Appendix C:

Environmental Scan

ENVIRONMENTAL SCAN

Roosevelt Drive Upgrade Study
MT BSilver Bow 2016(9)
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U.S. Department of Transportation
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ABBREVIATIONS/ACRONYMS

ACS	American Community Survey
BCC	Birds of Conservation Concern
BPSOU	Butte Priority Soils Operable Unit
BGEPA	Bald and Golden Eagle Protection Act
BLM	Bureau of Land Management
CWA	Clean Water Act
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FPPA	Farmland Protection Policy Act
FWP	Fish, Wildlife and Parks
GWIC	Groundwater Information Center
LWCF	Land and Water Conservation Fund Act
MAAQS	Montana Ambient Air Quality Standards
MBTA	Migratory Bird Treaty Act
MDEQ	Montana Department of Environmental Quality
MP	Mile Post
MPDES	Montana Pollutant Discharge Elimination System
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFS	National Forest System
NHP	National Heritage Program
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
SOC	Species of Concern
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

ENVIRONMENTAL SCAN

1.0 INTRODUCTION

The Federal Highway Administration (FHWA), in partnership with Butte-Silver Bow City-County and the United States Forest Service (USFS), is completing a preliminary engineering study for construction alternatives to rehabilitate Roosevelt Drive which accesses the Beaverhead-Deerlodge National Forest. The study, referred to as the *Roosevelt Drive Upgrade Study*, will identify feasible improvement options to enhance recreational access, operations, and safety in the study corridor as well as reduce maintenance concerns based on identified needs.

Roosevelt Drive begins at Montana Highway 2/US Highway 10, approximately two and one-half miles south of Butte, Montana in Silver Bow County. The roadway provides access to the Beaverhead-Deerlodge National Forest, recreational lands, and also offers access to Bureau of Land Management (BLM) lands and private residences.

This *Environmental Scan* provides a planning-level overview of resources and identifies potential constraints and opportunities for the *Roosevelt Drive Upgrade Study*. The scan is not a detailed environmental investigation but is based on readily available environmental information for the study area. If improvement options are forwarded from the feasibility study into project development, an analysis for compliance with the National Environmental Policy Act (NEPA) and other applicable federal and state regulations will be completed as part of the project development process. Information provided in this report is intended to help support a future NEPA compliance process.

1.1 STUDY AREA

The study area is located in Silver Bow County, Montana, approximately 2.5 miles south of Butte. The planning study area encompasses a 4.3-mile section of Roosevelt Drive, starting at mile post (MP) 0.0 and ending at MP 4.3 at the Roosevelt Drive Trailhead. The study area for this *Environmental Scan* is 0.5-miles wide, encompassing a 0.25-mile buffer from the centerline of the roadway along the 4.3-mile study section. The study corridor is shown in **Figure A.1**. The study area encompasses all or part of the following legally described areas in Silver Bow County:

- Township 2 North, Range 7 West, Sections 32 and 34
- Township 1 North, Range 7 West, Sections 3, 4, 5, 8, and 9

1.2 BACKGROUND

Roosevelt Drive provides access to over 73,000 acres of the Beaverhead-Deerlodge National Forest, primarily the Highland Mountains south of Butte. About 40,000 acres of BLM lands are also accessible by Roosevelt Drive. The roadway parallels Blacktail Creek for the first 2.2 miles of the study area. Blacktail Creek originates in the Highland Mountains and is a headwaters tributary to Silver Bow Creek.

In addition to providing access to public lands for many recreational visitors, the corridor serves numerous private residences. The area is highly used by permitted commercial timber, mining, and livestock grazing activities. Residential traffic uses the road year-round. During the winter, Roosevelt Drive is the only ingress/egress road for residents. During the summer, Roosevelt Drive can be accessed from the west by Highland Road and from the south by Fish Creek Road.

The roadway is paved and currently in poor condition. The roadway is narrow in places and has many sharp curves with limited sight distances. Butte-Silver Bow is primarily responsible for maintaining the roadway. Sections of road surrounding Roosevelt Drive which are under Forest Service jurisdiction are maintained annually to provide suitable access for passenger vehicles. The first 2.75 miles of Roosevelt Drive is classified as a minor collector while the last 1.55 miles are classified as a local road.

1.3 Past and Ongoing Planning

The *Beaverhead-Deerlodge National Forest Land and Resource Management Plan*[1] (Forest Plan) and the accompanying *Final Environmental Impact Statement*[2] guide all natural resource management activities and establish management standards for the Beaverhead-Deerlodge National Forest. It describes resource management practices, levels of resource production and management, and the availability and suitability of lands for resource management within the forest. Roosevelt Drive is referenced in the plan as a system road managed by the Forest Service.

The *Record of Decision Enacting Forest Plan Travel Management Direction for Certain Areas of the Beaverhead-Deerlodge National Forest*[3] developed and analyzed several alternatives for managing public access and travel within the Beaverhead-Deerlodge National Forest. The report identified a preferred alternative and detailed the anticipated changes to public road access and modifications to the roads, trails, and open space accessible to cars, ATVs, motorcycles, and snowmobiles. No changes were proposed for Roosevelt Drive, however, nearly two miles of routes in the study area were closed to motorized use, specifically the Roosevelt Drive non-motorized trail as shown in **Figure A.1**.

The *Final Environmental Impact Statement for the Proposed Butte Highlands Joint Venture Mine*[4] was developed for the Butte-Highland Mine located south of the study area. The mine is primarily accessible by Roosevelt Drive and Highland Road. The report proposes two haul routes for the mine, one of which uses the first 2.75 miles of Roosevelt Drive to connect to Highland Road for access to the mine. The report estimates approximately 30 roundtrip haul trips per day, five days a week on the Roosevelt Drive haul route. The Department of Environmental Quality permitted the mine in 2015 and the USFS also approved a hauling permit, contingent on roadway improvements. To mitigate the proposed impacts, improvements to stream crossings along Roosevelt Drive to reduce sediment input and provide aquatic organism passage are proposed. No state permit has been obtained for the mine and the mine has yet to resume operation.

Land use policy and development regulation on private lands in the study area is governed by Butte-Silver Bow. Within the National Forest boundary, land use policy and regulations are dictated by the Forest Plan. Coordination among federal, state, and local agency staff would be an essential component of any projects that may arise.

1.4 Information Sources

Multiple environmental studies have been conducted in the study area over the course of several decades. Some of these have addressed proposed improvements to Roosevelt Drive, while others have been concerned with larger-scale issues of land and resource management. The preparers of this document reviewed pertinent information from these studies and supplemented it with publicly available data from federal, state, and local agencies.

2.0 PHYSICAL ENVIRONMENT

2.1 Land Ownership and Land Use

The land in the study area is primarily owned by the USFS and private landowners. The privately-owned parcels are not zoned by Butte-Silver Bow; however, the *Butte-Silver Bow Growth Policy Update*[5] classifies these parcels as RD 10 (Rural District 10) and recommends rural residential development with a minimum density of 1 dwelling unit per 10 acres and encourages limited agricultural related uses. Outdoor or seasonal recreational and related commercial uses requiring large land areas are also consistent with land use recommendations for RD 10 areas. Industrial uses are subject to permitting review within the RD 10 district. The USFS lands in the study area are designated as public/open space in the *Growth Policy Update*. The study area and adjacent lands are primarily used for residential use, grazing, timber activity, mining, and recreation. If any improvement options are forwarded from the study, additional research and coordination would be needed to determine impacts to existing right-of-way or easements on private and USFS lands.

2.2 Soil Resources and Prime Farmland

The *Farmland Policy Protection Act* (FPPA) (7 U.S.C. 4201 et. seq.) requires special consideration be given to soils considered as prime farmland, unique farmland, or farmland of statewide or local importance by the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS). The FPPA is intended to minimize the impact Federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. Farmland subject to FPPA requirements does not have to be currently used for cropland. The FPPA does not apply to lands already in or committed to urban development.

Prime farmland soils are those that have the best combination of physical and chemical characteristics for producing food, feed, and forage; the area must also be available for these uses. Prime farmland can be either non-irrigated or lands that would be considered prime if irrigated. Farmland of statewide importance is land, in addition to prime and unique farmlands, that is of statewide importance for the production of food, feed, fiber, forage, and oilseed crops.

The study area is included in the Deer Lodge National Forest Area soil survey area mapped by the NRCS. Based on the available mapping data, there are no soils classified as prime farmland, unique farmland, or farmland of state or local importance in the study area.

2.3 Geologic Hazards

The geology of Silver Bow County is influenced by a number of regional tectonic features and can be divided into five basic geologic domains underlying different parts of the county: Precambrian metamorphic rocks, Paleozoic and Mesozoic sedimentary and metasedimentary rocks, the Boulder batholith, the Lowland Creek volcanic rocks, and Cenozoic valley sediments. All of these domains contain faults, some that have not moved for hundreds of millions of years, and some that have moved in geologically recent times.[6]

The study area is found primarily in the Cenozoic valley sediments geologic domain. The valleys were formed by extension along steep faults that moved intermittently from mid-Eocene times onward. Valley-fill sediments are dominantly poorly compacted and easily eroded and most of the sediments contain ash from volcanic eruptions in Montana, Idaho, Wyoming, Oregon, and Washington. The geologic characteristics of the study area make it prone to landslide and earthquake hazards.

Two landslides have occurred within the study area. One started at approximate MP 1.3 and extended along Roosevelt Drive for approximately 1,000 feet and encompassed approximately 4.5 acres. A second landslide started at approximate MP 2.0 and extended along Roosevelt Drive for approximately 500 feet

and encompassed a slide area of about 0.3 acres. Both landslides are catagorized as talus (Qta) slides. Talus landslides are characteristically rockfall or rockslidesand are common in areas with aprons of rock debris at the base of cliffs or steep slopes covered by rock fragments. A hazard area for landslides also exists at the eastern end of the study area, beginning at Highway 2 and extending east. The hazard area is categorized as Area 3 or as having potential for rockfall/debris flow near urban areas. The area is especially vulnerable to rockfall hazards if the area were to burn in a forest fire. Development on known slide deposits should be avoided because they are prone to reactivation or have the potential for new slide to develop at the same location.

Montana is considered to be seismically-active with most activity occuring generally west of a Livingston-Great Falls-Cut Bank line. According to the *Seismic-Hazard Map for the State of Montana*[7], the Butte area is in a moderate to high seismic risk zone. Earthquakes are not uncommon in Butte-Silver Bow and the area has seen several earthquakes ranging from magnitude 0.1 up to 3.0. Two earthquake events were recorded near Roosevelt Drive. Both earthquake events were shallow and had very low magnitudes. An event in February 1984 had a magnitude of 0.3 and a depth of 7.8 kilometers. Another event in July 2005 had a magnitude of 0.5 and a depth of 4.5 kilometers. Several other earthquake events have been recorded near the study area, all were shallow and had magnitudes under 1.5.

Figure A.2 presents a geologic map of the study area as mapped by the Montana Bureau of Mines and Geology in 2009. The study area lies within several geological map units including quartz monzonite (Kqm) and alluvium (Qal). Geotechnical investigations would be required for reconstruction or significant improvements to Roosevelt Drive to determine potential stability, erosion, and settlement concerns posed by surface geology and soil conditions.

2.4 Surface Waters

The study area lies entirely within the Upper Clark Fork Watershed (Hydrologic Unit Code 17010201) as delineated by the United States Geological Survey (USGS). Roosevelt Drive parallels Blacktail Creek and crosses the stream several times within the first 2.2 miles of the study area (see **Table 2.1**). Blacktail Creek is a perennial, fish-bearing stream. Roosevelt Drive also crosses some small, unnamed tributaries of Blacktail Creek as well as several intermittent streams throughout the study area. **Figure A.3** presents the streams and other waterbodies present in the study area.

Table 2.1: Stream and River Crossings

Name	Approximate Location (MP)	Crossing Structure
Blacktail Creek	0.5	Culvert
Blacktail Creek	0.6	Culvert
Blacktail Creek	0.7	Culvert
Blacktail Creek	0.9	Culvert
Blacktail Creek	1.1	Culvert

Road construction and reconstruction activities such as culvert installation or replacement, placement of fill, or bank stabilization have the potential for impacts to surface waters. Coordination with federal, state, and local agencies would be necessary to determine the appropriate permits based on the choice of improvement options forwarded from this study. Impacts should be avoided and minimized to the maximum extent practicable. Impacts to streams and wetlands may trigger compensatory mitigation requirements.

2.4.1 Water Quality

The *Clean Water Act* (CWA), is the principal federal legislation directed at protecting water quality. The Montana Department of Environmental Quality (MDEQ) is the state agency responsible for implementing certain components of the CWA. As directed by the Montana Water Quality Act, MDEQ prepares an Integrated Report every two years listing the status of water quality for waterbodies under state jurisdiction.

The biennial Integrated Report includes a list of all surface waters where pollutants have impaired the beneficial uses of water (for drinking, recreation, aquatic habitats, etc.). Types of pollutants include high temperatures, fecal coliform bacteria, excess nutrients, low levels of dissolved oxygen, and toxic substances. The CWA requires the development and implementation of cleanup plans for waterbodies that fail to meet state water quality standards.

There are no water bodies within the study area that do not meet water quality standards. However, the *Silver Bow Creek Watershed Restoration Plan*[8] indicates that Blacktail Creek has elevated levels of nutrients from residential development along the river. Excess sediments from road crossings and encroachment on the river are also present. Large areas of coniferous forest killed by pine beetles pose a wildfire threat in the area. A large wildfire could increase sediment load levels in Blacktail Creek and threaten the fish habitat.

In Montana, stormwater management is regulated by MDEQ. A Montana Pollutant Discharge Elimination System (MPDES) general permit is required for stormwater discharges from construction activities that result in the disturbance of equal to or greater than one acre of land area. The applicability of this MPDES permits for Roosevelt Drive would need to be reviewed for any projects brought forward from the study.

2.4.2 Wild and Scenic Rivers

The *Wild and Scenic Rivers Act*, created by Congress in 1968, provided for the protection of certain selected rivers, and their immediate environments, that possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values. In 1976, Congress designated portions of two rivers in Montana—the Flathead River and the Missouri River—as wild, scenic, or recreational components of the National Wild and Scenic River System. Neither of these rivers are within or near the study area and there is no potential for improvements to Roosevelt Drive to affect wild and scenic rivers.

2.5 Groundwater

Groundwater is the water present beneath Earth's surface in soil pore spaces and in the fractures of rock formations. In Montana, groundwater is the primary source of drinking water for rural domestic water supplies as well as public water systems. Groundwater is also important for irrigation and livestock.

Groundwater resources in Butte-Silver Bow are under increasing pressure from land use change from irrigated cropland to residential. Much of the new development is dependent on individual household wells for potable water, and on septic systems for wastewater disposal. With increased use, there is a potential for groundwater resources to become overutilized in some locations.

As of April 2019, records maintained by the Groundwater Information Center (GWIC) at the Montana Bureau of Mines and Geology show there are 4,146 wells on record in Silver Bow County with about 60 percent of the wells drilled to depths of less than 100 feet. The most common uses for wells in the county are for domestic use, agricultural use (stockwater and irrigation), and for monitoring groundwater.

Based on interactive mapping from the GWIC, approximately 25 wells are located within the study area. Well depths vary by individual location, but the majority of wells drilled in the study area have been drilled

to depths of less than 100 feet. Static water levels vary considerably but generally range from 5 to 40 feet below the ground surface in most locations.

The wells in the study area are primarily for domestic use although wells used for stockwater are also present. Some wells have unknown use or are no longer in use. There are no public water supply wells in the study area. **Figure A.3** shows the locations of the wells in the study area. Impacts to the groundwater supply and areas of high groundwater should be considered in any improvement option that may be brought forward from this study.

2.6 Floodplains and Floodways

Floodplains are the flat or nearly flat land adjacent to a stream or river that experiences occasional or periodic flooding. The floodplain includes the “floodway” which consists of the stream channel and adjacent areas that carry flood flows and the “flood fringe” includes the area covered by the flood.

Executive Order (EO) 11988, *Floodplain Management*, requires efforts be taken to reduce the risk of flood loss; minimize the impacts of floods on human safety, health, and welfare; and restore and preserve the natural and beneficial values served by floodplains. The natural and beneficial values of floodplains include providing habitat for fish, wildlife, plants, open space, natural flood moderation, water quality maintenance, and groundwater recharge. EO 11988 requires federal agencies to avoid, to the extent possible, the long and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative.

Compliance with this directive requires an evaluation of a proposed project and its alternatives to determine the effects of any encroachments on the "base" floodplain. The base floodplain is the area covered by water from the 100-year flood and is a regulatory standard used by federal agencies and states to administer floodplain management programs. The 100-year flood represents a flood event that has a 1 percent chance of being equaled or exceeded in any given year.

