Central Montana Transportation Study

Environmental Scan



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MONTANA
Department of Transportation

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Acronyms

ACHP....Advisory Council on Historic Preservation
ARM....Administrative Rules of Montana
BCC....Birds of Conservation Concern
BCRs....Bird Conservation Regions
BMPs....Best Management Practices
BNSF....Burlington Northern Santa Fe
CERCLA....Comprehensive Environmental Response, Compensation, and Liability Act
CECRA....Comprehensive Environmental Cleanup and Responsibility Act
CFR....Code of Federal Regulations
CWA....Clean Water Act
DEF....Diesel Exhaust Fluid
dB....Decibels
DPS....Distinct Population Segment
ESA....Endangered Species Act
FAS....Fishing Access Site
FEMA....Federal Emergency Management Agency
FLMA....Federal Land Management Agency
FPPA....Farmland Policy Protection Act
FR....Federal Register
FWCA....Fish and Wildlife Conservation Act
FWP....Montana Fish, Wildlife and Parks
GWIC....Ground Water Information Center
Hz....Hertz
HWMPs....Hazardous Waste Management Plans
iPaC....Information for Planning and Consultation
LQGs....Large Quantity Generators
LUST....Leaking Underground Storage Tank
LWCF....Land and Water Conservation Fund
MAAQS....Montana Ambient Air Quality Standards
MBMG....Montana Bureau of Mines and Geology
MBTA....Migratory Bird Treaty Act
MDNRC....Montana Department of Natural Resources and Conservation
MDEQ....Montana Department of Environmental Quality
MEPA....Montana Environmental Policy Act
MFWP....Montana Fish, Wildlife and Parks
MTNHP....Montana Natural Heritage Program
MPDES....Montana Pollutant Discharge Elimination System
MPO....Metropolitan Planning Organization
MS4....Municipal Separate Storm Sewer System
MWTP....Montana Wildlife and Transportation Partnership
NAAQS....National Ambient Air Quality Standards
NAC....Noise Abatement Criteria
NCDE....North Continental Divide Ecosystem
NEPA....National Environmental Policy Act
NHD....National Hydrography Dataset
NPDES....National Pollutant Discharge Elimination System
NPL....National Priority List
NRHP....National Register of Historic Places
NWI....National Wetland Inventory
NWR....National Wildlife Refuge
PCBs....Polychlorinated Biphenyls
PFAS....Per/Poly Fluoroalkyl Substances
PM2.5 and PM10....Particulate Matter
PSD....Prevention of Significant Deterioration
PSOCs....Potential Species of Concern
PWS....Public Water Supply
RP....Reference Post
SHPO....Montana State Historic Preservation Office
SOC....Montana Species of Concern
SPA....Stream Protection Act
SPCC....Spill Prevention, Control, and Countermeasures
SQGs....Small Quantity Generators
SWPB....State Water Projects Bureau
THPO....Tribal Historic Preservation Office
TMDL....Total Maximum Daily Load
USAF....U.S. Air Force
USBLM....U.S. Bureau of Land Management
USBOR....U.S. Bureau of Reclamation
USFS....U.S. Forest Service
UST....Underground Storage Tank
USEPA....U.S. Environmental Protection Agency
USACE....U.S. Army Corps of Engineers
USFWS....U.S. Fish and Wildlife Service
USGS....United States Geological Survey
USC....United States Code
VCRA....Voluntary Cleanup and Redevelopment Act
VOC....Volatile Organic Compounds
VSQGs....Very Small Quantity Generators
WMA....Wildlife Management Area
WOTUS....Waters of the United States
WQA....Water Quality Act

SUMMARY OF KEY FINDINGS

Table 1 provides an at-a-glance reference summarizing the baseline presence of environmental resources within the Central Montana study area and the Great Falls, Lewistown, Old Havre Highway, and US 87 Armington Junction – Otter Creek Canyon subareas. Project development considerations would need to be addressed for any improvements forwarded from this study.

Table 1: Summary of Key Findings and Project Development Considerations

Resource Area		Key Resource Findings					Project Development Considerations
		Central Montana Study Area	Great Falls Subarea	Lewistown Subarea	Old Havre Hwy/US 87 Subarea	US 87 Armington Jct-Otter Crk Subarea	
Physical Environment	Land Ownership & Land Use	• Mostly private agricultural/grasslands, with urban centers/small rural towns • ~53% private, 47% public land ownership	• Mostly residential, commercial, industrial developed areas • 68% categorized as human land use • 93% private, ~7% public land ownership	• Mix of rural agricultural, prairie grasslands, and urban development • 55% categorized as human land use • 88% private, 12% public land ownership	• Split between developed areas & agriculture • 77% categorized as human land use • 90% private, 10% public land ownership	• Mostly rural agriculture • 28% categorized as human land use • 98% private, 2% public land ownership	• Design efforts to avoid and minimize impacts • Land acquisition per applicable regulations
	Soils & Farmland	• 37% of land designated as farmland	• 57% of land designated as farmland	• 65% of land designated as farmland	• 72% of land designated as farmland	• 22% of land designated as farmland	• FPPA compliance for federally funded projects
	Geologic Resources	• Bordered by mountain ranges • Moderate to low seismic risk	• Moderate seismic risk, peak horizontal acceleration of 4-6%	• Low seismic risk, peak horizontal acceleration of 2-4%	• Moderate seismic risk, peak horizontal acceleration of 4-6%	• Low seismic risk, peak horizontal acceleration of 3-5%	• Site-specific geotechnical evaluations to determine risk of erosion, slope instability, seismic events, settlement • Erosion and sediment controls per MPDES
	Surface Waters	• 9 watersheds • 9 impaired lakes and several impaired streams • Approximately 320,000 acres of irrigated land • 2 irrigation projects (dams), numerous private ditch companies	• Municipal drinking water from Missouri River • Impaired waters: Missouri River, Sun River, San Coulee Creek • Irrigated lands along Missouri/Sun Rivers; Pioneer Dairy irrigation ditches	• Impaired waters: Big Spring Creek • Irrigated lands along Big Spring Creek; no irrigation features	• Impaired waters: Missouri River • No irrigation features	• Impaired waters: Big Otter Creek and Belt Creek • No irrigation features	• BMP implementation to comply with regulations • Permitting, if required • Compensatory mitigation per USACE requirements, if required

Resource Area		Key Resource Findings					Project Development Considerations
		Central Montana Study Area	Great Falls Subarea	Lewistown Subarea	Old Havre Hwy/US 87 Subarea	US 87 Armington Jct-Otter Crk Subarea	
Physical Environment	Groundwater	• Nearly 46,000 wells (domestic, commercial, stockwater, irrigation, monitoring, testing) • 375 PWS wells	• Giant Springs (Giant Springs State Park) • 2,537 wells, 50 PWS wells	• Municipal drinking water from Big Spring (artesian feature) • 251 wells, no PWS wells	• 146 wells, no PWS wells	• 82 wells, 1 PWS well	• MDEQ isolation zone (100 feet) • Impact minimization
	Floodplains/ Floodways	• Floodplain mapping completed in Lewis and Clark, Cascade, Wheatland, and Fergus counties, Special Flood Hazard Areas in all 4 counties	• Missouri River: Zone A/AE, flood control dams • Sun River: Zone AE • Sand Coulee Creek: Zone AE	• Big Spring Creek: Zone X/AE	• Majority Zone X • Missouri River: Zone AE	• Majority Zone A	• Coordination with county floodplain administrators • Stormwater management • Erosion and sediment control measures
	Wetlands	• 103,440 NWI wetlands totaling 146,830 acres	• 425 wetlands, 1,032 acres	• 25 wetlands, 26 acres	• 42 wetlands, 213 acres	• 105 wetlands, 31 acres	• Field-based wetland delineations • Impact avoidance and minimization • Water quality permits • CWA permitting and USACE compensatory mitigation, if required
	Hazardous Substances	• 3 national and 82 state superfund sites, 457 storage tanks, 70 hazardous waste generators, 22 solid waste sites, 10 septic disposal sites, 253 opencut mining permits, and 692 abandoned mining sites	• 1 national and 34 state superfund sites, 228 storage tanks, 42 hazardous waste generators, 4 solid waste sites, 2 sewage disposal sites, 5 opencut mining permits, and 6 abandoned mining sites	• 4 state superfund sites, 45 storage tanks, 8 hazardous waste generators, 1 sewage disposal site, 2 opencut mining permits	• 1 national and 9 state superfund sites, 51 storage tanks, 7 hazardous waste generators, 1 solid waste site, 2 sewage disposal site	• 1 state superfund site and 2 abandoned mining sites	• Avoidance of all hazardous sites, including ACM Smelter (NPL) and unresolved state superfund sites • Ground survey for USTs
	Air Quality	• Entire area in attainment for all criteria pollutants	• Only location with history of nonattainment in 1971, redesignated maintenance in 2002 • Currently in attainment	• Attainment area	• Attainment area	• Attainment area	• Modern equipment to reduce emissions • Dust control measures
	Noise	• Baseline dBA: 26.7-50.8 • Transportation dBA: 45.0-104.8	• Average baseline dBA: 39.6 • Average transportation dBA: 52.2	• Average baseline dBA: 37.8 • Average transportation dBA: 51.8	• Average baseline dBA: 41.9 • Average transportation dBA: 52.9	• Average baseline dBA: 34.0 • Average transportation dBA: 53.6	• Project-specific noise analyses • Great Falls noise ordinances

Resource Area		Key Resource Findings					Project Development Considerations
		Central Montana Study Area	Great Falls Subarea	Lewistown Subarea	Old Havre Hwy/US 87 Subarea	US 87 Armington Jct-Otter Crk Subarea	
Biological Environment	Vegetation & Noxious Weeds	• Mainly agriculture, native grassland, forested, and shrubland • Multiple noxious weeds & aquatic invasive species	• 11 SOCs • 37 noxious weeds & 4 aquatic invasive species	• 3 SOCs • 28 noxious weeds & 1 aquatic invasive species	• 5 SOCs • 38 noxious weeds & 4 aquatic invasive species	• No SOCs • 29 noxious weeds and 2 aquatic invasive species	• Project-specific plant surveys • Regulations if herbicides are used • BMPs outlined by MDT and weed control districts
	Wildlife & Aquatic Species	• Abundant antelope/deer • Managed Areas: Benton Lake NWR, Freezeout Lake WMA, MFWP Priority Areas A & D, Bird Conservation Regions • Greater sage-grouse general/core habitat, migratory birds including bald/golden eagles, and SOCs	• 14 bird SOCs • 1 aquatic SOC • 6 additional SOCs	• 10 bird SOCs • 2 aquatic SOCs • 1 invertebrate SOC • 4 additional SOCs	• 15 bird SOCs • 1 aquatic SOC • Multiple invertebrate SOCs • 3 additional SOCs	• 3 bird SOCs • 1 aquatic SOC • 3 additional SOCs	• Preconstruction surveys to identify habitats • Schedule around bird & fish spawning/migration • Coordination with MFWP, USFWS, USFS, and other FLMAs • MDT wildlife accommodation process
	Threatened & Endangered Species	• 9 threatened species • 1 endangered species • 2 proposed species	• Grizzly bear & red knot occurrences in area	• No occurrences in area	• Grizzly bear and red knot occurrences, monarch butterfly breeding areas	• Grizzly bear occurrences, monarch butterfly breeding areas, potential Canada lynx & wolverine occurrences	• ESA compliance, USFWS consultation • MDT wildlife accommodation process
Social & Cultural Environment	Recreational Resources	• National forest, state parks, FAS, campsites, & wildlife management areas	• 57 developed parks • 55 miles of trails	• Multiple city parks • 20-mile trail system	• No parks or trails	• Scenic byway • State park access	• Project-specific determination of effects per Sections 4(f) & 6(f)
	Cultural & Historic Resources	• 23 historic buildings • 2 historic bridges • 7 historic districts • 1 historic landmark • 1 historic trail • Other potentially unrecorded sites	• 15 historic buildings • 2 historic bridges • 9 historic districts • 1 historic landmark	• 27 historic buildings • 1 historic object • 5 historic districts	• No existing NRHP listings • 7 eligible, 1 undetermined, 1 unresolved site	• No existing NRHP listings • 6 eligible, 5 undetermined, 1 unresolved site	• Project-specific cultural resource surveys • Compliance with Section 106 of NHPA • Consultation with Montana SHPO, appropriate THPOs, and potentially ACHP
	Section 4(f) Resources	• Presence of potential properties protected by Section 4(f) throughout the Central Montana study area and subareas, including publicly owned public parks, recreation areas, wildlife/ waterfowl refuges, and historic sites of national, state, or local significance on public or private land eligible or listed on NRHP					• Project-specific determination, avoidance, and minimization of impacts to protected properties • Appropriate consultation and regulatory compliance
	Section 6(f) Resources	• Total of 154 properties protected by Section 6(f) located in all 9 counties within Central Montana study area; largest concentration in Cascade County (52 properties)					
	Visual Resources	• Mountains, rivers, & scenic byways	• Hills & prairies • Urban area blended with natural environment	• Plains & mountains • Urban area	• Industrial activity & agricultural land	• Rural residences, hills, agriculture, & prairies	• Project-level analysis of visual resource impacts

1.0 INTRODUCTION

The *Central Montana Transportation Study* aims to develop a comprehensive long-term transportation management plan in response to potential impacts from anticipated regional development and military activities. The study will identify transportation needs and solutions through a collaborative process with the Montana Department of Transportation (MDT), Federal Highway Administration (FHWA), military officials, local jurisdictions, resource agencies, and the public. Adhering to the Montana Business Process to Link Planning Studies and NEPA/MEPA Reviews,[1] the study will include this Environmental Scan Report, along with existing and projected conditions evaluations, needs assessments, short-, mid-, and long-term recommendations for transportation improvements, a prioritized implementation plan, and extensive military, agency, and public engagement.

1.1 Study Area

The study covers a broad area within Central Montana, with specific focus on the Great Falls and Lewistown areas as well as MDT's on-system routes providing access to United States Air Force (USAF) facilities. Nine counties are located within the study area, including Cascade, Chouteau, Fergus, Judith Basin, Lewis and Clark, Pondera, Teton, Toole, and Wheatland. The study area boundary is illustrated in **Figure 1**.

In addition to evaluations encompassing the entire study area, multiple subcomponents will focus on subareas of study. These include:

- **Lewistown Subarea Analysis**: MDT on-system routes and local routes within the urban boundary
- **Great Falls Subarea Analysis:** MDT on-system routes within the Metropolitan Planning Organization (MPO) planning area
- **Old Havre Highway & US 87 Analysis:** Old Havre Highway from 25th Avenue NE to US 87/15th Street NE and US 87 from 25th Avenue NE to Great Bear Avenue
- **US 87 Armington Junction – Otter Creek Canyon Analysis:** US 87 corridor between Armington Junction and Otter Creek Canyon (RP 0.0 and 7.2)

The analysis documented in this report accounted for environmental resources within the Central Montana study area, Lewistown subarea, and Great Falls subarea boundaries. The Old Havre Highway and Armington Junction-Otter Creek Canyon corridors were buffered by one mile on each side of the roadway centerline for a total width of two miles.

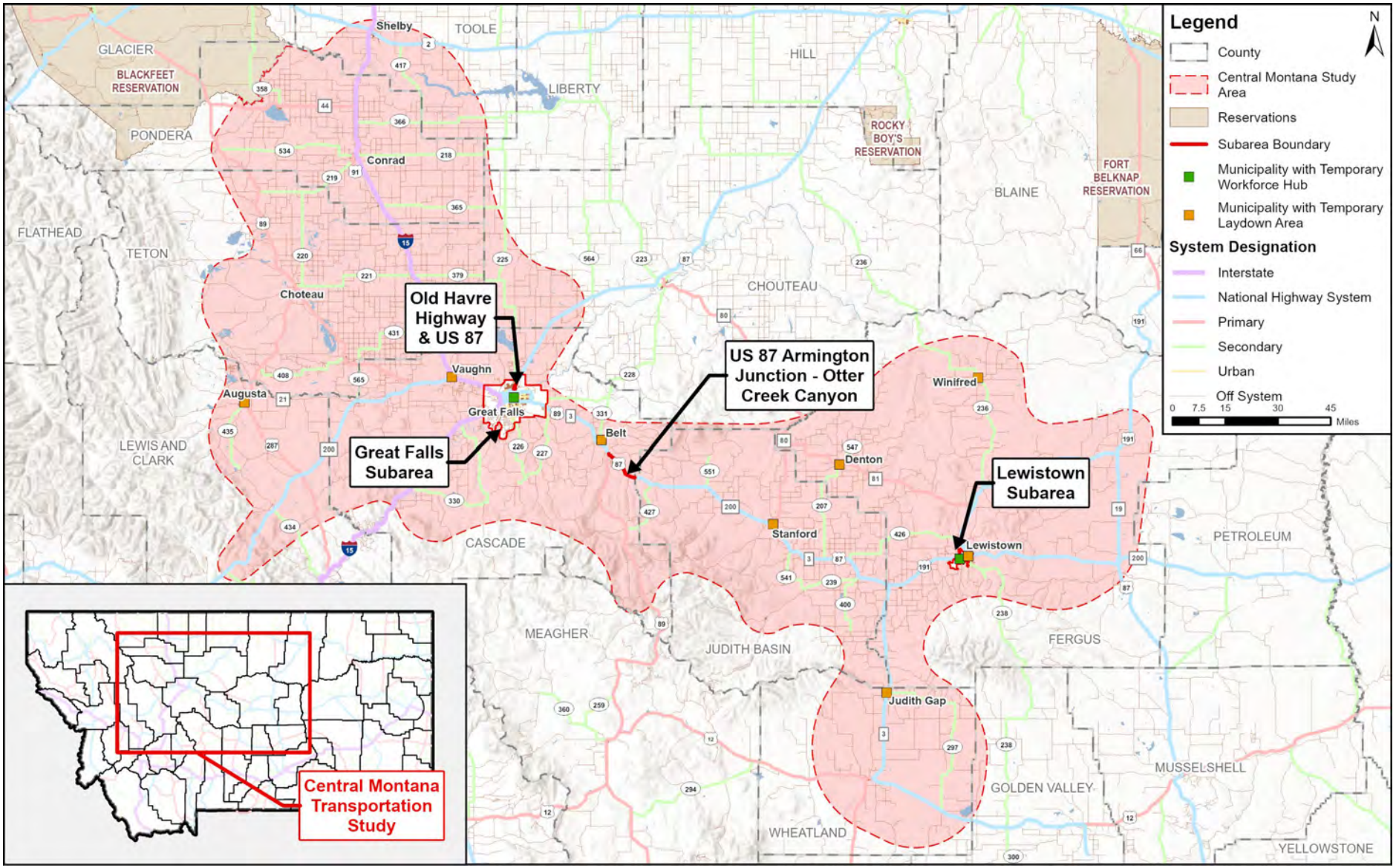


Figure 1: Central Montana Study Area

1.2 Report Organization

This report is intended to provide a concise, planning-level summary of baseline environmental conditions within the Central Montana study area and the Great Falls, Lewistown, Old Havre Highway, and US 87 Armington Junction – Otter Creek Canyon subareas.

Each numbered section associated with the physical, biological, and social/cultural environment in Chapters 2, 3, and 4 provides an introductory overview of regulatory requirements and resource agency jurisdiction to explain why consideration of the resource is relevant to the study. Following the topic overview, five subsections document existing baseline conditions within the Central Montana study area and four subareas as determined through review of readily available sources. No field reviews were performed in support of this report.

Links to supporting tables, charts, and figures are provided within each section, and return links are provided to connect back to the report (**Diagram 1**).

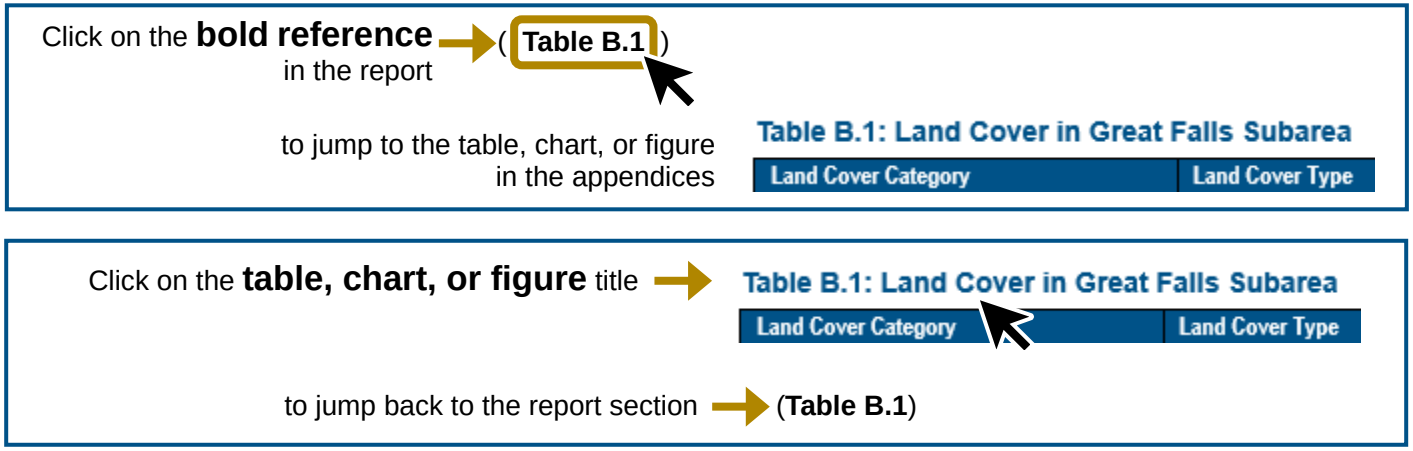


Diagram 1: Navigating to and from Figures, Tables, and Charts

At the end of each resource topic, a final subsection addresses project development considerations such as additional investigations that may be needed, permitting that may be required, or best practices that should be employed during future project development activities.

This document does not attempt to quantify impacts or identify potential resources that may be impacted by future construction projects. However, information from this report can be used to identify potential constraints and considerations that may influence development of future improvements, which will be determined separately in reporting for the Central Montana study area and individual subareas. The location and scope of these future improvements will determine the type and scale of potential resource impacts.

If improvements are advanced from this planning study into project development, an analysis for compliance with the National and Montana Environmental Policy Acts (NEPA and MEPA) 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 future NEPA/MEPA compliance and project development processes.

Supplemental figures, tables, and charts providing detailed supporting information for environmental topic areas are provided in **Appendix A** and **Appendix B**.

2.0 PHYSICAL ENVIRONMENT

2.1 Land Use and Land Ownership

Land cover encompasses the surface components of land that are physically present and visible. The Montana Natural Heritage Program (MTNHP) maps land cover composition throughout the state as part of their effort to record natural biological communities and human activities and provide an overall understanding of land cover and land use in Montana. Land use is generally guided by approved local growth policies, where applicable.

Land ownership refers to the legal right to possess, use, and control a land parcel. Information on land ownership in Montana is provided by the Montana Cadastral Web Application maintained through a partnership between the Montana State Library and the Montana Department of Revenue.[2]

2.1.1 Central Montana Study Area

Land use in the Central Montana study area consists mainly of agricultural and grasslands that are privately owned, with small pockets of urban centers and small rural towns. Dominant land cover types include forested, agricultural, and native grass and shrubland. Smaller areas of open water, riparian, introduced grassland, forbland, shrubland, developed lands, and barren/sparsely vegetated areas also occur (**Figure A.1.a**).

Privately owned lands account for approximately 53 percent of the area within the Central Montana study area. Public lands account for approximately 47 percent of all lands in the Central Montana study area and are owned by a variety of agencies including Montana Fish, Wildlife and Parks (MFWP), the Montana Department of Natural Resources and Conservation (MDNRC), the US Bureau of Land Management (USBLM), the US Fish and Wildlife Services (USFWS), the US Bureau of Reclamation (USBOR), and the US Forest Service (USFS) (**Figure A.2.a**). These lands are used for a variety of recreational opportunities discussed in **Section 4.2**.

2.1.2 Great Falls Subarea

The City of Great Falls is a regional hub of commerce and transportation. The Great Falls subarea primarily consists of low-to-high intensity residential, commercial, and industrial developments in the heart of the city. Agricultural, pasture, and prairie grasslands occur on the periphery, with pockets of rural residential and transitional urban and suburban development.[3] Human land use categories including agriculture, roads, residential/commercial/industrial developments, and developed open spaces account for approximately 68 percent of the Great Falls subarea, with the remainder categorized as undeveloped lands (**Figure A.1.b** and **Table B.1**).[4]

The Great Falls Growth Policy describes areas of concentrated land use, or activity centers, located within the intensely developed urban area of the city.[5] These include Benefis Hospital, the Great Falls Clinic, the University of Great Falls, and the shopping and concentrated retail outlets such as the Holiday Village Mall, Great Falls Market Place, Northwest Bypass Shopping, and individual merchants.

The Great Falls subarea contains more than 147,000 acres of land. While almost 93 percent of these lands are privately held, the remaining 7 percent of land parcels are managed by city and county governments, MFWP, MDNRC, and USFS. A large parcel on the east side of the subarea is owned by the US Department of Defense and houses Malstrom Airforce Base. The Great Falls International Airport is a large tract of land on the west side of the subarea owned by the Great Falls Airport Authority. The Giant Springs State Park is located in the northeast portion of the subarea, and Montana State Trust Lands occur in the western and southwestern portion of the subarea. Additionally, one parcel located in the urban limits is owned by the Little Shell Tribe of the Chippewa Indians of Montana. Privately held lands outside of the city's urban boundary are classified as residential and agricultural/timber properties that are primarily used for grazing and crop production (**Figure A.2.b**).

2.1.3 Lewistown Subarea

The Lewistown subarea consists of a mix of rural agricultural, prairie grasslands, and urban developed areas including residential, commercial, and industrial developments. Human land use categories including agriculture, roads, residential/commercial/industrial developments, railroads, and developed open spaces account for approximately 55 percent of the Lewistown subarea, with the remainder categorized as undeveloped lands (**Figure A.1.c** and **Table B.2**).[6]

The Lewistown subarea contains over 32,000 acres of land, almost 88 percent of which is privately owned. About 12 percent is in public ownership. The Lewistown Municipal Airport is owned by Fergus County and the City of Lewistown and is located in the southwest portion of the Lewistown subarea. MFWP maintains a fishing access site (FAS) at the northern edge of the subarea, with three additional FAS located immediately outside the subarea boundaries. USFWS owns a parcel of land adjacent to the Lewistown Municipal Airport that houses the Charles M. Russell National Wildlife Refuge Headquarters. Small parcels of land owned by MDT are located along the Northwest Bypass and the West Frontage Road entering the city (**Figure A.2.c**).

2.1.4 Old Havre Highway & US 87

The Old Havre Highway/US 87 corridor is split between areas of low- to high-intensity development south of US 87 RP 3, and agricultural fields and mixed-grass prairies to the north. Human land use categories including agriculture, roads, residential/commercial/industrial developments, and developed open spaces account for approximately 77 percent of the Old Havre Highway & US 87 subarea, with the remainder categorized as undeveloped lands (**Figure A.1.d** and **Table B.3**).[7] Almost 90 percent of land in the corridor vicinity is privately owned, while the remaining 10 percent is in public ownership (**Figure A.2.d**).

2.1.5 US 87 Armington Junction – Otter Creek Canyon

The US 87 Armington Junction – Otter Creek Canyon corridor is a rural area consisting of agricultural fields, prairie grasslands and shrubland, and riparian zones. Human land use categories including agriculture, roads, and railroads account for approximately 28 percent of the subarea, with the remainder categorized as undeveloped lands (**Figure A.1.e** and **Table B.4**).[8]

Almost all lands (98 percent) within the Armington Junction – Otter Creek Canyon subarea are privately held. A tract of land managed by MDNRC is located at the east end of the corridor near US 87 RP 7. It is designated as State Trust Lands for agriculture and grazing and accounts for the remainder (two percent of the total land area). A few residences are accessed along the corridor; however, much of the land adjacent to the highway is in agricultural production or otherwise undeveloped (**Figure A.2.e**).

2.1.6 Project Development Considerations

If improvements from the study are advanced, additional analysis of the project footprint in relation to adjacent land uses would be needed to determine impacts outside existing right-of-way or easements. Efforts should be made to minimize impacts to private and public lands. Any private lands needed for future improvements would be acquired in accordance with the Uniform Relocation Assistance and Real Property Acquisition Act of 1970[9] and the Uniform Relocation Act Amendments of 1987.[10] Compensation for right-of-way acquisitions would be made at fair market value.

2.2 Farmland Resources

The Farmland Policy Protection Act (FPPA) requires deliberate analysis for potential farmland impacts of projects with federal involvement.[11] The FPPA defines the term farmland as prime farmland, unique farmland, and farmland of statewide or local importance. 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 but does stipulate that federal programs be compatible with state, local and private efforts to protect farmland.

The U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) determines where prime farmland exists and maintains mapping resources and information to support the FPPA.[12] 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. Farmland of local importance is land which is locally important for crop production but is not categorized as any of the above designations.[13]

2.2.1 Central Montana Study Area

Soils within the Central Montana study area are composed of a variety of clays and loams, ranging from well-drained to poorly drained. Approximately two percent of lands are classified as prime farmland, 11 percent as prime farmland if irrigated, 23 percent as farmland of statewide importance, and one percent as farmland of local importance (**Figure A.3.a**).

2.2.2 Great Falls Subarea

Within the Great Falls subarea, about two percent of the lands are classified as prime farmland, 10 percent as prime farmland if irrigated, and 45 percent as farmland of statewide importance. There are no lands designated as farmland of local importance within the subarea (**Figure A.3.b**).

2.2.3 Lewistown Subarea

Within the Lewistown subarea, about 15 percent of the lands are classified as prime farmland, 41 percent as prime farmland if irrigated, and nine percent as farmland of statewide importance. There are no lands designated as farmland of local importance within the subarea (**Figure A.3.c**).

2.2.4 Old Havre Highway and US 87 Corridor

Within a mile of the Old Havre Highway/US 87 highway centerline, about 43 percent of the lands are classified as farmland of statewide importance, and approximately 30 percent of lands are classified as prime farmland if irrigated. There are no lands designated as prime farmland or farmland of local importance within one mile of the highway centerline (**Figure A.3.d**).

2.2.5 US 87 Armington Junction – Otter Creek Canyon

Within a mile of the US 87 highway centerline, about three percent of the lands are classified as prime farmland if irrigated, and about 18 percent are classified as farmland of statewide importance. There are no lands designated as prime farmland or farmland of local importance within one mile of the highway centerline (**Figure A.3.e**).

2.2.6 Project Development Considerations

Federally funded projects apply the FPPA requirements to determine if prime farmland may be irreversibly converted to nonagricultural use. If any improvements forwarded from this planning study become federally funded projects and may impact designated farmland, coordination with the NRCS would be needed to determine the necessary NRCS processing requirements. Projects planned and completed without the assistance of a federal agency or funding are not subject to the FPPA.

2.3 Geologic Resources

Geologic resources are natural features or areas with geologic attributes that may provide value for human use, including scientific, educational, agricultural, recreational, or economic. These resources can include soils, sediments, rock, and minerals found in the Earth's crust.

Geologic hazards are geologic conditions that are capable of damaging property or causing a loss of human life. Montana is considered seismically active, and geologic hazards in the region include earthquakes, landslides, volcanoes, and subsidence. Most seismic activity occurs in western portions of the state generally west of the Livingston-Great Falls-Cut Bank line. Seismic risk and hazard are determined by the likelihood of a given area to experience earthquakes, with a higher seismic risk indicating earthquakes are more likely.

2.3.1 Central Montana Study Area

The study area overlaps multiple watershed basins, including the Marias, Missouri-Sun-Smith, Middle Missouri, and Musselshell (**Figure A.4.a**). The Upper Missouri River cuts through Central Montana's sedimentary rock layers, including within the Badlands, creating sandstone cliffs and geological attractions such as The Missouri Breaks. The study area is located in the glaciated portion of the Missouri Plateau bordering the Rocky Mountains, with a bedrock of sedimentary rocks such as shale, siltstone, and sandstone.[14]

Mountain ranges border the study area. The Lewis Range lies to the west of the study area, and the Absaroka Range lies to the south. Isolated mountain ranges such as the Little Belt, Judith, and Highwood Mountains are also found within the study area. The Lewis Range primarily consists of stratified rocks and was formed during a geologic thrust fault.[15] The Judith Mountain Range rises up to 2,500 feet in elevation and was similarly formed from sedimentary rocks, with incised gulches and high reliefs.[16] The Little Belt Mountains are composed of crystalline and sedimentary rocks such as gneisses, schists, and limestone.[17] The Highwood Mountains originate from a group of extinct and eroded volcanoes, and are largely composed of igneous rock.[18]

According to the Seismic-Hazard Map for the State of Montana, the Central Montana study area is in a moderate to low seismic risk zone with a peak horizontal acceleration that ranges between two percent and six percent gravity.[19]

2.3.2 Great Falls Subarea

The Great Falls subarea lies within several geological map units as mapped by the Montana Bureau of Mines and Geology (MBMG), including glacial lake deposit (Qgl), Kootenai Formations (Kk4, Kk5), Blackleaf Formation (Kblf, Kblt), glacial till (Qgto), glacial lake deposit (Qgl), Fort Union Formation (Tftr), and Eolian deposit (Qe) (**Figure A.4.b**). The subarea has moderate seismic risk, with a peak horizontal acceleration that ranges between four percent and six percent gravity.[20]

2.3.3 Lewistown Subarea

The Lewistown subarea lies within several geological map units as mapped by the MBMG, including alluvium (Qal), alluvium of braid plains (QTab), Thermopolis formation (Kt), and Kootenai Formation upper member (Kku) (**Figure A.4.c**). The subarea has low seismic risk, with a peak horizontal acceleration that ranges between two percent and four percent gravity.[21]

2.3.4 Old Havre Highway and US 87 Corridor

The Old Havre Highway/US 87 corridor lies within several geological map units as mapped by the MBMG, including glacial till (Qgto), glacial lake deposit (Qgl), alluvium (Qal), and Kootenai Formation (Kk5) (**Figure A.4.d**). The corridor has moderate seismic risk, with a peak horizontal acceleration that ranges between four percent and six percent gravity.[22]

2.3.5 US 87 Armington Junction – Otter Creek Canyon

The US 87 corridor lies within several geological map units as mapped by the MBMG, including various alluvium units (Qal, Tat, Qac), Kootenal Formation members (Kk2, Kk4, Kkg, Kkc), glacial lake deposit (Qgl), Morrison Formation (KJm), and Fort Union Formation (Tftr) (**Figure A.4.e**). The corridor has low seismic risk, with a peak horizontal acceleration that ranges between three percent and five percent gravity.[23]

2.3.6 Project Development Considerations

Construction activities, as well as the installation of new utilities, may cause soils to be disturbed and compacted. This could result in short-term adverse effects on local geology and soils but is not likely to create major impacts. Impacts may be reduced through the implementation of proper erosion and sediment controls, as outlined in the Montana Pollutant Discharge Elimination System (MPDES) permit for construction activities issued by the Montana Department of Environmental Quality (MDEQ), as well as standard construction practices to minimize soil erosion.

Site-specific geotechnical investigations would be necessary for improvements to roadway corridors within the study area to determine potential stability, erosion, seismic risk, and settlement concerns posed by surface geology and soil conditions.

2.4 Surface Water Resources

Water resources refer to the natural sources of water that are available for use by communities and are essential for sustaining life and maintaining ecological systems. This section focuses specifically on surface water, while groundwater, floodplains/floodways, and wetlands are addressed in **Sections 2.5**, **2.6**, and **2.7**.

Several agencies oversee the regulation of surface waters in Montana to ensure their sustainable use and protection. MDEQ is responsible for implementing water quality standards, permitting, and pollution prevention programs under the Clean Water Act (CWA). The MDNRC manages water rights, streamflow, and water allocation for various purposes, including agriculture and municipal use. Additionally, MFWP is responsible for maintaining healthy aquatic ecosystems by monitoring aquatic species populations and managing public access to water bodies for recreational uses.

The CWA is the primary federal legislation governing water quality in the United States, and its implementation in Montana involves several key provisions. Section 404 of the CWA, overseen by the U.S Army Corps of Engineers (USACE), requires permits for discharge of dredged or fill materials into Waters of the United States (WOTUS). Section 401 mandates water quality certification from a state, tribe, or the U.S. Environmental Protection Agency (USEPA) for federal activities that may discharge into navigable waters. Section 402 establishes the National Pollutant Discharge Elimination System (NPDES), which requires permits for pollutant discharge to WOTUS. MPDES and associated Small Municipal Separate Storm Sewer System (MS4) permits are required by MDEQ at the state level.

Under the Montana Water Quality Act, MDEQ prepares a biennial Integrated Report that assesses the water quality status of waterbodies under state jurisdiction, most recently completed in February 2021 for the year 2020.[24] These reports identify and address surface waters where pollutants have impaired their beneficial uses. These classifications, known as use classes, define the intended uses of water and guide regulatory efforts to protect water quality. The following are common use class designations under the CWA:

- **Class A:** Waters that are suitable for drinking water (potable) with or without treatment, primary contact recreation (e.g., swimming), and the support of aquatic life.
- **Class B:** Waters that support secondary contact recreation (e.g., boating, fishing), aquatic life, and are used for industrial or agricultural purposes such as irrigation or livestock watering.
- **Class C:** Waters that support fish, wildlife, and other aquatic organisms but may not meet the criteria for full aquatic life support or human recreation.
- **Class D:** Waters that are designated for limited uses such as wastewater treatment and may not support recreational activities or aquatic life due to impairments or high contamination levels.
- **Class E:** Waters designated for other specific uses as defined by state regulations or regional needs, often addressing unique or specific purposes such as cooling water for power plants or water for agricultural practices.

Water quality classifications determine a waterbody's ability to support designated beneficial uses. These categories, defined by the USEPA, include:

- **Category 1:** Waters that fully support all designated uses.
- **Category 2:** Waters that support some uses but not all.
- **Category 3:** Waters with insufficient data to assess support.

- **Category 4:** Impaired waters where Total Maximum Daily Load (TMDL) development is not required due to existing recovery plans (4A, 4B) or non-pollutant issues (4C).
- **Category 5:** Impaired waters requiring TMDL development to address pollutants. For waterbodies that fail to meet state water quality standards, the CWA mandates the creation and execution of cleanup plans, typically involving the development of a TMDL, which determines pollutant sources and sets limits on the amount each source can discharge.

The Wild and Scenic Rivers Act, created by Congress in 1968, provides for the protection of 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 the North, South, and Middle Forks of the Flathead River and portions of the Missouri River downstream of Fort Benton as wild, scenic, or recreational components of the National Wild and Scenic River System. In 2018, East Rosebud Creek was also added to the system.[25]

The State Water Projects Bureau (SWPB) is the successor to the original State Water Conservation Board that was created in the 1930s for the purpose of locating and building water infrastructure projects throughout Montana. Today, the SWPB administers the operation, maintenance, construction, management, and rehabilitation of state-owned water projects including 22 dams, approximately 250 miles of irrigation canals, and one hydropower facility. The SWPB also assists in the operation and maintenance of nine dams owned by the MFWP.[26]

2.4.1 Central Montana Study Area

The Central Montana study area is located within the Missouri-Marias subregion (Hydrologic Unit Code 1003) and the Missouri-Musselshell subregion (Hydrologic Unit Code 1004) of the Upper Missouri River drainage. Multiple surface water features occur within the Central Montana study area, including lakes, streams, and small channels (**Figure A.5.a**).

There are nine listed impaired freshwater lakes (**Table B.5**) and multiple impaired streams (**Table B.6**) located within the Central Montana study area. No Wild and Scenic Rivers occur within the Central Montana study area.

Approximately 320,000 acres of land within the Central Montana study area is irrigated using flood, pivot, or sprinkler methods (**Table B.7**). The largest irrigated acreage occurs in Teton (128,000 acres), Pondera (81,000 acres), and Cascade (41,000 acres) counties. SWPB projects within the Central Montana study area include:

- Ackley Lake Dam in Judith Basin County, operated by the Ackley Lake Water Users Association. The primary water use is for irrigation, and the reservoir is used for water-based recreation.
- Deadman's Basin Dam in Wheatland County, operated by Deadman's Basin Water Users Association and used for irrigation, municipal water supply, and recreation.

Additionally, numerous private ditch companies operate within the Central Montana study area. Ditch companies are groups of landowners that own water rights and build and maintain the infrastructure to divert water from a source to their members. Water rights may be held

individually or by the ditch company, which then issues shares to members. Ditch companies have the right to access, operate, and maintain ditches, as well as divert water for their shareholders' use.

2.4.2 Great Falls Subarea

The Great Falls subarea lies within the Sun subbasin (Hydrologic Unit Code 10030104), and the Upper Missouri-Dearborn subbasin (Hydrologic Unit Code 10030102) as delineated by the United States Geological Survey (USGS). The Missouri River bisects the Great Falls subarea north and south, with the Sun River entering the subarea from the west up to the confluence at the Missouri River. Sand Coulee Creek runs parallel to the south border of the Great Falls subarea from the east up to the confluence at the Missouri River (**Figure A.5.b**). Within the subarea, a series of dams were constructed on the Missouri River for various purposes including hydroelectric power generation and flood control. The primary dams are Black Eagle Dam, Colter Falls Dam, Rainbow Dam, and Giant Springs Dam.

The Missouri River is the sole source of drinking water for the City of Great Falls. Raw water receives modern treatment methods of coagulation, flocculation, sedimentation, filtration and disinfection. The City of Great Falls public works department operates the water distribution system consisting of 324 miles of water mains, 3316 fire hydrants, and approximately 22,000 water meters.[27]

Three streams within the Great Falls subarea are classified as impaired (**Table B.8**). The Missouri River reach in the Great Falls subarea is classified as Use Class B-2 by MDEQ. According to MDEQ's Final 2020 Water Quality Integrated Report, the Missouri River from the Sun River to Rainbow Dam is listed as not fully supporting its beneficial uses due to contaminated sediments. TMDLs are required to address the impairment of these waters.

The reach of the Sun River from Muddy Creek to the Missouri River within the Great Falls subarea is classified as Use Class B-3 by MDEQ. Sun River is listed impaired due to total nitrogen, total phosphorus, flow regime modification, sedimentation/siltation, and total suspended solids.

Sand Coulee Creek is classified as Use Class B-1 by MDEQ and is listed as an impaired waterbody from the confluence with Cottonwood Creek to the mouth at the Missouri River. According to MDEQ's Final 2020 Water Quality Integrated Report the probable cause of impairment is lead, salinity, and zinc.

The Great Falls subarea is located within the Missouri River, Missouri Cascade, and Sun TMDL planning areas. Most of the required TMDLs have been established and Watershed Restoration Plans have been prepared for each planning area. The plans are to develop and implement stream and wetland improvement projects and address impairments identified by MDEQ, improve water quality, and improve habitat conditions.

MDT holds a small MS4 permit for Great Falls (permit MTR040004) that is administratively extended under the 2010 MS4 General Permit. MDT's 2022 Annual Report indicates MDT outfall discharges to the impaired Missouri River, Sand Coulee Creek, and Sun River and indicates measures used to comply with permit requirements.[28]

No Wild and Scenic Rivers occur within the Great Falls subarea.

The Sun River and the Missouri River supply water for irrigation on land surrounding Great Falls. Irrigated lands are present along the Missouri River in the south part of the subarea, and along the Sun River in the northwest corner of the subarea. Historic maps show Pioneer Dairy ditches near Emerson Junction.[29]

2.4.3 Lewistown Subarea

The Lewistown subarea lies entirely within the Judith subbasin (Hydrologic Unit Code 10040103) as delineated by the USGS. Big Spring Creek originates from the natural aquifer and flows north to south along the eastern boundary of Lewistown before converging with the Judith River north of the subarea boundary. Big Spring Creek and the surrounding floodplains play a meaningful role in local hydrology. The area's elevation and the presence of nearby mountains can influence runoff and flood patterns. Wolverine Creek originates within the Lewistown subarea boundary before the confluence with Big Spring Creek north of Lewistown. Little Casino Creek is a tributary of Casino Creek and originates south of Lewistown before the confluence within the subarea boundary (**Figure A.5.c**).

Two streams within the Lewistown subarea are classified as impaired (**Table B.9**). Big Spring Creek and its tributary Casino Creek are classified as Use Class B-1 by MDEQ. According to MDEQ's Final 2020 Water Quality Integrated Report, the reach of Big Spring Creek from Casino Creek to its mouth at Judith River is listed as not fully supporting its beneficial uses due to total nitrogen, polychlorinated biphenyls (PCBs), sedimentation/siltation, and total phosphorus. Big Spring Creek does not have TMDLs.

The Lewistown subarea falls within the Big Springs TMDL planning area. Most of the required TMDLs have been established and Watershed Restoration Plans have been prepared for the area. The plans are to develop and implement stream and wetland improvement projects to address impairments identified by MDEQ, improve water quality, and improve habitat conditions.

No Wild and Scenic Rivers occur within the Lewistown subarea.

Irrigated land is present along Big Spring Creek north of the Lewistown subarea, but no irrigation features are present within the subarea.

2.4.4 Old Havre Highway and US 87 Corridor

The Old Havre Highway/US 87 corridor lies entirely within the Upper Missouri Watershed (Hydrologic Unit Code 10030102) as delineated by USGS. The Old Havre Highway crosses the Missouri River via the 9th Street bridge and US 87 crosses via the 15th Street bridge through the City of Great Falls (**Figure A.5.d**).

The Missouri River is the only impaired water in the Old Havre Highway/US 87 corridor. The Missouri River reach within the Old Havre Highway/US 87 corridor is listed as impaired with a use class of B-2 and a water quality category of 5, indicating that at least one designated use is not supported and a TMDL is required. Causes of impairment include sedimentation/siltation, selenium, chromium, turbidity, and PCBs. Potential sources of these pollutants are dam construction, crop production, industrial stormwater discharge, contaminated sediments, and industrial point source discharge. The Missouri River's flow through the Old Havre Highway/US 87 corridor is influenced by upstream reservoirs and dam releases, which affects water levels, flow rates, and sediment transport.

No Wild and Scenic Rivers or irrigation features occur within the Old Havre Highway/US 87 corridor.

2.4.5 US 87 Armington Junction – Otter Creek Canyon

The Armington Junction – Otter Creek Canyon corridor is in the Belt subbasin (Hydrologic Unit Code 10030105) as delineated by the USGS. Big Otter Creek originates from Barker Mountain and follows parallel to US 87 through the corridor and converges with Belt Creek near Armington Junction. US 87 crosses Big Otter Creek throughout the corridor (**Figure A.5.e**).

Big Otter Creek and Belt Creek are both impaired waters within the corridor (**Table B.10**), which falls within the Belt Creek TMDL planning area. Most of the required TMDLs have been established and Watershed Restoration Plans have been prepared for the area. The plans are to develop and implement stream and wetland improvement projects to address impairments identified by MDEQ, improve water quality, and improve habitat conditions.

No Wild and Scenic Rivers or irrigation features occur within the Armington Junction – Otter Creek Canyon corridor.

2.4.6 Project Development Considerations

Adverse impacts on streams could occur due to construction activities that involve filling, excavating, flooding, draining, clearing, channelizing, straightening, shortening, canalizing, incising/entrenching, culverting, piping, or other adverse actions that affect the physical, chemical, and/or biological characteristics of a stream. These activities can often modify natural slopes or disturb the vegetative cover leading to increased stormwater runoff and accelerate bank and soil erosion which can result in water quality degradation. Appropriate planning and responsible construction practices are important to minimize these effects and protect surface waters.

Best Management Practices (BMPs) would need to be identified and implemented to comply with all federal, state, and local stormwater regulations to control erosion and sedimentation and prevent unauthorized releases of stormwater and pollutants. Multiple potential mitigation measures may be applicable depending on project requirements and could include but are not limited to:

- Implementation of a Stormwater Pollution Prevention Plan to prevent erosion
- Implementation of all required measures related to the salvage, segregation, restoration, and recontouring of soils
- Installing compost blankets and silt fences and implementing other best management practices for erosion and sediment control

- Implementation of stormwater diversions to reduce water flow through exposed sites during dismantlement activities

Unavoidable impacts to streams and irrigation features may require compensatory mitigation in accordance with applicable USACE requirements. Various federal and state water quality permits may be required to implement construction projects, including a MPDES General Permit for Storm Water Discharges Associated with Construction Activity for construction activities disturbing one acre or more of land, CWA Section 404 permit, Section 401 Water Quality Certification and 318 Authorization, and Stream Protection Act (SPA 124) permit.

2.5 Groundwater

Groundwater is the water present beneath the Earth's surface in soil pore spaces and in the fractures of rock formations. In Montana, groundwater is an important source of drinking water for individual homes and public water supply (PWS) systems. Groundwater is also important for irrigation and livestock and is a vital resource throughout the Central Montana region.

The Ground Water Information Center (GWIC) at the MBMG is the central repository for information on the groundwater resources of Montana. PWS wells have a setback requirement from MDEQ of a 100-foot isolation zone in which no source of pollutant can be located, and they can also be deeper and require a higher volume of water to be discharged compared to private wells.

2.5.1 Central Montana Study Area

The Central Montana study area is within the Northern Great Plains aquifer system which underlies most of North Dakota and South Dakota and about half of Montana. Major aquifers of the Northern Great Plains aquifer system are sandstones of Tertiary and Cretaceous age and carbonate rocks of Paleozoic age. Uplift, folding, and faulting in this region results in numerous small, scattered and discontinuous aquifers. Regional movement of water in the Northern Great Plains aquifer system is from recharge areas at high altitudes. Water subsequently discharges into shallower aquifers or to the land surface.[30] The Central Montana study area contains both shallow and deep groundwater. Deep groundwater resources include the Kootenai aquifer and the Madison-Swift aquifer.

Within the Central Montana study area, nearly 46,000 wells are used for domestic purposes, commercial facilities, stockwater, irrigation, and monitoring and testing purposes (**Table B.11**). Of these, 375 are classified as PWS (**Figure A.5.a** and **Table B.12**).

2.5.2 Great Falls Subarea

A notable groundwater feature in the Great Falls subarea is Giant Springs, located about three miles downstream from Great Falls. The springs have a very large flow of relatively pure water, which appears at the surface through large joint planes in medium to coarse grained sandstone.[31] The spring outlet is located in Giant Springs State Park, on the east bank of the Missouri River.

Based on GWIC mapping, 2,537 wells are located in the Great Falls subarea. Well depths in the subarea vary by individual location, but the majority have been drilled to depths of less than 100 feet. Static water levels vary considerably but range from zero to 100 feet below the ground surface in most locations.

There are 50 PWS wells within the subarea primarily associated with local businesses, schools, and neighborhoods (**Figure A.5.b** and **Table B.13**).

2.5.3 Lewistown Subarea

The City of Lewistown's water source is Big Spring located approximately six miles southeast of town. This artesian spring originates nine miles southeast of Lewistown, near the state's Big Springs Trout Hatchery.[32]

Based on GWIC mapping, there are 251 wells in the Lewistown subarea. Well depths vary widely, but the majority of wells have been drilled to depths of less than 200 feet. Static water levels range from two to 330 feet below the ground surface in most locations.

There are no PWS wells within the Lewistown subarea (**Figure A.5.c**).

2.5.4 Old Havre Highway & US 87

There are 146 wells in the study corridor ranging from depths of five feet to over 900 feet, although the majority have been drilled to depths of less than 100 feet. Static water levels vary considerably ranging from 1.5 to 400 feet below the ground surface.

There are no PWS wells in the study corridor (**Figure A.5.d**).

2.5.5 US 87 Armington Junction – Otter Creek Canyon

Based on GWIC mapping, there are 82 wells in the study corridor, with depths ranging from 30 feet to over 1,000 feet. Of these, about one-third have been drilled to depths of less than 100 feet. Static water levels vary considerably but range from one to over 700 feet below the ground surface in most locations.

There is one PWS well within the study corridor, associated with the highway maintenance shop and rest stop at Armington Junction (**Figure A.5.e**).

2.5.6 Project Development Considerations

Impacts to the public and private groundwater supplies should be considered and minimized to the extent practicable for any improvements advanced from this planning study.

2.6 Floodplains and Floodways

Floodplains are flat or gently sloping areas adjacent to rivers, streams, or other water bodies that are periodically inundated with water during high flow events. These areas play a critical role in managing floodwater during high-flow or flood events by absorbing excess water and reducing downstream flood risks. Floodways are portions of a floodplain that are specifically designated to convey the bulk of floodwater during major flooding events by directing flow and minimizing water level increases.

Flood zones are geographic areas defined by the Federal Emergency Management Agency (FEMA) and are based on varying levels of flood risk. The characterization of the zones assists in determining the likelihood of flooding in a specific area and is used for floodplain management. High-risk flood areas in a 100-year floodplain, known as Special Flood Hazard Areas, include Zone A, which lacks detailed elevation data, and Zone AE which includes specific base flood elevations. Zone AH and Zone AO are also high-risk zones but represent areas with shallow flooding, typically one to three feet deep, with Zone AH having a specified base flood elevation. Zone AR denotes areas protected by flood control measures but still at risk due to potential issues in these systems. Zone X denotes areas of moderate-to-minimal flood risk, located outside the 100-year floodplain. It is further divided into shaded Zone X, indicating areas of moderate flood risk (within the 500-year floodplain), and unshaded Zone X, representing areas of minimal risk.

Flood risks evolve over time, necessitating periodic updates to floodplain maps. Factors that influence these changes include the age of the most recent flood study, considerable development in the area, and recent flood events. Modern flood studies are conducted collaboratively with communities, MDNRC, and FEMA. To address these needs, the state floodplain program has developed a plan to evaluate needs for future mapping projects.

Executive Order 11988 Floodplain Management[33] and USDOT Order 5650.2 Floodplain Management and Protection[34] mandate the protection of floodplains and floodways. These regulations aim to prevent or reduce highway encroachments within the FEMA designated 100-year floodplains and discourage land use development that conflicts with floodplains. While the modifications to Executive Order 11988 made by previous administrations—primarily through Executive Order 13690 (2015) and Executive Order 14030 (2021)—have been rescinded, the original Executive Order 11988 (1977) remains in effect.

2.6.1 Central Montana Study Area

According to MDNRC, Toole County and Pondera County within the Central Montana study area have not received updated floodplain mapping but are planned for future mapping projects. Chouteau County and Judith Basin County are considered non-participating communities in the floodplain mapping program and do not have floodplain data or plans for future mapping projects. Counties within the Central Montana study area that have complete floodplain mapping include Lewis and Clark, Cascade, Wheatland, and Fergus. Teton County and the City of Choteau have been working with FEMA and MDNRC to update and produce new floodplain maps, which are currently in progress.[35]

According to the most recent data from MDNRC, in Teton County the floodplains with the highest flood risk include the Teton River, Sun River, Spring Creek, Deep Creek, Muddy Creek, and tributaries. Additionally, the City of Choteau which lies between Spring Creek and the Teton River is considered a high-risk flood zone area.[36]

Special Flood Hazard Areas within the Central Montana study area with updated floodplain data are listed below (**Figure A.6.a**).

- Cascade County: Great Falls, Missouri River, Sun River, and Belt Creek
- Fergus County: Lewistown, Big Spring Creek, Cottonwood Creek, and Boyd Creek
- Wheatland County: Harlowton, Musselshell River, Antelope Creek, and American Fork
- Lewis and Clark County: Augusta, Elk Creek, and its tributaries

2.6.2 Great Falls Subarea

The Great Falls subarea is located within the Missouri-Sun-Smith watershed. The Missouri River bisects the Great Falls subarea from northeast to the south and the Sun River from the west boundary to the confluence at the Missouri River. Historically, flooding has occurred in the Great Falls subarea by rapid snowmelt combined with heavy rainfall in the Sun and Missouri River Basins, causing the Missouri River and the Sun River to overtop their banks. Designated floodplains are located in the areas bordering the Missouri and Sun River channels. The series of dams constructed on the Missouri River regulate the flow by controlling water release and stabilizing levels downstream, which can assist in preventing flooding events and managing water supply.

Several characterized flood zones are located within the Great Falls subarea (**Figure A.6.b**).[37] The floodplain of the Missouri River is categorized as Zone A, beginning just southwest of Cascade County to the city limits of Great Falls. Within the Great Falls subarea, an additional Zone A floodplain is mapped at the Missouri River adjacent to River Drive northwest of Giant Springs Road and ends at Black Eagle Dam.

The Missouri River Floodway through the City of Great Falls is classified as Zone AE which begins at Black Eagle Dam to the border of the Great Falls subarea. The Sun River Floodway is also categorized as Zone AE to the Missouri River confluence. Additionally, the entirety of Sand Coulee Creek at the south border of the Great Falls subarea to the confluence with the Missouri River, and Gibson Flats north of Sand Coulee Creek, are classified as Zone AE.

2.6.3 Lewistown Subarea

The Lewistown subarea lies within the Middle Missouri Watershed. Big Spring Creek runs north to south through the area near the eastern border of the City of Lewistown. Floodplain mapping shows that most of the floodplains adjacent to Big Spring Creek are classified as Flood Zone X, which is typically associated with areas of minimal flood risk.[38] These zones are not expected to experience major flooding events

according to historical data and FEMA floodplain mapping. However, Zone AE floodways are mapped near the southeast portion of the creek indicating a high risk of flooding (**Figure A.6.c**).

2.6.4 Old Havre Highway and US 87 Corridor

Much of the Old Havre Highway/US 87 corridor falls within Zone X classification, indicating a minimal risk for flooding.[39] The Missouri River running east-west and located at the southern end of the boundary is designated as Zone AE with floodways and floodplains following the north and south banks of the river (**Figure A.6.d**).

2.6.5 US 87 Armington Junction – Otter Creek Canyon

The US 87 corridor is located within the Missouri-Sun-Smith watershed and includes Big Otter Creek to Belt Creek at the northern boundary. At Armington Junction and the confluence of Belt Creek with Big Otter Creek and continuing north along Belt Creek, the floodplain is classified as Flood Zone A indicating a high-risk flood area which includes the crossing of US 87 over Belt Creek (**Figure A.6.e**).[40] The remainder of the US 87 corridor has not been included in any flood hazard study according to the FEMA Map Service Center but has been designated as Flood Zone D with minimal flood hazard. Historical evidence indicates that the area south of Armington Junction is prone to flood hazard due to runoff from high snowpack and severe spring storms.[41]

2.6.6 Project Development Considerations

Development occurring within a floodplain or floodway can disrupt natural processes and have substantial environmental impacts. These areas are naturally subject to periodic flooding and are crucial for maintaining ecological health. Any infrastructure in flood-prone zones can obstruct water flow, alter flood dynamics, or increase upstream flooding, reducing the region's natural water retention capacity.

Coordination with county floodplain administrators would be necessary if any improvements advanced from this study cross or encroach on a regulated flood hazard area (100-year floodplains). At the time improvements are advanced, an assessment should be conducted to identify high-risk flood areas by utilizing the most current FEMA floodplain mapping. In areas where floodplain studies have not been completed, a survey of those areas may be needed to determine where floodplains and floodways exist relative to construction boundaries. When work is being performed within a floodplain or floodway, effective stormwater management can be achieved through the installation of retention basins, vegetative swales, and rain gardens, which can manage runoff and promote natural water absorption. Erosion and sediment control measures, such as silt fences and sediment barriers, should be employed to prevent soil erosion. Design and construction practices should include elevating structures above the base flood elevation, using flood-resistant materials, and incorporating permeable surfaces to enhance water infiltration.

2.7 Wetlands

Wetlands are areas where water saturates the soil or covers the land for extended periods, creating unique ecosystems that support a wide variety of plant and animal species. These areas, which include marshes, swamps, bogs, and fens, play a crucial role in water management by filtering pollutants and reducing impacts from flooding. Wetlands also act as important habitat supporting a diverse range of species important to the overall ecosystem.

Wetlands in Montana are regulated by multiple agencies at the federal, state, and local levels, with the primary authority falling under the USACE and USEPA through section 404 of the CWA. Additionally, federal regulations require consultations with the USFWS and state wildlife agencies under the Fish and Wildlife Conservation Act (FWCA) to mitigate impacts on federally listed fish and wildlife when performing any activities that could impact waterways or wetlands. At the state level, MDEQ oversees water quality certification under Section 401 of the CWA. Additionally, local governments may have ordinances to further protect wetlands.

USFWS has compiled mapping to show wetlands and deepwater habitats in the U.S. including many parts of Montana and has made this mapping available through 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.[42] NWI maps do not define wetlands for regulatory purposes since the wetlands are identified through desktop analysis of aerial imagery, and boundaries are approximated. The NWI definition of wetlands specifies that one or more of the three attributes of wetlands (wetland hydrology, vegetation, or soils) be present to qualify as a wetland. According to NWI data, the predominant wetland community types found within the Central Montana study area are described below.[43]

Palustrine Emergent Wetlands

Palustrine emergent wetlands in Montana exhibit distinct vegetation patterns based on moisture levels. On drier sites, graminoids such as foxtail barley and western wheatgrass are predominant. The sites that receive more moisture support species such as bulrush, sedges, and bluejoint reed grass. Disturbed sites are often colonized by invasive grasses like smooth brome and common reed. The ecological systems of palustrine emergent wetlands within the Central Montana study area can be categorized as Western Great Plains Open Freshwater Depression Wetland, and Western Great Plains Closed Depression Wetland.[44] In saline or sodic soil conditions, halophytic species such as salt grass (*Spartina* sp.) and Nuttalls's alkaligrass (*Puccinellia nuttalliana*) characterize the Western Great Plains Saline Depression Wetland system. At higher elevations within the Middle Rockies, palustrine emergent wetlands correspond with the Rocky Mountain Alpine Montane Wet Meadow ecological system.

Palustrine Scrub-Shrub Wetlands

Palustrine scrub-shrub wetlands within the study area are limited but are primarily found along stream corridors. These wetlands indicate the following ecological systems: the Rocky Mountain Lower Montane and Foothill Riparian Shrubland and Rocky Mountain Subalpine-Montane

Riparian Shrubland systems in the Middle Rockies ecoregion, as well as the Northwestern Great Plains Riparian system in the Northwestern Great Plains ecoregion.

Palustrine Aquatic Bed Wetlands

Palustrine aquatic bed wetlands are predominantly found in the littoral zones of ponds and lakes. These wetland communities are characterized by aquatic plant species such as pondweeds (*Potamogeton* sp.) and watermilfoil (*Myriophyllum* sp.). In the study area, these wetlands primarily occur in freshwater ponds, which may originate from natural depressions or the result of excavation.

Palustrine Forested/Shrub Wetlands

Freshwater forested shrub wetlands in Montana are unique ecosystems characterized by a combination of wetland and forested or shrubby vegetation. These areas are typically found in low-lying regions where water is abundant. Common trees found within the Central Montana study area include black cottonwood (*Populus balsamifera* ssp. *trichocarpa*) and narrowleaf cottonwood *(Populus angustifolia*). Shrubs are often abundant in the Central Montana study area and include species such as willow (*Salix* sp.), redosier dogwood (*Cornus sericea*), and common chokecherry (*Prunus virginiana*).

2.7.1 Central Montana Study Area

In the Central Montana study area, 103,440 wetlands have been mapped by NWI totaling approximately 146,830 acres (**Table B.14**). Freshwater emergent are the most common type of wetland mapped in the study area, accounting for approximately 71 percent of the total acres of wetlands in the Central Montana study area. These wetlands are predominantly located near rivers, streams, and tributaries. Lake wetland types account for 12 percent of the total acres of wetlands within the Central Montana study area (**Figure A.7.a**).

2.7.2 Great Falls Subarea

Within the Great Falls subarea, 425 wetlands have been mapped comprising 1,032 acres (**Figure A.7.b** and **Table B.15**).

NWI maps indicate primarily freshwater emergent wetlands and freshwater forested/shrub wetlands along the Missouri River, Sun River, other intermittent streams, and drainages. Several isolated depressional wetlands and ponds occur in undeveloped and frequently inundated areas.

NWI mapping describes portions of the Missouri River as lake wetlands due to the impounded waters from the upstream dams. Lake wetlands make up approximately 48 percent of the total acreage of wetlands in the Great Falls subarea. Ponds can be found within the Great Falls subarea along the edge of the Missouri and Sun Rivers, with isolated ponding mapped throughout the urban area and in the rural outskirts of the city. Freshwater pond wetlands make up approximately four percent of the total acreage of wetlands in the Great Falls subarea, while freshwater emergent wetlands account for approximately 35 percent of the total wetland acreage. NWI mapping indicates the presence of freshwater emergent wetlands located on the Malmstrom Air Force Base, however USAF has noted there are no known delineated wetlands subject to USACE jurisdiction within the installation boundaries. Forested wetlands in the Great Falls subarea can be found on the deltas and

along the Missouri River floodplain upstream from the confluence with the Sun River. These wetlands make up approximately 13 percent of the wetlands in the Great Falls subarea.

2.7.3 Lewistown Subarea

Within the subarea, 25 wetlands have been mapped comprising 26 acres (**Figure A.7.c** and **Table B.16**).

The most common wetland communities found within the Lewistown subarea are freshwater emergent wetlands found along Big Spring Creek and its drainages. Several isolated wetlands occur north of the Lewistown subarea boundary. Along Little Casino Creek, wetland habitats classified as freshwater ponds are found along the meander of the creek south of the subarea boundary. Freshwater ponds account for approximately 75 percent of the wetland acreage in the Lewistown subarea. Forested wetlands account for about 25 percent of wetland acreage in the subarea.

2.7.4 Old Havre Highway and US 87 Corridor

Within the subarea, 42 wetlands have been mapped comprising 213 acres (**Figure A.7.d** and **Table B.17**).

The predominant wetlands within the Old Havre Highway/US 87 corridor are palustrine emergent wetlands and palustrine aquatic bed wetlands. There are also portions of lakes whose boundaries are within the Old Havre Highway/US 87 corridor boundary as well as manmade freshwater ponds near the north bank of the Missouri River. NWI mapping describes portions of the Missouri River as lake wetlands due to the impounded waters from the upstream dams. The lake wetlands found in the Old Havre Highway/US 87 corridor make up more than 90 percent of all wetlands within the corridor. Ponds can be found within the Old Havre Highway/US 87 corridor along the edge of the Missouri River and make up approximately three percent of all wetlands within the corridor. Freshwater emergent wetlands make up almost five percent of the total area of wetlands in the corridor. Forested wetlands in the Old Havre Highway/US 87 corridor are found on Sacagawea Island in the Missouri River and account for approximately one percent of the total area of wetlands in the corridor.

2.7.5 US 87 Armington Junction – Otter Creek Canyon

Within the subarea, 105 wetlands have been mapped totaling 31 acres (**Figure A.7.e** and **Table B.18**).

NWI maps primarily identify freshwater emergent wetlands and freshwater forested/shrub wetlands along Big Otter Creek, Belt Creek, and their tributaries and drainages. NWI mapping describes the pond type wetlands to be located within and around Otter Creek and its tributaries, making up more than eight percent of the total area of wetlands in the corridor. Freshwater emergent wetlands make up almost 80 percent of the total area of wetlands in the US 87 corridor. Forested/shrub wetland type in the US 87 corridor make up approximately 12 percent of total area of wetlands in the corridor.

2.7.6 Project Development Considerations

Impacts on wetlands and WOTUS could occur from road construction, culvert replacements, and other construction activities requiring dredging or filling of wetlands. Any impacts would need to be mitigated through restoration of temporarily impacted wetlands and WOTUS or replacement of permanently impacted wetlands or WOTUS.

For improvements within the Central Montana study area or subareas, field-based wetland delineations would be needed if the activities have the potential to impact wetlands. Future project designs should incorporate features to avoid and minimize impacts on surface waters and wetlands to the maximum extent practicable.

Unavoidable impacts to wetlands may require compensatory mitigation in accordance with applicable USACE requirements. Various federal and state water quality permits may be needed to implement construction projects, including a MPDES General Permit for Storm Water Discharges Associated with Construction Activity for construction activities disturbing one acre or more of land, CWA Section 404 permit, Section 401 Water Quality Certification, and 318 Authorization.

2.8 Hazardous Substances

Hazardous substances are materials that can cause harm to humans, animals, or the environment. These substances can take the form of chemicals, gases, liquids, or solids and pose risks to health, safety, or property when exposed to or handled improperly. MDEQ regulates the use, storage, transportation, disposal, and clean-up of hazardous materials and waste according to federal, state, and local laws and regulations. Information about the existence of hazardous sites in the study area was obtained from MDEQ's publicly available datasets and from MDEQ's online interactive website and databases.

2.8.1 Central Montana Study Area

Hazardous sites within the Central Montana study area are presented in **Figure A.8.a**.

National Priority List (Superfund) Sites

The National Priority List (NPL) identifies hazardous waste sites across the United States that qualify for long-term cleanup funded by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund.[45] A NPL Superfund site is any land contaminated by hazardous waste and recognized by the USEPA as a candidate for remediation due to potential risks to human health and/or the environment.

Three NPL Superfund sites fall within the Central Montana study area (**Table B.19**). In addition to the ACM Smelter and Refinery located within the Great Falls and Old Havre Highway/US 87 subareas, the other two NPL sites include the Barker Hughesville Mining District in Monarch and the Carpenter Snow Creek Mining District in Neihart.[46]

State Superfund Unit Facilities

Montana DEQ operates the State Superfund Unit with the objective to investigate and clean up hazardous substances commonly found at sites involved in mining, petroleum refining, railroad fueling and maintenance, smelting, and wood treating. Historical waste disposal activities at these sites caused or is causing contamination of air, surface water, groundwater, sediments, and/or soils with hazardous or deleterious substances.

The Montana DEQ State Superfund Unit oversees the Comprehensive Environmental Cleanup and Responsibility Act (CECRA), the Water Quality Act (WQA), and the Voluntary Cleanup and Redevelopment Act (VCRA).

The State Superfund Unit utilizes the CECRA to investigate and clean up hazardous substances at sites not addressed by CERCLA (Superfund).[47,48] Under CECRA, sites or facilities are ranked based on potential risks to human health and the environment. CECRA defines "facility" as all areas where a hazardous or deleterious substance has been deposited, stored, disposed of, placed, or otherwise come to be located.[49]

Hazardous waste release sites regulated under the WQA are managed by the Groundwater Remediation Program.[50] WQA sites generally necessitate long-term remediation and monitoring of soil, surface water, and/or groundwater. This program handles sites not covered by the Leaking Underground Storage Tank (LUST) Program, CECRA, Permitting and Compliance Division, or other state agencies. It oversees the cleanup of sites contaminated with petroleum, pesticides, and solvents, addressing sites of varying sizes from small to large.

The VCRA, established by the Montana Legislature in 1995, formalizes the voluntary cleanup process throughout the state.[51] The act was designed to facilitate and promote voluntary cleanup of facilities with hazardous or harmful substance releases or threats. It offers a process for interested parties to determine their cleanup responsibilities for the reuse or redevelopment of these sites.

There are 82 State Superfund Unit Facilities within the Central Montana study area including 39 within the subarea boundaries.

Storage Tanks

Underground storage tanks containing hazardous materials like diesel, gasoline, heating oil, and others, can pose serious risks to health and safety. The Montana Underground Storage Tank (UST) Leak Prevention Program operated by MDEQ is designed to prevent hazardous substances and petroleum from leaking out of USTs to safeguard human health and the environment. Leaking USTs can present serious risks, including drinking water and groundwater contamination, soil contamination, fire and explosion, and vapor exposure.

There are 457 USTs regulated by MDEQ within the Central Montana study area including 273 within the subarea boundaries.

Petroleum tanks – both aboveground and underground systems – are susceptible to leaks and other mechanical failure. Petroleum tanks in the Central Montana study area and subareas contain both gasoline and diesel fuels, as well as heating oil. There have been 620 petroleum

tank releases documented by MDEQ in the Central Montana study area and 335 documented claims in the subareas dating back to 1973. Of the 335 claims, 249 have been resolved.

Hazardous Waste

Businesses or entities that produce or handle hazardous waste and materials, such as automotive fluids and lubricants, used batteries, pesticides, paints and solvents, products containing mercury, among others, are considered hazardous waste generators and are registered with MDEQ.

