estimates almost 1,000 additional employees and residents over a 30-to-40-year period (Ravalli County TEDD PER).

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

**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.*

The City of Hamilton Montana and the County of Ravalli Montana has requested an analysis to determine an estimated valuation of taxes that would not be paid to the City of Hamilton from properties within the Ravalli County Targeted Economic Development District (TEDD), even though sanitary sewer service is made available to the properties within the TEDD without immediate annexation by the City of Hamilton. The City currently has a policy that states that properties connected to the City's utilities be annexed into the City. By virtue of the nature of the TEDD, it cannot exist and be annexed into the city. It is necessary to determine the amount of potential City of Hamilton property tax revenue if properties were annexed to the City of Hamilton. Ravalli County and the City of Hamilton acknowledge that there are benefits for generation of revenue to Ravalli County and the City of Hamilton that are offset by the inability to collect taxes from the properties within the TEDD for the life of the TEDD. As a result, the tax estimates presented below should be weighed against the benefits of added generation of revenue to the City of Hamilton in the form of additional sanitary sewer customers outside of the TEDD that would annex to the city as a result of the sanitary sewer infrastructure being provided by the TEDD. Ravalli County and the City of Hamilton are evaluating development of a differential fee for provision of sanitary sewer service by the City of Hamilton to properties within the TEDD, recognizing the City of Hamilton is unable to collect taxes from properties within the TEDD for the life of TEDD. Detailed calculations are provided in the attached PER.

*Proposed Alternative* – After Estimating the future market value of the TEDD area the next step is to apply the tax to the market value to determine the amount of lost taxes for the City of Hamilton. The city currently collects a general tax, a street tax and a General Obligation Bond Tax. The general tax is 238.09 mill which supports the City's general services such Police and fire to name a few.

Customers in unincorporated Ravalli County pay a Rural Fire tax of $18 million. To avoid double counting the Fire tax rate embedded in the City's general millage rate the Rural Fire was subtracted from the general tax. The City also collects a tax for street maintenance, but this was not included because property owners within the TEDD would pay a County Road Tax. Since build out will take place over several years property tax that cannot be collected by the City of Hamilton are expected to ramp up over time as construction occurs. Initially the analysis shows that the taxes that cannot be collected by the City of Hamilton average will be between $3,000 and $5,000 in initial years. As a percent it is estimated that the effect to the City's total Property tax would be approximately 0.2%, however construction continues that percent becomes more significant and it is estimated at build out to be approximately 4%. The slope of the increase is dependent on the percent of build out and the amount of property value appreciation. If property values increase at a higher rate and build out happens earlier than expected the taxes the City is unable to collect is subject to increase. Property Taxes That Would Not Be Collected 30 and 40 Year Build Out.

*No Action* – The No Action alternative would mean that the City of Hamilton does not collect tax revenue they will eventually make when development within the TEDD occurs, a potentially adverse impact to the City of Hamilton's finances.

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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*

According to Montana Natural Resource Information System (NRIS) and site visits, the current land use in the project area is mostly agricultural rangeland, grassland and commercial development (airport).

*Proposed Alternative* – The proposed alternative will increase vehicular access to the previously undeveloped areas within the TEDD, a potential adverse impact on traffic patterns and flow. Resurfacing and development of the county airport road will ease the impact of increased use, and allow for appropriate fire protection and law enforcement access. The TEDD limits the type of land use within its boundaries. Approved uses are mostly industrial, government, education, and commercial operations. These types of facilities will tie-in nicely with the existing commercial sector on the west side of the TEDD and the airport on the east side. The TEDD is surrounded by undeveloped land, with a residential area at the southern border of the TEDD boundary. The new infrastructure in the area will be sufficient to accommodate the utility needs of the TEDD and the anticipated growth. The project is not located within the City of Hamilton's City limit, but sanitary service will be provided by the City of Hamilton under an Interlocal Agreement between the City of Hamilton and Ravalli County. The proposed alternative has a potential to create a long-term beneficial impact for the TEDD by replacing the existing water system, which is likely unable to supply sufficient fire protection in the current condition.

*No Action* – No impact on the 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 project will be coordinated with all applicable local, state and federal agencies. Local cooperation and regulatory permits will come from the City of Hamilton and other regulatory permitting agencies associated with these drinking water and wastewater system improvements.

*Proposed Alternative & No Action* – No impact to 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 Bitterroot River provides diverse recreational opportunities for the public. The project area is located adjacent to the main recreational corridor of the Bitterroot River, primarily on private land. Multiple public fishing access sites exist upstream and downstream of the project area. There are also recreational access points at county/city bridge crossings.

*Proposed Alternative* – The project could potentially have a regional, long-term benefit to recreation as a result of improved water quality in the Bitterroot River. The proposed project will extend City sewer service to the TEDD, which currently uses private wastewater disposal systems. The existing private wastewater systems combined with the high groundwater table could potentially be a source of contamination to the Bitterroot River and could contributing to nutrient loading to the river.

*No Action* – The No Action alternative poses a direct adverse impact as the aging septic infrastructure continues to age, increasing the risk of contaminant seepage and leakage. This is a potential direct adverse impact to water quality and recreational activities on the Bitterroot River.

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**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.*

In order to determine the population projections of the TEDD, a variety of methods were used. Since the TEDD is currently within Ravalli County and also adjacent to the city limits of Hamilton, both entities were used as examples of populations trends. The U.S. Census Bureau, USA.com, and the *Hamilton, MT Growth Policy* (2009) were used to help determine populations of previous years and observed trends. In addition, estimated land developments was figured based on a list of acceptable developments/businesses that can be established with the TEDD.

According to U.S. Census Bureau statistics, the City of Hamilton had an estimated population of 4,348 persons in 2010. The year 2000 census population was 3,705 and the year 1990 census population was 2,727. There was a 35.86 percent increase in population over the decade from 1990 to 2000. The next decade (2000 to 2010) slowed slightly to a 17.35 percent increase or 1.78 percent compounded annual growth. Ravalli County had an estimated population of 40,212 persons in 2010. The year 2000 census population was 36,070 and the year 1990 census population was 25,010. There was a 44.2 percent increase in population over the decade from 1990 to 2000. The next decade (2000 to 2010), similar to Hamilton's trend, dropped to an 11.48 percent increase or 1.20 percent compounded annual growth.

*Proposed Alternative* – The proposed project is anticipated to have a long-term beneficial impact to the City of Hamilton, and the greater Ravalli County, by attracting business development within the TEDD. Development of the TEDD will likely occur over the next 30 to 40 years. It was assumed that the population of Hamilton and Ravalli County would continue to grow at the same rates from 2000 to 2010. Employment would continue to grow at 1% per year based on the 2015-2024 Employment Projections from the Montana Department of Labor and Industry, and the proportion of jobs in Hamilton would follow the population percentage in Hamilton vs. Ravalli County. A large business moving into the TEDD may change these numbers drastically, but following local population and employment trends, the above number is most likely a realistic expectation for growth over the planning period.

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

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**22. SOCIAL STRUCTURES AND MORES:**

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

Ravalli County is largely made up of rural, cultivated cropland and/or Rocky Mountain lower montane, foothill, and valley grassland (MTNHP database). The agricultural way of life provides the most common type of lifestyle/community for the county.

*Proposed Alternative* – No impact is expected on structures and/or lifestyles from the project, but rather enhance the current communities and lifestyles. By ensuring stable wastewater disposal, the City of Hamilton will be able to conserve one of Montana's most treasured resources, water. Increased efficiency of wastewater and reduction of contamination will create benefits locally, regionally, and statewide in the form of improved recreational opportunities and economic impacts.

*No Action* – No impact to social structures is likely given the nature of project locations and is not currently impacting native or traditional lifestyles.

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**23. CULTURAL UNIQUENESS AND DIVERSITY:**

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

The Bitterroot River and agricultural lands sustain the way of life for Ravalli County and the greater Hamilton area, providing fishing and boating recreational activities and local and regional food supply for the overall area.

*Proposed Alternative* – No impact is expected to the cultural uniqueness and/or diversity of the project area; however, there may be beneficial impacts to the Bitterroot River as the proposed alternative could reduce contaminant leakage and nutrient loading from aging septic systems.

*No Action* – No impact to cultural uniqueness or diversity resources.

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**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.*

It has been historically documented that the area within the TEDD boundary, and specifically the Ravalli County Airport, need infrastructure improvements for water, sewer, roads and communications. The engineered septic system at the airport is currently undersized, and the temporary holding tanks are not a viable long-term solution. The high groundwater table combined with numerous shallow wells serving the businesses at the airport, including a restaurant, gives probable concern that future health and sanitation issues may arise at the airport.

*Proposed Alternative* – Potentially adverse impact to individuals who purchase and develop properties within the TEDD. If construction of the collection system infrastructure is to be paid by Ravalli County, then County residents will pay capitalization fees and impact fees at the time when sanitary sewer service is requested to each individual county property. These costs are projected to be approximately $3,000,000. This could be cost-prohibitive. The proposed project will increase water availability to the TEDD and therefore increase use.

*No Action* – No impact to social and economic circumstances.

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**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.*

*Sewer/Sanitation/Storm Water*

The recommended alternative for wastewater treatment was chosen in part to minimize the effects of wastewater on the environment. The Ravalli County airport area has a high ground water table. As a result, state and local regulations restrict the installation of new septic systems. Connection of the TEDD wastewater flows to the City of Hamilton's Wastewater Collection and Treatment System will enable all flows to be treated at an established wastewater treatment facility that holds a current MPDES discharge permit. Connection to the City of Hamilton's system will eliminate the amount of nutrients added to groundwater and surface water from the development of the TEDD and will ensure the TEDD discharges are treated to current permit requirements.

*Drinking Water/Fire Protection*

The project area is outside the city limits of Hamilton and has direct impact to drinking water. The Ravalli County airport area is served by individual wells, which have a high concentration of iron. Ground water and surface water are at risk of contamination from the private septic systems, as the aging infrastructure fails, and leaks and seeps contaminated wastewater into surrounding water sources. Fire Protection needs are likely not being met by the current water system and would be unable to meet fire protection needs as the TEDD is developed.

*Proposed Alternative* – The proposed project has the potential to have a long-term beneficial impact to public access to sanitary sewer service, surface waters, and drinking water sources by eliminating leaking septic systems and associated drainfields. The project will also have the potential for direct beneficial impacts on solid waste management and wastewater treatment, as the wastewater system is upgraded, and new areas are brought into the wastewater system.

The proposed project has the potential to have direct, short-term adverse impacts to water quality. If ground disturbance for the proposed project is equal to or greater than 1 acre, the contractor is required to obtain and comply with Montana DEQ's General Permit for Storm Water Discharges Associated with Construction Activities. This permit requires BMPs to be implemented to minimize

sediment-laden runoff from reaching a water of the state (in this case, the Bitterroot River, Gird Creek, and the irrigation ditch system), inspections of the BMPs, and rehabilitation of the area post construction.

*No Action* – The No Action alternative poses a direct adverse impact as the septic infrastructure continues to age, increasing the risk of contaminant seepage and leakage. This is a potential direct adverse impact to drinking water aquifers and clean water access from the Bitterroot River.