Roosevelt Drive lies within Zone D as designated by the Federal Emergency Management Agency (FEMA). Areas in Zone D have possible but undetermined flood hazards as no analysis of flood hazards has been conducted. Floodplains in Butte-Silver Bow are regulated by Title 18, Floodplain Ordinance, of the Municipal Code. Title 18 was updated in January of 2012 when the Butte-Silver Bow Council of Commissioners adopted the new and/or updated FEMA floodplain maps. Coordination with the City-County floodplain administrator will be necessary to determine the need for a floodplain permit if any improvement options are advanced from this study.

2.7 Wetlands and Waters of the US

Wetlands are lands on which water covers the soil or is present either at or near the surface of the soil or within the root zone, all year or for varying periods of time during the year, including during the growing season. The repeated or prolonged presence of water at or near the soil surface is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface. Wetlands can be identified by the existence of plants adapted to life in the soils that form under flooded or saturated conditions characteristic of wetlands. Wetlands include marshes, bogs, the shallow portions and shorelines of lakes, ponds, and reservoirs, and the floodplain and shoreline of streams.

The U.S. Fish and Wildlife Service (USFWS) is the principal federal agency that provides information to the public on the extent and status of the Nation's wetlands. The USFWS has compiled mapping to show wetlands and deepwater habitats in the US including many parts of Montana and has made this mapping available through access to the National Wetland Inventory (NWI). NWI wetlands are identified in general

accordance with USFWS's publication *Classification of Wetlands and Deepwater Habitats of the United States*[9]. It should be noted that NWI maps do not define wetlands for regulatory purposes since the wetlands are identified through aerial photo interpretation. The NWI definition of wetlands requires one or more of the three attributes of wetlands (wetland hydrology, vegetation, or soils) be present to be a wetland.

NWI mapping for the study area is presented in **Figure A.4**. The figure shows primarily freshwater emergent wetlands, freshwater ponds, freshwater scrub-shrub wetlands, riparian emergent wetlands, and riparian scrub-shrub along Blacktail Creek and other waterbodies in the study area.

Wetland delineations would be required if improvement options are forwarded from this study that could potentially affect wetlands. Future projects in the study area would need to incorporate project design features to avoid and minimize adverse impacts on wetlands to the maximum extent practicable. Unavoidable impacts to wetlands, streams, and irrigation features must be compensated through mitigation in accordance with applicable U.S. Army Corps of Engineers requirements. Various state and federal water quality permits may be required to implement construction projects on Roosevelt Drive including a Montana Pollutant Discharge Elimination System (MPDES) General Permit for Storm Water Discharges Associated with Construction Activity; a Clean Water Act Section 404 permit and Section 401 Water Quality Certification; and a Stream Protection Act (SPA 124) permit.

2.8 Hazardous Substances

The United States Environmental Protection Agency (EPA) and the MDEQ work to clean up contaminated properties throughout the state. MDEQ also regulates underground storage tanks on properties owned by private businesses and public entities, ensuring that the tanks are installed, managed, and monitored in a manner that prevents releases into the environment. Information about the existence of hazardous sites in the study area was obtained from the Montana Natural Resource Information System database and from MDEQ's online interactive website and databases.

National Priority List (Superfund) Sites: The National Priority List is the list of hazardous waste sites throughout the United States eligible for long-term remedial action financed under the federal Superfund program. A Superfund site is any land that has been contaminated by hazardous waste and identified by the EPA as a candidate for cleanup because it poses a risk to human health and/or the environment.

The Silver Bow Creek/Butte Area Superfund Site is located in and around Butte and includes 26 miles of stream and streamside habitat downstream from Butte. The Butte Priority Soils Operable Unit (BPSOU) is in the Butte portion of the Silver Bow Creek/Butte Area Site. It includes the Town of Walkerville, part of Butte north of lower Silver Bow Creek and west of the Berkeley Pit, and a section of land that extends south from lower Silver Bow Creek to Timber Butte. It includes the contaminated alluvial aquifer that results from BPSOU surface contamination and surface water in lower Silver Bow Creek and Blacktail Creek within the BPSOU boundary. The Roosevelt Drive study area is not within the BPSOU.

Hazardous Waste Generators: There are no hazardous waste generators in the study area.

Hazardous Waste Release Sites: There are no hazardous waste release sites in the study area.

Abandoned and Inactive Mine Sites: The study area is located within the Basin Creek Mining District. Two abandoned or inactive mine sites exist near the study area but are not likely to be impacted by projects forwarded from this study. An unnamed location and a site named the Clark Property are both lode mine sites. The Butte-Highland Mine, about 5.5 miles southwest of the study area, is an underground gold mine. The mine was first in operation in the early 1900s. The permitting process is underway to resume operation of the mine. The mine may impact traffic on Roosevelt Drive (see **Section 1.3**).

Underground Storage Tanks: No underground storage tanks are in the study area.

Remediation Response Sites. No remediation response sites were identified within the study area.

Petroleum Tank Releases: No petroleum tank releases were identified in the study area.

Open Cut Permits: Open cut permits are permits required for the mining and processing of materials specified in the Opencut Mining Act (i.e. sand, gravel, soil, bentonite, clay, scoria, and peat). No open cut permits were identified within the study area.

Landfills: There are no active landfills in the study area.

2.9 Air Quality

The *Clean Air Act* of 1970 is the basis for air pollution control programs. In accordance with the Act, the EPA established National Ambient Air Quality Standards (NAAQS) for six criteria pollutants: ozone, carbon monoxide, particulate matter, or nitrogen dioxide. The NAAQS are health-based standards to protect human health and public welfare and set allowable concentrations and exposure limits for each criteria pollutant. Montana has also established air quality standards for criteria pollutants, as well as for settleable particulates and visibility. The Montana Ambient Air Quality Standards (MAAQS) – found in the Administrative Rules of Montana 17.8.210-17.8.230 – establish statewide targets for acceptable levels of ambient air pollutants.

The EPA and the MDEQ are charged with regulating air quality and may designate areas as attainment or nonattainment based on their history of meeting the NAAQS or MAAQS for pollutants of concern. Areas where air pollution levels do not exceed the air pollution thresholds established in the NAAQS are designated as “attainment” areas. “Nonattainment areas" are localities where air pollution levels persistently exceed the NAAQS or MAAQS, or that contribute to ambient air quality in a nearby area that fails to meet standards. An area that has been designated as non-attainment in the past, but that now complies with the NAAQS, is classified as a “maintenance” area.

Butte is considered a nonattainment area for particulate matter (PM10). However, the study area is located outside the designated PM10 Nonattainment Area Boundary as described in Federal Register Vol. 56 No. 215 Pg. 56794.[10] Since the study area is considered in attainment, for all pollutants, federally-funded transportation projects on Roosevelt Drive by the FHWA would not be subject to conformity requirements.

2.10 Noise

Roadway projects can cause noise levels to increase for affected receivers, during project construction and/or from operation of the traffic facility. Noise impacts can potentially occur due to construction of a roadway on new location or the physical alteration of an existing roadway which significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes.

Residences in the study area comprise the only sensitive noise receptors that could be affected by roadway improvements on Roosevelt Drive. Detailed noise analyses are often conducted when the potential for noise impacts exists due to substantial changes in roadway design or configuration. However, given the rural environment, low volumes of traffic, and dispersed nature of residences in the study area, noise impacts resulting from potential roadway improvements are unlikely.

Construction activities associated with improvements to Roosevelt Drive may result in localized and temporary noise impacts in the vicinity of residences. These impacts can be minimized by incorporating measures to control of noise sources during construction.

3.0 BIOLOGICAL RESOURCES

3.1 VEGETATION

Five vegetation types cover the majority of the Roosevelt Drive study area: mixed broadleaf and coniferous forest, sagebrush, riparian, montane parks and meadows, and low to moderate cover grasses. The Beaverhead-Deerlodge forest is dominated primarily by pine and fir species including the lodgepole pine, douglas fir, subalpine fir, and ponderosa pine. Aspen trees are also present in the study area. Willow, alder, birch and red osier dogwood are among the most abundant shrub species in Beaverhead-Deerlodge riparian zones.[11]

Fire has been a major influence on the vegetation systems in the Beaverhead-Deerlodge forest. Many plant species have adapted specialized ways to survive fire or take advantage of the niches in a post burn environment. Insects such as mountain pine or Douglas-fir bark beetles have also killed large numbers of trees in the forest, especially those stressed by drought or fire. These natural processes and agents continually alter the vegetative conditions in the study area.

Invasive weeds are a growing concern in the Beaverhead-Deerlodge National Forest. Grassland/shrubland types on the forest are at high risk of invasion by Canada thistle, whitetop, yellow toadflax, spotted knapweed, and leafy spurge. All of these species have been identified by the Montana Noxious Weed Trust Fund as weeds that the Montana noxious weed survey and mapping system must monitor on a section basis. The Butte-Silver Bow Weed Control District has been active in public education, control, and eradication of noxious weeds. If improvement options are forwarded from the feasibility study, field surveys for noxious weeds should take place before any ground disturbance occurs. Proposed projects should incorporate applicable practices outlined by the Butte-Silver Bow Weed Control District. Any projects forwarded from the feasibility study within the National Forest would need to comply with USFS management policies.

Whitebark pines (*Pinus albicaulis*) are designated as a candidate species for listing under the Endangered Species Act (ESA). Whitebark pines are typically found in cold, windy, high elevation or high latitude sites in western North America and as a result, many stands are geographically isolated. Whitebark pines have the potential to occur on high elevation forest lands in the area.

3.2 FISH AND WILDLIFE

Blacktail Creek watershed provides a substantial habitat for westslope cutthroat trout. Genetic sampling indicates a 100% pure westslope cutthroat trout population in the river. The westslope cutthroat trout is considered a sensitive species by the USFS and a species of concern (SOC) by Montana. Several restoration actions to improve the fishery of Blacktail Creek were proposed in the 2018 update of the *Upper Clark Fork River Basin Restoration Plan.*[12] It is unclear in the plan if any of these restoration actions are within or near the study area.

Montana Fish, Wildlife and Parks (FWP) statewide wildlife distribution data indicate the presence of elk and mule deer along Blacktail Creek. Blacktail Creek also provides an attractive habitat for moose, and they can often be seen along the river during the winter. The wetlands provide important staging, resting, and viewing areas for migratory waterfowl and shorebirds.

If any improvement projects are brought forward from the study, project planners should coordinate with fish and wildlife biologists from Montana FWP and the USFS to gain further insight into issues related to the management of these species, as well as measures for avoiding, minimizing, or mitigating adverse effects on species and habitat.

3.3 Threatened and Endangered Species

Section 7(a)(2) of the ESA of 1973, as amended, requires federal agencies to review actions they authorize, fund, or carry out, and to ensure such actions do not jeopardize the continued existence of federally listed species, or result in the destruction or adverse modification of designated critical habitat.

The USFWS's October 23, 2018 *Endangered, Threatened, Proposed and Candidate Species for Montana Counties* list identifies three species of wildlife that are known or expected to use habitats in in the study area which are listed or proposed for listing under the ESA. The grizzly bear (u*rsus arctos horribilis*) and Canada lynx (l*ynx canadensis*) are threatened species occurring in Silver Bow County. The wolverine (*gulo gulo luscus*) is a proposed for listing on forest lands species that may occur within mountainous and forested areas of the county. Canada lynx and wolverine have both been observed in the Roosevelt Drive study area based on information from the Montana National Heritage Program (NHP) although there are not designated critical habitats for these species within the study area. The grizzly bear could potentially occur in the study area, but there are no recorded observations. The wolverine is the only species that has been documented as having a sustained presence within the study area.

Bull trout (*Salvelinus confluentus*) are also listed as threatened in Silver Bow County by the USFWS but no critical habitat for the species has been designated within the county. Montana NHP data shows no observations of bull trout in Blacktail Creek in the study area.

As noted previously, whitebark pines are designated as a candidate species for listing under the ESA.

Any improvements forwarded from the planning study would need to undergo review for compliance with the provisions of the ESA. The listing status of species and critical habitat can change over time; therefore, an up-to-date list of potentially affected species and critical habitats should be reviewed for each project.

3.4 Other Species of Concern

Montana NHP maintains a database of species of concern in Montana. SOC are native animals that are at-risk due to declining population trends, threats to their habitats, restricted distribution, among other factors. Designation as a SOC is based on the Montana Status Rank and is not a statutory or regulatory classification. Rather, these designations provide information that helps resource managers make proactive decisions regarding species conservation and data collection priorities.

Federal status is designated in three ways, as threatened or endangered under the ESA, or as "sensitive" by the USFS or Bureau of Land Management. Many of the bird species are also protected under or included in the USFWS *Migratory Bird Treaty Act* (MBTA), *Birds of Conservation Concern 2008* (BCC), or *Bald and Golden Eagle Protection Act of 1940* (16 U.S.C. 668-668c) (BGEPA) listings.

Montana employs a standardized ranking system to denote state status. Species are assigned numeric ranks ranging from 1 (highest risk, greatest concern) to 5 (demonstrably secure), reflecting the relative degree of risk to the species' viability, based upon available information.

In addition to SOC, Montana has two special status species, the bald eagle and the red knot, which are species that have some legal protections in place but are otherwise not Montana SOC. The bald eagle is potentially present in the study area, but there are no recorded observations. Although the bald eagle is no longer protected under the ESA and is also no longer a Montana SOC, it is still protected under the BGEPA. The red knot is not a Montana SOC due to a lack of information about its migratory stopover use of wetlands in the state. However, red knots are a special status species because they are listed as a threatened species under the ESA for some counties in the state. Montana NHP data shows no occurrences of the species in the study area.

Table 3.1 presents all of the species occurrence records within the study area and their federal and state statuses. A species occurrence is an area of land or water in which a species is, or was, present. Species observations are reviewed by the Montana NHP for evidence of sustained presence (for example, breeding evidence) and species occurrences are created from those that meet established criteria for species. Note that other species have been observed in the Roosevelt Drive study area (see **Appendix B**) but have not been documented as a species occurrence within the study area. As such, if any projects are brought forward from the feasibility study, a thorough review of wildlife sightings databases should be conducted, and habitats near any proposed project sites should be evaluated to determine their suitability for any species of concern. Measures to avoid or minimize disturbance of these species or their habitat should be incorporated into project design and implementation.

Table 3.1: Montana Species of Concern – Species Occurrence in Study Area

	Species	Federal Status	State Status
Mammals	**Wolverine** *(Gulo gulo)*	ESA Proposed / Sensitive	3
	Canada Lynx (*Lynx canadensis*) *	ESA Threatened	3
	Grizzly Bear (*Ursus arctos horribilis*) *	ESA Threatened	2-3
Birds	**Evening Grosbeak** *(Coccothraustes vespertinus)*	MBTA	3
	Northern Goshawk *(Accipiter gentilis)*	MBTA	3
	Green-tailed Towhee *(Pipilo chlorurus)*	MBTA	3
	Golden Eagle *(Aquila chrysaetos)*	BGEPA / MBTA / Sensitive	3
	Clark's Nutcracker *(Nucifraga Columbiana)*	MBTA	3
Amphibians	**Western Toad** *(Anaxyrus boreas)*	Sensitive	2
Fish	**Westlope Cutthroat Trout** *(Oncorhynchus clarkii lewisi)*	Sensitive	2
Plants	**Whitebark Pine** *(Pinus albicaulis)* *	ESA Candidate / Sensitive	3

**Indicates that the species is listed in the ESA as being endangered, threatened, or is a candidate for listing in the ESA but does not have a species occurrence in the study area.*

4.0 SOCIAL AND CULTURAL RESOURCES

4.1 Demographic and Economic Conditions

Implementing regulations for NEPA require federal agencies to assess potential social and economic impacts resulting from proposed actions. FHWA guidelines recommend consideration of impacts to neighborhoods and community cohesion, social groups including minority populations, and local and/or regional economies, as well as growth and development that may be induced by transportation improvements. Demographic and economic information presented in this section is intended to assist in identifying populations that might be affected by improvements in the study area. **Table 4.1** summarizes recent population and demographic data for Butte-Silver Bow and Montana obtained from the 2013 to 2017 American Community Survey (ACS) 5-Year Estimates[13].

In general, Butte-Silver Bow has a racial and ethnic composition similar to the state. A slightly larger percentage of the Butte-Silver Bow population identifies as Hispanic or Latino than Montana's population, 4.2 percent versus 2.4 percent, respectively. The percentage of the population identifying as American Indian or Alaska Native is less in Butte-Silver Bow (2.1 percent) as compared to Montana (4.4 percent). This is likely attributable to the fact that there are no reservations located near the study area. For all other races, Butte-Silver Bow and Montana have comparable population distributions.

Median household income in Butte-Silver Bow is approximately 25 percent lower than the state median value. Butte-Silver Bow also has higher poverty (18.9 percent) and unemployment (5.9 percent) rates than Montana (14.4 and 4.8 percent, respectively). Butte-Silver Bow's economy has historically been dominated by the mining industry. But declines in the copper mining industry since 1980 have required a more diverse mix of industries to maintain a strong economy in the area. Over the past 40 years, the service and retail sectors have played a more prominent role in the current economy with the majority of the service industry jobs being healthcare related. Increases in recreational visitors to the Butte-Silver Bow area have also helped strengthen the economy.