There are 70 hazardous waste generators within the Central Montana study area including 57 within the subarea boundaries.

Hazardous waste generators are categorized by the EPA into three categories – Very Small Quantity Generators (VSQGs), Small Quantity Generators (SQGs), and Large Quantity Generators (LQGs) – based on the volume of hazardous waste produced in a calendar month (**Table B.20**).[52]

Solid Waste and Wastewater

In Montana, solid waste sites are overseen by MDEQ through its Solid Waste Program. This program manages a variety of solid waste facilities, including municipal landfills and recycling centers, construction and demolition waste sites, septic tank land application areas, and motor vehicle recycling operations, as well as community recycling activities.

There are 22 solid waste sites within the Central Montana study area including four within the subarea boundaries.

Proper disposal and treatment of wastewater are crucial for safeguarding public health and the environment. Both Great Falls and Lewistown have wastewater treatment facilities to treat and dispose of pumped sewage from local septic tanks. In other parts of the Central Montana study area, municipalities use public systems like lagoons for wastewater treatment. Private wastewater treatment systems such as septic systems are regulated by county regulations. Homes or other structures that have individual onsite septic systems are permitted though county health departments. All community wastewater systems are overseen and regulated by MDEQ.

Septic disposal typically occurs at a wastewater treatment plant but can include other locations. There are 10 septic disposal locations that lie within the Central Montana study area including three within the subarea boundaries.

Mining

Opencut mining, also known as open-pit or surface mining, is a method used to extract minerals and materials from the earth by removing the overlying soil and rock. This technique involves creating a large, open excavation or pit in the ground to access deposits of valuable resources such as sand, gravel, coal, or metals. Opencut mining is favored for its efficiency and cost-effectiveness when deposits are close to the surface, but it can have considerable environmental impacts, including habitat destruction and water pollution. Opencut permits are required for the extraction and processing of materials such as sand, gravel, soil, bentonite, clay, scoria, and peat as outlined in the Opencut

Mining Act.[53] There are 253 opencut mining permits or proposed permits that lie within the Central Montana study area including seven that are within the subarea boundaries. Of these, four are permitted and three are pending.

Abandoned or inactive mines are generally sites where highly developed exploration, mining, or mine production ceased without rehabilitation to the site and surrounding area. There are several inactive or abandoned mines near the study area identified by MDEQ and USGS. There are 692 inactive or abandoned mines that lie within the Central Montana study area, including eight that fall within the subarea boundaries.

2.8.2 Great Falls Subarea

Hazardous sites within the Great Falls subarea are presented in **Figure A.8.b**.

National Priority List (Superfund) Sites

The ACM Smelter and Refinery in Black Eagle was identified and listed as a NPL Superfund site on March 10, 2011 (**Table B.21**). The smelter had been operational for 80 years from its opening in 1893 until it ceased operations in 1972. The site had been used for copper refinement and other industrial processes that led to contaminated soil, groundwater and surface water resources around the site from copper, lead, arsenic, zinc, and antimony. The Superfund site covers an area of 2,420 acres and is located approximately at US 87 RP 2-3. Yard cleanups began in March 2024 with an anticipated completion of summer of 2025.[54]

State Superfund Unit Facilities

There are 16 CECRA State Superfund Unit Facilities (**Table B.22**), 14 WQA State Superfund Unit Facilities (**Table B.23**), and four VCRA State Superfund Unit Facilities (**Table B.24**) within the Great Falls subarea.

Storage Tanks

There are 177 regulated USTs within the Great Falls subarea. Of those, 140 are active and currently in use (**Table B.25**), 34 are permanently out of use, and three have been marked temporarily out of use as of January 2022.

There have been 279 petroleum tank releases in the past within and near the Great Falls subarea (**Table B.26**). Of those claims, 204 have filed for assistance from the Petroleum Tank Release Compensation Board and Cleanup Fund and are resolved or rescinded and 69 remain open.

Hazardous Waste

There are 49 hazardous waste generators that exist within the Great Falls subarea (**Table B.27**).

Solid Waste

Municipal solid waste from Great Falls and surrounding counties is sent to the High Plains Sanitary Landfill (Major Class II Facility), approximately 17 miles northeast of Great Falls south of US 87 RP 22, outside of the Great Falls subarea.

There are four solid waste sites within the Great Falls subarea, including Class III, recycling, and compost facilities (**Table B.28**). In the City of Great Falls, sewage is processed at municipal wastewater treatment plants before being released into the Missouri River. There are two sewage disposal locations within the Great Falls subarea (**Table B.29**).

Mining

There are five opencut permits within the Great Falls subarea, two of which are approved and three are pending approval by MDEQ (**Table B.30**). There are six abandoned mines within the Great Falls subarea identified by MDEQ (**Table B.31**).

2.8.3 Lewistown Subarea

Hazardous sites within the Lewistown subarea are presented in **Figure A.8.c**.

National Priority List (Superfund) Sites

There are no NPL Superfund sites in the Lewistown subarea.

State Superfund Unit Facilities

There is one CECRA State Superfund Unit Facility within the Lewistown subarea (**Table B.32**). Berg Post & Pole is an inactive two-acre wood treating facility in Lewistown operated from 1968 to 1975. Investigations revealed soil contamination from wood preservatives like PCP and creosote, likely due to leakage and improper waste disposal. Despite the presence of contamination, domestic wells around the site showed no harmful levels of pollutants. The site was initially assessed by MDHES in 1987, with follow-up investigations in 1988 and 1991. The 1991 assessment identified elevated levels of PCP, creosote, and dioxins but no contamination in domestic wells. EPA determined no further action was needed under CERCLA but left open the possibility of future actions. MDEQ now oversees the site, which is ranked a high priority, and issued notice letters to the site owners in 1996.

There are three WQA State Superfund Unit Facilities and no VCRA State Superfund Unit Facilities in the Lewistown subarea (**Table B.33**).

Storage Tanks

There are 45 regulated USTs within the Lewistown subarea. Of those, 24 are active and currently in use (**Table B.34**), nine are permanently out of use, and 11 have been marked temporarily out of use, and one is classified as “other” between January 2022 and January 2023.

There have been 54 petroleum tank releases in the past within and near the Lewistown subarea. Of those, 48 claims that filed for assistance from the Petroleum Tank Release Compensation Board and Cleanup Fund have been resolved or rescinded and six remain open (**Table B.35**).

Hazardous Waste

There are eight hazardous waste generators that exist within the Lewistown subarea (**Table B.36**).

Solid Waste

There are no solid waste landfills or facilities in the Lewistown subarea. Solid waste from the Lewistown subarea is transferred to the High Plains Sanitary Landfill approximately 15 miles northeast of Great Falls.

Sewage and wastewater from the Lewistown subarea are processed at the Lewistown Wastewater Treatment Plant before being released into Big Spring Creek, also within the subarea (**Table B.37**). In June 2024, MDEQ sent a "Summary Violation Letter" to the city regarding sanitary sewer overflow events that resulted in the discharge of sewage and stormwater into Big Spring Creek at the municipal wastewater treatment plant. The issue remains unresolved as of August 2024.[55]

Mining

There are two opencut permits within the Lewistown subarea (**Table B.38**). There are an additional nine gravel pits and no abandoned mines within the Lewistown subarea.

2.8.4 Old Havre Highway and US 87 Corridor

Hazardous sites within the Old Havre Highway/US 87 corridor are presented in **Figure A.8.d**.

National Priority List (Superfund) Sites

A single NPL Superfund site exists in the Old Havre Highway/US 87 corridor, ACM Smelter & Refinery NPC (**Table B.39**). The site was identified in 2021, and cleanup of the site began in May 2024 with an estimated completion by 2026.

State Superfund Unit Facilities

There are five CECRA State Superfund Unit Facilities (**Table B.40**), three WQA State Superfund Unit Facilities (**Table B.41**), and one VCRA State Superfund Unit Facility within the Old Havre Highway/US 87 corridor. Energy West Gas Manufacturing Plant (EWGM) is covered under both CECRA and VCRA.

Storage Tanks

There are 51 regulated USTs within the Old Havre Highway/US 87 corridor. Of those, 32 are active and currently in use, 15 are permanently out of use, and four have been marked temporarily out of use as of January 2022 (**Table B.42**).

There have been 34 petroleum tank releases in the Old Havre Highway/US 87 corridor. Of those, 27 claims filed for assistance from the Petroleum Tank Release Compensation Board and Cleanup Fund have been resolved or rescinded and six remain open (**Table B.43**).

Hazardous Waste

Seven hazardous waste generators exist within the Old Havre Highway/US 87 corridor (**Table B.44**).

Solid Waste

There is one solid waste site within the Old Havre Highway/US 87 corridor - Pacific Steel & Recycling – Great Falls (**Table B.45**).

There is one sewage disposal location within the Old Havre Highway/US 87 corridor - Great Falls Wastewater Treatment Plant - SP (**Table B.46**).

Mining

There are no permitted or legally pending opencut mines and no abandoned mines within the Old Havre Highway/US 87 corridor.

2.8.5 US 87 Armington Junction – Otter Creek Canyon

Hazardous sites within the Armington Junction – Otter Creek Canyon corridor are presented in **Figure A.8.e**.

National Priority List (Superfund) Sites

There are no NPL Superfund sites in the US 87 corridor.

State Superfund Unit Facilities

There are no CECRA State Superfund Facilities and no VCRA State Superfund Facilities in the Armington Junction – Otter Creek Canyon corridor.

There is one WQA State Superfund Facility in the corridor, Robert Anderson CAFO, a confined animal feeding operation (**Table B.47**). It was identified as a WQA State Superfund Unit in 1994 and was resolved and delisted in 1996.

Storage Tanks

There are no USTs within the Armington Junction – Otter Creek Canyon corridor.

There have been two previous petroleum tank releases in and near the US 87 corridor. Both claims filed for assistance from the Petroleum Tank Release Compensation Board and Cleanup Fund and have been resolved (**Table B.48**).

Hazardous Waste

There are no hazardous waste generators in the Armington Junction – Otter Creek Canyon corridor.

Solid Waste

There are no solid waste sites and no sewage disposal facilities in the corridor.

Mining

There are no permitted or legally pending opencut mines within the Armington Junction – Otter Creek Canyon corridor. There are three permitted opencut mines near the corridor, the closest being half a mile from the one-mile corridor boundary.

There are two abandoned mines within the corridor (**Table B.49**).

2.8.6 Project Development Considerations

Impacts and risk to human, wildlife, and environmental health could occur from improper handling or removal of hazardous substances found within or construction around known locations of hazardous materials. Though impacts to existing hazardous substances and locations of hazardous substances will likely be minimal, efforts should be taken to avoid contact and disruption to these sources and locations.

The NPL Superfund site of the ACM Smelter contains hazardous materials and should be avoided for human health and safety reasons. The site is currently being restored by the EPA and should be avoided to allow for undisturbed remediation efforts until the estimated completion in 2025. Precautions should similarly be taken to avoid contact with or construction near any unresolved State Superfund Unit sites until MDEQ has performed proper remediation of affected soils or hydrology.

USTs that are currently in use or decommissioned and remain underground could pose contamination risks to human and environmental health if damaged during any construction. Ground surveys should be conducted prior to any construction work to identify active and decommissioned USTs to avoid unintended damage that could result in a petroleum leak or spill.

Inactive and abandoned mines can pose a threat to human safety. Abandoned mines, especially underground mines that have not been closed or sealed by proper authorities or requirements, may be susceptible to collapse during construction activities. Areas with inactive and abandoned mines should be avoided if possible. If avoidance is not possible, abandoned mines should be properly sealed by MDEQ to reduce risk.

When working with hazardous waste in the Central Montana study area or any of the subareas, the following steps and precautions should be taken to avoid unnecessary spills, contaminations, or risks to public health:

- Comply with Hazardous Waste Management Plans (HWMPs) and Spill Prevention, Control, and Countermeasures (SPCC) Plans to minimize effects from the use of hazardous materials and generation of waste.
- Train applicable personnel appropriately for their role in hazardous materials usage and waste management in accordance with applicable regulations.
- Ensure that material sites or storage areas meet federal and state requirements.
- Store hazardous materials and waste in properly labeled containers with the labels clearly visible for inspection.
- Keep printed and electronic copies of Safety Data Sheets for all hazardous materials used or stored on-site and readily available.

- Keep hazardous materials and waste in containers or containment systems compatible with the substance and storage quantity.
- Complete and document routine inspections of containers to ensure they are in “good condition” according to the HWMPs.
- Monitor the accumulation of hazardous materials and hazardous wastes so that the capacity of the facility and/or the installation is not exceeded. Documenting accumulation points for storage and/or disposal.
- Complete and document in a report the routine inventory of hazardous substances stored and used on-site, ensuring that only the amount needed for facility operations and maintenance is stored on-site.
- Dispose of any hazardous materials that are no longer necessary for their intended purpose in accordance with existing regulations.
- Respond to any spills that occur during construction or operation of the project as outlined in the SPCC Plan, including:
    - Notify installation and outside agencies of the spill.
    - Report the type of material and quantity spilled.
    - Stop and contain the spill.
- In an emergency event, the hazardous waste manager would implement the following in accordance with the HWMP:
    - Provide environmental emergency coordination.
    - Respond to a hazardous material fire, explosion, or spill as described in the plan.
    - Maintain an up-to-date hazardous waste tracking system. Complete and document in a report the site hazardous waste management, including generation, storage, transportation, and disposal.
- Sample excavated soils to test the samples for per/poly fluoroalkyl substances (PFAS) during construction within areas characterized to exceed PFAS advisory limits.

2.9 Air Quality

Air pollution refers to the presence of one or more contaminants—such as dust, fumes, gases, mist, odors, smoke, or vapors—in the outdoor atmosphere. These contaminants can be harmful to human, plant, or animal life, or they can unreasonably disrupt the comfortable enjoyment of life and property. Air quality as a resource includes various factors that describe the extent of overall air pollution in a region, the sources of air emissions, and the regulations that govern these emissions.

The Clean Air Act of 1970, along with its amendments, serves as the foundation for air pollution control efforts. Under this Act, the EPA has set National Ambient Air Quality Standards (NAAQS) for six key pollutants: ozone, carbon monoxide, particulate matter (both PM-2.5 and PM-10), lead, sulfur dioxide, and nitrogen dioxide (**Table B.50**). These NAAQS are designed to safeguard human health and public welfare by defining safe levels and exposure limits for each of these pollutants. The EPA has set short-term NAAQS for pollutants that cause acute health effects, with standards for 1-hour, 8-hour, and 24-hour periods, as well as long-term NAAQS for pollutants associated with chronic health effects, based on annual averages.

Montana has set its own air quality standards for criteria pollutants, as well as for settleable particulates and visibility. The Montana Ambient Air Quality Standards (MAAQS) outline statewide benchmarks for acceptable levels of ambient air pollutants.[56]

The USEPA and MDEQ are responsible for regulating air quality and can classify areas as either attainment or nonattainment based on whether they meet the NAAQS or MAAQS for specific pollutants. Areas where pollution levels are below the established thresholds are termed “attainment” areas. Conversely, “nonattainment” areas are those where pollution levels consistently exceed these thresholds or contribute to poor air quality in neighboring regions. If an area that was previously classified as nonattainment now meets the NAAQS, it is reclassified as a “maintenance” area.

2.9.1 Central Montana Study Area

There are seven major pollutants in Central Montana, including carbon monoxide, ozone, nitrogen oxides, sulfur dioxide, particulate matter 2.5 (PM2.5), particulate matter 10 (PM10), and volatile organic compounds (VOC). Sources of these pollutants in the Central Montana study area include wildfire and prescribed burn smoke, vehicle emissions, vehicle and machinery emissions, and industrial manufacturing and refineries.

Air quality in Montana typically experiences a downward trend in late summer and during winter months. Summer months are marked by wildfires and smoke that can linger for weeks. Winter months experience inversions that trap air pollutants from fuel-burning stoves, vehicles, and other sources in western valleys (DPHHS 2024).

All areas in the Central Montana study area are currently classified as attainment of the NAAQS for all criteria pollutants.

2.9.2 Great Falls Subarea

A 4-mile segment of US 87 from approximately RP 90.5 to RP 94.5 in Great Falls was designated as nonattainment for carbon monoxide in 1971, redesignated to maintenance in 2002, and is now in compliance. This roadway segment is the only part within the entire study area boundary with a history of nonattainment.[57]

Pollution sources in the Great Falls subarea include airline exhaust from the Great Falls International Airport, traffic along major corridors including I-15, US 87, US 89, and MT 200, a petroleum refinery (Calumet Great Falls), multiple concrete producers, and wildfire activity. The most notable pollutant in the Great Falls subarea is PM2.5, which can contain traces of organic chemicals, dust, soot, ash, metals, among other substances, originating from fuel combustion, industrial processes like petroleum refinement, power plants, cement production, and mining and mineral processing. Other sources may include wildfires and other natural processes.

PM2.5 concentrations are highest during the months of July through September, likely from smoke as a result of increased wildfire activity in the state and northern Canada. There is also a slight spike in PM2.5 concentrations during winter months in some years, likely as a result of stagnant air from inversions (**Chart B.1**). While MDEQ monitors PM2.5 in Great Falls, the annual mean values are within the NAAQS thresholds established by the USEPA.

2.9.3 Lewistown Subarea

The primary pollutants in the Lewistown subarea are ozone (**Chart B.2**), PM2.5, and PM10. Similar to the Great Falls subarea, PM2.5 (**Chart B.3**) and PM10 (**Chart B.4**) concentrations are highest during the months of July through September from smoke as a result of increased wildfire activity in the state and northern Canada. There is also a slight spike in PM2.5 concentrations during winter months in some years, likely due to stagnant air from inversions. While MDEQ monitors these pollutants in Lewistown, the levels are within the NAAQS thresholds established by the EPA.

2.9.4 Old Havre Highway and US 87 Corridor

The Old Havre Highway/US 87 corridor is encompassed by the Great Falls subarea (**Section 2.9.2**).

2.9.5 US 87 Armington Junction – Otter Creek Canyon

Because there are no air quality monitoring stations within the US 87 corridor, air quality data is reported from the Great Falls monitoring station (**Section 2.9.2)**.

2.9.6 Project Development Considerations

Potential impacts to air quality throughout the Central Montana study area would have short-and long-term minor effects on air quality. Short-term effects would be caused by fugitive dust and exhaust generated by heavy equipment during any construction. Long-term effects would be the result of commutes of additional personnel and heating the proposed buildings on the installations. However, the effects of any proposed construction on air quality would likely not exceed the prevention of significant deterioration (PSD) major source threshold established by the USEPA. Because all project elements would be within areas that are in full attainment of the NAAQS, proposed transportation projects would not be subject to conformity requirements.

The emissions from construction equipment could be a major source of local air pollution. Although not easily controlled, modern heavy equipment and machinery with diesel engines are equipped with emission control systems that use Diesel Exhaust Fluid (DEF) – an odorless solution or purified water and urea that aids in reducing nitrogen oxide emissions. Use of more modern equipment that use DEF would help reduce emissions from construction equipment. Additionally, dust that contributes to PM2.5 and PM10 can be controlled at work sites by implementing dust control measures. Water sprayers, mist cannons, or sprinklers that keep the working surface damp would help to reduce dust being taken into the air and into nearby residential or commercial areas.

If the area's air quality status changes, conformity requirements could be introduced in the future. Therefore, any project proposed by MDT would need to assess the current air quality status during the project development process to determine if it must adhere to conformity requirements.

2.10 Noise

Sound is a physical phenomenon involving vibrations that move through a medium like air and are detected by the human ear. Noise is any unwanted sound that disrupts communication, could damage hearing, or is otherwise bothersome. People's reactions to noise depend on factors like the type of noise, its distance from the listener, their sensitivity, and the time of day. Common sources of noise include essential community activities like aircraft operations, construction, and traffic.

Sound differs in both intensity and frequency. Sound intensity is measured in decibels (dB), which uses a logarithmic scale to compare sound pressure to a standard reference level. Frequency is measured in Hertz (Hz). The human ear perceives varying frequencies differently, and "A-weighting," expressed in dBA, approximates how humans perceive sound across various frequencies.

FHWA and MDT have defined noise level thresholds for different land use activities (**Table B.51** and **Table B.52**), known as Noise Abatement Criteria (NAC). Noise abatement measures, such as barriers or berms, must be evaluated whenever these thresholds are near, exceeded, or when noise levels rise considerably above existing levels.

2.10.1 Central Montana Study Area

Baseline existing noise conditions within the Central Montana study area was calculated and modeled by the National Park Service in 2020.[58] The highest dBA throughout the study area is 50.8, typically found along major highways, urban areas, and rural towns primarily in Great Falls, Lewistown, Harlowton, Dutton, Choteau, Stanford, and Fairfield. The lowest dBA is 26.7, which is found adjacent to highway corridors and outside urban centers and rural towns.

Transportation-specific noise levels vary from the baseline existing conditions. Transportation noise-generators including road, freight and passenger rail, and aviation increase during daytime hours and subside during nighttime hours. Transportation-specific dBA in the Central Montana study area, expressed as the 24-hr equivalent sound level (dBA LAeq), ranges from a high point of 104.8 to a low of 45.0 and averages 52.9.

Existing sources of noise throughout the Central Montana study area include military and civilian overflights from multiple airports including Great Falls International Airport, Lewistown Municipal Airport, Malmstrom Air Force Base, and eight other smaller airports, traffic on major highway corridors such as Interstate 15, US 87, US 287, US 191, and US 12, railroad traffic, industrial manufacturers in Great Falls, mining operations, and agricultural production. Noise levels in urban centers like Great Falls and Lewistown are higher than rural and remote areas. Daytime levels are generally higher than nighttime levels.

2.10.2 Great Falls Subarea

Sources of noise in and around the Great Falls subarea include military and civilian overflights originating from Great Falls International Airport and Malmstrom Air Force Base, road and railroad traffic, industrial production, construction, landscaping maintenance, and agricultural noise. The City of Great Falls has developed noise ordinances to mitigate disturbances to residents (**Table B.53**).

The highest baseline dBA within the Great Falls subarea is 50.84, the lowest is 26.76, and the average is 39.6. The highest transportation-related dBA in the Great Falls subarea is 99.1, the lowest is 45.0, and the average is 52.2.

2.10.3 Lewistown Subarea

Sources of noise in and around the Lewistown subarea include military and civilian overflights originating from Lewistown Municipal Airport/Lewistown Air Force Station, road traffic, railroad traffic adjacent to the subarea, manufacturing, landscaping maintenance, and agricultural noise.

The highest baseline dBA within the Lewistown subarea is 42.47, the lowest is 32.8, and the average is 37.8. Similarly to Great Falls, transportation-specific noise levels vary from the baseline existing conditions in Lewistown. The highest transportation-related dBA in the Lewistown subarea is 66.5, the lowest is 45.0, and the average is 51.8.

2.10.4 Old Havre Highway and US 87 Corridor

Sources of noise in and around the Old Havre Highway/US 87 corridor include military and civilian overflights originating from Great Falls International Airport and Malmstrom Air Force Base, road and railroad traffic, industrial production, construction, landscaping maintenance, and agricultural noise.

The highest baseline dBA within the Old Havre Highway/US 87 corridor is 42.74, the lowest is 32.8, and the average is 41.9. The highest transportation-related dBA in the Old Havre Highway/US 87 corridor is 85.3, the lowest is 45.0, and the average 52.9.

2.10.5 US 87 Armington Junction – Otter Creek Canyon

The US 87 corridor is generally a very quiet area. The primary sources of noise are traffic from US 87 and railroad traffic from the BNSF Railway that runs parallel to US 87 on the north side of the highway. Other sources of noise include agricultural machinery and other agricultural operations. The loudest areas in the corridor are Raynesford and Armington Junction, where traffic converges at a roundabout at US 87 RP 0.

The highest baseline dBA within the corridor is 50.8, the lowest is 26.76, and the average is 34. The highest transportation-related dBA in the US 87 corridor is 96.4, the lowest is 45.0, and the average is 53.6.

2.10.6 Project Development Considerations

Transportation projects and other construction can lead to increased noise levels for nearby residents, both during construction and from ongoing facility operation. Noise impacts may arise from building a new roadway or making substantial changes to an existing one, such as altering its horizontal or vertical alignment or adding additional traffic lanes.

Construction activities related to improvements and modifications on any of the roads within the Central Montana study area and subareas would likely result in temporary and localized noise disruptions near residential areas. These impacts can be reduced by implementing measures to control noise sources during the construction process, such as using mufflers on heavy equipment. Any upgrades or modifications to any existing roadways in the subareas may necessitate a noise analysis. Comprehensive noise assessments are typically carried out when substantial changes in roadway design or layout could lead to potential noise impacts.

The effects of noise on humans have been widely studied and although the effects are rarely severe, adverse effects are cumulative with prolonged and repeated exposure. Prolonged exposure can cause health issues including increased blood pressure and sleep interference.[59] The most notable effects of highway traffic noise in humans are communication, sleep, and general annoyance.

MDT recommends noise planning thresholds for different land use categories that should be used to plan noise sensitive developments near MDT highways that preserve quality of life.

Mitigation for highway traffic and construction noise can include a buffer zone, setbacks, noise barriers, berms, noise walls, and others. The City of Great Falls has noise ordinances in place to mitigate disturbances to residents.

3.0 BIOLOGICAL ENVIRONMENT

3.1 Vegetation and Noxious Weeds

MTNHP designates certain native plant species as Species of Concern (SOC) within the state. SOC are at-risk or potentially at-risk due to a variety of factors, including rarity, restricted distribution, and/or habitat loss. MTNHP collects and maintains data on the distribution, abundance, and ecology of these species to help guide resource management decisions.

Noxious weeds are invasive plant species that can pose a threat to wildlife habitat, fisheries, native plants, agricultural lands, and recreational opportunities. The Montana Department of Agriculture runs various Noxious Weed Programs to combat the spread of noxious weeds in the state. Weed Control Districts are established throughout the state, associated with Montana counties.

Noxious weeds in Montana are categorized by priority level, which determines management actions to take in response to their presence:

- **Priority 1A** weeds are not present or have a limited presence in the state, and require eradication if detected, as well as education and prevention of spread.
- **Priority 1B** weeds have a limited presence, and require eradication or containment, and education.
- **Priority 2A** weeds are common in isolated areas of the state, require eradication or containment, and should be prioritized by local weed districts.
- **Priority 2B** weeds are abundant and widespread in many counties, requiring eradication or containment when less abundant, and should be prioritized by local weed districts as well.
- **Priority 3** plants are not listed as noxious weeds and are instead categorized as regulated plants. Regulated plants have the potential for serious negative impacts. The plant may not be intentionally spread or sold other than as a contaminant in agricultural products. The state recommends research, education, and prevention to minimize their spread.

Additional information is provided in Environmental Summary Reports for each subarea in **Appendix C**.

3.1.1 Central Montana Study Area

The Central Montana study area has a wide variety of vegetation types. Dominant vegetation and land cover types for counties within the Central Montana study area are predominantly agriculture, native grassland (primarily mixed-grass prairie and lower montane-foothill-valley grassland), forested (primarily coniferous forest), and shrubland (primarily big sagebrush [*Artemisia tridentata*]). Smaller areas of open water and riparian; introduced grassland, forbland, and shrubland; developed lands; and barren/sparsely vegetated areas also occur.

Noxious weeds within the Central Montana study area are generally associated with disturbed soil due to development, roads, and agriculture.

3.1.2 Great Falls Subarea

Vegetation in the subarea is primarily composed of agriculture, prairie grassland, and introduced vegetation.

There are 11 recorded MTNHP vascular plant SOC occurrences in the Great Falls subarea (**Table B.54**).[60] The Great Falls subarea is located within the Cascade County Weed District, with four Priority 1A, six Priority 1B, eight Priority 2A, 17 Priority 2B, and two Priority 3 plant species known to occur in this area (**Table B.55**). Additionally, curly-leaf pondweed (*Potamogeton crispus*), flowering-rush (*Butomus umbellatus*), Eurasian water-milfoil (*Myriophyllum spicatum*), and American water-lily (*Nymphaea odorata*) are aquatic invasive species present in the subarea but not included on the Noxious Weed List.

3.1.3 Lewistown Subarea

Vegetation in the subarea is primarily composed of agricultural fields, prairie grassland, introduced vegetation, and deciduous shrubland.

There are three recorded MTNHP vascular plant SOC occurrences in the Lewistown subarea (**Table B.56**).[61] Lewistown is located within the Fergus County Weed District, with two Priority 1A, three Priority 1B, eight Priority 2A, 14 Priority 2B, and one Priority 3 plant species known to occur in this area (**Table B.57**). Additionally, American water-lily is an aquatic invasive species present in the subarea but not included on the Noxious Weed List.

3.1.4 Old Havre Highway and US 87 Corridor

Vegetation in the corridor is primarily composed of cultivated agricultural fields and mixed-grass prairies.

There are five recorded MTNHP vascular plant SOC occurrences in the Old Havre Highway/US 87 corridor (**Table B.58**).[62] The corridor is located within the Cascade County Weed District, with four Priority 1A, six Priority 1B, nine Priority 2A, 17 Priority 2B, and two Priority 3 plant species known to occur in this area (**Table B.59**). Additionally, curly-leaf pondweed, flowering-rush, Eurasian water-milfoil, and American water-lily are aquatic invasive species present in the corridor but not included on the Noxious Weed List.

3.1.5 US 87 Armington Junction – Otter Creek Canyon

Vegetation in the corridor is primarily composed of prairies and grassland, agricultural fields, great plains shrubland, big sagebrush steppe, introduced vegetation, and riparian zones. No MTNHP botanical SOC occurrences were recorded in the US 87 corridor.[63]

The western end of the US 87 corridor is located within the Cascade County Weed District, while the eastern end is located in the Judith Basin County Weed District. There are three Priority 1A, three Priority 1B, six Priority 2A, 15 Priority 2B, and two Priority 3 plant species are known to occur in this area (**Table B.60**). Additionally, Eurasian water-milfoil and American water-lily are aquatic invasive species present in the corridor but not included on the Noxious Weed List.

3.1.6 Project Development Considerations

Potential future improvements may result in construction impacts on vegetation within the study area. Plant surveys should be conducted prior to construction to determine presence and potential impacts to sensitive species, as well as any populations of noxious weeds in the area. The removal of native vegetation and mature trees should be minimized where possible. Temporarily disturbed areas should be restored to preconstruction conditions and replanted with native species.

Future projects should incorporate applicable best management practices outlined by the relevant Weed Control Districts and MDT Standard Specifications. If herbicides are needed for weed control, projects should comply with label restrictions; federal, state, and/or county regulations, and landowner agreements related to herbicide use/applications. No spraying should occur prior to notification of the applicable land management agency or landowner. An herbicide use plan should be submitted prior to any herbicide application performed on federal or state-controlled lands, including dates and locations of application, target species, herbicide to be used, adjuvants, and application rates and methods.

3.2 Wildlife and Aquatic Species

The Central Montana study area historically supported abundant wildlife populations. Development and agriculture have altered the habitat to a large degree, but the existing grasslands, riparian areas, wetlands, and streams provide high-quality habitat for a large variety of terrestrial and aquatic species. Federal, state, and local agencies have an interest in supporting populations of wild animals throughout the region, and various programs and policies are in place to manage and protect these resources.

Greater sage-grouse management is guided by the Sage-Grouse Conservation Strategy. This strategy was established under the Montana Greater Sage Grouse Stewardship Act of 2015,[64] EO 12-2015: Executive Order Amending and Providing for Implementation of the Montana Sage Grouse Conservation Strategy; and EO 21-2015: Executive Order 12/2015 Erratum. Proponents of any proposed activities in designated greater sage-grouse habitat must obtain a permit or authorization or consult with the state about compliance with the Montana Sage Grouse Conservation Strategy. Greater sage-grouse is also managed by the USBLM through their Record of Decision and Approved Resource Management Plan.[65] “General habitat” is defined as an area providing habitat for greater sage-grouse but not identified as a core area or connectivity area. A “core area” is defined as an area that has the highest conservation value for greater sage-grouse as well as the greatest number of displaying male greater sage-grouse and associated greater sage-grouse habitat.[66]

Migratory birds are protected under the Migratory Bird Treaty Act (MBTA). Under the MBTA, it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Direct disturbance of an occupied (with birds or eggs) nest is prohibited under the law. The destruction of unoccupied nests of eagles; colonial nesters such as cormorants, herons, and pelicans; and some ground/cavity nesters such as burrowing owls or bank swallows may be prohibited under the MBTA. The Birds of Conservation

Concern (BCC) list referenced in this report was obtained from the USFWS Information for Planning and Consultation (iPaC) database.[67] It includes birds with potential presence in the study area that are identified by USFWS as "species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act (ESA)."

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act and the MBTA. Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate conservation measures.

In addition to migratory birds, MTNHP lists other native terrestrial and aquatic species that are at-risk due to declining population trends, habitat threats, restricted distribution, and/or other factors. Montana SOC designation is based on status rank and is not a statutory or regulatory classification but is intended to help managers make proactive decisions regarding species conservation and data collection priorities.

MFWP oversees research, harvest management, and conservation programs for the state's wildlife populations. Under Secretarial Order 3362, MFWP collaborates with private landowners using best available science to help ensure that robust big game populations continue to exist.

Federally listed species listed under Section 7(a)(2) of the ESA of 1973 are discussed in **Section 3.3** of this document.

3.2.1 Central Montana Study Area

Wildlife areas of interest are presented in **Figure A.9.a**.

Ecoregion

The Central Montana study area is located in three ecoregions: Middle Rockies, Northwestern Glaciated Plains, and Northwestern Great Plains.[68] Major rivers in the ecoregion include the Missouri, Marias, Teton, Judith, Dearborn, Smith, and Musselshell. The Middle Rockies Ecoregion is mountainous with forests and lakes at higher elevations and open woods, shrubs and grasses in the foothills. The mosaic of mountain ranges, streams and intermountain valleys provides a range of terrestrial and aquatic habitats for wildlife. The Northwestern Glaciated Plains extend hundreds of miles east from the foothills of the Rocky Mountains and are dominated by grain farms and pasture. The many ponds and wetlands provide diverse habitats for wildlife. The Northwestern Great Plains lie south of the glaciated plains and are characterized by rolling grasslands interspersed with rangeland and limited areas of farmland. Open ponderosa pine forests, ephemeral and intermittent streams and breaks provide wildlife habitat.[69]

The most abundant large mammal within the Central Montana study area is pronghorn antelope (*Antilocapra americana*). Mule deer (*Odocoileus hemionus)* and white-tailed deer (*Odocoileus virginianus*) are common. The Central Montana study area provides winter range

and summer general habitat for these species as well as elk (*Cervus canadensis*). Moose (*Alces alces*) are present in the lakes and riparian areas throughout the Central Montana study area.[70]

Bird Conservation Regions (BCRs) identified by USFWS in the Central Montana study area include the Northern Rockies (BCR 10), Prairie Potholes (BCR 11), and Badlands and Prairies (BCR 17). High-priority forest birds in the Northern Rockies BCR include the flammulated owl (*Psiloscops flammeolus*) Lewis' woodpecker (*Melanerpes lewisi*), black-backed woodpecker (*Picoides arcticus*), olive-sided flycatcher (*Contopus cooperi*), Townsend's warbler (*Setophaga townsendi*) rufous hummingbird (*Selasphorus rufus*), black swift (*Cypseloides niger*), and blue grouse (*Dendragapus obscurus*). Barrow's goldeneye (*Bucephala islandica*), harlequin duck (*Histrionicus histrionicus*), and trumpeter swan (*Cygnus buccinator*) breed in high-elevation lakes and streams. The Prairie Pothole BCR is the most important duck breeding habitat in North America, as well as providing critical breeding and migration habitat for over 200 other bird species. The Badlands and Prairies BCR supports some of the healthiest populations of high priority dry-grassland birds on the continent, including mountain plover (*Charadrius montanus*), McCown's longspur (*Rhynchophanes mccownii)* and long-billed curlew (*Numenius americanus*).[71]

Bald and golden eagles have been observed within the Central Montana study area, and golden eagles have been observed roosting or nesting in the vicinity of missile facilities.[72]

Buildings, bridges, mature trees, and rock outcrops or cliffs provide roosting habitat for bats, and riparian areas, open water, and wetlands, as well as open shrubland and grassland, provide foraging habitat. There are 13 species of bats with potential to occur in the Central Montana study area.[73]

Managed Areas for Wildlife

Unique and sensitive wildlife habitats that provide major stopover habitat for shorebirds and waterfowl include Freezeout Lake Wildlife Management Area (WMA) and Benton Lake National Wildlife Refuge (NWR), described below.

Freezeout Lake State Wildlife Management Area

The WMA is managed primarily for waterfowl production, public wildlife viewing, and hunting. It also provides habitat for upland game birds, raptors, and shorebirds. Habitat management may include fluctuating water levels to improve lake/pond productivity and various forms of upland field maintenance, such as modifying (improving) nesting/brood rearing cover habitat and noxious weed control.[74]

Benton Lake National Wildlife Refuge

Benton Lake NWR is a 6,000-acre shallow wetland that is flooded in both the spring and fall, providing critical migration habitat as stopover areas for waterfowl, shorebirds, wading birds, and other species of birds of prey, songbirds, rails, and blackbirds as well as annual habitat for grassland birds for fall and spring migration and breeding. Populations of wetland dependent wildlife species like muskrat (*Ondatra zibethicus*) and mink (*Neovison vison*) fluctuate according to long term wet and dry cycles. The uplands are used by mammals such as coyote (*Canis latrans*), American badger (*Taxidea taxus*), porcupine (*Erethizon dorsatum*), white-tailed deer, mule deer, and pronghorn.[75]

MFWP Priority Areas for Movement and Migration

Priority areas that overlap with the Central Montana study area include the following as described in the Montana Action Plan Update.[76]

Area A Continental Divide to the Rocky Mountain East Front

This area is defined as a "priority area for Sun River elk herd migration, elk and mule deer winter range" and covers a known elk migration corridor between the Sun River WMA and the Bob Marshall Wilderness. Current elk distribution within the priority area extends from its northern to southern boundary and includes year-round range as well as critical migration corridors and winter range habitat. Mule deer habitat in the priority area includes seasonal ranges and migration routes along the Rocky Mountain front. Habitat for pronghorns is of lower quality than habitats to the east, but some pronghorn reside year-round in this priority area.

Area D Canadian Border to Musselshell Plains

This area is defined as a "priority area for pronghorn and mule deer migration and elk resident population." Management actions facilitating pronghorn movement and migration are prioritized in this area which contains the longest recorded round-trip pronghorn migration in Montana. Mule deer herds are both resident and migratory. Movements from higher elevation summer ranges to lower elevation winter ranges occur in isolated mountain ranges. Elk in this region are generally non-migratory.

Greater Sage-Grouse General Habitat and Core Areas

General habitat and core areas for greater sage-grouse habitat are present in the eastern portion of the Central Montana study area. Surveys were conducted in 2015 and 2016 at 76 missile facility sites in the Central Montana study area that are in or near greater sage-grouse habitat. Results showed greater sage-grouse use areas within 3.5 miles of a facility at 17 of the 76 sites. Activity included leks, observations of birds, and other signs indicating use by greater sage-grouse. There are 53 leks within 3.5 miles of the Central Montana study area, of which 30 are confirmed to be active.[77]

Migratory Birds

Numerous migratory birds are of particular concern either because they are protected under the MBTA or occur on the USFWS BCC list and could occur in any areas of suitable habitat in the Central Montana study area (**Table B.61**). Presence of bald and golden eagles is discussed for each subarea (**Sections 3.2.2** through **3.2.5**).

Species of Concern

Numerous amphibian, fish, invertebrate, mammal, and reptile species with state ranks of S1, S2 or S3 are documented to occur in the Central Montana study area (**Table B.62**).

3.2.2 Great Falls Subarea

Mammals

Common mammals likely to occur in the Great Falls subarea include species that are adapted to human presence. These include white-tailed deer, mule deer, coyote, porcupine, raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), badger, bobcat (*Lynx rufus*), red fox (*Vulpes vulpes*), muskrat (*Ondatra zibethicus*), Richardson's ground squirrel (*Urocitellus richardsonii*), deer mouse (*Peromyscus maniculatus*), and meadow vole (*Microtus pennsylvanicus*).[78]

The Montana Wildlife and Transportation Partnership (MWTP) tool provides coarse scale information to assist stakeholders and the interested public in working collaboratively to identify potential conservation efforts on and adjacent to transportation corridors across Montana. It incorporates a broad data set from MFWP, MDT, and the citizen group Montanans for Safe Wildlife Passage. This information includes vehicle collisions, migration patterns, and carcass locations. The online map identifies an area on I-15/MT 200/US 89 west of Emerson Junction, just west of the Great Falls subarea boundary, as a hot spot for wildlife connectivity issues. The final composite needs assessment criteria score is 71 out of 100.[79]

Migratory Birds

According to the MTNHP database, more than 200 species of birds have been documented in the Great Falls subarea. These species include a wide variety of songbirds, birds of prey, waterfowl, owls, and shorebirds, including several listed as Montana SOCs or potential species of concern (PSOCs). Most avian observations occur in the riparian areas, open lands, and forest lands in the subarea.[80] Of these, 14 bird SOCs with state ranks of S1, S2, or S3 have been documented in the Great Falls subarea (**Table B.63**).[81]

Bald and Golden Eagles

Numerous bald eagle nests occur along the Missouri River in the Great Falls subarea. Bald eagles are frequently observed in April, May and June. Golden eagles are less commonly observed foraging in grassland habitats outside the urban area.[82]

Aquatic Species

The Missouri River, Sun River and their tributaries support a variety of native and introduced fish and crayfish in the Great Falls subarea (**Table B.64**).[83] The sauger (*Sander canadensis*) is the only Montana aquatic SOC documented to occur in the Great Falls subarea.

Amphibians, Reptiles and Invertebrates

According to the MTNHP database there are five species of amphibians including frogs, toads and salamanders and 10 species of reptiles including snakes, turtles and lizards that occur in the Great Falls subarea. There are over 100 species of invertebrates documented as occurring in the Great Falls subarea.[84]

Species of Concern

In addition to migratory birds and aquatic species, six additional SOCs with state ranks of S1, S2, or S3 are documented to occur in the Great Falls subarea (**Table B.65**).[85] The Great Falls subarea is not within sage-grouse general habitat or core area.

3.2.3 Lewistown Subarea

Mammals

Common mammals likely to occur in the Lewistown subarea include species that are adapted to human presence. The subarea is within mule deer and white-tailed deer range. The MTNHP database documents over 40 mammal species in the subarea.[86] Restoration projects at the Frog Ponds, located in Lewistown, provide habitat for deer and a variety of other small animals.[87]

The MWTP tool does not identify any road sections in the Lewistown subarea as hot spots for wildlife connectivity issues, but MDT crash data does show an area of high incidence of wildlife-vehicle collisions on US 87 where it crosses Wolverine Creek just west of the subarea boundary.[88]

Migratory Birds

According to the MTNHP database, more than 200 species of birds have been documented in the Lewistown subarea. Of these, 10 bird SOCs with state ranks of S1, S2, or S3 have been documented in the subarea (**Table B.66**).[89]

Golden Eagles

There have been general observations of bald and golden eagles in the Lewistown subarea.[90] One bald eagle nest territory overlaps the subarea boundary.[91] Golden eagles have been observed in January and February. No direct evidence of golden eagle breeding has been observed in the subarea. Bald eagles have been observed in December through April, although no confirmed breeding has been recorded. The Lewistown subarea is mapped as generally unsuitable habitat for bald and golden eagles.

Aquatic Species

Big Spring Creek, Casino Creek, and Little Casino Creek are the major streams in the Lewistown subarea. These streams and their tributaries support a variety of native and introduced fish, including 16 species listed in MFWP's FishMT database (**Table B.67**).[92] Westslope cutthroat trout (*Oncorhynchus clarkii lewisi*) and northern redbelly dace (*Chrosomus eos*) are Montana SOCs documented or presumed to occur in the Lewistown subarea.[93]

Amphibians, Reptiles and Invertebrates

According to the MTNHP database, five species of amphibians including frogs and salamanders and seven species of reptiles including snakes and turtles occur in the Lewistown subarea. There are over 100 species of invertebrates documented as occurring in the Lewistown subarea, one of which is listed as a Montana SOC.[94]

Species of Concern

In addition to migratory birds and aquatic species, four additional SOCs with state ranks of S1, S2, or S3 are documented to occur in the Lewistown subarea (**Table B.68**). The Lewistown subarea is not within sage-grouse general habitat or core area.

3.2.4 Old Havre Highway and US 87 Corridor

Mammals

Common mammals likely to occur in the Old Havre Highway/US 87 corridor include species that are adapted to an urban setting. The MTNHP documents occurrences of 29 species of mammals in the corridor; none are Montana SOCs.[95]

There were three wildlife-vehicle crashes documented between 2010 and 2019, and two white-tailed deer carcasses documented from 2019 to 2023 on 10th St. N and US 87, from 25th Avenue NE to the intersection with Great Bear Avenue.[96]

Migratory Birds

According to the MTNHP database, more than 200 species of birds have been documented in the Old Havre Highway/US 87 corridor.[97] Of these, 15 bird SOCs with state ranks of S1, S2, or S3 have been documented in the corridor (**Table B.69**).[98]

Bald and Golden Eagles

The subarea overlaps three bald eagle nest territories along the Missouri River observed in 2008 through 2016.[99]

Aquatic Species

One Montana fish SOC, the sauger, is documented or presumed to occur in the subarea based on the professional judgement of a fisheries biologist due to confirmed presence in adjacent areas.[100]

Amphibians, Reptiles and Invertebrates

According to the MTNHP database, three species of amphibians including two frogs and a salamander, and nine species of reptiles, including snakes, turtles and a lizard, occur in the subarea. There are over 100 species of invertebrates documented as occurring in the subarea, several of which are listed as Montana SOCs.[101]

Species of Concern

In addition to migratory birds and aquatic species, three additional SOCs with state ranks of S1, S2, or S3 are documented to occur in the subarea (**Table B.70**). The subarea is not within sage-grouse general habitat or core area.

3.2.5 US 87 Armington Junction – Otter Creek Canyon

Mammals

The US 87 corridor is within white-tailed deer and mule deer range and is in a MFWP big game habitat priority area.[102]

The MTNHP documents occurrences of 29 species of mammals in the subarea. Non-cave bat roosts are documented in the subarea indicating natural roost sites (e.g., rock outcrops, trees), below-ground human-created roost sites (e.g., mines), and above-ground human-created roost sites (e.g., bridges, buildings).[103]

The MWTP tool does not identify any hotspots for wildlife connectivity in the subarea, however, there have been at least 42 wildlife-vehicle crashes in the subarea from 2010 to 2019, including white-tailed and mule deer (**Table B.71**).[104]

Migratory Birds

According to the MTNHP database, more than 60 species of birds have been documented in the US 87 corridor.[105] Of these, three bird SOCs with state ranks S1, S2, or S3 have been documented in the subarea (**Table B.72**).[106]

Bald and Golden Eagles

Seven golden eagle nest territories overlap the subarea, observed in 1999 through 2015.[107]

Aquatic Species

Big Otter Creek and Belt Creek are the major streams in the subarea. These streams and their tributaries support a variety of native and introduced fish. Based on fish distribution information available from the MFWP's FishMT database, 16 aquatic fish species occur in the subarea (**Table B.73**).[108] Westslope cutthroat trout (*Oncorhynchus clarkii lewisi*), a Montana SOC, is documented in the subarea.[109]

Amphibians, Reptiles and Invertebrates

According to the MTNHP database, northern leopard frog, western tiger salamanders, and four species of snakes occur in the subarea. There are over 40 species of invertebrates documented to occur in the subarea.[110]

Species of Concern

In addition to migratory birds and aquatic species, three additional SOCs with state ranks of S1, S2, or S3 are documented to occur in the subarea (**Table B.74**).[111] The subarea is not within sage-grouse general habitat or core area.

3.2.6 Project Development Considerations

Impacts on wildlife and aquatic resources could occur due to conversion and disturbance of habitats, noise, and human activity. Conversion of habitat due to addition of infrastructure would be a permanent effect on wildlife by reducing forage, cover, and connectivity. Disturbance of herbaceous habitat would be temporary if those areas are restored with similar herbaceous habitat. Noise and human activity could temporarily displace wildlife and affect their foraging and hunting behavior. Activities near streams and wetlands could impact aquatic species by introducing sediment and pollutants and obstructing passage.

Impacts on habitats for sensitive terrestrial wildlife species could be minimized by siting construction in previously disturbed areas where possible, minimizing construction footprints, marking clearing limits and restoring disturbed sites to pre-construction conditions as soon as feasible. Preconstruction surveys should be conducted to identify wildlife nests and burrows and identify measures to avoid impacts.

Any actions proposed within greater sage-grouse general or core habitat should be coordinated with the Montana Sage Grouse Oversight Team and follow the stipulations detailed in the Montana Sage Grouse Conservation Strategy. Project proponents will be needed to submit project details to the Sage Grouse Conservation Management Program for a determination of consistency with the conservation strategy prior to construction.[112]

Impacts on bat roosting sites (including bridges and buildings) could be avoided or minimized by conducting surveys prior to construction to determine bat presence, and if present, coordinating with MFWP biologists regarding appropriate protection measures.

Vegetation clearing could impact nesting sites for migratory birds and bald and golden eagles. These impacts may be avoided by eliminating vegetation clearing during the nesting periods for these species. Pre-construction nest surveys should be conducted if there is likely presence of migratory birds or bald and golden eagles in areas proposed for ground disturbing activities. If active nests with eggs are identified, they must be left in place until young have fledged.

Impacts on aquatic species may be minimized by including fish passage stipulations for crossing aquatic habitats and following MDT Best Management Practices for construction near aquatic sites. USBLM retains ownership of its land, even when traversed by a public road. Any fencing replacements on USBLM land, including right-of-way fencing, must be constructed to USBLM standards, and culverts should be designed according to Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development.[113] For projects on USFS land, aquatic habitat crossings should be designed according to the applicable Forest Plan. Activities in streams should be conducted in the dry if feasible. If in- water work is necessary, it should be conducted outside of spawning and migration times for coldwater and warmwater fish.

Project planners should coordinate with fish and wildlife biologists from MFWP, USFWS, and the USFS to gain further insight into issues related to the management of wildlife and aquatic species, as well as measures for avoiding, minimizing, or mitigating adverse effects on

species and habitat. The needs and feasibility of wildlife accommodations should be considered in accordance with MDT's Wildlife Accommodation Process.

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.

A list of threatened and endangered species that may occur in the Central Montana study area is included in **Appendix D**.

3.3.1 Central Montana Study Area

As of December 30, 2024, ESA-listed species for the Central Montana study area that are known or have potential to occur in the Central Montana study area based on the USFWS Information for Planning and Consultation (IPaC) resource list[114] and MTNHP Environmental Summary Reports are discussed in the sections below. These databases identify eight threatened, two endangered, and two proposed species (**Figure A.10.a** and **Table B.75**).

The MTNHP data discussed in this section includes species occurrences and observations. Species occurrences, as defined by MTNHP, are polygons 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. Species observations include data from standardized databases associated with research or monitoring efforts and spreadsheets of incidental observations submitted by professional biologists and amateur naturalists. MTNHP evaluates plant and animal observation records for species of higher conservation concern to determine whether they are worthy of inclusion in the database as species occurrence for use in environmental reviews.

Black-footed ferrets (*Mustela nigripes*) are an ESA-listed species that have been extirpated in the Central Montana study area and are therefore not included on the USFWS's records for the study area. However, active reintroduction programs are underway in Montana. Reintroductions have occurred in Phillips County and at the Charles M. Russell National Wildlife Refuge since 1994 with varying success.[115]

Canada Lynx (Threatened)

Canada lynx critical habitat is located on the west side of the study area, within the Scapegoat Wilderness and the Helena National Forest. Individual lynx maintain large home ranges generally between 12 to 83 square miles. The size of lynx home ranges varies depending on abundance of prey, the animal's gender and age, season, and the density of lynx populations. When densities of snowshoe hares decline,

for example, lynx enlarge their home ranges to obtain sufficient amounts of food to survive and reproduce. Lynx also make long distance exploratory movements outside their home ranges.[116]

Canada lynx occurrences as mapped by MTNHP are concentrated in critical habitat in the western study area. Other recorded occurrences are scattered throughout the Central Montana study area in coniferous forested habitat.[117]

Grizzly Bear (Threatened)

Grizzly bears have a documented and sustained year-round presence within the study area. The grizzly bear North Continental Divide Ecosystem (NCDE) recovery zone is located in the western portion of the study area. Management within the NCDE is governed by the NCDE Conservation Strategy, which aims to support the recovery of viable grizzly bear populations and their habitat.[118] Grizzly bear occurrences mapped by the MTNHP are primarily concentrated in the north and western parts of the study area.[119]

North American Wolverine (Threatened)

North American wolverines have very large home ranges that can extend up to several hundred miles, but vary greatly depending on availability of food, gender, age, and differences in habitat. Deep, persistent, and reliable spring snow cover (April 15 through May 14) is the best overall predictor of wolverine occurrence in the contiguous United States.[120] The range of the species in Montana is limited to the western portion of the state, including portions of the Central Montana study area. Wolverine occurrences mapped by the MTNHP are concentrated in Lewis and Clark County, with other occurrences mapped in the Little Belt Mountains and Castle Mountains.[121]

Piping Plover (Threatened)

Mapped piping plover breeding areas are north and east of the study area, near the Canadian border; there are no confirmed breeding areas in the Central Montana study area. Piping plovers are shorebirds and ground nesters that may occur as rare migrants within the study area but are unlikely to breed within the study area. Piping plover observations have been recorded during fall migration (August) within the study area, primarily at Benton Lake NWR and Freezeout Lake WMA in Cascade County and Teton County, respectively, which are the nearest large waterbodies.[122] Waterbodies used by the plover as stopovers are typically more than 200 acres in size.[123]

Rufa Red Knot (Threatened)

Red knots have been documented as having a sustained presence within the study area, based on information from the MTNHP. The red knot occurs as a transient migrant during the spring migration season in May and the fall migration season in July through October.[124] The majority of documented migratory stopovers in the study area occur at Freezeout Lake WMA and Benton Lake NWR, which are located within the western half of the Central Montana study area.[125]

Yellow-Billed Cuckoo (Threatened)

The western Distinct Population Segment (DPS) of the yellow-billed cuckoo's preferred breeding habitat includes open woodland (especially where undergrowth is thick), parks, and deciduous riparian woodland. They also nest in tall cottonwood and willow riparian woodlands. Nests

are found in trees, shrubs or vines, an average of three to 10 feet above ground. Yellow-billed cuckoos need patches of at least 25 acres of dense, riparian forest with a canopy cover of at least 50 percent in both the understory and overstory. Nests are typically found in mature willows, and these birds are rarely found at higher elevations. Yellow-billed cuckoos are historically primarily observed in Montana in June and July, and there have been no recorded observations by the MTNHP in the study area within the last 20 years.[126]

Whooping Crane (Endangered)

Whooping cranes are very rare across their range and are at risk of extinction. They occasionally migrate across the eastern portion of Montana, although their main migratory corridor is found to the east in the Dakotas. MTNHP records observations of whooping crane near Freezeout Lake in the western portion of the study area.[127]

Bull Trout (Threatened)

Bull trout critical habitat is located on the western portion of the study area and includes reaches of the Blackfoot River subbasin. In Montana, bull trout may be migratory or stream-resident. Both varieties of bull trout need headwater streams with clear gravel bottoms and low levels of sedimentation for spawn.[128] The MTNHP records bull trout within the Blackfoot River, and the USFWS-mapped range extends into Lewis and Clark County on the southwestern portion of the study area.[129]

Pallid Sturgeon (Endangered)

Pallid sturgeon is mapped by IPaC as occurring within the study area. However, pallid sturgeon range, as mapped by the MTNHP and MFWP, does not directly overlap with the study area. They are mapped just north of the study area in the Missouri River.[130] Pallid sturgeon use large, turbid rivers over sand and gravel bottoms, usually in strong current; impoundments of these rivers are also used by this species. In Montana, they use large turbid streams including the Missouri and Yellowstone rivers. Pallid sturgeon have large home ranges and can move up to 13 miles a day.[131]

Whitebark Pine (Threatened)

Known occurrences of whitebark pine occur in Cascade, Meagher, Lewis and Clark, and Judith Basin counties within the study area, and potential whitebark habitat exists in high-elevation conifer forests within the known range of the species in Montana. MTNHP mapped occurrences are concentrated within the known USFWS range of whitebark pine, including the Helena-Lewis and Clark National Forest and near Stanford and White Sulphur Springs in the center of the study area.[132]

Suckley Cuckoo Bumble Bee (Proposed)

Suckley cuckoo bumble bees are social parasites that need host bumblebee colonies to reproduce. Their range is fragmented and relies on the presence of host colonies. They are considered rare in Montana but have been documented by the MTNHP in Fergus and Cascade counties within the study area. In other states they are reported in a variety of habitats, including grassland, shrub-steppe, conifer forest, montane, subalpine mesic, and wet meadow habitats. The species suffers from a decreasing population trend, possibly tied to declines in the western bumblebee (*Bombus occidentalis*), which is their primary host species.

Monarch Butterfly (Proposed)

Monarch butterflies are reported statewide in Montana. The MTNHP maps monarch butterflies in Pondera, Teton, and Judith Basin counties. There is suitable monarch habitat throughout the study area, associated with milkweed populations.

3.3.2 Great Falls Subarea

Within the Great Falls Subarea, the MTNHP records occurrence of grizzly bear and Suckley cuckoo bumble bee, and an observation of piping plover in the subarea (**Figure A.10.b**).[133] The grizzly bear species occurrence polygon, as mapped by MTNHP and delineated by USFWS, overlaps portions of the subarea primarily outside the city boundary. This polygon encompasses both home ranges and potential transitory movements based on verified sightings. The Suckley cuckoo bumble bee has been recorded at Giant Springs, north of Great Falls and uses the area as breeding habitat. One piping plover was reported to MTNHP in 2008; no evidence of breeding was observed.[134]

MTNHP also shows occurrence of red knot at the Benton Lake NWR. The mapped species occurrence polygon boundary is approximately 0.3 mile north of the Great Falls subarea.

The nearest Canada lynx critical habitat is located approximately 50 miles from this subarea, and nearest bull trout critical habitat is located approximately 54 miles from this subarea.[135]

Canada lynx, wolverine, yellow-billed cuckoo, whooping crane, bull trout, pallid sturgeon, whitebark pine, and monarch butterfly are not known to occur in this subarea.

3.3.3 Lewistown Subarea

The MTNHP records occurrence of Suckley cuckoo bumble bee in this subarea, which it uses as breeding habitat.[136] Documented observations include a wolverine that was observed in town on multiple occasions in 2022, a dead yellow-billed cuckoo that was recorded in 1983, and a grizzly bear skull recorded in 1951 (**Figure A.10.c**).

The nearest Canada lynx critical habitat is located approximately 131 miles from this subarea, and nearest bull trout critical habitat is located approximately 137 miles from this subarea.[137]

Canada lynx, piping plover, rufa red knot, whooping crane, bull trout, pallid sturgeon, whitebark pine, and monarch butterfly are not known to occur in this subarea.

3.3.4 Old Havre Highway and US 87 Corridor

Within the Old Havre Highway/US 87 corridor, two ESA-listed species have been documented in and near the subarea based on information from the MTNHP. A grizzly bear occurrence polygon is mapped north of the subarea (description in **Section 3.3.2** for the Great Falls subarea), and an occurrence of Suckley cuckoo bumblebee is mapped east of the subarea (**Figure A.10.d**).[138]

The nearest Canada lynx critical habitat is located approximately 55 miles from this corridor, and nearest bull trout critical habitat is located approximately 61 miles from this corridor.

Canada lynx, wolverine, piping plover, rufa red knot, yellow-billed cuckoo, whooping crane, bull trout, pallid sturgeon, whitebark pine, and monarch butterfly are not known to occur in this subarea.

3.3.5 US 87 Armington Junction – Otter Creek Canyon

No federally listed species occurrences or observations are mapped within the US 87 Armington Junction-Otter Creek Canyon subarea (**Figure A.10.e**). A grizzly bear species occurrence polygon is mapped approximately two miles east and three miles west of the subarea.[139]

The corridor is approximately 67 miles from the nearest mapped lynx critical habitat. The nearest bull trout critical habitat is located approximately 73 miles from this corridor.[140]

Canada lynx, grizzly bear, wolverine, piping plover, rufa red knot, yellow-billed cuckoo, whooping crane, bull trout, pallid sturgeon, whitebark pine, Suckley cuckoo bumblebee, and monarch butterfly are not known to occur in this subarea.

3.3.6 Project Development Considerations

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

Potential impacts of construction projects on threatened and endangered species could include noise, human activity, clearing of vegetation and the operation of construction equipment as well as impacts on wildlife movements and habitat connectivity. Project planners should coordinate with fish and wildlife biologists from MFWP, USFWS, 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. The needs and feasibility of wildlife accommodations should be considered in accordance with MDT's Wildlife Accommodation Process.

4.0 SOCIAL AND CULTURAL ENVIRONMENT

4.1 Environmental Justice

Consideration of environmental justice was revoked by Executive Order 14151 issued January 20, 2025.

4.2 Recreational Resources

Recreational resources refer to natural or man-made land areas and facilities that provide public opportunities for outdoor leisure activities such as parks, lakes, rivers, and forests. Publicly owned parks, recreation areas, and wildlife/waterfowl refuges are subject to Section 4(f) of the Department of Transportation Act of 1966 (23 U.S.C. § 138 and 49 U.S.C. § 303) and Section 6(f) of the Land and Water Conservation Fund (LWCF) Act, which are further discussed in **Section 4.4** and **Section 4.5**.

4.2.1 Central Montana Study Area

The Central Montana study area offers a wide variety of recreational activities including fishing, kayaking, hiking, hunting, wildlife viewing, bird watching, camping and more. The study area routes connect several urban and rural communities and provide access to national forests, state parks, lakes, and rivers. The Central Montana study area provides substantial tourism traffic and economic activity for the rural communities in the region.

Recreational sites in the study area are maintained by the USFS, MFWP, and USBLM including the Helena-Lewis & Clark National Forest, state parks, several FAS, wildlife management areas, and campsites (**Figure A.11.a** and **Table B.76**).

4.2.2 Great Falls Subarea

Hiking, biking, fishing, picnicking, river access, winter sports, and wildlife viewing are popular recreational activities in the Great Falls subarea. Multiple parks, FAS, and other recreation areas are maintained by the MFWP, USBLM, USFS, and Cascade County (**Figure A.11.b**). Additionally, the City of Great Falls maintains 57 developed parks and 55 miles of recreation trails (**Table B.77**).[141] These parks provide a variety of amenities including tennis courts, picnic shelters, a water park, a skate park, as well as undeveloped open space. The River's Edge Trail connects a variety of parks including Warden Park, Oddfellows Park, Broadwater Bay, Electric City Water Park, Tourist Park, Elks Riverside Park, Riverside Railyard Skate Park, Pacific Steel & Recycling Dog Park, West Bank Park, Black Eagle Memorial Island, Giant Springs State Park, and Crooked Falls Overlook, with additional connections to the Lewis & Clark Interpretive Center, Great Falls Civic Center, Whittier Park, Margaret Park and Gibson Park.

4.2.3 Lewistown Subarea

Recreational opportunities in the Lewistown subarea include city parks (**Table B.78**) and the Lewistown trail system, which is a 20-mile multi-purpose trail winding through the city along a former railroad bed of the BNSF Railway. This trail system includes the Brewer Flats Recreation area and the Frog Ponds area. In addition to the various parks within the City of Lewistown, the Lewistown subarea provides access to nearby FAS maintained by the MFWP (**Figure A.11.c)**.

4.2.4 Old Havre Highway & US 87

There are no federal, state, county, or city recreation sites within a quarter mile of the Old Havre Highway & US 87 corridor (**Figure A.11.d**).

4.2.5 US 87 Armington Junction – Otter Creek Canyon

There are no federal, state, county, or city recreation sites within a quarter mile of the Armington Junction – Otter Creek Canyon corridor (**Figure A.11.e**). The Kings Hill Scenic Byway begins at Armington Junction and stretches 71 miles south of the US 87 Armington Junction – Otter Creek corridor through the Little Belt Mountains to White Sulphur Springs, providing access to high country lakes, trailheads, and campgrounds. The corridor also provides indirect access to the Sluice Box State Park, which is located south of the subarea and is maintained by MFWP with backcountry camping, fishing, hiking, picnicking, rafting, and swimming opportunities.

4.2.6 Project Development Considerations

If improvements from the study are advanced, potential effects on recreational sites should be investigated for implications under Section 4(f) and Section 6(f) as discussed in **Section 4.4** and **Section 4.5** and addressed appropriately.

4.3 Cultural and Historic Resources

Section 106 of the National Historic Preservation Act establishes requirements for taking into account the effects of proposed federal, federally assisted, or federally licensed undertakings on any district, site, building, structure, or object included in or eligible for inclusion in the National Register of Historic Places (NRHP).[142] The implementing regulations of Section 106 require agencies to seek ways of avoiding, minimizing, or mitigating any adverse effects on historic and archaeological properties. Additionally, Section 106 requires consultations with the Indian tribes that may have current or traditional interests in the area.

Other federal and State of Montana directives impose additional requirements that must be addressed regarding the effects of proposed undertakings on historic and archaeological resources and paleontological sites. Federal directives include Section 4(f) of the US Department of Transportation Act, the Archaeological Resources Protection Act and the Native American Graves Protection and Repatriation Act. State of Montana directives addressing historic and archaeological resource issues include the Montana Antiquities Act (which also addresses paleontological resources) and the Montana Human Skeletal Remains and Burial Site Protection Act. MDT consults with the Montana State

Historic Preservation Office (SHPO), appropriate Tribal Historic Preservation Offices (THPOs), and the Advisory Council on Historic Preservation, as appropriate, to ensure compliance with Section 106 and other directives regarding cultural and historic resources.

The area is located within the Northwestern Plains culture area of the larger Great Plains Region. The general sequence of cultural change on the Northwestern Plains indicates shifts from big game hunters to broad-spectrum foragers with varying subsistence strategies, to specialized nomadic bison hunters. Evidence supports the continued use of the region by Indigenous populations and by A.D. 1700, most, if not all, Native American groups had been influenced at least indirectly by Euroamerican cultural material. A number of Native American groups utilized a common hunting and gathering area in Central Montana during historic times. These include the Crow, Blackfeet, Gros Ventre or Atsina, Kootenai, Salish, Pend d'Oreille, Cheyenne, Shoshone, Assiniboine, Sioux, Kiowa, and Arapaho.[143]

The Tribal Directory Assessment Tool (TDAT) lists the following tribes that have an ancestral interest in the area:[144]

- Apache Tribe of Oklahoma
- Chippewa Cree Indians of the Rocky Boy's Reservation, Montana
- Confederated Salish and Kootenai Tribes of the Flathead Reservation
- Crow Tribe of Montana
- Fort Belknap Indian Community of the Fort Belknap Reservation of Montana
- Little Shell Tribe of Chippewa Indians of Montana
- Nez Perce Tribe
- Shoshone-Bannock Tribes of the Fort Hall Reservation

Through the second half of the nineteenth century, a series of federal land acts, such as the 1862 Homestead Act (and its various enlarged iterations), the 1877 Desert Land Act, and the 1894 Carey Act, offered free (or affordable) land to settlers meeting certain conditions. The Homestead Act granted 160 acres to any U.S. citizen who lived on and improved the land for a period of five years. The Desert Land Act and the Carey Act required claimants to develop individual irrigation works on their land, to support crop production.[145,146] These acts directly influenced human activity and development within the Central Montana region.

4.3.1 Central Montana Study Area

The Montana SHPO online database indicates there are 23 historic buildings, two historic bridges, seven historic districts, and one national historic landmark (the Great Falls Portage) currently listed on the NRHP within the Central Montana study area (**Table B.79**).[147] These properties are located outside of the four subareas discussed below in **Sections 4.3.2-4.3.5**.

The Nez Perce (Nee-Me-Poo) National Historic Trail stretches from Wallowa Lake, Oregon, entering Montana near Lolo Pass, and extending to the Bear Paw Battlefield near Chinook, Montana. It traverses a portion of the Central Montana study area in roughly a north-south direction through the communities of Harlowton, Judith Gap, Lewistown, Hilger, and Roy. This trail was added to the National Historic Trail System in

1986 and was used only once in its entirety by the Nez Perce as they tried to escape the pursuing U.S. Army in 1877. However, components of the trail and roads that made up the route were used for generations before and after the 1877 flight.[148]

The Lewis and Clark National Historic Trail is also located in the Central Montana study area. This historic trail is administered by the National Park Service through partnerships with Tribal nations, non-profit organizations, private landowners, and federal, state, and local agencies. The trail commemorates the 1803-1806 Lewis and Clark Expedition and is comprised of the historic route of the expedition, an auto tour route, high potential historic sites, visitor centers, and pivotal places.

4.3.2 Great Falls Subarea

Great Falls' history begins with the waterfalls on the Missouri River from which it gets its name. The Blackfeet and other tribes hunted in the area in search of bison, which were abundant in the vicinity of the present-day city. Based on the Lewis and Clark journals of their travels through the area, Paris Gibson traveled from Fort Benton to see these waterfalls that were documented, and he determined the area was a perfect place for a city. Gibson shared his plans with railroad owner James Hill, and with Hill's backing, Gibson founded Great Falls in 1884.[149]

The Montana SHPO online database indicates there are 15 historic buildings, two historic bridges, nine historic districts, and one national historic landmark (the Charles M. Russell House and Studio) currently listed on the NRHP in the Great Falls subarea (**Table B.80**).

4.3.3 Lewistown Subarea

The City of Lewistown is located on the former site of Fort Lewis, a fort established to protect people traveling on the Carroll train between Carroll, Montana, and Helena. The city was established by the Metis people in 1879 and was incorporated in 1899.[150] Located in the center of Montana, the Lewistown area was the hub for many notable events during Montana's early history, and the Blackfeet, Crow, and Lakota used the area as one of their last great buffalo hunting grounds.[151]

The Montana SHPO online database indicates there are 27 historic buildings, one historic object, and five historic districts currently listed on the NRHP in the Lewistown subarea (**Table B.81**).

4.3.4 Old Havre Highway & US 87

The Montana SHPO online database indicates no historic properties or districts in the Old Havre Highway & US 87 subarea are currently listed on the NRHP. The nearest listed historic property is the Tenth Street Bridge crossing the Missouri River south of the subarea.

A request for information was sent to the Montana SHPO for the Old Havre Highway & US 87 corridor. These results indicate there are seven eligible sites for listing on the NRHP, 12 ineligible sites, one undetermined site, and one unresolved site. A copy of this report along with a listing of previous cultural resource studies completed in the area is located in **Appendix E**.

4.3.5 US 87 Armington Junction – Otter Creek Canyon

The Montana SHPO online database indicates no historic properties or districts in the Armington Junction-Otter Creek subarea are currently listed on the NRHP. The nearest listed historic property is the Belt Jail, located in the Town of Belt north of the subarea.

A request for information was sent to the Montana SHPO for the Armington Junction-Otter Creek subarea. These results indicate there are six eligible sites for listing on the NRHP, two ineligible sites, five undetermined sites, and one unresolved site. A copy of this report along with a listing of previous cultural resource studies completed in the area is located in **Appendix E**.

4.3.6 Project Development Considerations

If improvements from the study are advanced, a cultural resource survey for unrecorded historic and archaeological properties would be completed within the Area of Potential Effect defined for the individual project. Direct and indirect impacts (such as visual, noise, and access impacts) to NRHP listed or eligible properties may be considered if improvement options are carried forward. Consultation with the Montana SHPO and the appropriate THPOs listed above would be conducted to identify any mitigation needed for project impacts. Flexibility in design is desirable to avoid and/or minimize impacts to historically or culturally significant sites in the project area.

4.4 Section 4(f) Resources

Projects that receive federal funding and/or discretionary approvals from the FHWA 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 NRHP. The regulations require coordination with the official(s) with jurisdiction when making determinations about the use 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.