**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.*

According to the Small Area Income and Poverty Estimates (SAIPE) from the 2021 census, the City of Hamilton has a poverty rate of 9.5%, with a median household income of $60,030.

*Proposed Alternative* – Disproportionate adverse human health or environmental impacts relative to minority and low-income populations is not expected. The proposed improvement projects are not related to placing lower income households in areas where environmental degradation had occurred.

*No Action* – No impact to environmental justice.

| | | | |
|---|---|---|---|
| **EA Prepared By**: | **Name:** | Samantha Treu | **Date:** February 28, 2023 |
| | **Title:** | MEPA Coordinator | **Email: s**amantha.treu@mt.gov |

## V. FINDING

**27. ALTERNATIVE SELECTED:**

The recommended alternatives include:

- Connection to the City of Hamilton Wastewater System – Contract Services, presented in Section 3.8 of the Ravalli County TEDD PER.
- West Backbone Sewer Collection System in Old Corvallis Road
- East Backbone Sewer Collection Systems in Fairgrounds Road and the East Side Highway
- Multiple Small Public Water Systems

**28. SIGNIFICANCE OF POTENTIAL IMPACTS:**

Minor, short-term, local environmental and social impacts will be mitigated with carefully planned construction best management practices. The project will likely have long-term beneficial impacts to water quality, health and safety and public access to sanitary sewer and drinking water.

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

Potentially adverse, short-term impacts to ground and surface water quality during construction activities. To help mitigate some of the construction impacts, Best Management Practices (BMP) for control of storm water runoff from disturbed areas will be used during construction. BMPs will include the use of silt fences at constructions sites and silt fences and check dams adjacent to installations.

***Air Quality***

Potentially adverse direct, short-term impacts to air quality from dust associated with construction activities. If excessive dust is generated, the contractor will be responsible for dust abatement through water application and other dust control mitigation measures. No long-term negative impact is anticipated as a result of this project.

***Terrestrial, Avian, and Aquatic Life and Habitats***

A short-term adverse impact on the habitat is possible during construction. There is a potential adverse short and long-term impact from invasive species that may be introduced and colonize disturbed areas during or after construction activities.

***Aesthetics/Noise***

The proposed project will have direct, short-term impacts on the aesthetics immediately around the project area during construction. Some nuisance noise and visual impairment will be expected during construction activities, and the contractors will be required to follow any local regulations or ordinances pertaining to the operation of machinery, perform all construction activities during daylight hours when possible, and to minimize nuisances.

***Demands on Environmental Resources of land, water, air or energy:***

The proposed alternative will have short and long-term impacts on environmental resources. Short-term increases in energy consumption are expected during construction activities, and long-term impacts to energy use will occur as the TEDD is developed. The community water supply will be impacted, and the proposed alternative will require a beneficial water use permit from the Montana Department of Natural Resources and Conservation. Irrigation and/or stock water rights may need to be changed as mitigation to the new public water supply for the TEDD, but minimal impact is expected on the aquifer or surface waters of the Bitterroot River

***Demand for Government Services***

Short-term adverse impacts can be expected due to restricted traffic access during construction. The proposed alternative will increase vehicular access to the previously undeveloped areas within the TEDD, a potential adverse impact on traffic patterns and flow. Resurfacing and development of the county airport road will ease the impact of increased use, and allow for appropriate fire protection and law enforcement access.

***Drinking Water and/or Clean Water***

The proposed project has the potential to have direct, short-term adverse impacts to water quality.

If ground disturbance for the proposed project is equal to or greater than 1 acre, the contractor is required to obtain and comply with Montana DEQ's General Permit for Storm Water Discharges Associated with Construction Activities. This permit requires BMPs to be implemented to minimize sediment-laden runoff from reaching a water of the state (in this case, the Bitterroot River, Gird Creek, and the irrigation ditch system), inspections of the BMPs, and rehabilitation of the area post construction.

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

This is a draft.

| | | | | | |
|---|---|---|---|---|---|
| ☐ | EIS | ☐ | More Detailed EA | **X** | No Further Analysis |

| | |
|---|---|
| **EA Approved By**: | **Name:**<br>**Title:** |
| **Signature:** | **Date**: |

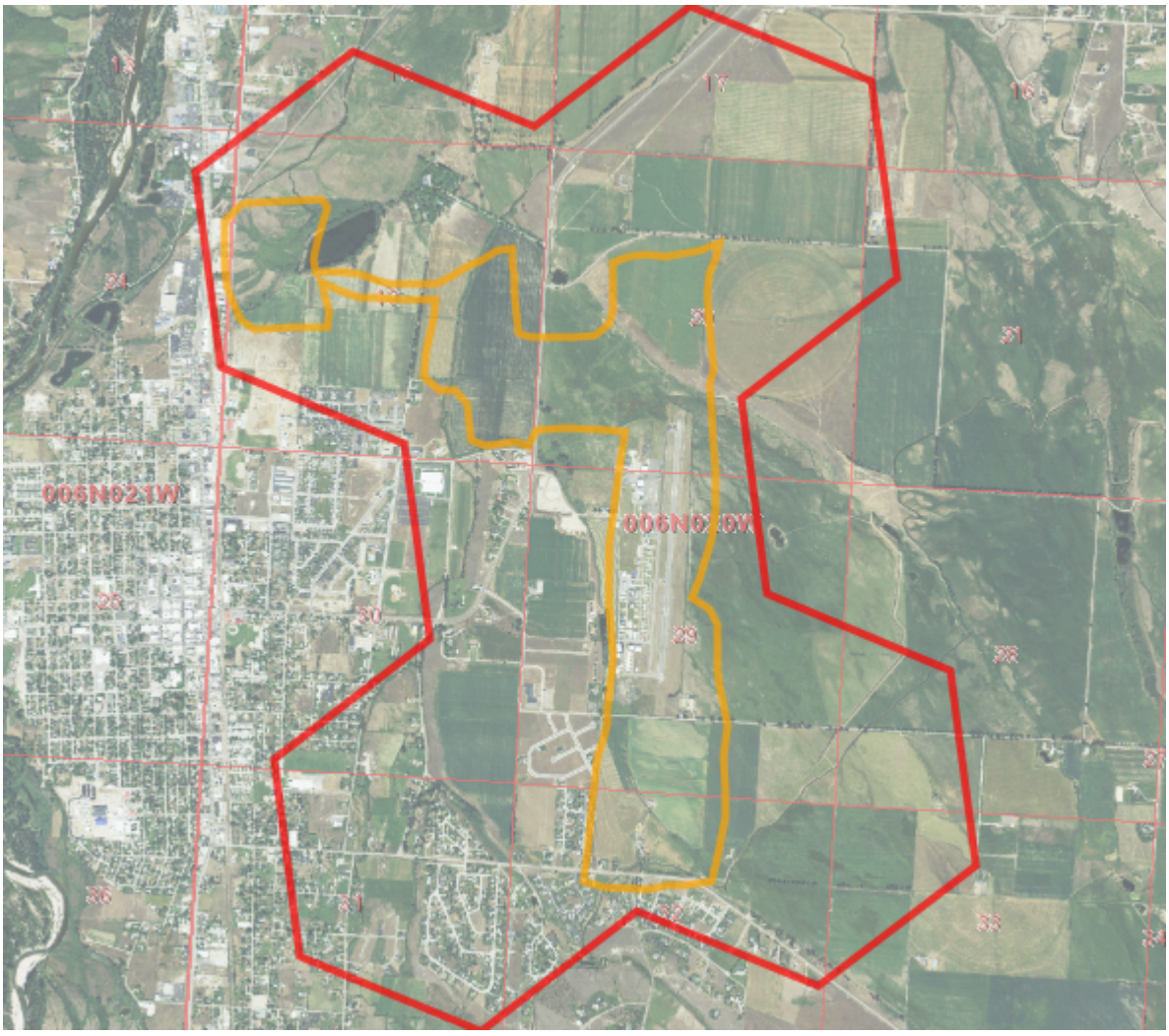
# Environmental Summary

MONTANA
# Natural Heritage Program

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

| Latitude | Longitude |
|---|---|
| 46.22844 | -114.10770 |
| 46.27712 | -114.15478 |

Summarized by:
**Hamilton Targeted Development**
*(Custom Area of Interest)*




**Suggested Citation**
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for Latitude 46.22844 to 46.27712 and Longitude -114.10770 to -114.15478. Retrieved on 2/22/2023.

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.

Montana Natural Heritage Program · Montana State Library · NatureServe

# Table of Contents



# Introduction to Environmental Summary Report

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

MONTANA Natural Heritage Program
A program of the **Montana State Library's Natural Resource Information System**

**Legend**

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

**Habitat Icons**
- C Common
- O Occasional

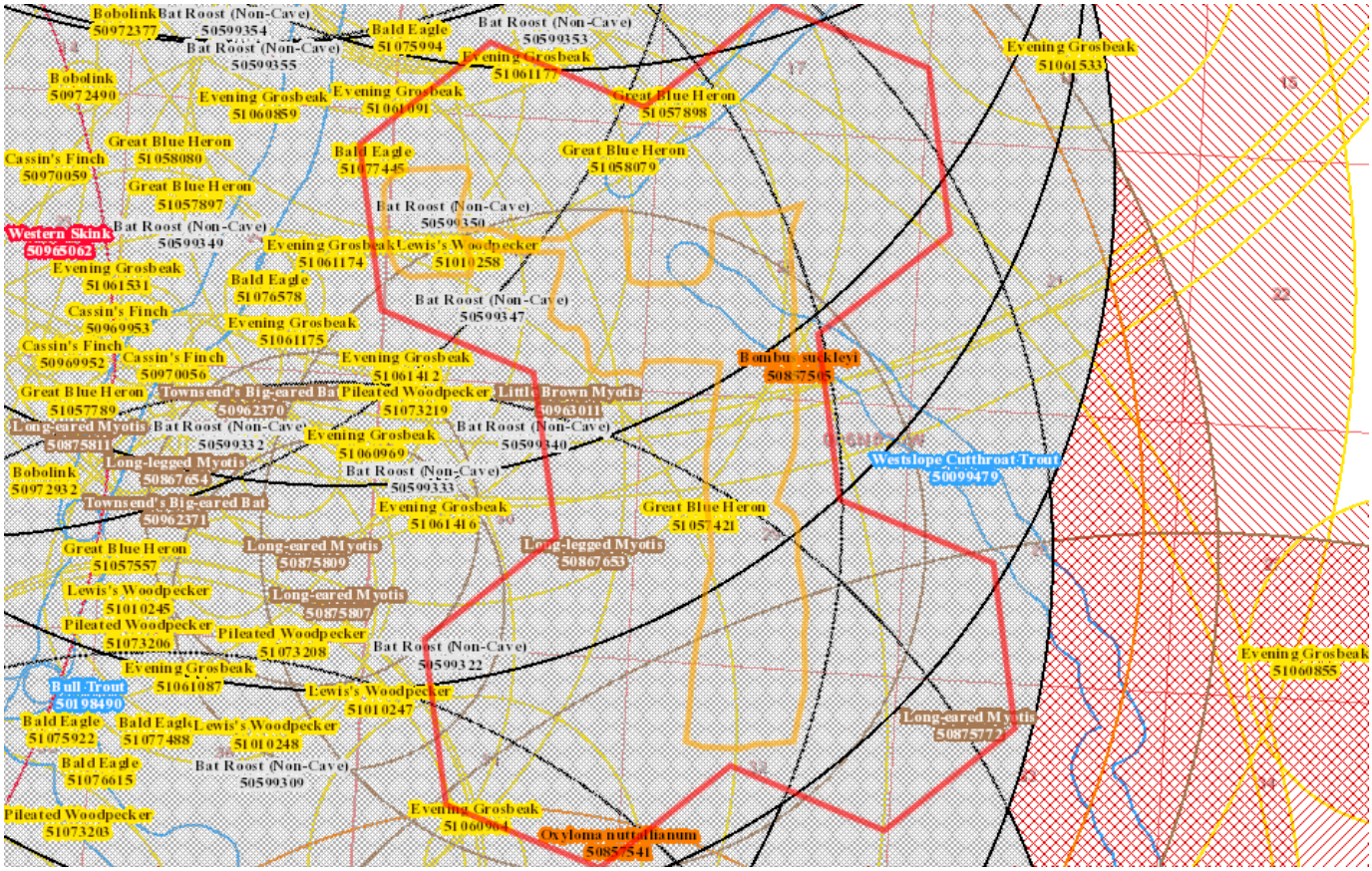
**Range Icons**
- Y Native / Year-round
- S Summer
- W Winter
- M Migratory
- N Non-native
- H Historical