Table 4.1: Population and Demographic Data

		Butte-Silver Bow	Montana
Population		33,645	1,029,862
Race/Ethnic Characteristics	**White (not Hispanic or Latino)**	91.1%	90.7%
	Hispanic or Latino	4.2%	2.4%
	Black or African American	0.5%	0.4%
	American Indian or Alaska Native	2.1%	4.4%
	Asian	0.8%	0.6%
	Native Hawaiian and Other Pacific Islander	0.0%	0.0%
	Some Other Race	0.0%	0.3%
	Two or more races	1.2%	1.9%
Economic Characteristics	**Median Household Income**	$40,359	$50,801
	Persons below poverty level	18.9%	14.4%
	Unemployment rate	5.9%	4.8%

Title VI of the *United States Civil Rights Act of 1964* and EO 12898 require that projects receiving federal funds must not result in disproportionately high and adverse effects on minority or low-income populations. For transportation projects, this means that minority or low-income populations must not be disproportionately isolated, displaced, or otherwise subjected to adverse effects. If improvement options are forwarded from the planning study into project development, environmental justice would need to be further evaluated during the project development process. However, demographic data obtained for this study indicates minority and/or low-income populations are likely not present in the area.

4.2 Section 4(f) and 6(f) Resources

Projects undertaken by FHWA or that may receive federal funding and/or discretionary approvals from the agency must demonstrate compliance with Section 4(f) of the *Department of Transportation Act* of 1966 (23 U.S.C. § 138 and 49 U.S.C. § 303). Section 4(f) protects publicly-owned public parks, recreation areas, and wildlife/waterfowl refuges. Section 4(f) also protects historic sites of national, state, or local significance on public or private land that are potentially eligible for listing or are listed on the National Register of Historic Places (NRHP) and are protected under Section 106 of the *National Historic Preservation Act* of 1966. The regulations require coordination with the official(s) with jurisdiction when making determinations about the significance of protected properties or resources.

If a project uses a Section 4(f) property and a finding of *de minimis* impact is not made, FHWA can approve the use of that property only if the agency finds that (1) there is no feasible and prudent avoidance alternative to the use of the Section 4(f) property, and (2) all possible planning to minimize harm to the Section 4(f) property has been incorporated into the alternative.

Projects may also be subject to Section 6(f) of the *Land and Water Conservation Fund (LWCF) Act* which was enacted to preserve, develop, and ensure the quality and quantity of outdoor recreation resources. The Secretary of the Interior must approve any conversion of LWCF property, in whole or in part, to a use other than public outdoor recreation.

4.2.1 Recreational Resources

In addition to providing residential access, Roosevelt Drive also provides access to over 73,000 acres of National Forest System (NFS) lands within the Beaverhead-Deerlodge National Forest and about 40,000 acres of BLM lands. The forest provides for a multitude of both developed and dispersed recreation opportunities. Section 4(f) applies only to those portions of a multiple-use public property that are designated by statute or identified in an official management plan of the administering agency as being primarily for public park, recreation, or wildlife and waterfowl refuge purposes, and are determined to be significant for such purposes. Areas of multiple-use public property that qualify as Section 4(f) resources typically include features like campgrounds, trails, and picnic areas.

The first 2.75 miles of Roosevelt Drive is highly used by recreationists. Shiloh Lane and Lime Kiln Road stem off Roosevelt Drive and provide access to several recreation opportunities in the Highland Mountain Range. Popular recreation activities in the area include dispersed camping, hunting, motorized recreation, winter sports, hiking, mountain biking, and horseback riding. The first 2.75 miles of Roosevelt Drive are part of the Adventure Cycling Great Divide mountain bike route. The historic townsite of Highland City and the Highland Lookout are both accessed via the first 2.75 miles of Roosevelt Drive and are popular visitor destinations. Other nearby recreation areas include the Continental Divide National Scenic Trail, the Basin Creek Watershed, and Thompson Park. Thompson Park is a congressionally designated Municipal Recreation Area in the NFS with access to 25 miles of non-motorized trails, campgrounds, and picnic areas.

The remaining 1.55 miles of Roosevelt Drive provides access to private residences and connects to Thompson Park at the Roosevelt Drive Trailhead. From the trailhead, two trails are accessible. Herman Gulch Trail is a motorized trail which leads to the Highland Mountains. The Crook Camp Trail also begins at the Roosevelt Drive Trailhead and is accessible by foot, bike, or horse.

The Milwaukee Road Rail-Trail also crosses above Roosevelt Drive at approximate MP 1.0 by abandoned railroad trestle. The Milwaukee Trail is a four-mile trail which goes through two tunnels and across a trestle on the former Chicago, Milwaukee, and St. Paul Railroad. The trail is used year-round and is groomed during the winter.

Recreation facilities qualify as Section 4(f) properties if they are publicly owned, open to the public during normal hours of operation, and serve recreation activities as a major purpose as stated in adopted planning documents. Impacts to the Milwaukee Trail and Roosevelt Drive Trailhead should be investigated and appropriately considered in accordance with Section 4(f) if improvement options are forwarded from this study. Although no designated fishing accesses, day use sites, or campgrounds exist within the study area, access to many of such sites is provided by Roosevelt Drive. Projects that have the potential to impact this access should be thoroughly investigated and considered for Section 4(f) impacts.

Section 6(f) protection applies to all projects that affect recreational lands purchased or improved with LWCF funds. Based on a review of a list of all projects funded by LWCF grants within Butte-Silver Bow (Montana State Parks 2019), no projects qualifying for protection under Section 6(f) have been implemented in the study area.

4.2.2 Cultural and Historic Resources

In Montana, the NHRP is administered by the Montana State Historic Preservation Office. Resources listed, or determined eligible for listing, are considered historic properties. Such properties are generally afforded protection under Section 4(f) of the *Department of Transportation Act* and Section 106 of the *National Historic Preservation Act.* Federal agencies are required to consider the effects of their undertakings (including funding, licensing, or permitting the undertakings of other entities) on historic properties and must consult affected American Indian tribes. The implementing regulations of Section 106 also require agencies to seek ways of avoiding, minimizing, or mitigating any adverse effects on historic properties.

Data about tribes that may have an interest in the study area was obtained using the Tribal Directory Assessment Tool available from the U.S. Department of Housing and Urban Development's website. The tool has the ability to link tribes' geographic areas of current and ancestral interest down to the county level and provides tribal contact information to assist users with initiating Section 106 consultation under the *National Historic Preservation Act*. The directory search identified the following tribes with potential interests in Silver Bow County, Montana:

- Apache Tribe of Oklahoma
- Confederated Salish and Kootenai Tribes of the Flathead Reservation
- Fort Belknap Indian Community of the Fort Belknap Reservation of Montana
- Shoshone-Bannock Tribes of the Fort Hall Reservation

A review of the NRHP indicates that there are no listed historic properties within the study area. If any projects are brought forward from the planning study, a cultural resource survey for unrecorded historic and archaeological properties would need to be completed within the area of potential effect defined for each project. Direct and indirect impacts (such as visual, noise, and access impacts) to eligible or listed properties would need to be considered if improvements options are carried forward.

4.3 Visual Resources

The visual resources of an area include the features of its landforms, vegetation, water surfaces, and cultural modifications (physical changes caused by human activities) that give the landscape its visual character and aesthetic qualities. Landscape features, natural appearing or otherwise, form the overall impression of an area. Visual resources are typically assessed based on landscape character (what is seen), visual sensitivity (human preferences and values regarding what is seen), scenic integrity (degree of intactness and wholeness in landscape character), and landscape visibility (relative distance of seen areas) of a geographically defined view shed.

The study area encompasses a wide variety of settings including the Roosevelt Drive roadway corridor, rural development, national forestland, other public lands, and wetlands. Actions that may have visual impacts include projects on new location or that involve expansion, realignment or other changes that could alter the character of an existing landscape or move the roadway closer to residential areas, parks and recreation areas, historic or other culturally important resources.

5.0 CONCLUSION

This Environmental Scan identifies physical, biological, social, and cultural resources within the study area that may be affected by potential future improvements arising from the *Roosevelt Drive Upgrade Study*. Project-level environmental analysis would be required for any improvements forwarded from this study. Information contained in this report may be used to support future environmental documentation for compliance with NEPA.

REFERENCES

[1] Forest Service, USDA, Beaverhead-Deerlodge National Forest Land and Resource Management Plan, 2009, https://www.fs.usda.gov/detail/bdnf/landmanagement/planning/?cid=stelprdb5052938

[2] Forest Service, USDA, Beaverhead-Deerlodge National Forest Land and Resource Management Plan, Corrected Final Environmental Impact Statement, 2009, https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5052782.pdf

[3] Forest Service, USDA, Record of Decision Enacting Forest Plan Travel Management Direction for Certain Areas of the Beaverhead-Deerlodge National Forest, February 2009, https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5123388.pdf

[4] Montana DEQ, Final Environmental Impact Statement, Proposed Butte Highlands Joint Venture Mine, December 2014, https://deq.mt.gov/Portals/112/Public/EIS/Documents/Hardrock/ButteHighlands/BHJV_MINE_FEIS_Dec.2014.pdf

[5] Community Development Services of Montana, Butte-Silver Bow County Growth Policy, 2008 Update, http://www.co.silverbow.mt.us/DocumentCenter/View/326/Butte-Silver-Bow-Growth-Policy-2008-Update

[6] Elliott, Colleen G. and McDonald, Catherine, Geologic Map and Geohazard Assessment of Silver Bow County, Montana, Montana Bureau of Mines and Geology Open-File Report 585, December 2009, http://mbmg.mtech.edu/pdf-open-files/mbmg585_silverbowcounty.pdf

[7] Siesmic Hazard Map for the State of Montana, United States Geological Survey, 2013, http://ftp.geoinfo.msl.mt.gov/Documents/Maps/Individual/20130206_80_SeismicHazardMap.pdf

[8] Montana Natural Resource Damage Program, Confluence Consulting, Inc., and DTM Consulting, Inc., Silver Bow Creek Watershed Plan, December 2005, https://dojmt.gov/wp-content/uploads/2011/06/silverbowcreekrestorationplanfinal.pdf

[9] Cowardin, L.M., US Fish and Wildlife Service, Classification of Wetlands and Deepwater Habitats of The United States, December 1979.

[10] Environmental Protection Agency, Federal Register Vol. 56, No. 215, Pg. 56794, 40 CFR Part 81, Designation of Areas for Air Quality Planning Purposes, November 6, 1991, https://www3.epa.gov/airquality/greenbook/frn/56fr56694nov61991.pdf

[11] United States Department of Agriculture, Forest Service, Beaverhead-Deerlodge National Forest Land and Resource Management Plan Final Environmental Impact Statement, January 2009, https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5052782.pdf

[12] Montana Department of Justice, Natural Resource Damage Program, Upper Clark Fork River Basin Aquatic and Terrestrial Resources Restoration Plan, November 2018, https://media.dojmt.gov/wp-content/uploads/2018-Draft-update-UCFRB-Restoration-Plans-Final.pdf

[13] United States Census Bureau, American Community Survey, 5-Year Estimates 2013-2017, Butte-Silver Bow and Montana.

Appendix A:

Figures

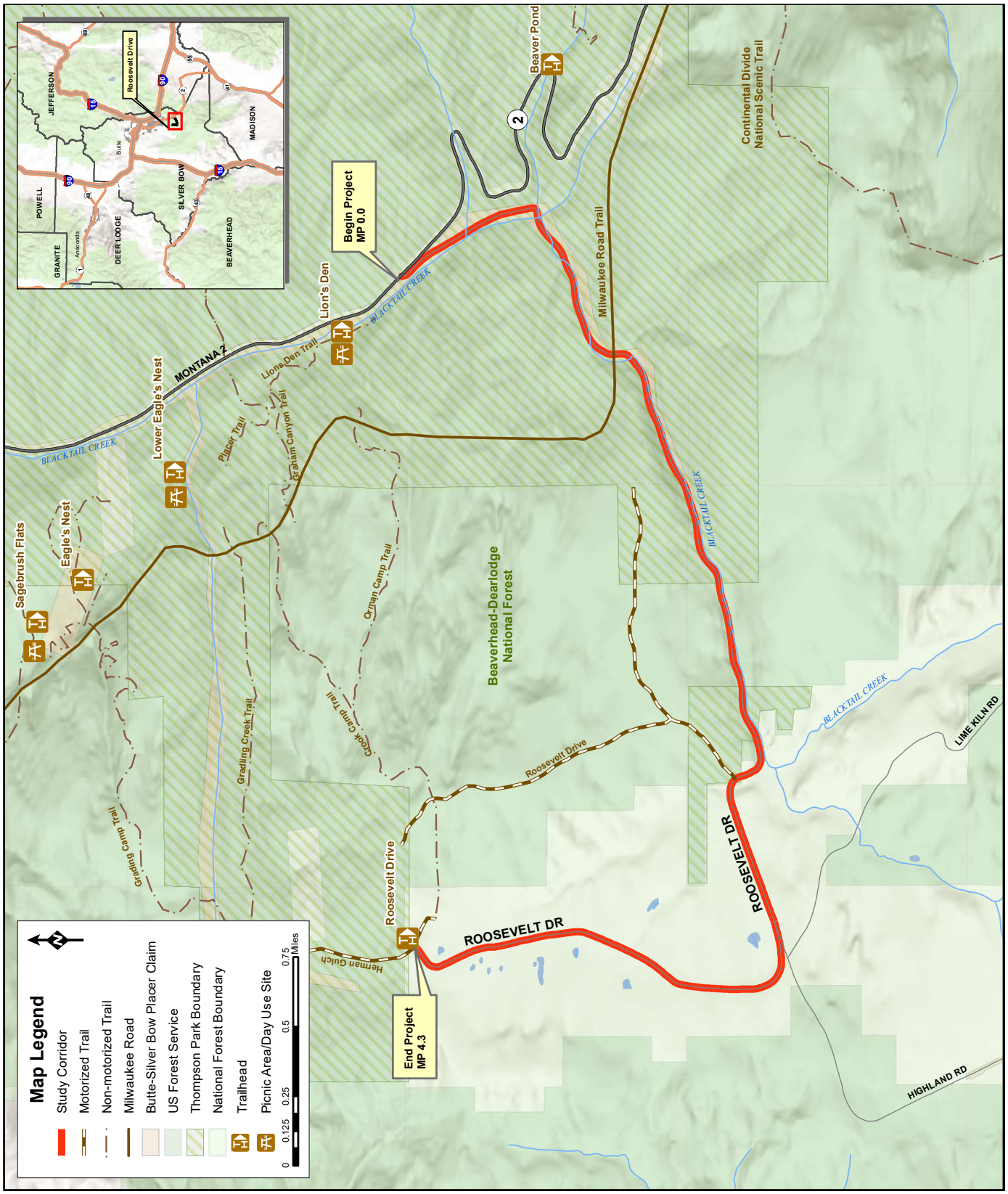


Figure A.1: Study Area

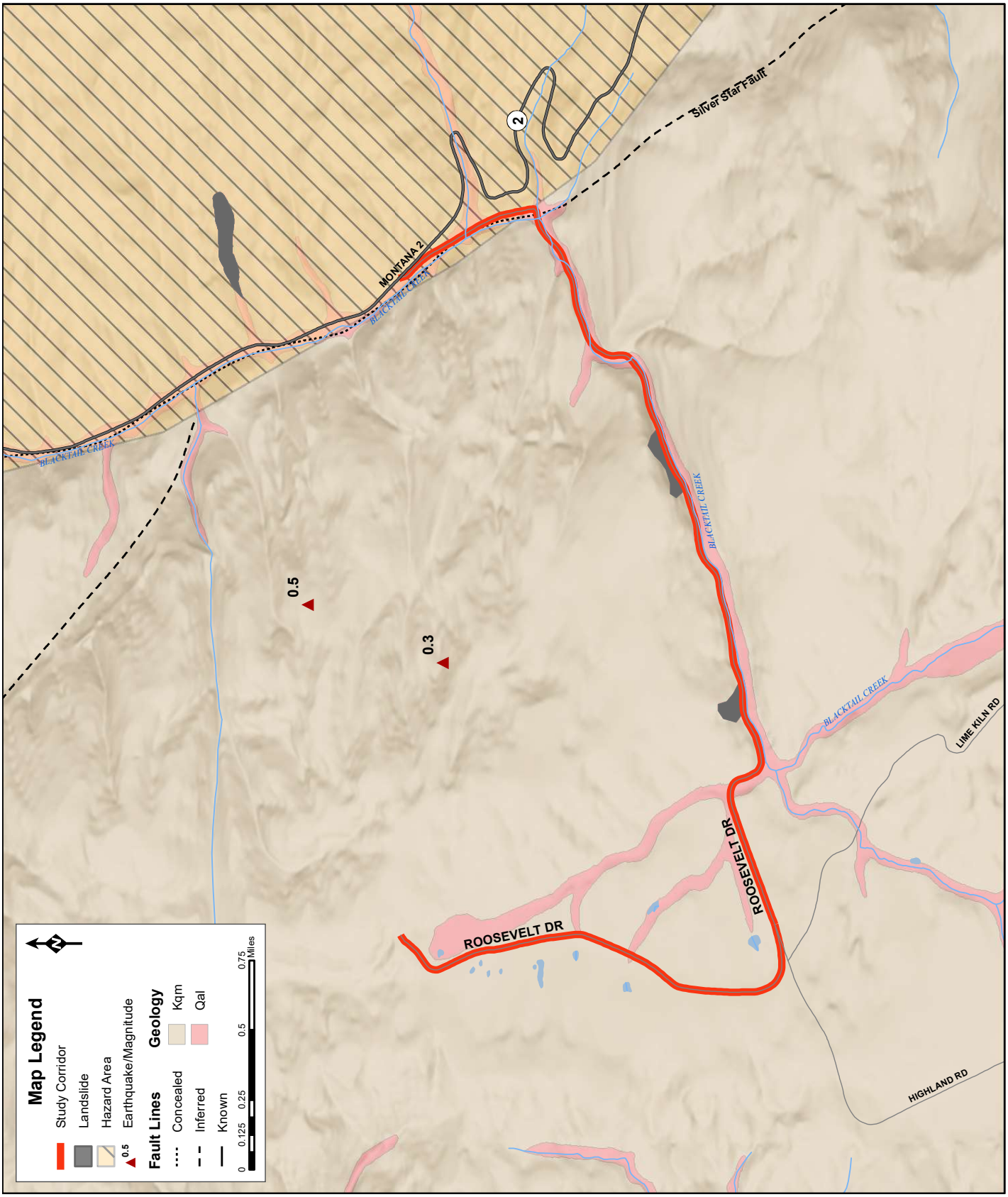


Figure A.2: Geologic Conditions

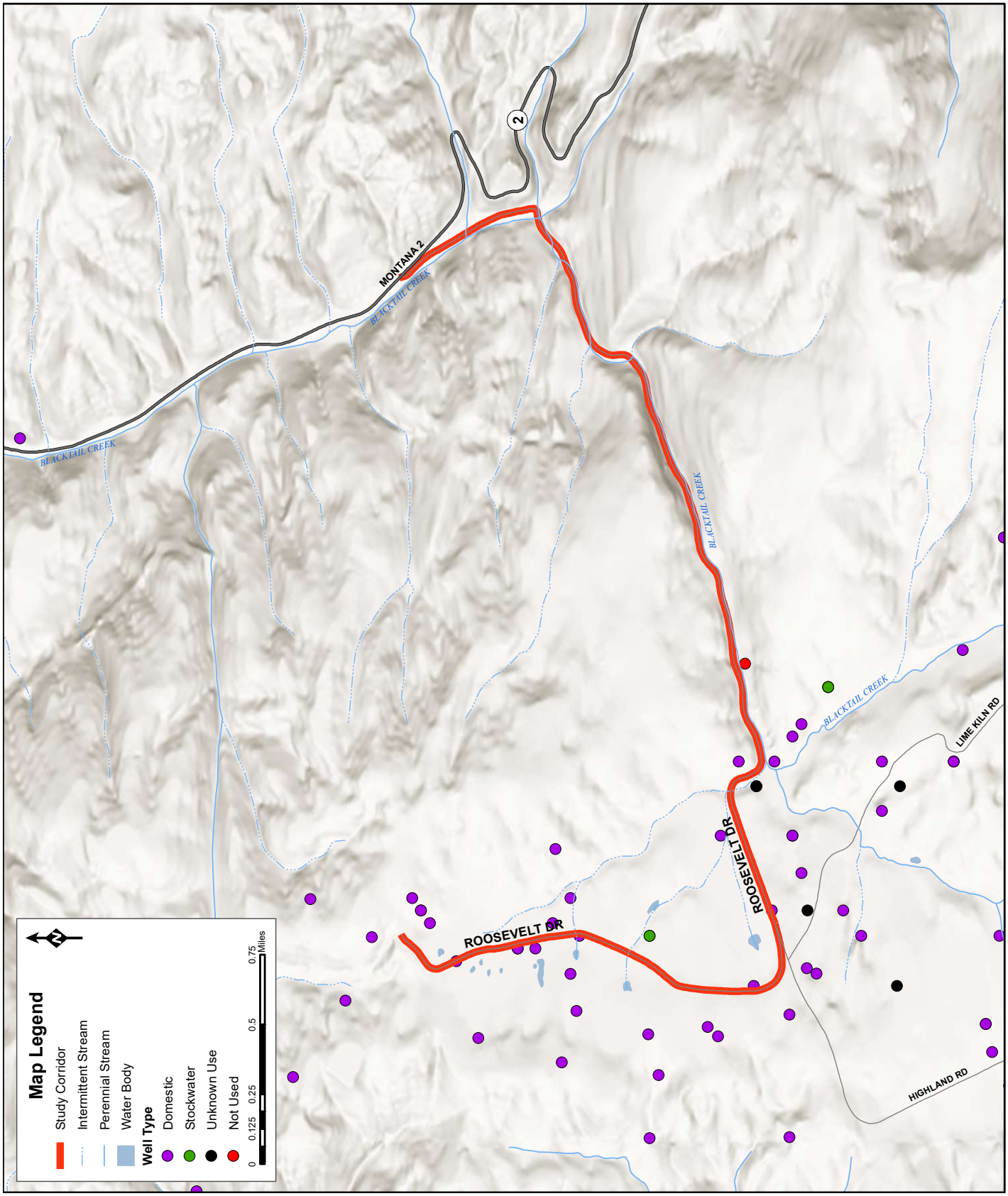


Figure A.3: Groundwater and Surface Water Features

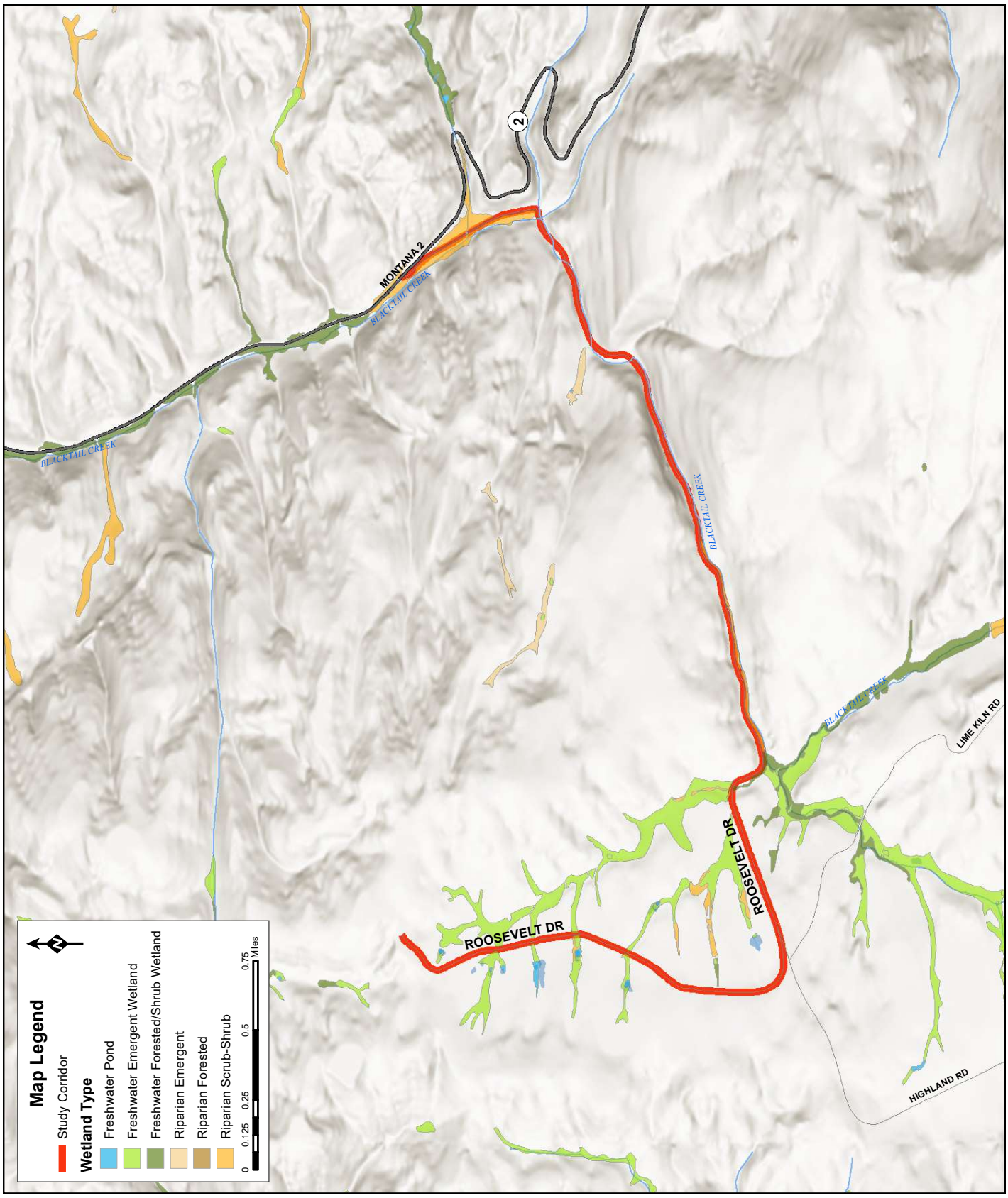


Figure A.4: Wetlands Inventory

Appendix B:

Species of Concern Summary

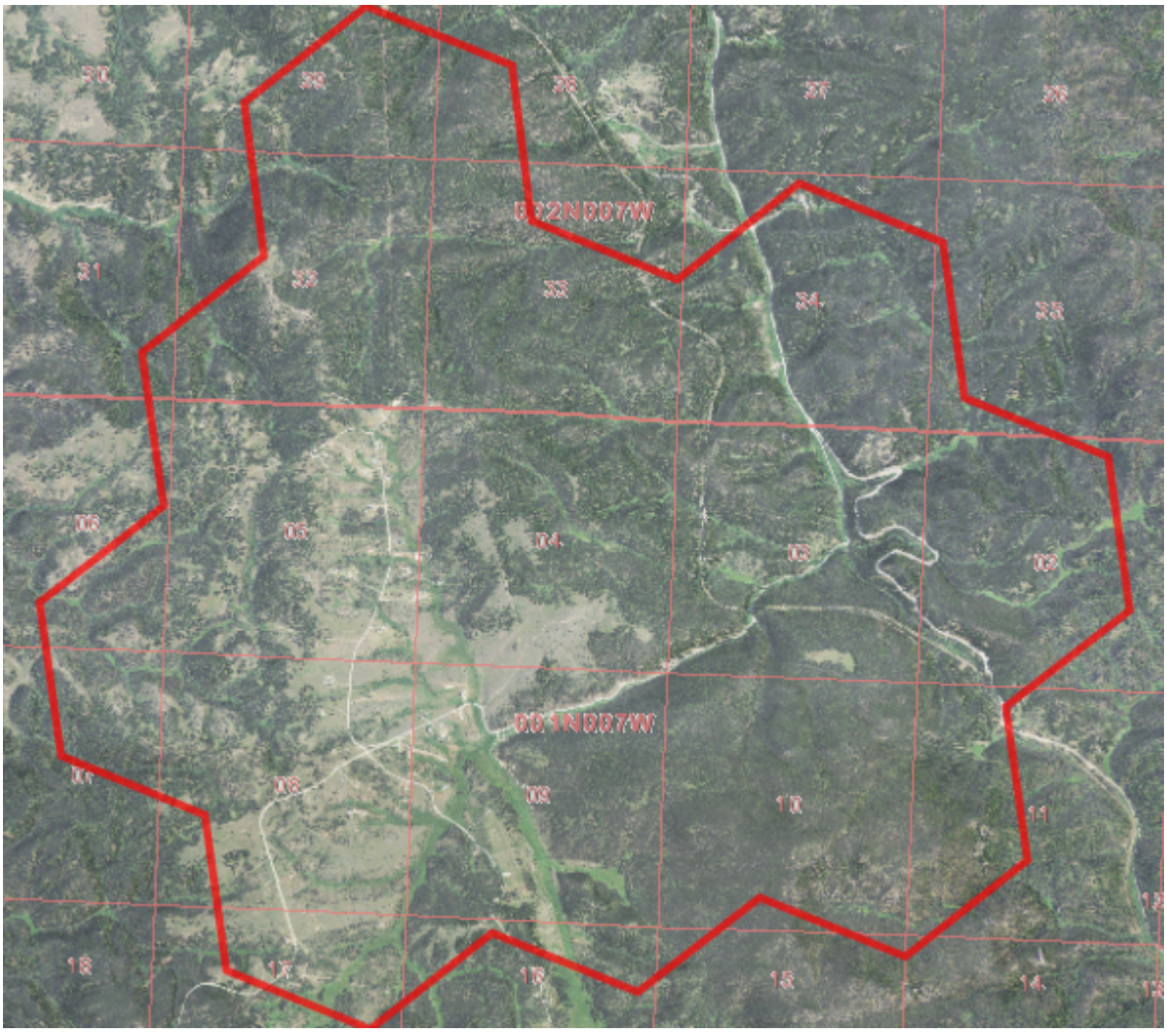
Environmental Summary

MONTANA
Natural Heritage Program

1515 East 6th Avenue
Helena, MT 59620
(406) 444-0241
mtnhp.org

Latitude	Longitude
45.83650	-112.43108
45.89781	-112.51773

Summarized by:
19igov0001 RooseveltDrive
(Custom Area of Interest)



Suggested Citation
Montana Natural Heritage Program. Environmental Summary Report.
for Latitude 45.83650 to 45.89781 and Longitude -112.43108 to -112.51773. Retrieved on 4/18/2019.

The Montana Natural Heritage Program is a program of the Montana State Library's Natural Resource Information System. It is operated as a special program under the Office of the Vice President for Research and Creative Scholarship at the University of Montana, Missoula.

The Montana Natural Heritage Program is part of NatureServe – a network of over 80 similar programs in states, provinces and nations throughout the Western Hemisphere, working to provide comprehensive status and distribution information for species and ecosystems.

Montana Natural Heritage Program · Montana State Library · University of Montana · NatureServe

Table of Contents

Introduction to Environmental Summary Report

The Environmental Summary 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 Montana Natural Heritage Program's (MTNHP) databases for: (1) species occurrences; (2) other observed species without Species Occurrences; (3) other species potentially present based on their range, presence of associated habitats, or predictive distribution model output if available; (4) structured surveys (organized efforts following a protocol capable of detecting one or more species); (5) land cover mapped as ecological systems; (6) wetland and riparian mapping; (7) land management categories; and (8) biological reports associated with plant and animal observations. In order to do this in a consistent manner across Montana and allow for rapid delivery of summaries, we have intersected this information with a uniform grid of hexagons that have been used for planning efforts across the western United States (e.g. Western Association of Fish and Wildlife Agencies - Crucial Habitat Assessment Tool). Each hexagon is one square mile in area and approximately one kilometer in length on each side. Summary information for each data layer is then stored with each hexagon and those summaries are added up to an overall summary for the report area you have requested. 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 all hexagons intersected by the polygon they specified.

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. We remind users 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** operated by the **University of Montana**.