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. National forest lands are generally not subject to Section 4(f) unless portions of the public multiple use property are specifically designated by statute or identified in an official management plan as being primarily for public park, recreation, or wildlife and waterfowl refuge purposes and are determined to be substantial for such purposes. Section 4(f) also applies to historic sites on national forest lands that are on or eligible for the NRHP.

4.4.1 Project Development Considerations

If improvements are forwarded from the corridor study, potential effects on recreational, cultural, and historic sites should be investigated and appropriately considered in accordance with Section 4(f).

4.5 Section 6(f) Resources

Section 6(f) of the Land and Water Conservation Fund (LWCF) Act was enacted to preserve, develop, and ensure the quality and quantity of outdoor recreation resources. Section 6(f) protection applies to public recreational sites purchased or improved with LWCF funds. Section 6(f)(3) of the Act prevents conversion of lands purchased or developed with LWCF funds to non-recreation uses, unless the Secretary of the Department of the Interior, through the National Park Service, approves the conversion. Conversion may only be approved if it is consistent with the comprehensive statewide outdoor recreation plan in force when the approval occurs, and the converted property is replaced with other recreation property of at least equal fair market value and of reasonably equivalent usefulness and location.

4.5.1 Central Montana Study Area

The list of all projects funded by LWCF grants within the nine counties in the Central Montana study area was reviewed to identify Section 6(f) encumbered lands.[152] Within the study area, 154 properties were identified (**Table B.82**), with the largest concentrations in Cascade County (52 properties). These projects qualify for protection under Section 6(f).

4.5.2 Project Development Considerations

If improvements are forwarded from the corridor study, potential effects on Section 6(f) sites should be investigated and appropriately addressed in accordance with Section 6(f).

4.6 Visual Resources

The visual resources of an area include the features of its landforms, vegetation, water surfaces, and cultural modifications or physical changes caused by human activities that give the landscape its visual character and aesthetic qualities.[153] 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.

4.6.1 Central Montana Study Area

The study area encompasses a wide variety of settings including county roads, commercial developments adjacent to highways, scattered rural residences, concentrated urban areas, forested and agricultural lands, hilly and mountainous terrain, prairies, lake views, riparian areas, river valleys, and wetlands.

Mountains, rivers, and scenic byways are important features within the overall study area. Mountainous areas visible from on-system MDT routes within the Central Montana study area include the Judith Mountains, Big Snowy Mountains, and the Little Belt Mountains. Additionally, views of the Rocky Mountain Front within the Bob Marshall Wilderness are observable although not directly within the study area. Major rivers within the study area include the Missouri River, Sun River, Musselshell River, Judith River, Smith River, Dearborn River, Sacajawea River, and Teton River.

The Kings Hill Scenic Byway and Missouri Breaks Backcountry Byway traverse portions of the subarea.[154] Kings Hill Scenic Byway is defined as the section of Highway 89 from White Sulphur Springs to Armington Junction. This byway winds its way through pristine mountain lakes and streams and is home to an abundant variety of wildlife. The section of the Missouri River Breaks Backcountry Byway inside the study area is DY Trail east from Winifred, Montana, to Knox Ridge Road. This byway traverses a diverse terrain characterized by dramatic cliffs, expansive prairies, and the winding course of the Missouri River. Scenic byways are considered to be visually sensitive areas, and it is important to maintain scenic integrity as well as landscape visibility.

4.6.2 Great Falls Subarea

Great Falls has a diverse array of visual resources intricately linked to its transportation system. The city's scenic beauty is underscored by the Missouri and Sun Rivers, which meander through the heart of the community, providing picturesque views and recreational opportunities. The transportation corridors, including major highways and local roads, traverse a landscape characterized by rolling hills, expansive prairies, and occasional glimpses of distant mountain ranges. Urban areas blend with natural surroundings, offering a balance of industrial activity and residential neighborhoods against a backdrop of open skies. Key visual assets include historic architecture, public art installations, and maintained streetscapes that contribute to the city's unique charm.

4.6.3 Lewistown Subarea

Situated amidst the rolling plains and proximate to the Snowy Mountains, Lewistown offers compelling vistas that are strategically framed by its network of state highways and local roads. These routes navigate through landscapes characterized by expansive fields, occasional clusters of vegetation, and the sinuous paths of Big Spring Creek. The town's architectural core, a blend of historic structures and contemporary developments, further enhances its visual identity. The transportation system not only serves functional roles in connectivity and logistical support but also plays a pivotal role in showcasing Lewistown's aesthetic appeal.

4.6.4 Old Havre Highway & US 87

The Old Havre Highway & US 87 corridor is situated within the Great Falls subarea, detailed in **Section 4.6.2**. The corridor is primarily characterized by industrial activities with some agricultural land use in proximity. Traveling north along Old Havre Highway and US 87, elevations increase, affording views of the entire Great Falls urban area to the south.

4.6.5 US 87 Armington Junction – Otter Creek Canyon

This study corridor includes a diverse landscape featuring scattered rural residences, expansive agricultural lands, hilly terrain, open prairies, and extensive riparian zones. The route parallels and intersects with Big Otter Creek at multiple points.

4.6.6 Project Development Considerations

Future actions that may have visual impacts include construction projects on new locations 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, and historic or other culturally significant resources. Project-level analysis of visual resource impacts would be needed for any improvements advanced from this study.

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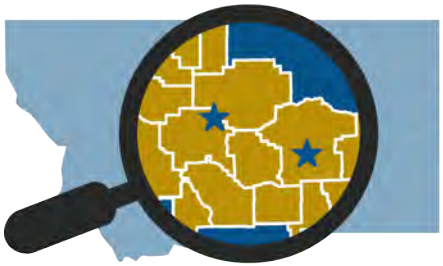
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Appendix A

Supplemental Figures



Central Montana
Transportation Study

Central Montana Transportation Study

A.1 Land Use

- A.1.a: Missile Field
- A.1.b: Great Falls Subarea
- A.1.c: Lewistown Subarea
- A.1.d: Old Havre Highway & US 87 Subarea
- A.1.e: US 87 Armington Jct-Otter Creek Subarea

A.2 Land Ownership

- A.2.a: Missile Field
- A.2.b: Great Falls Subarea
- A.2.c: Lewistown Subarea
- A.2.d: Old Havre Highway & US 87 Subarea
- A.2.e: US 87 Armington Jct-Otter Creek Subarea

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- A.3.c: Lewistown Subarea
- A.3.d: Old Havre Highway & US 87 Subarea
- A.3.e: US 87 Armington Jct-Otter Creek Subarea

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- A.4.b: Great Falls Subarea
- A.4.c: Lewistown Subarea
- A.4.d: Old Havre Highway & US 87 Subarea
- A.4.e: US 87 Armington Jct-Otter Creek Subarea

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- A.5.c: Lewistown Subarea
- A.5.d: Old Havre Highway & US 87 Subarea
- A.5.e: US 87 Armington Jct-Otter Creek Subarea

A.6 Floodplains

- A.6.a: Missile Field
- A.6.b: Great Falls Subarea
- A.6.c: Lewistown Subarea
- A.6.d: Old Havre Highway & US 87 Subarea
- A.6.e: US 87 Armington Jct-Otter Creek Subarea

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- A.7.b: Great Falls Subarea
- A.7.c: Lewistown Subarea
- A.7.d: Old Havre Highway & US 87 Subarea
- A.7.e: US 87 Armington Jct-Otter Creek Subarea

A.8 Hazardous Substances

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- A.8.c: Lewistown Subarea
- A.8.d: Old Havre Highway & US 87 Subarea
- A.8.e: US 87 Armington Jct-Otter Creek Subarea

A.9 Wildlife Areas Of Interest

- A.9.a: Missile Field

A.10 Threatened & Endangered Species

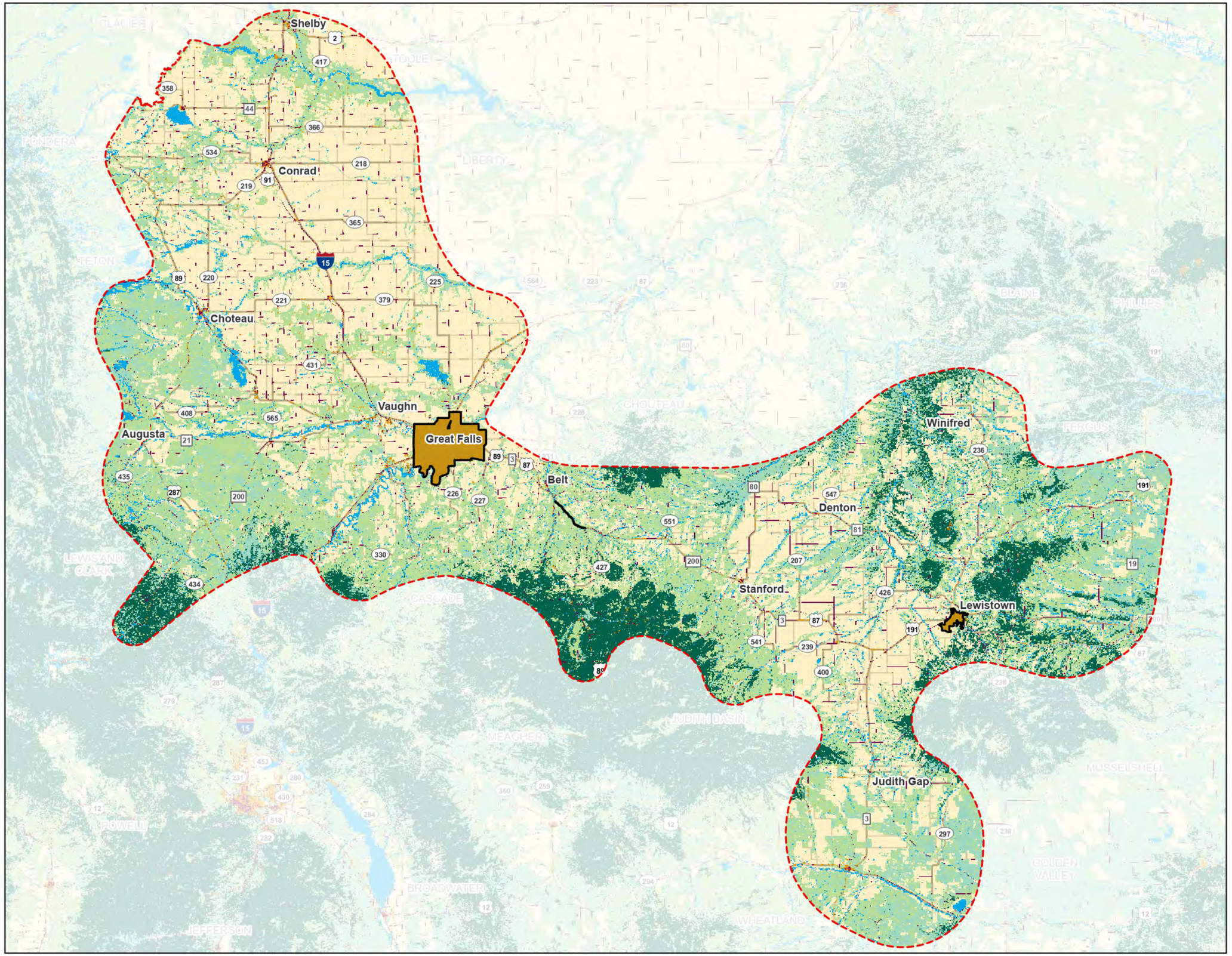
- A.10.a: Missile Field
- A.10.b: Great Falls Subarea
- A.10.c: Lewistown Subarea
- A.10.d: Old Havre Highway & US 87 Subarea
- A.10.e: US 87 Armington Jct-Otter Creek Subarea

A.11 Recreational Resources

- A.11.a: Missile Field
- A.11.b: Great Falls Subarea
- A.11.c: Lewistown Subarea
- A.11.d: Old Havre Highway & US 87 Subarea
- A.11.e: US 87 Armington Jct-Otter Creek Subarea

Central Montana Transportation Study

Figure A.1.a:
Land Use
Central Montana Study Area



Legend

- Central Montana Study Area
- Subarea Boundaries (See Subarea Sheets)
- County

Water Resources

- Waterbody
- Stream/River

Study Routes

- On System
- Off System

Montana Land Cover

Undeveloped Natural

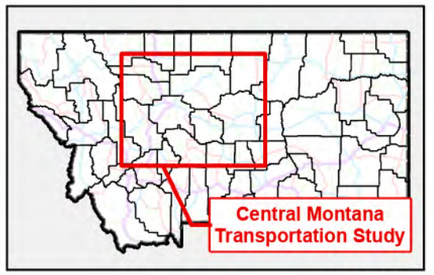
- Open Water & Wetland Riparian Systems
- Forestland
- Shrubland
- Grassland & Sparsely Vegetated Land

Developed Human

- Developed Residential
- Developed Commercial Light/Industrial
- Developed Roads & Railroads
- Developed Heavy Industrial
- Developed Agricultural

Source: Montana Natural Heritage Program.

0 5 10 20 30 40 Miles



Central Montana Transportation Study

Figure A.1.b:
Land Use
Great Falls Subarea

Legend

- Subarea Analysis Boundaries
- Corridor Study Limits
- Urban Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

- Interstate
- National Highway System
- Secondary
- Urban

Montana Land Cover

Undeveloped Natural

- Open Water & Wetland Riparian Systems
- Forestland
- Shrubland
- Grassland & Sparsely Vegetated Land

Developed Human

- Developed Residential
- Developed Commercial Light/Industrial
- Developed Roads & Railroads
- Developed Heavy Industrial
- Developed Agricultural

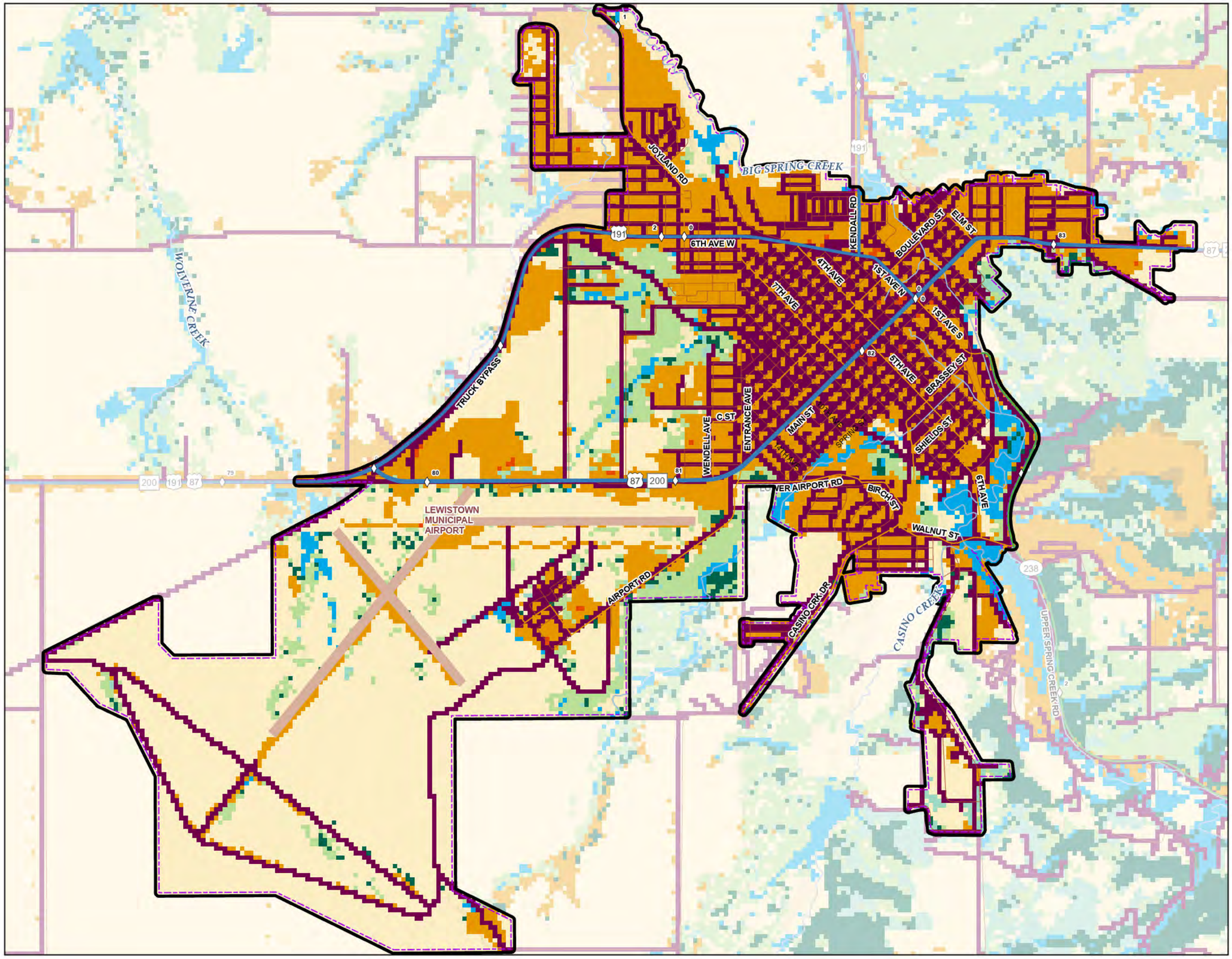
Source: Montana Natural Heritage Program.

0 0.5 1 2 3 Miles



Central Montana Transportation Study

Figure A.1.c:
Land Use
Lewistown Subarea



Legend

- Subarea Analysis Boundaries
- Urban Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

- National Highway System
- Secondary
- Urban

Montana Land Cover

Undeveloped Natural

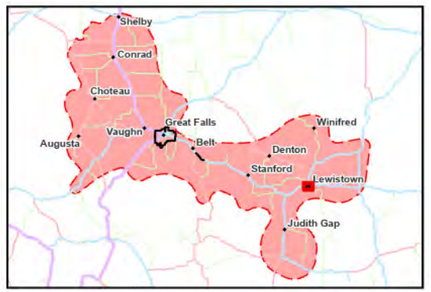
- Open Water & Wetland Riparian Systems
- Forestland
- Shrubland
- Grassland & Sparsely Vegetated Land

Developed Human

- Developed Residential
- Developed Commercial Light/Industrial
- Developed Roads & Railroads
- Developed Heavy Industrial
- Developed Agricultural

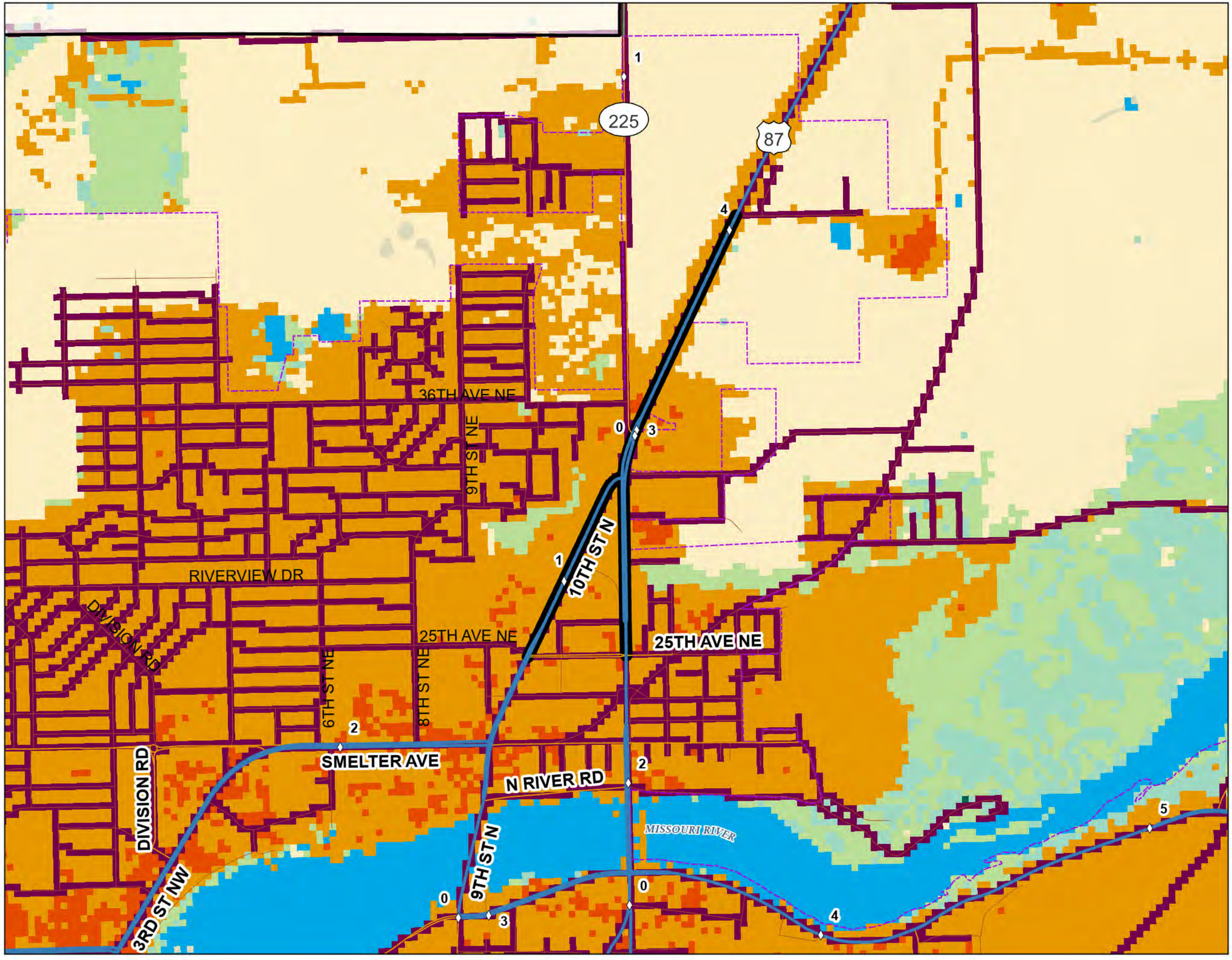
Source: Montana Natural Heritage Program.

0 0.2 0.4 0.8 1.2 Miles



Central Montana Transportation Study

Figure A.1.d:
Land Use
Old Havre Highway & US 87



Legend

- Subarea Analysis Boundaries
- Corridor Study Limits
- Urban Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

- National Highway System
- Secondary
- Urban

Montana Land Cover

Undeveloped Natural

- Open Water & Wetland Riparian Systems
- Forestland
- Shrubland
- Grassland & Sparsely Vegetated Land

Developed Human

- Developed Residential
- Developed Commercial Light/Industrial
- Developed Roads & Railroads
- Developed Heavy Industrial
- Developed Agricultural

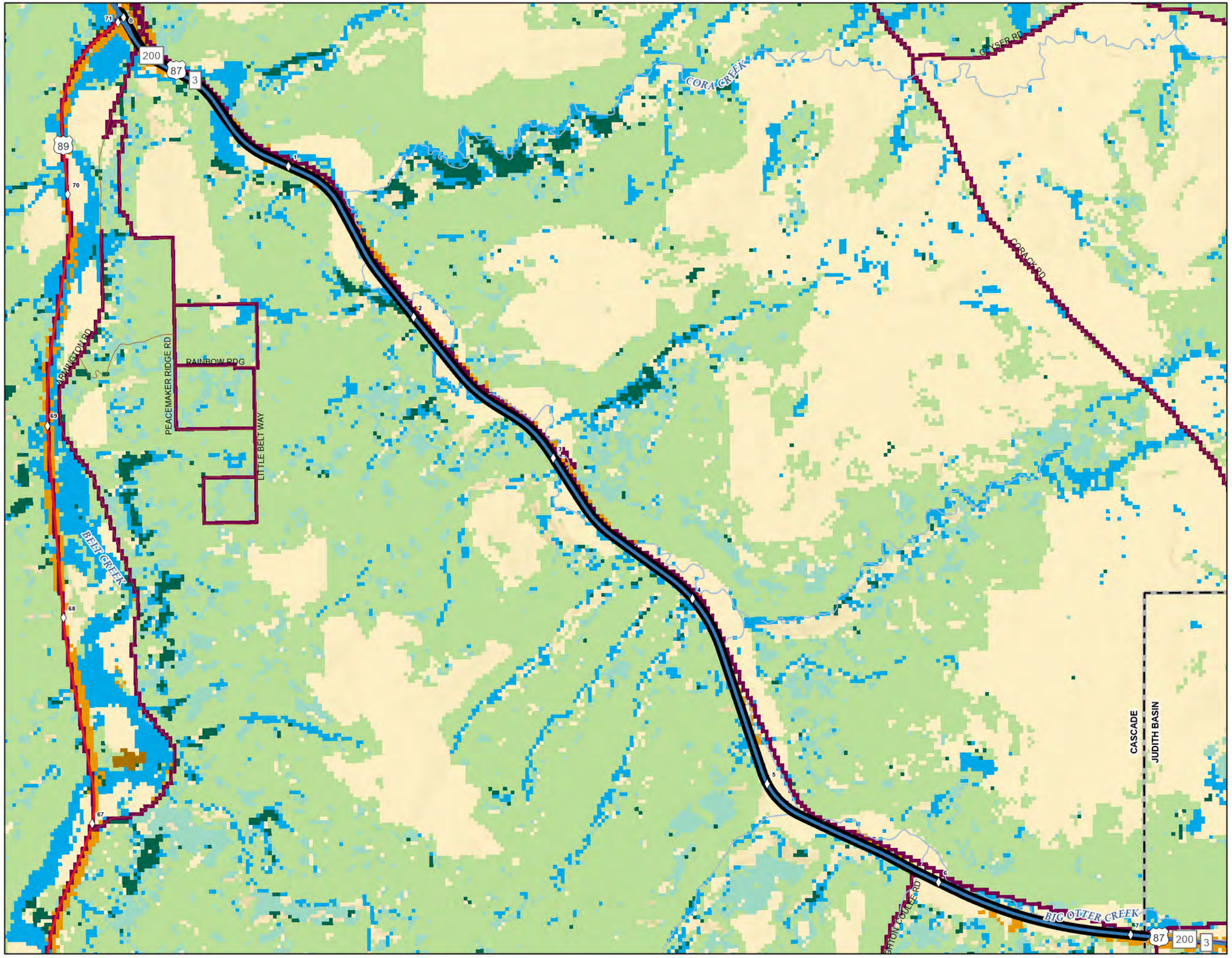
Source: Montana Natural Heritage Program.

0 0.13 0.25 0.5 0.75 Miles



Central Montana Transportation Study

Figure A.1.e:
Land Use
US 87 Armington Junction - Otter Creek Canyon



Legend

- Corridor Study Limits
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

- National Highway System
- Primary

Montana Land Cover

Undeveloped Natural

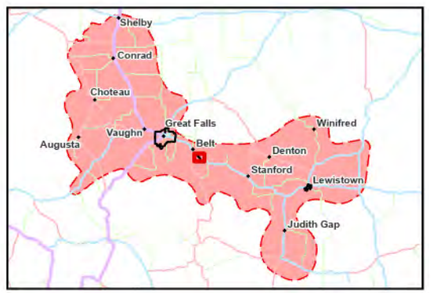
- Open Water & Wetland Riparian Systems
- Forestland
- Shrubland
- Grassland & Sparsely Vegetated Land

Developed Human

- Developed Residential
- Developed Commercial Light/Industrial
- Developed Roads & Railroads
- Developed Heavy Industrial
- Developed Agricultural

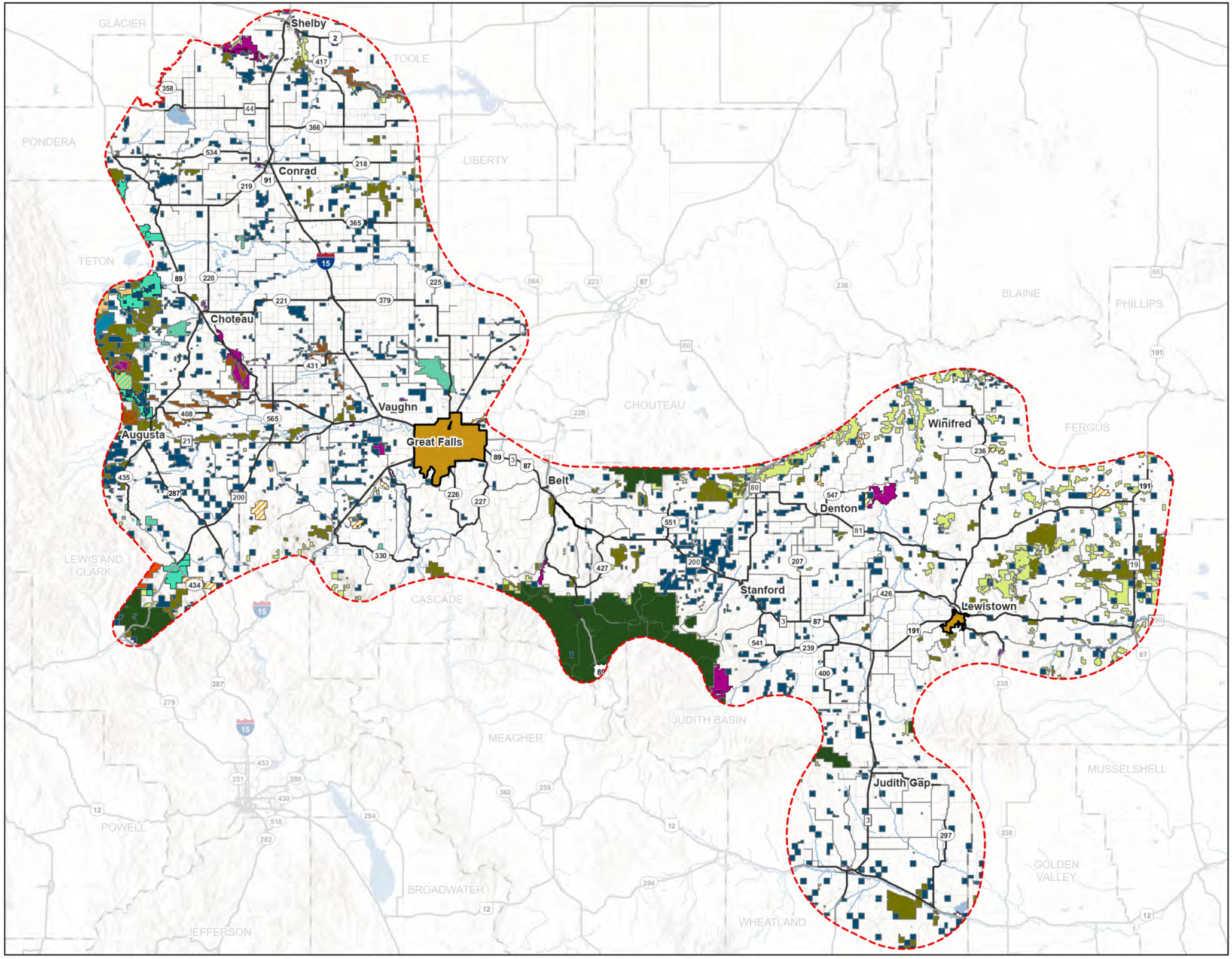
Source: Montana Natural Heritage Program.

0 0.25 0.5 1 1.5 Miles



Central Montana Transportation Study

Figure A.2.a:
Land Ownership
Central Montana Study Area



Legend

- Central Montana Study Area
- Subarea Boundaries (See Subarea Sheets)
- County

Water Resources

- Waterbody
- Stream/River

Study Routes

- On System
- Off System

Conservation Easements

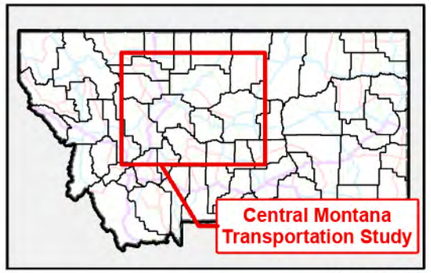
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- US Fish & Wildlife Service
- Montana Department of Transportation
- Non-Governmental Organizations & Trusts
- US Government
- US Department of Agriculture

Public Lands & Other Managed Areas

- City, County, Local Government
- State Trust Lands
- US Bureau of Land Management
- US Bureau of Reclamation
- Montana Fish, Wildlife & Parks
- US Department of Defense
- US Fish & Wildlife Service
- US Forest Service
- Non-Governmental Organizations

Source: Montana State Library.

0 5 10 20 30 40 Miles



Central Montana Transportation Study

Figure A.2.b: Land Ownership Great Falls Subarea

Legend

- Subarea Analysis Boundaries
- Corridor Study Limits
- Urban Boundary
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

- Interstate
- National Highway System
- Secondary
- Urban

Conservation Easements

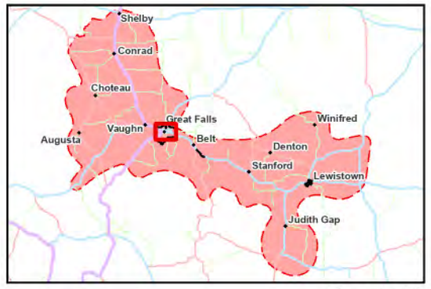
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- Non-Governmental Organizations & Trusts

Public Lands & Other Managed Areas

- City, County, Local Government
- State Trust Lands
- Montana Fish, Wildlife & Parks
- US Department of Defense
- US Forest Service

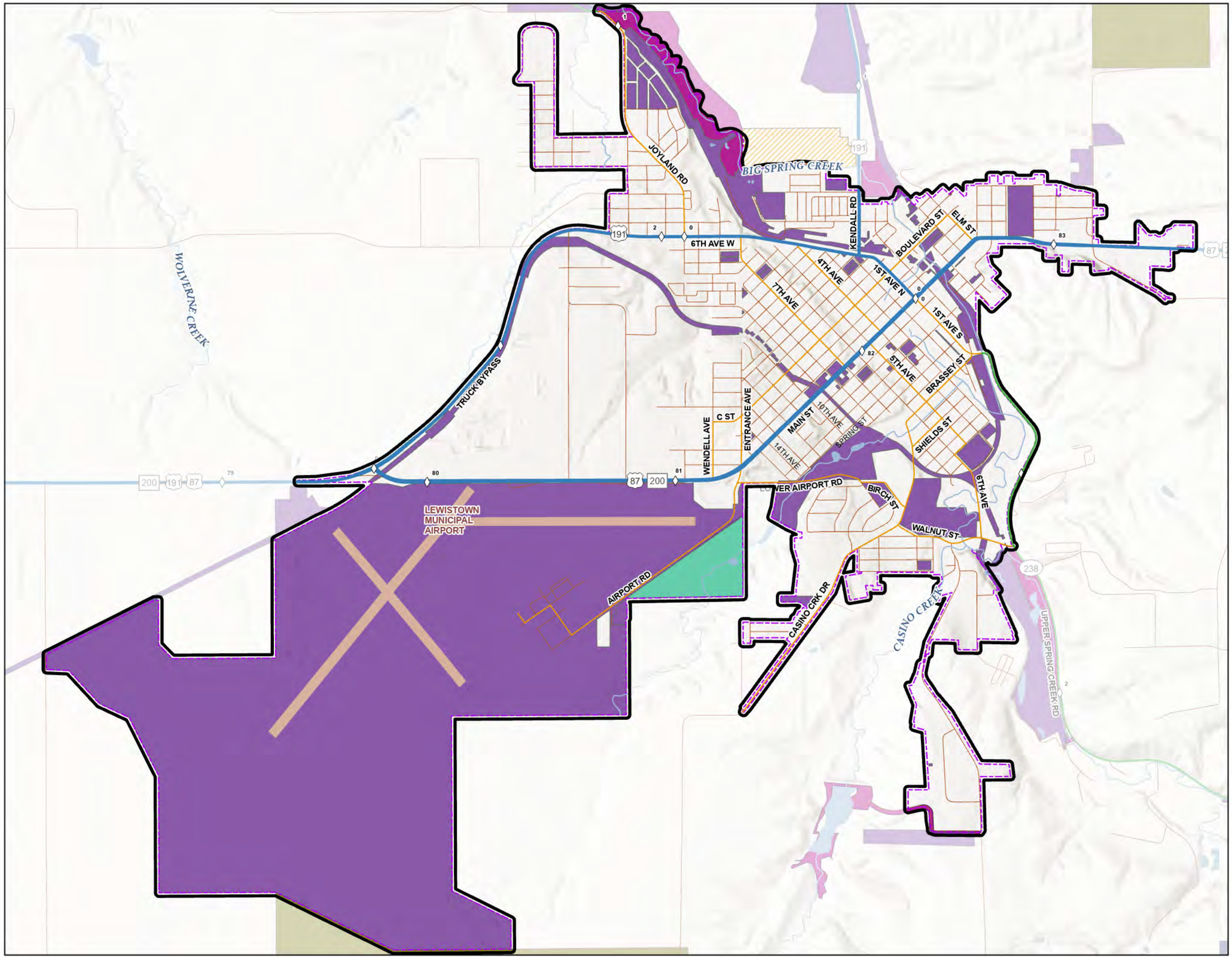
Source: Montana State Library.

0 0.5 1 2 3 Miles



Central Montana Transportation Study

Figure A.2.c: Land Ownership Lewistown Subarea



Legend

- Subarea Analysis Boundaries
- Urban Boundary
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

- National Highway System
- Secondary
- Urban

Conservation Easements

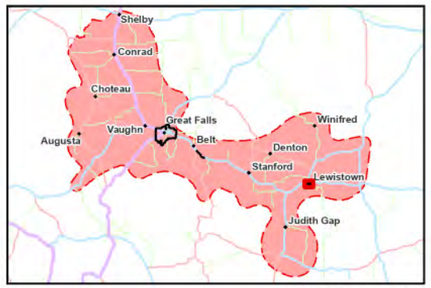
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- Non-Governmental Organizations & Trusts

Public Lands & Other Managed Areas

- City, County, Local Government
- State Trust Lands
- Montana Fish, Wildlife & Parks
- US Fish & Wildlife Service

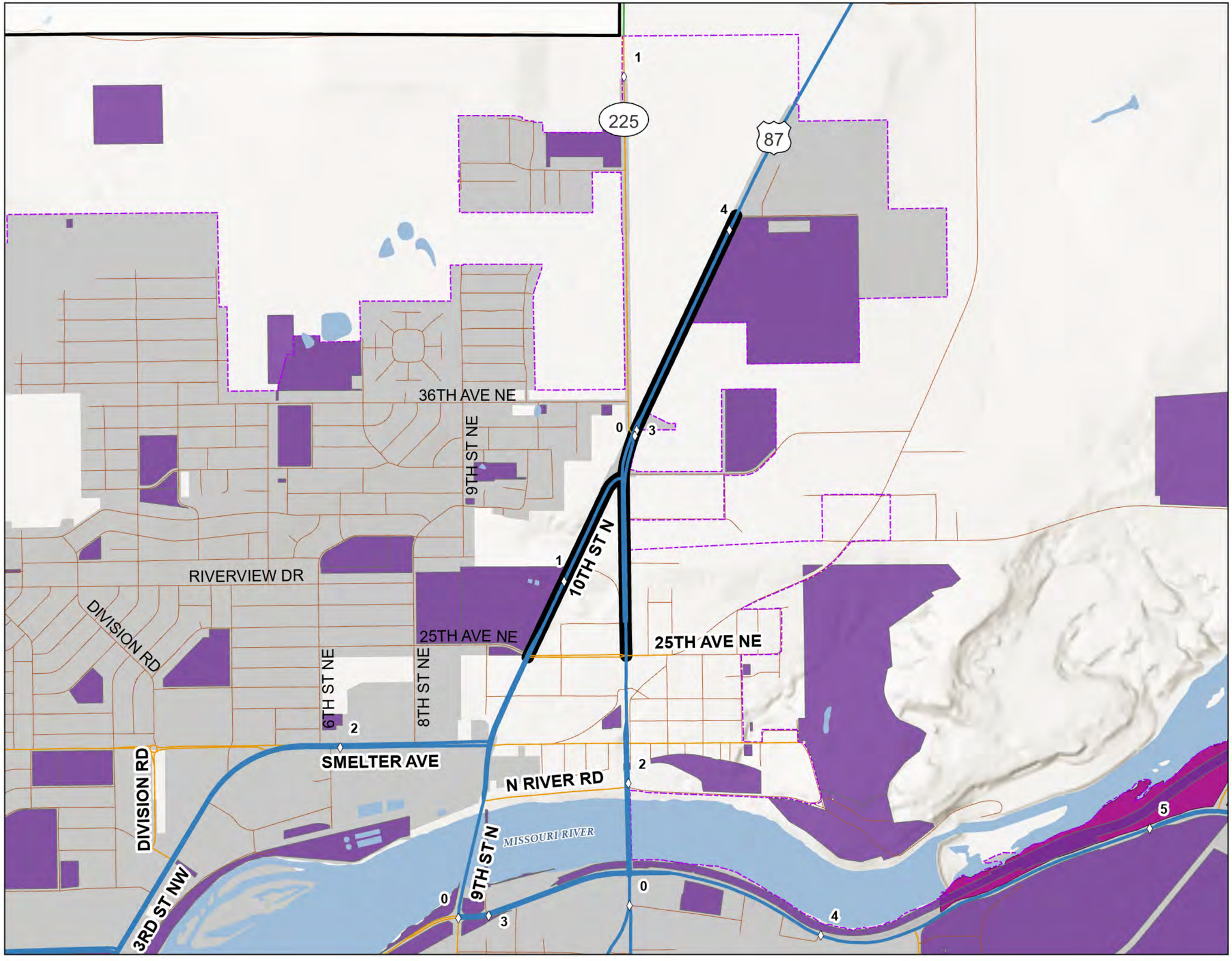
Source: Montana State Library.

0 0.2 0.4 0.8 1.2 Miles



Central Montana Transportation Study

Figure A.2.d:
Land Ownership
Old Havre Highway & US 87



Legend

- Subarea Analysis Boundaries
- Corridor Study Limits
- Urban Boundary
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

- National Highway System
- Secondary
- Urban

Public Lands & Other Managed Areas

- City, County, Local Government
- Montana Fish, Wildlife & Parks

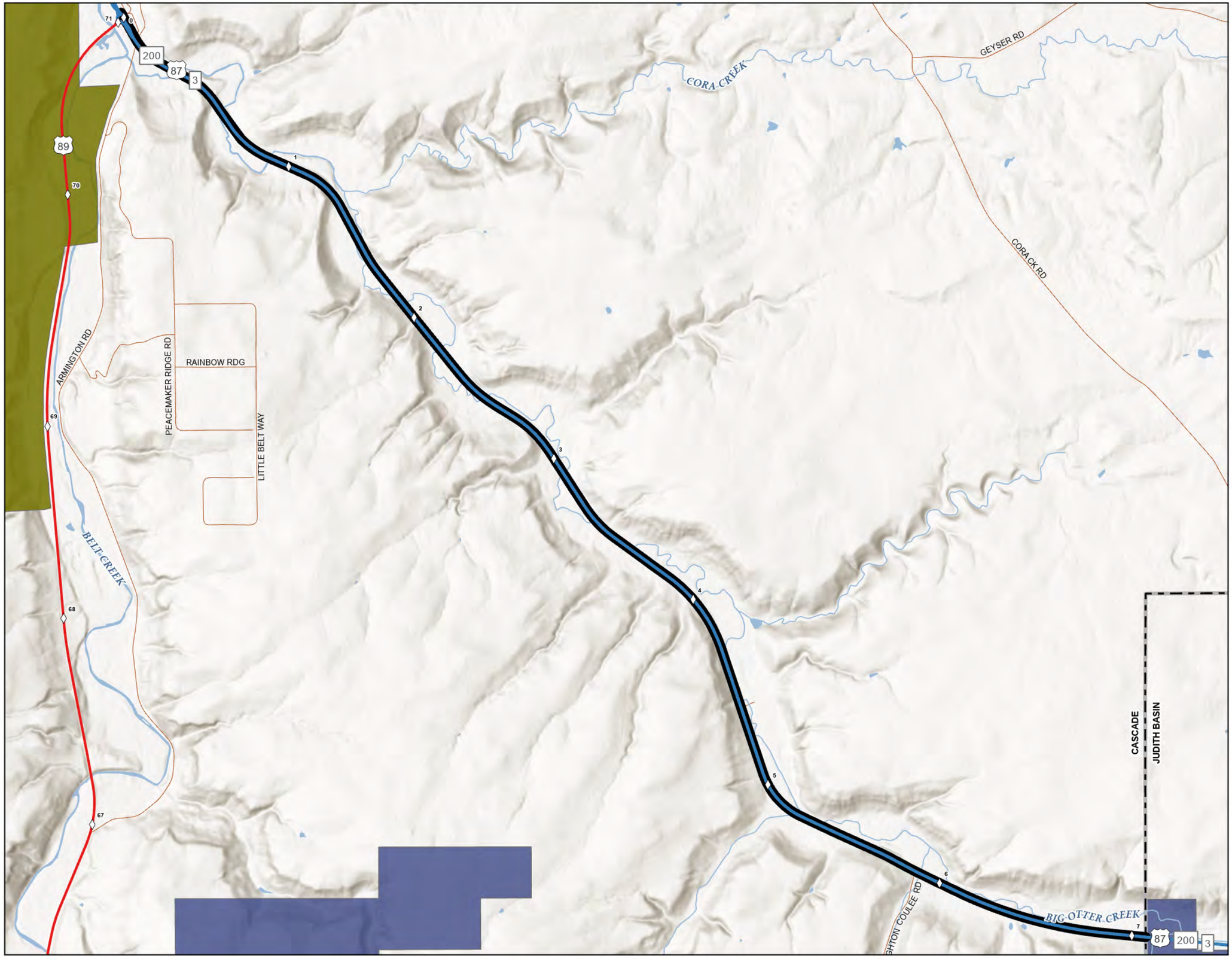
Source: Montana State Library.

0 0.13 0.25 0.5 0.75 Miles



Central Montana Transportation Study

Figure A.2.e:
Land Ownership
US 87 Armington Junction - Otter Creek Canyon



Legend

- Corridor Study Limits
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

- National Highway System
- Primary

Conservation Easements

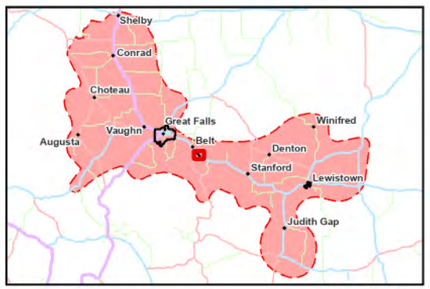
- Non-Governmental Organizations & Trusts

Public Lands & Other Managed Areas

- State Trust Lands

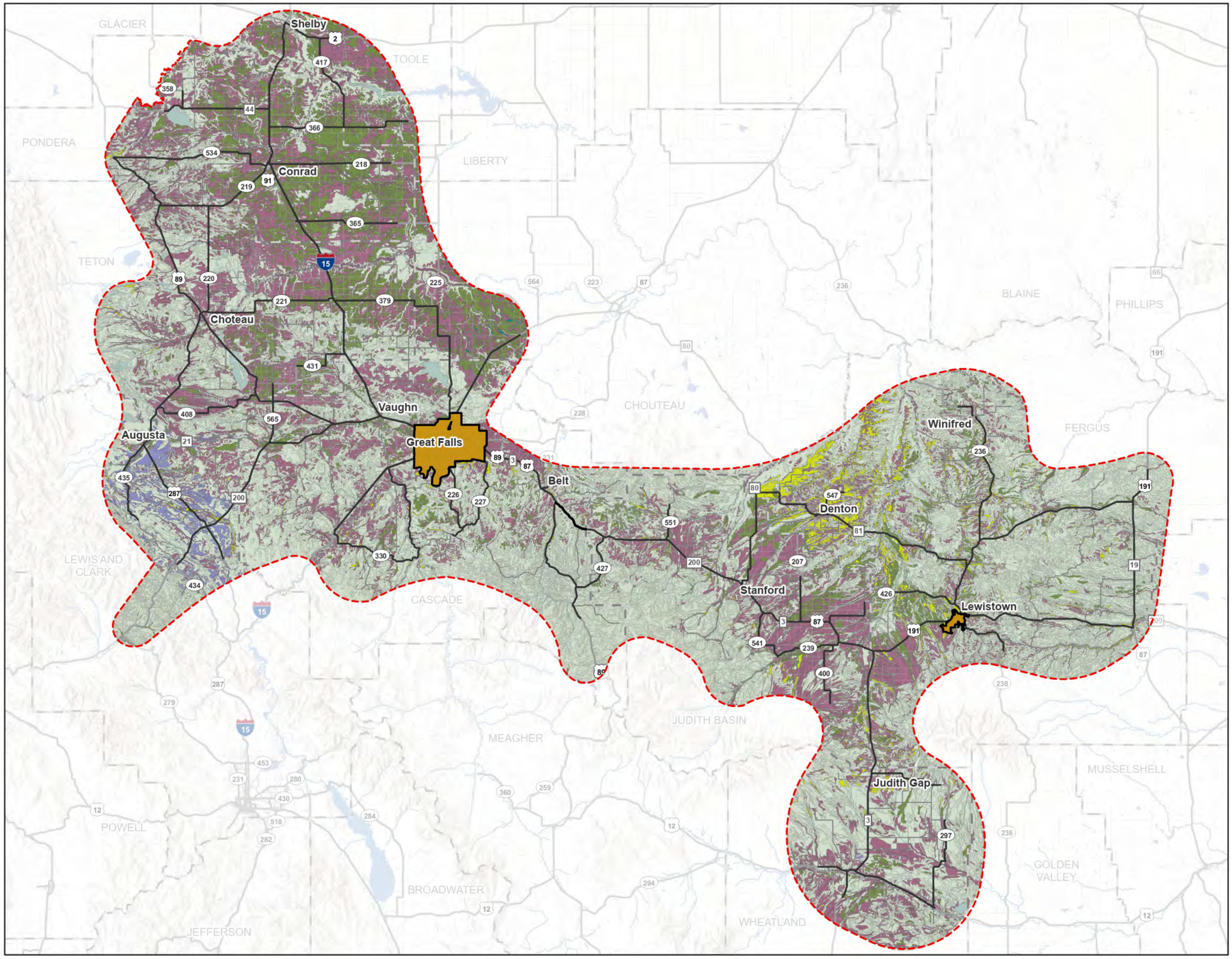
Source: Montana State Library.

0 0.25 0.5 1 1.5 Miles



Central Montana Transportation Study

Figure A.3.a:
Farmland Resources
Central Montana Study Area



Legend

- Central Montana Study Area
- Subarea Boundaries (See Subarea Sheets)
- County

Water Resources

- Waterbody
- Stream/River

Study Routes

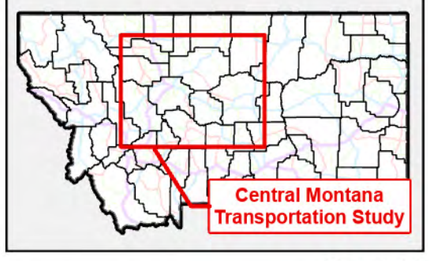
- On System
- Off System

Farmland Categorization

- Prime Farmland
- Prime Farmland If Irrigated
- Prime Farmland If Drained
- Farmland Of Statewide Importance
- Farmland Of Local Importance
- Not Prime Farmland

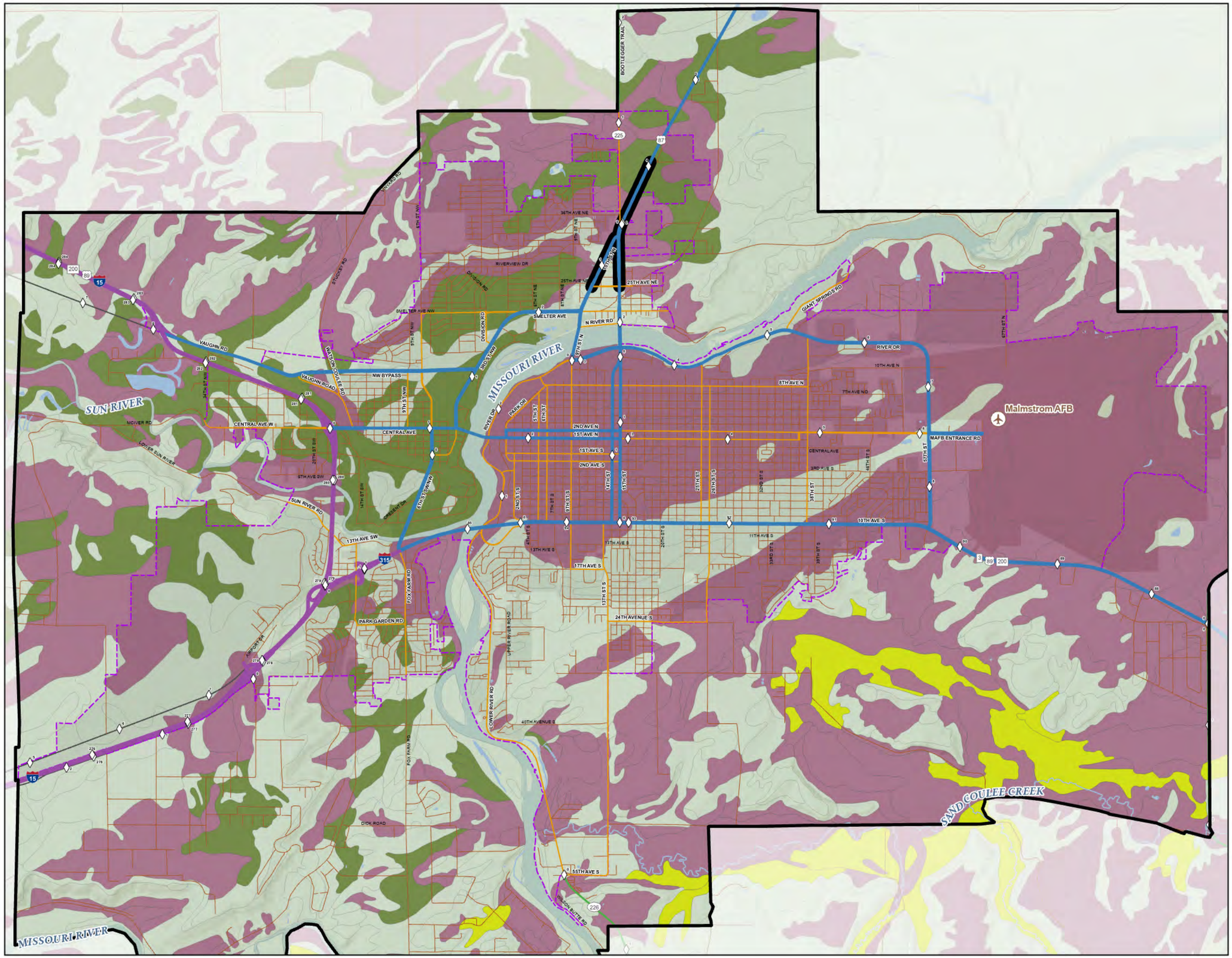
Source: USDA Natural Resources Conservation Service.

0 5 10 20 30 40 Miles



Central Montana Transportation Study

Figure A.3.b:
Farmland Resources
Great Falls Subarea



Legend

- Subarea Analysis Boundaries
- Corridor Study Limit
- Urban Boundary
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

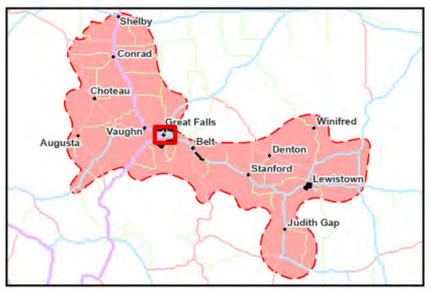
- Interstate
- National Highway System
- Secondary
- Urban

Farmland Categorization

- Prime Farmland
- Prime Farmland If Irrigated
- Farmland Of Statewide Importance
- Not Prime Farmland

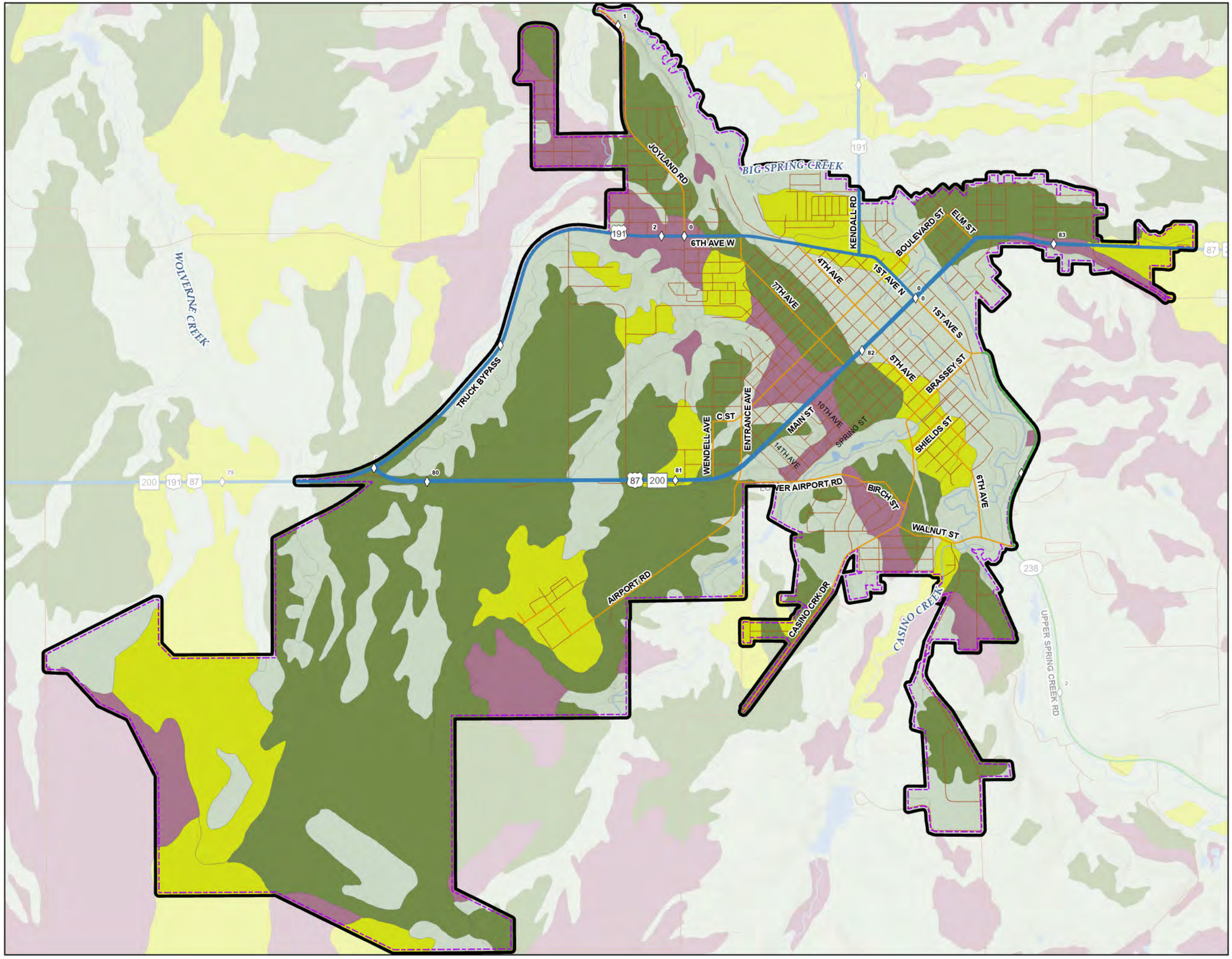
Source: USDA Natural Resources Conservation Service.

0 0.5 1 2 3 Miles



Central Montana Transportation Study

Figure A.3.c: Farmland Resources Lewistown Subarea



Legend

- Subarea Analysis Boundaries
- Urban Boundary
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

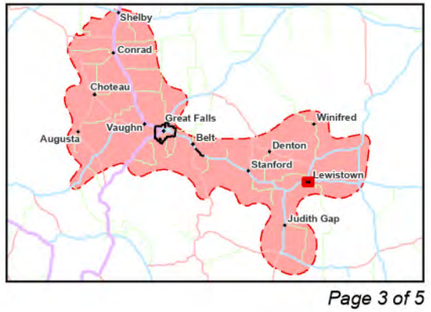
- National Highway System
- Secondary
- Urban

Farmland Categorization

- Prime Farmland
- Prime Farmland If Irrigated
- Farmland Of Statewide Importance
- Not Prime Farmland

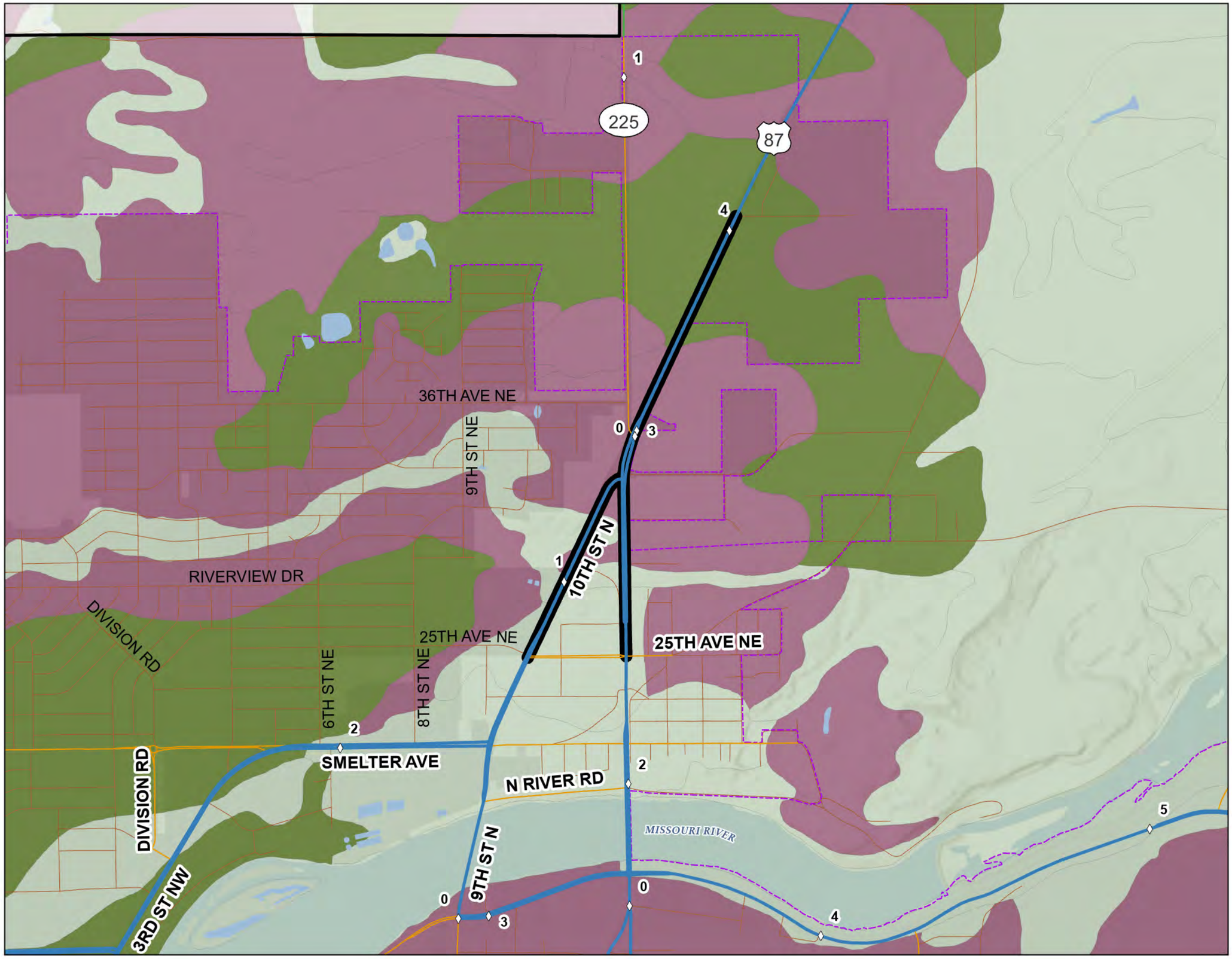
Source: USDA Natural Resources Conservation Service.

0 0.2 0.4 0.8 1.2 Miles



Central Montana Transportation Study

Figure A.3.d:
Farmland Resources
Old Havre Highway & US 87



Legend

- Subarea Analysis Boundaries
- Corridor Study Limit
- Urban Boundary
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

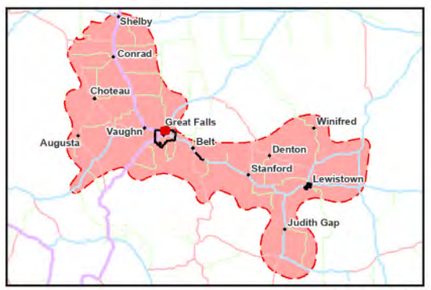
- National Highway System
- Secondary
- Urban

Farmland Categorization

- Prime Farmland If Irrigated
- Farmland Of Statewide Importance
- Not Prime Farmland

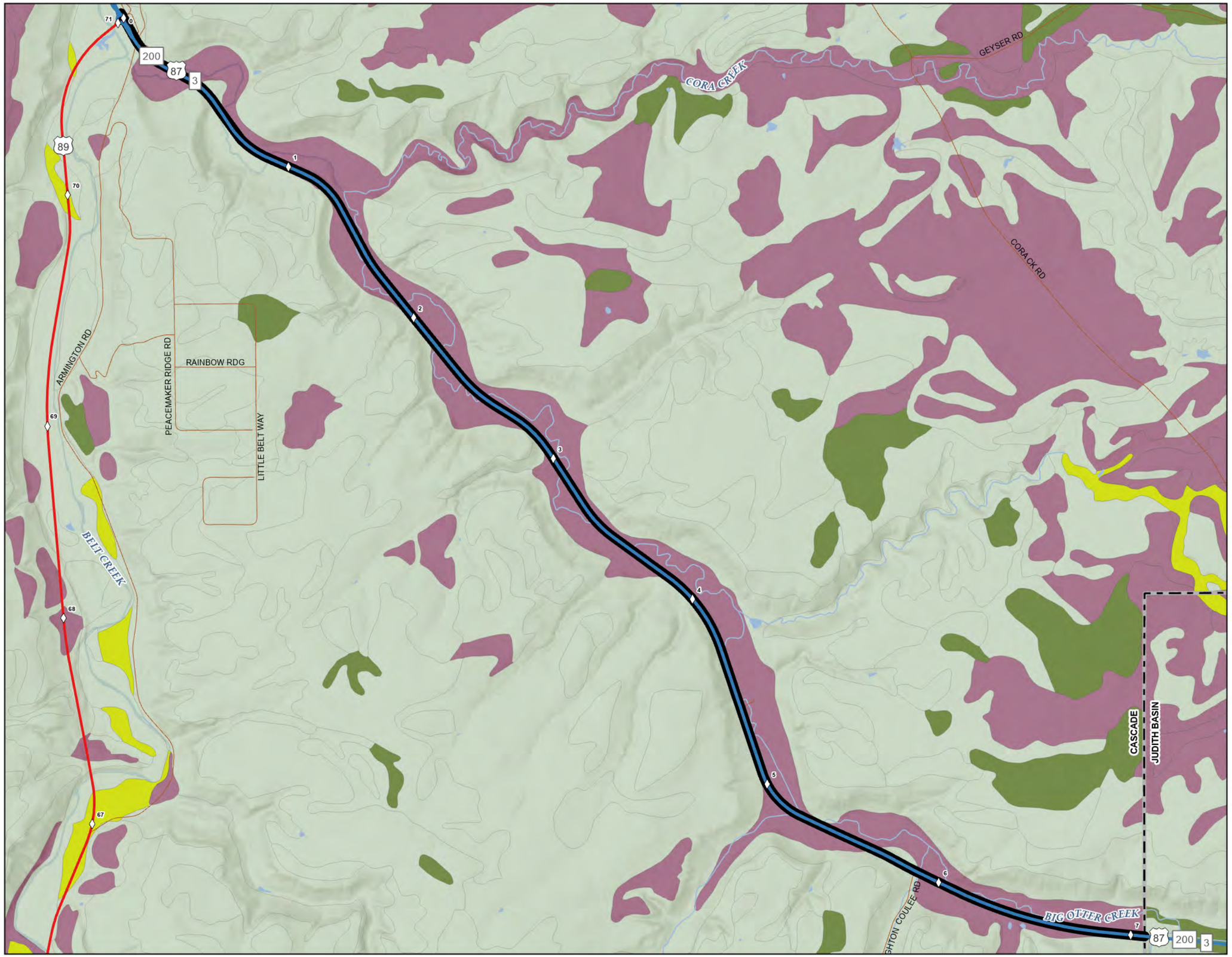
Source: USDA Natural Resources Conservation Service.

0 0.13 0.25 0.5 0.75 Miles



Central Montana Transportation Study

Figure A.3.e:
Farmland Resources
US 87 Armington Junction - Otter Creek Canyon



Legend

- Corridor Study Limits
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

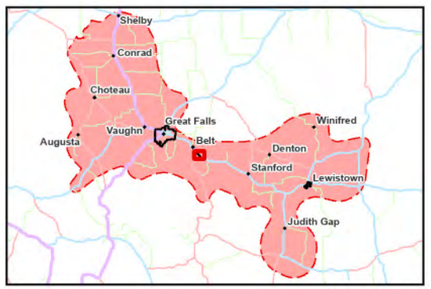
- National Highway System
- Primary

Farmland Categorization

- Prime Farmland
- Prime Farmland If Irrigated
- Farmland Of Statewide Importance
- Not Prime Farmland

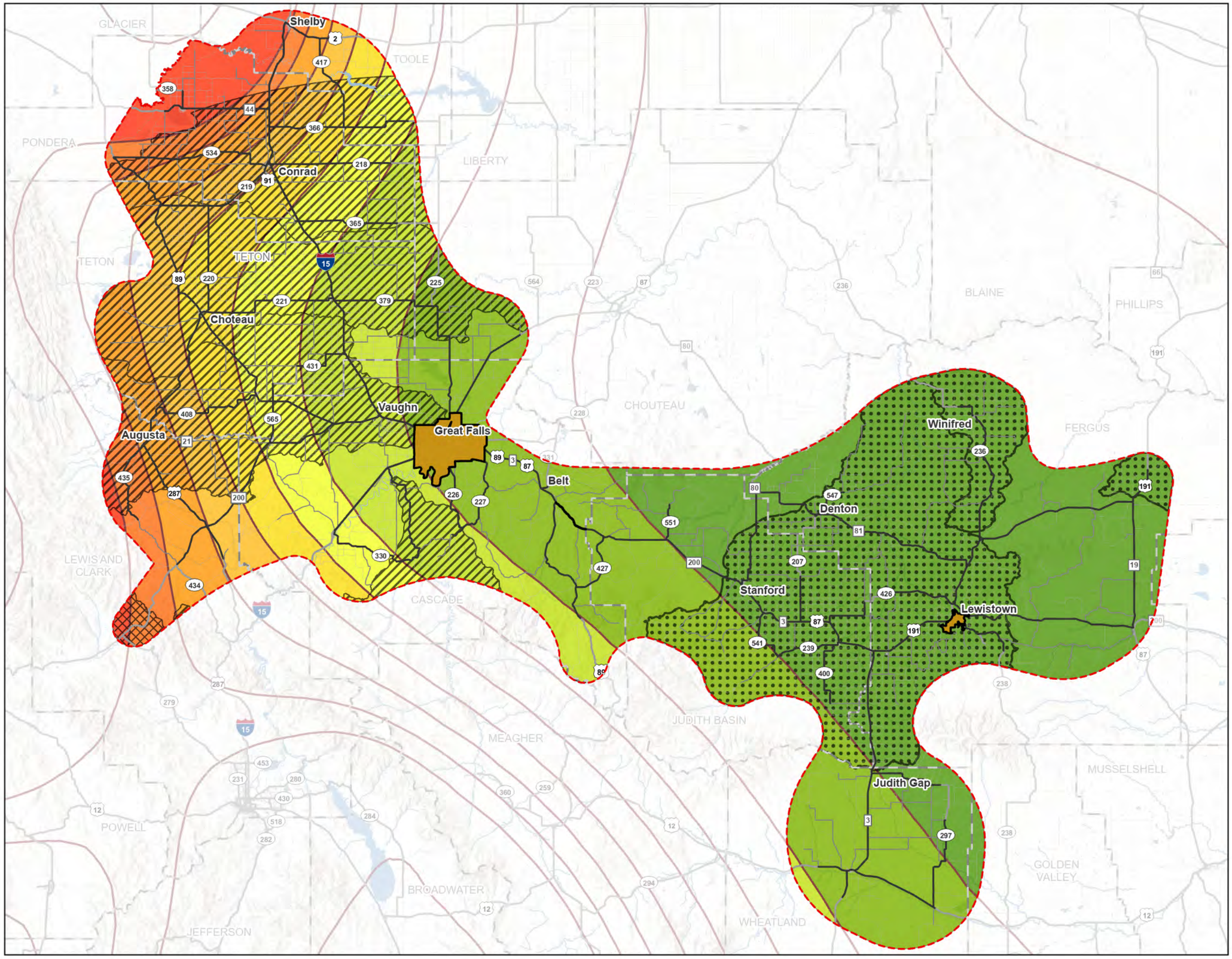
Source: USDA Natural Resources Conservation Service.