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

| Latitude | Longitude |
|---|---|
| 46.22844 | -114.10770 |
| 46.27712 | -114.15478 |

# Native Species

Summarized by: **Hamilton Targeted Development** *(Custom Area of Interest)*
**All Species** (not filtered by Status)




# Species Occurrences

| | USFWS Sec7 | # SO | # Obs | Predicted Model | Range |
|---|---|---|---|---|---|
| **F - Bull Trout** *(Salvelinus confluentus)* SOC | 7 | 1 | + | | Y |

**View in Field Guide** **View Predicted Models** **View Range Maps**
**Species of Concern - Native Species** Global: **G5** State: **S2** USFWS: **LT; CH** BLM: **THREATENED** FWP SWAP: **SGCN2**

**Delineation Criteria** Stream reaches and standing water bodies where the species is believed to be present based on the professional judgement of a fisheries biologist, potentially supported by habitat assessment, direct capture, or confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Jul 18, 2022)

**Predicted Models:** N 40% Suitable (native range) (deductive)

| | | | | | |
|---|---|---|---|---|---|
| **F - Westslope Cutthroat Trout** *(Oncorhynchus clarkii lewisi)* SOC | | 1 | 2 + | | Y |

**View in Field Guide** **View Predicted Models** **View Range Maps**
**Species of Concern - Native/Non-native Species - (depends on location or taxa)** Global: **G5T4** State: **S2**
USFS: **Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)**
**Species of Conservation Concern in Forests (CG, HLC)** BLM: **SENSITIVE** FWP SWAP: **SGCN2**

**Delineation Criteria** Stream reaches and standing water bodies where the species presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a fisheries biologist due to confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Jul 25, 2022)

**Predicted Models:** N 40% Suitable (native range) (deductive)

| | | | | | |
|---|---|---|---|---|---|
| **B - Lewis's Woodpecker** *(Melanerpes lewis)* SOC | | 3 | 2 | | S M |

**View in Field Guide** **View Predicted Models** **View Range Maps**
**Species of Concern - Native Species** Global: **G4** State: **S2B** USFWS: **MBTA; BCC10; BCC17** USFS: **Species of Conservation Concern in Forests (HLC)**
BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **2**

**Delineation Criteria** Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 300 meters in order to encompass the likely foraging area used by breeding adults around the nest tree and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 29, 2022)

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

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

**View in Field Guide** **View Predicted Models** **View Range Maps**
**Species of Concern - Native Species** Global: **G2G3** State: **S1**

**Delineation Criteria** Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 1700 meters in order to encompass the home range of the individual as well as adjacent habitat likely to support other individuals and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jun 22, 2022)

**Predicted Models:** M 60% Moderate (inductive), L 40% Low (inductive)

**B - Bobolink** *(Dolichonyx oryzivorus)* SOC | 1 | S M

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

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** FWP SWAP: **SGCN3** PIF: **3**

**Delineation Criteria** Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 150 meters in order to conservatively encompass male territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 28, 2022)

**Predicted Models:** M 40% Moderate (inductive), L 60% Low (inductive)

**B - Cassin's Finch** *(Haemorhous cassinii)* SOC | 3 | 1 + | Y

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

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA; BCC10** FWP SWAP: **SGCN3** PIF: **3**

**Delineation Criteria** Observations with evidence of breeding activity buffered by a minimum distance of 300 meters in order to be conservative about encompassing the courtship and foraging distance from nesting areas and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 28, 2022)

**Predicted Models:** M 40% Moderate (inductive), L 20% Low (inductive)

**M - Long-legged Myotis** *(Myotis volans)* SOC | 2 | 1 + | Y

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

Species of Concern - Native Species Global: **G4G5** State: **S3**

**Delineation Criteria** Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a minimum distance of 2,000 meters in order to encompass the average distances traveled from capture locations to roosts in Washington, Oregon, and in the Black Hills of South Dakota and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. When cave locations are involved, point observations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 2,000 meters and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Jul 20, 2022)

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

**B - Bald Eagle** *(Haliaeetus leucocephalus)* SSS | 6 | 34 | Y

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

Special Status Species - Native Species Global: **G5** State: **S4** USFWS: **BGEPA; MBTA** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)** BLM: **SENSITIVE** PIF: **2**

**Delineation Criteria** Confirmed nesting area buffered by a minimum distance of 2,000 meters in order to be conservative about encompassing the breeding territory and area commonly used for renesting. Only nesting observations with a locational uncertainty of 1,000 meters or less will be used to delineate a nesting area. (Last Updated: Jan 13, 2023)

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

**B - Evening Grosbeak** *(Coccothraustes vespertinus)* SOC | 12 | 4 + | Y | W M

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

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA; BCC10** FWP SWAP: **SGCN3**

**Delineation Criteria** Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 1,000 meters in order to encompass the maximum foraging distance from nests reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jan 12, 2023)

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

**B - Great Blue Heron** *(Ardea herodias)* SOC | 7 | 10 | Y S | M

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

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3**

**Delineation Criteria** Confirmed nesting area buffered by a minimum distance of 6,500 meters in order to be conservative about encompassing the areas commonly used for foraging near the breeding colony and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jan 10, 2023)

**Predicted Models:** L 100% Low (inductive)

**M - Little Brown Myotis** *(Myotis lucifugus)* SOC | 1 | + | Y

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

Species of Concern - Native Species Global: **G3G4** State: **S3** FWP SWAP: **SGCN3**

**Delineation Criteria** Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, or definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a distance of 1,600 meters in order to encompass the greater than 1,500 meters foraging distance reported for the species in New Brunswick, Canada and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. When cave locations are involved, point observations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 1,600 meters and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Dec 22, 2022)

**Predicted Models:** L 60% Low (inductive)

**M - Long-eared Myotis** *(Myotis evotis)* SOC | 4 | + | Y

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

Species of Concern - Native Species Global: **G5** State: **S3**

**Delineation Criteria** Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a minimum distance of 1,000 meters in order to encompass the average distances traveled from capture locations to roosts and between roosts in western Montana, Alberta, and Oregon and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. When cave locations are involved, point observations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 1,000 meters and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Jul 20, 2022)

**Predicted Models:** L 60% Low (inductive)

**B - Pileated Woodpecker** *(Dryocopus pileatus)* SOC | 3 | Y

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

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **2**

**Delineation Criteria** Observations with evidence of breeding activity buffered by a minimum distance of 1,500 meters in order to be conservative about encompassing home ranges and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jan 13, 2023)

**Predicted Models:** L 60% Low (inductive)

**M - Townsend's Big-eared Bat** *(Corynorhinus townsendii)* SOC | 2 | + | Not Assessed | Y

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

**Delineation Criteria** Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a distance of 4,500 meters in order to encompass the 95% confidence interval for nightly foraging distance reported for the species in California and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. When cave locations are involved, point observations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 4,500 meters and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Dec 22, 2022)

**I - Oxyloma nuttallianum** *(Oblique Ambersnail)* SOC | 1 | + | Not Assessed | Y

**View in Field Guide** **View Range Maps**

**Species of Concern - Native Species** Global: **G2G4** State: **S2**

**Delineation Criteria** Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 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: Jun 22, 2022)

**O - Bat Roost (Non-Cave)** *(Bat Roost (Non-Cave))* IAH | 9 | Not Assessed

**View in Field Guide**

**Important Animal Habitat - Native Species** Global: **GNR** State: **SNR**

**Delineation Criteria** Confirmed area of occupancy based on the documented presence of adults or juveniles of any bat species at non-cave natural roost sites (e.g. rock outcrops, trees), below ground human created roost sites (e.g. mines), and above ground human created roost sites (e.g., bridges, buildings). Point observation locations are buffered by a distance of 4,500 meters in order to encompass the 95% confidence interval for nightly foraging distance reported for Townsendâ€™s Big-eared Bat (a resident Montana bat Species of Concern) and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Oct 22, 2019)

MONTANA Natural Heritage Program
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**Legend**

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

**Habitat Icons**
- C Common
- O Occasional

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

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

| Latitude | Longitude |
|---|---|
| 46.22844 | -114.10770 |
| 46.27712 | -114.15478 |

# Native Species

Summarized by: **Hamilton Targeted Development** *(Custom Area of Interest)*
**All Species** (not filtered by Status)