Legend

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

Latitude	Longitude
45.83650	-112.43108
45.89781	-112.51773

Native Species

Summarized by: **19igov0001 RooseveltDrive** *(Custom Area of Interest)*

Filtered by:

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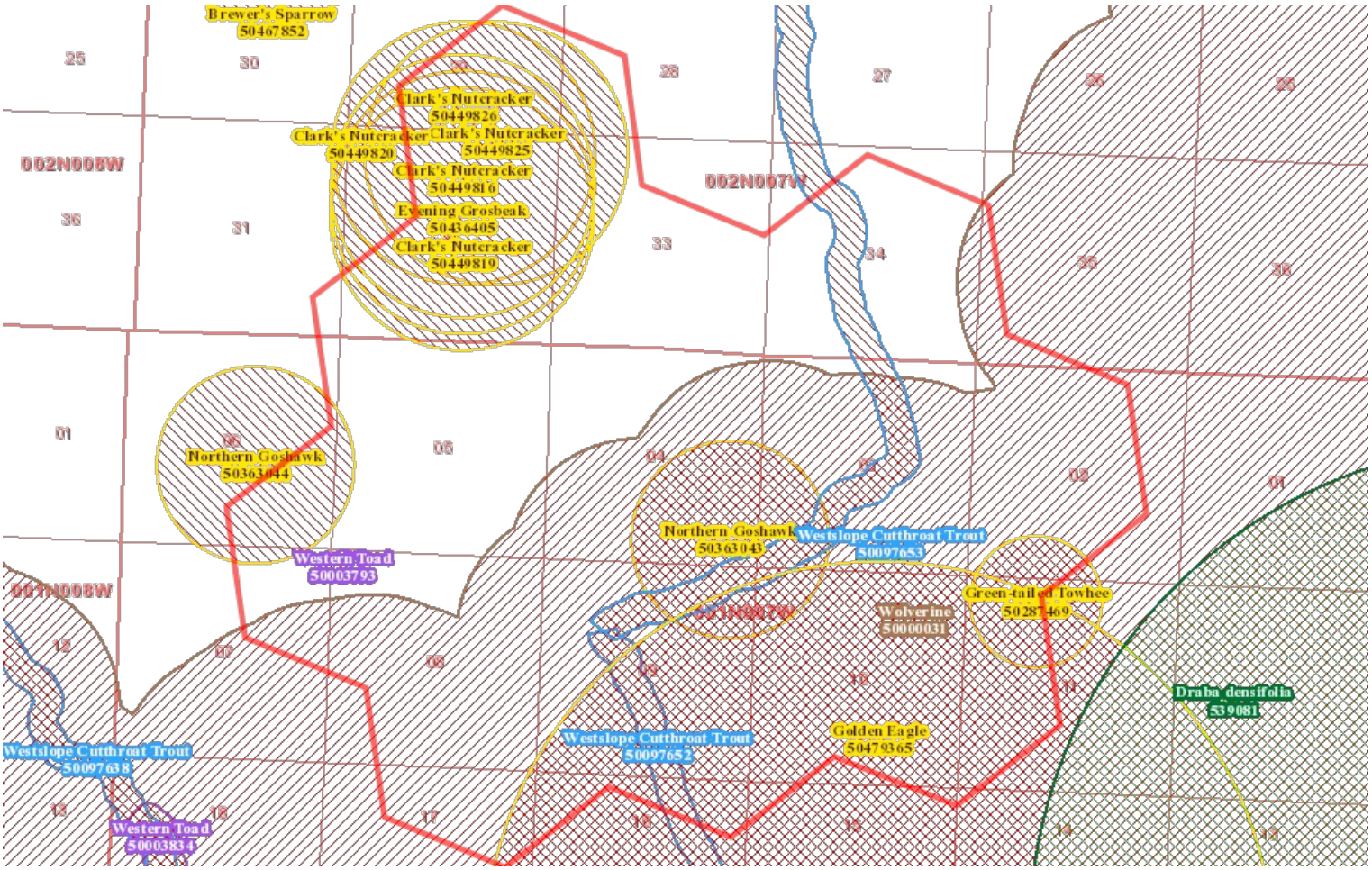


Species Occurrences

	USFWS Sec7	# SO	# Obs	Predictive Model	Associated Habitat	Range
F - Westslope Cutthroat Trout *(Oncorhynchus clarkii lewisi)* SOC		2	25 +		Not Assigned	Y H

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

Species of Concern - Native Species Global: **G4T4** State: **S2** USFS: **Sensitive - Known on Forests (BD, BRT, CG, HLC, KOOT, LOLO)** 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: Mar 30, 2018)

Predictive Models: N 45% Suitable (native range) (deductive)

B - Evening Grosbeak *(Coccothraustes vespertinus)* SOC		1	1			Y W

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

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

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: Jun 29, 2018)

Predictive Models: M 100% Moderate (inductive) **Associated Habitats:** C 86% Common, O 1% Occasional

B - Clark's Nutcracker *(Nucifraga columbiana)* SOC		5	5			Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** USFS: **Species of Conservation Concern on Forests (FLAT)** FWP SWAP: **SGCN3** PIF: **3**

Delineation Criteria Observations with direct evidence of breeding activity or indirect evidence of breeding activity between early March and mid-July within forested habitats containing Whitebark Pine (Pinus albicaulis), Limber Pine (Pinus flexilis), or Ponderosa Pine (Pinus ponderosa). Observations are buffered by a minimum distance of 1,000 meters in order to encompass the spring/summer breeding territory size reported for the species or the locational uncertainty of the observation to a maximum distance of 10,000 meters. (Last Updated: Oct 19, 2018)

Predictive Models: M 100% Moderate (inductive) **Associated Habitats:** C 84% Common

B - Northern Goshawk *(Accipiter gentilis)* **SOC** 2 2 Y WM

View in Field Guide View Predicted Models View Associated Habitat View Range Maps

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

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 750 meters in order to encompass the area around the nest known to be defended by adults and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 13, 2017)

Predictive Models: M 82% Moderate (inductive), L 18% Low (inductive) **Associated Habitats:** C 83% Common, O 1% Occasional

B - Green-tailed Towhee *(Pipilo chlorurus)* **SOC** 1 1 S M

View in Field Guide View Predicted Models View Associated Habitat View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** 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 125 meters in order to encompass the breeding home range 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 23, 2016)

Predictive Models: M 64% Moderate (inductive), L 36% Low (inductive) **Associated Habitats:** C 23% Common, O 50% Occasional

A - Western Toad *(Anaxyrus boreas)* **SOC** 1 2 Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps

Species of Concern - Native Species Global: **G4** State: **S2** USFS: **Sensitive - Known on Forests (BD, BRT, CG, HLC, KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN2**

Delineation Criteria Standing water bodies or portions of large water bodies with confirmed evidence of reproduction (calling adults, eggs, larvae or new metamorphs) buffered by 100 meters in order to reflect importance of adjacent terrestrial habitats to survival of breeding adults and newly metamorphosed juveniles. (Last Updated: Oct 19, 2018)

Predictive Models: M 45% Moderate (inductive), L 55% Low (inductive) **Associated Habitats:** C 88% Common, O 9% Occasional

M - Wolverine *(Gulo gulo)* **SOC** 7 1 Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** USFWS: **P** USFS: **Proposed on Forests (BD, BRT, CG, HLC, KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed area of occupancy supported by recent (post-1980), nearby (within 10 kilometers) observations of adults or juveniles. Tracking regions were defined by areas of primary habitat and adjacent female dispersal habitat as modeled by Inman et al. (2013). These regions were buffered by 1 kilometer in order to link smaller areas and account for potential inaccuracies in independent variables used in the model. (Last Updated: Sep 03, 2014)

Predictive Models: L 100% Low (inductive) **Associated Habitats:** C 91% Common, O 1% Occasional

B - Golden Eagle *(Aquila chrysaetos)* **SOC** 1 Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **BGEPA; MBTA; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 3,000 meters in order to be conservative about encompassing the entire breeding territory and area commonly used for renesting and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 20, 2018)

Predictive Models: L 27% Low (inductive) **Associated Habitats:** C 12% Common

Legend

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

Latitude	Longitude
45.83650	-112.43108
45.89781	-112.51773

Native Species

Summarized by: **19igov0001 RooseveltDrive** *(Custom Area of Interest)*
Filtered by:
MT_Status='Species of Concern', 'Special Status', 'Important Animal Habitat', 'Potential SOC'

Other Observed Species

	USFWS Sec7	# Obs	Predictive Model	Associated Habitat	Range
B - Cassin's Finch *(Haemorhous cassinii)* **SOC**		+			Y
M - Canada Lynx *(Lynx canadensis)* **SOC**	7	1			Y
M - Water Vole *(Microtus richardsoni)* **PSOC**		+			Y
B - Great Gray Owl *(Strix nebulosa)* **SOC**		1			Y
B - Black Rosy-Finch *(Leucosticte atrata)* **SOC**		1	Not Available		S M
F - Yellowstone Cutthroat Trout *(Oncorhynchus clarkii bouvieri)* **SOC**		+	Not Available	Not Assigned	I

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

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA; BCC10** FWP SWAP: **SGCN3** PIF: **3**
Predictive Models: M 100% Moderate (inductive) **Associated Habitats:** C 84% Common

M - Canada Lynx *(Lynx canadensis)* **SOC**

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **LT; CH** USFS: **Threatened on Forests (BD, BRT)** **Threatened, Critical Habitat on Forests (CG, HLC, KOOT, LOLO)**
BLM: **THREATENED** FWP SWAP: **SGCN3**
Predictive Models: M 18% Moderate (inductive), L 82% Low (inductive) **Associated Habitats:** C 83% Common, O 1% Occasional

M - Water Vole *(Microtus richardsoni)* **PSOC**

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4**
Predictive Models: M 18% Moderate (inductive), L 18% Low (inductive) **Associated Habitats:** C 76% Common, O 15% Occasional

B - Great Gray Owl *(Strix nebulosa)* **SOC**

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN** PIF: **3**
Predictive Models: L 100% Low (inductive) **Associated Habitats:** C 92% Common, O 1% Occasional

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

View in Field Guide | View Associated Habitat | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2** USFWS: **MBTA; BCC10** FWP SWAP: **SGCN2, SGIN** PIF: **2**
Associated Habitats: C 1% Common

F - Yellowstone Cutthroat Trout *(Oncorhynchus clarkii bouvieri)* **SOC**

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G4T4** State: **S2** USFS: **Sensitive - Known on Forests (CG)** BLM: **SENSITIVE** FWP SWAP: **SGCN2**

Legend

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

Latitude	Longitude
45.83650	-112.43108
45.89781	-112.51773

Native Species

Summarized by: **19igov0001 RooseveltDrive** *(Custom Area of Interest)*
Filtered by:
MT_Status='Species of Concern', 'Special Status', 'Important Animal Habitat', 'Potential SOC'

Other Potential Species

	USFWS Sec7	Predictive Model	Associated Habitat	Range
M - Little Brown Myotis *(Myotis lucifugus)* SOC				Y
B - Brown Creeper *(Certhia americana)* SOC				Y
B - Pileated Woodpecker *(Dryocopus pileatus)* SOC				Y
M - Dwarf Shrew *(Sorex nanus)* SOC				Y
V - Adoxa moschatellina *(Musk-root)* SOC			Not Assigned	Y
B - Veery *(Catharus fuscescens)* SOC				S M
B - Flammulated Owl *(Psiloscops flammeolus)* SOC				S M
M - Hoary Bat *(Lasiurus cinereus)* SOC				S M
V - Eleocharis rostellata *(Beaked Spikerush)* SOC			Not Assigned	Y
M - Silver-haired Bat *(Lasionycteris noctivagans)* PSOC				Y
B - Barrow's Goldeneye *(Bucephala islandica)* PSOC				Y W M

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

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Species of Concern - Native Species Global: **G3** State: **S3** FWP SWAP: **SGCN3**
Predictive Models: M 100% Moderate (inductive) **Associated Habitats:** C 97% Common, O 3% Occasional

B - Brown Creeper *(Certhia americana)* SOC

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **1**
Predictive Models: M 100% Moderate (inductive) **Associated Habitats:** C 84% Common, O 1% Occasional

B - Pileated Woodpecker *(Dryocopus pileatus)* SOC

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **2**
Predictive Models: M 91% Moderate (inductive), L 9% Low (inductive) **Associated Habitats:** C 66% Common, O 18% Occasional

M - Dwarf Shrew *(Sorex nanus)* SOC

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2S3** FWP SWAP: **SGCN2-3**
Predictive Models: M 91% Moderate (inductive), L 9% Low (inductive) **Associated Habitats:** C 11% Common, O 51% Occasional

V - Adoxa moschatellina *(Musk-root)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Sensitive - Known on Forests (BD, CG, LOLO)**
Predictive Models: M 82% Moderate (inductive), L 18% Low (inductive)

B - Veery *(Catharus fuscescens)* SOC

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Predictive Models: M 73% Moderate (inductive), L 27% Low (inductive) **Associated Habitats:** C 1% Common, O 18% Occasional

B - Flammulated Owl *(Psiloscops flammeolus)* SOC

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC10**
USFS: **Sensitive - Known on Forests (BD, BRT, HLC, KOOT, LOLO)**
Sensitive - Suspected on Forests (CG)
Species of Conservation Concern on Forests (FLAT) BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**
Predictive Models: M 55% Moderate (inductive), L 45% Low (inductive) **Associated Habitats:** C 83% Common, O 1% Occasional

M - Hoary Bat *(Lasiurus cinereus)* SOC

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S3** FWP SWAP: **SGCN3**
Predictive Models: M 27% Moderate (inductive), L 73% Low (inductive) **Associated Habitats:** C 95% Common, O 4% Occasional

V - Eleocharis rostellata *(Beaked Spikerush)* SOC

View in Field Guide | View Predicted Models | View Range Maps
USFS: **Sensitive - Known on Forests (BD, CG, HLC)**
Species of Concern - Native Species Global: **G5** State: **S3** **Species of Conservation Concern on Forests (FLAT)** MNPS: **3**
Predictive Models: M 27% Moderate (inductive), L 73% Low (inductive)

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

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Potential Species of Concern - Native Species Global: **G3G4** State: **S4**
Predictive Models: M 18% Moderate (inductive), L 82% Low (inductive) **Associated Habitats:** C 88% Common, O 9% Occasional

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

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **2**
Predictive Models: M 18% Moderate (inductive), L 82% Low (inductive) **Associated Habitats:** C 1% Common

V - Utricularia intermedia *(Flatleaf Bladderwort)* **SOC** Not Assigned Y

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** USFS: **Sensitive - Known on Forests (KOOT)** MNPS: **3**
Predictive Models: M 18% Moderate (inductive), L 82% Low (inductive)

B - Meesia triquetra *(Meesia Moss)* **SOC** Not Assigned Y

View in Field Guide | View Predicted Models | View Range Maps
USFS: **Sensitive - Known on Forests (BRT, CG, KOOT)**
Sensitive - Suspected on Forests (LOLO)
Species of Concern - Native Species Global: **G5** State: **S2** **Species of Conservation Concern on Forests (FLAT)**
Predictive Models: M 18% Moderate (inductive), L 82% Low (inductive)

M - Western Spotted Skunk *(Spilogale gracilis)* **PSOC** Y

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **SU** FWP SWAP: **SGIN**
Predictive Models: M 18% Moderate (inductive), L 73% Low (inductive) **Associated Habitats:** C 22% Common, O 2% Occasional

V - Trichophorum cespitosum *(Tufted Club-rush)* **SOC** Y

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
USFS: **Sensitive - Known on Forests (BD, HLC, KOOT)**
Species of Concern - Native Species Global: **G5** State: **S2** **Species of Conservation Concern on Forests (FLAT)** MNPS: **3**
Predictive Models: M 18% Moderate (inductive), L 64% Low (inductive) **Associated Habitats:** C 1% Common

M - Porcupine *(Erethizon dorsatum)* **PSOC** Y

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4** FWP SWAP: **SGIN**
Predictive Models: M 9% Moderate (inductive), L 91% Low (inductive) **Associated Habitats:** C 89% Common

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

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**
Predictive Models: M 9% Moderate (inductive), L 91% Low (inductive) **Associated Habitats:** C 88% Common, O 12% Occasional

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

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** FWP SWAP: **SGCN3**
Predictive Models: M 9% Moderate (inductive), L 91% Low (inductive) **Associated Habitats:** C 55% Common, O 15% Occasional

V - Phlox kelseyi var. missoulensis *(Missoula Phlox)* **SOC** Y

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
USFS: **Sensitive - Known on Forests (BD, HLC)**
Species of Concern - Native Species Global: **G3** State: **S3** **Sensitive - Suspected on Forests (LOLO)** MNPS: **2**
Predictive Models: M 9% Moderate (inductive), L 36% Low (inductive) **Associated Habitats:** C 7% Common

B - Boreal Owl *(Aegolius funereus)* **PSOC** Y

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3**
Predictive Models: L 100% Low (inductive) **Associated Habitats:** C 91% Common, O 1% Occasional

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

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known on Forests (BD, BRT, CG, HLC, KOOT, LOLO)**
BLM: **SENSITIVE** FWP SWAP: **SGCN3**
Predictive Models: L 100% Low (inductive) **Associated Habitats:** C 88% Common, O 10% Occasional

B - Rufous Hummingbird *(Selasphorus rufus)* **PSOC** S M

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA** PIF: **3**
Predictive Models: L 100% Low (inductive) **Associated Habitats:** C 79% Common, O 19% Occasional

B - Pacific Wren *(Troglodytes pacificus)* **SOC** Y

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **2**
Predictive Models: L 100% Low (inductive) **Associated Habitats:** C 51% Common, O 33% Occasional

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

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**
Predictive Models: L 100% Low (inductive) **Associated Habitats:** C 51% Common, O 15% Occasional

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2B** USFWS: **MBTA; BCC10; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **2**
Predictive Models: L 100% Low (inductive) **Associated Habitats:** C 16% Common, O 68% Occasional

M - Spotted Bat *(Euderma maculatum)* **SOC** S M

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known on Forests (BD, CG)** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN**
Predictive Models: L 100% Low (inductive) **Associated Habitats:** C 11% Common, O 21% Occasional

B - Western Screech-Owl *(Megascops kennicottii)* **PSOC** Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G4G5** State: **S3S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3**
Predictive Models: L 100% Low (inductive) **Associated Habitats:** C 1% Common, O 1% Occasional