0 0.25 0.5 1 1.5 Miles



Central Montana Transportation Study

Figure A.4.a:
Geological Resources
Central Montana Study Area



Legend

- Central Montana Study Area
- Subarea Boundaries (See Subarea Sheets)
- County

Water Resources

- Water Resources
- Stream/River

Study Routes

- On System
- Off System

Major Watershed Basins

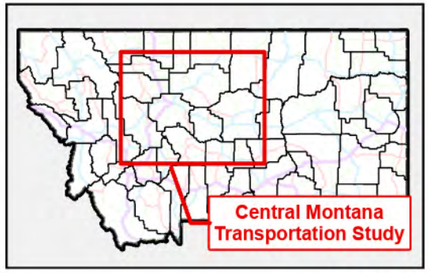
- Clark Fork/Kootenai River Basins
- Lower Missouri River Basin
- Upper Missouri River Basin

Peak Ground Acceleration (% Gravity)

- 4
- 6
- 8
- 10
- 12
- 14
- 16
- 18
- 20
- Ground Acceleration Contours

Source: U.S. Geological Survey.

0 5 10 20 30 40 Miles



Central Montana Transportation Study

Figure A.4.b: Geological Resources Great Falls Subarea

Legend

- Subarea Analysis Boundaries
- Corridor Study Limits
- Urban Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

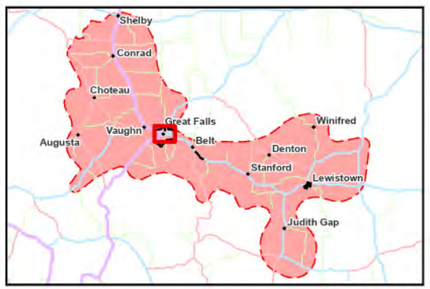
- Interstate
- National Highway System
- Secondary
- Urban

Geological Deposits

- Alluvial Terrace Deposit, (Qat)
- Alluvium, (Qal)
- Blackleaf Formation, Flood Member, (Kblf)
- Blackleaf Formation, Taft Hill Member, (Kblt)
- Eolian Deposit, (Qe)
- Glacial Deposit, (Qg)
- Glacial Lake Deposit, (Qgl)
- Glacial Till, (Qgt)
- Glacial Till, Older Than Qgt, (Qgto)
- Kootenal Formation, Second Member,(Kk2)
- Kootenai Formation, Cutbank Member,(Kkc)
- Kootenai Formation, Great Falls Member, (Kkg)
- Kootenai Formation, Fifth Member, (Kk5)
- Kootenai Formation, Fourth Member, (Kk4)
- Landslide Deposit, (Qls)
- Morrison Formation, (Kjm)

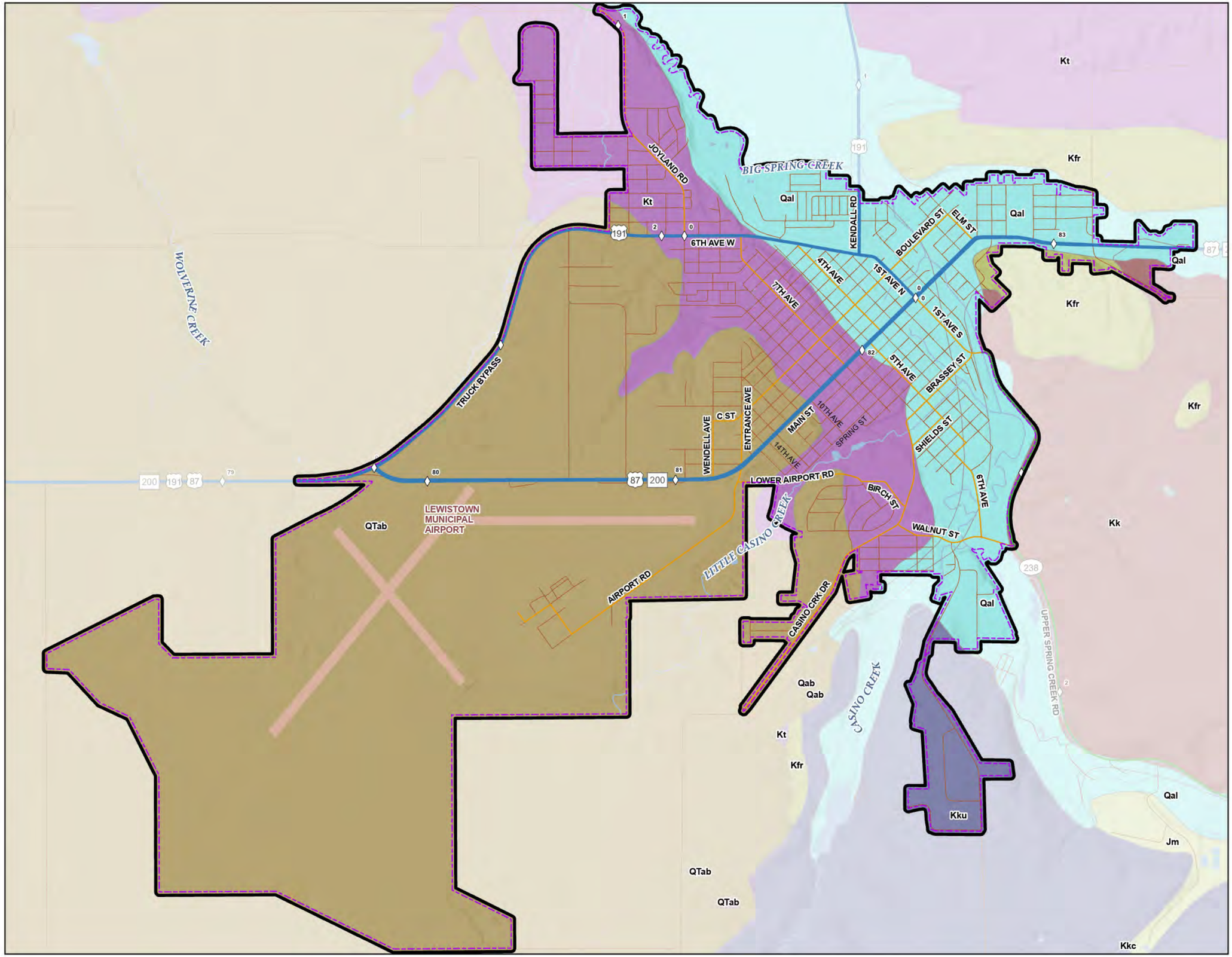
Source: Montana Bureau of Mines and Geology.

0 0.5 1 2 3 Miles



Central Montana Transportation Study

Figure A.4.c: Geological Resources Lewistown Subarea



Legend

- Subarea Analysis Boundaries
- Urban Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

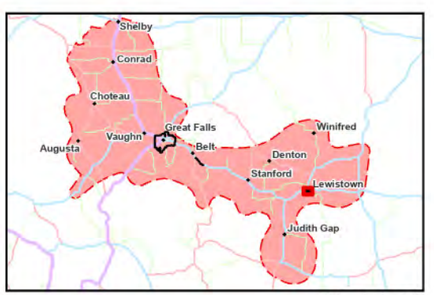
- National Highway System
- Secondary
- Urban

Geological Deposits

- Alluvium, (Qal)
- Alluvium Of Braid Plains, (QTab)
- Fall River Formation, (Kfr)
- Kootenai Formation, (Kk)
- Kootenai Formation, Cutbank Member,(Kkc)
- Kootenai Formation, Upper Member, (Kku)
- Morrison Formation, (Kjm)
- Thermopolis Formation, (Kt)

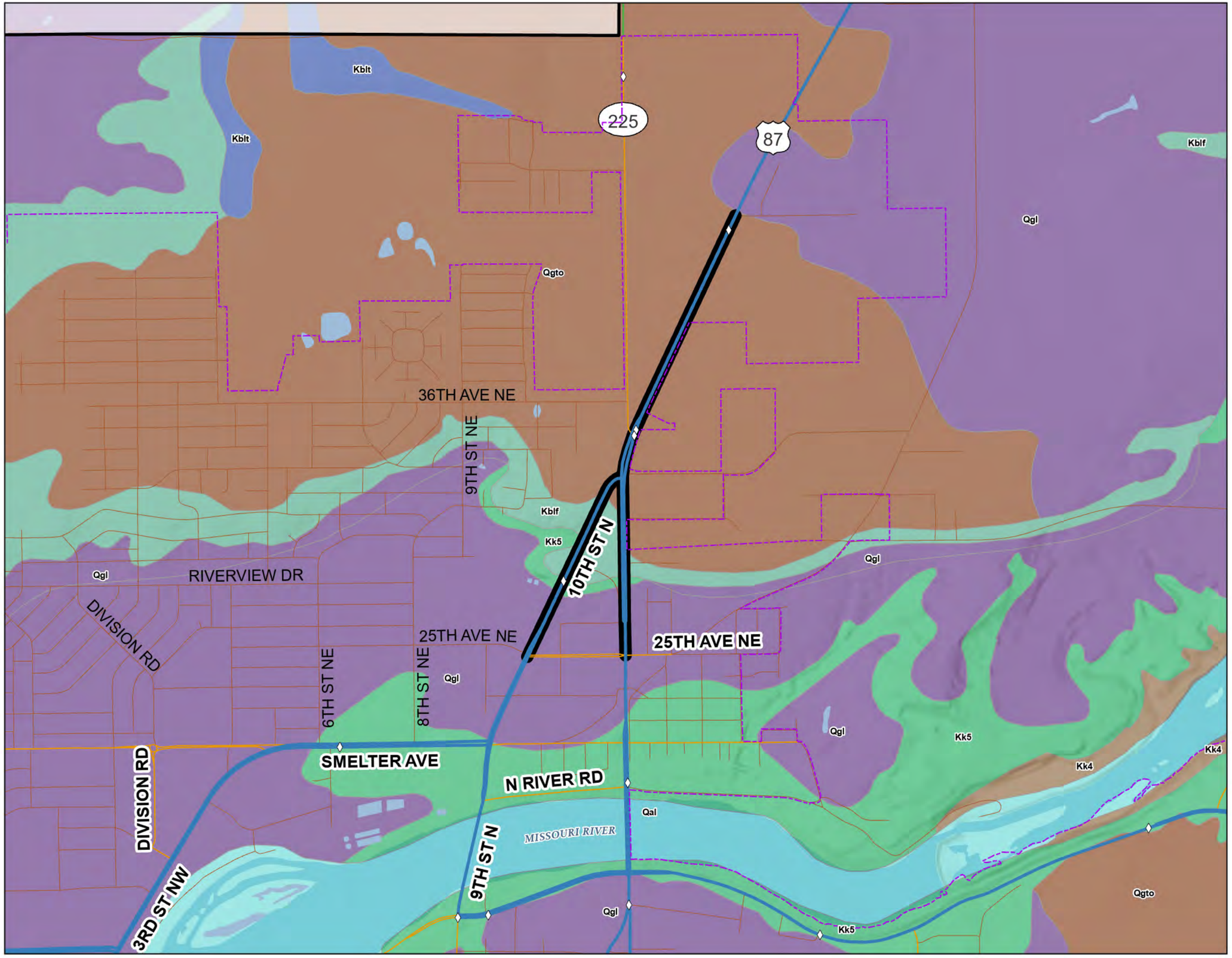
Source: Montana Bureau of Mines and Geology.

0 0.2 0.4 0.8 1.2 Miles



Central Montana Transportation Study

Figure A.4.d:
Geological Resources
Old Havre Highway & US 87



Legend

- Subarea Analysis Boundaries
- Corridor Study Limits
- Urban Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

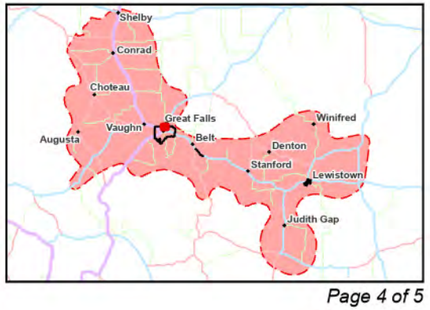
- National Highway System
- Secondary
- Urban

Geological Deposits

- Alluvium, (Qal)
- Blackleaf Formation, Flood Member, (Kblf)
- Blackleaf Formation, Taft Hill Member, (Kblt)
- Glacial Lake Deposit, (Qgl)
- Glacial Till, Older Than Qgt, (Qgto)
- Kootenai Formation, Fifth Member, (Kk5)
- Kootenai Formation, Fourth Member, (Kk4)

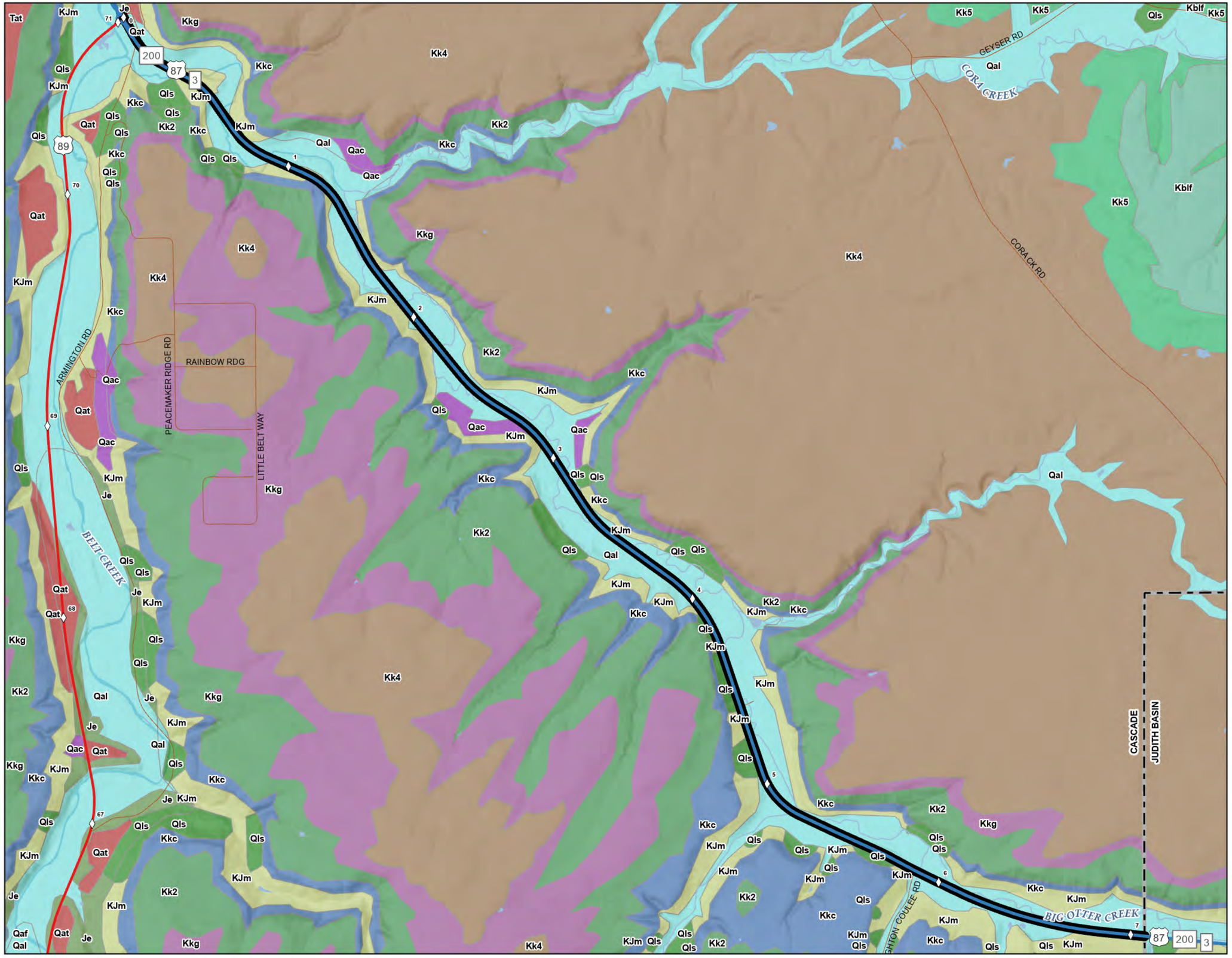
Source: Montana Bureau of Mines and Geology.

0 0.13 0.25 0.5 0.75 Miles



Central Montana Transportation Study

Figure A.4.e: Geological Resources US 87 Armington Junction - Otter Creek Canyon



Legend

- Corridor Study Limits
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

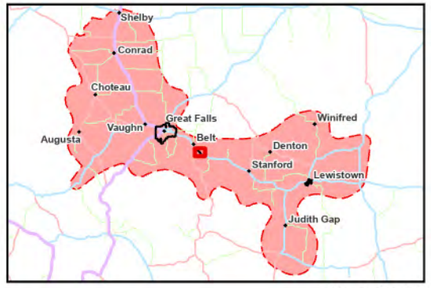
- National Highway System
- Primary

Geological Deposits

- Alluvial Fan Deposit, (Qaf)
- Alluvial Terrace Deposit, (Qat)
- Alluvium, (Qal)
- Alluvium & Colluvium, (Qac)
- Blackleaf Formation, Flood Member, (Kblf)
- Ellis Group, (Je)
- Kootenai Formation, Second Member,(Kk2)
- Kootenai Formation, Cutbank Member,(Kkc)
- Kootenai Formation, Great Falls Member, (Kkg)
- Kootenai Formation, Fifth Member, (Kk5)
- Kootenai Formation, Fourth Member, (Kk4)
- Landslide Deposit, (Qls)
- Morrison Formation, (Kjm)

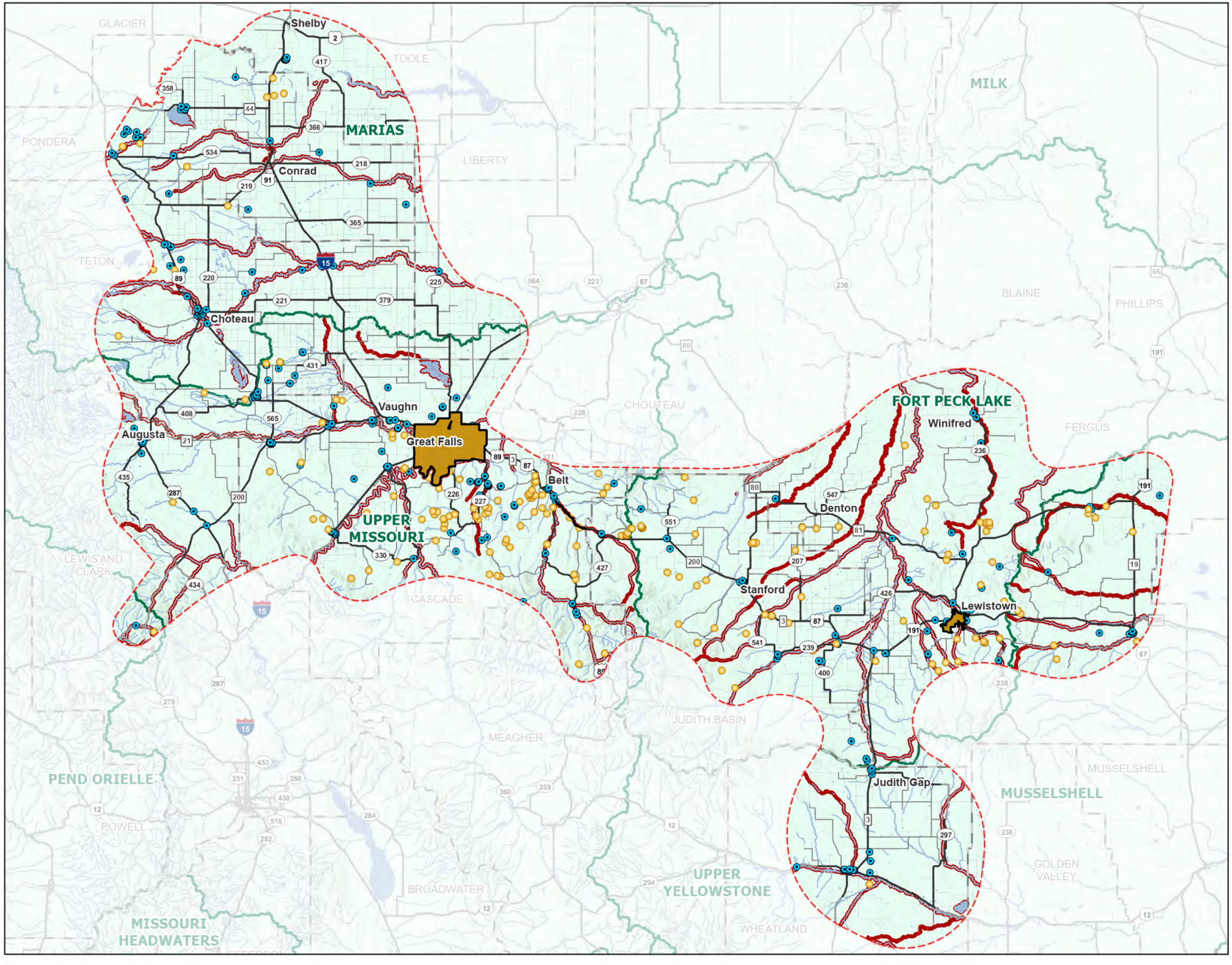
Source: Montana Bureau of Mines and Geology.

0 0.25 0.5 1 1.5 Miles



Central Montana Transportation Study

Figure A.5.a:
Water Resources
Central Montana Study Area



Legend

- Central Montana Study Area
- Subarea Boundaries (See Subarea Sheets)
- County

Study Routes

- On System
- Off System

Surface Water Resources

- Waterbody
- Stream/River
- Watershed Boundaries

Groundwater Resources

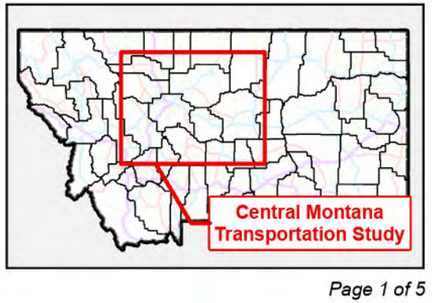
- Public Water Supply
- Spring

2020 Impaired Water Status

- Lakes & Streams

Source: United States Geological Survey, Montana Bureau of Mines and Geology, Montana Department of Environmental Quality.

0 5 10 20 30 40 Miles



Central Montana Transportation Study

Figure A.5.b: Water Resources Great Falls Subarea

Legend

- Subarea Analysis Boundaries
- Corridor Study Limits
- Urban Boundary
- City Boundary
- County Boundary

System Designation

- Interstate
- National Highway System
- Secondary
- Urban

Surface Water Resources

- Waterbody
- Stream/River (Perennial)
- Stream/River (Intermittent/Ephemeral)

Groundwater Resources

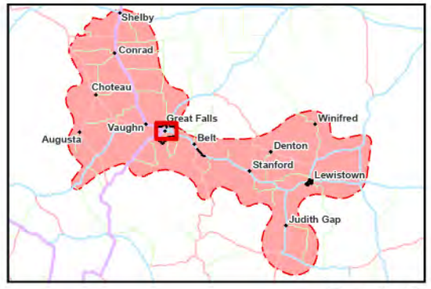
- Public Water Supply
- Spring

2020 Impaired Water Status

- Lakes & Streams

Source: United States Geological Survey, Montana Bureau of Mines and Geology, Montana Department of Environmental Quality.

0 0.5 1 2 3 Miles



Central Montana Transportation Study

Figure A.5.c: Water Resources Lewistown Subarea

Legend

- Subarea Analysis Boundaries
- Urban Boundary
- City Boundary
- County Boundary

System Designation

- National Highway System
- Secondary
- Urban

Surface Water Resources

- Waterbody
- Stream/River (Perennial)
- Stream/River (Intermittent/Ephemeral)

Groundwater Resources

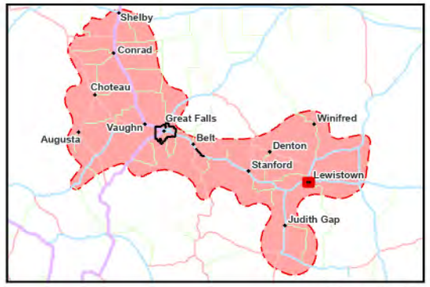
- Public Water Supply

2020 Impaired Water Status

- Lakes & Streams

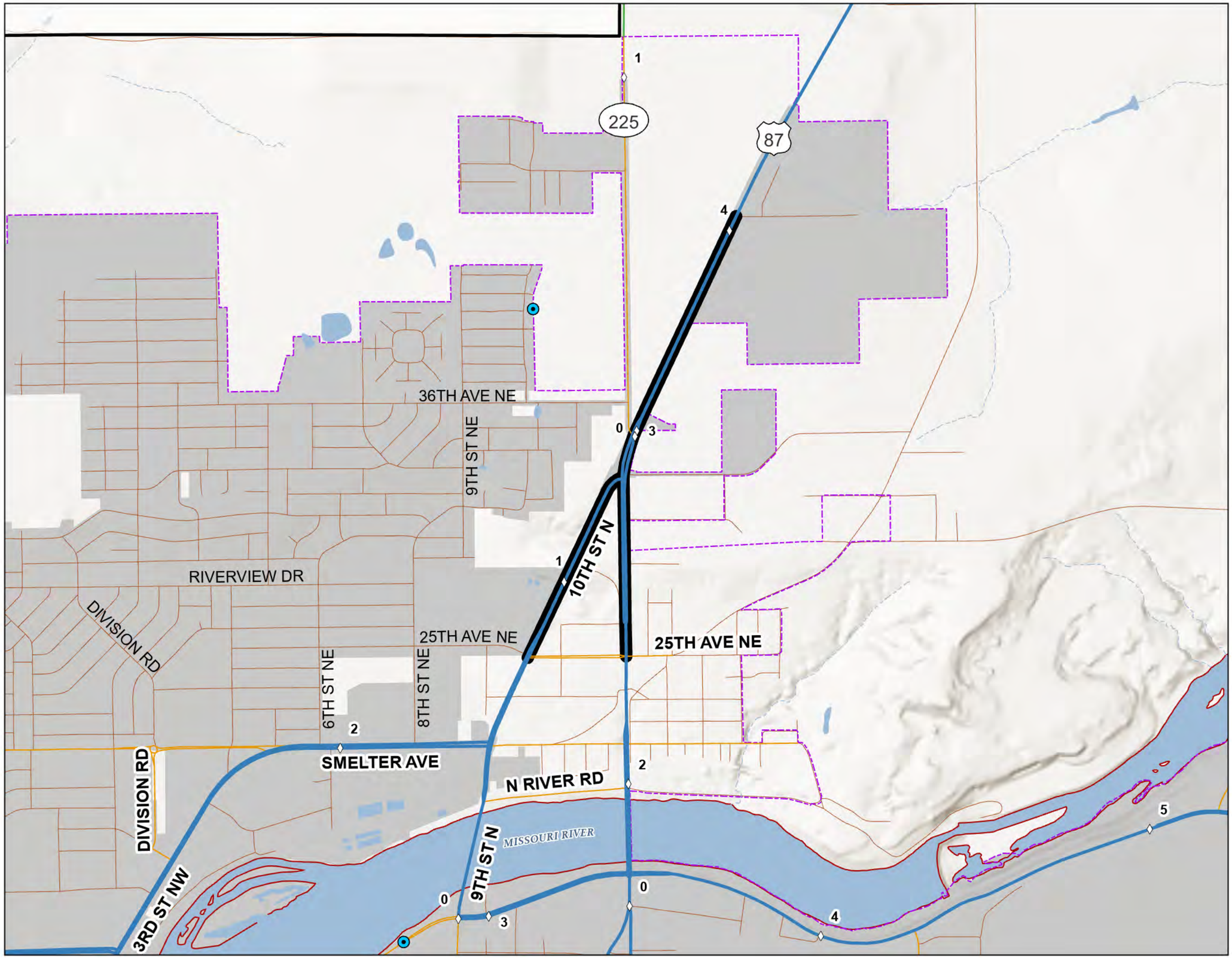
Source: United States Geological Survey, Montana Bureau of Mines and Geology, Montana Department of Environmental Quality.

0 0.2 0.4 0.8 1.2 Miles



Central Montana Transportation Study

Figure A.5.d:
Water Resources
Old Havre Highway & US 87



Legend

- Subarea Analysis Boundaries
- Corridor Study Limits
- Urban Boundary
- City Boundary
- County Boundary

System Designation

- National Highway System
- Secondary
- Urban

Surface Water Resources

- Waterbody
- Stream/River (Perennial)
- Stream/River (Intermittent/Ephemeral)

Groundwater Resources

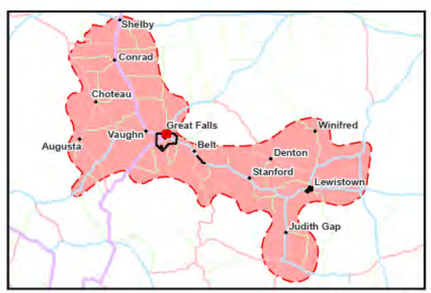
- Public Water Supply

2020 Impaired Water Status

- Lakes & Streams

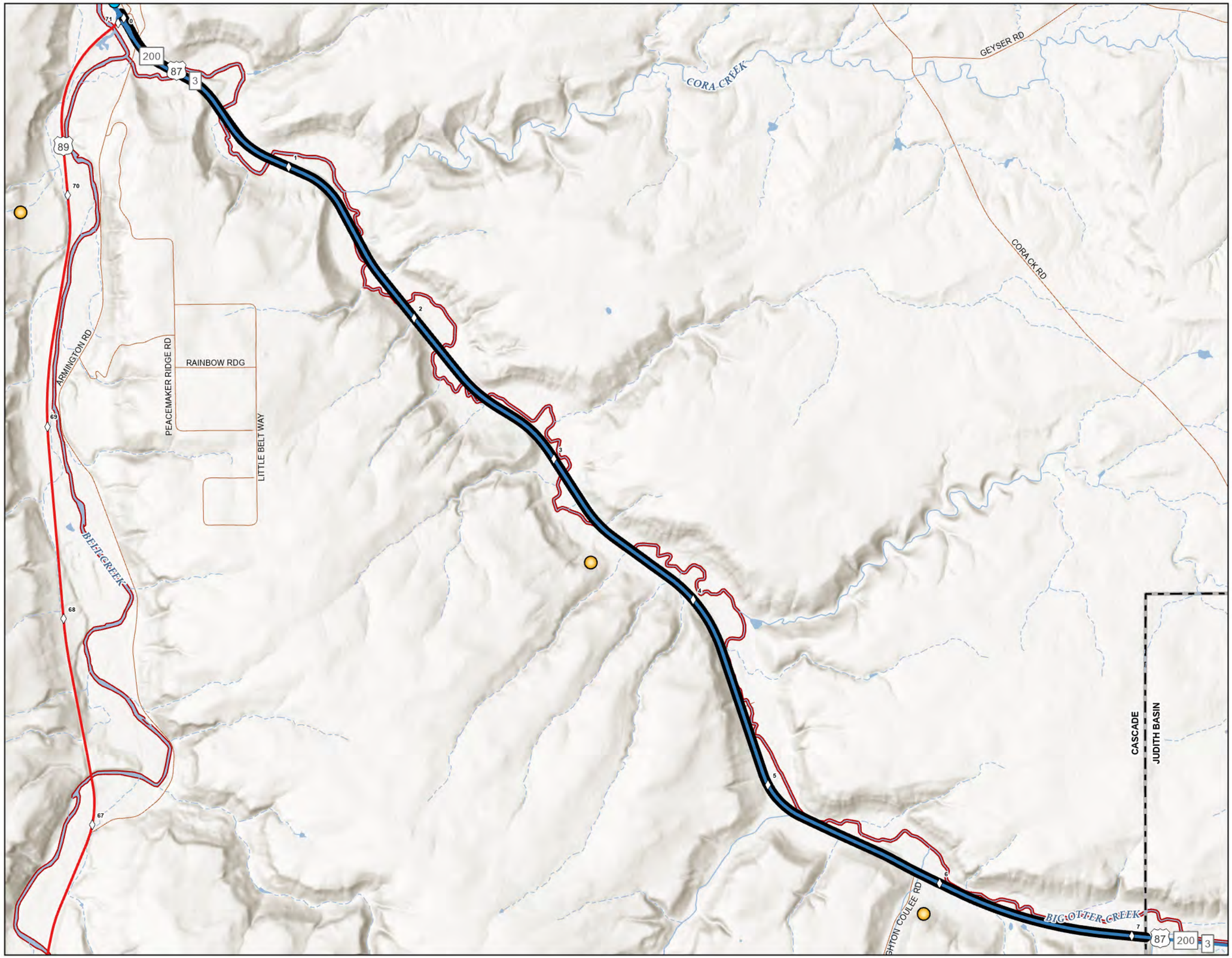
Source: United States Geological Survey, Montana Bureau of Mines and Geology, Montana Department of Environmental Quality.

0 0.13 0.25 0.5 0.75 Miles



Central Montana Transportation Study

Figure A.5.e:
Water Resources
US 87 Armington Junction - Otter Creek Canyon



Legend

- Corridor Study Limits
- City Boundary
- County Boundary

System Designation

- National Highway System
- Primary

Surface Water Resources

- Waterbody
- Stream/River (Perennial)
- Stream/River (Intermittent/Ephemeral)

Groundwater Resources

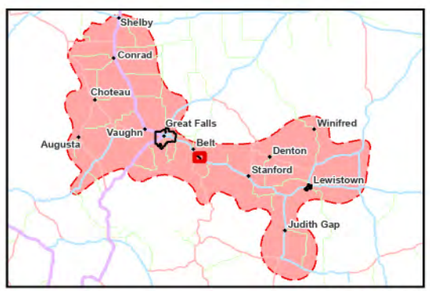
- Public Water Supply
- Spring

2020 Impaired Water Status

- Lakes & Streams

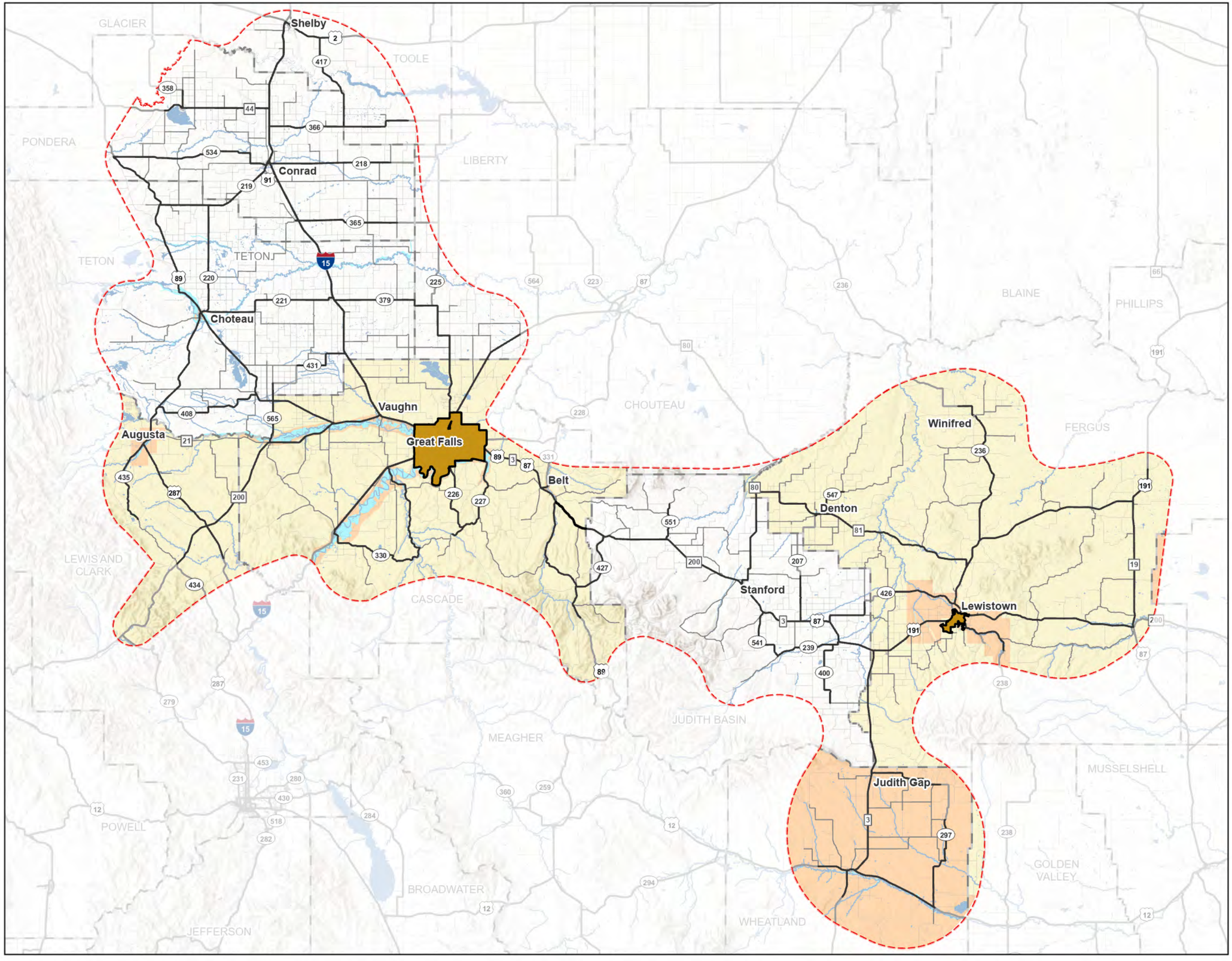
Source: United States Geological Survey, Montana Bureau of Mines and Geology, Montana Department of Environmental Quality.

0 0.25 0.5 1 1.5 Miles



Central Montana Transportation Study

Figure A.6.a:
Floodplains
Central Montana Study Area



Legend

- Central Montana Study Area
- Subarea Boundaries (See Subarea Sheets)
- County

Water Resources

- Waterbody
- Stream/River

Study Routes

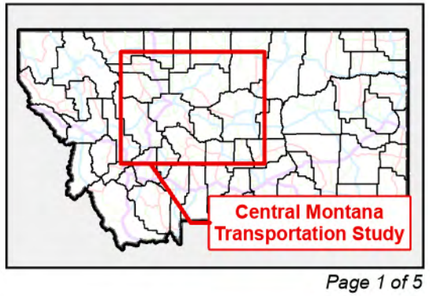
- On System
- Off System

Special Flood Hazard Areas

- 1% Annual Flood Hazard Area (Zone A, AE, or AO)
- Undetermined Flood Hazard (Zone D)
- 0.2% Annual Flood Hazard Area (Zone X)

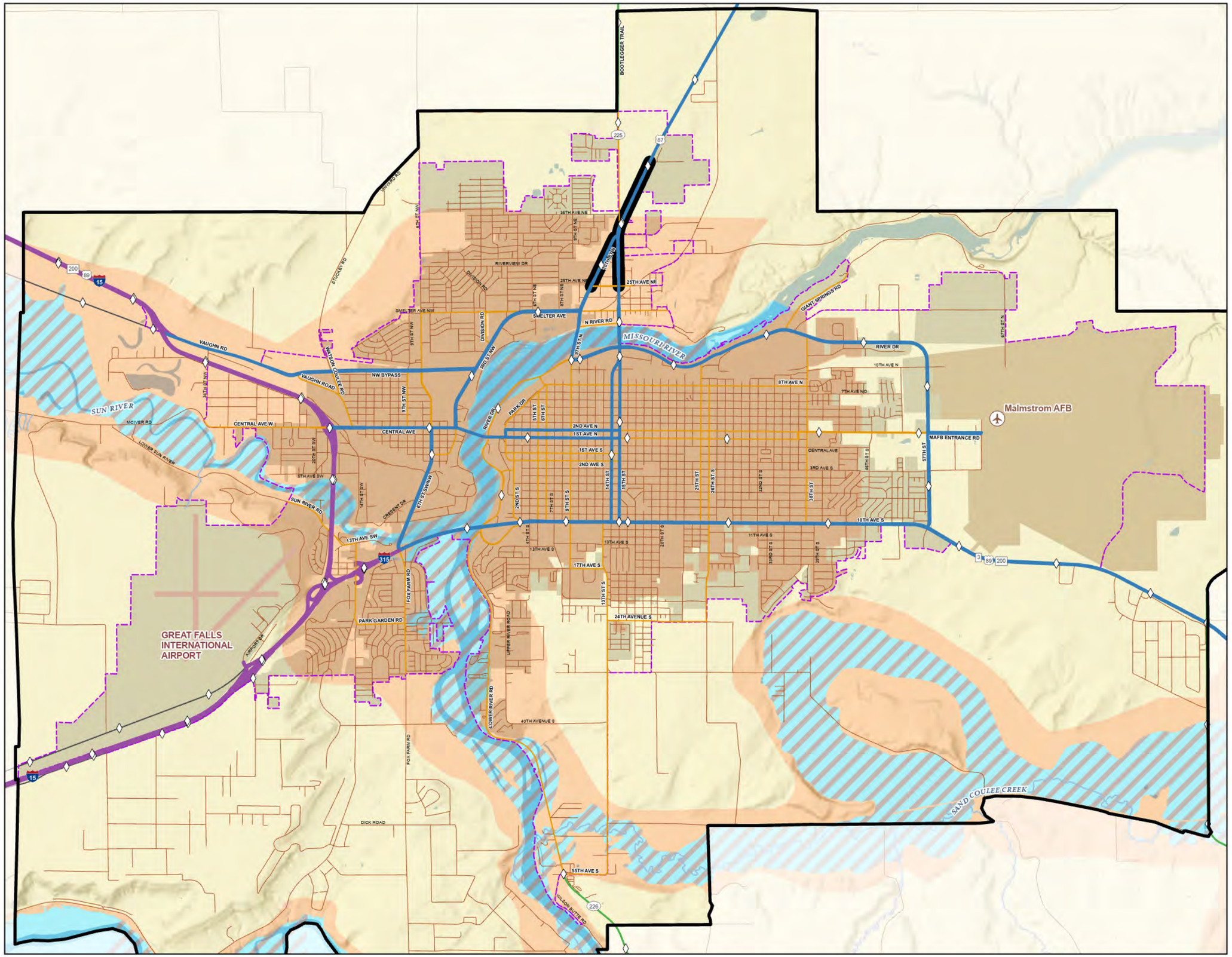
Source: Federal Emergency Management Agency.

0 5 10 20 30 40 Miles



Central Montana Transportation Study

Figure A.6.b:
Floodplains
Great Falls Subarea



Legend

- Subarea Analysis Boundaries
- Corridor Study Limit
- Urban Boundary
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

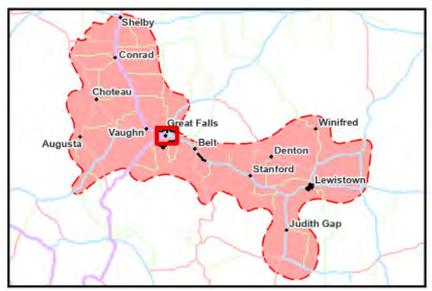
- Interstate
- National Highway System
- Secondary
- Urban

Special Flood Hazard Areas

- 1% Annual Flood Hazard Area (Zone A)
- Regulatory Floodway (Zone AE, AO)
- Undetermined Flood Hazard (Zone D)
- 0.2% Annual Flood Hazard Area (Zone X)

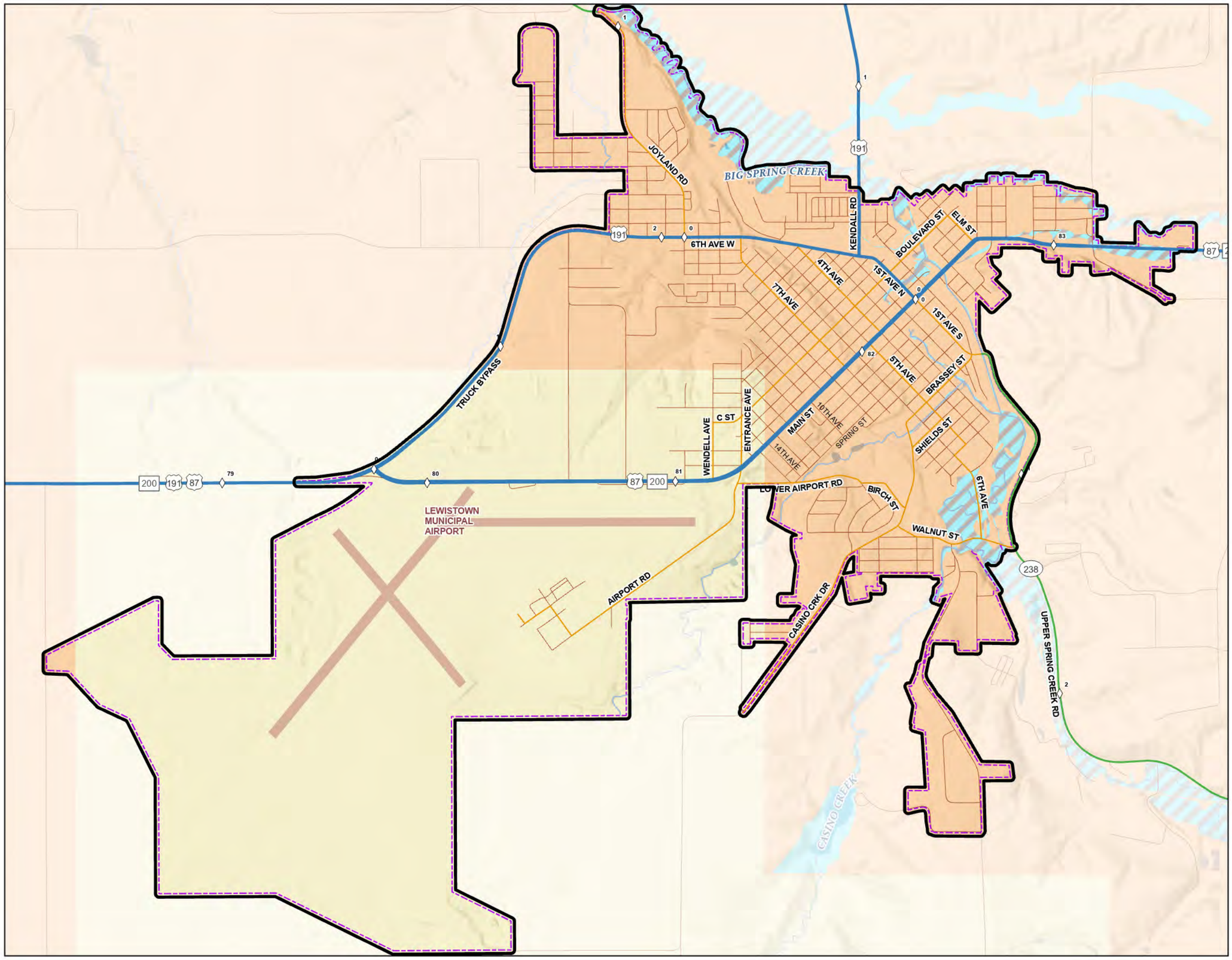
Source: Federal Emergency Management Agency.

0 0.5 1 2 3 Miles



Central Montana Transportation Study

Figure A.6.c: Floodplains Lewistown Subarea



Legend

- Subarea Analysis Boundaries
- Urban Boundary
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

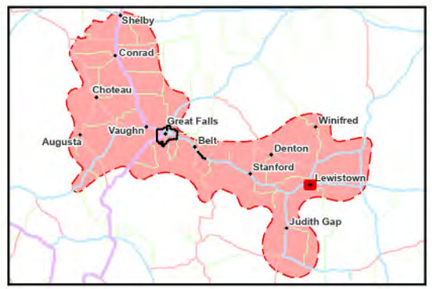
- National Highway System
- Secondary
- Urban

Special Flood Hazard Areas

- 1% Annual Flood Hazard Area (Zone A)
- Regulatory Floodway (Zone AE, AO)
- Undetermined Flood Hazard (Zone D)
- 0.2% Annual Flood Hazard Area (Zone X)

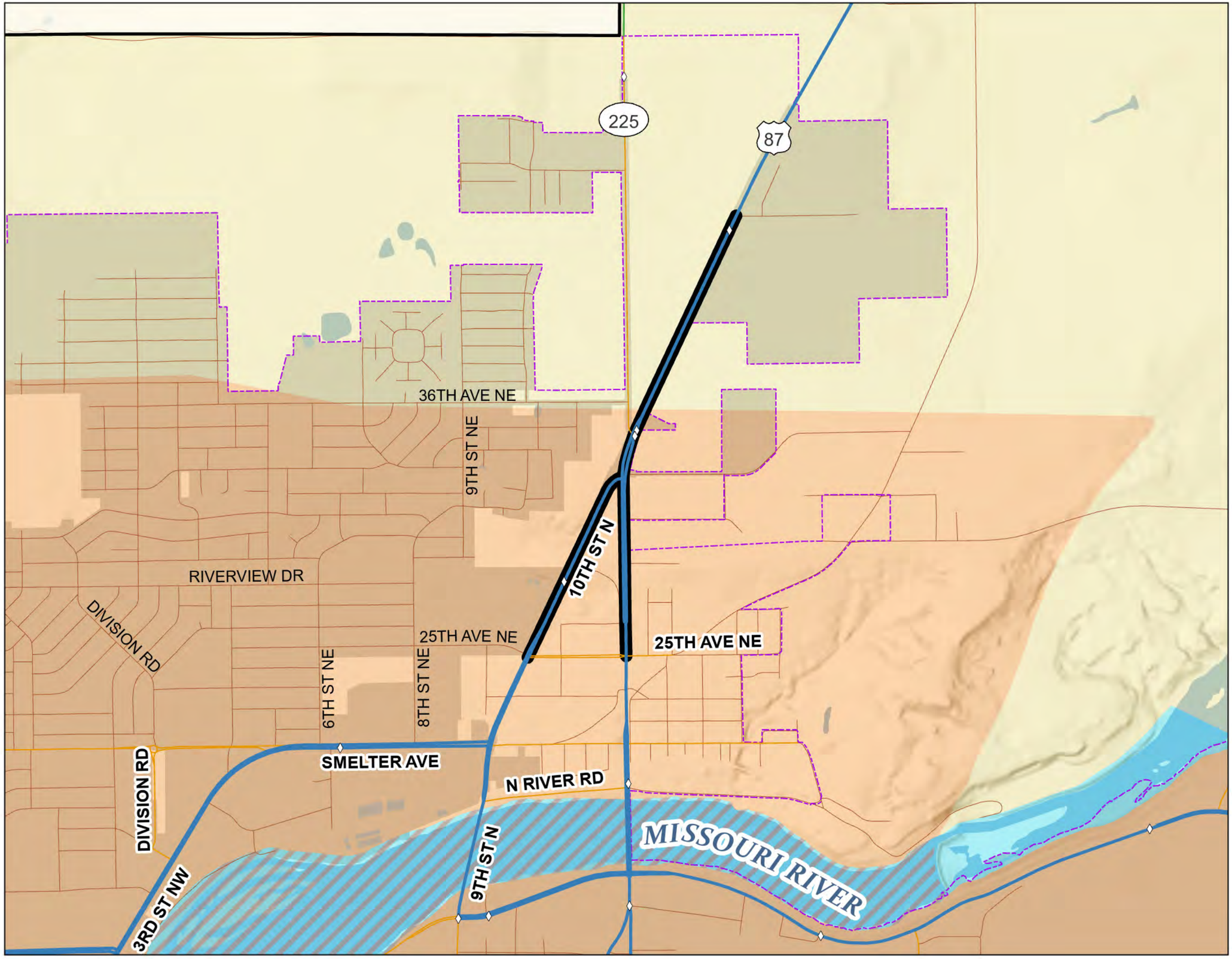
Source: Federal Emergency Management Agency.

0 0.2 0.4 0.8 1.2 Miles



Central Montana Transportation Study

Figure A.6.d:
Floodplains
Old Havre Highway & US 87



Legend

- Subarea Analysis Boundaries
- Corridor Study Limit
- Urban Boundary
- City Boundary
- County Boundary

Water Resources

- Waterbody

System Designation

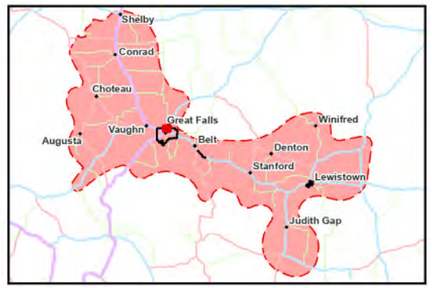
- National Highway System
- Secondary
- Urban

Special Flood Hazard Areas

- 1% Annual Flood Hazard Area (Zone A)
- Regulatory Floodway (Zone AE, AO)
- Undetermined Flood Hazard (Zone D)
- 0.2% Annual Flood Hazard Area (Zone X)

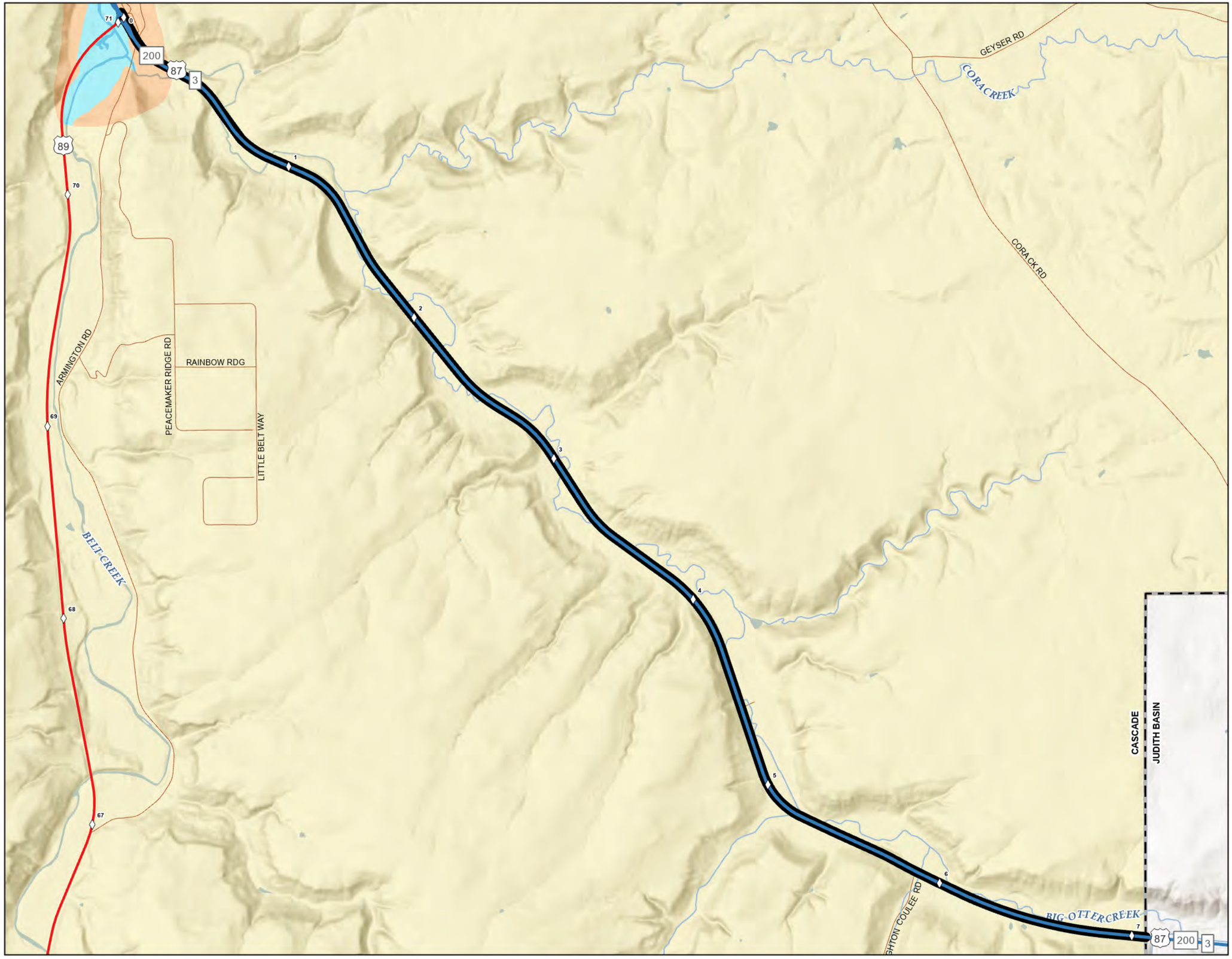
Source: Federal Emergency Management Agency.

0 0.13 0.25 0.5 0.75 Miles



Central Montana Transportation Study

Figure A.6.e:
Floodplains
US 87 Armington Junction - Otter Creek Canyon



Legend

- Corridor Study Limits
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

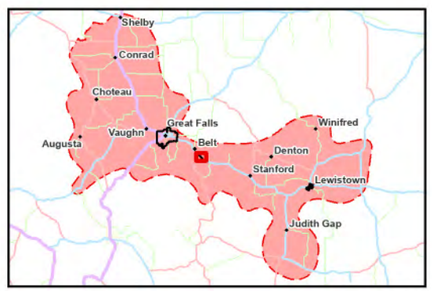
- National Highway System
- Primary

Special Flood Hazard Areas

- 1% Annual Flood Hazard Area (Zone A)
- Undetermined Flood Hazard (Zone D)
- 0.2% Annual Flood Hazard Area (Zone X)

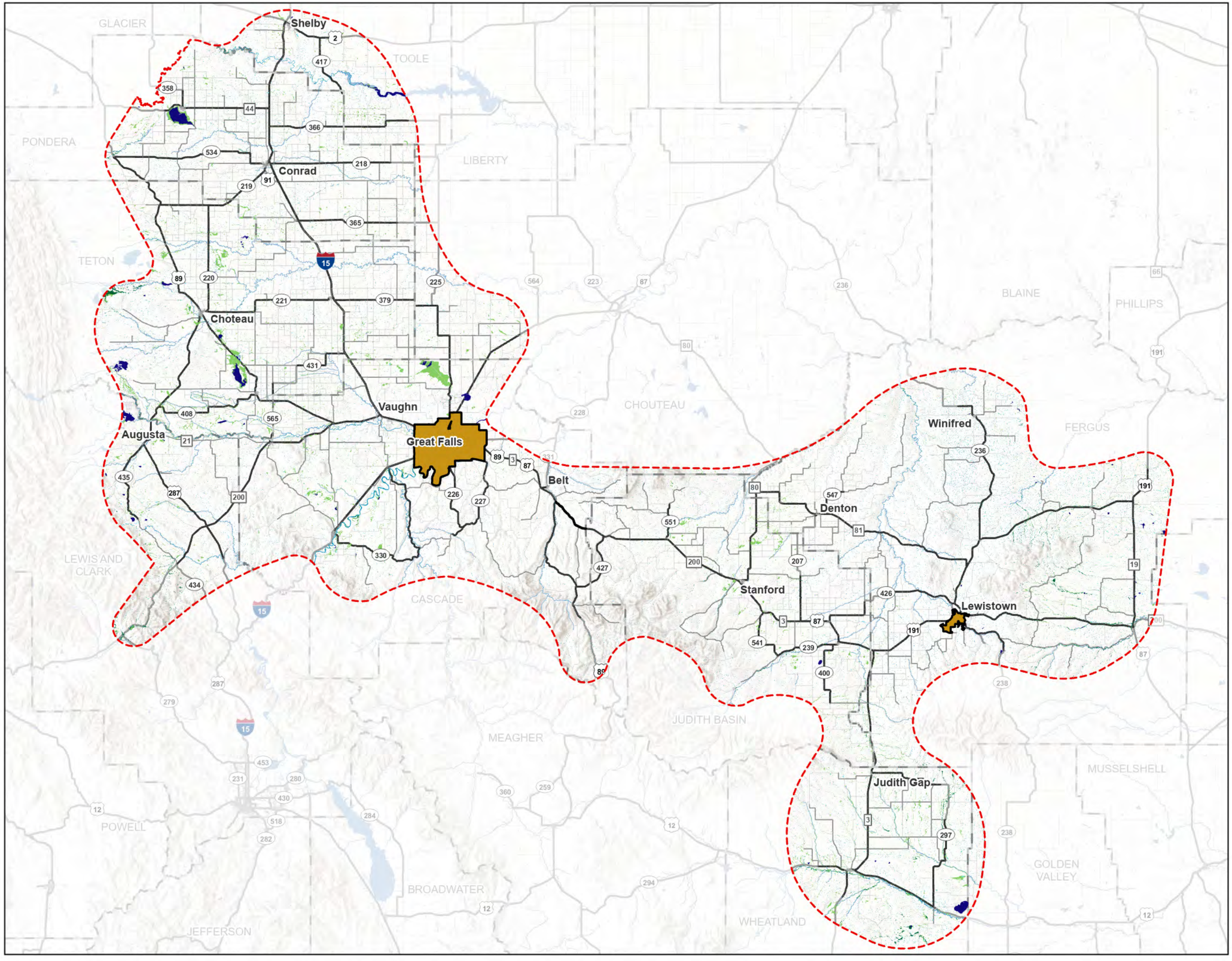
Source: Federal Emergency Management Agency.

0 0.25 0.5 1 1.5 Miles



Central Montana Transportation Study

Figure A.7.a:
Wetlands
Central Montana Study Area



Legend

- Central Montana Study Area
- Subarea Boundaries (See Subarea Sheets)
- County

Water Resources

- Waterbody
- Stream/River

Study Routes

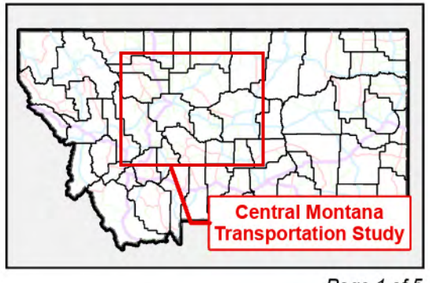
- On System
- Off System

Wetland Type

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

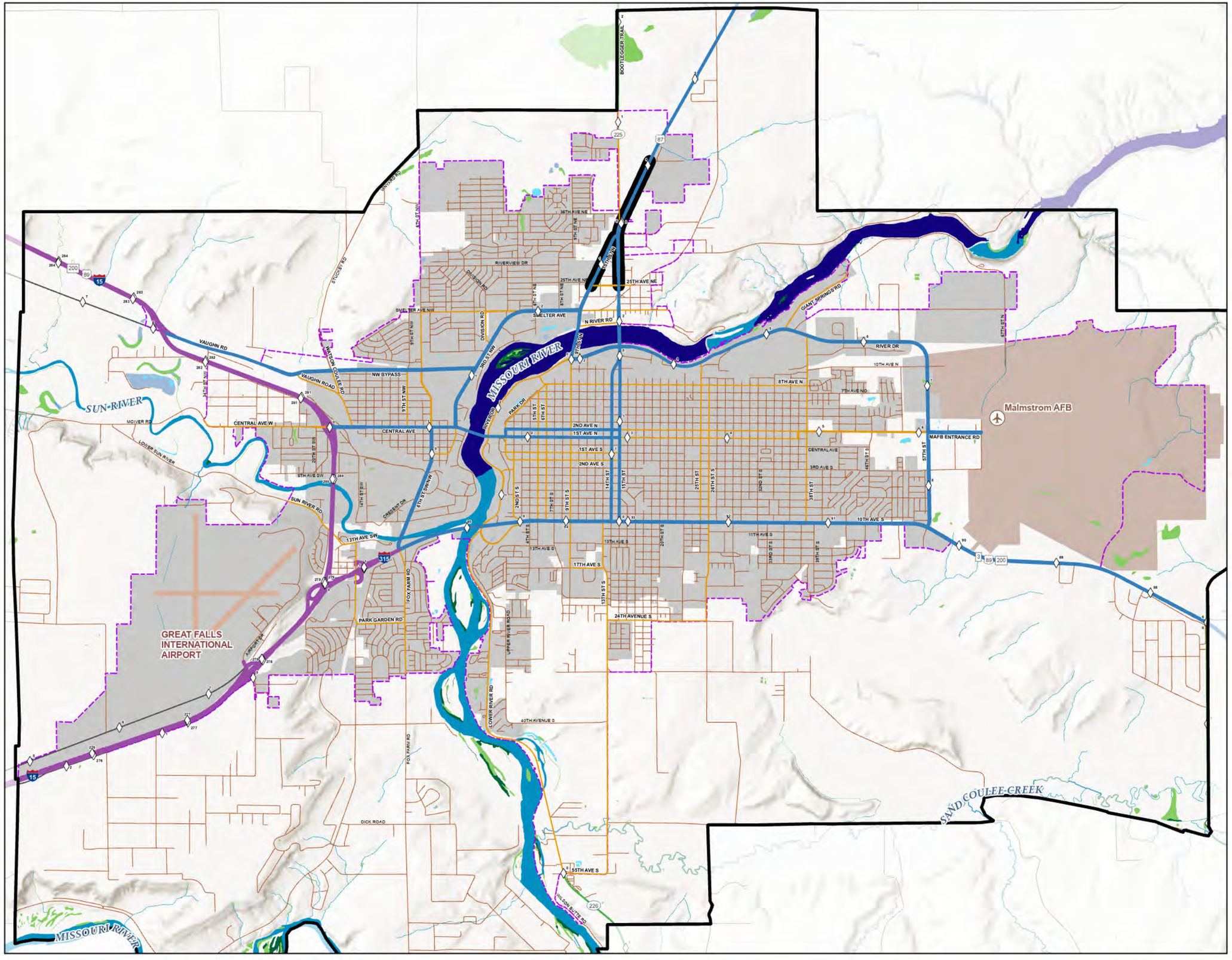
Source: US Fish & Wildlife Service, National Wetland Inventory.

0 5 10 20 30 40 Miles



Central Montana Transportation Study

Figure A.7.b:
Wetlands
Great Falls Subarea



Legend

- Subarea Analysis Boundaries
- Corridor Study Limits
- Urban Boundary
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

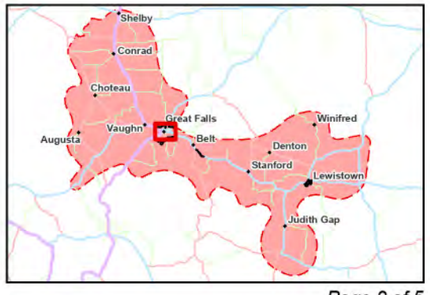
- Interstate
- National Highway System
- Secondary
- Urban

Wetland Type

- Freshwater Forested/Shrub Wetland
- Freshwater Emergent Wetland
- Freshwater Pond
- Lake
- Riverine

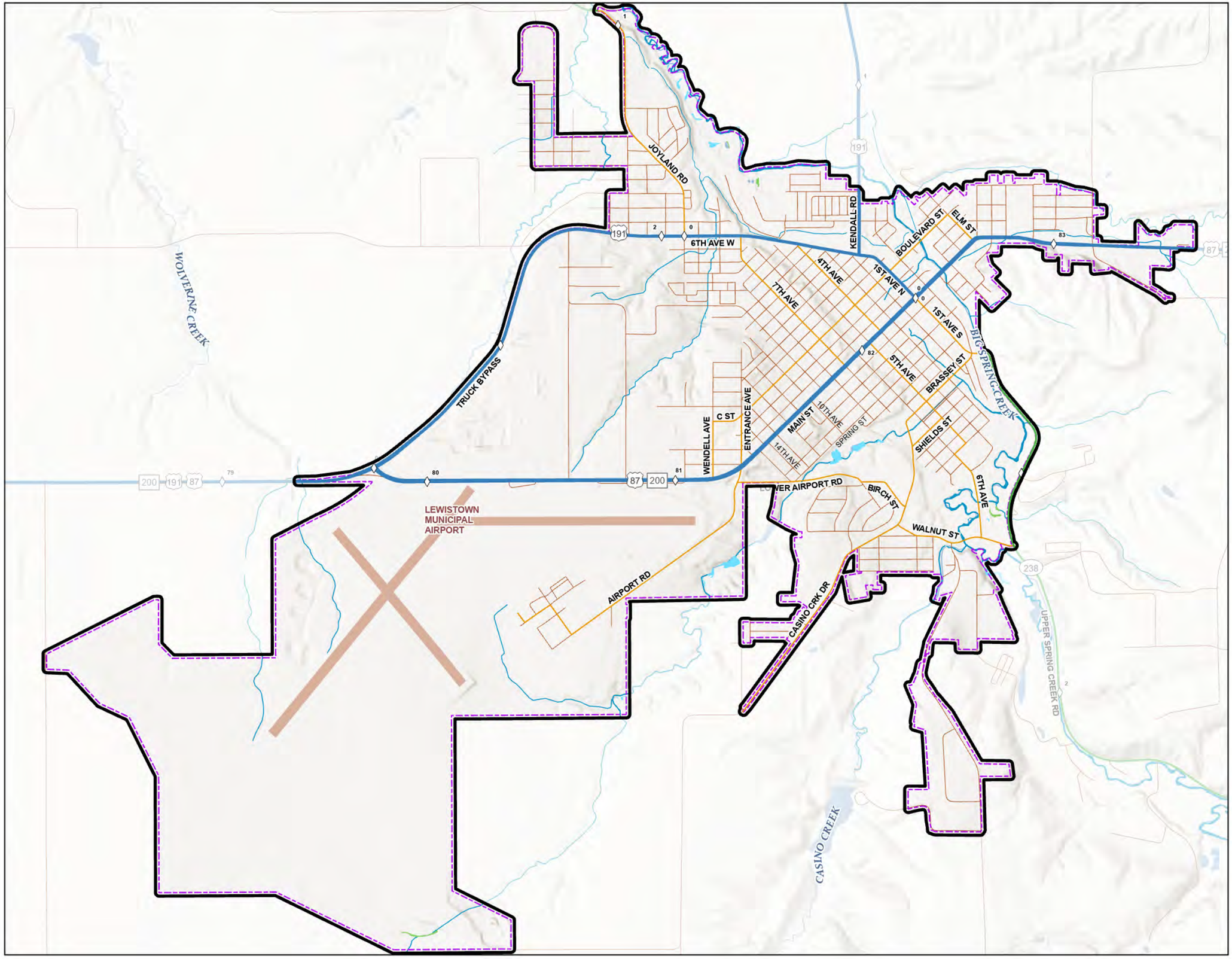
Source: US Fish & Wildlife Service, National Wetland Inventory.