# Other Observed Species

| | USFWS Sec7 | # Obs | Predicted Model | Range |
|---|---|---|---|---|
| **B - Rufous Hummingbird** *(Selasphorus rufus)* PSOC | | 5 | | S M |
| View in Field Guide · View Predicted Models · View Range Maps<br>Potential Species of Concern - Native Species Global: **G4** State: **S4B** USFWS: **MBTA; BCC10** PIF: **3**<br>**Predicted Models:** O 20% Optimal (inductive), M 80% Moderate (inductive) | | | | |
| **B - Yellow-billed Cuckoo** *(Coccyzus americanus)* SOC | 7 | + | | S M |
| View in Field Guide · View Predicted Models · View Range Maps<br>Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **PS: LT; MBTA** BLM: **THREATENED** FWP SWAP: **SGCN3, SGIN** PIF: **2**<br>**Predicted Models:** M 100% Moderate (inductive) | | | | |
| **B - Hooded Merganser** *(Lophodytes cucullatus)* PSOC | | 2 + | | Y M |
| View in Field Guide · View Predicted Models · View Range Maps<br>Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **2**<br>**Predicted Models:** M 80% Moderate (inductive), L 20% Low (inductive) | | | | |
| **M - North American Porcupine** *(Erethizon dorsatum)* PSOC | | + | | Y |
| View in Field Guide · View Predicted Models · View Range Maps<br>Potential Species of Concern - Native Species Global: **G5** State: **S3S4** FWP SWAP: **SGIN**<br>**Predicted Models:** M 40% Moderate (inductive), L 60% Low (inductive) | | | | |
| **B - Western Screech-Owl** *(Megascops kennicottii)* PSOC | | + | | Y |
| View in Field Guide · View Predicted Models · View Range Maps<br>Potential Species of Concern - Native Species Global: **G4G5** State: **S3S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3**<br>**Predicted Models:** M 20% Moderate (inductive), L 80% Low (inductive) | | | | |
| **A - Western Toad** *(Anaxyrus boreas)* SOC | | 1 + | | Y |
| View in Field Guide · View Predicted Models · View Range Maps<br>Species of Concern - Native Species Global: **G4** State: **S2** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN2**<br>**Predicted Models:** M 20% Moderate (inductive), L 80% Low (inductive) | | | | |
| **M - Idaho Pocket Gopher** *(Thomomys idahoensis)* PSOC | | + | | Y |
| View in Field Guide · View Predicted Models · View Range Maps<br>Potential Species of Concern - Native Species Global: **G4** State: **S2S4** FWP SWAP: **SGIN**<br>**Predicted Models:** L 100% Low (inductive) | | | | |
| **M - Silver-haired Bat** *(Lasionycteris noctivagans)* PSOC | | + | | Y |
| View in Field Guide · View Predicted Models · View Range Maps<br>Potential Species of Concern - Native Species Global: **G3G4** State: **S4**<br>**Predicted Models:** L 80% Low (inductive) | | | | |
| **B - Short-eared Owl** *(Asio flammeus)* PSOC | | + | | Y |
| View in Field Guide · View Predicted Models · View Range Maps<br>Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA; BCC11; BCC17** PIF: **3**<br>**Predicted Models:** L 60% Low (inductive) | | | | |
| **B - Golden Eagle** *(Aquila chrysaetos)* SOC | | + | Not Assessed | Y |
| View in Field Guide · View Range Maps<br>Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **BGEPA; MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** | | | | |
| **B - Ferruginous Hawk** *(Buteo regalis)* SOC | | 1 | Not Assessed | M |
| View in Field Guide · View Range Maps<br>Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2** | | | | |
| **B - Clark's Nutcracker** *(Nucifraga columbiana)* SOC | | 2 + | Not Assessed | Y |
| View in Field Guide · View Range Maps<br>Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** USFS: **Species of Conservation Concern in Forests (FLAT)** FWP SWAP: **SGCN3** PIF: **3** | | | | |
| **B - Great Gray Owl** *(Strix nebulosa)* SOC | | + | Not Assessed | Y |
| View in Field Guide · View Range Maps<br>Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN** PIF: **3** | | | | |
| **M - Fisher** *(Pekania pennanti)* SOC | | + | Not Assessed | Y |
| View in Field Guide · View Range Maps<br>Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN3** | | | | |
| **M - Canada Lynx** *(Lynx canadensis)* SOC | 7 | + | Not Assessed | Y |
| View in Field Guide · View Range Maps<br>Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **LT; CH** BLM: **THREATENED** FWP SWAP: **SGCN3** | | | | |
| **B - Brown Creeper** *(Certhia americana)* SOC | | 2 | Not Assessed | Y |

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **1**

**B - Pacific Wren** *(Troglodytes pacificus)* SOC — 1 + — Not Assessed — Y

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **2**

**B - Northern Goshawk** *(Accipiter gentilis)* SOC — 1 + — Not Assessed — Y — W M

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **2**

**B - Flammulated Owl** *(Psiloscops flammeolus)* SOC — + — Not Assessed — S — M

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC10** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT, LOLO) Species of Conservation Concern in Forests (FLAT, HLC)** BLM: **SENSITIVE**
FWP SWAP: **SGCN3** PIF: **1**

**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**

MONTANA Natural Heritage Program
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**Legend**

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

| Latitude | Longitude |
|---|---|
| 46.22844 | -114.10770 |
| 46.27712 | -114.15478 |

# Native Species

Summarized by: **Hamilton Targeted Development** *(Custom Area of Interest)*
**All Species** (not filtered by Status)

# Other Potential Species

| | USFWS Sec7 | Predicted Model | Range |
|---|---|---|---|
| **V - Carex scoparia** *(Pointed Broom Sedge)* SOC | | | Y |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| Species of Concern - Native Species Global: **G5** State: **S1S2** Plant Threat Score: **No Known Threats** | | | |
| **Predicted Models:** O 60% Optimal (inductive), M 40% Moderate (inductive) | | | |
| **M - Western Spotted Skunk** *(Spilogale gracilis)* PSOC | | | Y |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| Potential Species of Concern - Native Species Global: **G5** State: **SU** FWP SWAP: **SGIN** | | | |
| **Predicted Models:** M 100% Moderate (inductive) | | | |
| **V - Utricularia intermedia** *(Flatleaf Bladderwort)* SOC | | | Y |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| Species of Concern - Native Species Global: **G5** State: **S2** USFS: **Sensitive - Known in Forests (KOOT)** Plant Threat Score: **No Known Threats** | | | |
| **Predicted Models:** M 100% Moderate (inductive) | | | |
| **B - Broad-tailed Hummingbird** *(Selasphorus platycercus)* PSOC | | | S M |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA; BCC10** FWP SWAP: **SGIN** | | | |
| **Predicted Models:** M 40% Moderate (inductive), L 60% Low (inductive) | | | |
| **V - Impatiens aurella** *(Pale-yellow Jewel-weed)* SOC | | | Y |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| Species of Concern - Native Species Global: **G4** State: **S3** Plant Threat Score: **No Known Threats** | | | |
| **Predicted Models:** M 40% Moderate (inductive), L 60% Low (inductive) | | | |
| **M - Western Pygmy Shrew** *(Sorex eximius)* SOC | | | Y |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| Species of Concern - Native Species Global: **G4** State: **S3** FWP SWAP: **SGCN3** | | | |
| **Predicted Models:** M 40% Moderate (inductive), L 40% Low (inductive) | | | |
| **V - Juncus covillei** *(Coville's Rush)* SOC | | | Y |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| Species of Concern - Native Species Global: **G5** State: **S2S3** Plant Threat Score: **No Known Threats** | | | |
| **Predicted Models:** M 40% Moderate (inductive), L 20% Low (inductive) | | | |
| **R - Western Skink** *(Plestiodon skiltonianus)* SOC | | | Y |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| Species of Concern - Native Species Global: **G5** State: **S3** FWP SWAP: **SGCN3, SGIN** | | | |
| **Predicted Models:** M 20% Moderate (inductive), L 80% Low (inductive) | | | |
| **V - Erigeron linearis** *(Linear-leaf Fleabane)* SOC | | | Y |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| Species of Concern - Native Species Global: **G5** State: **S2** Plant Threat Score: **Low** CCVI: **Less Vulnerable** | | | |
| **Predicted Models:** M 20% Moderate (inductive), L 80% Low (inductive) | | | |
| **V - Eleocharis rostellata** *(Beaked Spikerush)* SOC | | | Y |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Species of Conservation Concern in Forests (CG, FLAT, HLC)** Plant Threat Score: **Unknown** CCVI: **Less Vulnerable** | | | |
| **Predicted Models:** M 20% Moderate (inductive), L 60% Low (inductive) | | | |
| **V - Dichanthelium acuminatum** *(Panic Grass)* SOC | | | Y |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| Species of Concern - Native Species Global: **G5** State: **S2S3** Plant Threat Score: **Unknown** | | | |
| **Predicted Models:** M 20% Moderate (inductive), L 40% Low (inductive) | | | |
| **V - Centunculus minimus** *(Chaffweed)* SOC | | | Y |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| Species of Concern - Native Species Global: **G5** State: **S2** Plant Threat Score: **No Known Threats** | | | |
| **Predicted Models:** M 20% Moderate (inductive), L 20% Low (inductive) | | | |
| **M - Hoary Bat** *(Lasiurus cinereus)* SOC | | | S M |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| Species of Concern - Native Species Global: **G3G4** State: **S3B** BLM: **SENSITIVE** FWP SWAP: **SGCN3** | | | |
| **Predicted Models:** L 100% Low (inductive) | | | |
| **B - Common Poorwill** *(Phalaenoptilus nuttallii)* PSOC | | | S M |

View in Field Guide View Predicted Models View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3**
**Predicted Models:** L 100% Low (inductive)

**R - Northern Alligator Lizard** *(Elgaria coerulea)* SOC Y

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** FWP SWAP: **SGCN3, SGIN**
**Predicted Models:** L 100% Low (inductive)

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

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**
**Predicted Models:** L 100% Low (inductive)

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

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2S3** Plant Threat Score: **Low**
**Predicted Models:** L 100% Low (inductive)

**V - Stellaria crassifolia** *(Fleshy Stitchwort)* SOC Y

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** Plant Threat Score: **No Known Threats**
**Predicted Models:** L 100% Low (inductive)

**B - Meesia triquetra** *(Meesia Moss)* SOC Y

View in Field Guide View Predicted Models View Range Maps
USFS: **Sensitive - Known in Forests (BRT, KOOT)**
**Sensitive - Suspected in Forests (LOLO)**
Species of Concern - Native Species Global: **G5** State: **S2** **Species of Conservation Concern in Forests (CG, FLAT)**
**Predicted Models:** L 100% Low (inductive)

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

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC11** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
**Predicted Models:** L 80% Low (inductive)

**B - Barrow's Goldeneye** *(Bucephala islandica)* PSOC Y W M

View in Field Guide View Predicted Models View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **2**
**Predicted Models:** L 60% Low (inductive)

**B - Black-crowned Night-Heron** *(Nycticorax nycticorax)* SOC S M

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**
**Predicted Models:** L 60% Low (inductive)

**M - Fringed Myotis** *(Myotis thysanodes)* SOC Y

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**
**Predicted Models:** L 40% Low (inductive)

**I - Rhyacophila betteni** *(A Caddisfly)* SSS Y

View in Field Guide View Predicted Models View Range Maps
Special Status Species - Native Species Global: **G2G4** State: **S3S4**
**Predicted Models:** L 40% Low (inductive)

**B - Loggerhead Shrike** *(Lanius ludovicianus)* SOC Not Assessed M

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

**M - Preble's Shrew** *(Sorex preblei)* SOC Not Assessed Y

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** FWP SWAP: **SGCN3**

**M - Yuma Myotis** *(Myotis yumanensis)* SOC Not Assessed Y

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** FWP SWAP: **SGIN**

**M - Grizzly Bear** *(Ursus arctos)* SOC 7 Not Assessed Y H

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2S3** USFWS: **LT** BLM: **THREATENED** FWP SWAP: **SGCN2-3**

**B - Sharp-tailed Grouse** *(Tympanuchus phasianellus)* SOC Not Assessed H

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G5** State: **SX,S4** FWP SWAP: **SGCN1** PIF: **2**

**M - Bison** *(Bos bison)* SOC Not Assessed H

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2** FWP SWAP: **SGCN2**

**V - Athysanus pusillus** *(Sandweed)* SOC Not Assessed Y

View in Field Guide View Range Maps
USFS: **Sensitive - Known in Forests (BRT)**
Species of Concern - Native Species Global: **G5** State: **S1S2** **Sensitive - Suspected in Forests (LOLO)** Plant Threat Score: **High** CCVI: **Highly Vulnerable**