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3**
Predictive Models: L 91% Low (inductive) **Associated Habitats:** C 1% Common

B - Bald Eagle *(Haliaeetus leucocephalus)* **SSS** Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Special Status Species - Native Species Global: **G5** State: **S4** USFWS: **DM; BGEPA; MBTA; BCC10; BCC11; BCC17** USFS: **Sensitive - Known on Forests (BD, BRT, CG, HLC, KOOT, LOLO)** BLM: **SENSITIVE** PIF: **2**
Predictive Models: L 82% Low (inductive) **Associated Habitats:** C 19% Common, O 57% Occasional

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC10; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Predictive Models: L 64% Low (inductive) **Associated Habitats:** C 3% Common

M - Grizzly Bear *(Ursus arctos)* **SOC** Y H

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2S3** USFWS: **PS: LT; XN; DM** USFS: **Threatened on Forests (BD, CG, HLC, KOOT, LOLO)** BLM: **THREATENED** FWP SWAP: **SGCN2-3**
Predictive Models: L 36% Low (inductive) **Associated Habitats:** C 92% Common, O 3% Occasional

B - Peregrine Falcon *(Falco peregrinus)* **SOC** Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** USFWS: **DM; MBTA; BCC10; BCC11; BCC17** USFS: **Sensitive - Known on Forests (BD, BRT, CG, HLC, KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Predictive Models: L 36% Low (inductive) **Associated Habitats:** C 8% Common, O 4% Occasional

V - Boechera fecunda *(Sapphire Rockcress)* **SOC** Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
USFS: **Sensitive - Known on Forests (BD)**
Species of Concern - Native Species Global: **G2** State: **S2** **Sensitive - Suspected on Forests (BRT, LOLO)** BLM: **SENSITIVE** MNPS: **1**
Predictive Models: L 36% Low (inductive) **Associated Habitats:** C 3% Common

V - Pinus albicaulis *(Whitebark Pine)* **SOC** Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S3** USFWS: **C** USFS: **Candidate on Forests (BD, BRT, CG, HLC, KOOT, LOLO)** BLM: **SENSITIVE**
Predictive Models: L 36% Low (inductive) **Associated Habitats:** C 1% Common

B - Common Poorwill *(Phalaenoptilus nuttallii)* **PSOC** S M

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3**
Predictive Models: L 27% Low (inductive) **Associated Habitats:** C 11% Common, O 70% Occasional

B - Sage Thrasher *(Oreoscoptes montanus)* **SOC** S M

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC10; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **3**
Predictive Models: L 18% Low (inductive) **Associated Habitats:** C 3% Common

B - Black-backed Woodpecker *(Picoides arcticus)* **SOC** Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA**
USFS: **Sensitive - Known on Forests (BD, BRT, CG, HLC, KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**
Predictive Models: L 9% Low (inductive) **Associated Habitats:** C 84% Common

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2B,S5N** USFWS: **MBTA** FWP SWAP: **SGCN2, SGIN**
Predictive Models: L 9% Low (inductive) **Associated Habitats:** C 1% Common

M - Fisher *(Pekania pennanti)* SOC — Not Available

View in Field Guide | View Associated Habitat | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Sensitive - Known on Forests (BD, BRT, HLC, KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Associated Habitats: C 66% Common, O 19% Occasional

B - Northern Hawk Owl *(Surnia ulula)* SOC — Not Available

View in Field Guide | View Associated Habitat | View Range Maps

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

Associated Habitats: C 58% Common, O 15% Occasional

I - Euphydryas gillettii *(Gillette's Checkerspot)* SOC — Not Available

View in Field Guide | View Associated Habitat | View Range Maps

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

Associated Habitats: C 51% Common, O 8% Occasional

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

View in Field Guide | View Associated Habitat | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2**

Associated Habitats: C 51% Common

M - Wyoming Ground Squirrel *(Urocitellus elegans)* PSOC — Not Available

View in Field Guide | View Associated Habitat | View Range Maps

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

Associated Habitats: C 31% Common

I - Boloria freija *(Freija Fritillary)* PSOC — Not Available

View in Field Guide | View Associated Habitat | View Range Maps

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

Associated Habitats: C 18% Common, O 8% Occasional

B - Short-eared Owl *(Asio flammeus)* PSOC — Not Available

View in Field Guide | View Associated Habitat | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA; BCC11; BCC17** PIF: **3**

Associated Habitats: C 11% Common, O 1% Occasional

M - Bison *(Bos bison)* SOC — Not Available

View in Field Guide | View Associated Habitat | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S2** FWP SWAP: **SGCN2**

Associated Habitats: C 11% Common

B - Bobolink *(Dolichonyx oryzivorus)* SOC — Not Available

View in Field Guide | View Associated Habitat | View Range Maps

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

Associated Habitats: C 10% Common

M - Black-tailed Prairie Dog *(Cynomys ludovicianus)* SOC — Not Available

View in Field Guide | View Associated Habitat | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known on Forests (CG)** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Associated Habitats: O 5% Occasional

B - Loggerhead Shrike *(Lanius ludovicianus)* SOC — Not Available

View in Field Guide | View Associated Habitat | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC10; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Associated Habitats: C 5% Common

B - Sharp-tailed Grouse *(Tympanuchus phasianellus)* SOC — Not Available

View in Field Guide | View Associated Habitat | View Range Maps

Species of Concern - Native Species Global: **G5** State: **SX,S4** FWP SWAP: **SGCN1** PIF: **2**

Associated Habitats: C 4% Common, O 1% Occasional

B - Ferruginous Hawk *(Buteo regalis)* SOC — Not Available

View in Field Guide | View Associated Habitat | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC10; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Associated Habitats: C 4% Common

M - Columbia Plateau Pocket Mouse *(Perognathus parvus)* SOC — Not Available

View in Field Guide | View Associated Habitat | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Sensitive - Suspected on Forests (BD)** FWP SWAP: **SGCN3, SGIN**

Associated Habitats: C 3% Common, O 7% Occasional

B - Burrowing Owl *(Athene cunicularia)* SOC — Not Available

View in Field Guide View Associated Habitat View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC17** USFS: **Sensitive - Known on Forests (CG) Sensitive - Suspected on Forests (HLC)** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

Associated Habitats: C 3% Common, O 1% Occasional

B - Greater Sage-Grouse *(Centrocercus urophasianus)* **SOC** Not Available Y

View in Field Guide View Associated Habitat View Range Maps

Species of Concern - Native Species Global: **G3G4** State: **S2** USFS: **Sensitive - Known on Forests (BD) Sensitive - Suspected on Forests (CG, HLC)** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **1**

Associated Habitats: C 3% Common

B - Sagebrush Sparrow *(Artemisiospiza nevadensis)* **SOC** Not Available S M

View in Field Guide View Associated Habitat View Range Maps

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

Associated Habitats: C 3% Common

M - Yuma Myotis *(Myotis yumanensis)* **PSOC** Not Available Y

View in Field Guide View Associated Habitat View Range Maps

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

Associated Habitats: C 2% Common, O 38% Occasional

B - Long-billed Curlew *(Numenius americanus)* **SOC** Not Available S M

View in Field Guide View Associated Habitat View Range Maps

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

Associated Habitats: C 1% Common, O 4% Occasional

R - Greater Short-horned Lizard *(Phrynosoma hernandesi)* **SOC** Not Available Y

View in Field Guide View Associated Habitat View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Sensitive - Known on Forests (CG) Sensitive - Suspected on Forests (HLC)** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN**

Associated Habitats: C 1% Common, O 3% Occasional

B - Pinyon Jay *(Gymnorhinus cyanocephalus)* **SOC** Not Available Y

View in Field Guide View Associated Habitat View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA; BCC17** FWP SWAP: **SGCN3**

Associated Habitats: C 1% Common, O 2% Occasional

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

View in Field Guide View Associated Habitat View Range Maps

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

Associated Habitats: C 1% Common, O 1% Occasional

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

View in Field Guide View Associated Habitat View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S2S3**

Associated Habitats: C 1% Common, O 1% Occasional

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

View in Field Guide View Associated Habitat View Range Maps

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

Associated Habitats: C 1% Common, O 1% Occasional

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

View in Field Guide View Associated Habitat View Range Maps

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

Associated Habitats: C 1% Common, O 1% Occasional

I - Leucorrhinia borealis *(Boreal Whiteface)* **SOC** Not Available Y

View in Field Guide View Associated Habitat View Range Maps

Species of Concern - Native Species Global: **G5** State: **S1**

Associated Habitats: C 1% Common, O 1% Occasional

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

View in Field Guide View Associated Habitat View Range Maps

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

Associated Habitats: C 1% Common, O 1% Occasional

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

View in Field Guide View Associated Habitat View Range Maps

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

Associated Habitats: C 1% Common, O 1% Occasional

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

View in Field Guide | View Associated Habitat | View Range Maps

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

Associated Habitats: C 1% Common, O 1% Occasional

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

View in Field Guide | View Associated Habitat | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S2S3**

Associated Habitats: C 1% Common, O 1% Occasional

B - Black Tern *(Chlidonias niger)* SOC — Not Available — S M

View in Field Guide | View Associated Habitat | View Range Maps

Species of Concern - Native Species Global: **G4G5** State: **S3B** USFWS: **MBTA; BCC11** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Associated Habitats: C 1% Common, O 1% Occasional

B - Forster's Tern *(Sterna forsteri)* SOC — Not Available — S M

View in Field Guide | View Associated Habitat | View Range Maps

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

Associated Habitats: C 1% Common, O 1% Occasional

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

View in Field Guide | View Associated Habitat | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S2B** USFWS: **MBTA** USFS: **Sensitive - Known on Forests (BD, CG, HLC, KOOT, LOLO)** FWP SWAP: **SGCN2** PIF: **1**

Associated Habitats: C 1% Common, O 1% Occasional

B - Black-necked Stilt *(Himantopus mexicanus)* SOC — Not Available — M

View in Field Guide | View Associated Habitat | View Range Maps

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

Associated Habitats: C 1% Common, O 1% Occasional

B - Caspian Tern *(Hydroprogne caspia)* SOC — Not Available — M

View in Field Guide | View Associated Habitat | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **2**

Associated Habitats: C 1% Common, O 1% Occasional

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

View in Field Guide | View Associated Habitat | View Range Maps

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

Associated Habitats: C 1% Common, O 1% Occasional

B - Hooded Merganser *(Lophodytes cucullatus)* PSOC — Not Available — Y M

View in Field Guide | View Associated Habitat | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **2**

Associated Habitats: C 1% Common

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

View in Field Guide | View Associated Habitat | View Range Maps

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

Associated Habitats: C 1% Common

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

View in Field Guide | View Associated Habitat | View Range Maps

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

Associated Habitats: C 1% Common

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

View in Field Guide | View Associated Habitat | View Range Maps

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

Associated Habitats: O 1% Occasional

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

View in Field Guide | View Associated Habitat | View Range Maps

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

Associated Habitats: C 1% Common

I - Boloria frigga *(Frigga Fritillary)* SOC — Not Available — Y

View in Field Guide | View Associated Habitat | View Range Maps

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

Associated Habitats: C 1% Common

I - Enallagma civile *(Familiar Bluet)* PSOC — Not Available — Y

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S4**
Associated Habitats: C 1% Common

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S4**
Associated Habitats: O 1% Occasional

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S4**
Associated Habitats: C 1% Common

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S5**
Associated Habitats: O 1% Occasional

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S4**
Associated Habitats: C 1% Common

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S4**
Associated Habitats: O 1% Occasional

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S5**
Associated Habitats: C 1% Common

V - Agastache cusickii *(Cusick's Horsemint)* **SOC** Not Available Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S2S3** USFS: **Sensitive - Known on Forests (BD)** BLM: **SENSITIVE**
Associated Habitats: C 1% Common

B - American Bittern *(Botaurus lentiginosus)* **SOC** Not Available S M

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **3**
Associated Habitats: C 1% Common

B - Mountain Plover *(Charadrius montanus)* **SOC** Not Available S M

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G3** State: **S2B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **1**
Associated Habitats: O 1% Occasional

B - White-faced Ibis *(Plegadis chihi)* **SOC** Not Available S M

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Associated Habitats: C 1% Common

B - Yellow-billed Cuckoo *(Coccyzus americanus)* **SOC** Not Available S M

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **PS: LT; MBTA; BCC10** USFS: **Threatened on Forests (BRT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN** PIF: **2**
Associated Habitats: C 1% Common

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**
Associated Habitats: C 1% Common

B - Black-crowned Night-Heron *(Nycticorax nycticorax)* **SOC** Not Available M

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**
Associated Habitats: C 1% Common

B - Clark's Grebe *(Aechmophorus clarkii)* **SOC** Not Available M

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**
Associated Habitats: C 1% Common

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

View in Field Guide **View Associated Habitat** **View Range Maps**

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

Associated Habitats: C 1% Common

B - Common Tern *(Sterna hirundo)* **SOC** Not Available

View in Field Guide **View Associated Habitat** **View Range Maps**

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

Associated Habitats: C 1% Common

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

View in Field Guide **View Associated Habitat** **View Range Maps**

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

Associated Habitats: C 1% Common

B - Tennessee Warbler *(Oreothlypis peregrina)* **PSOC** Not Available

View in Field Guide **View Associated Habitat** **View Range Maps**

Potential Species of Concern - Native Species Global: **G5** State: **S3S4B** USFWS: **MBTA**

Associated Habitats: C 1% Common

B - Trumpeter Swan *(Cygnus buccinator)* **SOC** Not Available

View in Field Guide **View Associated Habitat** **View Range Maps**

Species of Concern - Native Species Global: **G4** State: **S3** USFWS: **MBTA** USFS: **Sensitive - Known on Forests (BD, CG)** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

Associated Habitats: C 1% Common

Latitude	Longitude
45.83650	-112.43108
45.89781	-112.51773

Structured Surveys

Summarized by: **19igov0001 RooseveltDrive** *(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.

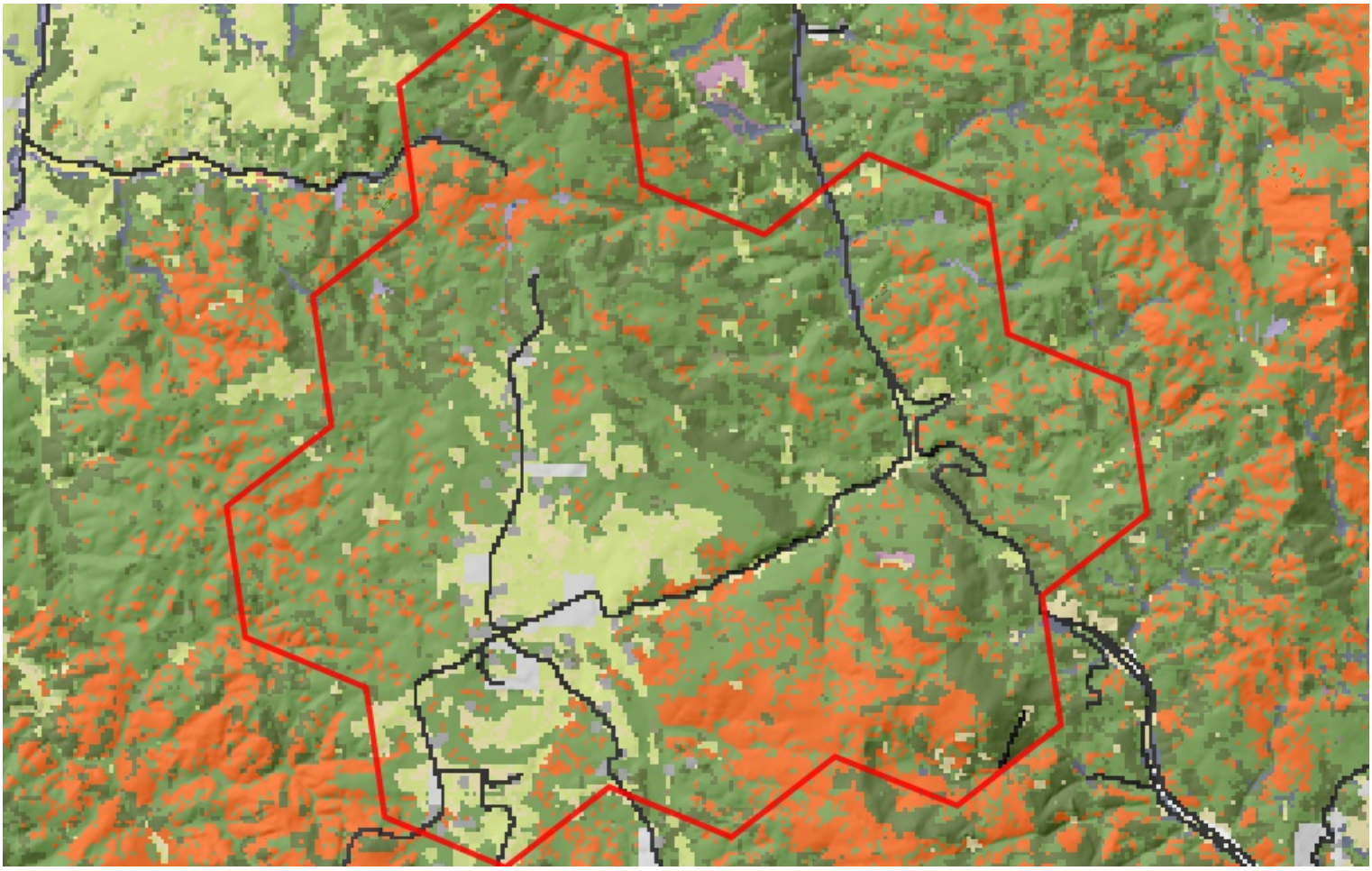
Within the report area you have requested, structured surveys are summarized by the number of each type of structured survey protocol that has been conducted, the number of species detections/observations resulting from these surveys, and the most recent year a survey has been conducted.