0 0.5 1 2 3 Miles



Central Montana Transportation Study

Figure A.7.c: Wetlands Lewistown Subarea



Legend

- Subarea Analysis Boundaries
- Urban Boundary
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

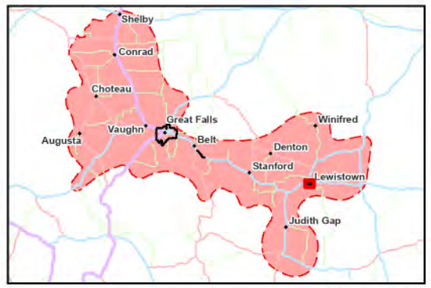
- National Highway System
- Secondary
- Urban

Wetland Type

- Freshwater Emergent Wetland
- Freshwater Pond
- Riverine

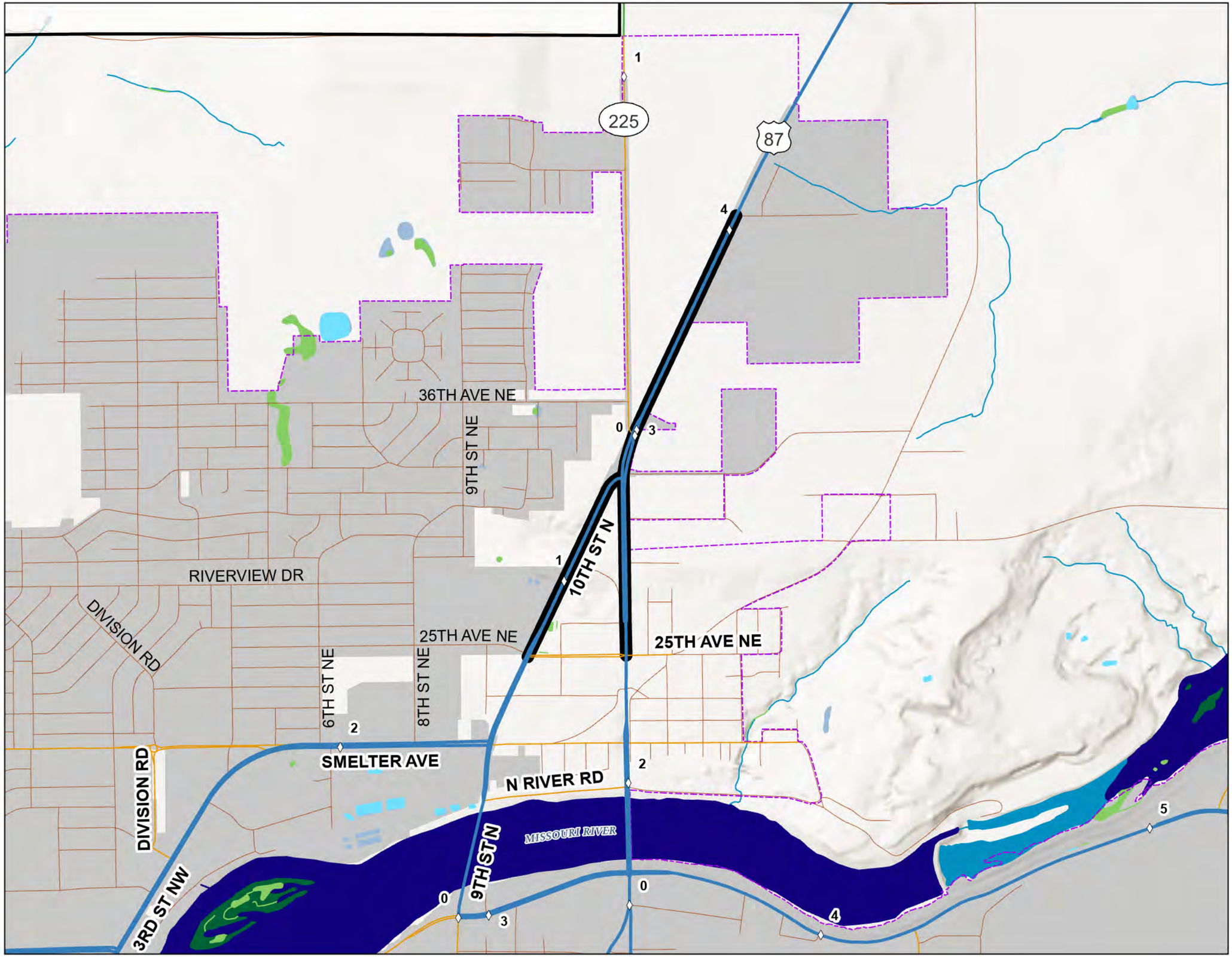
Source: US Fish & Wildlife Service, National Wetland Inventory.

0 0.2 0.4 0.8 1.2 Miles



Central Montana Transportation Study

Figure A.7.d:
Wetlands
Old Havre Highway & US 87



Legend

- Subarea Analysis Boundaries
- Corridor Study Limits
- Urban Boundary
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

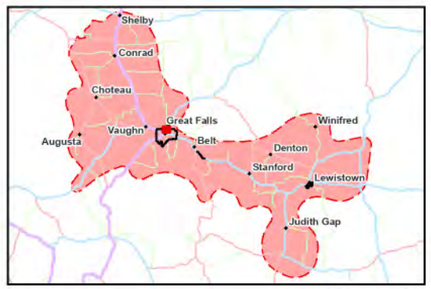
- National Highway System
- Secondary
- Urban

Wetland Type

- Freshwater Forested/Shrub Wetland
- Freshwater Emergent Wetland
- Freshwater Pond
- Lake
- Riverine

Source: US Fish & Wildlife Service, National Wetland Inventory.

0 0.13 0.25 0.5 0.75 Miles



Central Montana Transportation Study

Figure A.7.e:
Wetlands
US 87 Armington Junction - Otter Creek Canyon

Legend

- Corridor Study Limits
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

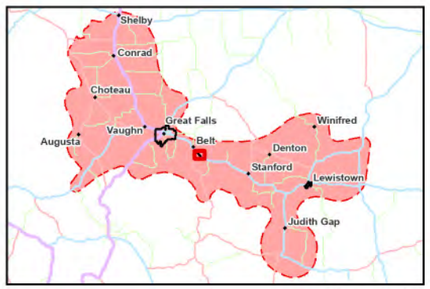
- National Highway System
- Primary

Wetland Type

- Freshwater Forested/Shrub Wetland
- Freshwater Emergent Wetland
- Freshwater Pond
- Riverine

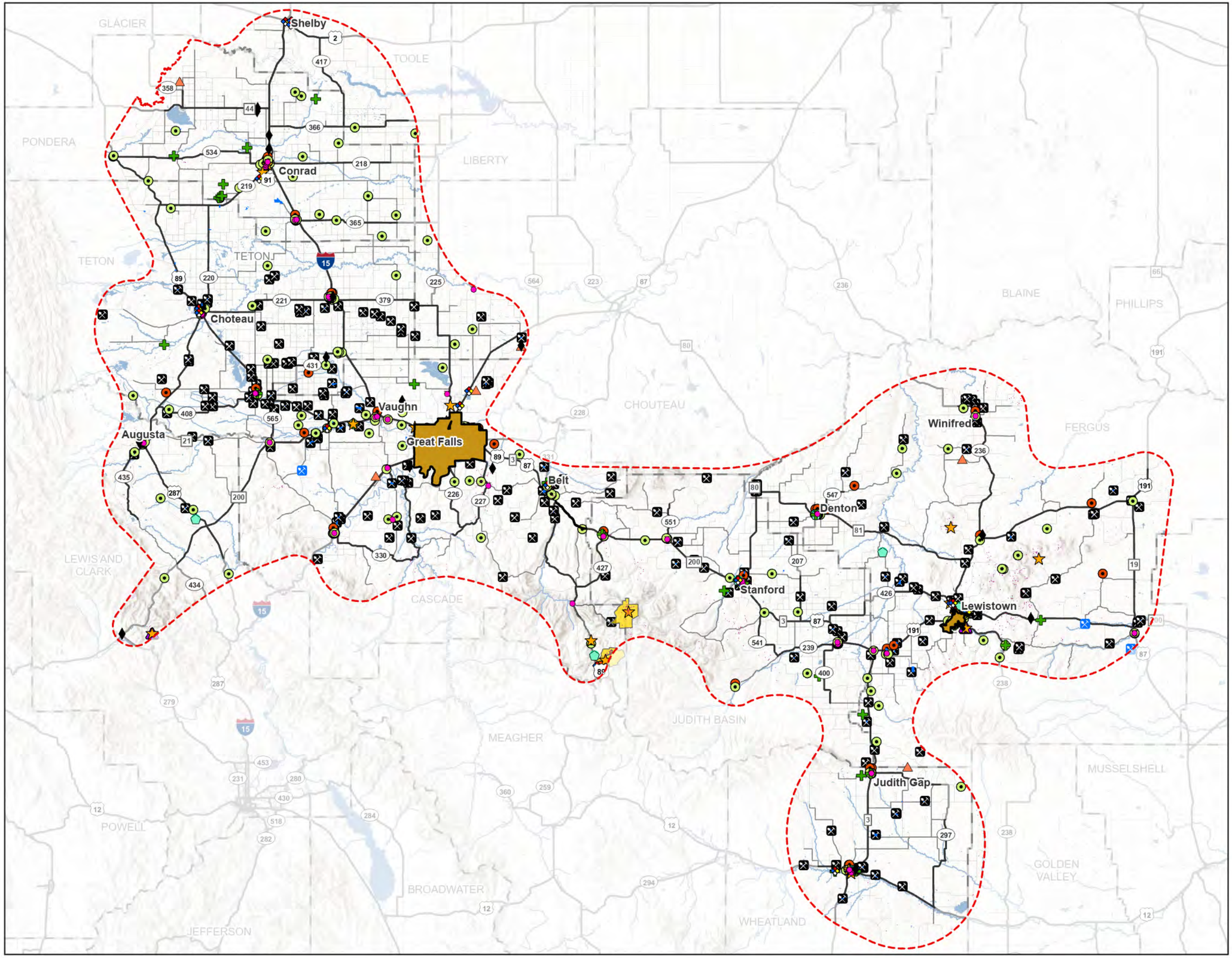
Source: US Fish & Wildlife Service, National Wetland Inventory.

0 0.25 0.5 1 1.5 Miles



Central Montana Transportation Study

Figure A.8.a:
Hazardous Substances
Central Montana Study Area



Legend

- Central Montana Study Area
- Subarea Boundaries (See Subarea Sheets)
- County

Water Resources

- Waterbody
- Stream/River

Study Routes

- On System
- Off System
- Opencut Permit Boundaries

Opencut Mining Permits

- Pending
- Permitted
- Inactive and Abandoned Mines

Hazardous Waste Sites

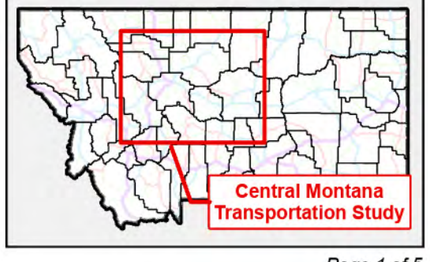
- Hazard Waste Generators
- Underground Storage Tanks
- Solid Waste Sites
- Sewage Disposal Sites
- Comprehensive Environmental Cleanup & Responsibility Act
- Voluntary Cleanup and Redevelopment Act
- Water Quality Act
- Aquifer Cleanup Groundwater Program Facilities
- National Priority List (Superfund) Sites

Petroleum Tank Releases

- Open
- Rescinded, Resolved, Other

Source: Montana Department of Environmental Quality.

0 5 10 20 30 40 Miles



Central Montana Transportation Study

Figure A.8.b: Hazardous Substances Great Falls Subarea

Legend

- Subarea Analysis Boundaries
- Corridor Study Limits
- Urban Boundary
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

- Interstate
- National Highway System
- Secondary
- Urban

Opencut Mining Permits

- Pending
- Permitted
- Opencut Permit Boundaries
- Inactive and Abandoned Mines

Hazardous Waste Sites

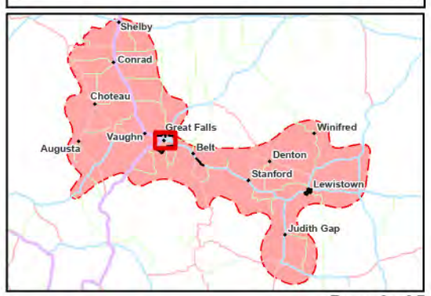
- Hazard Waste Generators
- Solid Waste Sites
- Sewage Disposal Sites
- Underground Storage Tanks
- Voluntary Cleanup and Redevelopment Act
- Comprehensive Environmental Cleanup & Responsibility Act
- Water Quality Act
- National Priority List (Superfund) Sites

Petroleum Tank Releases

- Open
- Rescinded, Resolved, Other

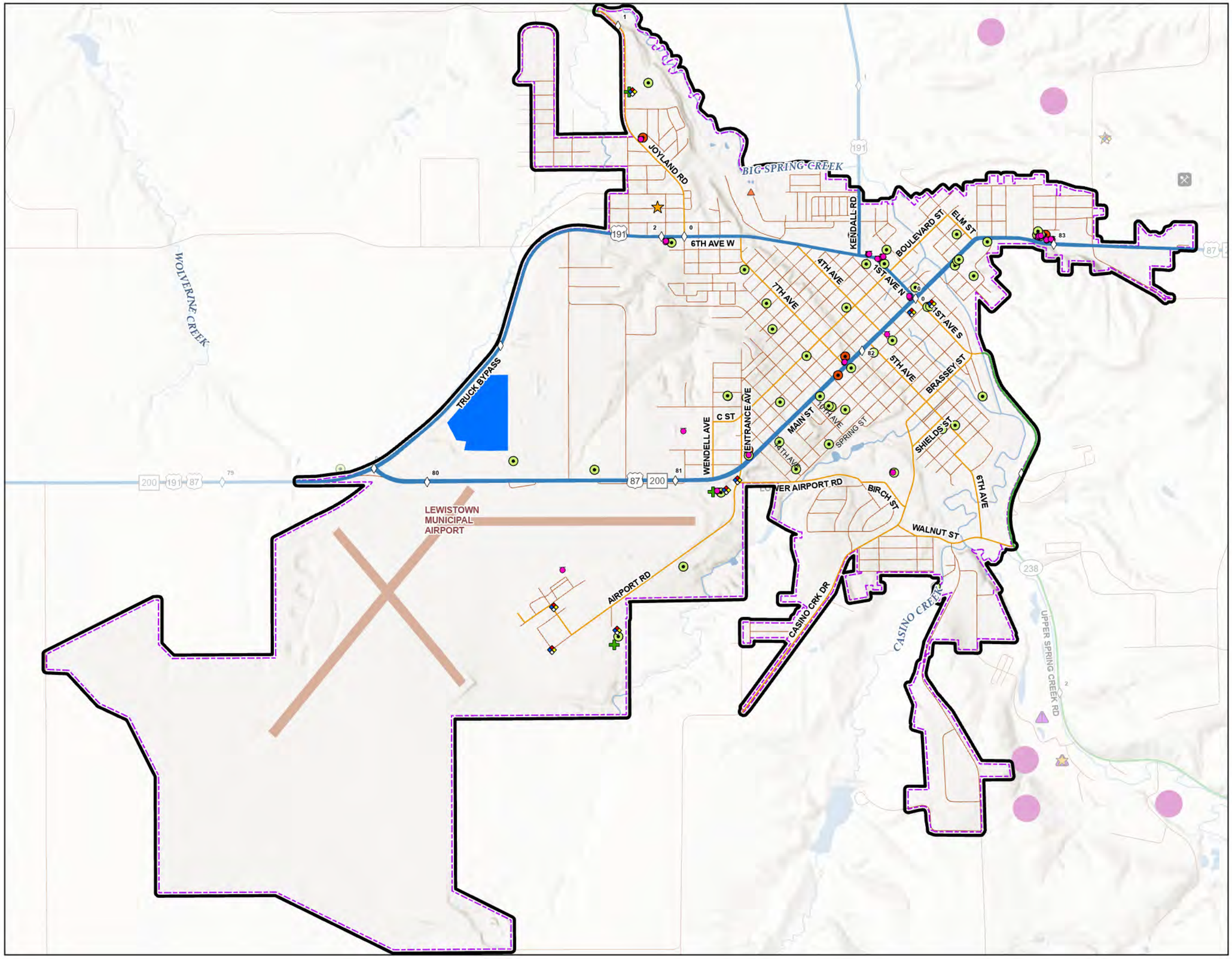
Source: Montana Department of Environmental Quality.

0 0.5 1 2 3 Miles



Central Montana Transportation Study

Figure A.8.c: Hazardous Substances Lewistown Subarea



Legend

- Subarea Analysis Boundaries
- Urban Boundary
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

- National Highway System
- Secondary
- Urban

Opencut Mining Permits

- Permitted
- Opencut Permit Boundaries
- Inactive and Abandoned Mines

Hazardous Waste Sites

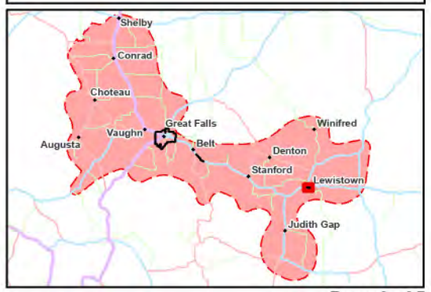
- Hazard Waste Generators
- Sewage Disposal Sites
- Underground Storage Tanks
- Voluntary Cleanup and Redevelopment Act
- Comprehensive Environmental Cleanup & Responsibility Act
- Water Quality Act

Petroleum Tank Releases

- Open
- Rescinded, Resolved, Other

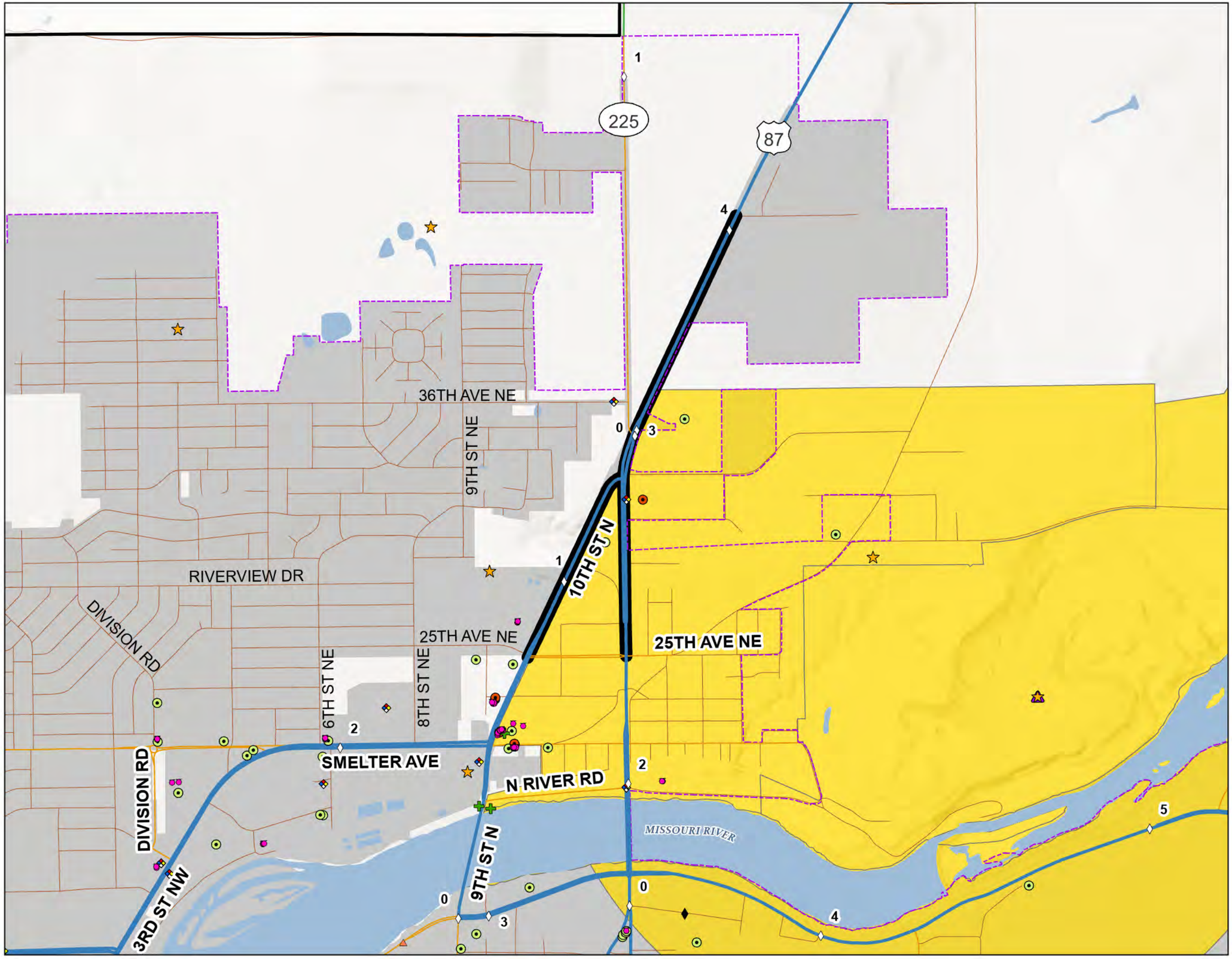
Source: Montana Department of Environmental Quality.

0 0.2 0.4 0.8 1.2 Miles



Central Montana Transportation Study

Figure A.8.d:
Hazardous Substances
Old Havre Highway & US 87



Legend

- Subarea Analysis Boundaries
- Corridor Study Limits
- Urban Boundary
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

- National Highway System
- Secondary
- Urban

Hazardous Waste Sites

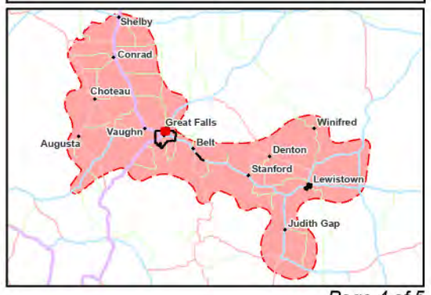
- Hazard Waste Generators
- Solid Waste Sites
- Sewage Disposal Sites
- Underground Storage Tanks
- Voluntary Cleanup and Redevelopment Act
- Comprehensive Environmental Cleanup & Responsibility Act
- Water Quality Act
- National Priority List (Superfund) Sites

Petroleum Tank Releases

- Open
- Rescinded, Resolved, Other

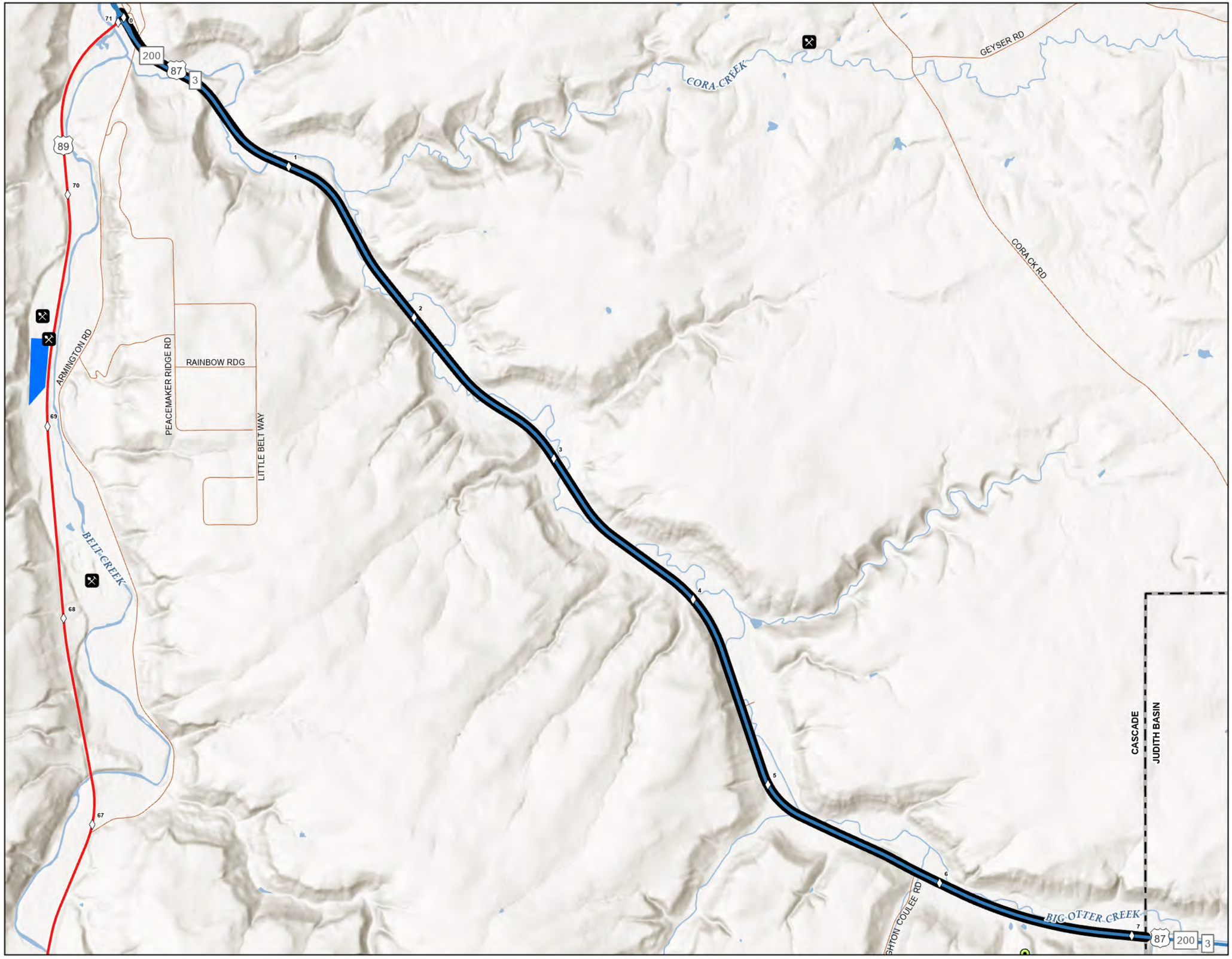
Source: Montana Department of Environmental Quality.

0 0.13 0.25 0.5 0.75 Miles



Central Montana Transportation Study

Figure A.8.e: Hazardous Substances US 87 Armington Junction - Otter Creek Canyon



Legend

- Corridor Study Limits
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

- National Highway System
- Primary

Opencut Mining Permits

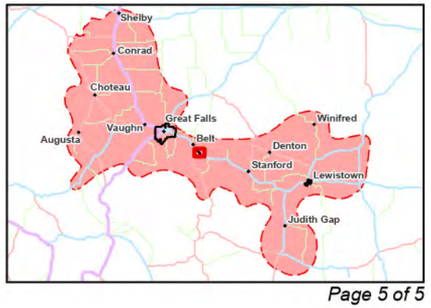
- Permitted
- Opencut Permit Boundaries

Petroleum Tank Releases

- Rescinded, Resolved, Other

Source: Montana Department of Environmental Quality.

0 0.25 0.5 1 1.5 Miles



Central Montana Transportation Study

Figure A.9.a: Wildlife Areas of Interest Central Montana Study Area

Legend

- Central Montana Study Area
- Subarea Boundaries (See Subarea Sheets)
- County

Water Resources

- Waterbody
- Stream/River

Greater Sage Grouse Areas

- Core Area
- General Habitat

Priority Areas for Elk & Deer Migration

- Area A: Continental Divide to Rocky Mountain East Front
- Area D: Canadian Border to Musselshell Plains

Montana Ecoregions

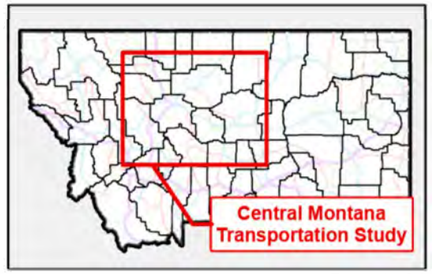
- Northwestern Glaciated Plains
- Northwestern Great Plains
- Middle Rockies

Managed Areas for Wildlife

- Freezout Lake Wildlife Management Area
- Benton Lake National Wildlife Refuge
- Sun River Wildlife Management Area

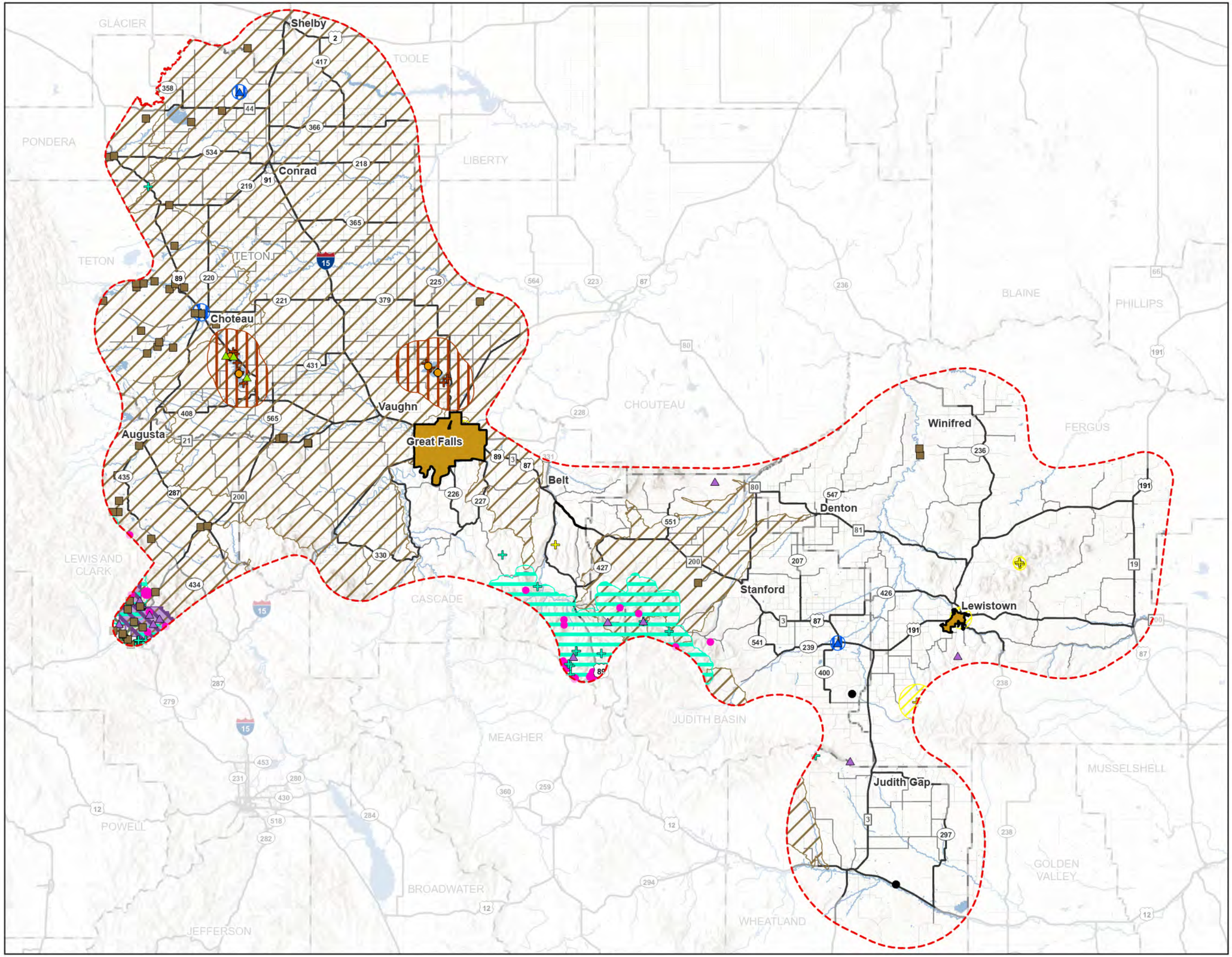
Source: Montana Natural Heritage Program, Montana Fish, Wildlife & Parks.

0 5 10 20 30 40 Miles



Central Montana Transportation Study

Figure A.10.a:
Threatened & Endangered Species
Central Montana Study Area



Legend

- Central Montana Study Area
- Subarea Boundaries (See Subarea Sheets)
- County

Water Resources

- Waterbody
- Stream/River

Study Routes

- On System
- Off System

Species Observations

- Red Knot
- Suckley Cuckoo Bumble Bee
- Wolverine
- Black-footed Ferret
- Bull Trout
- Piping Plover
- Canada Lynx
- Monarch
- Whooping Crane
- Grizzly Bear
- Yellow-billed Cuckoo
- Whitebark Pine

Species Occurences

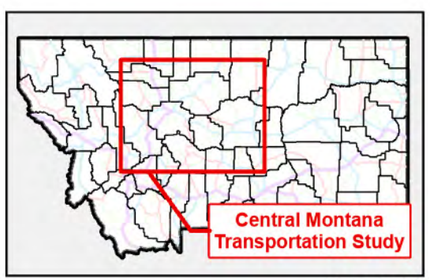
- Whitebark Pine
- Bull Trout
- Red Knot
- Suckley Cuckoo Bumble Bee
- Monarch
- Canada Lynx
- Wolverine
- Grizzly Bear

Critical Habitat

- Bull Trout
- Canada Lynx

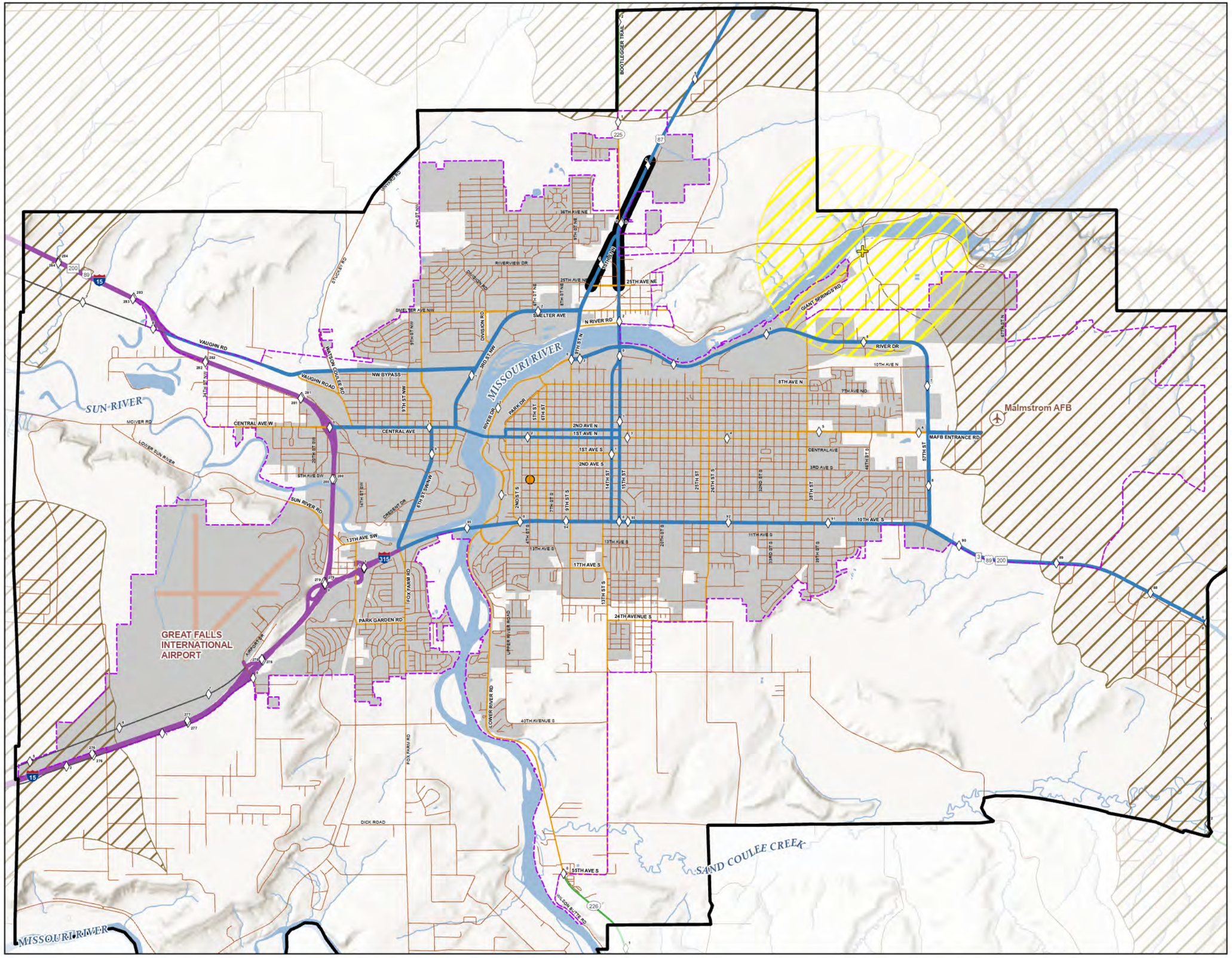
Source: Montana Natural Heritage Program, U.S. Fish and Wildlife Service.

0 5 10 20 30 40 Miles



Central Montana Transportation Study

Figure A.10.b:
Threatened & Endangered Species
Great Falls Subarea



Legend

- Subarea Analysis Boundaries
- Corridor Study Limits
- Urban Boundary
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

- Interstate
- National Highway System
- Secondary
- Urban

Species Observations

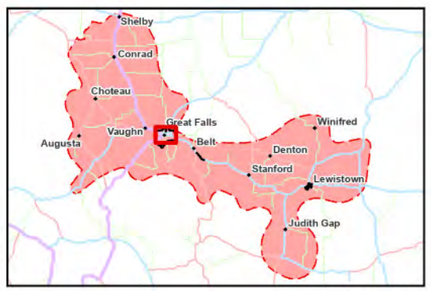
- Suckley Cuckoo Bumble Bee
- Piping Plover

Species Occurrences

- Suckley Cuckoo Bumble Bee
- Grizzly Bear

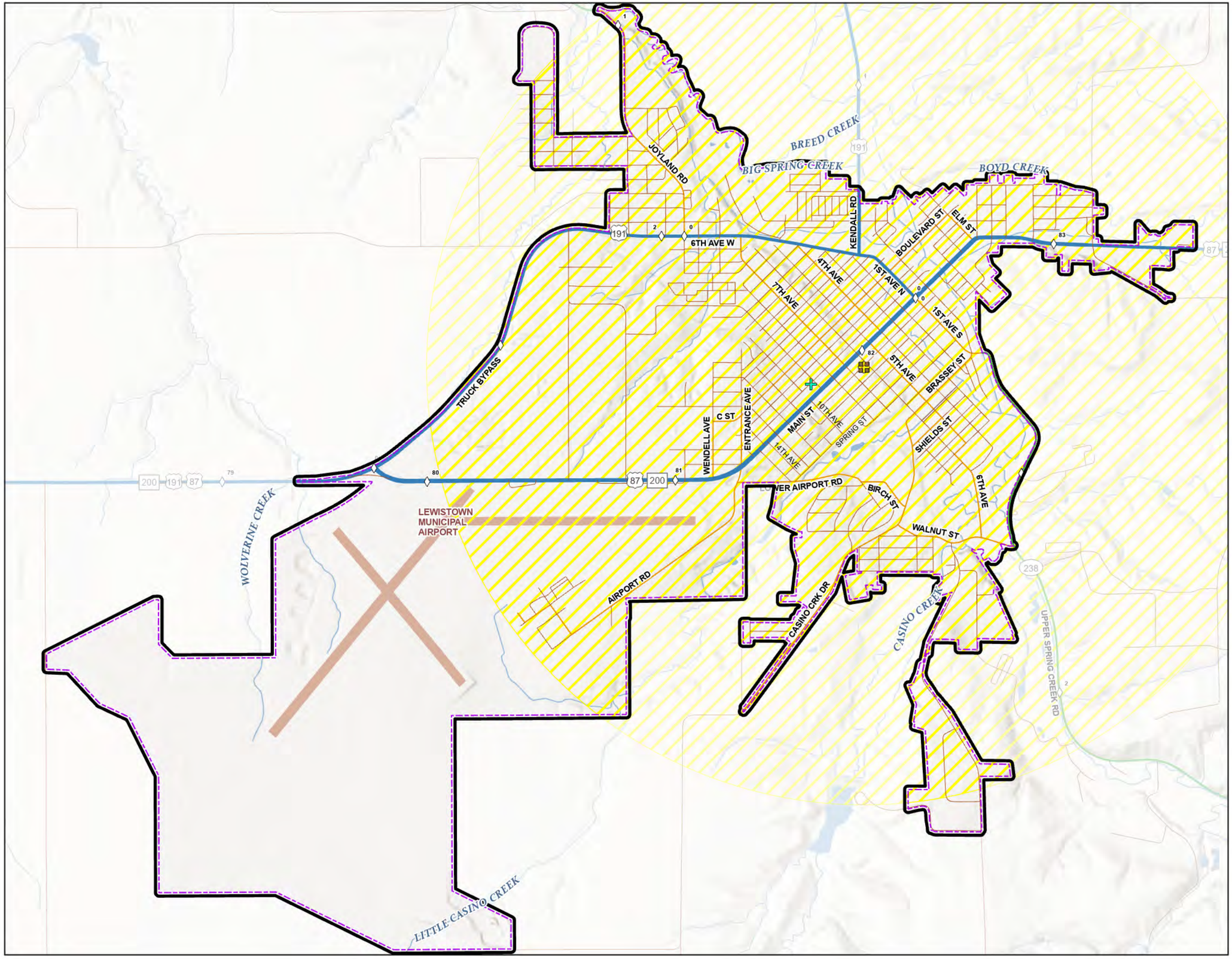
Source: Montana Natural Heritage Program, U.S. Fish and Wildlife Service.

0 0.5 1 2 3 Miles



Central Montana Transportation Study

Figure A.10.c: Threatened & Endangered Species Lewistown Subarea



Legend

- Subarea Analysis Boundaries
- Urban Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

- National Highway System
- Secondary
- Urban

Species Observations

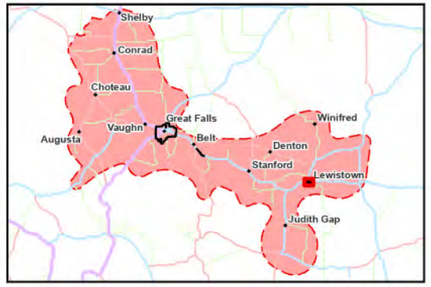
- Suckley Cuckoo Bumble Bee
- Wolverine
- Grizzly Bear
- Yellow-billed Cuckoo

Species Occurrences

- Suckley Cuckoo Bumble Bee

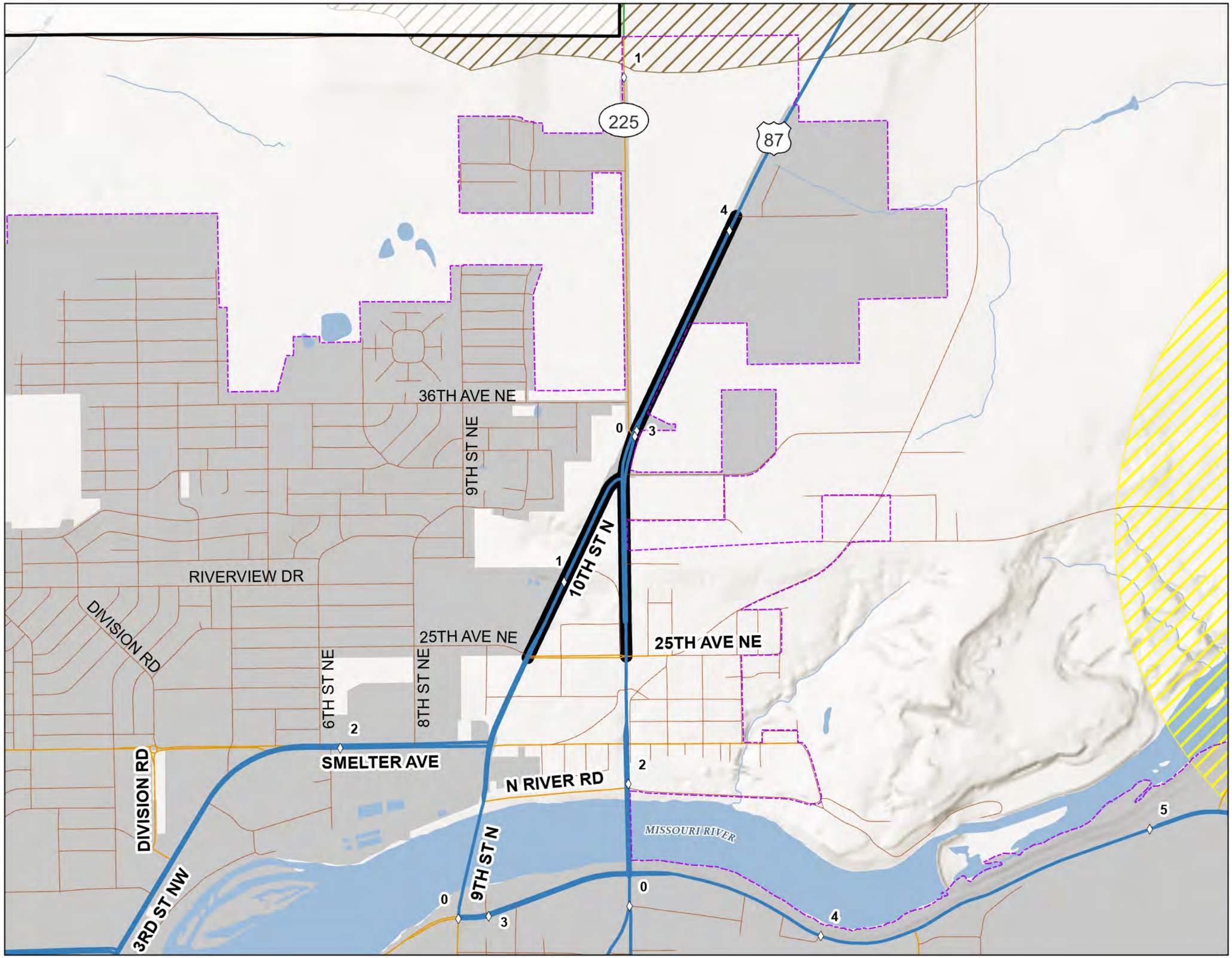
Source: Montana Natural Heritage Program, U.S. Fish and Wildlife Service.

0 0.2 0.4 0.8 1.2 Miles



Central Montana Transportation Study

Figure A.10.d:
Threatened & Endangered Species
Old Havre Highway & US 87



Legend

- Subarea Analysis Boundaries
- Corridor Study Limits
- Urban Boundary
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

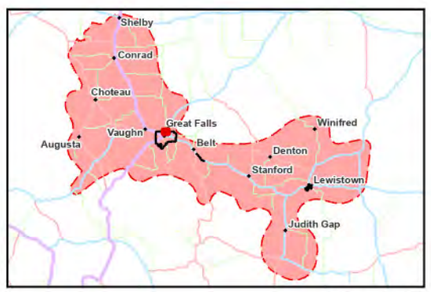
- National Highway System
- Secondary
- Urban

Species Occurrences

- Suckley Cuckoo Bumble Bee
- Grizzly Bear

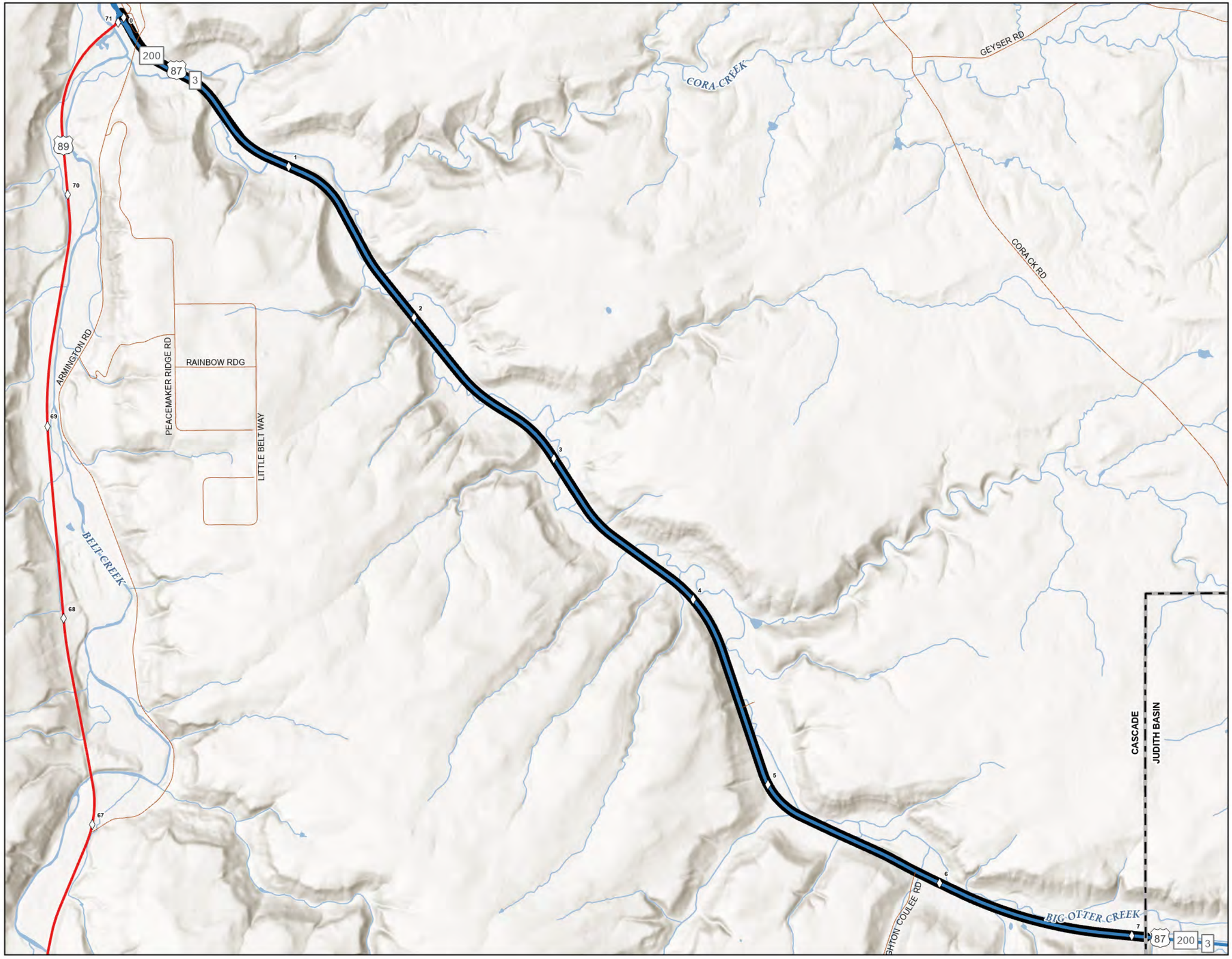
Source: Montana Natural Heritage Program, U.S. Fish and Wildlife Service.

0 0.13 0.25 0.5 0.75 Miles



Central Montana Transportation Study

Figure A.10.e:
Threatened & Endangered Species
US 87 Armington Junction -
Otter Creek Canyon



Legend

- Corridor Study Limits
- County Boundary

Water Resources

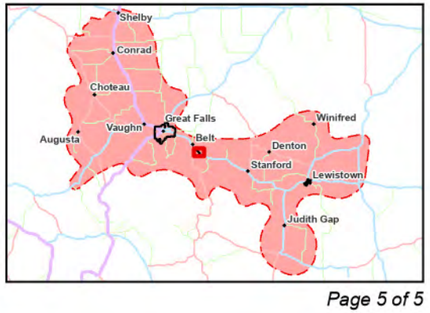
- Waterbody
- Stream/River

System Designation

- National Highway System
- Primary

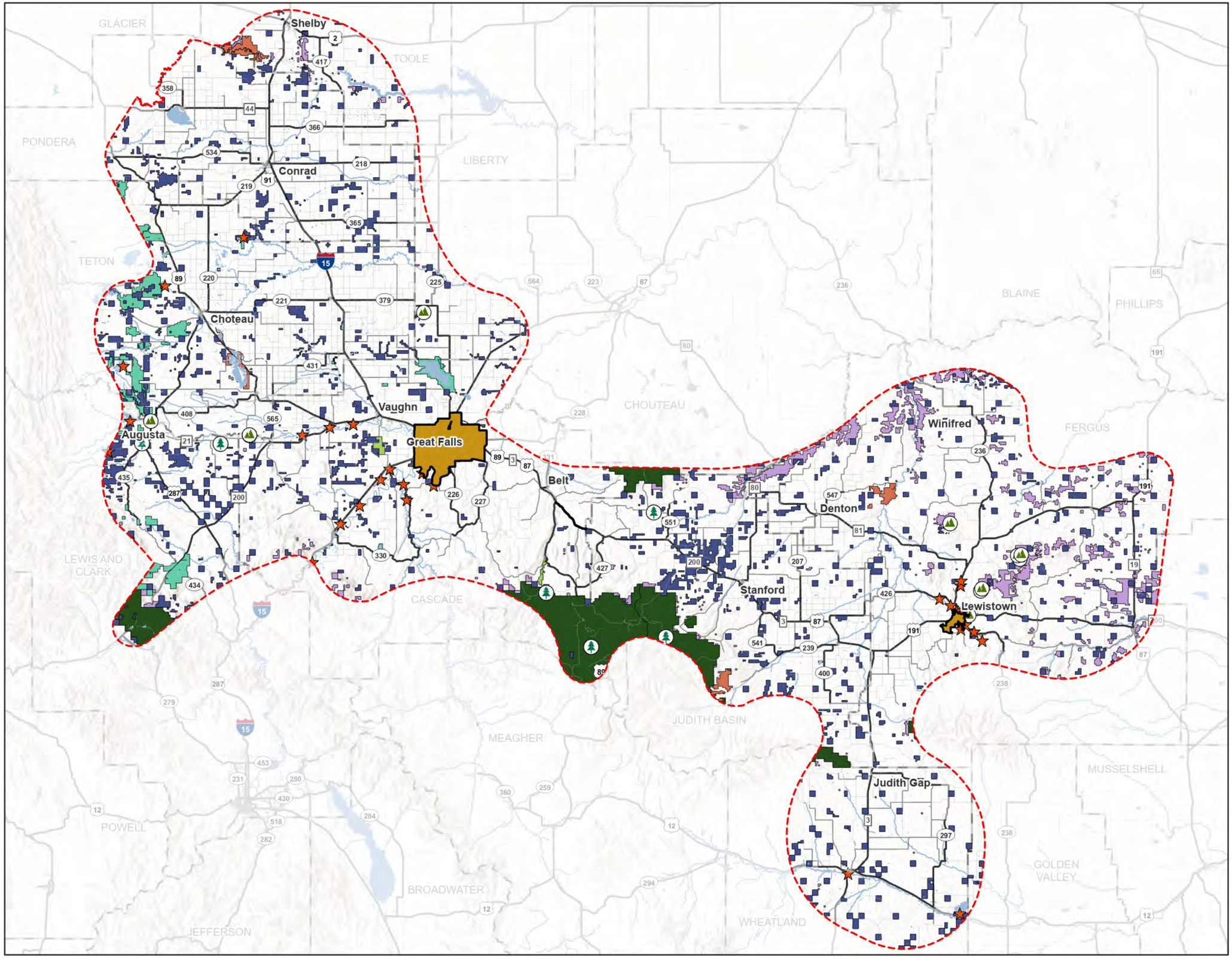
Source: Montana Natural Heritage Program, U.S. Fish and Wildlife Service.

0 0.25 0.5 1 1.5 Miles



Central Montana Transportation Study

Figure A.11.a: Recreational Resources Central Montana Study Area



Legend

- Central Montana Study Area
- Subarea Boundaries (See Subarea Sheets)
- County

Water Resources

- Waterbody
- Stream/River

Study Routes

- On System
- Off System

Recreational Areas

- Montana State Parks
- Wildlife Management Areas
- US Forest Service Site
- US Bureau of Land Management Site
- Montana Fish, Wildlife & Parks Fishing Access Site

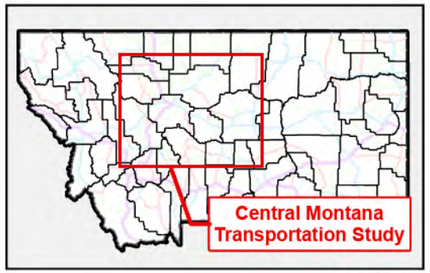
Public Lands

- State Trust Lands
- US Bureau of Land Management
- US Department of Defense
- US Fish & Wildlife Service
- US Forest Service

Note: Map depicts Federal & State recreational areas. Local areas are not depicted.

Source: Montana State Library.

0 5 10 20 30 40 Miles



Central Montana Transportation Study

Figure A.11.b:
Recreational Resources
Great Falls Subarea

Legend

Subarea Analysis Boundaries
Corridor Study Limits
Urban Boundary
City Boundary
County Boundary

Water Resources
Waterbody
Stream/River

System Designation
Interstate
National Highway System
Secondary
Urban

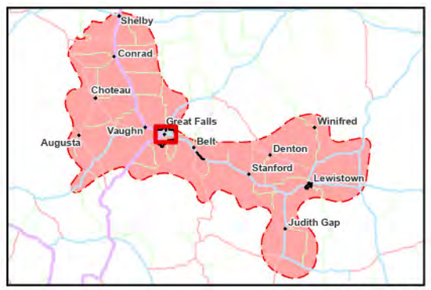
Recreational Areas
US Bureau of Land Management Site
Montana Fish, Wildlife & Parks Fishing Access Site
US Forest Service Site
Montana State Parks

Public Lands
State Trust Lands
US Department of Defense
US Forest Service

Note: Map depicts Federal & State recreational areas. Local areas are not depicted.

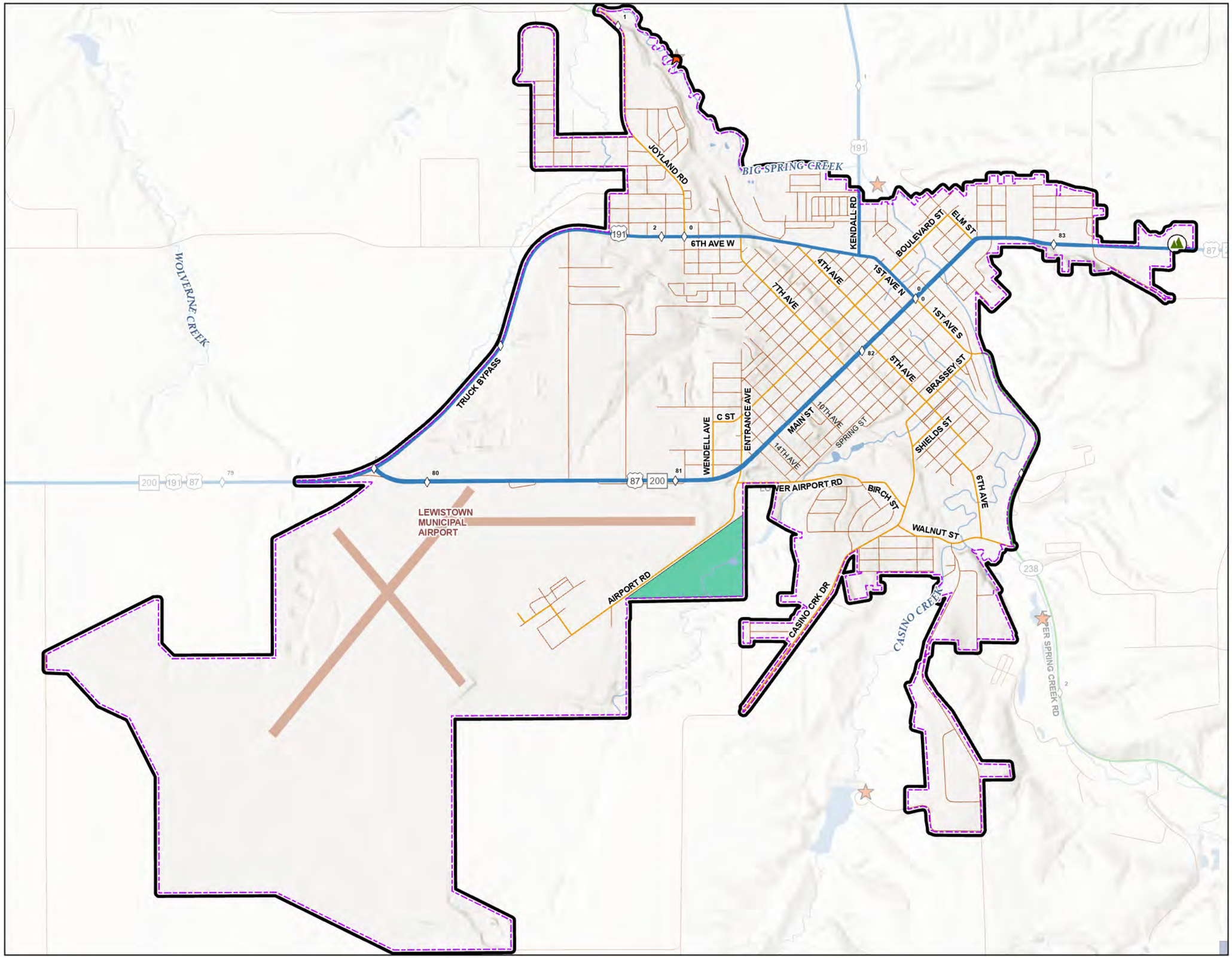
Source: Montana State Library.

0 0.5 1 2 3 Miles



Central Montana Transportation Study

Figure A.11.c:
Recreational Resources
Lewistown Subarea



Legend

- Subarea Analysis Boundaries
- Urban Boundary
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

- National Highway System
- Secondary
- Urban

Recreational Areas

- US Bureau of Land Management Site
- Montana Fish, Wildlife & Parks Fishing Access Site

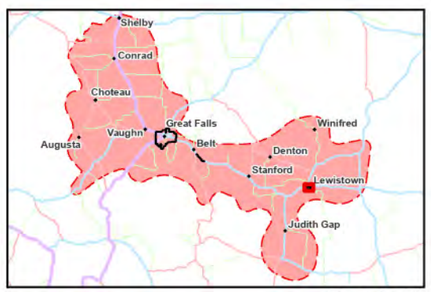
Public Lands

- State Trust Lands
- US Fish & Wildlife Service

Note: Map depicts Federal & State recreational areas. Local areas are not depicted.

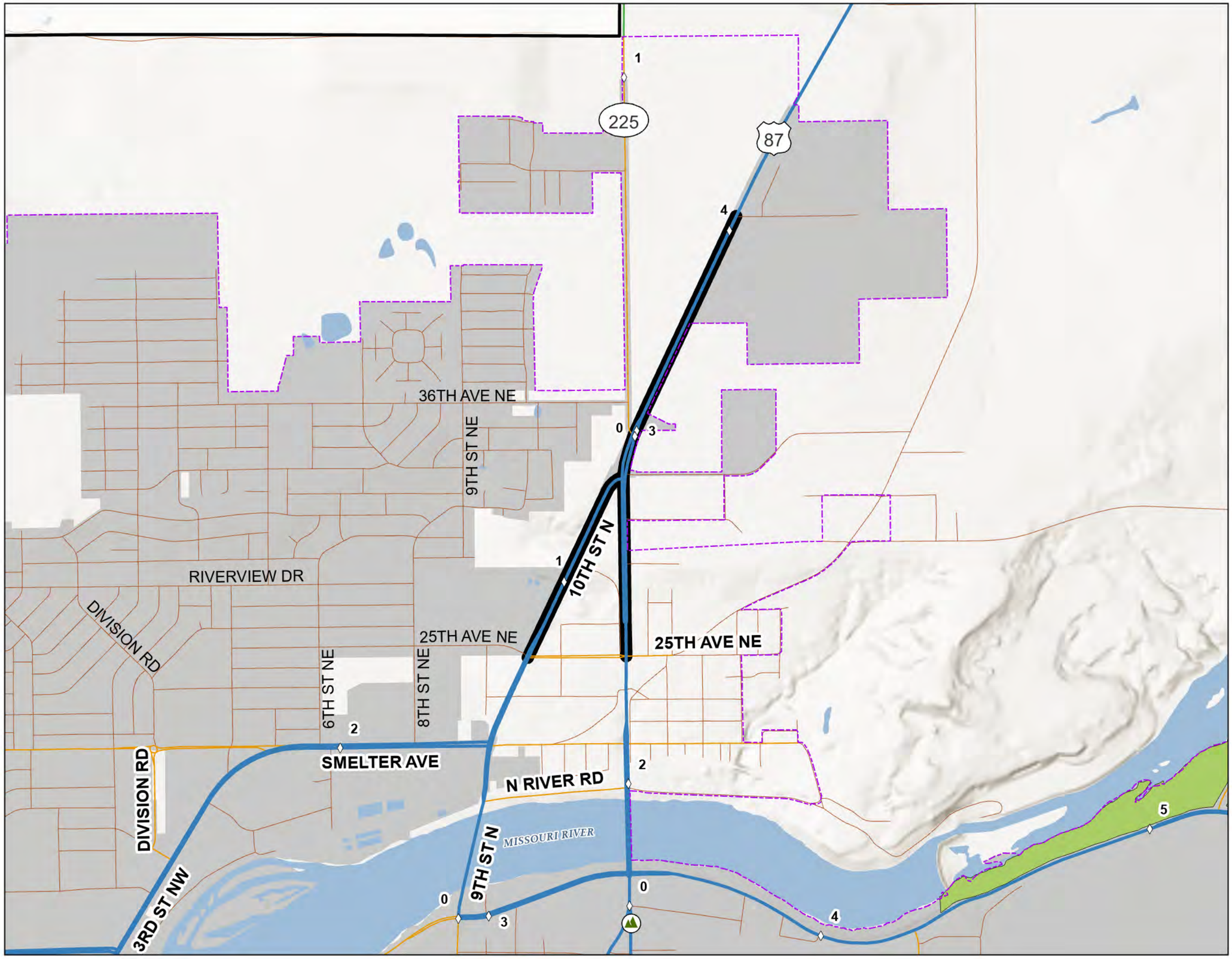
Source: Montana State Library.

0 0.2 0.4 0.8 1.2 Miles



Central Montana Transportation Study

Figure A.11.d:
Recreational Resources
Old Havre Highway & US 87



Legend

- Subarea Analysis Boundaries
- Corridor Study Limits
- Urban Boundary
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

- National Highway System
- Secondary
- Urban

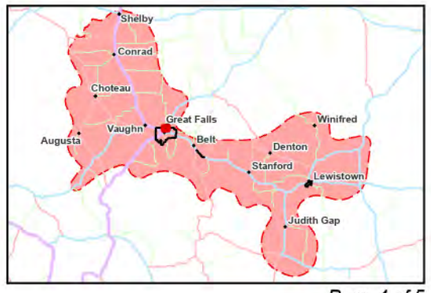
Recreational Areas

- US Bureau of Land Management Site
- Montana State Parks

Note: Map depicts Federal & State recreational areas. Local areas are not depicted.

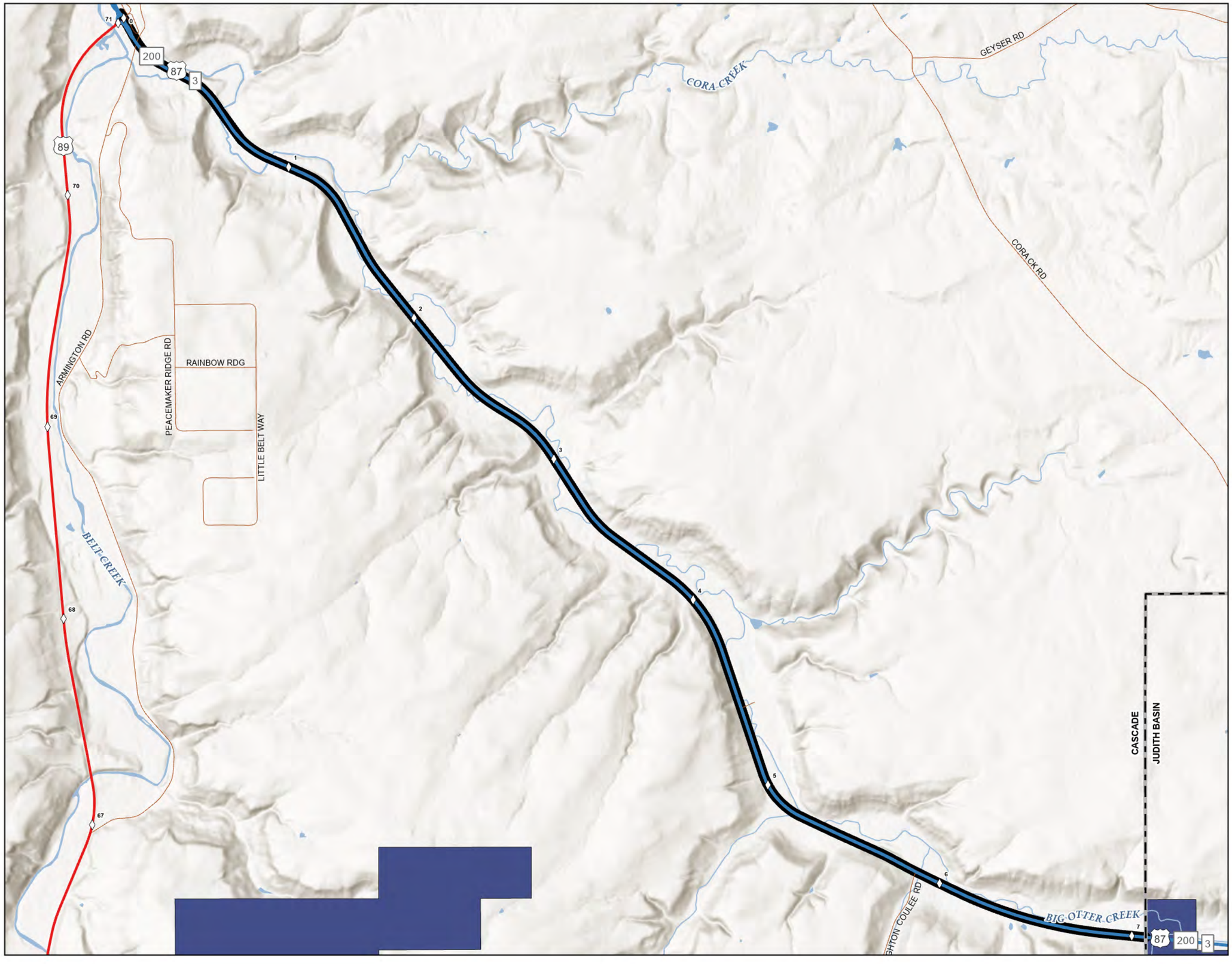
Source: Montana State Library.

0 0.13 0.25 0.5 0.75 Miles



Central Montana Transportation Study

Figure A.11.e:
Recreational Resources
US 87 Armington Junction - Otter Creek Canyon



Legend

- Corridor Study Limits
- City Boundary
- County Boundary

Water Resources

- Waterbody
- Stream/River

System Designation

- National Highway System
- Primary

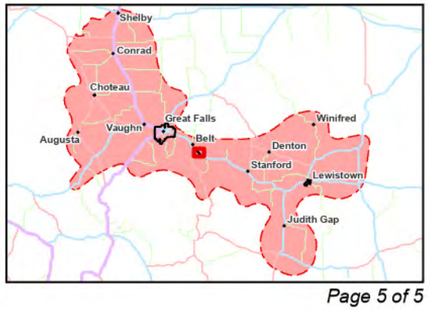
Public Lands

- State Trust Lands

Note: Map depicts Federal & State recreational areas. Local areas are not depicted.

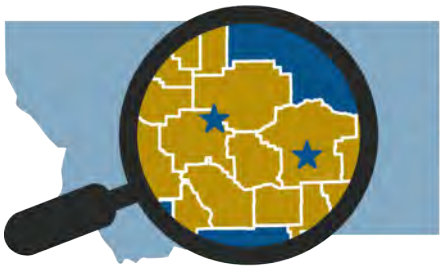
Source: Montana State Library.

0 0.25 0.5 1 1.5 Miles



Appendix B

Supplemental Tables and Charts



Central Montana
Transportation Study

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1.0 INTRODUCTION

Appendix B provides supplemental tables and charts to support the *Central Montana Transportation Study Environmental Scan Report*.