**V - Castilleja covilleana** *(Coville Indian Paintbrush)* SOC Not Assessed Y

View in Field Guide View Range Maps

Species of Concern - Native Species Global: **G3G4** State: **S3** USFS: **Sensitive - Known in Forests (BRT)** **Sensitive - Suspected in Forests (BD)** Plant Threat Score: **Low** CCVI: **Moderately Vulnerable**

**V - Penstemon lemhiensis** *(Lemhi Beardtongue)* **SOC** Not Assessed Y

View in Field Guide View Range Maps

Species of Concern - Native Species Global: **G3** State: **S3** USFS: **Sensitive - Known in Forests (BD, BRT)** BLM: **SENSITIVE** Plant Threat Score: **High - Medium** CCVI: **Moderately Vulnerable**

**V - Trifolium gymnocarpon** *(Hollyleaf Clover)* **SOC** Not Assessed Y

View in Field Guide View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2** USFS: **Sensitive - Known in Forests (BRT, LOLO)** **Sensitive - Suspected in Forests (BD)** Plant Threat Score: **Medium - Low**

**B - Black-and-white Warbler** *(Mniotilta varia)* **PSOC** Not Assessed M

View in Field Guide View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA**

**B - White-faced Ibis** *(Plegadis chihi)* **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**

**I - Euphydryas gillettii** *(Gillette's Checkerspot)* **SOC** Not Assessed Y

View in Field Guide View Range Maps

Species of Concern - Native Species Global: **G3** State: **S2**

**M - Northern Bog Lemming** *(Synaptomys borealis)* **SOC** Not Assessed Y

View in Field Guide View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)** FWP SWAP: **SGCN2, SGIN**

**B - Franklin's Gull** *(Leucophaeus pipixcan)* **SOC** Not Assessed M

View in Field Guide View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

**M - North American Water Vole** *(Microtus richardsoni)* **PSOC** Not Assessed Y

View in Field Guide View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S4**

**I - Aeshna constricta** *(Lance-tipped Darner)* **PSOC** Not Assessed Y

View in Field Guide View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S1S3**

**I - Aeshna eremita** *(Lake Darner)* **PSOC** Not Assessed Y S W

View in Field Guide View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3S4**

**I - Aeshna subarctica** *(Subarctic Darner)* **SOC** Not Assessed Y

View in Field Guide View Range Maps

Species of Concern - Native Species Global: **G5** State: **S1S2**

**I - Aeshna tuberculifera** *(Black-tipped Darner)* **PSOC** Not Assessed Y

View in Field Guide View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S2S4**

**I - Argia alberta** *(Paiute Dancer)* **PSOC** Not Assessed Y

View in Field Guide View Range Maps

Potential Species of Concern - Native Species Global: **G4** State: **S2S3**

**I - Leucorrhinia glacialis** *(Crimson-ringed Whiteface)* **PSOC** Not Assessed Y

View in Field Guide View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3**

**I - Ophiogomphus occidentis** *(Sinuous Snaketail)* **PSOC** Not Assessed Y

View in Field Guide View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S2S4**

**I - Somatochlora hudsonica** *(Hudsonian Emerald)* **PSOC** Not Assessed Y

View in Field Guide View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S2S4**

**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**

**I - Argia vivida** *(Vivid Dancer)* **PSOC** Not Assessed Y

View in Field Guide View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3S5**

**M - Wolverine** *(Gulo gulo)* **SOC** 7 Not Assessed Y

View in Field Guide View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

**B - Boreal Owl** *(Aegolius funereus)* **PSOC** Not Assessed Y

View in Field Guide View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3**

**I - Colias gigantea** *(Giant Sulphur)* **PSOC** Not Assessed Y

View in Field Guide View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3**

**I - Aeshna juncea** *(Sedge Darner)* PSOC — Not Assessed Y

View in Field Guide View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S5**

**I - Sympetrum madidum** *(Red-veined Meadowhawk)* PSOC — Not Assessed Y

View in Field Guide View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S3**

**B - Harlequin Duck** *(Histrionicus histrionicus)* SOC — Not Assessed S M

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2B** USFWS: **MBTA** USFS: **Sensitive - Known in Forests (BD, KOOT, LOLO)** FWP SWAP: **SGCN2** PIF: **1**

**M - Hoary Marmot** *(Marmota caligata)* PSOC — Not Assessed Y

View in Field Guide View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4** FWP SWAP: **SGIN**

**B - Black-backed Woodpecker** *(Picoides arcticus)* SOC — Not Assessed Y

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)** BLM: **SENSITIVE**
FWP SWAP: **SGCN3** PIF: **1**

**B - Gray-crowned Rosy-Finch** *(Leucosticte tephrocotis)* SOC — Not Assessed Y WM

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** USFWS: **MBTA** FWP SWAP: **SGCN2, SGIN**

**I - Aeshna sitchensis** *(Zigzag Darner)* PSOC — Not Assessed Y

View in Field Guide View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S3**

**I - Erebia discoidalis** *(Red-disked Alpine)* PSOC — Not Assessed Y

View in Field Guide View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S5**

**I - Polygonia progne** *(Gray Comma)* SOC — Not Assessed Y

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2**

**I - Somatochlora semicircularis** *(Mountain Emerald)* PSOC — Not Assessed Y

View in Field Guide View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S5**

**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 - 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 - Ranunculus hyperboreus** *(High Northern Buttercup)* PSOC — Not Assessed Y

View in Field Guide View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4**

**V - Ranunculus orthorhynchus** *(Straightbeak Buttercup)* SOC — Not Assessed Y

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G5** State: **S1S2** Plant Threat Score: **Low**

**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 - Rotala ramosior** *(Toothcup)* 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** CCVI: **Highly Vulnerable**

**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**

**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 - 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 - Northern Hawk Owl** *(Surnia ulula)* SOC — Not Assessed WM

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3, SGIN**

**B - Tennessee Warbler** *(Leiothlypis peregrina)* PSOC — Not Assessed M

View in Field Guide View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4B** USFWS: **MBTA**

**I - Somatochlora albicincta** *(Ringed Emerald)* PSOC — Not Assessed Y

View in Field Guide View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S1S3**

**I - Somatochlora minor** *(Ocellated Emerald)* PSOC — Not Assessed Y

View in Field Guide View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S4**

**A - Northern Leopard Frog** *(Lithobates pipiens)* SOC — Not Assessed H

View in Field Guide View Range Maps
USFS: **Sensitive - Known in Forests (KOOT)**
Species of Concern - Native Species Global: **G5** State: **S1,S4** **Sensitive - Suspected in Forests (BRT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN1**

**I - Libellula saturata** *(Flame Skimmer)* PSOC — Not Assessed Y

View in Field Guide View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S4**

**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 - 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**

**I - Argia emma** *(Emma's Dancer)* PSOC — Not Assessed Y

View in Field Guide View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S5**

**I - Enallagma clausum** *(Alkali Bluet)* PSOC — Not Assessed Y

View in Field Guide View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S4**

**I - Ladona julia** *(Chalk-fronted Corporal)* PSOC — Not Assessed Y

View in Field Guide View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4**

**I - Rhionaeschna californica** *(California Darner)* PSOC — Not Assessed Y

View in Field Guide View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S5**

**I - Rhionaeschna multicolor** *(Blue-eyed Darner)* PSOC — Not Assessed Y

View in Field Guide View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S4**

**V - Calamagrostis tweedyi** *(Cascade reedgrass)* SOC — Not Assessed Y

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G3** State: **S3** Plant Threat Score: **No Known Threats** CCVI: **Less Vulnerable**

**V - Collomia debilis var. camporum** *(Alpine Collomia)* SOC — Not Assessed Y

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G5T2** State: **S1S2** Plant Threat Score: **Unknown** CCVI: **Highly Vulnerable**

**V - Satureja douglasii** *(Yerba Buena)* SOC — Not Assessed Y

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

**B - Black Swift** *(Cypseloides niger)* SOC — Not Assessed S M

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G4** State: **S1B** USFWS: **MBTA; BCC10** USFS: **Species of Conservation Concern in Forests (FLAT)**
FWP SWAP: **SGCN1, SGIN** 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 - 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**

Latitude Longitude
46.22844 -114.10770
46.27712 -114.15478

# Structured Surveys

## Summarized by: **Hamilton Targeted Development** *(Custom Area of Interest)*

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.

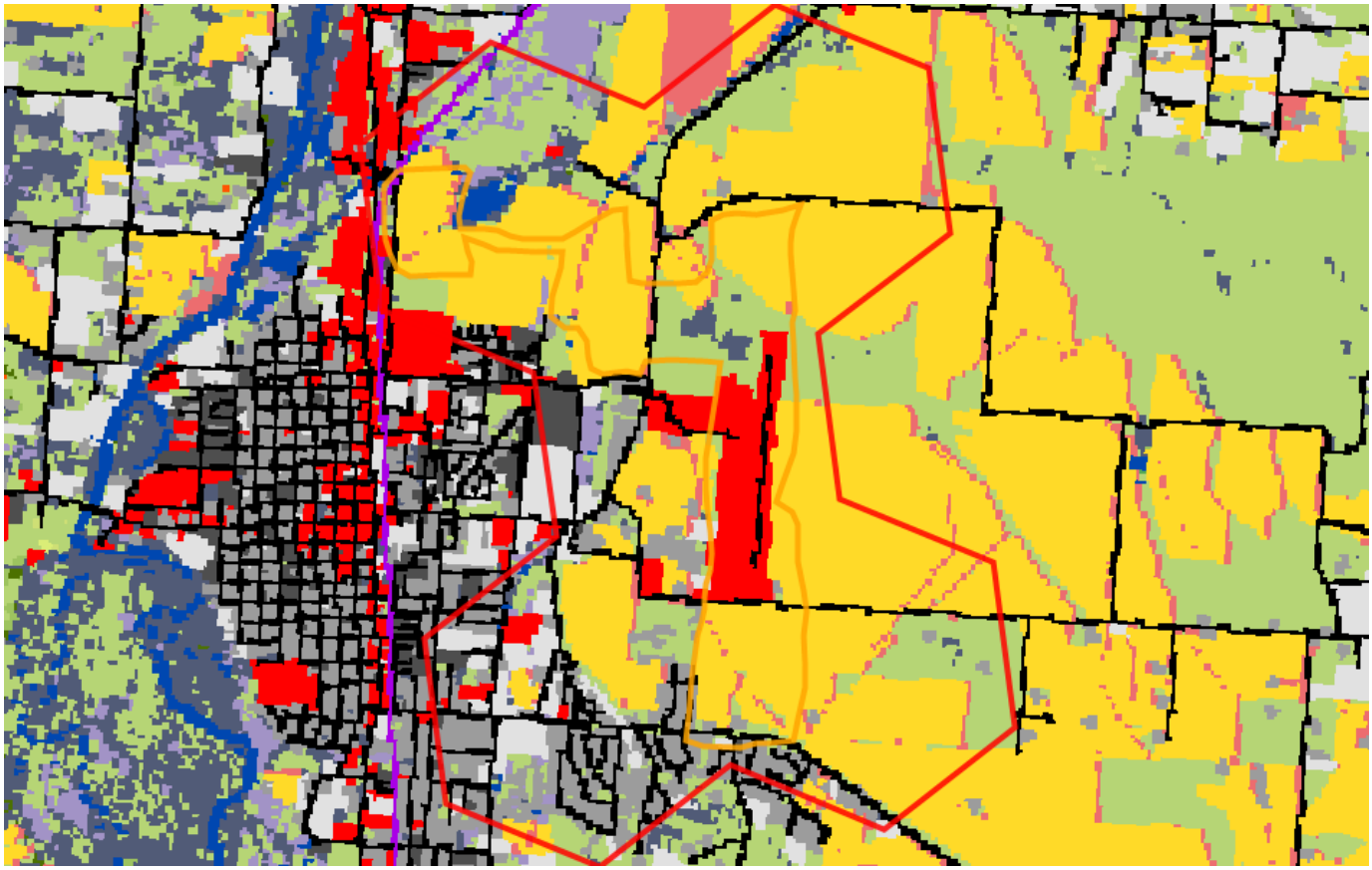
Within the report area you have requested, structured surveys are summarized by the number of each type of structured survey protocol that has been conducted, the number of species detections/observations resulting from these surveys, and the most recent year a survey has been conducted.