AR-Amphibian/Reptile Lentic *(Lentic Amphibian/Reptile Surveys)*	**Survey Count**: 2	**Obs Count**: 2	**Recent Survey**: 2004
B-Flammuled Owl Call Playback *(Flammulated Owl Call Playback Survey)*	**Survey Count**: 8	**Obs Count**:	**Recent Survey**: 2005
B-Grid-based Point Count *(RMBO Generalized Random-tesselation Stratification)*	**Survey Count**: 55	**Obs Count**: 270	**Recent Survey**: 2014
B-Winter Breeding Owl *(Late Winter Breeding Owl Survey)*	**Survey Count**: 3	**Obs Count**:	**Recent Survey**: 2014
E-Noxious Weed, Road-based *(Noxious Weed Road-based Visual Surveys)*	**Survey Count**: 4	**Obs Count**: 7	**Recent Survey**: 2004
F-Fish Electrofishing *(Fish Electrofishing Surveys)*	**Survey Count**: 25	**Obs Count**: 50	**Recent Survey**: 2015
I-Bumble Bee *(Bumble Bee Collection Surveys)*	**Survey Count**: 2	**Obs Count**: 6	**Recent Survey**: 2014
M-Pika VES *(Talus Slope Pika Survey)*	**Survey Count**: 1	**Obs Count**:	**Recent Survey**: 2010
P-Veg Plot *(Unspecified Vegetation Plot)*	**Survey Count**: 3	**Obs Count**: 42	**Recent Survey**: 1972

Latitude	Longitude
45.83650	-112.43108
45.89781	-112.51773

Land Cover

Summarized by: **19igov0001 RooseveltDrive** *(Custom Area of Interest)*



49% (*3,482 Acres*)

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

Rocky Mountain Lodgepole Pine Forest

This forested system is widespread in upper montane to subalpine zones of the Montana Rocky Mountains, and east into island ranges of north-central Montana and the Bighorn and Beartooth ranges of south-central Montana. These are montane to subalpine forests where the dominance of lodgepole pine (*Pinus contorta*) is related to fire history and topoedaphic conditions. In Montana, elevation ranges from 975 to 2,743 meters (3,200-9000 feet). These forests occur on flats to slopes of all degrees and aspect, as well as valley bottoms. Fire is frequent, and stand-replacing fires are common. Following stand-replacing fires, lodgepole pinewill rapidly colonize and develop into dense, even-aged stands. Most forests in this ecological system occur as early- to mid-successional forests persisting for 50-200 years on warmer, lower elevation forests, and 150-400 years in subalpine forests. They generally occur on dry to intermediate sites with a wide seasonal range of temperatures and long precipitation-free periods in summer. Snowfall is heavy and supplies the major source of soil water used for growth in early summer. Vigorous stands occur where the precipitation exceeds 533 millimeters (21 inches). These lodgepole forests are typically associated with rock types weathering to acidic substrates, such as granite and rhyolite. In west-central Montana ranges such the Big Belts and the Rocky Mountain Front, these forests are found on limestone substrates. These systems are especially well developed on the broad ridges and high valleys near and east of the Continental Divide. Succession proceeds at different rates, moving relatively quickly on low-elevation, mesic sites and particularly slowly in high-elevation forests such as those along the Continental Divide in Montana.

18% (*1,249 Acres*)

Forest and Woodland Systems
Conifer-dominated forest and woodland (xeric-mesic)
Rocky Mountain Montane Douglas-fir Forest and Woodland

In Montana, this ecological system occurs on the east side of the Continental Divide, north to about the McDonald Pass area, and along the Rocky Mountain Front. This system is associated with a dry to submesic continental climate regime with annual precipitation ranging from 51 to 102 centimeters (20-40 inches), with a maximum in winter or late spring. Winter snowpacks typically melt off in early spring at lower elevations. Elevations range from valley bottoms to 1,980 meters (6500 feet) in northern Montana and up to 2,286 meters (7500 feet) on warm aspects in southern Montana. It occurs on north-facing aspects in most areas, and south-facing aspects at higher elevations. This is a Douglas-fir (*Pseudotsuga menziesii*) dominated system without any maritime floristic composition. Fire disturbance intervals are as infrequent as 500 years, and as a result, individual trees and forests can attain great age on some sites (500 to 1,500 years). In Montana, this system occurs from lower montane to lower subalpine environments and is prevalent on calcareous substrates. Common understory shrubs include common ninebark (*Physocarpus malvaceus*), common juniper (*Juniperus communis*), Rocky Mountain juniper (*Juniperus scopulorum*), birch-leaf spiraea (*Spiraea betulifolia*), snowberry (*Symphoricarpos* species), creeping Oregon grape (*Mahonia repens*) and Canadian buffaloberry (*Shepherdia canadensis*). The Douglas-fir/pinegrass (*Calamogrostis rubescens*) type is the most ubiquitous association found within this system in Montana.

No Image

15% (*1,076 Acres*)

Recently Disturbed or Modified
Insect-Killed Forest
Insect-Killed Forest

7% (*502 Acres*)

Grassland Systems
Montane Grassland
Rocky Mountain Subalpine-Upper Montane Grassland

These lush grassland systems are found in upper montane to subalpine, high-elevation,zones, and are shaped by short summers, cold winters, and young soils derived from recent glacial and alluvial material. In subalpine settings, dry grasslands may occur as small meadows or large open parks surrounded by higher elevational forests, but typicall will have no tree cover within them. In general, soil textures are much finer, and soils are often deeper than in the neighboring forests. Most precipitation occurs as heavy snowpack in the mountains with spring and early summer rains. This system is composed of bunch grass species, with a diversity of cool season forbs. It is similar to the Rocky Mountain Lower Montane, Foothill and Valley Grassland ecological system, but is found at higher elevations and has additional floristic components with more subalpine taxa. In Montana, this system generally occurs as two plant communities: a rough fescue-Idaho fescue (*Festuca campestris-Festuca idahoensis*) association occurring on moister sites, such as the north and east-facing slopes and benches in the mountains; and the Idaho Fescue-bluebunch wheatgrass (*Festuca idahoensis-Pseudoroegneria spicata*) association occurring on drier sites, such as ridges, hilltops, and south and west facing slopes and benches. At elevations greater than 2286 meters (7,500 feet), Idaho fescue becomes dominant, sometimes associated with slender wheatgrass (*Elymus trachycaulus*), or in certain areas, tufted hairgrass (*Deschampsia cespitosa*). Noxious species invasion, fire suppression, heavy grazing, and oil and gas development are major threats to this system.

3% (*240 Acres*)

Shrubland, Steppe and Savanna Systems
Sagebrush Steppe
Montane Sagebrush Steppe

This system dominates the montane and subalpine landscape of southwestern Montana from valley bottoms to subalpine ridges and is found as far north as Glacier National Park. It can also be seen in the island mountain ranges of the north-central and south-central portions of the state. It primarily occurs on deep-soiled to stony flats, ridges, nearly flat ridgetops, and mountain slopes. In general, this system occurs in areas of gentle topography, fine soils, subsurface moisture or mesic conditions, within zones of higher precipitation and areas of snow accumulation. It occurs on all slopes and aspects, variable substrates and all soil types. The shrub component of this system is generally dominated by mountain big sagebrush (*Artemisia tridentata ssp. vaseyana*). Other co-dominant shrubs include silver sagebrush (*Artemisia cana ssp. viscidula)*, subalpine big sagebrush (*Artemisia tridentata ssp. spiciformis*), three tip sagebrush (*Artemisia tripartita* ssp*. tripartita*) and antelope bitterbrush (*Purshia tridentata*). Little sagebrush (*Artemisia arbuscula ssp. arbuscula*) shrublands are only found in southwestern Montana on sites with a perched water table. Wyoming big sagebrush (*Artemisia tridentata ssp. wyomingensis*) sites may be included within this system if occurrences are at montane elevations, and are associated with montane graminoids such as Idaho fescue (*Festuca idahoensis),* spike fescue (*Leucopoa kingii*), or poverty oatgrass (*Danthonia intermedia)*. In ares where sage has been eliminated by human activities like burning, disking or poisoning, other shrubs may be dominant, especially rubber rabbitbrush (*Ericameria nauseosa*), and green rabbitbrush (*Chrysothamnus viscidiflorus*). Because of the mesic site conditions, most occurrences support a diverse herbaceous undergrowth of grasses and forbs. Shrub canopy cover is extremely variable, ranging from 10 percent to as high as 40 or 50 percent.

No Image

2% (*137 Acres*)

Human Land Use
Developed
Other Roads

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

Additional Limited Land Cover

1% (*75 Acres*) Low Intensity Residential

1% (*72 Acres*) Developed, Open Space

1% (*49 Acres*) Major Roads

<1% (*35 Acres*) Aspen Forest and Woodland

<1% (*33 Acres*) Rocky Mountain Subalpine-Montane Mesic Meadow

<1% (*25 Acres*) Northern Rocky Mountain Lower Montane Riparian Woodland and Shrubland

<1% (*18 Acres*) Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland

<1% (*14 Acres*) Alpine-Montane Wet Meadow

<1% (*14 Acres*) Rocky Mountain Ponderosa Pine Woodland and Savanna

<1% (*9 Acres*) Rocky Mountain Subalpine Mesic Spruce-Fir Forest and Woodland

<1% (*3 Acres*) Harvested forest-grass regeneration

<1% (*2 Acres*) Rocky Mountain Lower Montane, Foothill, and Valley Grassland

<1% (*1 Acres*) Harvested forest-tree regeneration

<1% (*1 Acres*) Harvested forest-shrub regeneration

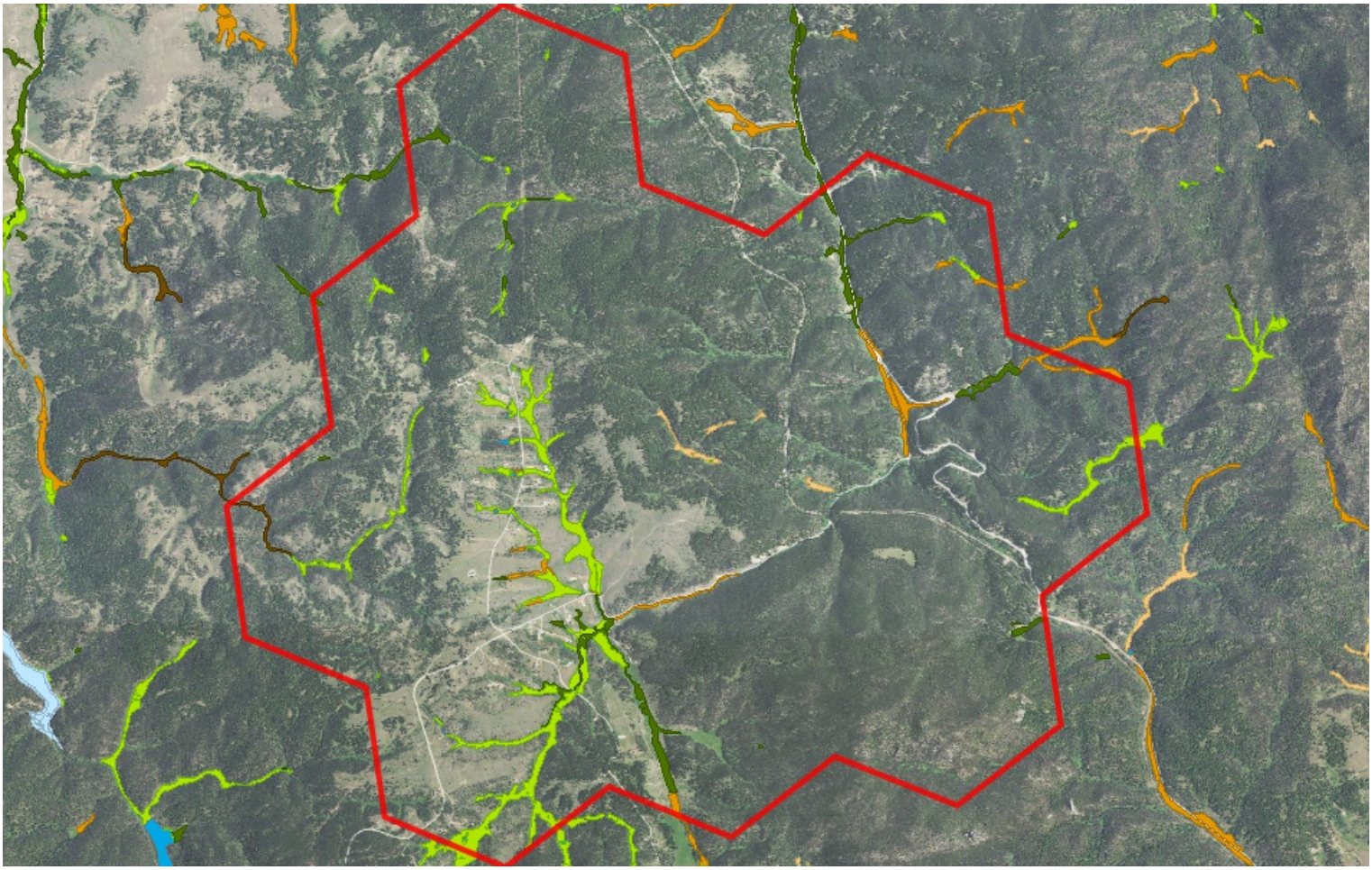
<1% (*0 Acres*) Rocky Mountain Subalpine Deciduous Shrubland

<1% (*0 Acres*) Open Water

Latitude	Longitude
45.83650	-112.43108
45.89781	-112.51773

Wetland and Riparian

Summarized by: **19igov0001 RooseveltDrive** *(Custom Area of Interest)*



Wetland and Riparian Mapping

Explain

P - Palustrine

AB - Aquatic Bed

F - Semipermanently Flooded	3 Acres	
(no modifier)	**1 Acres**	**PABF**
b - Beaver	**1 Acres**	**PABFb**
h - Diked/Impounded	**1 Acres**	**PABFh**
x - Excavated	**<1 Acres**	**PABFx**

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

EM - Emergent

A - Temporarily Flooded	142 Acres	
(no modifier)	**142 Acres**	**PEMA**
h - Diked/Impounded	**<1 Acres**	**PEMAh**
C - Seasonally Flooded	2 Acres	
(no modifier)	**2 Acres**	**PEMC**

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

SS - Scrub-Shrub

A - Temporarily Flooded	51 Acres	
(no modifier)	**51 Acres**	**PSSA**
h - Diked/Impounded	**<1 Acres**	**PSSAh**
C - Seasonally Flooded	<1 Acres	
(no modifier)	**<1 Acres**	**PSSC**