2.0 PHYSICAL ENVIRONMENT

2.1 Land Use and Land Ownership

2.1.1 Central Montana Study Area

No supplemental tables or charts are provided for this area.

2.1.2 Great Falls Subarea

Table B.1: Land Cover in Great Falls Subarea

Land Cover Category	Land Cover Type	Percent of Study Area
Human Land Use	Agriculture, cultivated crops	45%
Grassland Systems	Lowland/Prairie Grassland	21%
Human Land Use	Developed, roads	5%
Human Land Use	Developed, low intensity residential	4%
Human Land Use	Developed, commercial industrial	4%
Human Land Use	Developed, open space	4%
Recently Disturbed or Modified	Introduced vegetation	3%
Human Land Use	Developed, high intensity residential	3%
Grassland Systems	Lowland/Prairie Grassland	2%
Wetland and Riparian Systems	Open water	2%
Wetland and Riparian Systems	Floodplain and riparian, Great Plains floodplain	2%
Human Land Use	Agriculture, pasture, hay	2%
Shrubland, Steppe and Savanna Systems	Deciduous shrubland	1%
Wetland and Riparian Systems	Floodplain and riparian, Great Plains riparian	1%
Human Land Use	Developed, interstate highway	1%

Source: MTNHP. Montana Field Guide. https://fieldguide.mt.gov/. Note that other sub-systems exist but each cover less than 1 percent of the corridor and are not included in the table.

2.1.3 Lewistown Subarea

Table B.2: Land Cover in Lewistown Subarea

Land Cover Category	Land Cover Type	Percent of Study Area
Human Land Use	Agriculture, cultivated crops, Great Plains mixed grass prairie	28%
Grassland Systems	Lowland/Prairie grassland	20%
Human Land Use	Agriculture, pasture, hay	13%
Recently Disturbed or Modified	Recently disturbed or modified, introduced vegetation	10%
Human Land Use	Developed, roads	5%
Shrubland, Steppe and Savanna Systems	Deciduous shrubland, Great Plains shrubland	5%
Wetland and Riparian Systems	Floodplain and riparian, Great Plains riparian	4%
Forest and Woodland Systems	Conifer-dominated forest and woodland (xeric-mesic), Great Plains ponderosa pine woodland and savannah	3%
Human Land Use	Developed, commercial industrial	3%
Human Land Use	Developed, open space	2%
Human Land Use	Developed, low intensity residential	2%
Forest and Woodland Systems	Deciduous dominated forest and woodland, Great Plains wooded draw and ravine	1%
Human Land Use	Developed, major roads	1%
Grassland Systems	Montane grassland	1%
Human Land Use	Developed, railroad	1%

Source: MTNHP. Montana Field Guide. https://fieldguide.mt.gov/. Note that other sub-systems exist but each cover less than 1 percent of the corridor and are not included in the table.

2.1.4 Old Havre Highway and US 87 Corridor

Table B.3: Land Cover in Old Havre Highway/US 87 Corridor

Land Cover Category	Land Cover Type	Percent of Study Area
Human Land Use	Agriculture, cultivated crops	41%
Grassland systems	Lowland/Prairie grassland, Great Plains mixed grass prairie	16%
Human Land Use	Developed, roads	11%
Human Land Use	Developed, low intensity residential	10%
Human Land Use	Developed, commercial/industrial	9%
Wetland and Riparian Systems	Open water	4%
Human Land Use	Developed, open space	3%
Recently Disturbed or Modified	Introduced vegetation	3%
Human Land Use	Developed, high intensity residential	2%
Human Land Use	Developed, major roads	1%

Source: MTNHP. Montana Field Guide. https://fieldguide.mt.gov/. Note that other sub-systems exist but each cover less than 1 percent of the corridor and are not included in the table.

2.1.5 US 87 – Armington Junction through Otter Creek Canyon Corridor

Table B.4: Land Cover in US 87 – Armington Junction through Otter Creek Canyon Corridor

Land Cover Category	Land Cover Type	Percent of Study Area
Grassland Systems	Lowland/Prairie grassland, Great Plains mixed grass prairie	42%
Human Land Use	Agriculture, cultivated crops	16%
Human Land Use	Agriculture, pasture/hay	9%
Deciduous Shrubland	Great Plains shrubland	7%
Shrubland Steppe and Savannah Systems	Sagebrush steppe, Big sagebrush steppe	6%
Grassland Systems	Montane grassland, Rocky Mountain lower montane, foothill, and valley grassland	5%
Grassland Systems	Lowland/Prairie grassland, Great Plains sand prairie	4%
Recently Disturbed or Modified	Introduced vegetation	3%
Wetland and Riparian Systems	Floodplain and riparian, Great Plains riparian	3%
Human Land Use	Developed, other roads	1%
Human Land Use	Developed, major roads	1%
Forest and Woodland Systems	Great Plains wooded draw and ravine	1%
Forest and Woodland Systems	Great Plains ponderosa pine woodland and savanna	1%
Human Land Use	Developed, railroad	1%

Source: MTNHP. Montana Field Guide. https://fieldguide.mt.gov/. Note that other sub-systems exist but each cover less than 1 percent of the corridor and are not included in the table.

2.2 Farmland Resources

No supplemental tables or charts are provided for this topic.

2.3 Geologic Resources

No supplemental tables or charts are provided for this topic.

2.4 Surface Water Resources

2.4.1 Central Montana Study Area

Table B.5: Impaired Lakes in the Central MT Study Area

Name	County	Use Class	Water Quality Category	TMDLs Completed	Impairment Causes
Ackley Lake	Judith Basin County	B-1	3	n/a	n/a
Benton Lake	Cascade County	B-3	5	N/a	Salinity, Nitrogen, Sulfate, Selenium
Deadmans Basin Reservoir	Wheatland County	B-1	2	n/a	Iron, Copper, Lead
Eureka Reservoir	Teton County	B-2	2	n/a	n/a
Freezeout Lake	Teton County	B-2	5	Sulfate, Selenium, Total Dissolved Solids	Phosphorus
Lake Elwell	Liberty/Toole Counties	B-2	1	n/a	n/a
Lake Frances	Pondera County	B-1	1	n/a	n/a
Priest Butte Lake	Teton County	B-2	4A	Sulfate, Selenium, salinity, Total Dissolved Solids	n/a
Willow Creek Reservoir	Lewis and Clark County	B-1	2	n/a	n/a

Source: MDEQ. 2020. Montana 2020 Water Quality Integrated Report: Final. https://discover-mtdeq.hub.arcgis.com/maps/a3007ef7d02342c6a6109417438ceb8a/about.

Table B.6: Impaired Streams in the Central MT Study Area

Name	County	Receiving Waterbody
American Fork	Wheatland	Musselshell River
Antelope Creek	Wheatland	Musselshell River
Armells Creek	Fergus	Deer Creek to Missouri River
Arrow Creek	Chouteau	Missouri River
Beartrap Creek	Lewis and Clark	Blackfoot River
Beaver Creek	Fergus	Cottonwood Creek
Belt Creek	Cascade	Missouri River
Big Otter Creek	Cascade	Belt Creek
Big Spring Creek	Fergus	Judith River
Birch Creek	Pondera County	Two Medicine River
Blackfoot River	Lewis and Clark	Nevada Creek
Box Elder Creek	Fergus	Flat Willow Creek
Box Elder Creek	Cascade	Missouri River
Careless Creek	Wheatland	Swimming Woman Creek
Carpenter Creek	Cascade	Belt Creek
Casino Creek	Fergus	Big Spring Creek

Name	County	Receiving Waterbody
Chippewa Creek	Fergus	Manitoba Gulch
Coffee Creek	Fergus	Arrow Creek
Collar Gulch Creek	Fergus	Fords Creek
Cottonwood Creek	Cascade	Sand Coulee Creek
Cottonwood Creek	Fergus	Big Spring Creek
Dearborn River	Lewis and Clark	Missouri River
Deep Creek	Teton	Teton River
Dog Creek	Fergus	Missouri River
Dry Fork Belt Creek	Fergus	Belt Creek
Dry Fork Marias River	Pondera, Toole	Marias River
Dry Wolf Creek	Fergus	Judith Creek
Dupuyer Creek	Pondera, Teton	Birch Creek
East Fork Big Spring Creek	Fergus	Big Spring Creek
Flat Creek	Cascade	Dearborn River
Fords Creek	Fergus	Box Elder Creek
Galena Creek	Cascade	Dry Fork Belt Creek
Hound Creek	Cascade	Smith River
Huber Coulee	Cascade	Sun River Valley Ditch
Judith River	Fergus	Missouri River
Lake Creek	Cascade	Benton Lake
Last Chance Creek	Fergus	Moccasin Creek
Little Belt Creek	Cascade	Belt Creek
Little Dog Creek	Fergus	Dog Creek
Marias River	Pondera, Toole	Lake Elwell
McDonald Creek	Teton	Teton River
Middle Fork Dearborn River	Lewis and Clark	Dearborn River
Mike Horse Creek	Lewis and Clark	Beartrap Creek
Missouri River	Cascade, Lewis and Clark	Fort Peck Reservoir
Mud Creek	Wheatland	Musselshell River
Muddy Creek	Cascade, Teton	Sun River
Musselshell River	Wheatland	Lake Fort Peck
North Fork McDonald Creek	Fergus	McDonald Creek
Number Five Coulee	Cascade	Cottonwood Creek
Pondera Coulee	Chouteau, Pondera, Teton	Marias River
Ross Fork Judith River	Fergus	Judith River

Name	County	Receiving Waterbody
Sage Creek	Fergus	Judith River
Sand Coulee Tributary	Cascade	Sand Coulee Creek
Sand Coulee Creek	Cascade	Missouri River
Sandbar Creek	Lewis and Clark	Willow Creek
Smith River	Cascade	Missouri River
South Fork Dearborn River	Lewis and Clark	Dearborn River
South Fork McDonald Creek	Fergus	North Fork McDonald Creek
Sun River	Lewis and Clark	Missouri River
Teton River	Teton	Marias River
Teton Spring Creek	Teton	Teton River
Two Medicine River	Pondera	Marias River
Warm Spring Creek	Fergus	Judith River
Willow Creek	Lewis and Clark	Blackfoot River
Willow Creek	Teton	Deep Creek
Willow Creek	Judith	Sage Creek
Wolf Creek	Fergus	Judith Creek

Source: MDEQ. 2020. Montana 2020 Water Quality Integrated Report: Final. https://discover-mtdeq.hub.arcgis.com/maps/a3007ef7d02342c6a6109417438ceb8a/about.

Table B.7: Irrigated Acres in the Central MT Study Area

County	Total Acres per County	Type	Acres
Cascade	40,838	Flood	15,650
		Pivot	22,287
		Sprinkler	2,901
Chouteau	259	Flood	6
		Pivot	122
		Sprinkler	132
Fergus	19,411	Flood	13,367
		Pivot	4,232
		Sprinkler	1,812
Judith Basin	15,222	Flood	7,636
		Pivot	6,596
		Sprinkler	990
Lewis and Clark	17,675	Flood	7,905
		Pivot	9,363
		Sprinkler	407

County	Total Acres per County	Type	Acres
Pondera	81,455	Flood	18,687
		Pivot	43,746
		Sprinkler	18,508
		Unknown	514
Teton	127,800	Flood	52,107
		Pivot	65,349
		Sprinkler	9,650
		Unknown	694
Toole	1,065	Flood	582
		Pivot	361
		Sprinkler	122
Wheatland	15,980	Flood	11,026
		Pivot	4,501
		Sprinkler	454

Source: DNRC. 2021. Montana Statewide Irrigation Dataset (SID). https://mslservices.mt.gov/Geographic_Information/Data/DataList/datalist_Details.aspx?did=%7Bf33bc611-8d4e-4d92-ae99-49762dec888b%7D.

2.4.2 Great Falls Subarea

Table B.8: Impaired Streams in the Great Falls Subarea

Name	Location	Use Class	Water Quality Category	TMDLs Completed	Impairment Causes
Missouri River	Sun River to Rainbow Dam	B-2	5	N/A	Mercury, Sediment/Siltation, Selenium, Chromium Total, Turbidity, PCBs
Sun River	Muddy Creek to mouth (Missouri)	B-3	4A	Total Suspended Solids (TSS), Phosphorus total, Sedimentation/Siltation, Nitrogen Total	N/A
Sand Coulee Creek	Confluence with Cottonwood Creek to the mouth (Missouri River)	B-1	5	N/A	Salinity, Lead, Zinc

Source: MDEQ. 2020. Montana 2020 Water Quality Integrated Report: Final. https://discover-mtdeq.hub.arcgis.com/maps/a3007ef7d02342c6a6109417438ceb8a/about.

2.4.3 Lewistown Subarea

Table B.9: Impaired Streams in the Lewistown Subarea

Name	Location	Use Class	Water Quality Category	TMDLs Completed	Impairment Causes
Big Spring Creek	Casino Creek to mouth (Judith River)	B-1	4A	Total Phosphorus, Total Sedimentation/Siltation, PCBs	N/A
Casino Creek	Headwaters to mouth (Big Spring Creek)	B-1	5	N/A	Total Nitrogen, Total Phosphorus

Source: MDEQ. 2020. Montana 2020 Water Quality Integrated Report: Final. https://discover-mtdeq.hub.arcgis.com/maps/a3007ef7d02342c6a6109417438ceb8a/about.

2.4.4 Old Havre Highway and US 87 Corridor

No supplemental tables or charts are provided for this area.

2.4.5 US 87 – Armington Junction through Otter Creek Canyon Corridor

Table B.10: Impaired Streams in the US 87 - Armington Junction through Otter Creek Canyon Corridor

Name	Location	Use Class	Water Quality Category	TMDLs Completed	Impairment Causes
Big Otter Creek	Headwaters to mouth (Belt Creek)	B-1	5	N/A	Sedimentation/Siltation, Nitrate/Nitrite
Belt Creek	Headwaters to Big Otter Creek	B-1	5	Copper, Lead, Arsenic, Cadmium, Zinc	Salinity, Sedimentation/Siltation

Source: MDEQ. 2020. Montana 2020 Water Quality Integrated Report: Final. https://discover-mtdeq.hub.arcgis.com/maps/a3007ef7d02342c6a6109417438ceb8a/about.

2.5 Groundwater

2.5.1 Central Montana Study Area

Table B.11: Wells per County in the Central MT Study Area

County	Number of Wells	Primary Water Uses	(%)
Cascade	8,673	Domestic	57
		Medical	15
		Stockwater	15
		Irrigation	5
Chouteau	3,300	Stockwater	32
		Monitoring	21
		Test Well	8

County	Number of Wells	Primary Water Uses	(%)
		Irrigation	5
Fergus	5,223	Domestic	41
		Stockwater	32
		Monitoring	13
		Irrigation	5
Judith Basin	2,019	Stockwater	40
		Domestic	37
		Monitoring	7
		Irrigation	6
Lewis and Clark	18,484	Domestic	75
		Monitoring	7
		Stockwater	5
		Irrigation	4
Pondera	1,752	Monitoring	46
		Domestic	22
		Stockwater	21
		Test well	3
Teton	3,927	Domestic	41
		Stockwater	26
		Monitoring	18
		Irrigation	7
Toole	1,061	Monitoring	35
		Stockwater	31
		Domestic	18
		Irrigation	5
Wheatland	1,325	Stockwater	48
		Domestic	28
		Monitoring	14
		Irrigation	4

Source: MBMG. Ground Water Information Center. https://mbmggwic.mtech.edu/.

Table B.12: Public Water Supplies in the Central MT Study Area

County	GWICID	Site Name	Total Depth	Date Completed
Cascade	33439	Alber Gene	300	1959-01-01
	74398	Andersen & Moore	28	1946-01-01
	74416	Andersen E./Moore J.	28	1946-01-01
	249010	B. Lundholm Golf Real Estates	424	2008-05-30
	31689	Ball John E.	185	1952-08-21
	264288	Big Bend Development Company	456	2012-01-26
	196507	Big Bend Llc	573	2001-12-07
	123493	Big Stone Colony	560	1983-06-21
	231134	Big Stone Colony	572	2007-06-22
	33469	Bryant Jaye	403	1968-09-15
	125082	Bryant Jaye	186	1963-05-01
	33312	Buchanan John D.	755	1972-02-15
	187666	Cascade Colony	2301	2000-11-14
	178669	Cascade Kennel Club	280	1960-04-29
	2305	Centerville Bar - Well 1	210	
	186829	Centerville School District #5		
	186832	Centerville School District #5		
	186835	Centerville School District #5		
	186838	Centerville School District #5		
	31935	Centerville School District 5	262	1979-07-31
	31932	Centerville School District 5	398	1960-10-01
	122947	Centerville School District 5	300	1991-02-12
	123636	Centerville Water Users Association	460	1986-04-02
	33040	Central Machinery Co	52	1956-05-12
	32051	Church Of Jesus Christ Of Latter Day Saints	46	1987-10-21
	32052	Church Of Jesus Christ Of Latter Day Saints	45	1987-10-27
	204711	Church Of Jesus Christ Of Latter Day Saints	440	2002-05-31
	32013	City Of Belt	30	1907-01-01
	326387	City Of Cascade	2155	2023-03-22
	33126	Conoco Inc	320	1972-04-15
	33116	Dick Sam	72	1950-08-26
	178474	Dick Sam Trailer Court	72	1960-08-09
	180351	Eisenzimer Doug	30	1999-07-26
	33384	Emery Cada	142	1969-10-20

County	GWICID	Site Name	Total Depth	Date Completed
Cascade	277202	Fairhaven Colony	1332	2014-03-27
	32911	Farmers Union Oil Co.	113	1974-12-20
	149847	Fireside Inn	36	1995-03-22
	34604	Fish Wildlife And Parks Region 4 Headquarters	460	1986-07-03
	178659	Forrest Albert	62	1946-04-09
	175941	Fox Farm Associates *Well 1	170	1978-10-25
	173861	Frye Richard And Sharon *Well 3	193	1978-10-28
	232225	Gerhart John	60	
	186590	Giant Springs State Park	25	
	175491	Gingers Saloon And Cafe	37	1999-07-14
	327818	Gore Hill County Water District Well 3	1155	2023-04-04
	327801	Gore Hill County Water District Well 4	910	2023-04-06
	33033	Great Falls Breweries Inc *Well 1	222	1944-12-28
	33029	Great Falls Breweries Inc *Well 3	218	1955-07-19
	33030	Great Falls Breweries Inc *Well 4	100	1933-01-01
	33039	Great Northern Railway Company	125	1954-01-31
	32047	Great Northern Railway Company *Well 1	28	1940-12-26
	33028	Great Falls Breweries Inc *Well 2	208	1935-11-24
	73278	Greely Elevator Co.	40	1927-01-01
	2236	Griffins Fine Dining - Ulm	460	1976-03-16
	33110	Herman'S Flowers Inc.	150	1900-01-01
	265094	Hill Top Colony	920	2012-01-20
	265095	Hill Top Colony	890	2012-02-20
	245919	Hillcrest Colony	1770	2008-08-08
	262493	Homestead Acres Co. Water And Sewer Dist	1002	2011-08-08
	262494	Homestead Acres Co. Water And Sewer Dist	1102	2011-08-14
	2524	Homestead Acres County Water And Sewer District	1078	
	34573	Homestead Acres County Water And Sewer District	1083	1976-12-29
	2523	Homestead Acres County Water And Sewer District - Well 3	1080	
	33043	Idowell Creamery Inc	30	1915-01-01
	75393	Jon Shrew Potato Growers Inc.	52	1959-05-01
	31931	Kinna Bob	430	1974-08-08
	189510	Lazy Doe Inc	98	1980-01-01
	34575	Lemire Edward	60	1979-01-01
	910420	Mark Humphry Realty *Mann 1	1010	1976-02-20

County	GWICID	Site Name	Total Depth	Date Completed
Cascade	317212	Mark Properties Llc	225	2021-10-20
	33158	Mccollum Elias J And Grace	132	1962-01-01
	29581	Merienbock School	90	1947-01-01
	33153	Missouri River Meadows	295	1979-11-27
	34484	Mogstad Brothers	143	1950-12-18
	28086	Monarch School Dist *23	230	1968-10-11
	251305	Montana Department Of Fish Wildlife And Parks * Ulm Pishkun Visitor Center	800	1998-09-04
	326153	Montana Department Of Transportation	510	2023-03-27
	34493	Montana Highway Dept	86	1960-02-02
	33139	Montana Mobile Home	208	1963-03-16
	74392	Nichols Clifford #1	30	1948-01-01
	74393	Nichols Clifford #2	30	1960-01-01
	74394	Nichols Clifford #3	30	1930-01-01
	29500	Orr School District No. 84 *Well 1	20	1915-01-01
	29501	Orr School District No. 84 *Well 2	50	1954-01-01
	33175	Park Garden Estates	188	1977-05-03
	33035	Pioneer Dairy	85	1949-03-23
	185937	Pleasant Park Mobile Homes - Backup Well	186	
	185938	Pleasant Park Mobile Homes - Old Well		
	30534	Pleasant Valley Colony	1062	1987-04-15
	321286	Pleasant Valley Colony Inc	1400	2022-07-08
	34607	Ppl Montana	250	1982-12-03
	190900	Pursley Mike *Well 2	698	2001-05-29
	189509	Ramble Inn Bar	30	1976-01-01
	123390	Rasmussen Larry F.	213	1988-06-20
	252173	Riceville Heights Homeowners Association	65	2009-09-15
	33177	Rivershore Mobile Home Park	207	1981-01-02
	268181	Sand Coulee Water District	785	2012-08-01
	288313	Sand Coulee Water District	453	2016-05-30
	241877	Sand Coulee Water Users #4	212	2008-03-01
	2254	Sand Coulee Water Users *Well 2	210	1973-10-11
	177478	Sand Coulee Water Users *Well 3	181	1999-07-29
	31884	Sand Coulee Water Users Association *Well 1	194	1920-01-01
	29521	School Dist No. 33	24	1942-01-01
	33434	School Dist. No.1	403	1970-01-01

County	GWICID	Site Name	Total Depth	Date Completed
Cascade	75478	School Districk No 2 *Well 1		
	75479	School District No 2 *Well 2		
	30526	School District No 42	50	1945-01-01
	29562	School District No. 75	86	1961-08-01
	32072	School District Number 46	12	1958-01-01
	73286	Seibold Pauline #1	43	1956-07-07
	73288	Seibold Pauline #3	121	1961-03-12
	178658	Selstrom School	80	1961-07-29
	123495	Shumaker Trucking And Excavating	700	1989-09-12
	74410	Simms Comm. Church	28	1954-01-01
	188810	Simms High School	39	2001-04-23
	200029	Simms High School	28	2002-12-18
	74381	Simms High School#39	56	1963-01-01
	74405	Simms School Dist#39	33	1955-01-01
	74380	Simms School District #39	33	1953-01-01
	33422	Sletten Construction Co.	530	1983-04-28
	2408	Smith Loren	502	1977-03-28
	281438	South Wind Water And Sewer District	420	2014-12-15
	33356	Stevens Al	243	1957-10-31
	178664	Stockett Motel	48	1946-05-15
	162423	Stockett Water And Sewer District Spring 1		
	274667	Sun Prairie Village County Water & Sewer Didtrict	196	2013-07-15
	274668	Sun Prairie Village County Water & Sewer District	205	2013-07-15
	274669	Sun Prairie Village Water & Sewer Didtrict	202	2013-07-15
	274670	Sun Prairie Village Water & Sewer District	202	2013-07-15
	167886	Sun Prarie Village County Water And Sewer District	204	1997-11-08
	2399	The National Laundry Company	396	1958-09-01
	26534	Theiltges Saint Thomas Camp	65	1986-12-10
	132766	Town Of Belt * 1982 West Well	379	1982-04-22
	188537	Town Of Belt * 1982 East Well	440	1982-05-05
	73277	Town Of Cascade	57	1940-01-01
	120518	Town Of Cascade	2148	1990-08-01
	227748	Town Of Cascade	52	1940-05-29
	263123	Town Of Cascade	2299	2001-01-20
	73280	Town Of Cascade - Well 1	20	1950-04-01

County	GWICID	Site Name	Total Depth	Date Completed
Cascade	73281	Town Of Cascade - Well 3	100	1962-06-11
	73279	Town Of Cascade - Well 4	45	1920-01-01
	2284	Town Of Stockett	830	1977-12-14
	227277	Town Pump/ Roger Hovis	1040	2006-02-20
	179649	Tracy Water Users Corporation		1926-01-01
	2289	Tracy Water Users Corporation *Well 2	191	1962-07-05
	31920	Tracy Water Users Corporation *Well 3	228	2001-03-16
	33385	Trailer Terrace	100	1971-03-19
	33316	Tri Hill Wua - Gore Hill	820	1977-03-16
	31690	Ulm Bar	20	1914-04-01
	205748	Ulm School District	607	2003-08-11
	31687	Ulm School District No.85	160	1953-10-20
	28061	Usda *Well 3	18	1959-01-01
	132769	Vaughn Cascade County Water District *No.4	134.5	1984-07-18
	34412	Vaughn Water Coop	130	1968-04-22
	34534	Whitetail Sewer And Water	199	1976-03-17
	34535	Whitetail Sewer And Water	183	1975-12-15
	34536	Whitetail Sewer And Water	191	1975-12-21
	34537	Whitetail Water And Sewer	192	1975-12-26
	34538	Whitetail Water And Sewer	193	1976-01-16
	34539	Whitetail Water And Sewer	193	1976-01-23
	204716	Wilkinson John	787	2002-12-28
	33004	Wilkinson Ralph Percy	246	1962-12-15
	35303	Windy Acres Water Users Assoctiation	845	1983-01-22
	32917	Wingen Dennis B.	184	1974-03-03
	178517	Witty George	97	1961-05-09
	178663	Yatsko Andrew	30	1946-04-03
Chouteau	37478	Bridgewell Shannon	16	1953-05-15
Fergus	227943	Bar 19 Llp	41	2006-08-01
	179758	Beaver Creek School Dist	125	1954-06-24
	179759	Beaver Creek School Dist	55	1953-11-04
	310962	Boy Scouts Of America Montana Council	340	2020-10-25
	182943	Burlington Northern Santa Fe Railway Company	222	1949-08-18
	27192	City Of Grass Range	930	1973-01-27
	25784	City Of Moore	45	1911-01-01

County	GWICID	Site Name	Total Depth	Date Completed
Fergus	25785	City Of Moore	45	1911-01-01
	34845	City Of Winifred	53	1980-08-31
	173089	Coffee Creek Water Company		1912-01-01
	29790	Deerfield Hutterite Colony - Artesian Well 1	1877	1988-09-20
	25883	District #129-School	120	1966-03-29
	1870	Eddies Corner Inc	1375	1958-09-04
	26885	Elks Lodge No. 456	176	1962-02-02
	179761	Grass Range School Dist	27	1952-10-18
	295733	Grass Range School District #27	424	1972-08-30
	179756	Grassrange School Dist # 27	483	1953-07-22
	27196	Green Marjorie E	104	1961-11-13
	180573	Hi-Heat Industries	170	1999-07-26
	26771	Jays Auto Body	70	1976-07-22
	157657	Judith Shadows Golf Course	220	1996-05-08
	180148	King Colony - Spring		
	26717	Konitz Contracting	157	1984-01-01
	27190	Kruger Warner	90	1961-03-24
	218041	Mid River Communications	184	2004-12-09
	26790	Phillips Petroleum	18	1961-06-01
	29822	Phillips Samuel		1956-01-01
	301560	Rain Dance Llc Dba Judith Mountain Lodge	80	2019-04-25
	236529	Roy School Dist. #74	1411	1965-04-12
	25882	School District #129	120	1966-03-29
	28448	School District #184	40	1961-01-01
	25807	School District #8	82	1954-06-01
	178510	School District No 13	420	1951-08-24
	252147	Spring Creek Colony	430	2009-07-31
	29874	Straub Albert	900	1947-04-01
	30664	Town Of Denton	1932	1988-01-18
	2183	Town Of Denton - Spring		
	188831	Town Of Grass Range - Well 2	500	1926-01-01
	141170	Town Of Moore	1820	1992-11-12
	75418	Town Of Winifred	35	1982-11-01
	132770	Town Of Winifred	35	1982-11-01
	241929	Town Of Winifred	440	1998-10-10

County	GWICID	Site Name	Total Depth	Date Completed
Fergus	26906	Town Of Winifred - Well 3	438	1988-09-15
	34846	Town Of Winifred * 1	22	1953-06-01
	26837	Woods Harriet	50	1953-06-01
Judith Basin	25718	Ackley Lake Sra - Westside #2	43	1982-08-05
	25749	Black Bull Saloon And Steakhouse	100	1969-03-09
	257040	Central Montana Regional Water Authority	3700	2005-01-01
	304761	Central Regional Water Authority	2163	2019-11-17
	28201	City Of Stanford	205	1975-05-05
	28213	City Of Stanford #3	193	1941-08-23
	2011	City Of Stanford #6	205	1975-05-13
	2010	City Of Stanford * Stanford Mt	205	1973-08-06
	2078	Geyser Artesian Waterworks Assoc	610	1953-09-01
	250629	Geyser Judith Basin County Water & Sewer District	330	2009-04-13
	29614	Grt Northern Railway	49	1958-01-01
	25764	Grt Nrthn Railway Co	605	1907-01-01
	25763	Hobson School	90	1984-05-06
	26689	Hobson School	65	1969-04-28
	29612	Michels Edwin		1961-10-10
	29610	Mint Bar	90	1964-10-24
	25719	Mt Dept Fish Game	42	1982-08-03
	25675	Oxen Yoke Inn Inc.	450	1977-12-02
	291521	School Distric No. 28	167	1944-12-05
	291522	School District No. 56	48	1945-01-20
	28225	Silverberg Lee	84	1973-07-18
	333400	Tow, Lisa And William	13	
	130219	Town Of Geyser	1060	1992-08-19
	208632	Town Of Hobson	1225	2003-03-01
	23820	Town Of Judith Gap	631	1986-11-08
	132756	Town Of Judith Gap	445	1986-03-07
	28207	Town Of Stanford	170	1940-06-01
	28230	Town Of Stanford	168	1928-01-01
	217357	Town Of Stanford	130	2004-11-15
	300285	Town Of Stanford	2947	2019-02-08
	28232	Town Of Stanford #2	210	1979-05-30
	25673	Utica Womens Club	515	1959-03-07

County	GWICID	Site Name	Total Depth	Date Completed
Lewis & Clark	74518	Augusta High School	40	1983-10-06
	74532	Augusta Sch.Dist.#45	45	1920-01-01
	74533	Augusta Sch.Dist.#45	12	1958-01-01
	74534	Augusta School District 45	20	1999-06-25
	74523	Augusta Youth Center		1959-01-01
	249009	B. Lundholm Golf Real Estates	425	2008-04-22
	73301	Bowmans Corner	80	1945-01-01
	74489	Forest Service	60	1958-01-01
	74531	Lewis And Clark National Forest	45	1982-11-30
	73305	Milford Colony	95	1945-11-01
	71507	Mt Dept Of Hwys	55	1973-01-03
	75666	Tee Bar Ranch Co.	161	1973-01-01
	74553	Wagons West Campground	37	1971-12-13
Pondera	83381	Birch Creek Colony--Well 1	80	1982-10-14
	83380	Birch Creek Colony--Well 2	140	1986-04-03
	255103	Birch Creek Colony--Well 3	120	2010-04-04
	85055	Curry James	85	1973-07-04
	81481	Dupuyer Rest Area	90	1965-03-18
	160723	Dupuyer School District 2	80	1996-08-22
	84983	Lone Tree School (District No.7)	135	1957-09-01
	218324	Midway Colony Inc	38	2005-04-13
	218332	Midway Colony Inc	40	2005-04-13
	83302	Montana Hiway Comm.	68	1967-02-09
	81464	New Miami Colony	109	1985-10-22
	128522	Pondera Colony - Well 1	160	1993-09-10
	128524	Pondera Colony - Well 2	140	1992-06-26
	298973	Pondera Colony Inc.	140	2018-10-10
	38758	Pondera County	25	1940-12-02
	38762	Pondera County	20	1939-03-29
	81419	Pondera County	8	
	85045	Town Of Valier	90	1915-01-01
	85046	Town Of Valier	90	1915-01-01
	261609	Town Of Valier	162	2011-05-19
	83320	Town Of Valier - Well #4	97	1937-01-01
	85053	Town Of Valier Well #1	168	1951-01-01

County	GWICID	Site Name	Total Depth	Date Completed
Pondera	85052	Town Of Valier Well #2	122	1948-05-04
	83319	Town Of Valier Well #3	140	1961-01-01
Teton	78371	A And K Lanes		1956-05-05
	78186	Anderson Bros *Well 2	20	1955-06-01
	79447	Bynum School District No.12 *Well 1	19	1930-01-01
	276210	Bynum/Teton County Water And Sewer District	35	2013-10-15
	276212	Bynum/Teton County Water And Sewer District	33	2013-10-15
	78128	Choteau Country Club	160	1970-06-21
	78376	Choteau School District No.1	21	1957-01-01
	226273	City Of , Fairfield	60	2006-06-07
	78344	City Of Choteau	42	1956-04-16
	78345	City Of Choteau	25	1956-04-18
	133022	City Of Choteau - Well 1	16	1916-03-01
	78284	City Of Choteau - Well 2	21	1970-07-20
	78285	City Of Choteau - Well 3	25	1956-04-18
	6306	City Of Choteau Water Department		
	76694	City Of Fairfield	60	1950-03-31
	76705	City Of Fairfield - Well 2	22	1951-06-15
	171379	City Of Fairfield - Well 4	25	1967-05-09
	75567	City Of Fairfield - Well 5	40	1980-09-03
	75566	City Of Fairfield - Well 6	40	1980-09-04
	75565	City Of Fairfield - Well 7	43	1980-09-05
	76695	City Of Fairfield *Well 1	52	1948-03-20
	76696	City Of Fairfield *Well 2	45	1948-03-25
	78827	Collins Water Well		1953-01-01
	124289	Debusha Everett	21	1959-10-15
	78818	Dot *Teton North And South Rest Areas	20.5	1975-10-23
	124211	Durr Beatrice	21	
	132997	Fairfield City Well *Well 2	22	1961-06-15
	75648	Golden Ridge School District 45	42	1948-04-22
	79425	Great Northern Railway Company	15	1920-08-18
	76605	Greenfield School	40	1979-11-20
	76604	Greenfield School District No 75 *Well 1	26	1936-01-01
	268252	Laeurn Engineers And Constructors	90	2012-09-17
	268253	Lauren Engineers And Constructors	80	2012-09-19

County	GWICID	Site Name	Total Depth	Date Completed
Teton	78156	Mclaughlin Jerrald	20	1977-04-08
	171383	Miller Colony	70	1971-07-29
	217282	New Rockport Colony	160	2004-02-05
	77398	Power School Dis #30	48	1953-08-10
	77399	Power School Dis #30	58	1961-08-31
	77400	Power School Dis #30	65	1961-09-06
	77401	Power School Dis #30	36	1962-09-10
	78856	Premiun Center School Dist. 7	145	1952-08-12
	78826	Proff Charles		1950-06-01
	264155	Rockport Colony, Rockport Colony	120	2011-12-08
	264157	Rockport Colony, Rockport Colony	60	2011-12-13
	78389	Rogers Jack B	16	1951-07-01
	124191	Schmidt Arthur *Well 2	18	1942-01-01
	80138	School District No. 61	125	1919-01-01
	79448	School District No.12 *Well 2	19	1958-01-01
	76565	St Paul Lutheran Church	16	1949-05-06
	78814	Town Of Dutton	38	1954-01-01
	6125	Town Of Fairfield Well 03	32	1962-05-01
	75576	Town Of Fairfield - Well 1	22	1945-01-01
	166838	Tri-County Water District	21.5	1981-01-01
	291090	Tri-County Water District	25	2013-01-01
	270218	Yates Contractors, Llc	120	2013-01-10
Toole	304947	City Of Shelby	34.5	2019-12-09
	304963	City Of Shelby	35.5	2019-12-18
	304977	City Of Shelby	35	2019-12-16
	87572	City Of Shelby - Well 7	39	1975-01-14
	87581	City Of Shelby #1	49	1940-06-06
	87575	City Of Shelby #10	41	1985-03-13
	251163	City Of Shelby #11	38	1993-05-31
	251162	City Of Shelby #12	38	1993-05-31
	225363	City Of Shelby #13	42	2005-09-30
	87577	City Of Shelby #2	48	1946-10-01
	87576	City Of Shelby #3	48	1939-07-07
	87578	City Of Shelby #4	50	1946-10-12
	87579	City Of Shelby #5	44	1962-01-01

County	GWICID	Site Name	Total Depth	Date Completed
Toole	87580	City Of Shelby #6	41	1962-08-04
	87573	City Of Shelby #8	31	1975-03-12
	87574	City Of Shelby #9	40	1985-03-13
	198566	Town Of Roy	1417	2002-07-18
Wheatland	20854	Ag Super Market	110	1975-08-16
	20853	City Of Harlowton - Well 1	921	1975-07-23
	20846	City Of Harlowton - Well 2	1402	1961-08-13
	20847	City Of Harlowton - Well 3	414	1941-01-01
	20848	City Of Harlowton #4	390	1948-06-28
	20849	City Of Harlowton #5	515	1955-05-01
	169015	Duncan Ranch Colony	457	1998-07-10
	1636	Harlowton	475	
	1638	Harlowton	921	
	1639	Harlowton	900	
	23846	Judith Gap Town Of	125	1952-08-18
	197788	Rays Sports And Western Wear		
	20865	Sorenson Martin	110	1953-06-01
	20894	Spring Water Colony	580	1990-03-28
	258458	Spring Water Colony	376	2010-09-01
	123279	Spring Water Colony - Well 1	1145	1982-05-15
	188722	Springwater Colony	1160	2001-05-10
	20839	The Insurance Center	80	1961-01-01
	23850	Town Of Judith Gap	114	1981-06-03
	23847	Town Of Judith Gap#1	100	1973-05-06
	23849	Town Of Judith Gap#2	131	1978-05-12
	188476	Wades Drive Inn	110	1953-06-01

Source: MBMG. Ground Water Information Center. https://mbmggwic.mtech.edu/.

2.5.2 Great Falls Subarea

Table B.13: Public Water Supplies in Great Falls

County	GWICID	Site Name	Total Depth	Date Completed
Cascade	33439	Alber Gene	300	1959-01-01
	264288	Big Bend Development Company	456	2012-01-26
	196507	Big Bend Llc	573	2001-12-07

County	GWICID	Site Name	Total Depth	Date Completed
Cascade	33469	Bryant Jaye	403	1968-09-15
	125082	Bryant Jaye	186	1963-05-01
	33312	Buchanan John D.	755	1972-02-15
	178669	Cascade Kennel Club	280	1960-04-29
	33040	Central Machinery Co	52	1956-05-12
	33126	Conoco Inc	320	1972-04-15
	33116	Dick Sam	72	1950-08-26
	178474	Dick Sam Trailer Court	72	1960-08-09
	33384	Emery Cada	142	1969-10-20
	32911	Farmers Union Oil Co.	113	1974-12-20
	34604	Fish Wildlife And Parks Region 4 Headquarters	460	1986-07-03
	175941	Fox Farm Associates *Well 1	170	1978-10-25
	173861	Frye Richard And Sharon *Well 3	193	1978-10-28
	186590	Giant Springs State Park	25	
	327818	Gore Hill County Water District Well 3	1155	2023-04-04
	327801	Gore Hill County Water District Well 4	910	2023-04-06
	33033	Great Falls Breweries Inc *Well 1	222	1944-12-28
	33029	Great Falls Breweries Inc *Well 3	218	1955-07-19
	33030	Great Falls Breweries Inc *Well 4	100	1933-01-01
	33039	Great Northern Railway Company	125	1954-01-31
	33028	Great Falls Breweries Inc *Well 2	208	1935-11-24
	33110	Herman'S Flowers Inc.	150	1900-01-01
	33043	Idowell Creamery Inc	30	1915-01-01
	34575	Lemire Edward	60	1979-01-01
	33158	Mccollum Elias J And Grace	132	1962-01-01
	33153	Missouri River Meadows	295	1979-11-27
	33139	Montana Mobile Home	208	1963-03-16
	33175	Park Garden Estates	188	1977-05-03
	33035	Pioneer Dairy	85	1949-03-23
	185937	Pleasant Park Mobile Homes - Backup Well	186	
	185938	Pleasant Park Mobile Homes - Old Well		
	34607	Ppl Montana	250	1982-12-03
	190900	Pursley Mike *Well 2	698	2001-05-29
	123390	Rasmussen Larry F.	213	1988-06-20
	33177	Rivershore Mobile Home Park	207	1981-01-02

County	GWICID	Site Name	Total Depth	Date Completed
Cascade	33434	School Dist. No.1	403	1970-01-01
	33422	Sletten Construction Co.	530	1983-04-28
	2408	Smith Loren	502	1977-03-28
	281438	South Wind Water And Sewer District	420	2014-12-15
	33356	Stevens Al	243	1957-10-31
	2399	The National Laundry Company	396	1958-09-01
	227277	Town Pump/ Roger Hovis	1040	2006-02-20
	33385	Trailer Terrace	100	1971-03-19
	33316	Tri Hill Wua - Gore Hill	820	1977-03-16
	204716	Wilkinson John	787	2002-12-28
	33004	Wilkinson Ralph Percy	246	1962-12-15
	32917	Wingen Dennis B.	184	1974-03-03

Source: MBMG. Ground Water Information Center. https://mbmggwic.mtech.edu/.

2.5.3 Lewistown Subarea

No supplemental tables or charts are provided for this area.

2.5.4 Old Havre Highway & US 87

No supplemental tables or charts are provided for this area.

2.5.5 US 87 Armington Junction – Otter Creek Canyon

No supplemental tables or charts are provided for this area.

2.6 Floodplains and Floodways

No supplemental tables or charts are provided.

2.7 Wetlands

2.7.1 Central Montana Study Area

Table B.14: Wetland Types in the Central MT Study Area

County	Wetland Type	Quantity	Total Area (Acres)
Cascade	Freshwater Emergent Wetland	7,884	19,173
	Freshwater Forested/Shrub Wetland	987	1,254
	Freshwater Pond	2,112	1,568
	Lake	28	2,359
Chouteau	Freshwater Emergent Wetland	942	1,841
	Freshwater Forested/Shrub Wetland	11	4
	Freshwater Pond	151	167
Fergus	Freshwater Emergent Wetland	21,137	14,202
	Freshwater Forested/Shrub Wetland	6,612	3,749
	Freshwater Pond	13,196	4,431
	Lake	93	910
Golden Valley	Freshwater Emergent Wetland	393	221
	Freshwater Forested/Shrub Wetland	93	31
	Freshwater Pond	172	58
	Lake	3	26
Judith Basin	Freshwater Emergent Wetland	8,117	11,666
	Freshwater Forested/Shrub Wetland	674	810
	Freshwater Pond	2,137	986
	Lake	2	239
Lewis and Clark	Freshwater Emergent Wetland	3,250	5,432
	Freshwater Forested/Shrub Wetland	1,888	1,810
	Freshwater Pond	732	606
	Lake	35	1,901
Liberty	Freshwater Emergent Wetland	16	75
Petroleum	Freshwater Emergent Wetland	56	66
	Freshwater Pond	53	108
	Lake	4	7
Pondera	Freshwater Emergent Wetland	4,200	10,226
	Freshwater Forested/Shrub Wetland	133	295
	Freshwater Pond	769	893

County	Wetland Type	Quantity	Total Area (Acres)
	Lake	7	3,720
Teton	Freshwater Emergent Wetland	7,572	24,177
	Freshwater Forested/Shrub Wetland	510	1,805
	Freshwater Pond	1,453	1,283
	Lake	48	4,840
Toole	Freshwater Emergent Wetland	1,363	3,454
	Freshwater Forested/Shrub Wetland	35	82
	Freshwater Pond	190	234
	Lake	10	1,683
Wheatland	Freshwater Emergent Wetland	10,311	14,071
	Freshwater Forested/Shrub Wetland	1,892	2,625
	Freshwater Pond	4,140	1,537
	Lake	29	2,205

Source: USFWS. National Wetland Inventory. https://www.fws.gov/program/national-wetlands-inventory/data-download.

2.7.2 Great Falls Subarea

Table B.15: Wetland Classifications in the Great Falls Subarea

Type	Classification	Description	Quantity	Total Area (Acres)
Lake	L1UBHh	Lacustrine, Limnetic, Unconsolidated Bottom, Permanently Flooded, Diked/Impounded	5	397
	L2ABGh	Lacustrine, Littoral, Aquatic Bed, Intermittently Exposed, Diked/Impounded	3	96
	L2USCh	Lacustrine, Littoral, Unconsolidated Shore, Seasonally Flooded, Diked/Impounded	4	1
	L2UBGh	Lacustrine, Littoral, Unconsolidated Bottom, Intermittently Exposed, Diked/Impounded	1	<1
Pond	PABF	Palustrine, Aquatic Bed, Semi permanently Flooded	9	11
	PABFh	Palustrine, Aquatic Bed, Semi permanently Flooded, Diked/Impounded	20	13
	PABFx	Palustrine, Aquatic Bed, Semi permanently Flooded, Excavated	2	1
	PABGh	Palustrine, Aquatic Bed, Intermittently Exposed, Diked/Impounded	1	1
	PABKx	Palustrine, Aquatic Bed, Artificially Flooded, Excavated	2	1
	PUBFx	Palustrine, Unconsolidated Bottom, Semi permanently Flooded, Excavated	15	4
	PUBGx	Palustrine, Unconsolidated Bottom, Intermittently Exposed, Excavated	2	3
	PUBKx	Palustrine, Unconsolidated Bottom, Artificially Flooded, Excavated	3	2
	PUSAh	Palustrine, Unconsolidated Shore, Temporarily Flooded, Diked/Impounded	2	<1
	PUSAx	Palustrine, Unconsolidated Shore, Temporarily Flooded, Excavated	1	<1
	PUSC	Palustrine, Unconsolidated Shore, Seasonally Flooded	1	<1
	PUSCx	Palustrine, Unconsolidated Shore, Seasonally Flooded, Excavated	8	3

Type	Classification	Description	Quantity	Total Area (Acres)
	PUSKx	Palustrine, Unconsolidated Shore, Artificially Flooded, Excavated	2	<1
Freshwater Emergent	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded	68	164
	PEM1Ad	Palustrine, Emergent, Persistent, Temporarily Flooded, Partially Drained/Ditched	1	12
	PEM1Ah	Palustrine, Emergent, Persistent, Temporarily Flooded, Diked/Impounded	9	1
	PEM1Ax	Palustrine, Emergent, Persistent, Temporarily Flooded, Excavated	8	7
	PEM1B	Palustrine, Emergent, Persistent, Saturated	12	5
	PEM1C	Palustrine, Emergent, Persistent, Seasonally Flooded	90	89
	PEM1Ch	Palustrine, Emergent, Persistent, Seasonally Flooded, Diked/Impounded	11	6
	PEM1Cx	Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated	16	9
	PEM1F	Palustrine, Emergent, Persistent, Semi permanently Flooded	47	62
	PEM1Fh	Palustrine, Emergent, Persistent, Semi permanently Flooded, Diked/Impounded	4	2
	PEM1Kx	Palustrine, Emergent, Persistent, Artificially Flooded, Excavated	7	3
Freshwater Forested/Shrub	PFOA	Palustrine, Forested, Temporarily Flooded	17	26
	PFOAh	Palustrine, Forested, Temporarily Flooded, Diked/Impounded	1	<1
	PFOC	Palustrine, Forested, Seasonally Flooded	13	29
	PSSA	Palustrine, Scrub-Shrub, Temporarily Flooded	15	52
	PSSAh	Palustrine, Scrub-Shrub, Temporarily Flooded, Diked/Impounded	3	8
	PSSC	Palustrine, Scrub-Shrub, Seasonally Flooded	21	21
	PSSCh	Palustrine, Scrub-Shrub, Seasonally Flooded, Diked/Impounded	1	3

Source: USFWS. National Wetland Inventory. https://www.fws.gov/program/national-wetlands-inventory/data-download.

2.7.3 Lewistown Subarea

Table B.16: Wetland Classifications in the Lewistown Subarea

Type	Classification	Description	Quantity	Total Area (Acres)
Pond	PABF	Palustrine, Aquatic Bed, Semi permanently Flooded	15	2
	PABFh	Palustrine, Aquatic Bed, Semi permanently Flooded, Diked/Impounded	7	4
Freshwater Emergent	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded	1	1
	PEM1Ah	Palustrine, Emergent, Persistent, Temporarily Flooded, Diked/Impounded	1	<1
	PEM1Ax	Palustrine, Emergent, Persistent, Temporarily Flooded, Excavated	1	<1
	PEM1C	Palustrine, Emergent, Persistent, Seasonally Flooded	4	1

Source: USFWS. National Wetland Inventory. https://www.fws.gov/program/national-wetlands-inventory/data-download.

2.7.4 Old Havre Highway and US 87 Corridor

Table B.17: Wetland Classifications in the Old Havre Highway and US 87 Corridor

Type	Classification	Description	Quantity	Total Area (Acres)
Lake	L1UBHh	Lacustrine, Limnetic, Unconsolidated Bottom, Permanently Flooded, Diked/Impounded	1	192
	L2ABGh	Lacustrine, Littoral, Aquatic Bed, Intermittently Exposed, Diked/Impounded	1	2
	L2USCh	Lacustrine, Littoral, Unconsolidated Shore, Seasonally Flooded, Diked/Impounded	1	2
Pond	PABFh	Palustrine, Aquatic Bed, Semi permanently Flooded, Diked/Impounded	1	4
	PABFx	Palustrine, Aquatic Bed, Semi permanently Flooded, Excavated	2	<1
	PABKx	Palustrine, Aquatic Bed, Artificially Flooded, Excavated	5	3
	PUBFx	Palustrine, Unconsolidated Bottom, Semi permanently Flooded, Excavated	1	<1
Freshwater Emergent	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded	21	8
	PEM1Ah	Palustrine, Aquatic Bed, Semi permanently Flooded, Excavated	1	<1
	PEM1C	Palustrine, Emergent, Persistent, Seasonally Flooded	2	1
	PEM1Cx	Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated	3	<1
	PEM1Fh	Palustrine, Emergent, Persistent, Semi permanently Flooded, Diked/Impounded.	2	1
Freshwater Forested/Shrub	PSSAh	Palustrine, Scrub-Shrub, Temporarily Flooded, Diked/Impounded	1	1
	PSSCh	Palustrine, Scrub-Shrub, Seasonally Flooded, Diked/Impounded	2	2

Source: USFWS. National Wetland Inventory. https://www.fws.gov/program/national-wetlands-inventory/data-download.

2.7.5 US 87 – Armington Junction through Otter Creek Canyon Corridor

Table B.18: Wetland Classifications in the US 87 – Armington Junction through Otter Creek Canyon Corridor

Type	Classification	Description	Quantity	Total Area (Acres)
Pond	PABF	Palustrine, Aquatic Bed, Semi permanently Flooded	3	<1
	PABFh	Palustrine, Aquatic Bed, Semipermanently Flooded, Diked/Impounded	17	4
	PUBFx	Palustrine, Unconsolidated Bottom, Semi permanently Flooded, Excavated	1	<1
	PUSC	Palustrine, Unconsolidated Shore, Seasonally Flooded	1	<1
Freshwater Emergent	PEM1A	Palustrine, Emergent, Persistent, Temporarily Flooded	13	11
	PEM1Ah	Palustrine, Emergent, Persistent, Temporarily Flooded, Diked/Impounded	5	<1
	PEM1Ax	Palustrine, Emergent, Persistent, Temporarily Flooded, Excavated	3	1
	PEM1B	Palustrine, Emergent, Persistent, Saturated	2	1
	PEM1C	Palustrine, Emergent, Persistent, Seasonally Flooded	35	22
	PEM1Ch	Palustrine, Emergent, Persistent, Seasonally Flooded, Diked/Impounded	9	34
	PEM1Cx	Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated	5	1

Type	Classification	Description	Quantity	Total Area (Acres)
Freshwater Forested/Shrub	PFOAh	Palustrine, Forested, Temporarily Flooded, Diked/Impounded	2	<1
	PSSA	Palustrine, Scrub-Shrub, Temporarily Flooded	4	4
	PSSC	Palustrine, Scrub-Shrub, Seasonally Flooded	5	2

Source: USFWS. National Wetland Inventory. https://www.fws.gov/program/national-wetlands-inventory/data-download.

2.8 Hazardous Substances

2.8.1 Central Montana Study Area

Table B.19: National Priority List Superfund Sites in the Central MT Study Area

EPA ID	Site Name	Site Address	Site City	Site County	Area (Acres)
MT6122307485	Barker Hughesville Mining District	Forest Service Road 6403	Monarch	Cascade	9,038
MTD093291599	ACM Smelter And Refinery	River Road North, 1 Mile E of 15th St.	Black Eagle	Cascade	2,420
MT0001096353	Carpenter Snow Creek Mining District	No Specific Address	Neihart	Cascade	9,908

Source: EPA. NPL Superfund Site Boundaries. https://www.arcgis.com/home/item.html?id=d6e1591d9a424f1fa6d95a02095a06d7.

Table B.20: EPA Generator Categories Based on Quantity of Waste Generated in a Calendar Month

Generator Category	Quantity of Acute Hazardous Waste Generated in a Calendar Month	Quantity of Non Acute Hazardous Waste Generated in a Calendar Month	Quantity of Residues from a Cleanup of Acute Hazardous Waste Generated in a Calendar Month
Very Small	≤ 1 kg	≤ 100 kg	≤ 100 kg
Small	≤ 1 kg	> 100 kg and < 1,000 kg	≤ 100 kg
Large	> 1 kg	Any amount	Any amount
	Any amount	≥ 1,000 kg	Any amount
	Any amount	Any amount	> 100 kg

Source: EPA. 40 CFR 262.13.

2.8.2 Great Falls Subarea

Table B.21: National Priority List Superfund Sites in the Great Falls Subarea

EPA ID	Site Name	Site Address	Site City	Site County	Area (Acres)
MTD093291599	ACM Smelter And Refinery	River Road North, 1 Mile E of 15th St.	Black Eagle	Cascade	2,420

Source: EPA. NPL Superfund Site Boundaries. https://www.arcgis.com/home/item.html?id=d6e1591d9a424f1fa6d95a02095a06d7.

Table B.22: CECRA State Superfund Unit Facilities in the Great Falls Subarea

Facility ID	Facility Name	Facility Code	Program	Contaminant	Listed	Delisted
31716	Great Falls International Airport MTANG	GFAP	CECRA	Benzene, toluene, ethylbenzene and xylenes, chlorinated hydrocarbons, polycyclic aromatic hydrocarbons, jet fuel (JP-4), and other volatile organic compounds (VOCs)	4/1/1988	
31692	Great Falls City Landfill Wiremill Rd	GFLW	CECRA	Total petroleum hydrocarbons (TPH)	10/13/1988	12/21/1996
31492	Malmstrom Air Force Base	MAFB	CECRA	Waste fuels, solvents and lubricating oils burned at fire training site; oil containing polychlorinated biphenyls (PCBs); unknown quantities of waste paint thinners, solvents, munitions residues, acids, pesticides, cooling system brines, low level radioactive waste and other materials buried on-site in landfills	1/1/1989	7/8/2014
31633	Falls Chemical Inc	FALL	CECRA	Pesticides, diesel, and polynuclear aromatic hydrocarbons (PAHs)	1/1/1989	3/5/1997
31191	Anaconda Minerals Company Great Falls	AMGF	CECRA	Lead, arsenic, zinc, cadmium, antimony and other metals	5/22/1989	
31701	Great Falls City Landfill 25th Ave	GFLF	CECRA	Refinery sludge	5/22/1989	
31391	Bootlegger Trail Site	BOOT	CECRA	Petroleum	10/1/1989	2/2/2015
31561	Western By Products	WBYP	CECRA	Pesticides	7/3/1990	
31468	Great Falls Refinery Phillips Petroleum	GFRP	CECRA	Hydrocarbons	1/1/1991	2/2/2015
31558	Montana Army National Guard Fuel Spill	MANG	CECRA	Diesel fuel	2/4/1991	12/21/1996
31717	Great Falls City County Barrel Site	GFBS	CECRA	Characteristic hazardous waste	7/9/1992	12/21/1996
31596	Third Street NW Groundwater Site	TSGW	CECRA	Benzene, toluene, ethylbenzene, and xylene (BTEX), petroleum hydrocarbons, chlorinated solvents and phenols	9/23/1992	
31499	Energy West Gas Manufacturing Plant	EWGM	CECRA	Polynuclear aromatic hydrocarbons (PAHs); benzene, toluene, ethylbenzene and xylene (BTEX); low levels of cyanide, metals	2/4/1994	
31356	Burlington Northern Facility Great Falls	BNFG	CECRA	Diesel fuel, petroleum hydrocarbons	5/1/1994	
31463	West Bootlegger Barrel Site	WBBS	CECRA	Diesel Range Organics, Total Extractable Hydrocarbons, barium, arsenic, cadmium, chromium and copper; sampling found PCB, (1,2,4) tri-methylbenzene, naphthalene and xylenes	7/20/1995	
31321	Abandoned Railroad Embankment West Great Falls	AREW	CECRA	Tar pits	5/29/1997	5/30/2007

Source: MDEQ. Montana State Superfund Unit Facilities. https://discover-mtdeq.hub.arcgis.com/maps/30609f40f020422788679fc3124e0763/about.

Table B.23: WQA State Superfund Unit Facilities in the Great Falls Subarea

Facility ID	Facility Name	Facility Code	Program	Contaminant	Listed	Delisted
31643	Trailer Terrace Trailer Park	TTGF	WQA	Ammonia, nitrates, and phosphates (associated with sewage)	1/1/1900	7/18/2001
31665	Montana Vegetable Oil	MTVO	WQA	Benzene, toluene, ethylbenzene, and xylene (BTEX), petroleum hydrocarbons, chlorinated solvents and phenols	1/1/1900	1/1/1900

Facility ID	Facility Name	Facility Code	Program	Contaminant	Listed	Delisted
31655	Lower River Rd 130	LRGF	WQA	Petroleum hydrocarbons	3/6/1987	9/10/2009
31690	MDOT 10th Street Bridge	MTBG	WQA	Total petroleum hydrocarbons (TPH)	7/7/1991	7/24/2001
31659	MDOT Emerson Junction	DOTE	WQA	Undisclosed	8/22/1991	1/9/2001
31609	McIntyre Construction Co	MCGF	WQA	Total petroleum hydrocarbons (TPH)	2/1/1992	8/20/1999
31596	Third Street NW Groundwater Site	TSGW	WQA	Benzene, toluene, ethylbenzene, and xylene (BTEX), petroleum hydrocarbons, chlorinated solvents and phenols	9/23/1992	
31495	Pearson Addition Great Falls	PAGF	WQA	Ammonia, nitrates, and phosphates (associated with sewage)	2/24/1995	7/18/2001
31870	Vincent Daly Semenza Site	VDSS	WQA	Undisclosed	8/1/1995	8/29/1995
31370	Burlington Northern 1996 Diesel Release Great Falls	BNGF	WQA	Diesel, petroleum hydrocarbons	1/5/1996	5/9/1996
31980	Montana Refining Co Black Eagle Sewer and Water	MRGF	WQA	Petroleum, hydrocarbons	3/11/1997	1/30/2003
31640	Hilde Construction Co Inc	HCGF	WQA	Waste oil, hydrocarbons	3/31/1997	4/3/2001
31885	Rising Wolf Construction	RISW	WQA	Undisclosed	10/1/1998	12/14/1998
31320	Carriage Trade Cleaners Great Falls	CTCG	WQA	Tetrachloroethylene (PCE) and trichloroethylene (TCE)	9/1/2005	

Source: MDEQ. Montana State Superfund Unit Facilities. https://discover-mtdeq.hub.arcgis.com/maps/30609f40f020422788679fc3124e0763/about.

Table B.24: VCRA State Superfund Unit Facilities in the Great Falls Subarea

Facility ID	Facility Name	Facility Code	Program	Contaminant	Listed	Delisted
31321	Abandoned Railroad Embankment West Great Falls	AREW	VCRA	Tar pits	5/29/1997	5/30/2007
31499	Energy West Gas Manufacturing Plant	EWGM	VCRA	Polynuclear aromatic hydrocarbons (PAHs); benzene, toluene, ethylbenzene and xylene (BTEX); low levels of cyanide; some metals	6/24/1998	4/15/2002
31191	Anaconda Minerals Company Great Falls	AMGF	VCRA	Lead, arsenic, zinc, cadmium, antimony and other metals	1/1/2002	12/31/2002
31356	Burlington Northern Facility Great Falls	BNFG	VCRA	Petroleum, hydrocarbons	10/30/2008	5/19/2014

Source: MDEQ. Montana State Superfund Unit Facilities. https://discover-mtdeq.hub.arcgis.com/maps/30609f40f020422788679fc3124e0763/about.

Table B.25: Active Underground Storage Tanks in the Great Falls Subarea

Facility ID	Facility Name	Tank ID	Tank Status	Capacity	Substance
30784	Great Falls Flying J	04	Currently in Use	12000	Gasoline
30784		03	Currently in Use	20000	Gasoline
30784		02	Currently in Use	20000	Diesel
30784		01	Currently in Use	20000	Diesel
18483	Town Pump Inc Great Falls 5	12	Currently in Use	30000	Diesel
18483		13	Currently in Use	30000	Diesel
18483		11	Currently in Use	30000	Diesel
18483		07	Currently in Use	14000	Gasoline
18483		09	Currently in Use	6000	Diesel

Facility ID	Facility Name	Tank ID	Tank Status	Capacity	Substance
18483	Town Pump Inc Great Falls 5	08	Currently in Use	10000	Gasoline
18483		10	Currently in Use	6000	Diesel
18483		04	Currently in Use	6000	Diesel, Dyed
18994	Rental Car Service Building	01	Currently in Use	8000	Gasoline
18433	Montana Air National Guard UST	3A	Currently in Use	25000	Jet Fuel (Jet-A, Jet-A1, JP5)
18433		3B	Currently in Use	25000	Jet Fuel (Jet-A, Jet-A1, JP5)
18433		3C	Currently in Use	25000	Jet Fuel (Jet-A, Jet-A1, JP5)
18433		3D	Currently in Use	25000	Jet Fuel (Jet-A, Jet-A1, JP5)
18433		3E	Currently in Use	25000	Jet Fuel (Jet-A, Jet-A1, JP5)
18433		3F	Currently in Use	25000	Jet Fuel (Jet-A, Jet-A1, JP5)
30936	Smiths 166 Fuel Center	01	Currently in Use	20000	Gasoline
30936		02	Currently in Use	10000	Diesel
30936		03	Currently in Use	8000	Gasoline
18828	Great Falls International Airport Fuel Farm 1	10	Currently in Use	20000	Jet Fuel (Jet-A, Jet-A1, JP5)
18828		11	Currently in Use	20000	Aviation Gas
19013	McLaughlin Research Institute	01	Currently in Use	1000	Diesel
18876	Meadowlark Country Club	03	Currently in Use	1000	Diesel
18876		02	Currently in Use	1000	Gasoline
18480	Benefis Health Care West Campus	05	Currently in Use	2000	Diesel
18480		06	Currently in Use	15000	Diesel
18550	Zip Trip 44	03	Currently in Use	8000	Gasoline
18550		06	Currently in Use	8000	Gasoline
18550	Country Club Express	02	Currently in Use	8000	Gasoline
18550	H and R 3 On Your Way	05	Currently in Use	4000	Diesel
18631	Benefis Health Care East Campus	S3	Currently in Use	20000	Diesel
18631		04	Currently in Use	2500	Jet Fuel (Jet-A, Jet-A1, JP5)
18792	Holiday Stationstore 10	08	Currently in Use	6000	Diesel
18792		07	Currently in Use	8000	Gasoline
18792	Circle K Store 2746010	06	Currently in Use	15000	Gasoline
18326	H and R #2	03	Currently in Use	10000	Gasoline
18326		04	Currently in Use	10000	Gasoline
18597	City Motor Cor Inc	06	Currently in Use	3000	Gasoline
18597		07	Currently in Use	3000	Oil, Waste
30988	Walmart Supercenter #7199	02	Currently in Use	12000	Gasoline
30988		03	Currently in Use	8000	Diesel

Facility ID	Facility Name	Tank ID	Tank Status	Capacity	Substance
30988	Walmart Supercenter #7199	01	Currently in Use	20000	Gasoline
18331	H and R #1	01	Currently in Use	10000	Gasoline
18331		02	Currently in Use	10000	Gasoline
18331		03	Currently in Use	10000	Diesel
18696	Town Pump Inc Great Falls 2	12	Currently in Use	15000	Gasoline
18696		11	Currently in Use	15000	Gasoline
18696		13	Currently in Use	20000	Diesel
18324	Bison Ford	07	Currently in Use	3000	Oil, Waste
18324		08	Currently in Use	1000	Oil, Waste
18355	Carls Autocare Inc	05	Currently in Use	8000	Gasoline
18355		07	Currently in Use	6000	Gasoline
18355		06	Currently in Use	6000	Diesel
30637	Holiday Stationstore 724	02	Currently in Use	10000	Gasoline
30637		01	Currently in Use	15000	Gasoline
18494	H and R Inc #5	08	Currently in Use	10000	Gasoline
18494		06	Currently in Use	10000	Gasoline
18494		07	Currently in Use	10000	Diesel
18470	Town Pump Inc Great Falls 4	07	Currently in Use	12000	Gasoline
18470		05	Currently in Use	2000	Diesel
18470		08	Currently in Use	10000	Diesel
18470		09	Currently in Use	5000	Diesel, Dyed
18470		06	Currently in Use	12000	Gasoline
30990	Town Pump Inc Great Falls #7	01	Currently in Use	6000	Diesel
30990		06	Currently in Use	6000	Gasoline
30990		05	Currently in Use	15000	Gasoline
30990		03	Currently in Use	6000	Diesel, Dyed
30990		02	Currently in Use	15000	Diesel
30990		04	Currently in Use	25000	Gasoline
18394	Keiths Country Store	04	Currently in Use	8000	Gasoline
18394		05	Currently in Use	12000	Gasoline
18394		03	Currently in Use	6000	Diesel
18672	15th Street Service	07	Currently in Use	4000	Gasoline
18672		08	Currently in Use	4000	Diesel
18672		05	Currently in Use	6000	Gasoline
18672		06	Currently in Use	4000	Gasoline

Facility ID	Facility Name	Tank ID	Tank Status	Capacity	Substance
18695	Town Pump Inc Great Falls 1	04	Currently in Use	10000	Gasoline
18695		03	Currently in Use	10000	Gasoline
18695		05	Currently in Use	8000	Gasoline
18695		02	Currently in Use	10000	Gasoline
18695		01	Currently in Use	10000	Gasoline
18330	H and R #4	05	Currently in Use	7000	Diesel
18330		06	Currently in Use	5000	Gasoline
18330		04	Currently in Use	12000	Gasoline
18691	Schultes 38th Street Store	02	Currently in Use	8000	Gasoline
18691		03	Currently in Use	4000	Diesel
18691		01	Currently in Use	8000	Gasoline
18584	Loaf 'N Jug #766	02	Currently in Use	8000	Gasoline
18584		01	Currently in Use	8000	Diesel
18584		03	Currently in Use	8000	Gasoline
18493	Loaf 'N Jug #765	01	Currently in Use	12000	Gasoline
18493		02	Currently in Use	12000	Diesel
18493		03	Currently in Use	12000	Gasoline
18375	Zip Trip 45	03	Currently in Use	15000	Gasoline
18375		02	Currently in Use	15000	Gasoline
18375		01	Currently in Use	15000	Diesel
18586	Loaf 'N Jug #768	01	Currently in Use	8000	Diesel
18586		03	Currently in Use	8000	Gasoline
18586		02	Currently in Use	8000	Gasoline
18524	Kernaghans Service 8th Ave N	08	Currently in Use	8000	Diesel
18524		07	Currently in Use	4000	Diesel
18524		03	Currently in Use	7500	Gasoline
18524		06	Currently in Use	8000	Gasoline
18524		09	Currently in Use	2500	Diesel, Dyed
18524		04	Currently in Use	5000	Gasoline
18527	Tolan Distributing Inc	09	Currently in Use	4000	Diesel
18527		08	Currently in Use	8000	Diesel
18527		06	Currently in Use	8000	Gasoline
18527		07	Currently in Use	4000	Gasoline
19059	Circle K Store 2746059	02	Currently in Use	8000	Gasoline
19059		03	Currently in Use	8000	Diesel

Facility ID	Facility Name	Tank ID	Tank Status	Capacity	Substance
19059		01	Currently in Use	12000	Gasoline
30718	Sams Club 6379	01	Currently in Use	20000	Gasoline
30718		02	Currently in Use	20000	Gasoline
30718		03	Currently in Use	20000	Gasoline
30676	Town Pump Inc Great Falls 3	01	Currently in Use	15000	Gasoline
30676		03	Currently in Use	5000	Diesel
30676		04	Currently in Use	10000	Gasoline
30676		05	Currently in Use	5000	Gasoline
30676		02	Currently in Use	10000	Gasoline
18560	Great Falls Transit District	02	Currently in Use	1000	Oil, Waste
18560		01	Currently in Use	12380	Diesel
18596	Best Oil Distributing Inc	03	Currently in Use	15000	Diesel
18596		04	Currently in Use	15000	Diesel
18596		02	Currently in Use	15000	Diesel
18596		01	Currently in Use	15000	Diesel
18596		07	Currently in Use	8000	Gasoline
18596		08	Currently in Use	8000	Gasoline
30632	Holiday Stationstore 730	02	Currently in Use	10000	Gasoline
30632		01	Currently in Use	15000	Gasoline
18498	MDOT Great Falls	06	Currently in Use	12000	Gasoline
18498		05	Currently in Use	12000	Diesel
18595	Gas N Shop	06	Currently in Use	4000	Gasoline
18595		08	Currently in Use	4000	Gasoline
18595		07	Currently in Use	4000	Gasoline
18379	Rainbow Shop	02	Currently in Use	2000	Gasoline
18379		01	Currently in Use	550	Diesel

Source: MDEQ. Montana Regulated Storage Tanks. https://discover-mtdeq.hub.arcgis.com/maps/9d3ced5644c94edf8b67b165248292e8/about.