| | | | |
|---|---|---|---|
| **B-Bald Eagle Nest** *(Bald Eagle Nest Survey)* | **Survey Count**: 17 | **Obs Count**: 12 | **Recent Survey**: 2015 |
| **B-Hummingbird Trapping** *(Hummingbird Trapping Survey)* | **Survey Count**: 3 | **Obs Count**: 6 | **Recent Survey**: 2010 |
| **B-Raptor nest** *(Raptor Nest Survey)* | **Survey Count**: 1 | **Obs Count**: 1 | **Recent Survey**: 2009 |
| **E-Kicknet** *(Kicknet Collection Survey for Invasive Mussels and Snails)* | **Survey Count**: 2 | **Obs Count**: | **Recent Survey**: 2021 |
| **E-Noxious Weed, Road-based** *(Noxious Weed Road-based Visual Surveys)* | **Survey Count**: 6 | **Obs Count**: 18 | **Recent Survey**: 2003 |
| **E-Visual Aquatic Invasives** *(Visual Encounter Surveys for Aquatic Invasives on Shorelines or Underwater)* | **Survey Count**: 2 | **Obs Count**: 1 | **Recent Survey**: 2020 |
| **F-Fish Electrofishing** *(Fish Electrofishing Surveys)* | **Survey Count**: 3 | **Obs Count**: 17 | **Recent Survey**: 2011 |
| **M-Bat Roost (Active Season)** *(Bat Roost (Active Season) Survey)* | **Survey Count**: 2 | **Obs Count**: 1 | **Recent Survey**: 2014 |

Latitude Longitude
46.22844 -114.10770
46.27712 -114.15478

# Land Cover

Summarized by: **Hamilton Targeted Development** *(Custom Area of Interest)*



**46% (*1,471 Acres*)**

**Human Land Use**
**Agriculture**
**Cultivated Crops**

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.

**17% (*547 Acres*)**

**Grassland Systems**
**Montane Grassland**
**Rocky Mountain Lower Montane, Foothill, and Valley Grassland**

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.

**9% (*299 Acres*)**

**Human Land Use**
**Developed**
**Low Intensity Residential**

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

No Image

**7% (*237 Acres*)**

**Human Land Use**
**Developed**
**Other Roads**

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

No Image

6% (*184 Acres*)

**Human Land Use**
**Developed**

**Commercial / Industrial**

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

3% (*110 Acres*)

**Human Land Use**
**Developed**

**Developed, Open Space**

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

3% (*103 Acres*)

**Recently Disturbed or Modified**
**Introduced Vegetation**

**Introduced Upland Vegetation - Annual and Biennial Forbland**

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

2% (*64 Acres*)

**Wetland and Riparian Systems**
**Floodplain and Riparian**

**Northern Rocky Mountain Lower Montane Riparian Woodland and Shrubland**

This ecological system is found throughout the Rocky Mountain and Colorado Plateau regions. In Montana, sites occur at elevations of 609-1,219 meters (2,000-4,000 feet) west of the Continental Divide. East of the Continental Divide, this system ranges up to 1,676 meters (5,500 feet). It generally comprises a mosaic of multiple communities that are tree-dominated with a diverse shrub component. It is dependent on a natural hydrologic regime with annual to episodic flooding, so it is usually found within the flood zone of rivers, on islands, sand or cobble bars, and along streambanks. It can form large, wide occurrences on mid-channel islands in larger rivers, or narrow bands on small, rocky canyon tributaries and well-drained benches. It is also typically found in backwater channels and other perennially wet but less scoured sites, such as floodplains, swales and irrigation ditches. In some locations, occurrences extend into moderately high intermountain basins where the adjacent vegetation is sage steppe. Black cottonwood (*Populus balsamifera* ssp. *trichocarpa*) is the key indicator species. Other dominant trees may include boxelder maple (*Acer negundo*), narrowleaf cottonwood (*Populus angustifolia*), eastern cottonwood (*Populus deltoides*), Douglas-fir (*Pseudotsuga menziesii*), peachleaf willow (*Salix amygdaloides*), or Rocky Mountain juniper (*Juniperus scopulorum*). Dominant shrubs include Rocky Mountain maple (*Acer glabrum*), thinleaf alder (*Alnus incana*), river birch (*Betula occidentalis*), redoiser dogwood (*Cornus sericea*), hawthorne (*Crataegus* species), chokecherry (*Prunus virginiana*), skunkbush sumac (*Rhus trilobata*), willows (*Salix* species), rose (*Rosa* species), silver buffaloberry (*Shepherdia argentea*), or snowberry (*Symphoricarpos* species).

2% (*59 Acres*)

**Wetland and Riparian Systems**
**Wet meadow**

**Alpine-Montane Wet Meadow**

These moderate-to-high-elevation systems are found throughout the Rocky Mountains, dominated by herbaceous species found on wetter sites with very low-velocity surface and subsurface flows. Occurrences range in elevation from montane to alpine at 1,000 to 3,353 meters (3,280-11,000 feet). This system typically occurs in cold, moist basins, seeps and alluvial terraces of headwater streams or as a narrow strip adjacent to alpine lakes (Hansen et al., 1996). Wet meadows are typically found on flat areas or gentle slopes, but may also occur on sub-irrigated sites with slopes up to 10 percent. In alpine regions, sites are typically small depressions located below late-melting snow patches or on snowbeds. The growing season may only last for one to two months. Soils of this system may be mineral or organic. In either case, soils show typical hydric soil characteristics, including high organic content and/or low chroma and redoximorphic features. This system often occurs as a mosaic of several plant associations, often dominated by graminoids such as tufted hairgrass (*Deschampsia caespitosa*), and a diversity of montane or alpine sedges such as small-head sedge (*Carex illota*), small-winged sedge (*Carex microptera*), black alpine sedge (*Carex nigricans*), Holmâ€™s Rocky Mountain sedge (*Carex scopulorum*) shortstalk sedge (*Carex podocarpa*) and Paysonâ€™s sedge (*Carex paysonis*). Drummondâ€™s rush (*Juncus drummondii*), Mertenâ€™s rush (*Juncus mertensianus*), and high elevation bluegrasses (*Poa arctica* and *Poa alpina*) are often present. Forbs such as arrow-leaf groundsel (*Senecio triangularis*), slender-sepal marsh marigold (*Caltha leptosepala*), and spreading globeflower (*Trollius laxus*) often form high cover in higher elevation meadows. Wet meadows are associated with snowmelt and are usually not subjected to high disturbance events such as flooding.

**Additional Limited Land Cover**

1% (*39 Acres*) High Intensity Residential

1% (*38 Acres*) Major Roads

1% (*29 Acres*) Open Water

1% (*17 Acres*) Railroad

<1% (*0 Acres*) Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest

MONTANA Natural Heritage Program
A program of the **Montana State Library's Natural Resource Information System**

| Latitude | Longitude |
|---|---|
| 46.22844 | -114.10770 |
| 46.27712 | -114.15478 |

# Wetland and Riparian

Summarized by: **Hamilton Targeted Development** *(Custom Area of Interest)*

## Wetland and Riparian Mapping

Explain

### P - Palustrine

**AB - Aquatic Bed**

*P - Palustrine, AB - Aquatic Bed*
*Wetlands with vegetation growing on or below the water surface for most of the growing season.*

| | | |
|---|---|---|
| F - Semipermanently Flooded | 3 Acres | |
| h - Diked/Impounded | **2 Acres** | PABFh |
| x - Excavated | **1 Acres** | PABFx |
| G - Intermittently Exposed | 15 Acres | |
| x - Excavated | **15 Acres** | PABGx |

**EM - Emergent**

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

| | | |
|---|---|---|
| A - Temporarily Flooded | 5 Acres | |
| (no modifier) | **5 Acres** | PEMA |
| C - Seasonally Flooded | 3 Acres | |
| (no modifier) | **3 Acres** | PEMC |
| F - Semipermanently Flooded | <1 Acres | |
| x - Excavated | **<1 Acres** | PEMFx |

**SS - Scrub-Shrub**

*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.*

| | | |
|---|---|---|
| A - Temporarily Flooded | 2 Acres | |
| (no modifier) | **2 Acres** | PSSA |

### R - Riverine (Rivers)

#### 4 - Intermittent

**SB - Stream Bed**

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

| | | |
|---|---|---|
| C - Seasonally Flooded | 13 Acres | |
| x - Excavated | **13 Acres** | R4SBCx |

### Rp - Riparian

#### 1 - Lotic

**EM - Emergent**
(no modifier) — **<1 Acres** Rp1EM

*Rp - Riparian, 1 - Lotic, EM - Emergent*
*Riparian areas that have erect, rooted herbaceous vegetation during most of the growing season.*

#### 2 - Lentic

**FO - Forested**
(no modifier) — **5 Acres** Rp2FO

*Rp - Riparian, 2 - Lentic, FO - Forested*
*This riparian class has woody vegetation that is greater than 6 meters (20 feet) tall.*