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

Rp - Riparian

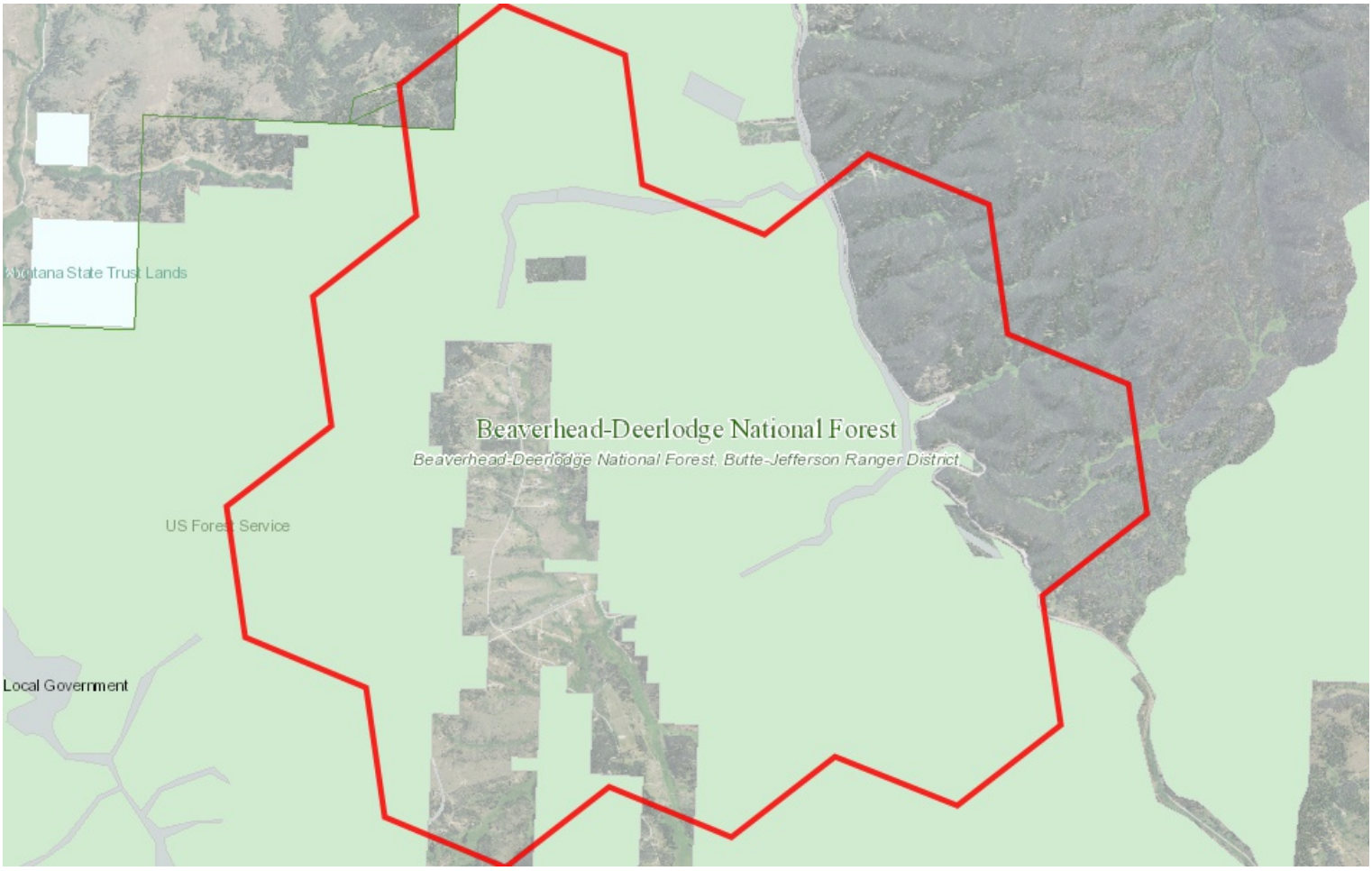
1 - Lotic

SS - Scrub-Shrub (no modifier)	**30 Acres** Rp1SS	**Rp - Riparian, 1 - Lotic, SS - Scrub-Shrub** *This type of riparian area is dominated by woody vegetation that is less than 6 meters (20 feet) tall. Woody vegetation includes tree saplings and trees that are stunted due to environmental conditions.*
FO - Forested (no modifier)	**4 Acres** Rp1FO	**Rp - Riparian, 1 - Lotic, FO - Forested** *This riparian class has woody vegetation that is greater than 6 meters (20 feet) tall.*
EM - Emergent (no modifier)	**8 Acres** Rp1EM	**Rp - Riparian, 1 - Lotic, EM - Emergent** *Riparian areas that have erect, rooted herbaceous vegetation during most of the growing season.*

Latitude	Longitude
45.83650	-112.43108
45.89781	-112.51773

Land Management

Summarized by: **19igov0001 RooseveltDrive** *(Custom Area of Interest)*



Land Management Summary

Explain

	Ownership	Tribal	Easements	Other Boundaries (possible overlap)
Public Lands	**5,001 Acres (71%)**			
Federal	**4,901 Acres (70%)**			
US Forest Service	**4,901 Acres (70%)**			
USFS Owned	**4,901 Acres (70%)**			
USFS Ranger Districts				**6,982 Acres**
Beaverhead-Deerlodge National Forest, Butte-Jefferson Ranger District				6,982 Acres
USFS National Forest Boundaries				**6,982 Acres**
Beaverhead-Deerlodge National Forest				6,982 Acres
Local	**100 Acres (1%)**			
Local Government	**100 Acres (1%)**			
Local Government Owned	**100 Acres (1%)**			
Private Lands or Unknown Ownership	**2,033 Acres (29%)**			

Latitude	Longitude
45.83650	-112.43108
45.89781	-112.51773

Biological Reports

Summarized by: **19igov0001 RooseveltDrive** *(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

Montana Natural Heritage Program

A program of the **Montana State Library's Natural Resource Information System** operated by the **University of Montana**.

Invasive and Pest Species

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
- T Suspect (invasive / pest)
- D Documented (invasive / pest)
- R Released (biocontrol)
- E Established (biocontrol)

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

Latitude	Longitude
45.83650	-112.43108
45.89781	-112.51773

Summarized by: **19igov0001 RooseveltDrive** *(Custom Area of Interest)*

	# Obs	Predictive Model	Associated Habitat	Range
Noxious Weeds: Priority 2B				
V - Centaurea stoebe *(Spotted Knapweed)* N2B	49	Not Available	Not Assigned	D
View in Field Guide **View Range Maps** Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**				
V - Cirsium arvense *(Canada Thistle)* N2B	1	Not Available	Not Assigned	D
View in Field Guide **View Range Maps** Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**				
V - Euphorbia virgata *(Leafy Spurge)* N2B	2	Not Available	Not Assigned	D
View in Field Guide **View Range Maps** Noxious Weed: Priority 2B - Non-native Species Global: **GNRTNR** State: **SNA**				
V - Lepidium draba *(Whitetop)* N2B	3	Not Available	Not Assigned	D
View in Field Guide **View Range Maps** Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**				
V - Linaria vulgaris *(Yellow Toadflax)* N2B	2	Not Available	Not Assigned	D
View in Field Guide **View Range Maps** Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**				
Biocontrol Species				
I - Aphthona lacertosa *(Brown-legged Leafy Spurge Flea Beetle)* BIOCNTRL			Not Assigned	R
View in Field Guide **View Predicted Models** **View Range Maps** Biocontrol Species - Non-native Species Global: **GNR** State: **SNA** **Predictive Models:** M 36% Moderate (inductive), L 64% Low (inductive)				
I - Mecinus janthiniformis *(Dalmatian Toadflax Stem-boring Weevil)* BIOCNTRL			Not Assigned	R
View in Field Guide **View Predicted Models** **View Range Maps** Biocontrol Species - Non-native Species Global: **GNR** State: **SNA** **Predictive Models:** M 27% Moderate (inductive), L 73% Low (inductive)				
I - Cyphocleonus achates *(Knapweed Root Weevil)* BIOCNTRL			Not Assigned	R
View in Field Guide **View Predicted Models** **View Range Maps** Biocontrol Species - Non-native Species Global: **GNR** State: **SNA** **Predictive Models:** L 73% Low (inductive)				
I - Aphthona nigriscutis *(Black Dot Leafy Spurge Flea Beetle)* BIOCNTRL			Not Assigned	R
View in Field Guide **View Predicted Models** **View Range Maps** Biocontrol Species - Non-native Species Global: **GNR** State: **SNA** **Predictive Models:** L 55% Low (inductive)				
I - Oberea erythrocephala *(Red-headed Leafy Spurge Stem Borer)* BIOCNTRL			Not Assigned	R
View in Field Guide **View Predicted Models** **View Range Maps** Biocontrol Species - Non-native Species Global: **GNR** State: **SNA** **Predictive Models:** L 27% Low (inductive)				

Introduction to Montana Natural Heritage Program

P.O. Box 201800 • 1515 East Sixth Avenue • Helena, MT 59620-1800 • fax 406.444.0266 • tel 406.444.0241 • 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 (MCA 90-15) 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. The enabling legislation for MTNHP provides the State Library with the option to contract the operation of the Program. Since 2006, MTNHP has been operated as a program under the Office of the Vice President for Research and Creative Scholarship at the University of Montana (UM) through a renewable 2-year contract with the MSL. 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 includes: (1) lists of, and basic information on, plant and animal species and biological communities; (2) plant and animal surveys, observations, species occurrences, predictive distribution models, range polygons, and conservation status ranks; and (3) land cover and wetland and riparian mapping and the conservation status of these and other 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 three 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. Contact information for MTNHP staff is posted at: http://mtnhp.org/contact.asp
- 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 cross or survey 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 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 planning processes and management decisions. In addition to the information you receive from us, we encourage you to contact state, federal, and tribal resource management agencies in the area where your project is located. They may have additional data or management 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 Conservation (IPAC) website http://ecos.fws.gov/ipac/ regarding U.S. Endangered Species Act listed Threatened, Endangered, or Candidate species.

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

Montana Fish, Wildlife, and Parks

Fish Species	Zachary Shattuck zshattuck@mt.gov (406) 444-1231 or Lee Nelson leenelson@mt.gov (406) 444-2447
American Bison Black-footed Ferret Black-tailed Prairie Dog Bald Eagle Golden Eagle Common Loon Least Tern Piping Plover Whooping Crane	Lauri Hanauska-Brown LHanauska-Brown@mt.gov (406) 444-5209
Grizzly Bear Greater Sage Grouse Trumpeter Swan Big Game Upland Game Birds Furbearers	John Vore jvore@mt.gov (406) 444-5209
Managed Terrestrial Game and Nongame Animal Data	Smith Wells – MFWP Data Analyst smith.wells@mt.gov (406) 444-3759
Fisheries Data	Adam Petersen – MFWP Fish Data Manager apetersen@mt.gov (406) 444-1275
Wildlife and Fisheries Scientific Collector's Permits	http://fwp.mt.gov/doingBusiness/licenses/scientificWildlife/ Karen Speeg for Wildlife kspeeg@mt.gov (406) 444-2612 Kim Wedde for Fisheries kim.wedde@mt.gov (406) 444-5594
Fish and Wildlife Recommendations for Subdivision Development	Renee Lemon RLemon@mt.gov (406) 444-3738 and see http://fwp.mt.gov/fishAndWildlife/livingWithWildlife/buildingWithWildlife/subdivisionRecommendations/
Regional Contacts  	Region 1 (Kalispell) (406) 752-5501 Region 2 (Missoula) (406) 542-5500 Region 3 (Bozeman) (406) 994-4042 Region 4 (Great Falls) (406) 454-5840 Region 5 (Billings) (406) 247-2940 Region 6 (Glasgow) (406) 228-3700 Region 7 (Miles City) (406) 234-0900

United States Fish and Wildlife Service:

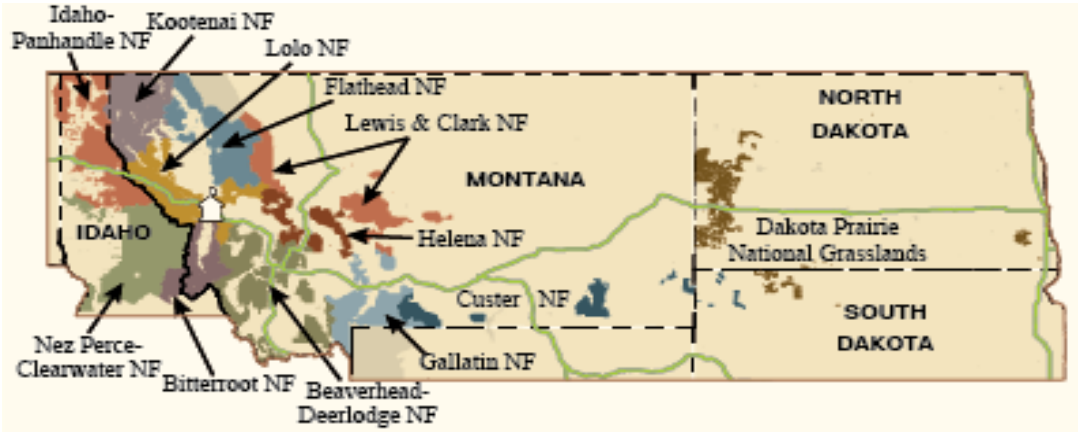
Information Planning and Conservation (IPAC) website: http://ecos.fws.gov/ipac/

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

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 Forest Service



Regional Office – Missoula, Montana Contacts

Wildlife Program Leader	Tammy Fletcher	tammyfletcher@fs.fed.us	(406) 329-3588
Wildlife Ecologist	Cara Staab	cstaab@fs.fed.us	(406) 329-3677
Fish Program Leader	Scott Spaulding	scottspaulding@fs.fed.us	(406) 329-3287
Fish Ecologist	Cameron Thomas	cathomas@fs.fed.us	(406) 329-3087
TES Program	Lydia Allen	lrallen@fs.fed.us	(406) 329-3558
Interagency Grizzly Bear Coordinator	Scott Jackson	sjackson03@fs.fed.us	(406) 329-3664
Regional Botanist	Steve Shelly	sshelly@fs.fed.us	(406) 329-3041

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

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 declining 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 observations that you would like to contribute, you can submit animal observations using our online data entry system at http://mtnhp.org/AddObs/, plant and animal observations via Excel spreadsheets posted at http://mtnhp.org/observations.asp , or to the Program Botanist or Senior Zoologist.

Observations

The MTNHP manages information on more than 1.8 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 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

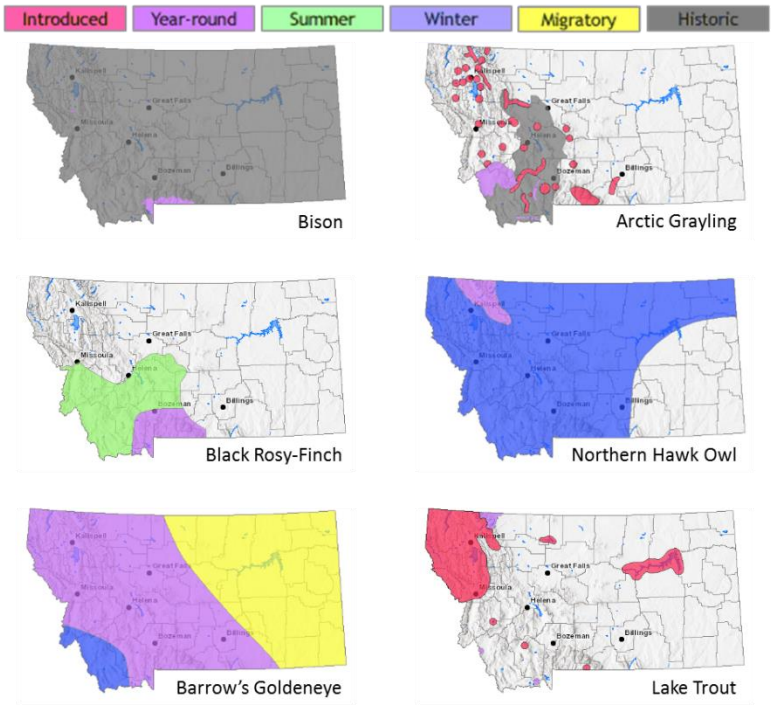
The location of a verified observation or specimen record typically known or assumed to represent a breeding population or a portion of a breeding population. Animal SO's are generally: (1) buffers of terrestrial point observations based on documented species' home range sizes; (2) buffers of stream 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 have not yet been defined for most plant species. Native year-round, summer, winter, migratory and historic geographic range polygons as well as polygons for introduced populations have been defined for most 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

Recent predicted suitable habitat suitability models have not yet been created for most plant species. For animal species for which models have been completed, the environmental summary report includes simple, rule-based, associations with streams for fish and other aquatic species and 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 contributed to Montana Natural Heritage Program databases 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 page. 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 82 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 1:100000, 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 MSDI download 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 deepwater 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 in publications 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.**

A detailed overview, with examples, of both wetland and riparian classification systems and associated codes can be found at: http://mtnhp.org/help/MapViewer/WetRip_Classification.asp

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 taken an increasingly active role in managing layers of 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) 444-5354 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, and Forest Pests that have been documented or potentially occur there based on their known distribution in the state. 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) and 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 restricted by declining 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 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 http://mtnhp.org/AddObs/, plant and animal observations via Excel spreadsheets posted at http://mtnhp.org/observations.asp , or to the Program Botanist or Senior Zoologist.

Additional Information Resources

Home Page for Montana Natural Heritage Program (MTNHP)

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 Department of Environmental Quality

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 Legislative Environmental Policy Office Publications
(Including Index of Environmental Permits required in Montana and Guide to the Montana Environmental Policy Act)

Montana Environmental Policy Act (MEPA)

MEPA Analysis Resource List

Laws, Treaties, Regulations, and Permits on Animals and Plants

Montana Spatial Data Infrastructure Layers

Montana State Historic Preservation Office Review and Compliance

Montana Water Information System

Montana Web Map Services

National Environmental Policy Act

U.S. Fish and Wildlife Service Information for Planning and Conservation (Section 7 Consultation)

Web Soil Survey Tool