Table B.26: Unresolved Petroleum Releases in the Great Falls Subarea

Facility ID	Facility Name	Eligibility	Confirmed Date	Release Status
18609	Montgomery Ward Great Falls		1982-04-01	Open
18772	Bud Hayes Auto Service and Repair		1985-07-25	Open
18863	Former Husky Station 3563		1985-08-07	Open
18343	Gilligan's Island 454	Ineligible	1988-12-01	Open
18723	Malmstrom AFB Bldg 1089		1990-10-18	Open

Facility ID	Facility Name	Eligibility	Confirmed Date	Release Status
18708	Kum and Go Store 833	Eligible	1991-02-03	Open
18356	Stanfield 7Th St Exxon	Eligible	1991-07-08	Open
18769	Malmstrom AFB Bldg 685 AAFES Station		1993-04-27	Open
18632	Bundtrocks Miracle Mile Service	Eligible	1993-09-25	Open
18376	Western Credit Co Inc Lessee	Eligible	1994-01-11	Open
19041	Malmstrom AFB Bldg 450		1994-05-31	Open
19041	Malmstrom AFB Bldg 450		1994-05-31	Open
17386	St04 MAFB Hydrant System		1994-05-31	Open
18603	Chucks Exxon	Eligible	1994-10-05	Open
18430	Union Bus Depot	Eligible	1994-12-08	Open
18390	Former Dick Grieb Buick Inc	Eligible	1995-02-24	Open
18715	Malmstrom AFB Bldg 334		1995-04-27	Open
18702	Pardis Chiropractic	Ineligible	1995-05-11	Open
18686	Holiday Station Store 267	Eligible	1995-05-15	Open
18346	Meadow Gold Dairies Inc Great Falls	Eligible	1995-06-06	Open
18612	Cascade County Solid Waste District	Eligible	1996-09-27	Open
18582	Cascade County Surveyor	Eligible	1996-10-28	Open
18738	Fac 41101		1996-11-20	Open
18575	Oasis BP 2	Eligible	1997-12-05	Open
18328	Noons 577	Eligible	1998-01-13	Open
18525	Kernaghan's Service 9th Ave N	Eligible	1998-04-14	Open
18584	Brake Time 253720	Eligible	1998-08-11	Open
18587	Mini Mart 769	Eligible	1998-09-16	Open
18464	Pro Lube 2	Eligible	1998-10-01	Open
18417	Pro Lube 1	Eligible	1998-12-15	Open
18779	On Your Way Inc NW Bypass	Eligible	1998-12-30	Open
18482	Harvest Hills Conoco	Eligible	1999-02-24	Open
30612	Red Door Lounge Inc	Eligible	1999-05-21	Open
17201	Rapley Property	Eligible	1999-11-24	Open
18728	Malmstrom AFB Bldg 1465		2000-09-18	Open
18778	BN Great Falls		2000-12-06	Open
18778	BN Great Falls		2000-12-06	Open
18778	BN Great Falls		2000-12-06	Open
18524	Kernaghan's Service 8th Ave N	Eligible	2001-03-12	Open
17149	Western Security Bank #4027	Eligible	2001-04-23	Open

Facility ID	Facility Name	Eligibility	Confirmed Date	Release Status
18671	9Th Street Conoco	Eligible	2001-11-13	Open
18545	Pronto Auto Parts Store	Eligible	2001-11-13	Open
30712	Owner not determined		2002-03-14	Open
17186	Building 1469 (Old Pumphouse 1465) #4174		2003-05-08	Open
17228	Former Jardine Motors		2004-06-28	Open
17207	Elmers Pancake and Steak House	Eligible	2004-07-08	Open
18414	Sinclair Retail 25008	Eligible	2004-09-08	Open
18433	Montana Air National Guard UST		2004-12-13	Open
18433	Montana Air National Guard UST		2004-12-13	Open
19018	Former Moore's Mobil Station	Eligible	2007-02-22	Open
18583	Yellowstone Truck Stop Great Falls	Eligible	2008-07-23	Open
18583	Yellowstone Truck Stop Great Falls	Eligible	2008-07-23	Open
18695	Town Pump Inc Great Falls 1	Eligible	2011-08-15	Open
18695	Town Pump Inc Great Falls 1	Eligible	2011-08-15	Open
17332	Napa Auto Parts	Eligible	2011-10-18	Open
17376	Bennett Motors Parking Lot	Eligible	2015-07-27	Open
17377	Bennett Motors Office Lot	Eligible	2015-07-29	Open
31010	Mountain View Co-op	Eligible	2017-09-07	Open
18828	Great Falls International Airport Fuel Farm 1	Withdrawn	2018-01-17	Open
18828	Great Falls International Airport Fuel Farm 1	Withdrawn	2018-01-17	Open
32349	Gordon Scott Property		2019-05-15	Open
32392	Central Bike and Key	Eligible	2019-11-06	Open
18509	Mountain View Co-op Black Eagle		2022-05-12	Open
18509	Mountain View Co-op Black Eagle		2022-05-12	Open
18509	Mountain View Co-op Black Eagle		2022-05-12	Open
19059	Circle K Store 2746059	Eligible	2022-07-08	Open
18422	Great Falls Sinclair	Eligible	2022-10-27	Open
32573	Republic Services		2024-02-13	Open
18413	Phillips 66 Great Falls Terminal		2024-06-25	Open

Source: MDEQ. Montana Petroleum Releases. https://discover-mtdeq.hub.arcgis.com/maps/450aa5e390cf46ff888dead636316826/about.

Table B.27: Hazardous Waste Generators in the Great Falls Subarea

Site ID	Site Name	Status	Generator Status	Tons/Year	Address
173022	Northwest Equipment Inc	Active	Small Quantity Generator	0	54 Gibson Flats Rd
150594	Montana Air National Guard 120 AW	Active	Small Quantity Generator	1.2475	2800 Airport Avenue B

Site ID	Site Name	Status	Generator Status	Tons/Year	Address
172589	US FAA Aviation Admin Great Falls Airport	Active	Small Quantity Generator	0	2830 Airport Ave A
150697	Home Depot Store #3103	Active	Small Quantity Generator	0.936	1500 Market Place Dr
150719	Avmax Montana Inc	Active	Small Quantity Generator	4.8905	1930 Airport Ct
147692	City Of Great Falls	Active	Large Quantity Generator	3.5	1301 Lower River Rd
173111	US Postal Service Annex Great Falls	Active	Small Quantity Generator	0	1409 14th St SW
173037	University Of Providence	Active	Small Quantity Generator	0	1301 20th St S
172822	Federal Express Corp Great Falls	Active	Conditionally Exempt Small Quantity Generator	0	1400 Air Cargo Dr
236477	Walmart Supercenter #7199	Active	Small Quantity Generator	0.7095	5320 10th Ave S
172672	Taylors Automax	Active	Small Quantity Generator	0	4100 10th Ave S
172774	City Motor Company Inc	Active	Small Quantity Generator	0	3900 10th Ave S
188137	Target Store T0253	Active	Large Quantity Generator	0.2425	2000 10th Ave S
172560	Sears Roebuck & Co 2808 Great Falls	Active	Conditionally Exempt Small Quantity Generator	0	1200 10th Ave S Holiday Village Mall
189617	CVS Pharmacy #8624	Active	Large Quantity Generator	0.028	2001 10th Ave S
172658	Bison Ford Co	Active	Conditionally Exempt Small Quantity Generator	0.96	500 10th Ave S
172899	Winfield Solutions LLC	Closed	Small Quantity Generator	0.834	801 River Dr S
126572	Nutrien Ag Solutions	Active	Large Quantity Generator	0	708 HWY 87 N
228257	Extended Stay America #7068 – Great Falls	Active	Small Quantity Generator	0.0075	800 River Dr South
173017	Great Falls Housing Authority	Closed	Conditionally Exempt Small Quantity Generator	0	1500 6th Ave S
150709	The Three Ws Inc	Inactive	Large Quantity Generator	0	420 3rd St S
257417	Great Falls Armed Forces Reserve Center	Active	Small Quantity Generator	0	401 63rd St S
170199	BNSF Great Falls	Active	Small Quantity Generator	0.065	617 Bay Dr
173044	Sears 7002 Great Falls	Closed	Conditionally Exempt Small Quantity Generator	0	405 3rd Ave S
172653	Great Falls Tribune	Active	Small Quantity Generator	0.65	205 River Rd S
201057	Arvon Block	Closed	Large Quantity Generator	0.275	114-118 1st Ave S
172765	Great Falls Public Schools Central Ave	Active	Conditionally Exempt Small Quantity Generator	0	2400 Central Ave
150596	Malmstrom Air Force Base	Active	Large Quantity Generator	9.5375	39 78th St N
172694	National Coatings & Supplies Inc	Active	Small Quantity Generator	3.255	814 1st Ave N
173095	Us Postal Service Great Falls	Active	Conditionally Exempt Small Quantity Generator	39.54	215 1st Ave N
173170	Little Russell	Active	Large Quantity Generator	3.393	2615 Central Ave W
172660	Cascade Co Weed & Mosquito Management	Inactive	Conditionally Exempt Small Quantity Generator	0	521 1st Ave NW
159854	Former Cascade County Shop	Active	Small Quantity Generator	0.42	415 3rd St NW
172876	Automotive Machine Inc	Active	Conditionally Exempt Small Quantity Generator	0.65	813 25th St N
152623	Sams Club #6379	Active	Small Quantity Generator	0.562	401 NW Bypass
224697	XPO Logistics Freight Inc – Ugf	Active	Small Quantity Generator	0	1100 Stuckey Rd
150722	Phillips 66 Great Falls Product Terminal	Active	Large Quantity Generator	0.004	1401 52nd St N

Site ID	Site Name	Status	Generator Status	Tons/Year	Address
215157	O'Reilly Auto Parts Store 1554	Active	Conditionally Exempt Small Quantity Generator	0	1301 3rd St NW
266252	Circle K Store 2746730	Active	Small Quantity Generator	0	1428 3rd St NW
194537	Sletten Construction	Active	Large Quantity Generator	11.7125	4801 River Dr N
173146	MT Heritage St Park Giant Springs Fish Hatchery	Active	Large Quantity Generator	765.4	4600 Giant Springs Rd
32924	Northwestern Energy Rainbow Shop	Active	Large Quantity Generator	1.26	336 Rainbow Dam Road
152565	Battery Warehouse	Active	Large Quantity Generator	0.07	910 12th St N
153143	Great Falls Service Center	Active	Conditionally Exempt Small Quantity Generator	0	1501 N River Rd
172886	MT DOT Great Falls	Active	Small Quantity Generator	0.57	104 18th Ave NE
150597	Calumet Montana Refining LLC	Active	Large Quantity Generator	3966.5	1900 10th St Ne
152924	Walmart Supercenter #2455	Active	Small Quantity Generator	0.737	701 Smelter Ave NE
172828	Montana Waste Systems Shop	Active	Small Quantity Generator	0.22	3201 15th St NE
218117	Great Falls Skyline Water Tower	Closed		0	1420 36th Ave NE

Source: MDEQ. Montana Hazardous Waste Handlers. https://discover-mtdeq.hub.arcgis.com/maps/76a5d2be4cdf4b9987740c1a9f497027/about.

Table B.28: Solid Waste Sites in the Great Falls Subarea

Site ID	Site Name	Site Address	Site City	Site County	Facility Type
147434	Montana Sand & Gravel	1501 51st Street South (US 87 RP 90.5)	Great Falls	Cascade	Major Class III Facility
146731	Ranch Landfill	316 McIver Road	Great Falls	Cascade	Minor Class III Facility
160788	Pacific Steel & Recycling – Great Falls	1624 12th Avenue North	Great Falls	Cascade	Recycling Facility
146842	Great Falls Yard Waste Recycling Facility	18th Avenue North and 40th Street North (River Drive RP 5.5)	Great Falls	Cascade	Small Composter Operation

Source: MDEQ. 2024.

Table B.29: Sewage Disposal Sites in the Great Falls Subarea

Site ID	Site Name	Site Address/Location	Site City	Site County
147692	City of Great Falls Wastewater Treatment Plant	1301 Lower River Road (I-15 RP 95)	Great Falls	Cascade
147868	Great Falls Wastewater Treatment Plant – SP	1600 6th Street Great Falls (near 9th Street North RP 0)	Great Falls	Cascade

Source: MDEQ. 2024.

Table B.30: Opencut Permits in the Great Falls Subarea

Site ID	Site Name	Operator	Site Address/Location	Type	Size	Status (as of March 17,2024)
1756	Ranch	United Materials of Great Falls, Inc	On the western border of the Great Falls subarea south of McIver Road	Gravel & Sand pit	1,071 acres	Approved in 2020, expires in 2050
1755	Johnson #2	United Materials of Great Falls, Inc	Southeast Great Falls near Gibson Flats north of Gibson Flats Road	Gravel & Sand pit	143 acres	Approved in 2022, expires in 2062
3395	Eden Ridge	United Materials of Great Falls, Inc	South-central Great Falls near Fields east of Eden Park Lane Road	N/A	N/A	Pending approval from DEQ

Site ID	Site Name	Operator	Site Address/Location	Type	Size	Status (as of March 17,2024)
1759	Pursley	United Materials of Great Falls, Inc	Southeast Great Falls near Gibson Flats near Barnwood Lane Road, south of US 87 RP 88	Gravel & Sand pit	N/A	Pending approval from DEQ
1758	Volk Hill	United Materials of Great Falls, Inc	Southeast Great Falls near Gibson Flats near Barnwood Lane Road, south of US 87 RP 88	Gravel & Sand pit	N/A	Pending approval from DEQ

Source: MDEQ. 2024.

Table B.31: Abandoned Mines in the Great Falls Subarea

Site ID	Site Name	Site Address/Location	Type
14620	Coal Inventory CI0389	South-central Great Falls near Gibson Flats	Coal mine
14619	Coal Inventory CI0388	South-central Great Falls near Gibson Flats	Coal mine
14620	NE Sand Coulee	Southeast Great Falls near Gerber	Underground coal mine
14618	Coal Inventory CI0387	South-central Great Falls near Gibson Flats	Coal mine
16985	Great Falls	West-central Great Falls near the Great Falls International Airport west of I 15 RP 279.5	Surface hard rock mine
32352	Montana Silver Smelter	Northwest Great Falls within Giant Springs State Park	Hard rock mine

Source: MDEQ. 2024.

2.8.3 Lewistown Subarea

Table B.32: CECRA State Superfund Unit Facilities in the Lewistown Subarea

Facility ID	Facility Name	Program	Contaminant	Listed	Delisted
31355	Berg Post & Pole	CECRA	PCP, creosote, and dioxins	1996	

Source: MDEQ. Montana State Superfund Unit Facilities. https://discover-mtdeq.hub.arcgis.com/maps/30609f40f020422788679fc3124e0763/about.

Table B.33: WQA State Superfund Unit Facilities in the Lewistown Subarea

Facility ID	Facility Name	Facility Code	Program	Contaminant	Listed	Delisted
31520	MDOT Maintenance Facility Lewistown	MDTL	WQA	petroleum hydrocarbons and chlorinated solvent compounds	8/20/1998	
31642	Berg Lumber Mill, Lewistown	BLML	WQA	Pentachlorophenol, calcium carbonate	1/28/1999	
31879	Fergus County Shop Lewistown	FCSL	WQA	petroleum and pentachlorophenol	1/1/2009	11/20/2015

Source: MDEQ. Montana State Superfund Unit Facilities. https://discover-mtdeq.hub.arcgis.com/maps/30609f40f020422788679fc3124e0763/about.

Table B.34: Active Underground Storage Tanks in the Lewistown Subarea

Facility ID	Facility Name	Tank ID	Tank Status	Capacity (Gallons)	Substance
20161	Skyline Aviation	05	Currently in Use	10000	Gasoline
20143	MDOT Lewistown	05	Currently in Use	10000	Gasoline
		06	Currently in Use	10000	Diesel

Facility ID	Facility Name	Tank ID	Tank Status	Capacity (Gallons)	Substance
20060	Central Montana Medical Center	02	Currently in Use	4000	Diesel
20088	Country Corner Lewistown	06	Currently in Use	8000	Diesel
		05	Currently in Use	6000	Gasoline
		04	Currently in Use	6000	Gasoline
20423	Depot Express	10	Currently in Use	9000	Gasoline
		11	Currently in Use	3000	Diesel
		08	Currently in Use	4000	Gasoline
		09	Currently in Use	6000	Gasoline
20301	Town Pump Inc Lewistown	12	Currently in Use	6000	Gasoline
		11	Currently in Use	24000	Gasoline
		13	Currently in Use	15000	Diesel
		14	Currently in Use	15000	Gasoline
		08	Currently in Use	5000	Diesel
		09	Currently in Use	5000	sDiesel
		06	Currently in Use	10000	Diesel
		07	Currently in Use	10000	Diesel
		05	Currently in Use	6000	Gasoline
		04	Currently in Use	12000	Gasoline
20172	Rindal Oil Co Lewistown	S11	Currently in Use	1000	Gasoline
		S13	Currently in Use	2000	Diesel
		S12	Currently in Use	1000	Diesel

Source: MDEQ. Montana Regulated Storage Tanks. https://discover-mtdeq.hub.arcgis.com/maps/9d3ced5644c94edf8b67b165248292e8/about.

Table B.35: Open Petroleum Tank Releases in the Lewistown Subarea

Facility ID	Facility Name	Eligibility	Confirmed Date	Release Status
31098	G and S Oil Co Bulk Plant #1906	Withdrawn	1993-10-21	Open
20172	Rindal Oil Co Lewistown	Eligible	1999-02-23	Open
20371	On Your Way 3 Lewistown	Ineligible	1999-08-19	Open
20278	PJG Motorsports UST	Eligible	2015-04-03	Open
20301	Town Pump Inc Lewistown	Eligible	2018-05-22	Open
20027	Randal's Fort Lewis Trading Post	Eligible	2020-12-03	Open

Source: MDEQ. Montana Petroleum Releases. https://discover-mtdeq.hub.arcgis.com/maps/450aa5e390cf46ff888dead636316826/about.

Table B.36: Hazardous Waste Generators in the Lewistown Subarea

Site ID	Site Name	Status	Generator Status	Tons/Year	Address
172526	US BLM Lewistown District Airport Rd	Inactive	Small Quantity Generator	0.3	Airport Rd
150713	Fergus County Road Dept	Active	Large Quantity Generator	427.58	81 Armory Rd
269640	Lewistown Airport Old Hanger	Active	Small Quantity Generator	0.3575	105 E Aztec Dr
172565	MT DOT Lewistown	Active	Small Quantity Generator	0.73	1620 Airport Rd
240537	Lewistown Readiness Center	Active	Conditionally Exempt Small Quantity Generator	0	863 Airport Rd
222357	O'Reilly Auto Parts Store 1556	Active	Conditionally Exempt Small Quantity Generator	0	112 W Janeaux St
260440	Advance Auto Parts #3764	Inactive	Small Quantity Generator	0.25	207 1st Ave South
170288	Former Berg Lumber Mill	Closed	Small Quantity Generator	0.15	NE Joyland Rd & E Cheadle St

Source: MDEQ. Montana Hazardous Waste Handlers. https://discover-mtdeq.hub.arcgis.com/maps/76a5d2be4cdf4b9987740c1a9f497027/about.

Table B.37: Sewage Disposal Sites in the Lewistown Subarea

Site ID	Site Name	Site Address/Location	Site City	Site County
148020	Lewistown Wastewater Treatment Plant	620 Metis Avenue	Lewistown	Fergus

Source: MDEQ. 2024.

Table B.38: Opencut Permits in the Lewistown Subarea

Site ID	Site Name	Operator	Site Address/Location	Type	Size	Status
1461	MK Weeded (Old Tindall)	MK Weeden Construction, Inc.	West-central Lewistown at approximately US 191 RP 1/US 87 RP 80	Gravel pit	39.2 acres	Active
1435	Airport	Lewistown Municipal Airport	Southeast Lewistown near Sandhill Rd	Gravel pit	N/A	Active

Source: MDEQ. 2024.

2.8.4 Old Havre Highway and US 87 Corridor

Table B.39: National Priority List Superfund Sites in the Old Havre Highway/US 87 Corridor

EPA ID	Site Name	Site Address	Site City	Site County	Area (Acres)
MTD093291599	ACM Smelter And Refinery	River Road North, 1 Mile E of 15th St.	Black Eagle	Cascade	2,420

Source: EPA. NPL Superfund Site Boundaries. https://www.arcgis.com/home/item.html?id=d6e1591d9a424f1fa6d95a02095a06d7.

Table B.40: CECRA State Superfund Unit Facilities in the Old Havre Highway/US 87 Corridor

Facility ID	Facility Name	Facility Code	Program	Contaminant	Listed	Delisted
31692	Great Falls City Landfill Wiremill Rd	GFLW	CECRA	total petroleum hydrocarbons (TPH)	10/13/1988	12/21/1996
31701	Great Falls City Landfill 25th Ave	GFLF	CECRA	refinery sludge	5/22/1989	
31391	Bootlegger Trail Site	BOOT	CECRA	petroleum	10/1/1989	2/2/2015
31468	Great Falls Refinery Phillips Petroleum	GFRP	CECRA	hydrocarbons	1/1/1991	2/2/2015

Facility ID	Facility Name	Facility Code	Program	Contaminant	Listed	Delisted
31499	Energy West Gas Manufacturing Plant	EWGM	CECRA	polynuclear aromatic hydrocarbons (PAHs); benzene, toluene, ethylbenzene and xylene (BTEX); low levels of cyanide, metals	2/4/1994	

Source: MDEQ. Montana State Superfund Unit Facilities. https://discover-mtdeq.hub.arcgis.com/maps/30609f40f0204227886 79fc3124e0763/about.

Table B.41: WQA State Superfund Unit Facilities in the Old Havre Highway/US 87 Corridor

Facility ID	Facility Name	Facility Code	Program	Contaminant	Listed	Delisted
31690	MDOT 10th Street Bridge	MTBG	WQA	total petroleum hydrocarbons (TPH)	7/7/1991	7/24/2001
31870	Vincent Daly Semenza Site	VDSS	WQA	Undisclosed	8/1/1995	8/29/1995
31980	Montana Refining Co Black Eagle Sewer and Water	MRGF	WQA	petroleum, hydrocarbons	3/11/1997	1/30/2003

Source: MDEQ. Montana State Superfund Unit Facilities. https://discover-mtdeq.hub.arcgis.com/maps/30609f40f0204227886 79fc3124e0763/about.

Table B.42: Active Underground Storage Tanks in the Old Havre Highway/US 87 Corridor

Facility ID	Facility Name	Tank ID	Tank Status	Capacity	Substance
18524	Kernaghan's Service 8th Ave N	05	Currently in Use	7500	Gasoline
18525	Kernaghan's Service 9th Ave N	07	Currently in Use	2000	Diesel
		09	Currently in Use	1500	Diesel
		06	Currently in Use	1000	Gasoline
		08	Currently in Use	3500	Diesel
		05	Currently in Use	2000	Gasoline
18687	Holiday Station Store 273	05	Currently in Use	8000	Gasoline
		06	Currently in Use	8000	Gasoline
	Circle K Store 2746273	04	Currently in Use	8000	Gasoline
18380	Black Eagle Service Center	05	Currently in Use	2086	Diesel
		04	Currently in Use	2086	Gasoline
18320	Mountain View Co op Great Falls	16	Currently in Use	12000	Gasoline
		15	Currently in Use	10000	Gasoline
		18	Currently in Use	12000	Diesel
		17	Currently in Use	8000	Gasoline
		14	Currently in Use	10000	Gasoline
		19	Currently in Use	8000	Diesel, Dyed
18585	Loaf 'N Jug #767	01	Currently in Use	10000	Diesel
18585	Loaf 'N Jug #767	02	Currently in Use	10000	Gasoline
		03	Currently in Use	10000	Gasoline
31011	Mountain View Co Op	07	Currently in Use	10000	Gasoline
		06	Currently in Use	8000	Gasoline

Facility ID	Facility Name	Tank ID	Tank Status	Capacity	Substance
		05	Currently in Use	12000	Diesel
31011	Mountain View Co Op	03	Currently in Use	10000	Diesel
		02	Currently in Use	15000	Diesel
		01	Currently in Use	30000	Diesel
18509	Mountain View Co op Black Eagle	11	Currently in Use	4000	Diesel
		07	Currently in Use	12000	Gasoline
		10	Currently in Use	4000	Diesel, Dyed
		09	Currently in Use	4000	Gasoline
		08	Currently in Use	12000	Diesel, Dyed
		12	Currently in Use	4000	Diesel

Source: Source: MDEQ. Montana Regulated Storage Tanks. https://discover-mtdeq.hub.arcgis.com/maps/9d3ced5644c94edf8b67b165248292e8/about.

Table B.43: Unresolved Petroleum Tank Releases in Old Havre Highway/US 87 Corridor

Facility ID	Facility Name	Eligibility	Confirmed Date	Release Status
18525	Kernaghan's Service 9Th Ave N	Eligible	1998-04-14	Open
31010	Mountain View Co-op	Eligible	2017-09-07	Open
18509	Mountain View Co-op Black Eagle		2022-05-12	Open
18509	Mountain View Co-op Black Eagle		2022-05-12	Open
18509	Mountain View Co-op Black Eagle		2022-05-12	Open
32573	Republic Services		2024-02-13	Open

Source: MDEQ. Montana Petroleum Releases. https://discover-mtdeq.hub.arcgis.com/maps/450aa5e390cf46ff888dead636316826/about.

Table B.44: Hazardous Waste Generators in the Old Havre Highway/US 87 Corridor

Site ID	Site Name	Status	Generator Status	Tons/Year	Address
152565	Battery Warehouse	Active	Large Quantity Generator	0.07	910 12th St N
153143	Great Falls Service Center	Active	Conditionally Exempt Small Quantity Generator	0	1501 N River Rd
172886	MT DOT Great Falls	Active	Small Quantity Generator	0.57	104 18th Ave NE
150597	Calumet Montana Refining LLC	Active	Large Quantity Generator	3966.5	1900 10th St Ne
152924	Walmart Supercenter #2455	Active	Small Quantity Generator	0.737	701 Smelter Ave NE
172828	Montana Waste Systems Shop	Active	Small Quantity Generator	0.22	3201 15th St NE
218117	Great Falls Skyline Water Tower	Closed		0	1420 36th Ave NE

Source: MDEQ. Montana Hazardous Waste Handlers. https://discover-mtdeq.hub.arcgis.com/maps/76a5d2be4cdf4b9987740c1a9f497027/about.

Table B.45: Solid Waste Sites in Old Havre Highway/US 87 Corridor

Site ID	Site Name	Site Address	Site City	Site County	Facility Type
160788	Pacific Steel & Recycling	1624 12th Avenue North	Great Falls	Cascade	Recycling Facility

Source: MDEQ. 2024.

Table B.46: Sewage Disposal Sites in Old Havre Highway/US 87 Corridor

Site ID	Site Name	Site Address/Location	Site City	Site County
147868	Great Falls Wastewater Treatment Plant – SP	1600 6th Street Great Falls (near 9th Street North RP 0)	Great Falls	Cascade

Source: MDEQ. 2024.

2.8.5 US-87 – Armington Junction through Otter Creek Canyon Corridor

Table B.47: WQA State Superfund Unit Facilities in the Armington Junction through Otter Creek Canyon Corridor

Facility ID	Facility Name	Location	Program	Contaminant	Listed	Delisted
31241	Robert Anderson CAFO	North of US 87 (RP 10)	WQA	Unpermitted CAFO discharge	1994	1996

Source: MDEQ. Montana State Superfund Unit Facilities. https://discover-mtdeq.hub.arcgis.com/maps/30609f40f020422788679fc3124e0763/about.

Table B.48: Petroleum Tank Releases in the Armington Junction through Otter Creek Canyon Corridor

Facility ID	Facility Name	Location	Confirmed Date	Release Status
22701	Michels Garage UST	South of US 87 (RP 6 to RP 7)	1998-06	Resolved in July 1998
22770	Malmstrom AFB A 1	South of US 87 (RP 6 to RP 7)	1999-04	Resolved in March 1999

Source: MDEQ. Montana Petroleum Releases. https://discover-mtdeq.hub.arcgis.com/maps/450aa5e390cf46ff888dead636316826/about.

Table B.49: Abandoned Mines in the Armington Junction through Otter Creek Canyon Corridor

Site ID	Site Name	Site Address/Location	Type
13950	Pilgeram Extension C0760	North of US 87 (RP 72)	Underground coal mine
14623	Buzzo Mine	North of US 87 (RP 72)	Underground coal mine

Source: MDEQ. 2024.

2.9 Air Quality

2.9.1 Central Montana Study Area

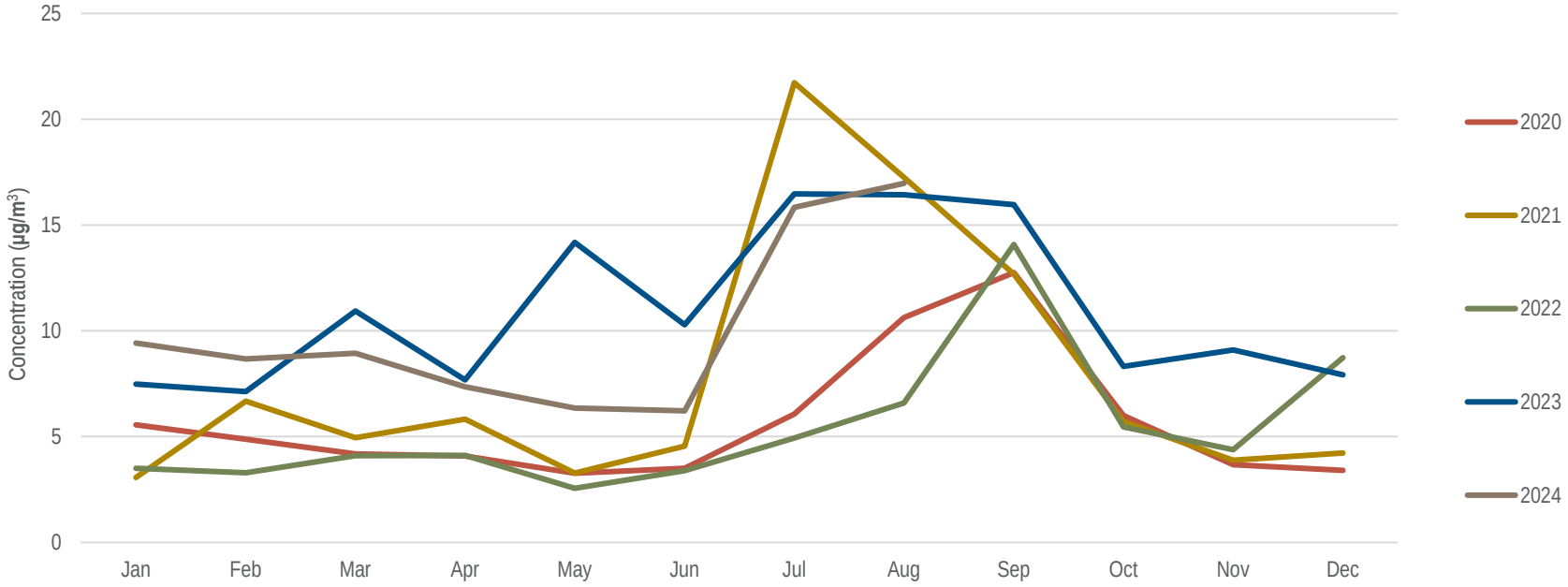
Table B.50: National Ambient Air Quality Standards

Pollutant		Primary/ Secondary	Averaging Time	Level	Form
Carbon monoxide		Primary	8 hours	9 ppm	Not to be exceeded more than once per year
			1 hour	35 ppm	
Lead (Pb)		Primary and secondary	Rolling 3-month average	0.15 µg/m^3	Not to be exceeded
Nitrogen dioxide (NO2)		Primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Primary and secondary	Annual	53 ppb	Annual mean
Ozone (O3)		Primary and secondary	8 hours	0.070 ppm	Annual 4th highest daily maximum 8-hour concentration, averaged over 3 years
Particulate matter	PM2.5	Primary	Annual	9 µg/m^3	Annual mean, averaged over 3 years
		Secondary	Annual	15 µg/m^3	Annual mean, averaged over 3 years
	PM10	Primary and secondary	24 hours	35 µg/m^3	98th percentile, averaged over 3 years
		Primary and secondary	24 hours	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years
Sulfur dioxide (SO2)		Primary	1 hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Secondary	Annual	10 ppm	Annual mean, averaged over 3 years

Source: US EPA. NAAQS Table. https://www.epa.gov/criteria-air-pollutants/naaqs-table. Notes: µg/m^3 = micrograms per cubic meters; ppb = parts per billion; ppm = parts per million.

2.9.2 Great Falls Subarea

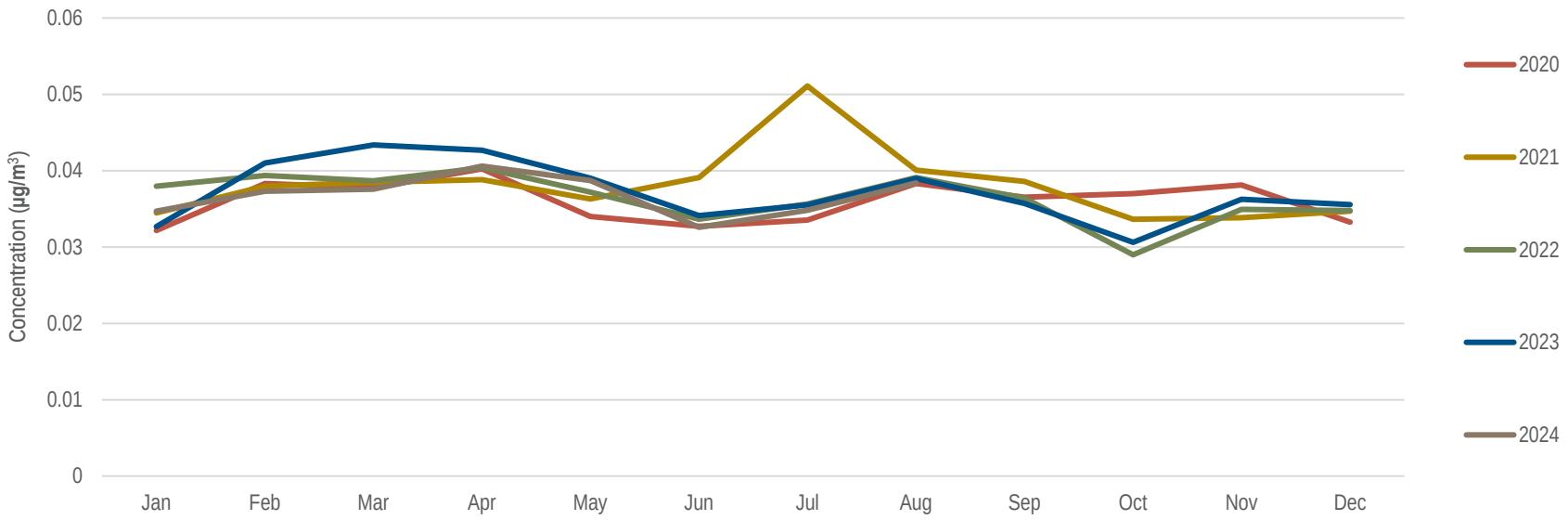
Chart B.1: Average Monthly PM2.5 Concentration in Great Falls



Source: MDEQ. Montana Air Quality Monitoring Data. https://discover-mtdeq.hub.arcgis.com/datasets/MTDEQ::montana-air-quality-monitoring-data/about. Note: data filtered for Great Falls.

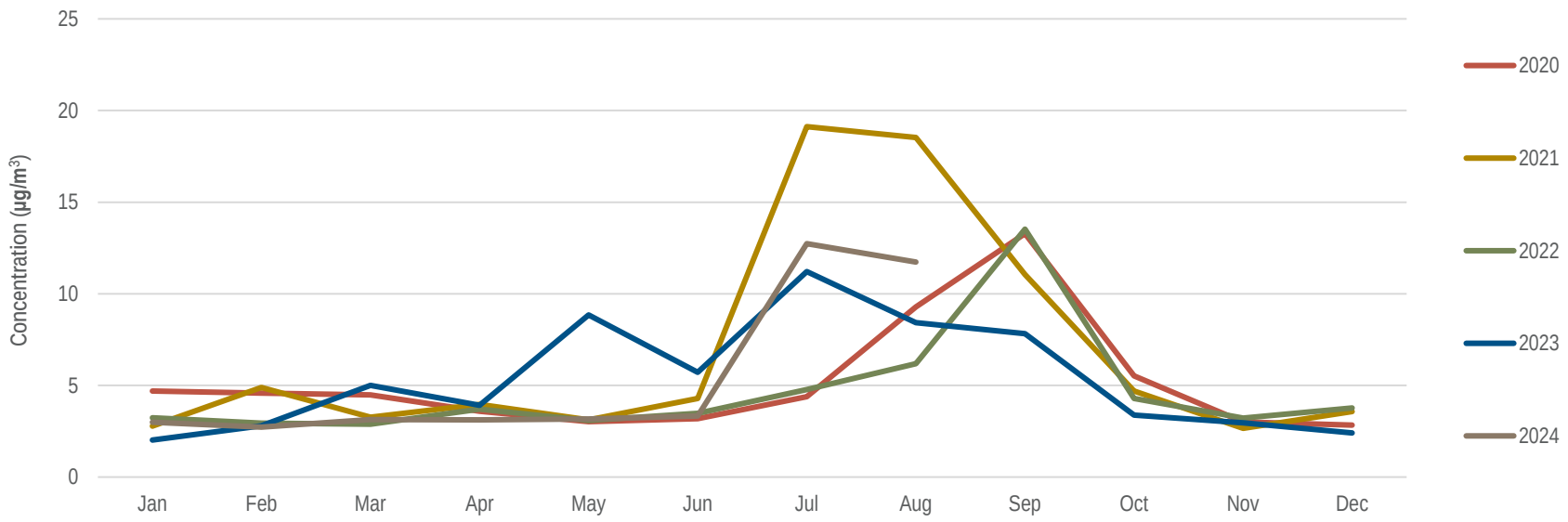
2.9.3 Lewistown Subarea

Chart B.2: Average Monthly Ozone in Lewistown



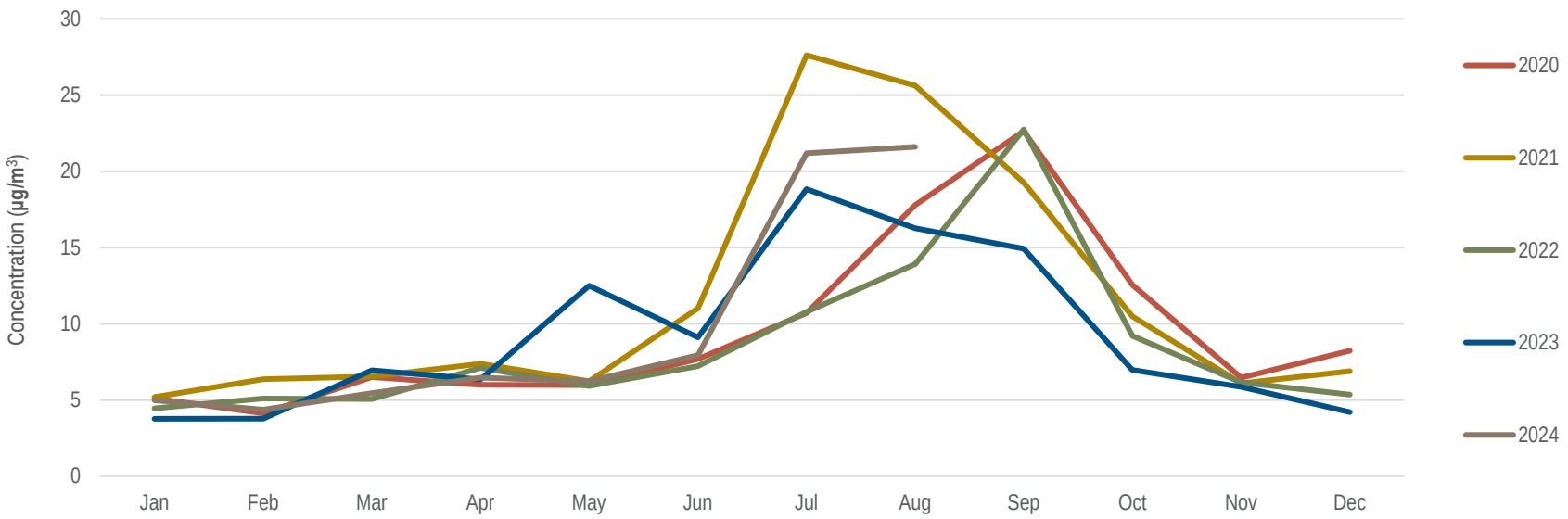
Source: MDEQ. Montana Air Quality Monitoring Data. https://discover-mtdeq.hub.arcgis.com/datasets/MTDEQ::montana-air-quality-monitoring-data/about. Note: data filtered for Lewistown.

Chart B.3: Average Monthly PM2.5 Concentration in Lewistown



Source: MDEQ. Montana Air Quality Monitoring Data. https://discover-mtdeq.hub.arcgis.com/datasets/MTDEQ::montana-air-quality-monitoring-data/about. Note: data filtered for Lewistown.

Chart B.4: Average Monthly PM10 Concentration in Lewistown



Source: MDEQ. Montana Air Quality Monitoring Data. https://discover-mtdeq.hub.arcgis.com/datasets/MTDEQ::montana-air-quality-monitoring-data/about. Note: data filtered for Lewistown.

2.9.4 Old Havre Highway and US 87 Corridor

No supplemental tables or charts are provided for this area.

2.9.5 US 87 – Armington Junction through Otter Creek Canyon Corridor

No supplemental tables or charts are provided for this area.

2.10 Noise

2.10.1 Central Montana Study Area

Table B.51: Noise Levels for Land Uses

Land Use Category	FHWA dBA Leq	MDT dBA Leq	Description of Land Use Category
A	57 (Exterior)	56 (Exterior)	Tracts of lands in which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. Areas include amphitheaters, particular parks or portions of parks, or open spaces which are dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet.
B	67 (Exterior)	66 (Exterior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, picnic areas, recreation areas, playgrounds, active sports areas, and parks.
C	72 (Exterior)	71 (Exterior)	Developed lands, properties or activities not included in categories A and B above.
D	–	–	Undeveloped lands.
E	51 (Interior)	51 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.

Source: MDT. 2008. Growing Neighborhoods in Growing Corridors: Land Use Planning for Highway Noise. https://mdt.mt.gov/other/webdata/external/research/docs/research_proj/noise_plan/final_report.pdf. Note: Leq = equivalent continuous sound level (average sound pressure level over time).

Table B.52: Recommended Noise Levels Thresholds

Recommended dBA	Description of Threshold
60	Indoor and outdoor noise sensitive areas (land use category B)
60	indoor activities only that involve places where people sleep (land use category B)
70	indoor-only activities that do not involve places where people sleep (land use category C)

Source: MDT. 2008. Growing Neighborhoods in Growing Corridors: Land Use Planning for Highway Noise. https://mdt.mt.gov/other/webdata/external/research/docs/research_proj/noise_plan/final_report.pdf.

2.10.2 Great Falls Subarea

Table B.53: Great Falls Noise Limitations

Districts	7:00 a.m. to 8:00 p.m.	8:00 p.m to 7:00 a.m.
Residential	55 dBA	50 dBA
Light commercial	65 dBA	60 dBA
Heavy commercial	70 dBA	65 dBA
Industrial	80 dBA	75 dBA

Source: City of Great Falls. 2018. Code of Ordinances, Section 8.53.040. https://library.municode.com/mt/great_falls_/codes/code_of_ordinances?nodeId=TIT8HESA_CH53NO.

2.10.3 Lewistown Subarea

No supplemental tables or charts are provided for this area.

2.10.4 Old Havre Highway and US 87 Corridor

No supplemental tables or charts are provided for this area.

2.10.5 US 87 – Armington Junction through Otter Creek Canyon Corridor

No supplemental tables or charts are provided for this area.

3.0 BIOLOGICAL ENVIRONMENT

3.1 Vegetation and Noxious Weeds

3.1.1 Central Montana Study Area

No supplemental tables or charts are provided for this area.

3.1.2 Great Falls Subarea

Table B.54: Botanical Species of Concern Occurrences in Great Falls Subarea

Common Name	Scientific Name	State Rank[a]	Habitat
Chaffweed	Centunculus minimus	S2	Wetland/Riparian
Dwarf Woolly heads	Psilocarphus brevissimus	S2S3	Wetland/Riparian
Floriferous Monkeyflower	Mimulus floribundus	SH	Vernally moist cliffs and streambanks
Foxtail Muhly	Muhlenbergia andina	S2S3	Damp but often well-drained soils
Guadalupe Water nymph	Najas guadalupensis	S2S3	Aquatic
Little Indian Breadroot	Pediomelum hypogaeum var. hypogaeum	S3S4	Grasslands/Woodlands (open, sandy soil)
Many headed Sedge	Carex sychnocephala	S1S2	Wetland/Riparian
Pale yellow Jewel weed	Impatiens aurella	S3	Riparian
Roundleaf Water hyssop	Bacopa rotundifolia	S3?[b]	Wetland/Riparian
Slim pod Venus' looking glass	Triodanis leptocarpa	S3	Grasslands; plains
Square stem Monkeyflower	Mimulus ringens	S2?[b]	Wetland/Riparian

Source: MTNHP. Note: database provided by MTNHP.

a State Rank Definitions: S1 At high risk because of extremely limited and potentially declining numbers, extent and/or habitat, making it highly vulnerable to global extinction or extirpation in the state; S2 At risk because of very limited and potentially declining numbers, extent and/or habitat, making it vulnerable to global extinction or extirpation in the state; S3 Potentially at risk because of limited and potentially declining numbers, extent and/or habitat, even though it may be abundant in some areas; S4 Uncommon but not rare (although it may be rare in parts of its range), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern; SH Known from only historical records but still some hope of rediscovery. There is evidence that the species or ecosystem may no longer be present in Montana, but not enough to state this with certainty.

[b] *Additional information needed.*

Table B.55: Noxious Weeds Present in the Great Falls Subarea

Noxious Weed Priority	Common Name	Scientific Name
Priority 1A	Dyer's Woad	*Isatis tinctoria*
	European Common Reed	*Phragmites australis* ssp. *australis*
	Medusahead	*Taeniatherum caput-medusae*
	Yellow Starthistle	*Centaurea solstitialis*
Priority 1B	Blueweed	*Echium vulgare*
	Bohemian Knotweed	*Polygonum x bohemicum*
	Japanese Knotweed	*Polygonum cuspidatum*
	Purple Loosestrife	*Lythrum salicaria*
	Rush Skeletonweed	*Chondrilla juncea*
	Scotch Broom	*Cytisus scoparius*
Priority 2A	Common Buckthorn	*Rhamnus cathartica*
	Eurasian Water-milfoil	*Myriophyllum spicatum*
	Flowering-rush	*Butomus umbellatus*
	Kingdevil Hawkweed	*Hieracium praealtum*
	Perennial Pepperweed	*Lepidium latifolium*
	Tall Buttercup	*Ranunculus acris*
	Tall Hawkweed	*Hieracium piloselloides*
	Ventenata	*Ventenata dubia*
Priority 2B	Canada Thistle	*Cirsium arvense*
	Common Hound's-tongue	*Cynoglossum officinale*
	Common St. John's-wort	*Hypericum perforatum*
	Common Tansy	*Tanacetum vulgare*
	Curly-leaf Pondweed	*Potamogeton crispus*
	Dalmatian Toadflax	*Linaria dalmatica*
	Diffuse Knapweed	*Centaurea diffusa*
	Field Bindweed	*Convolvulus arvensis*
	Hoary False-alyssum	*Berteroa incana*

Noxious Weed Priority	Common Name	Scientific Name
Priority 2B	Leafy Spurge	*Euphorbia virgata*
	Oxeye Daisy	*Leucanthemum vulgare*
	Russian Knapweed	*Acroptilon repens*
	Salt Cedar	*Tamarix ramosissima*
	Spotted Knapweed	*Centaurea stoebe*
	Sulphur Cinquefoil	*Potentilla recta*
	Whitetop	*Lepidium draba*
	Yellow Toadflax	*Linaria vulgaris*
Regulated Plants: Priority 3	Cheatgrass	*Bromus tectorum*
	Russian Olive	*Elaeagnus angustifolia*

Source: MTNHP. Note: database provided by MTNHP.

3.1.3 Lewistown Subarea

Table B.56: Botanical SOC Occurrences in Lewistown Subarea

Common Name	Scientific Name	State Rank	Habitat
Long sheath Waterweed	Elodea bifoliata	S2?	Wetland/Riparian (shallow water)
Silver Bladderpod	Physaria ludoviciana	S2S3	Sandy sites
Wood Lily	Lilium philadelphicum	S3	Moist, usually calcareous meadows, grasslands, fens, woodlands; valleys

Source: MTNHP. Note: database provided by MTNHP.

Table B.57: Noxious Weeds Present in Lewistown Subarea

Noxious Weed Priority	Common Name	Scientific Name
Priority 1A	Dyer's Woad	*Isatis tinctoria*
	Yellow Starthistle	*Centaurea solstitialis*
Priority 1B	Japanese Knotweed	*Polygonum cuspidatum*
	Purple Loosestrife	*Lythrum salicaria*
	Scotch Broom	*Cytisus scoparius*
Priority 2A	Common Buckthorn	*Rhamnus cathartica*
	Kingdevil Hawkweed	*Hieracium praealtum*
	Meadow Hawkweed	*Hieracium caespitosum*
	Orange Hawkweed	*Hieracium aurantiacum*
	Perennial Pepperweed	*Lepidium latifolium*
	Tall Buttercup	*Ranunculus acris*
	Tall Hawkweed	*Hieracium piloselloides*
	Ventenata	*Ventenata dubia*

Noxious Weed Priority	Common Name	Scientific Name
Priority 2B	Canada Thistle	*Cirsium arvense*
	Common Hound's-tongue	*Cynoglossum officinale*
	Common Tansy	*Tanacetum vulgare*
	Dalmatian Toadflax	*Linaria dalmatica*
	Diffuse Knapweed	*Centaurea diffusa*
	Field Bindweed	*Convolvulus arvensis*
	Hoary False-alyssum	*Berteroa incana*
	Leafy Spurge	*Euphorbia virgata*
	Oxeye Daisy	*Leucanthemum vulgare*
	Russian Knapweed	*Acroptilon repens*
	Spotted Knapweed	*Centaurea stoebe*
	Sulphur Cinquefoil	*Potentilla recta*
	Whitetop	*Lepidium draba*
	Yellow Toadflax	*Linaria vulgaris*
Regulated Plants: Priority 3	Cheatgrass	*Bromus tectorum*

Source: MTNHP. Note: database provided by MTNHP.

3.1.4 Old Havre Highway and US 87 Corridor

Table B.58: Botanical SOC Occurrences in Old Havre Highway/US 87 Corridor

Common Name	Scientific Name	State Rank	Habitat
Chaffweed	Centunculus minimus	S2	Wetland/Riparian
Foxtail Muhly	Muhlenbergia andina	S2S3	Damp but often well-drained soils
Little Indian Breadroot	Pediomelum hypogaeum var. hypogaeum	S3S4	Grasslands/Woodlands (open, sandy soil)
Many headed Sedge	Carex sychnocephala	S1S2	Wetland/Riparian
Pale yellow Jewel weed	Impatiens aurella	S3	Riparian

Source: MTNHP. Note: database provided by MTNHP.

Table B.59: Noxious Weeds Present in the Old Havre Highway/US 87 Corridor

Noxious Weed Priority	Common Name	Scientific Name
Priority 1A	Dyer's Woad	*Isatis tinctoria*
	European Common Reed	*Phragmites australis* ssp. *australis*
	Medusahead	*Taeniatherum caput-medusae*
	Yellow Starthistle	*Centaurea solstitialis*
Priority 1B	Blueweed	*Echium vulgare*

Noxious Weed Priority	Common Name	Scientific Name
Priority 1B	Bohemian Knotweed	*Polygonum x bohemicum*
	Japanese Knotweed	*Polygonum cuspidatum*
	Purple Loosestrife	*Lythrum salicaria*
	Rush Skeletonweed	*Chondrilla juncea*
	Scotch Broom	*Cytisus scoparius*
Priority 2A	Common Buckthorn	*Rhamnus cathartica*
	Eurasian Water-milfoil	*Myriophyllum spicatum*
	Flowering-rush	*Butomus umbellatus*
	Kingdevil Hawkweed	*Hieracium praealtum*
	Orange Hawkweed	*Hieracium aurantiacum*
	Perennial Pepperweed	*Lepidium latifolium*
	Tall Buttercup	*Ranunculus acris*
	Tall Hawkweed	*Hieracium piloselloides*
	Ventenata	*Ventenata dubia*
Priority 2B	Canada Thistle	*Cirsium arvense*
	Common Hound's-tongue	*Cynoglossum officinale*
	Common St. John's-wort	*Hypericum perforatum*
	Common Tansy	*Tanacetum vulgare*
	Curly-leaf Pondweed	*Potamogeton crispus*
	Dalmatian Toadflax	*Linaria dalmatica*
	Diffuse Knapweed	*Centaurea diffusa*
	Field Bindweed	*Convolvulus arvensis*
	Hoary False-alyssum	*Berteroa incana*
	Leafy Spurge	*Euphorbia virgata*
	Oxeye Daisy	*Leucanthemum vulgare*
	Russian Knapweed	*Acroptilon repens*
	Salt Cedar	*Tamarix ramosissima*
	Spotted Knapweed	*Centaurea stoebe*
	Sulphur Cinquefoil	*Potentilla recta*
	Whitetop	*Lepidium draba*
	Yellow Toadflax	*Linaria vulgaris*
Regulated Plants: Priority 3	Cheatgrass	*Bromus tectorum*
	Russian Olive	*Elaeagnus angustifolia*

Source: MTNHP. Note: database provided by MTNHP.

3.1.5 US 87 – Armington Junction through Otter Creek Canyon Corridor

Table B.60: Noxious Weeds Present in US 87 – Armington Junction through Otter Creek Canyon Corridor

Noxious Weed Priority	Common Name	Scientific Name
Priority 1A	Dyer's woad	*Isatis tinctoria*
	Medusahead	*Taeniatherum caput-medusae*
	Yellow starthistle	*Centaurea solstitialis*
Priority 1B	Japanese knotweed	*Polygonum cuspidatum*
	Purple loosestrife	*Lythrum salicaria*
	Scotch broom	*Cytisus scoparius*
Priority 2A	Common buckthorn	*Rhamnus cathartica*
	Eurasian water-milfoil	*Myriophyllum spicatum*
	Perennial pepperweed	*Lepidium latifolium*
	Tall buttercup	*Ranunculus acris*
	Tall hawkweed	*Hieracium piloselloides*
	Ventenata	*Ventenata dubia*
Priority 2B	Canada thistle	*Cirsium arvense*
	Common hound's-tongue	*Cynoglossum officinale*
	Common tansy	*Tanacetum vulgare*
	Dalmatian toadflax	*Linaria dalmatica*
	Diffuse knapweed	*Centaurea diffusa*
	Field bindweed	*Convolvulus arvensis*
	Hoary false-alyssum	*Berteroa incana*
	Leafy spurge	*Euphorbia virgata*
	Oxeye daisy	*Leucanthemum vulgare*
	Russian knapweed	*Acroptilon repens*
	Salt cedar	*Tamarix ramosissima*
	Spotted knapweed	*Centaurea stoebe*
	Sulphur cinquefoil	*Potentilla recta*
	Whitetop	*Lepidium draba*
	Yellow toadflax	*Linaria vulgaris*
Priority 3	Cheatgrass	*Bromus tectorum*
	Russian olive	*Elaeagnus angustifolia*

Source: MTNHP. Note: database provided by MTNHP.

3.2 Wildlife and Aquatic Species

3.2.1 Central Montana Study Area

Table B.61: Migratory, Birds of Conservation Concern, and Bird Species of Concern in the Central MT Study Area

Common Name	Scientific Name	Montana State Rank[a]	USBLM Status	USFWS Status[b]
Alder Flycatcher	*Empidonax alnorum*	S3B		MBTA
American Bittern	*Botaurus lentiginosus*	S3B	SENSITIVE	MBTA
American Goshawk	*Accipiter atricapillus*	S3		MBTA
American White Pelican	*Pelecanus erythrorhynchos*	S3B		MBTA
Baird's Sparrow	*Centronyx bairdii*	S3B	SENSITIVE	MBTA; BCC11; BCC17
Black Rosy Finch	*Leucosticte atrata*	S2		MBTA; BCC10
Black Swift	*Cypseloides niger*	S1B		MBTA; BCC10
Black Tern	*Chlidonias niger*	S3B	SENSITIVE	MBTA; BCC10; BCC11; BCC17
Black backed Woodpecker	*Picoides arcticus*	S3	SENSITIVE	MBTA
Black billed Cuckoo	*Coccyzus erythropthalmus*	S3B	SENSITIVE	MBTA; BCC11; BCC17
Black crowned Night Heron	*Nycticorax nycticorax*	S3B		MBTA
Black necked Stilt	*Himantopus mexicanus*	S3B		MBTA
Bobolink	*Dolichonyx oryzivorus*	S3B		MBTA; BCC10; BCC11; BCC17
Boreal Chickadee	*Poecile hudsonicus*	S3		MBTA
Boreal Owl	*Aegolius funereus*	S3S4		MBTA
Brewer's Sparrow	*Spizella breweri*	S3B	SENSITIVE	MBTA
Brewer's Sparrow (Timberline)	*Spizella breweri taverneri*	S3B		MBTA
Brown Creeper	*Certhia americana*	S3		MBTA
Burrowing Owl	*Athene cunicularia*	S3B	SENSITIVE	MBTA; BCC17
California Gull	*Larus californicus*	S5B		MBTA; BCC10; BCC11; BCC17
Caspian Tern	*Hydroprogne caspia*	S2B	SENSITIVE	MBTA
Cassin's Finch	*Haemorhous cassinii*	S3		MBTA; BCC10
Chestnut collared Longspur	*Calcarius ornatus*	S2B	SENSITIVE	MBTA; BCC11; BCC17
Chimney Swift	*Chaetura pelagica*	S3S4B		MBTA; BCC11
Clark's Grebe	*Aechmophorus clarkii*	S3B		MBTA; BCC10; BCC11
Clark's Nutcracker	*Nucifraga columbiana*	S3		MBTA
Common Loon	*Gavia immer*	S3B		MBTA
Common Tern	*Sterna hirundo*	S3B	SENSITIVE	MBTA
Eastern Screech Owl	*Megascops asio*	S3S4		MBTA

Common Name	Scientific Name	Montana State Rank[a]	USBLM Status	USFWS Status[b]
Evening Grosbeak	*Coccothraustes vespertinus*	S3		MBTA; BCC10
Ferruginous Hawk	*Buteo regalis*	S3B	SENSITIVE	MBTA; BCC17
Forster's Tern	*Sterna forsteri*	S3B	SENSITIVE	MBTA
Franklin's Gull	*Leucophaeus pipixcan*	S3B	SENSITIVE	MBTA; BCC10; BCC11; BCC17
Golden Eagle	*Aquila chrysaetos*	S3	SENSITIVE	BGEPA; MBTA
Grasshopper Sparrow	*Ammocramus savannarum*			
Gray crowned Rosy Finch	*Leucosticte tephrocotis*	S2		MBTA
Gray crowned Rosy Finch (Hepburn's)	*Leucosticte tephrocotis littoralis*	S2N		MBTA
Great Blue Heron	*Ardea herodias*	S3		MBTA
Great Gray Owl	*Strix nebulosa*	S3	SENSITIVE	MBTA
Greater Sage Grouse	*Centrocercus urophasianus*	S2	SENSITIVE	
Green tailed Towhee	*Pipilo chlorurus*	S3B		MBTA
Harlequin Duck	*Histrionicus histrionicus*	S2B		MBTA
Horned Grebe	*Podiceps auritus*	S3B	SENSITIVE	MBTA
Lesser Yellowlegs	*Tringa flavipes*			
Lewis's Woodpecker	*Melanerpes lewis*	S2B	SENSITIVE	MBTA; BCC10; BCC17
Loggerhead Shrike	*Lanius ludovicianus*	S3B	SENSITIVE	MBTA
Long billed Curlew	*Numenius americanus*	S3B	SENSITIVE	MBTA; BCC11
Long eared Owl	*Asio otus*	S5		MBTA; BCC10; BCC11; BCC17
Marbled Godwit	*Limosa fedoa*	S4B	SENSITIVE	MBTA
Mountain Plover	*Charadrius montanus*	S2B	SENSITIVE	MBTA; BCC10; BCC11; BCC17
Nelson's Sparrow	*Ammospiza nelsoni*	S3B		MBTA
Northern Harrier	*Circus hudsonius*	S4B		MBTA; BCC11; BCC17
Northern Hawk Owl	*Surnia ulula*	S3		MBTA
Olive sided Flycatcher	*Contopus cooperi*	S4B		MBTA; BCC10
Pacific Wren	*Troglodytes pacificus*	S3		MBTA
Pectoral Sandpiper	*Calidris melanotos*			MBTA
Pileated Woodpecker	*Dryocopus pileatus*	S3		MBTA
Pinyon Jay	*Gymnorhinus cyanocephalus*	S3		MBTA; BCC10; BCC17
Piping Plover	*Charadrius melodus*	S2B	THREATENED	LT; CH; MBTA
Plumbeous Vireo	*Vireo plumbeus*	S3S4B		MBTA
Red headed Woodpecker	*Melanerpes erythrocephalus*	S3B	SENSITIVE	MBTA; BCC11; BCC17
Sage Thrasher	*Oreoscoptes montanus*	S3B	SENSITIVE	MBTA
Sedge Wren	*Cistothorus stellaris*	S3B		MBTA
Sharp tailed Grouse	*Tympanuchus phasianellus*	SX,S4		

Common Name	Scientific Name	Montana State Rank[a]	USBLM Status	USFWS Status[b]
Short billed Dowitcher	*Limnodromus griseus*			MBTA
Sprague's Pipit	*Anthus spragueii*	S3B	SENSITIVE	MBTA; BCC11; BCC17
Tennessee Warbler	*Leiothlypis peregrina*	S3S4B		MBTA
Thick billed Longspur	*Rhynchophanes mccownii*	S3B	SENSITIVE	MBTA; BCC10; BCC11; BCC17
Trumpeter Swan	*Cygnus buccinator*	S3	SENSITIVE	MBTA
Varied Thrush	*Ixoreus naevius*	S3B		MBTA
Veery	*Catharus fuscescens*	S3B	SENSITIVE	MBTA
Western Grebe	*Aechmophorus occidentalis*	S4B		MBTA; BCC10; BCC11; BCC17
Western Screech Owl	*Megascops kennicottii*	S3S4		MBTA
White faced Ibis	*Plegadis chihi*	S3B	SENSITIVE	MBTA
White tailed Ptarmigan	*Lagopus leucura*	S3		
Whooping Crane	*Grus americana*	S1M	ENDANGERED	LE; MBTA
Willet	*Tringa semipalmata*	S4B		MBTA; BCC10; BCC11; BCC17
Yellow billed Cuckoo	*Coccyzus americanus*	S3B	THREATENED	PS: LT; MBTA

Source: MTNHP. Map Viewer. https://mtnhp.org/MapViewer/?t=7.

[a] State Rank Definitions: S1 At high risk because of extremely limited and potentially declining numbers, extent and/or habitat, making it highly vulnerable to global extinction or extirpation in the state; S2 At risk because of very limited and potentially declining numbers, extent and/or habitat, making it vulnerable to global extinction or extirpation in the state; S3 Potentially at risk because of limited and potentially declining numbers, extent and/or habitat, even though it may be abundant in some areas.; S4 Uncommon but not rare (although it may be rare in parts of its range), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern.

[b] BCC numbers indicate the region in which there is a conservation concern for the species.

Table B.62: Montana Species of Concern in the Central MT Study Area

Life Form	Common Name	Scientific Name	Montana State Rank	USBLM Status	USFWS Status[a]
Amphibians	Great Plains Toad	*Anaxyrus cognatus*	S2	SENSITIVE	
	Northern Leopard Frog	*Lithobates pipiens*	S1,S4	SENSITIVE	
	Western Toad	*Anaxyrus boreas*	S2	SENSITIVE	
Fish	Arctic Grayling	*Thymallus arcticus*	S1	SENSITIVE	
	Blue Sucker	*Cycleptus elongatus*	S2S3		
	Bull Trout	*Salvelinus confluentus*	S2	THREATENED	LT; CH
	Iowa Darter	*Etheostoma exile*	S3	SENSITIVE	
	Lake Trout	*Salvelinus namaycush*	S2		
	Northern Pearl Dace	*Margariscus nachtriebi*	S2	SENSITIVE	
	Northern Redbelly Dace	*Chrosomus eos*	S3		
	Northern Redbelly X Finescale Dace	*Chrosomus eos x Chrosomus neogaeus*	S3	SENSITIVE	

Life Form	Common Name	Scientific Name	Montana State Rank	USBLM Status	USFWS Status[a]
Fish	Paddlefish	*Polyodon spathula*	S2	SENSITIVE	
	Pallid Sturgeon	*Scaphirhynchus albus*	S1	ENDANGERED	LE
	Rainbow Trout	*Oncorhynchus mykiss*	S1		
	Rocky Mountain Cutthroat Trout	*Oncorhynchus virginalis*	S2	SENSITIVE	
	Sauger	*Sander canadensis*	S2	SENSITIVE	
	Sicklefin Chub	*Macrhybopsis meeki*	S1		
	Sturgeon Chub	*Macrhybopsis gelida*	S2S3	SENSITIVE	
	Westslope Cutthroat Trout	*Oncorhynchus clarkii lewisi*	S2	SENSITIVE	
Invertebrates	A Freshwater Sponge	*Ephydatia cooperensis*	S1S3		
	A Sand-dwelling Mayfly	*Analetris eximia*	S3		
	Alberta Fritillary	*Boloria alberta*	S2S3		
	Alberta Snowfly	*Isocapnia integra*	S2		
	Alkali Bluet	*Enallagma clausum*	S2S4		
	Alpine Mountainsnail	*Oreohelix alpina*	S1		
	An Agapetus Caddisfly	*Agapetus montanus*	S3		
	Arroyo Bluet	*Enallagma praevarum*	S3S5		
	Berry's Mountainsnail	*Oreohelix strigosa berryi*	S1S2		
	Blue-eyed Darner	*Rhionaeschna multicolor*	S2S4		
	Boreal Whiteface	*Leucorrhinia borealis*	S1		
	Brimstone Clubtail	*Stylurus intricatus*	S1		
	Brush-tipped Emerald	*Somatochlora walshii*	S1S2		
	California Darner	*Rhionaeschna californica*	S3S5		
	Carinate Mountainsnail	*Oreohelix elrodi*	S1		
	Emma's Dancer	*Argia emma*	S3S5		
	Hudsonian Emerald	*Somatochlora hudsonica*	S2S4		
	Lake Darner	*Aeshna eremita*	S3S4		
	Lance-tipped Darner	*Aeshna constricta*	S1S3		
	Monarch	*Danaus plexippus*	S2S3		C
	Mountain Emerald	*Somatochlora semicircularis*	S3S5		
	Ninepipes Ambersnail	*Oxyloma missoula*	S3S4		
	Ocellated Emerald	*Somatochlora minor*	S2S4		
	Plains Clubtail	*Gomphurus externus*	S2S4		
	Prairie Bluet	*Coenagrion angulatum*	S1S3		
	Pronghorn Clubtail	*Phanogomphus graslinellus*	S3S5		
	Red-veined Meadowhawk	*Sympetrum madidum*	S2S3		

Life Form	Common Name	Scientific Name	Montana State Rank	USBLM Status	USFWS Status[a]
Invertebrates	Sedge Darner	*Aeshna juncea*	S3S5		
	Striate Disc	*Discus shimekii*	S1		
	Subarctic Darner	*Aeshna subarctica*	S1S2		
	Suckley Cuckoo Bumble Bee	*Bombus suckleyi*	S1		
	Threeridge Valvata	*Valvata tricarinata*	S2S3		
	Vivid Dancer	*Argia vivida*	S3S5		
	Western Pearlshell	*Margaritifera falcata*	S2	SENSITIVE	
	Zigzag Darner	*Aeshna sitchensis*	S2S3		
Mammals	Bison	*Bos bison*	S2		
	Black-footed Ferret	*Mustela nigripes*	S1	ENDANGERED	LE; XN
	Black-tailed Prairie Dog	*Cynomys ludovicianus*	S3	SENSITIVE	
	Canada Lynx	*Lynx canadensis*	S3	THREATENED	LT; CH
	Dwarf Shrew	*Sorex nanus*	S2S3		
	Eastern Red Bat	*Lasiurus borealis*	S3B	SENSITIVE	
	Fisher	*Pekania pennanti*	S3	SENSITIVE	
	Fringed Myotis	*Myotis thysanodes*	S3	SENSITIVE	
	Grizzly Bear	*Ursus arctos*	S2S3	THREATENED	LT
	Hayden's Shrew	*Sorex haydeni*	S3S4		
	Hoary Bat	*Lasiurus cinereus*	S3B	SENSITIVE	
	Hoary Marmot	*Marmota caligata*	S3S4		
	Little Brown Myotis	*Myotis lucifugus*	S3		
	Long-eared Myotis	*Myotis evotis*	S3		
	Long-legged Myotis	*Myotis volans*	S3		
	Merriam's Shrew	*Sorex merriami*	S3		
	North American Porcupine	*Erethizon dorsatum*	S3S4		
	Northern Bog Lemming	*Synaptomys borealis*	S2		
	Preble's Shrew	*Sorex preblei*	S3		
	Spotted Bat	*Euderma maculatum*	S3	SENSITIVE	
	Swift Fox	*Vulpes velox*	S3	SENSITIVE	
	Townsend's Big-eared Bat	*Corynorhinus townsendii*	S3	SENSITIVE	
	Western Pygmy Shrew	*Sorex eximius*	S3		
	Wolverine	*Gulo gulo*	S3	THREATENED	LT
Reptiles	Plains Hog-nosed Snake	*Heterodon nasicus*	S2	SENSITIVE	
	Greater Short-horned Lizard	*Phrynosoma hernandesi*	S3	SENSITIVE	
	Snapping Turtle	*Chelydra serpentina*	S3	SENSITIVE	
	Spiny Softshell	*Apalone spinifera*	S3	SENSITIVE	

Source: MTNHP. Map Viewer. https://mtnhp.org/MapViewer/?t=7. [a]LT: listed threatened, LE: listed endangered; C: candidate; CH: critical habitat; XN: non-essential experimental population

3.2.2 Great Falls Subarea

Table B.63: Migratory Birds and Montana Bird Species of Concern in the Great Falls Subarea

Common Name	Scientific Name	State Rank	USFWS
Bobolink	*Dolichonyx oryzivorus*	S3B	MBTA; BCC10; BCC11; BCC17
Brown Creeper	*Certhia americana*	S3	MBTA
Burrowing Owl	*Athene cunicularia*	S3B	MBTA; BCC17
Cassin's Finch	*Haemorhous cassinii*	S3	MBTA; BCC10
Chestnut collared Longspur	*Calcarius ornatus*	S2B	MBTA; BCC11; BCC17
Common Tern	*Sterna hirundo*	S3B	MBTA; BCC11; BCC17
Ferruginous Hawk	*Buteo regalis*	S3B	MBTA; BCC17
Forster's Tern	*Sterna forsteri*	S3B	MBTA
Great Blue Heron	*Ardea herodias*	S3	MBTA
Loggerhead Shrike	*Lanius ludovicianus*	S3B	MBTA
Long billed Curlew	*Numenius americanus*	S3B	MBTA; BCC11
Sprague's Pipit	*Anthus spragueii*	S3B	MBTA; BCC11; BCC17
Thick billed Longspur	*Rhynchophanes mccownii*	S3B	MBTA; BCC10; BCC11; BCC17
Veery	*Catharus fuscescens*	S3B	MBTA

Source: MTNHP. 2024. Environmental Summary Report for Latitude 47.34198 to 47.61623 and Longitude -111.08356 to -111.47196.

Table B.64: Aquatic Species in the Great Falls Subarea

Common Name	Scientific Name	Family	Native to MT	Location
Black Bullhead	*Ameiurus melas*	Catfish	Introduced	Missouri River
Brown Trout	*Salmo trutta*	Trout	Introduced	Missouri River, Sun River
Burbot	*Lota lota*	Codfish	Native	Missouri River
Common Carp	*Cyprinus carpio*	Minnow	Introduced	Missouri River
Fathead Chub	*Platygobio gracilis*	Minnow	Native	Missouri River
Fathead Minnow	*Pimephales promelas*	Minnow	Native	Missouri River
Longnose Dace	*Rhinichthys cataractae*	Minnow	Native	Missouri River, Sun River
Longnose Sucker	*Catostomus catostomus*	Sucker	Native	Missouri River
Mottled Sculpin	*Cottus baridii*	Sculpin	Native	Missouri River
Mountain Sucker	*Catostomus platyrhynchus*	Sucker	Native	Sun River
Mountain Whitefish	*Prosopium williamsoni*	Trout	Native	Missouri River, Sun River
Pumpkinseed	*Lepomis gibbosus*	Sunfish	Introduced	Missouri River
Rainbow Trout	*Oncorhynchus mykiss*	Trout	Native/Introduced*	Missouri River, Sun River
Sauger	*Sander canadensis*	Perch	Native	Missouri River

Common Name	Scientific Name	Family	Native to MT	Location
Stonecat	*Noturus flavus*	Catfish	Native	Missouri River
Virile Crayfish	*Faxonius virilis*	Crayfish	Non-native/invasive	Missouri River
Walleye	*Sander vitreus*	Perch	Introduced	Missouri River
White Sucker	*Catostomus commersonii*	Sucker	Native	Missouri River, Sun River
Yellow Perch	*Perca flavescens*	Perch	Introduced	Missouri River

Source: MTFWP. FISHMT Waterbody Search. https://myfwp.mt.gov/fishMT/explore.