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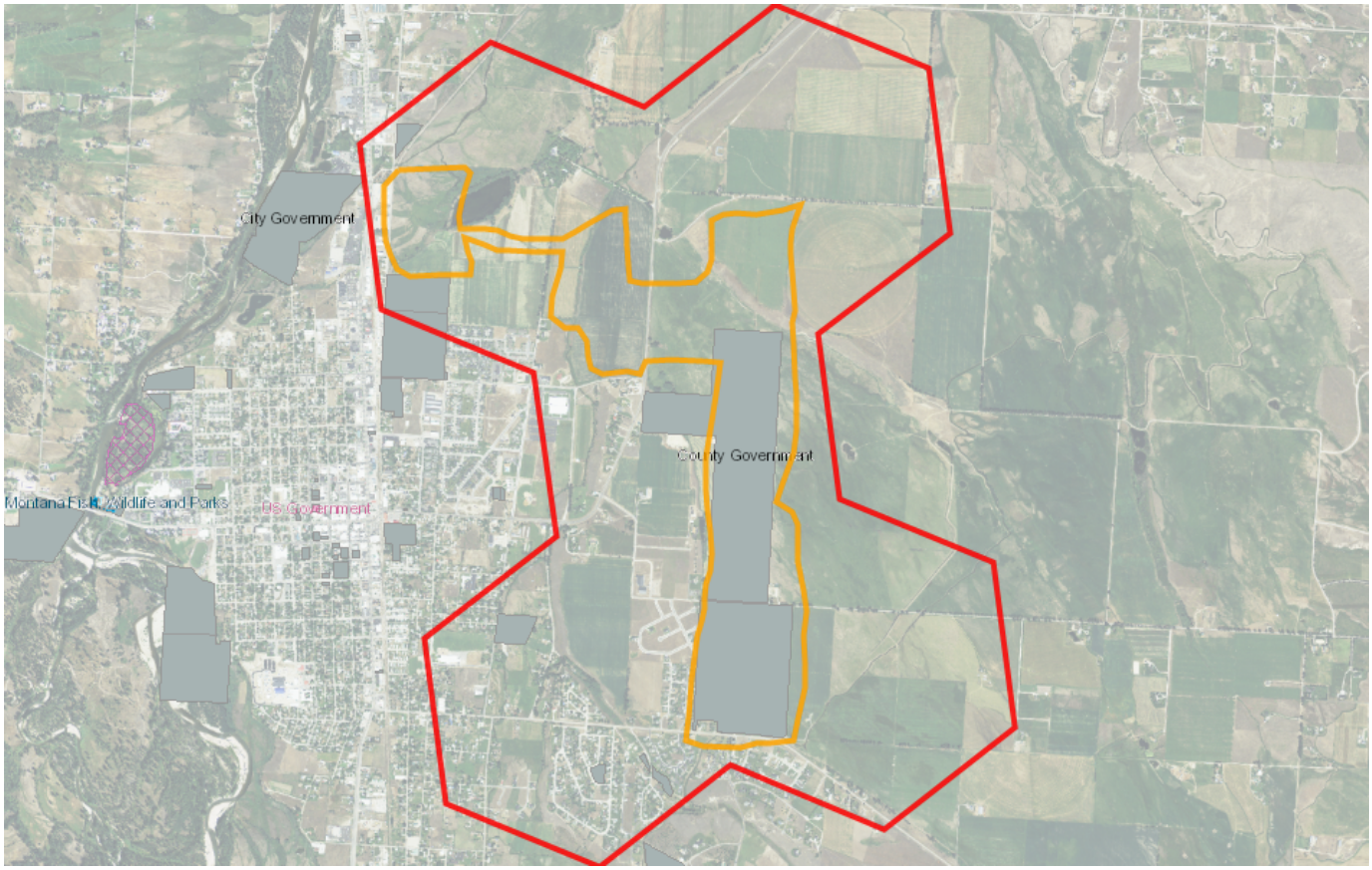
Latitude Longitude
46.22844 -114.10770
46.27712 -114.15478

# Land Management

Summarized by: **Hamilton Targeted Development** *(Custom Area of Interest)*




**Land Management Summary** *Explain*

| | Ownership | Tribal | Easements | Other Boundaries (possible overlap) |
|---|---|---|---|---|
| **Public Lands** | **327 Acres (10%)** | | | |
| Local | 327 Acres (10%) | | | |
| Local Government | 327 Acres (10%) | | | |
| Local Government Owned | 327 Acres (10%) | | | |
| **Private Lands or Unknown Ownership** | **2,870 Acres (90%)** | | | |

MONTANA Natural Heritage Program
A program of the **Montana State Library's Natural Resource Information System**

| Latitude | Longitude |
|---|---|
| 46.22844 | -114.10770 |
| 46.27712 | -114.15478 |

# Biological Reports

## Summarized by: **Hamilton Targeted Development** *(Custom Area of Interest)*

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

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

No Biological Reports were found in the selected area

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**Legend**

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

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|---|---|
| 46.22844 | -114.10770 |
| 46.27712 | -114.15478 |

# Invasive and Pest Species

Summarized by: **Hamilton Targeted Development** *(Custom Area of Interest)*

| | # Obs | Predicted Model | Range |
|---|---|---|---|
| **Aquatic Invasive Species** | | | |
| **V - Iris pseudacorus** *(Yellowflag Iris)* **N2A/AIS** | 1 | | N |
| **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:** O 100% Optimal (inductive) | | | |
| **A - American Bullfrog** *(Lithobates catesbeianus)* **AIS** | + | | N |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| **Aquatic Invasive Species - Non-native Species** Global: **G5** State: **SNA** | | | |
| **Predicted Models:** L 100% Low (inductive) | | | |
| **V - Potamogeton crispus** *(Curly-leaf Pondweed)* **N2B/AIS** | | | N |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| **Noxious Weed: Priority 2B - Aquatic Invasive Species - Non-native Species** Global: **G5** State: **SNA** | | | |
| **Predicted Models:** L 60% Low (inductive) | | | |
| **V - Nymphaea odorata** *(American Water-lily)* **AIS** | | | N |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| **Aquatic Invasive Species - Non-native Species** Global: **G5** State: **SNA** | | | |
| **Predicted Models:** I 40% Suitable (introduced range) (deductive) | | | |
| **Noxious Weeds: Priority 1A** | | | |
| **V - Centaurea solstitialis** *(Yellow Starthistle)* **N1A** | | | N |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| **Noxious Weed: Priority 1A - Non-native Species** Global: **GNR** State: **SNA** | | | |
| **Predicted Models:** O 40% Optimal (inductive), M 60% Moderate (inductive) | | | |
| **V - Isatis tinctoria** *(Dyer's Woad)* **N1A** | | | N |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| **Noxious Weed: Priority 1A - Non-native Species** Global: **GNR** State: **SNA** | | | |
| **Predicted Models:** O 40% Optimal (inductive), M 40% Moderate (inductive), L 20% Low (inductive) | | | |
| **V - Phragmites australis ssp. australis** *(European Common Reed)* **N1A** | | | N |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| **Noxious Weed: Priority 1A - Non-native Species** Global: **G5T5** State: **SNA** | | | |
| **Predicted Models:** L 60% Low (inductive) | | | |
| **V - Taeniatherum caput-medusae** *(Medusahead)* **N1A** | | | N |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| **Noxious Weed: Priority 1A - Non-native Species** Global: **G4G5** State: **SNA** | | | |
| **Predicted Models:** L 40% Low (inductive) | | | |
| **Noxious Weeds: Priority 1B** | | | |
| **V - Echium vulgare** *(Blueweed)* **N1B** | | | N |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| **Noxious Weed: Priority 1B - Non-native Species** Global: **GNR** State: **SNA** | | | |
| **Predicted Models:** O 80% Optimal (inductive), M 20% Moderate (inductive) | | | |
| **V - Lythrum salicaria** *(Purple Loosestrife)* **N1B** | | | N |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| **Noxious Weed: Priority 1B - Non-native Species** Global: **G5** State: **SNA** | | | |
| **Predicted Models:** O 60% Optimal (inductive), M 40% Moderate (inductive) | | | |
| **V - Cytisus scoparius** *(Scotch Broom)* **N1B** | | | N |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| **Noxious Weed: Priority 1B - Non-native Species** Global: **GNR** State: **SNA** | | | |
| **Predicted Models:** M 60% Moderate (inductive), L 40% Low (inductive) | | | |
| **V - Polygonum cuspidatum** *(Japanese Knotweed)* **N1B** | | | N |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| **Noxious Weed: Priority 1B - Non-native Species** Global: **GNRTNR** State: **SNA** | | | |
| **Predicted Models:** M 60% Moderate (inductive), L 40% Low (inductive) | | | |
| **V - Chondrilla juncea** *(Rush Skeletonweed)* **N1B** | | | N |
| **View in Field Guide** **View Predicted Models** **View Range Maps** | | | |
| **Noxious Weed: Priority 1B - Non-native Species** Global: **GNR** State: **SNA** | | | |
| **Predicted Models:** M 40% Moderate (inductive), L 40% Low (inductive) | | | |
| **Noxious Weeds: Priority 2A** | | | |
| **V - Iris pseudacorus** *(Yellowflag Iris)* **N2A/AIS** | 1 | | N |
| **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:** O 100% Optimal (inductive) | | | |

**V - Rhamnus cathartica** *(Common Buckthorn)* N2A

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

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

**Predicted Models:** O 40% Optimal (inductive), M 20% Moderate (inductive), L 20% Low (inductive)

**V - Ranunculus acris** *(Tall Buttercup)* N2A

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

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

**Predicted Models:** O 20% Optimal (inductive), M 40% Moderate (inductive), L 40% Low (inductive)

**V - Hieracium aurantiacum** *(Orange Hawkweed)* N2A

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

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

**Predicted Models:** M 40% Moderate (inductive), L 60% Low (inductive)

**V - Ventenata dubia** *(Ventenata)* N2A

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

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

**Predicted Models:** M 40% Moderate (inductive), L 60% Low (inductive)

**V - Hieracium praealtum** *(Kingdevil Hawkweed)* N2A

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

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

**Predicted Models:** M 20% Moderate (inductive), L 40% Low (inductive)

**V - Hieracium caespitosum** *(Meadow Hawkweed)* N2A

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

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

**Predicted Models:** L 60% Low (inductive)

**Noxious Weeds: Priority 2B**

**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:** O 40% Optimal (inductive), M 40% Moderate (inductive), L 20% 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:** M 80% Moderate (inductive), L 20% Low (inductive)

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

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

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

**Predicted Models:** M 60% Moderate (inductive), L 40% 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:** M 60% Moderate (inductive), L 40% 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:** M 60% Moderate (inductive), L 40% 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:** M 40% Moderate (inductive), L 60% 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:** M 40% Moderate (inductive), L 60% 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:** L 100% 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:** L 100% 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:** L 100% 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:** L 100% Low (inductive)

**V - Lepidium draba** *(Whitetop)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
**Predicted Models:** L 100% Low (inductive)

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

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
**Predicted Models:** L 100% 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:** L 60% Low (inductive)

**V - Potamogeton crispus** *(Curly-leaf Pondweed)* N2B/AIS

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**
**Predicted Models:** L 60% 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:** L 60% Low (inductive)

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

View in Field Guide View Predicted Models View Range Maps
Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**
**Predicted Models:** L 60% Low (inductive)

**Biocontrol Species**

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

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
**Predicted Models:** O 60% Optimal (inductive), M 40% Moderate (inductive)

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

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
**Predicted Models:** M 100% Moderate (inductive)

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

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
**Predicted Models:** M 80% Moderate (inductive), L 20% Low (inductive)

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

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
**Predicted Models:** M 60% Moderate (inductive), L 40% Low (inductive)

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

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
**Predicted Models:** M 40% Moderate (inductive), L 40% Low (inductive)

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

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
**Predicted Models:** L 60% Low (inductive)

# Introduction to Montana Natural Heritage Program



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

## Introduction

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

## Vision

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

## Core Values

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

## Confidentiality

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

## Information Managed

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

# Data Use Terms and Conditions

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

# Suggested Contacts for Natural Resource Management Agencies

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

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

**Montana Fish, Wildlife, and Parks**

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

**Montana Department of Agriculture**
General Contact Information: https://agr.mt.gov/About/Office-Locations/Office-Locations-and-Field-Offices
Noxious Weeds: https://agr.mt.gov/Noxious-Weeds

**Montana Department of Environmental Quality**
Permitting and Operator Assistance for all Environmental Permits: https://deq.mt.gov/Permitting

**Montana Department of Natural Resources and Conservation**
Overview of, and contacts for, licenses and permits for state lands, water, and forested lands:
http://dnrc.mt.gov/licenses-and-permits

Stream Permitting (310 permits) and an overview of various water and stream related permits (e.g., Stream Protection Act 124, Federal Clean Water Act 404, Federal Rivers and Harbors Act Section 10, Short-term Water Quality Standard for Turbidity 318 Authorization, etc.).
http://dnrc.mt.gov/divisions/cardd/conservation-districts/the-310-law

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

**Bureau of Land Management**

Montana Field Office Contacts:


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

**United States Army Corps of Engineers**
Montana Regulatory Office for federal permits related to construction in water and wetlands
https://www.nwo.usace.army.mil/Missions/Regulatory-Program/Montana/ (406) 441-1375

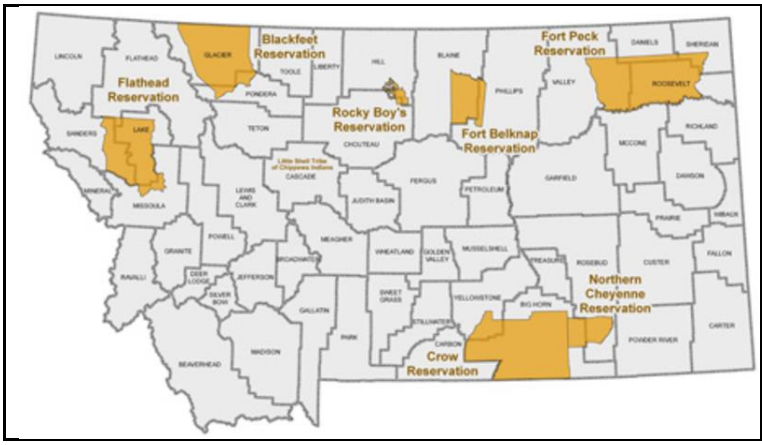
**United States Environmental Protection Agency**
Environmental information, notices, permitting, and contacts https://www.epa.gov/mt
Gateway to state resource locators https://www.envcap.org/srl/index.php

**United States Fish and Wildlife Service**
Information Planning and Conservation (IPAC) website: https://ecos.fws.gov/ipac/
Montana Ecological Services Field Office: https://www.fws.gov/montanafieldoffice/ (406) 449-5225

**United States Forest Service**

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

**Tribal Nations**




[Assiniboine & Gros Ventre Tribes – Fort Belknap Reservation]

[Assiniboine & Sioux Tribes – Fort Peck Reservation]

[Blackfeet Tribe - Blackfeet Reservation]

[Chippewa Creek Tribe - Rocky Boy's Reservation]

[Crow Tribe – Crow Reservation]

[Little Shell Chippewa Tribe]

[Northern Cheyenne Tribe – Northern Cheyenne Reservation]

[Salish & Kootenai Tribes - Flathead Reservation]

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

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

**Invasive Species Management Contacts and Information**

Aquatic Invasive Species

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

Noxious Weeds

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

# Introduction to Native Species

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

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

**Observations**

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

## Species Occurrences

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

### Plant Species Occurrences

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

### Animal Species Occurrences

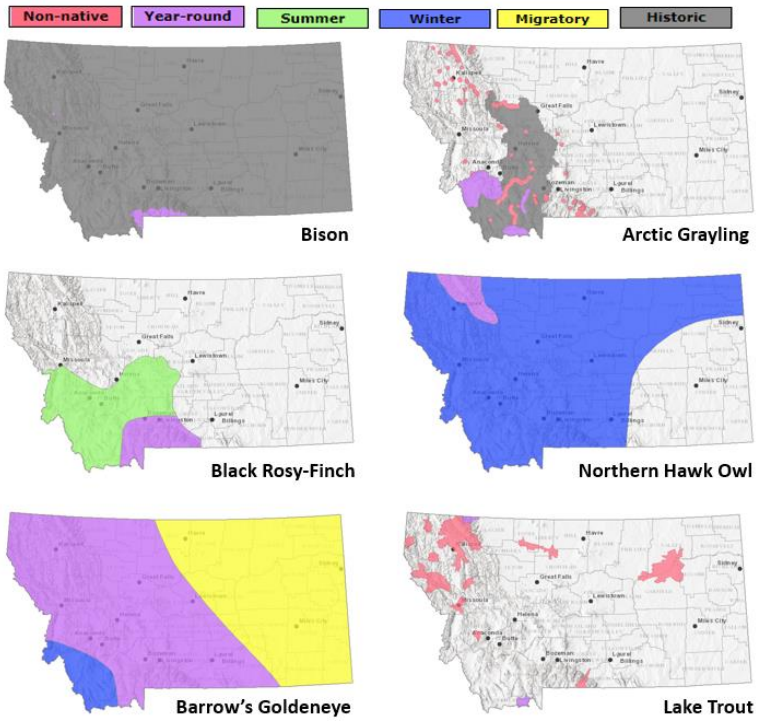
The location of a verified observation or specimen record typically known or assumed to represent a breeding population or a portion of a breeding population. Animal SO's are generally: (1) buffers of terrestrial point observations based on documented species' home range sizes; (2) buffers of stream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

### Other Occurrence Polygons

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

## Geographic Range Polygons

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




## Predicted Suitable Habitat Models

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

## Associated Habitats

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

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

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

# Introduction to Land Cover

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

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

Literature Cited

Anderson, J.R. E.E. Hardy, J.T. Roach, and R.E. Witmer. 1976. A land use and land cover classification system for use with remote sensor data. U.S. Geological Survey Professional Paper 964.

Comer, P., D. Faber-Langendoen, R. Evans, S. Gawler, C. Josse, G. Kittel, S. Menard, M. Pyne, M. Reid, K. Schulz, K. Snow, and J. Teague. 2003. Ecological systems of the United States: A working classification of U.S. terrestrial systems. NatureServe, Arlington, VA.

# Introduction to Wetland and Riparian

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

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

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

See a detailed overview, with examples, of both wetland and riparian classification systems and associated codes

Literature Cited

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service, FWS/OBS-79/31. Washington, D.C. 103pp.

Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, D.C.

U.S. Fish and Wildlife Services. 2009. A system for mapping riparian areas in the western United States. Division of Habitat and Resource Conservation, Branch of Resource and Mapping Support, Arlington, Virginia.

# Introduction to Land Management

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

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

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

Public Lands
Conservation Easements
Private Conservation Lands
Managed Areas

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

# Introduction to Invasive and Pest Species

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

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

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

# Additional Information Resources

- MTNHP Staff Contact Information
- Montana Field Guide
- MTNHP Species of Concern Report - Animals and Plants
- MTNHP Species Status Codes - Explanation
- MTNHP Predicted Suitable Habitat Models (for select Animals and Plants)
- MTNHP Request Information page
- Montana Cadastral
- Montana Code Annotated
- Montana Fisheries Information System
- Montana Fish, Wildlife, and Parks Subdivision Recommendations
- Montana GIS Data Layers
- Montana GIS Data Bundler
- Montana Greater Sage-Grouse Project Submittal Site
- Montana Ground Water Information Center
- Montana Index of Environmental Permits, 21st Edition (2018)
- Montana Environmental Policy Act (MEPA)
- Montana Environmental Policy Act Analysis Resource List
- Laws, Treaties, Regulations, and Agreements on Animals and Plants
- Montana Spatial Data Infrastructure Layers
- Montana State Historic Preservation Office Review and Compliance
- Montana Stream Permitting: a guide for conservation district supervisors and others
- Montana Water Information System
- Montana Web Map Services
- National Environmental Policy Act
- Penalties for Misuse of Fish and Wildlife Location Data (MCA 87-6-222)
- U.S. Fish and Wildlife Service Information for Planning and Consultation (Section 7 Consultation)
- Web Soil Survey Tool

# 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

Ravalli County, Montana


## Local office

Montana Ecological Services Field Office

(406) 449-5225
(406) 449-5339

585 Shephard Way, Suite 1

303 Shephard Way, Suite 1
Helena, MT 59601-6287

# 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[1] 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[2]).

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 |
|---|---|
| Canada Lynx Lynx canadensis<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>https://ecos.fws.gov/ecp/species/3652 | Threatened |
| North American Wolverine Gulo gulo luscus<br>Wherever found<br>No critical habitat has been designated for this species.<br>https://ecos.fws.gov/ecp/species/5123 | Proposed Threatened |

# Birds

| NAME | STATUS |
|---|---|
| Yellow-billed Cuckoo Coccyzus americanus<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>https://ecos.fws.gov/ecp/species/3911 | Threatened |

# Fishes

| NAME | STATUS |
|---|---|
| Bull Trout Salvelinus confluentus<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>https://ecos.fws.gov/ecp/species/8212 | Threatened |

# Insects

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

# 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.

# Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

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-incidental-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 |
|---|---|
| **Bald Eagle** *Haliaeetus leucocephalus*<br>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. | Breeds Jan 1 to Aug 31 |
| **Bobolink** *Dolichonyx oryzivorus*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds May 20 to Jul 31 |
| **Cassin's Finch** *Carpodacus cassinii*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/9462 | Breeds May 15 to Jul 15 |
| **Evening Grosbeak** *Coccothraustes vespertinus*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. | Breeds May 15 to Aug 10 |
| **Golden Eagle** *Aquila chrysaetos*<br>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>https://ecos.fws.gov/ecp/species/1680 | Breeds Jan 1 to Aug 31 |
| **Lewis's Woodpecker** *Melanerpes lewis*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/9408 | Breeds Apr 20 to Sep 30 |
| **Olive-sided Flycatcher** *Contopus cooperi*<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/3914 | Breeds May 20 to Aug 31 |

Rufous Hummingbird selasphorus rufus

Breeds Apr 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/8002

# 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.

**Breeding Season** (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

**Survey Effort** (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

**No Data** (–)
A week is marked as having no data if there were no survey events for that week.

**Survey Timeframe**
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

**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
- PEM1C

PEM1Cx
PEM1Ax

FRESHWATER POND
PABFh

RIVERINE
R3UBFx
R4SBCx
R4SBC

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 tuberficid 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

## Hamilton

**Map image expired. Please run analysis from the main page again and then click 'Save PDF' button.**

Input Coordinates: 46.264805,-114.155324,46.264884,-114.150975,46.262748,-114.150975,46.262432,-114.150060,46.261087,-114.150117,46.261047,-114.135697,46.258792,-114.135526,46.258753,-114.124139,46.243717,-114.124081,46.243756,-114.122823,46.237068,-114.122765,46.237028,-114.129575,46.243677,-114.129575,46.243677,-114.129346,46.243677,-114.129289,46.243677,-114.129231,46.243677,-114.129117,46.243677,-114.129060,46.243677,-114.129002,46.243677,-114.128945,46.243677,-114.128888,46.252620,-114.129575,46.252897,-114.135125,46.256458,-114.134724,46.256537,-114.141419,46.260572,-114.141648,46.260731,-114.150060,46.259662,-114.150174,46.259821,-114.155496,46.264805,-114.155324

| Project Area | 0.71 sq mi |
|---|---|
| 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? | no |
| Within an impaired waterbody? | no |
| Within a waterbody? | no |
| 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? | no |
| Within an airport? | yes |
| 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? | no |
| 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 |

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