Table B.65: Additional Montana Species of Concern in the Great Falls Subarea

Species Group	Common Name	Scientific Name	State Rank	State Status
Mammals	Grizzly Bear	*Ursus arctos*	S2S3	SOC
	Hoary Bat	*Lasiurus cinereus*	S3B	SOC
Invertebrates	Suckley Cuckoo Bumble Bee	*Bombus suckleyi*	S1	SOC
Amphibians	Great Plains Toad	*Anaxyrus cognatus*	S2	SOC
Reptiles	Greater Short-horned Lizard	*Phrynosoma hernandesi*	S3	SOC
	Spiny Softshell	*Apalone spinifera*	S3	SOC

Source: MTNHP. 2024. Environmental Summary Report for Latitude 47.34198 to 47.61623 and Longitude -111.08356 to -111.47196.

3.2.3 Lewistown Subarea

Table B.66: Migratory Bird and Montana Bird Species of Concern in the Lewistown Subarea

Common Name	Scientific Name	State Rank	USFWS
Bobolink	Dolichonyx oryzivorus	S3B	MBTA; BCC10; BCC11; BCC17
Brewer's Sparrow	Spizella breweri	S3B	MBTA
Brown Creeper	Certhia americana	S3	MBTA
Burrowing Owl	Athene cunicularia	S3B	MBTA; BCC17
Cassin's Finch	Haemorhous cassinii	S3	MBTA; BCC10
Evening Grosbeak	Coccothraustes vespertinus	S3	MBTA; BCC10
Great Blue Heron	Ardea herodias	S3	MBTA
Loggerhead Shrike	Lanius ludovicianus	S3B	MBTA
Long billed Curlew	Numenius americanus	S3B	MBTA; BCC11
Veery	Catharus fuscescens	S3B	MBTA

Source: MTNHP. 2024. Environmental Summary Report for Latitude 46.98846 to 47.12229 and Longitude -109.34088 to -109.56154.

Table B.67: Aquatic Species in the Lewistown Subarea

Species	Scientific Name	Family	Native to MT	Location
Brook Trout	*Salvelinus fontinalis*	Trout	Introduced	Big Spring Creek, Casino Creek, Little Casino Creek
Brown Trout	*Salmo trutta*	Trout	Introduced	Big Spring Creek
Common Carp	*Cyprinus carpio*	Minnow	Introduced	Big Spring Creek
Fathead Minnow	*Pimephales promelas*	Minnow	Native	Big Spring Creek, Casino Creek, Little Casino Creek
Lake Chub	*Couesius plumbeus*	Minnow	Native	Casino Creek
Longnose Dace	*Rhinichthys cataractae*	Minnow	Native	Big Spring Creek, Casino Creek, Little Casino Creek
Longnose Sucker	*Catostomus catostomus*	Sucker	Native	Big Spring Creek, Little Casino Creek
Mottled Sculpin	*Cottus bairdii*	Sculpin	Native	Big Spring Creek, Casino Creek, Little Casino Creek
Mountain Sucker	*Catostomus platyrhynchus*	Sucker	Native	Big Spring Creek
Mountain Whitefish	*Prosopium williamsoni*	Trout	Native	Big Spring Creek
Northern Pike	*Esox lucius*	Pike	Introduced	Big Spring Creek
Northern Redbelly Dace	*Chrosomus eos*	Minnow	Native	Big Spring Creek, Little Casino Creek
Rainbow Trout	*Oncorhynchus mykiss*	Trout	Introduced	Big Spring Creek
White Sucker	*Catostomus commersonii*	Sucker	Native	Big Spring Creek, Casino Creek, Little Casino Creek
Yellow Perch	*Perca flavescens*	Perch	Introduced	Big Spring Creek
Yellowstone Cutthroat Trout	*Oncorhynchus clarkii lewisi*	Trout	Native	Believed to be present based on professional judgement of a fisheries biologist (MTNHP 2024c)

Source: MTFWP. FISHMT Waterbody Search. https://myfwp.mt.gov/fishMT/explore.

Table B.68: Montana Species of Concern in the Lewistown Subarea

Species Group	Common Name	Scientific Name	State Rank
Mammals	Hoary Bat	*Lasiurus cinereus*	S3B
	Little Brown Myotis	*Myotis lucifugus*	S3
	Townsend's Big-eared Bat	*Corynorhinus townsendii*	S3
Invertebrates	Suckley Cuckoo Bumble Bee	*Bombus suckleyi*	S1

Source: MTNHP. 2024. Environmental Summary Report for Latitude 46.98846 to 47.12229 and Longitude -109.34088 to -109.56154.

3.2.4 Old Havre Highway and US 87 Corridor

Table B.69: Migratory Bird and Montana Bird Species of Concern in the Old Havre Highway/ US 87 Corridor

Common Name	Scientific Name	State Rank	USFWS
Baird's Sparrow	*Centronyx bairdii*	S3B	MBTA; BCC11; BCC17
Bobolink	*Dolichonyx oryzivorus*	S3B	MBTA; BCC10; BCC11; BCC17
Brown Creeper	*Certhia americana*	S3	MBTA

Common Name	Scientific Name	State Rank	USFWS
Burrowing Owl	*Athene cunicularia*	S3B	MBTA; BCC17
Cassin's Finch	*Haemorhous cassinii*	S3	MBTA; BCC10
Chestnut collared Longspur	*Calcarius ornatus*	S2B	MBTA; BCC11; BCC17
Common Tern	*Sterna hirundo*	S3B	MBTA
Forster's Tern	*Sterna forsteri*	S3B	MBTA
Great Blue Heron	*Ardea herodias*	S3	MBTA
Loggerhead Shrike	*Lanius ludovicianus*	S3B	MBTA
Long billed Curlew	*Numenius americanus*	S3B	MBTA; BCC11
Red Knot	*Calidris canutus*	SNA	LT; MBTA
Sprague's Pipit	*Anthus spragueii*	S3B	MBTA; BCC11; BCC17
Thick billed Longspur	*Rhynchophanes mccownii*	S3B	MBTA; BCC10; BCC11; BCC17
Veery	*Catharus fuscescens*	S3B	MBTA

Source: MTNHP. 2024. Environmental Summary Report for Latitude 47.49724 to 47.59180 and Longitude -111.21548 to -111.34120.

Table B.70: Montana Species of Concern in the Old Havre Highway and US 87 Study Area

Common Name	Scientific Name	State Rank
Greater Short horned Lizard	*Phrynosoma hernandesi*	S3
Spiny Softshell	*Apalone spinifera*	S3
Suckley Cuckoo Bumble Bee	*Bombus suckleyi*	S1

Source: MTNHP. 2024. Environmental Summary Report for Latitude 47.49724 to 47.59180 and Longitude -111.21548 to -111.34120.

3.2.5 US 87 - Armington Junction through Otter Creek Canyon Corridor

Table B.71: Animal Carcasses Collected in the US 87 - Armington Junction through Otter Creek Canyon Corridor

Animal	# of Carcasses Collected	(%)
Mule Deer	25	60
White tailed Deer	17	40
TOTAL	42	

Source: MDT. Montana Statewide Carcass Data 2019-2023 and Montana Statewide Crash Data 2019-2023. https://www.mdt.mt.gov/publications/datastats/crashdata.aspx.

Table B.72: Migratory Bird & Montana Bird Species of Concern in the US 87 - Armington Junction through Otter Creek Canyon Corridor

Common Name	Scientific Name	State Rank	USFWS
Ferruginous Hawk	*Buteo regalis*	S3B	MBTA; BCC17
Golden Eagle	*Aquila chrysaetos*	S3	BGEPA; MBTA

Common Name	Scientific Name	State Rank	USFWS
Long billed Curlew	*Numenius americanus*	S3B	MBTA; BCC11

Source: MTNHP. 2024. Environmental Summary Report. for Latitude 47.22831 to 47.38723 and Longitude -110.66991 to -110.95138.

Table B.73: Aquatic Species in the US 87 - Armington Junction through Otter Creek Canyon Corridor

Species	Scientific Name	Family	Native to MT	Location
Brook Trout	*Salvelinus fontinalis*	Trout	Introduced	Belt Creek, Big Otter Creek
Brown Trout	*Salmo trutta*	Trout	Introduced	Belt Creek, Big Otter Creek
Common Carp	*Cyprinus carpio*	Minnow	Introduced	Belt Creek
Goldeye	*Hiodon alosoides*	Mooneye	Native	Belt Creek
Lake Chub	*Couesius plumbeus*	Minnow	Native	Belt Creek
Longnose Dace	*Rhinichthys cataractae*	Minnow	Native	Belt Creek, Big Otter Creek
Longnose Sucker	*Catostomus catostomus*	Sucker	Native	Belt Creek, Big Otter Creek
Mottled Sculpin	*Cottus bairdii*	Sculpin	Native	Belt Creek, Big Otter Creek
Mountain Sucker	*Catostomus platyrhynchus*	Sucker	Native	Belt Creek, Big Otter Creek
Mountain Whitefish	*Prosopium williamsoni*	Trout	Native	Belt Creek
Rainbow Trout	*Oncorhynchus mykiss*	Trout	Introduced	Belt Creek, Big Otter Creek
Sand Shiner	*Notropis stramineus*	Minnow	Native	Belt Creek
Sauger	*Stizostedion canadense*	Perch	Native	Belt Creek
Shorthead Redhorse	*Moxostoma macrolepidotum*	Sucker	Native	Belt Creek
Stonecat	*Noturus flavus*	Catfish	Native	Belt Creek
Westslope Cutthroat Trout	*Oncorhynchus clarkii lewisi*	Trout	Native	Belt Creek

Source: MTFWP. FISHMT Waterbody Search. https://myfwp.mt.gov/fishMT/explore.

Table B.74: Montana Species of Concern in the US 84 - Armington Junction through Otter Creek Canyon Study Area

Common Name	Scientific Name	State Rank
Grizzly Bear	*Ursus arctos*	S2S3
Little Brown Myotis	*Myotis lucifugus*	S3
Spotted Bat	*Euderma maculatum*	S3

Source: MTFWP. FISHMT Waterbody Search. https://myfwp.mt.gov/fishMT/explore.

3.3 Threatened and Endangered Species

3.3.1 Central Montana Study Area

Table B.75: ESA-Listed Species in the Central MT Study Area

Species Name	Federal Status	Critical Habitat in Study Area	Typical Habitat
Mammals			
Canada lynx (*Lynx canadensis*)	Threatened	Yes, present west of Great Falls in the Scapegoat Wilderness and Helena-Lewis and Clark National Forest	Canada lynx are closely associated with moist boreal forests with snowy conditions and high snowshoe hare densities. Suitable lynx habitat includes subalpine forests between 4,000 and 7,000 feet above sea level. Lynx in the contiguous United States have very large home ranges, but can persist in small areas of boreal forest habitat, such as in western Montana.
Grizzly bear (*Ursus arctos horribilis*)	Threatened	No	Grizzly bears use a wide variety of habitats throughout their range. In Montana, they frequent habitats such as grass-forb meadows, seeps, riparian zones, closed and open timber, sidehill parks, snow chutes, and alpine slabrock habitats. Grizzly bears have large home ranges which may overlap.
North American wolverine (*Gulo gulo luscus*)	Threatened	No	North American wolverines primarily occur in high elevation habitat, including boreal forests, tundra, and mountains, which have deep and persistent snow into the warm season. The southern portion of their range extends into the contiguous United States, including Montana. South of the Canadian border, wolverines are restricted to high mountains near the tree line.
Birds			
Piping plover (*Charadrius melodus*)	Threatened	No	Piping plovers use intertidal sand beaches, mud flats, and sand spits with sparse or no emergent vegetation for feeding and roosting. A key feature of plover habitat is a lack of vegetation, little to no topographic relief, and interaction with the tides and water.
Rufa red knot (*Calidris canutus rufa*)	Threatened	No	Red knots rarely stopover in Montana during migration, but occur most commonly in larger wetlands and lakes.
Yellow billed cuckoo (*Coccyzus americanus*)	Threatened	No	Yellow-billed cuckoos require large (50 acres or more) tracts of willow/cottonwood forest for nesting. They use wooded habitat with dense cover and nearby water, as well as woodlands with low-scrubby vegetation and dense thickets.
Whooping Crane (*Grus americana*)	Endangered	No	Whooping cranes in Montana use marshy habitats such as wet meadows, wet prairie habitat, and shallow freshwater marshes that provide safe roosting and foraging sites. Some cranes have also been observed in grain and stubble fields, and they will feed in a variety of croplands and near shallow water. Breeding cranes have large territories and home ranges, but whooping cranes are not known to breed in Montana.
Fish			
Bull trout (*Salvelinus confluentus*)	Threatened	Yes, on a tributary to the Blackfoot River west of Great Falls on the Helena-Lewis and Clark National Forest	Bull trout in Montana are nonmigratory and particularly require cold water for rearing and spawning. Bull trout spawning areas are often associated with cold-water springs, glacial and snow melt, or groundwater upwelling. Like other salmonids, they also require a low level of fine sediments for spawning.
Pallid sturgeon (*Scaphirhynchus albus*)	Endangered	No	Pallid sturgeon use floodplains, backwaters, chutes, sloughs, islands, sandbars, and main channel waters throughout their life, and are usually associated with sandy and fine bottom materials.

Species Name	Federal Status	Critical Habitat in Study Area	Typical Habitat
Plants			
Whitebark pine	Threatened	No	Whitebark pine is a non-commercial conifer occurring primarily on Federally owned or managed lands in the United States. Whitebark pine is typically found in cold, windy, high elevation or high latitude sites in western North America and as a result, many stands are geographically isolated.
Insects			
Monarch butterfly (*Danaus plexippus*)	Proposed	No	Monarch butterflies rely heavily on milkweed for reproduction and foraging habitat. Monarch butterflies migrate to Montana in the summer to breed and are often found in open spaces such as prairies and pastures, foothills, roadsides, and suburban habitats.
Suckley's Cuckoo Bumble Bee (*Bombus suckleyi*)	Proposed	No	Suckley's cuckoo bumble bees are social parasites which do not intentionally gather pollen and require host bumblebee colonies to reproduce. Their range is fragmented and relies on the presence of host colonies.

Source: USFWS. Information for Planning and Consultation. https://ipac.ecosphere.fws.gov/.

Notes: Suckley's cuckoo bumble bee (Bombus suckleyi) is an ESA proposed species that is not included in USFWS records for the study area. However, suitable habitat exists within the study area and the species may be present. Black-footed ferret (Mustela nigripes) is an ESA listed species that has been extirpated in the study area and is therefore not included in USFWS records for the study area. However, active reintroduction programs are underway in Montana. Reintroductions have occurred in Montana in Phillips County and at the Charles M. Russell National Wildlife Refuge since 1994 with varying success.

3.3.2 Great Falls Subarea

No supplemental tables or charts are provided for this area.

3.3.3 Lewistown Subarea

No supplemental tables or charts are provided for this area.

3.3.4 Old Havre Highway & US 87

No supplemental tables or charts are provided for this area.

3.3.5 US 87 Armington Junction – Otter Creek

No supplemental tables or charts are provided for this area.

4.0 SOCIAL AND CULTURAL ENVIRONMENT

4.1 Environmental Justice

No supplemental tables or charts are provided for this topic.

4.2 Recreational Resources

4.2.1 Central Montana Study Area

Table B.76: Recreational Resources in the Central Montana Study Area

Site Name	Route	Site Description/Amenities	Owner
Ackley Lake	HWY 239	Developed state park located approximately 6.8 miles southwest of Hobson, Montana. Camping, hiking, picnicking, boating, and swimming opportunities provided.	MFWP
Beckman	Bally Dome Rd	Wildlife management area located approximately 20 miles northwest of Lewistown.	MFWP
Big Bend	Wilson Butte Rd	FAS is located 12 miles south of Great Falls. Boat ramp (Concrete) available.	MFWP
Big Casino Creek Reservoir	Castle Butte Rd.	FAS located 1.5 miles south of Lewistown. Hand launch facilities available.	MFWP
Brewery Flats	Hwy 238	FAS is located 1 mile south of Lewistown. No boat facilities.	MFWP
Carroll Trail	Joyland Rd	FAS is located 1 mile north of Lewistown. No boat facilities.	MFWP
Cottonwood Grove	Flood Rd	FAS is located 4.5 miles south of Great Falls. No boat facilities.	MFWP
Crystal Lake Campground	Crystal Lake Rd	Near Moore, Montana and has water, restrooms, picnic tables, and barbeque.	USFS
Deadman's Basin	US-12	FAS is located approximately 6 miles east of Shawmut. Boat ramp (Concrete) available.	MFWP
Dunes	I-15	FAS 3 miles south of Ulm. Hand launch facilities.	MFWP
Eden Bridge	HWY 330	Eden Bridge is located 10 miles south of Ulm on County Road 330. This state park used as a FAS and for a takeout point for the Smith River float.	MFWP
Eureka Reservoir	Hwy 89	FAS is located 4 miles north of Choteau. Boat ramp (Concrete) available.	MFWP
First Peoples Buffalo Jump	I-15	Developed state park located 15.5 miles west of Great Falls. One of the largest bison cliff jump in North America. This site has an interpretive trail, picnic tables, visitor center, and other recreational opportunities.	MFWP
Fort Shaw	Hwy 200	FAS located 0.5 mile north of Hwy 200 at the town of Fort Shaw. Hand launch facilities available.	MFWP
Freezeout Lake	Hwy 89	The wildlife management area is 40 miles west of Great Falls along US Highway 89 between Fairfield and Choteau. It is managed primarily for waterfowl production and public hunting and viewing opportunity.	MFWP
Giant Springs	US 87	Developed state park located in Great Falls. Hiking, picnic, historical learning, and fishing opportunities provided.	MFWP
Harlowton	Hwy 191	FAS is located 0.5 miles south of Harlowton. No boat facilities.	MFWP
Hatchery	Hwy 466	FAS is located approximately 5 miles south of Lewistown. No boat facilities.	MFWP
Hruska	Hwy 426	FAS is located 6 miles northwest of Lewistown. No boat facilities.	MFWP

Site Name	Route	Site Description/Amenities	Owner
Judith Peak Scenic Overlook	Judith Peak Rd	Scenic overlook approximately 25 miles from Lewistown. There is a parking lot at the peak to enjoy the views from.	BLM
Largent's Bend	HWY 200	FAS is located 5 miles west of Vaughn. No boat facilities.	MFWP
Lazy KB	Hwy 191	FAS located on the edge of Lewistown city limits on Hwy 191 . No boat facilities.	MFWP
Little Muddy Creek	I-15	FAS is located 8 miles south of Ulm. No boat facilities.	MFWP
Logging Creek Campground	Forest Rd 839	Amenities include potable water and a vault toilet. Located near Stockett, MT 59480	USFS
Lower Carter Pond	Hwy 191	FAS located 9 miles northeast of Lewistown on Hwy 191. Hand launch facilities available.	MFWP
Lower Smith River	Hwy 330	FAS is located 3 miles south of Ulm. No boat facilities.	MFWP
Lowry Bridge	Hwy 21	Campsite and boat launch approximately 4.5 miles west of Simms, MT. Amenities include campsites, fire rings, and a vault toilet.	BLM
Medicine River	Hwy 200	FAS is located 0.5 mile south of US Hwy 200 at the town of Sun River. Hand launch facilities available.	MFWP
North Fork Sun River	US 287	Boat Takeout and dispersed camping area. 10-foot wide concrete boat ramp present.	BLM
Pelican Point	Hwy 91	FAS is located 7 miles south of Cascade Ramp (Concrete)	MFWP
Pishkun Reservoir	Hwy 287	FAS is located 0.5 mile south of Choteau. Boat ramp (Concrete) available.	MFWP
Reed & Bowles	Joyland Rd	FAS is located 2 miles North of Lewistown. No boat facilities.	MFWP
Sluice Boxes	US-89	State park located approximately 10 miles south of Armington Junction. This park has miles of primitive, unmaintained trails that provide access to fishing, challenging floats, and wildlife viewing.	MFWP
Spring Creek	Hwy 238	FAS is located 3 miles south of Lewistown. No boat facilities.	MFWP
Timber Creek Dispersed Campground	Timber Creek Rd	Non reservation campground with restroom and tent sites. Located on Timber Creek Rd, Harlowton, MT 59036	USFS
Truly Bridge	Hwy 330	FAS is located 8 miles southeast of Ulm. No boat facilities.	MFWP
Ulm Bridge	I-15	FAS is located 0.5 mile south of Ulm. Boat ramp (Concrete) available.	MFWP
Upper Carter Pond	Hwy 191	FAS is located 11 miles northeast of Lewistown. Boat ramp (Gravel) available.	MFWP
White Bear	Hawk Dr	FAS is located 6 miles south of Great Falls. No boat facilities.	MFWP
Willow Creek Reservoir	Hwy 287	FAS is located 7 miles northwest of Augusta. Boat ramp (Concrete) available.	MFWP
Wing Dam	Hwy 91	FAS is located 1 mile north of Cascade. No boat facilities.	MFWP

Source: MFWP. https://fwp.mt.gov/stateparks/find-a-park; MFWP. https://myfwp.mt.gov/fishMT/explore; USFS. https://data-usfs.hub.arcgis.com/datasets/usfs::recreation-opportunities-feature-layer/explore?location=47.035532%2C-111.050306%2C9.25; USBLM. https://gbp-blm-egis.hub.arcgis.com/datasets/66e77bc5556d4cb189d3b0743dc95e5d_0/explore?location=47.547961%2C-110.808457%2C9.60.

4.2.2 Great Falls Subarea

Table B.77: Recreational Resources in the Great Falls Subarea

Site Name	Route	Site Description/Amenities	Owner
American's Little League	38th Street N	Baseball/Softball/T-ball Fields, Wood Bleachers, Dugouts, Gravel Parking Lot, Concession Stand/Restrooms, Shed, Metal Bleachers, Picnic Table, Ball Pen, Maintenance Garage, Flag Pole, Announcer Stand, Rock Display, Port-a-Potty, Trash Receptacle (moveable), Paths (gravel/asphalt), Fencing	City of Great Falls
Belview Park	Evergreen Dr	Sign, Pet Waste Station, Asphalt Path, Trash Can Enclosure, Bench, Swing Set, Play Structure, Picnic Table, Grass, Drinking/Pet Fountain	City of Great Falls
Black Eagle	Hwy 89	Fishing opportunity located on the Missouri River	MFWP
Bloomingdale Park	8th Ave NW	Welcome to Great Falls sign, Picnic Table, Bench, Roof over Picnic Table/Bench, Bulk Water Station, Trash Can, Play Structure, Sign, Grass	City of Great Falls
Boston Heights Park	1st Ave N	Sign, Grass, Parks Maintenance Building with Bathroom & Shower Stall	City of Great Falls
Broadwater Bay	River Dr	Fishing opportunity located on the Missouri River	MFWP
Broadwater Bay	River Drive S	Parking Lot, Bench, Trash Can, Asphalt Trail, Sign, Picnic Table, Invasive Species Sign, Restrooms (locked), Trash Enclosure, Grass, Pet Waste Station, Memorial, Dock, Park Rules Sign, Boat Ramp	City of Great Falls
Carter Park	3rd Street S	Bench, Basketball Court Asphalt, Sidewalk, Baseball Back Stop, Sign, Grass, Picnic Shelter, Picnic Table, Trash Can, Play Structure, Little Free Library	City of Great Falls
Centene Stadium	25th Street N	Teen/Adult Sized Baseball Field, Bleachers (covered/uncovered, metal/plastic), Playground, Parking Lot (gravel/paved), Office, Suites, Stadium Lights, Concession Stand (at field/under bleachers), Patio, Ball pin, Dugout, Announcer Box, Trash Receptacle (moveable), Restrooms, Drinking Fountain, Protection Netting	City of Great Falls
Central Park	3rd Street NW	Open Space, Gazebo with Power, Partially Covered Stage, Restrooms, Picnic Tables	Cascade County
Charles Russell Park	33rd Street S	Little Free Library, Sign, Playground, Bench, Trash Can (in enclosure), Picnic Shelter, Barbecue, Picnic Tables, Concrete Sidewalk, Fences, Parking Lot, Pet Waste Station, Bike Rack, Tennis Court/Basketball Court, Monument, Asphalt Path, Gazebo with Benches	City of Great Falls
Chowen Springs	17th Street S	Sidewalk, Swing Set, Play Area, Picnic Tables, Basketball Court, Football/Soccer Field, Trash Can Enclosure, Trash Can, Grass, Used as Detention Pond	City of Great Falls
Clara Park	Ella Drive	Sign, Trash Can/Enclosure, Walking Path (asphalt & sand), Pet Waste Station, No Motor Vehicles Sign, Corp. of Discovery Marker Bench, Picnic Table, Water Tower Fence	City of Great Falls
Community Hall/Westside Orchard Garden	16th Street SW	Picnic Table, Bench, Planter Areas, Pole Barn	City of Great Falls
Cottonwood Grove FAS	Flood Rd	FAS is located 4.5 miles south of Great Falls. No boat facilities.	MFWP
Don Olson Fields	17th Ave S	90-foot baseball field, dugouts, bleachers, concession stand, restrooms, parking lot, fencing, ball pin, sheds, picnic tables	City of Great Falls
Dudley Anderson Park	33rd Street S	Pet Waste Area, Trash Can, Sign, Picnic Shelter/Table, Sidewalks, Grass, Playground, Swing set, Bench, Picnic Table, Splash Pad, Play Equipment, Asphalt Path	City of Great Falls

Site Name	Route	Site Description/Amenities	Owner
Eagles Crossing Park	46th Avenue NE	Sign, Grass, Bench, Play Structure	City of Great Falls
Elk's Riverside Park	River Drive N	Art, Trash Can, Bench, Picnic Table, Skate Park, Unused concession building, Pet Station, Horseshoe area, River's Edge Trail, Tennis Courts, Playground, Picnic Shelter, Barbecue, Swing, Restroom (wet)	City of Great Falls
Family Living Park	15th St N	Open Space	Cascade County
Fox Hollow Park	Coyote Ln	Sign, Trash Can, Pet Waste Station	City of Great Falls
Garden Home Park	Bay Dr	Parking Lot (asphalt), Post & Cable Fence, Benches (concrete), River's Edge Trail, Grass, Trash Can, Trash Enclosure, Trail Mile Post, Picnic Table (concrete), Trailhead Sign, Bat House	City of Great Falls
Giant Springs State Park	US 87	Developed state park located in Great Falls. Hiking, picnic, historical learning, and fishing opportunities provided.	MFWP
Gibson Park	Park Drive N	Picnic Table, Bench, Trash Can, Fountain, Barbecue, Asphalt Trail, Statue of Liberty Monument, Lion Monument, Sign, Light Poles, Paris Gibson Garden, Vin. Jones Cabin, Sign/Kiosk, Chess Table, Duck Pond, Basketball Court, Restroom, Playground swings, Band Shelter, Bleachers, Paris Gibson Monument	City of Great Falls
Grande Vista Park	Ferguson Dr	Sign, Irrigated Grass, Tee ball/Baseball Fields, Bleachers, Picnic Table, Walking Paths (asphalt), Pet Waste Station, Trash Can, Slide, Basketball Hoops & Blacktop, Little Free Library	City of Great Falls
Graybill Park	36th St N	Asphalt Basketball Court, Sidewalk, Sign, Swing Set, Picnic Shelter, Picnic Table, Trash Can, Gravel Parking, Pet Waste Station, Grass	City of Great Falls
Heren Park	4th Ave N	Sign, Benches, Little Free Library, Asphalt Running Path, Trash Can, Swing Set, Play Area, Picnic Shelter, Picnic Tables, Pet Waste Station	City of Great Falls
Highland Multisports Park	21st Ave S	Ball Field, Dug Outs, Concessions Stand/Announcers Stand, Restrooms, Bleachers (wood/metal), Ball Pen, Shed, Gravel Parking Lot, Parking Lot, Maintenance Garage, Ticket Booth, Small Climbing Structure, Portable Toilet Sign, , Picnic Tables, Concessions Building, Trash Can, Fence	City of Great Falls
Horizon Park	29th Ave NW	Retention Pond	City of Great Falls
Hylande Heights Park	4th Street S	Grass, Bench, Walking Path, Pet Waste Station, Garbage Can, Decorative Boulder Formation, Sign	City of Great Falls
Jaycee Gallatin	23rd Ave NE	Playground, Picnic Table, Benches, Swing Set, Basketball Half (gravel), Trash Can, Little Free Library, Sign, Baseball Backstop, Parking, Tennis Courts	City of Great Falls
Jaycee Pool	23rd Ave NE	Building, Locker Rooms, Restrooms, Showers, Lockers, Pool, Splash Park	City of Great Falls
Kiwanis North	23rd Street N	Grass, Sidewalk, Basketball Hoop/Court, Tennis Court, Picnic Tables, Sign, Bench, Play Structure, 4-Square Field, Drinking Fountain	City of Great Falls
Kiwanis West	1st Avenue NW	Sign, Tennis Court, Basketball Court, Trash Can, Pavilion with Bathrooms, Picnic Tables, Bench, Play Structure, Swing Set, Open Space, Grass	City of Great Falls
Kranz Park	4th Ave S	Grass, Sidewalk, Basketball Hoop/Court, Tennis Court, Picnic Tables, Sign, Bench, Play Structure, 4-Square Field, Drinking Fountain	City of Great Falls
Lions Park	10th Avenue S	Sign, Swing Set, Picnic Table, Trash Can, Play Area, Tennis Court (2), Parking Area, Trash Can Enclosure, Asphalt Path, Sidewalk, Bench, Flag & Dedication Monument, Plane Display, Memorial Plaque, Pavilion/Restrooms, Little Free Library, Play Structure, Fence	City of Great Falls
Madison Park	Riverview Ct	Sign, Trash Can, Swing Set, Slide, Low Post & Cable Fence, Grass, Baseball Backstop	City of Great Falls

Site Name	Route	Site Description/Amenities	Owner
Margaret Park	Park Drive N	Sign, Picnic Table, Bench, Lights	City of Great Falls
Meadowlark Park	Fox Farm Rd	Sign, Picnic Table, Trash Can, Drinking Fountain, Little Free Library, Pet Waste Station, Trash Can Enclosure, Bench, Play Structures, Swing Set, Grass	City of Great Falls
Memorial Park	2nd Ave N	Sidewalks, Sign, Benches, Swing Set, Trash Enclosures, Drinking Fountain, Barbecue, Dedication Stone, Central Planter & Flag Pole, Picnic Gazebo, Grass, Play Structure	City of Great Falls
Mitchell Pool/Electric City Water Park	River Drive S	Historical Bath House Building, Locker Rooms, Restrooms, Showers, Lockers, Pool, Splash Park, Drinking Fountain, Water Slides, Concessions Building, Benches, Trash, Sidewalks, Storage Building, Flow Rider & Lazy River, Pump Building	City of Great Falls
Montana Park	Fox Farm Rd	Sign, Grass, Trash Can, Tennis Court	City of Great Falls
Morony Park	12th St N	Sign, Electronic Sign, Swing Set, Trash Can, Benches, Pool Parking Lot, Bike Racks, Planter Beds, Sidewalks, Grass	
Noah's Ark Park	Ave D NW	Sign, Trash Can, Play Structure, Basketball Court, Sidewalk	City of Great Falls
Oddfellows Park	River Drive S	Parking Lot, Bench, Trash Can, Asphalt, Trail, Sign, Picnic Table, Invasive Species Sign, Free Portage Shuttle Sign, Trailhead Sig, Restrooms, Picnic Shelter, Trash Enclosure, Court, Play Structure, Basketball	City of Great Falls
Overlook Park	Overlook Dr	Overlook Flag, Lewis & Clark Statues, Informational Boards, Parking Lot, Split Rail Fence, Visitor Center, Picnic Table, Benches, Law Enforcement Memorial, Sidewalk, Power Pedestals, Garbage Cans	City of Great Falls
Park Garden Island	Fox Farm/Park Garden Rd	Sidewalk, Irrigated Grass, Parking Lot (gravel)	City of Great Falls
Pinski Park	5th Ave S	Sign, Grass, Backstop, Playground Structure, Picnic Shelter, Picnic Table, Garbage Can, Basketball Court Asphalt, Sidewalk	City of Great Falls
Rainbow Reservoir	N River Rd	Fishing opportunity located on the Missouri River	MFWP
Recreation Center	2nd Ave N	ADA Restroom (Kiddy Camp Area), Lift in Stairwell, Flooring, Storage Room, Media Room, Bleachers, Basketball Hoops, Scoreboard, Stage, Workout Area on Stage, Climbing Wall, Stairs, Co-ed Steam/Sauna, Lockers, Free Weights, Nautilus Area, Breakroom/Sitting Area, Dance Studio, Showers, Restroom Stalls, Conference Area, Picnic Tables, Playground, Parking Lot, Trash Receptacle, Bike Rack	City of Great Falls
Rhodes Park	Central Ave W	Little Free Library, Monument, Picnic Table, Trash Enclosure, Sign, Sidewalk, Play Structure, Swing Set, Grass	City of Great Falls
River's Edge Trail North and West Bank	West Side of the Missouri River	Trail (Concrete/Asphalt), Roofed Trailhead Sign, Informational Display, Mileage Sign, Bench (concrete), Picnic Table (Concrete), Covered Picnic Area, Vault Toilet, Trash Cans, Sculptures, Drinking Fountain, Dedication Display, Accent Boulders, Retaining Wall, Chain-link Fencing, Post & Cable Fencing, Non-Public Boat Launch, Pedestrian Bridge, Central Avenue Bridge,9th Street Bridge, 15th Street Bridge, Parking Lot	City of Great Falls
River's Edge Trail South Bank	East Side of the Missouri River	Roofed Notice Boards, Bench, Trail (asphalt), Bridge, Picnic Table, Vault Toilet, Sculpture, Drinking Fountain, Dedication Stone, Railcar Display, Trash Can, Trail Rules Sign, Informational Display, Rail Fence, Fishing Pier, South Short Trails Mileage Sign, Pet Waste Station	City of Great Falls

Site Name	Route	Site Description/Amenities	Owner
Riverview Park	Smelter Ave NW	Sign, Trash Can, Sidewalk	City of Great Falls
Roosevelt Park	2nd Ave N	Sidewalk, Grass, Sign, Bench, Picnic Table, Sculpture	City of Great Falls
Sacajawea Park	8th Street NE	Sign, Baseball Diamond	City of Great Falls
Sandhills Park	15th Ave S	Sign, Grass (non-irrigated), Trash Can, Asphalt Path; Retention Pond	City of Great Falls
Siebel Soccer Complex	10th Ave N	Soccer Fields, Concessions Pavilion, Restrooms, Playground, Parking Lot (paved), Maintenance Facilities, Sidewalks, Flag Pole, Entry Monument	Cascade County
Sight & Sound Park	River Dr N	Picnic Table, Trash Can, Picnic Table Shelter, Benches, Parking (asphalt), River's Edge Trail (asphalt)	City of Great Falls
Skyline Heights Park	10th Street NE	Open Space	City of Great Falls
Skyline Optimist Park	33rd Ave NE	Playground, Benches, Basketball Court, Picnic Table, Trash Receptacle, Sign	City of Great Falls
South Park	21st Ave S	Open Space	Cascade County
Sun River near Wadsworth Pond	Sun River Park Rd	Fishing opportunity located on the Missouri River	MFWP
Sunnyside Park	High St	Bench, Picnic Shelter, Picnic Table, Dog Station, Little Free Library, Trash Receptacle, Sign, Playground, Basketball Court (asphalt), Sidewalks, Grass	City of Great Falls
Sunrise Park	Beth Dr	Sign, Trash Can, Swing Set, Basketball & Tennis Court, Sidewalks, Grass	City of Great Falls
Tourist Park	River Drive S	Benches, Garden, Parking Lot, Picinic Table with Shelter, Walking/Bike Path	City of Great Falls
Trailside Dog Park	River Drive N	Bench, Trash, Picnic Table, Parking Lot (asphalt), Pet Station, Drinking Fountain (pet), Vault Toilet, Picnic Shelter, Large Dog Area, Small Dog Area, Picnic Table with Shelter	City of Great Falls
Valleyview Park	10th Ave NW	Sign, Picnic Table (concrete), Trash Can, 4-way Teeter-Totter, Swing Set, Play Structure, Bench, Barbecue, Grass	City of Great Falls
Verde Park	Upper River Rd	Grass, Covered Picnic Tables, Trash Can, Sign, Field Stone Wall, Gravel Parking Areas, Play Structure, Swing Set	City of Great Falls
Veteran's Memorial (Legion Park)	25th St N	Memorial Walls, Bench, Grass	City of Great Falls
Wadsworth Park	Wilkinson Ln	Rail Fence, Pad for Picnic Table, Pond, Picnic Table, Trash Can, Bench, Trash Can Enclosure, Dock, Picnic Table Roof, Rules Signs, Portable Toilet, Gravel Access Road, Boy Scout Camp, Archery Club, Saddle Club, Horse Trail	City of Great Falls
Warden Park	13th Ave S	Sign, Disc Golf Course, Grass, River's Edge Trail & Trailhead, Sing Set, Parking Lot, Bench, Picnic Tables, Portable Toilet, Gazebo & Viewing Area, Garbage Cans, Gravel Path	City of Great Falls
Water Tower Swimming Pool	33rd Street S	Building, Locker Rooms, Restrooms, Showers, Lockers, Pool, Splash Park	City of Great Falls
Water Treatment Plant	Lewer River Rd	Picnic Table, Trail (concrete), Grass	City of Great Falls
West Bank Park	3rd Avenue NW	Pedestrian Bridge, River's Edge Trail (Concrete/Asphalt), Bench, Disc Golf Course, Trash Can, Parking (gravel/asphalt), Picnic Shelter with Table, Picnic Table with Barbecue, Outhouse, Picnic Shelter (large), Picnic Table, Art (bear with seating), Signage, Pumphouse, Restroom, Boat Launch	City of Great Falls
Westside Viaduct	2nd Avenue SW	Open Space	City of Great Falls
Westwood/CMR Tennis Courts	2nd Street NW	Tennis Courts, Bleachers (metal), Parking Lot, Trash Cans, Portable Toilet	City of Great Falls

Site Name	Route	Site Description/Amenities	Owner
White Bear FAS	Hawk Dr	FAS is located 6 miles south of Great Falls. No boat facilities.	MFWP
Whittier	Park Drive S	Sign, Historic Information Board, Bike Rack, Trash Can, Picnic Table, Bench, Lights	City of Great Falls

Source: MFWP. https://fwp.mt.gov/stateparks/find-a-park; MFWP. https://myfwp.mt.gov/fishMT/explore; City of Great Falls Park and Recreation Master Plan. October 2016; Cascade County. https://www.cascadecountymt.gov/289/Parks.

4.2.3 Lewistown Subarea

Table B.78: Recreational Resources in the Lewistown Subarea

Site Name	Route	Site Description/Amenities	Owner
D'autremont Softball Complex	Airport Rd	Amenities include softball fields, walking trail nearby. Home of Montana Softball Hall of Fame. Location: 680 Airport Rd, Lewistown, MT 59457	City of Lewistown
Frank Day City Park	5th Ave S	Amenities include picnic tables, barbecues, playground equipment, Labyrinth Garden, outdoor Olympic-size pool & double plumed waterslide, volleyball pit, winter ice-skating rink and warming house. Location:	City of Lewistown
Frog Ponds	W Spring St	Amenities include walking trails, fishing ponds, educational kiosks, wildlife viewing. Location is off of W Spring St, Lewistown, MT 59457	City of Lewistown
Hawthorn Park	W Evelyn St	Amenities include playground equipment, baseball diamond, basketball court, picnic tables. Location: 204 W Evelyn Street, Lewistown, MT	City of Lewistown
Jaycees Park	Park Ave	At the corner of Park Avenue and Cottonwood Street. Amenities include baseball diamond, basketball court, children's play area.	City of Lewistown
Kiwanis Park	7th Ave N	Amenities include basketball court, baseball diamond, playground equipment, picnic tables. Location: 1103 7th Ave N, Lewistown, MT 59457	City of Lewistown
Lewistown City Trail System	Lewistown	There are 20 miles of trails throughout town.	City of Lewistown
Reed's Fort Post Office	Casino Creek Dr	On Casino Creek Drive between Brassey and Shields Streets. Site of historic Reed's Fort Post Office, a small log structure which once served as a military post office. Picnic area.	City of Lewistown
Robinson Park	Airport Rd	Amenities include walking trails, nature park, fishing, wildlife viewing. Location: Along Airport Rd, next to the Frog Pond.	City of Lewistown
School Park	4th Ave S	4th Ave South and Cook Street, adjacent to Frank Day Park. Amenities include baseball diamond and basketball court.	City of Lewistown
Symms Park	NE Main St	Amenities include tennis courts, playground equipment, picnic tables, baseball diamond and horseshoes. Lewistown Area Chamber of Commerce and museum are also located at the edge of the park. Location: 408 NE Main St, Lewistown, MT 59457	City of Lewistown
Triangle Park	10th Ave N	Along the walking trail at the corner of 10th Ave North and Washington Street. Playground equipment and a picnic table. Also known as Railroad Park.	City of Lewistown
Veterans' Park	E Main St	Amenities include picnic tables and benches. Location: 311 E Main St, Lewistown, MT 59457	City of Lewistown

Source: MFWP. https://fwp.mt.gov/stateparks/find-a-park; MFWP. https://myfwp.mt.gov/fishMT/explore; City of Lewistown. Parks and Recreation. City of Lewistown - Parks & Recreation.

4.2.4 Old Havre Highway & US 87

No supplemental tables or charts are provided for this subarea.

4.2.5 US 87 Armington Junction – Otter Creek

No supplemental tables or charts are provided for this subarea.

4.3 Cultural and Historic Resources

4.3.1 Central Montana Study Area

Table B.79: NRHP Properties in the Central MT Study Area

Site Name	Smithsonian Number	Location	County	Property Type
Belt Commercial Historic District	24CA0978	Castner St, Belt	Cascade	Historic District
Belt Jail	24CA0234	Castner St, Belt	Cascade	Building
Charlie and Nancy Russell Honeymoon Cabin	24CA0990	20 Russell Dr S, Cascade	Cascade	Building
Conrad City Hall	24PN0029	15 4th Avenue SW, Conrad	Pondera	Building
Dearborn River High Bridge	24LC0130	15 mi SW of Augusta on Bean Lake Rd	Lewis & Clark	Structure
Draft Horse Barn, Fergus County Fairgrounds	24FR0294	1000 US 191	Fergus	Building
F.M. Mack General Store	24LC2017	210 Main St, Augusta	Lewis & Clark	Building
Fort Shaw Historic District and Cemetery	24CA0084	1 mi NW of Town of For Shaw	Cascade	Historic District
Gilman State Bank	24LC0882	Main St, Gilman	Lewis & Clark	Building
Graves Hotel	24WL0081	106 S Central Ave, Harlowton	Wheatland	Building
Great Falls Portage	24CA0238	SE of Great Falls at Jct of US 87 89 and 91	Cascade	Historic District and Landmark
J.C. Adam's Stone Barn	24CA0237	Ne OF Sun River off U.S. 81	Cascade	Building
Judith River Ranger Station	24JT0072	Along the Middle Fort, Judith R, SW of Utica in Lewis & Clark NF	Judith Basin	Building
Lewistown Satellite Airfield Historic District	24FR0851	Highway 87	Fergus	Historic District
Marias River Bridge	24TL0401	Milepost 6 on Marias Valley Rd, Shelby	Toole	Structure
Meadowbrook Stock Farm	24JT0208	US 87	Judith Basin	Building
Mill House	24FR0771	MT 466 4.5 mi SE of Lewistown along Spring Cr	Fergus	Building
Milwaukee Road Historic District	24WL0098	S end of Central Ave, Harlowton	Wheatland	Historic District
Naylor Brothers Ranch Historic District	24FR1095	503 East Dry Creek Road	Fergus	Historic District

Site Name	Smithsonian Number	Location	County	Property Type
Neihart School	24CA0969	200 S Main St, Neihart	Cascade	Building
Quinn's Garage	24LC2015	206 Main St, Augusta	Lewis & Clark	Building
Rainbow Conoco	24TL0282	400 Main St, Shelby	Toole	Building
Reed and Bowles Trading Post	24FR1096	Joyland Rd	Fergus	Building
Shelby Town Hall	24TL0783	100 Montana Ave, Shelby	Toole	Building
St. Peter's Mission Church and Cemetery	24CA0240	W of Cascade	Cascade	Building
St. Wenceslaus Catholic Church	24FR1157	7724 Danvers Rd, Danvers	Fergus	Building
Stafford's (Winifred) Grocery	24FR1264	201 Main Street, Winifred	Fergus	Building
Stearns Hall	24LC1244	2 mi N of Jct of MT 200 and Hwy 434	Lewis & Clark	Building
Teton County Courthouse	24TT0458	1 Main Avenue South, Choteau	Teton	Building
Valier Public School	24PB0068	820 3rd Street, Valier	Pondera	Building
Vaughn, Robert Homestead	24CA0230	Vaughn Cemetery Rd & Cascade County Rd	Cascade	Historic District
Wood Lawn Farm	24JT0194	5 mi W of Hobson on Utica Rd No. 239	Judith Basin	Building

Source: Montana State Historic Preservation Office. Montana's National Register of Historic Places. https://montana.maps.arcgis.com/apps/webappviewer/index.html?id=5378695ae71b414ba66f478fc57241f6.

4.3.2 Great Falls Subarea

Table B.80: NRHP Properties Within Great Falls Subarea

Site Name	Smithsonian Number	Location	County	Property Type
Avron Block	24CA0328	114-116 First Ave S, Great Falls	Cascade	Building
Baatz Block	24CA1963	400-402 2nd Ave S, Great Falls	Cascade	Building
Cascade County Courthouse	24CA0233	415 2nd Ave N, Great Falls	Cascade	Building
Chicago, Milwaukee and St. Paul Passenger Depot	24CA0271	River Dr N, Great Falls	Cascade	Building
East Side Neighborhood Historic District	24CA1763	Central Ave and 1st Ave between 15th and 16th Sts, Great Falls	Cascade	Historic District
First United Methodist Church Parsonage	24CA0905	113 Sixth St N, Great Falls	Cascade	Building
Great Falls Central Business Historic District	24CA0977	Second Ave N, First Ave N, Central Ave, First Ave S, Great Falls	Cascade	Historic District
Great Falls Central High School	24CA0236	1400 1st Ave N, Great Falls	Cascade	Building
Great Falls High School Historic District	24CA1663	1900 2nd Ave S, Great Falls	Cascade	Historic District

Site Name	Smithsonian Number	Location	County	Property Type
Great Falls Northside Residential Historic District	24CA0174	200-900 blk 4th Ave N, 100-900 blk 3rd Ave N, 500-900 blk 2nd Ave N, Great Falls	Cascade	Historic District
Great Falls Portage	24CA0238	SE of Great Falls at Jct of U.S. 87, 89, and 91, Great Falls	Cascade	Historic District
Great Falls Railroad Historic District	24CA0352	Park and Rivers Drs, 100-400 blks. 2nd St S, 100-200 blks 1st and 2nd Aves S, and 100-300 blks, Great Falls	Cascade	Historic District
Great Falls West Bank Historic District	24CA1527	300 and 400 Blocks, 3rd St NW, Great Falls	Cascade	Historic District
Harry E. Randall House	24CA0252	1003 Fourth Ave N, Great Falls	Cascade	Building
Lee M. Ford House	24CA0312	401 4th Ave N, Great Falls	Cascade	Building
Margaret Block	24CA0235	413-415 Central Ave, Great Falls	Cascade	Building
Masonic Temple	24CA0670	821 Central Ave, Great Falls	Cascade	Building
Northern Montana State Fairgrounds	24CA0299	3rd St NW, Great Falls	Cascade	Historic District
O.S. Warden Bridge	24CA0401	10th Ave S across Missouri River, Great Falls	Cascade	Structure
Old U.S. Highway 91 Historic District	24CA0386	Between I-15 Spring Cr & Hardy Cr Interchanges	Cascade	Historic District
Roberts Building	24CA0231	520-526 Central Ave, Great Falls	Cascade	Building
Russell, Charles M. House and Studio	24CA0239	1217-1219 4th Ave N, Great Falls	Cascade	Historic Building and Landmark
Tenth Street Bridge	24CA0308	Tenth Street Bridge, Great Falls	Cascade	Structure
Timothy Edwards Collins Mansion	24CA0212	1003-1017 2nd Ave NW, Great Falls	Cascade	Building
Union Bethel African Methodist Episcopal Church	24CA0970	916 Fifth Ave S, Great Falls	Cascade	Building
Ursuline Academy	24CA0329	2300 Central Ave, Great Falls	Cascade	Building
US Post Office and Courthouse Great Falls	24CA0232	215 First Ave N, Great Falls	Cascade	Building

Source: Montana State Historic Preservation Office. Montana's National Register of Historic Places. https://montana.maps.arcgis.com/apps/webappviewer/index.html?id=5378695ae71b414ba66f478fc57241f6.

4.3.3 Lewistown Subarea

Table B.81: NRHP Properties Within Lewistown Subarea

Site Name	Smithsonian Number	Location	County	Property Type
Anderson House	24FR0784	1015 W Watson St, Lewistown	Fergus	Building
Ayers House	24FR0643	316 8th Ave S, Lewistown	Fergus	Building
Bright House	24FR0779	707 W Boulevard St, Lewistown	Fergus	Building

Site Name	Smithsonian Number	Location	County	Property Type
Bright Thompson Lewis House	24FR0788	702 W Boulevard St, Lewistown	Fergus	Building
Clark Carwell House	24FR0641	523 W Watson St, Lewistown	Fergus	Building
Culver Studio	24FR0417	212 5th Ave N, Lewistown	Fergus	Building
Fergus County High School	24FR0759	412 6th Ave S, Lewistown	Fergus	Building
Fergus County Improvement Corporation Dormitory	24FR0415	216 7th Ave S 597th, Lewistown	Fergus	Building
First Presbyterian Church	24FR0639	215 5th Ave S, Lewistown	Fergus	Building
Gamble Robinson Company Warehouse	24FR1268	302 E Main St, Lewistown	Fergus	Building
Hogeland, Abraham and Mary Walton, House	24FR1046	620 West Montana St, Lewistown	Fergus	Building
House at 301 Eighth Avenue	24FR0642	301 8th Ave S, Lewistown	Fergus	Building
House at 324 W Corcoran	24FR0781	House at 324 W Corcoran	Fergus	Building
House at 618 W Janeaux	24FR0640	618 W Janeaux St, Lewistown	Fergus	Building
House at 805 W Watson	24FR0787	805 W Watson St, Lewistown	Fergus	Building
House at 809 W Watson	24FR0786	813 W Watson St, Lewistown	Fergus	Building
House at 813 W Watson	24FR0785	817 W Watson St, Lewistown	Fergus	Building
Huntoon Residence	24FR0758	722 W Water St, Lewistown	Fergus	Building
Lewistown Carnegie Library	24FR0496	701 W Main St, Lewistown	Fergus	Building
Lewistown Central Business Historic District	24FR0756	Roughly bounded by Washington St., 1st Ave, Janeaux St, and 8th Ave, Great Falls	Fergus	Historic District
Lewistown Courthouse Historic District	24FR0757	Roughly bounded by Washington St., 6th Ave, Main and Broadway Sts, Lewistown	Fergus	Historic District
Lewistown Judith Place Historic District	24FR0228	Roughly bounded by Main St the alley between Hawthorne and Ridgelawn Sts, Washington St, Lewistown	Fergus	Historic District
Lewistown Mercantile Company	24FR0644	220 E Main St, Lewistown	Fergus	Building
Lewistown Satellite Airfield Historic District	24FR0851	Highway 87	Fergus	Historic District
Lewistown Silk Stocking Historic District	24FR0227	Roughly bounded by 2nd Ave, Boulevard and Washington Sts., and 3rd Ave, Great Falls	Fergus	Historic District
Masonic Temple	24FR0494	322 W Broadway, Lewistown	Fergus	Building
Reed's Fort Post Office	24FR0414	0.1 mi SW from the junction of Brassey and 6th Ave on Casion Creek Dr, Lewistown	Fergus	Building
Schroeder Hospital	24FR0783	502 5th Ave S, Lewistown	Fergus	Building
St. James Episcopal Church and Parish House	24FR0418	502 W Montana St, Lewistown	Fergus	Building
St. Joseph's Hospital	24FR0420	1000 Fountain Terrace Dr, Lewistown	Fergus	Building
St. Leo's Catholic Church	24FR0419	124 W Broadway St, Lewistown	Fergus	Building
Symmes Park Missile	24FR1360	Symmes Park, Lewistown	Fergus	Object

Site Name	Smithsonian Number	Location	County	Property Type
U.S. Post Office and Federal Building	24FR0495	204 Third Ave N, Lewistown	Fergus	Building

Source: Montana State Historic Preservation Office. Montana's National Register of Historic Places.
https://montana.maps.arcgis.com/apps/webappviewer/index.html?id=5378695ae71b414ba66f478fc57241f6

4.3.4 Old Havre Highway & US 87

No supplemental tables or charts are provided for this subarea.

4.3.5 US 87 Armington Junction – Otter Creek

No supplemental tables or charts are provided for this subarea.

4.4 Section 4(f) Resources

No supplemental tables or charts are provided for this topic.

4.5 Section 6(f) Resources

4.5.1 Central Montana Study Area

Table B.82: Section 6(f) Resources in Central MT Study Area Counties

County	Award Year	Site Name	Site Number	Project Sponsor
Cascade	1964 2011	Great Falls City Park (Jaycee Park)	30-00013	Great Falls
		Cascade Atkinson Park	30-00015	Cascade
		Great Falls Southside Park	30-00086	Great Falls
		Cascade- Wolf Creek FAS	30-00115	MFWP
		Great Falls Tennis Courts	30-00124	MFWP
		Mountain Palace FAS	30-00126	MFWP
		Mid Canon FAS	30-00126	MFWP
		Great Falls Southside Park	30-00147	Great Falls
		Great Falls Grande Vista Park	30-00157	Great Falls
		Ulm Pishkun SM	30-00191	MFWP
		Belt Park Imp.	30-00196	Belt
		Giant Springs/Heritage SP	30-00216	MFWP

County	Award Year	Site Name	Site Number	Project Sponsor
Cascade	1964 2011	Giant Springs/Heritage SP	30-00225	MFWP
		Giant Springs/Heritage SP	30-00229	DFWP
		Cascade Atkinson Park	30-00241	Cascade
		Giant Springs/Heritage SP Acq.	30-00382	DFWP
		Great Falls Tennis Courts	30-00389	Great Falls
		Great Falls Jaycee Park	30-00400	Great Falls
		Great Falls Madison Park	30-00400	Great Falls
		Great Falls Montana Park	30-00400	Great Falls
		Great Falls Verde Park	30-00400	Great Falls
		Great Falls Whittier Park	30-00400	Great Falls
		Great Falls West Side Kiwanis Park	30-00400	Great Falls
		Great Falls North Kiwanis Park	30-00400	Great Falls
		Great Falls Kranz Park	30-00400	Great Falls
		Great Falls Rhodes Park	30-00400	Great Falls
		Great Falls Boston Heights Park	30-00400	Great Falls
		Great Falls Morony Park	30-00400	Great Falls
		Great Falls Roosevelt Park	30-00400	Great Falls
		Great Falls Memorial Park	30-00400	Great Falls
		Great Falls Valley View Park	30-00400	Great Falls
		Great Falls Chowen Springs Park	30-00400	Great Falls
		Great Falls Sunnyside Park	30-00400	Great Falls
		Black Eagle Park	30-00410	Cascade County
		Ulm City Park	30-00420	Ulm
		Sluice Boxes SM	30-00453	DFWP
		Simms Jogging Track	30-00454	Simms SD #F
		Great Falls Sacajawea Park	30-00458	Great Falls
		Great Falls Valley View Park	30-00458	Great Falls
		Great Falls Chowen Springs Park	30-00458	Great Falls
		Great Falls Gibson-Riverside Park	30-00458	Great Falls
		Great Falls Highland Park	30-00458	Great Falls
		Great Falls Sunnyside Park	30-00458	Great Falls
		Great Falls Charles Russell Park	30-00458	Great Falls
		Giant Springs/Heritage SP	30-00460	DFWP
		Sand Coulee School Dist. #5 Park	30-00483	Sand Coulee SD #5
		Great Falls Westbank Park	30-00484	Great Falls

County	Award Year	Site Name	Site Number	Project Sponsor
Cascade	1964 2011	Giant Springs SP	30-00520	DFWP
		Giant Springs SP	30-00554	DFWP
		Cascade Tennis Court Renovation	30-00601	Cascade
		Giant Springs SP	30-00634	DFWP
	2012 2017	Playground Equipment	30-00727	Giant Springs State Park
Choteau	1964 2011	Carter Ferry FAS	30-00110	DFWP
		Fort Benton City Park	30-00195	Fort Benton
		Highwood Community Park	30-00251	Highwood Public Schools
		Fort Benton Swimming Pool	30-00296	Fort Benton
		Big Sandy Tennis Courts	30-00537	Big Sandy Public Schools
		Big Sandy Schools Sports Complex	30-00603	Big Sandy SD #2 and #11
		Highwood School Community Park	30-00667	SD #28
		Highwood School Community Park	30-00680	Highwood School
Fergus	1964 2011	Lewistown Municipal Pool	30-00037	Lewistown
		Lewistown Symmes Park	30-00163	Lewistown
		Hruska FAS	30-00204	DFWP
		Denton Pool	30-00303	Denton
		Lewistown - Tennis Courts	30-00346	Lewistown
		Carter's Ponds FAS (Upper)	30-00437	DFWP
		Carter's Ponds FAS (Lower)	30-00440	DFWP
Fergus	2012 2017	Swimming Pool Rehab	30-00731	Lewistown Pool
	2018	Creekside Restroom & Kiosk	Not provided	Lewistown
Judith Basin	1964 2011	Ackley Lake SP	30-00024	DFWP
		Hobson Municipal Pool (Clyde's Park)	30-00029	Hobson
		Ackley Lake SP	30-00107	DFWP
		Stanford Pool Heater	30-00305	Stanford
		Stanford Swimming Pool	30-00337	Stanford
Lewis and Clark	1964 2011	Lewis & Clark Co. Fairgrounds	30-00025	Lewis and Clark County
		Bean Lake FAS	30-00057	DFWP
		Craig FAS	30-00126	DFWP
		Dearborn FAS	30-00126	DFWP
		Hardy Bridge FAS	30-00126	DFWP
		Prewett Creek FAS	30-00126	DFWP
		Prickly Pear FAS	30-00126	DFWP
		Spite Hill FAS	30-00126	DFWP

County	Award Year	Site Name	Site Number	Project Sponsor
Lewis and Clark	1964 2011	Stickney Creek FAS	30-00126	DFWP
		Wolf Creek Bridge FAS	30-00126	DFWP
		Kentucky Island FAS	30-00126	DFWP
		Canyon View FAS	30-00126	DFWP
		Helena Acq. & Dev.- Clinton Park	30-00137	Helena
		Helena Acq. & Dev.- Barney Park	30-00137	Helena
		Helena Cunningham Park	30-00165	Helena
		Helena Memorial Park	30-00178	Helena
		East Helena Pool	30-00194	East Helena
		Helena Memorial Park	30-00200	Helena
		Johnsrud FAS	30-00214	DFWP
		Helena Tennis Courts	30-00218	Helena
		Helena-Horseshoe Complex	30-00264	Helena
		Helena Memorial Park	30-00267	Helena
		Helena Sixth Ward Park	30-00270	Helena
		Helena Mount Helena Park	30-00270	Helena
		Helena Ramey Park	30-00270	Helena SD #1
		Helena-McHugh Lane Park	30-00281	Helena
		Helena Sports Complex	30-00294	Helena
		Bill Roberts Municipal Golf Course	30-00353	Helena
		Lewis & Clark Co. Fairgrounds Pk.	30-00403	Lewis and Clark County
		Black Sandy SRA	30-00591	DFWP
		Spring Meadow Lake SRA	30-00605	DFWP
		Helena Centennial Park	30-00606	Helena
		Helena Sierra Park	30-00610	Helena SD #1
		Helena Skyways Trail	30-00649	Helena, MT Parks Dept, HLNA Regional Airport Autho
		Lewis and Clark County Fairgrounds	30-00687	Lewis and Clark County
		SCORP Planning	30-00720	Montana State Parks
	2012 2017	Mt. Ascension Acquisition	30-00723	Helena
		Parks Playground Renovation	30-00730	Helena
		Gazebo	30-00739	Montana Wild
	2018	Cherry Park ADA Playground	Not provided	Helena
Pondera	1964 2011	Conrad Pool Renovation	30-00031	Conrad
		Conrad City Park/Sports Complex	30-00042	Conrad
		Valier Lake Francis Dev.	30-00154	Valier

County	Award Year	Site Name	Site Number	Project Sponsor
Pondera	1964 2011	Valier Tennis Courts	30-00373	Valier
		Conrad City Park/Sports Complex	30-00574	Conrad
		Dupuyer School Play and Picnic Area	30-00679	Dupuyer School District #2
	2022	Conrad Splash Park	Not provided	Town of Conrad
Teton	1964 2011	Arod Lake FAS	30-00010	DFWP
		Durand Reservoir FAS	30-00024	DFWP
		Fairfield City Park	30-00033	Fairfield
		Dutton City Park	30-00043	Dutton
		Durand Reservoir	30-00107	DFWP
		Choteau Golf Course	30-00295	Choteau
		Fairfield Baseball Field	30-00358	Fairfield
		Fairfield Tennis Courts	30-00393	Fairfield
		Choteau Bathhouse	30-00397	Choteau
		Dutton City Park	30-00430	Dutton
		Power Tennis Courts	30-00539	Power SD #30
		Choteau Mini Park Recreational Complex	30-00642	Choteau
	2022	Choteau Tennis Courts	Not provided	City of Choteau
Toole	1964 2011	Shelby Pool	30-00118	Shelby
		Shelby Tennis Courts	30-00401	Shelby
		Shelby Pool Renovation	30-00540	Shelby
		Shelby Sports Complex	30-00546	Shelby SD #14
		Shelby Seven Parks- Shelby City Park	30-00601	Shelby
		Shelby Seven Parks- Lincoln Park	30-00601	Shelby
		Shelby Seven Parks- Lake Shel-oole Baseball Complex	30-00601	Shelby
		Shelby Seven Parks- Aronow Park	30-00601	Shelby
		Shelby Seven Parks- Williamson Park	30-00601	Shelby
		Shelby Seven Parks- Andy Anderson Park	30-00601	Shelby
	2012 2017	Splash Park	30-00721	Shelby
	2018	Shelby Swimming Pool Gutter Replacement	Not provided	Shelby
	2022	Meadowlark Park and Krysko Skate Park Development	Not provided	City of Shelby
Wheatland	1964 2011	Deadman's Basin	30-00007	DFWP
		Harlowton Chief Joseph Park	30-00044	Wheatland County
		Selkirk FAS	30-00045	DFWP
		Harlowton Chief Joseph Park	30-00202	Harlowton
		Harlowton Golf Course	30-00511	Harlowton

County	Award Year	Site Name	Site Number	Project Sponsor
Wheatland	1964 2011	Selkirk FAS	30-00554	DFWP
	2012 2017	Playground Equipment	30-00736	City of Harlowton

Source: MTFWP. Land & Water Conservation Fund Grants, Past Awards (1964-2024). Land & Water Conservation Fund Recreation Grants | Montana FWP (mt.gov)

4.5.2 Great Falls Subarea

No supplemental tables or charts are provided for this area.

4.5.3 Lewistown Subarea

No supplemental tables or charts are provided for this area.

4.5.4 Old Havre Highway & US 87

No supplemental tables or charts are provided for this area.

4.5.5 US 87 Armington Junction – Otter Creek

No supplemental tables or charts are provided for this area.

4.6 Visual Resources

No supplemental tables or charts are provided for this topic.

Appendix C

Environmental Summary Reports

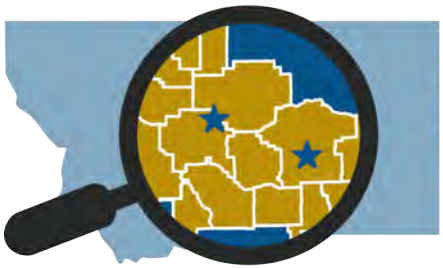
Missile Field

Great Falls Subarea

Lewistown Subarea

Old Havre Highway/US 87 Corridor

US 87 Armington Junction – Otter Creek Canyon Corridor



Central Montana
Transportation Study

MONTANA STATE LIBRARY

NATURAL HERITAGE PROGRAM mtnhp.org

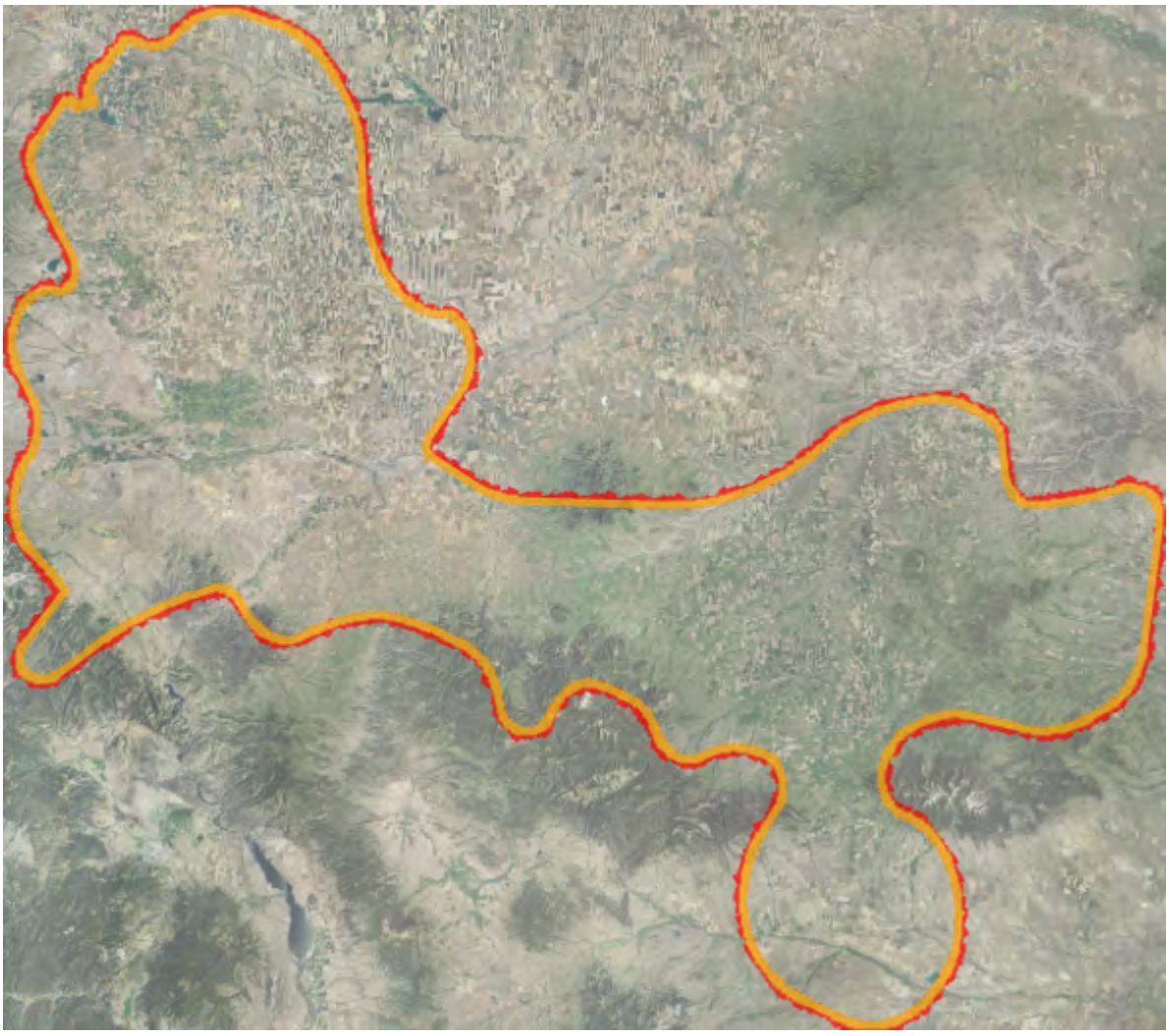
1201 11th Ave ▫ P.O. Box 201800 ▫ Helena, MT 59620-1800 ▫ fax 406-444-0266 ▫ phone 406-444-3989

Environmental Summary



Latitude	Longitude
46.18272	-108.61859
48.57699	-112.50272

Summarized by:
25PRVT0177
(Custom Area of Interest)



Suggested Citation
Montana Natural Heritage Program. Environmental Summary Report.
for Latitude 46.18272 to 48.57699 and Longitude -108.61859 to -112.50272. Retrieved on 12/30/2024.

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MONTANA STATE LIBRARY NATURAL HERITAGE PROGRAM

NATURESERVE

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- Introduction to Native Species
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- Additional Information Resources

Introduction to Environmental Summary Report

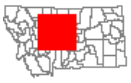
Environmental Summary Reports from the Montana Natural Heritage Program (MTNHP) provide information on species and biological communities to inform all stakeholders in environmental review, permitting, and planning processes. For information on environmental permits in Montana, please see permitting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

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

MONTANA STATE LIBRARY
NATURAL HERITAGE PROGRAM
A program of the **Montana State Library's Natural Resource Information System**

Legend

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



Latitude	Longitude
46.18272	-108.61859
48.57699	-112.50272

Native Species

Summarized by: **25PRVT0177** *(Custom Area of Interest)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Map not shown for scales greater than 1:80,000

Species Occurrences

	USFWS Sec7	# SO	# Obs	Predicted Model	Range	
F - Northern Redbelly Dace *(Chrosomus eos)* SOC		10	73 +		Y	
F - Westslope Cutthroat Trout *(Oncorhynchus lewisi)* SOC		7	544 +		Y	H
F - Blue Sucker *(Cycleptus elongatus)* SOC		1	+		Y	
F - Bull Trout *(Salvelinus confluentus)* SOC	7	1	1 +		Y	
F - Northern Redbelly X Finescale Dace *(Chrosomus eos x Chrosomus neogaeus)* SOC		8	32 +		Y	
F - Sauger *(Sander canadensis)* SOC		3	4 +		Y	
V - Almutaster pauciflorus *(Alkali Marsh Aster)* SOC		1	1		Y	
V - Atriplex canescens *(Four-wing Saltbush)* PSOC		2	2		Y	

F - Northern Redbelly Dace *(Chrosomus eos)* SOC

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

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

Delineation Criteria Stream reaches and standing water bodies where the species presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a fisheries biologist due to confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Mar 19, 2024)

Predicted Models: N 3% Suitable (native range) (deductive)

F - Westslope Cutthroat Trout *(Oncorhynchus lewisi)* SOC

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

Species of Concern - Native/Non-native Species - (depends on location or taxa) Global: **G4** State: **S2**
USFS: **Sensitive - Known in Forests (BD, BRT, KOOT, LOLO)**
Species of Conservation Concern in Forests (CG, HLC) BLM: **SENSITIVE** FWP SWAP: **SGCN2**

Delineation Criteria Stream reaches and standing water bodies where the species presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a fisheries biologist due to confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Mar 08, 2024)

Predicted Models: N 2% Suitable (native range) (deductive)

F - Blue Sucker *(Cycleptus elongatus)* SOC

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

Species of Concern - Native Species Global: **G3G4** State: **S2S3** FWP SWAP: **SGCN2-3**

Delineation Criteria Stream reaches 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 into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Mar 18, 2024)

Predicted Models: N 1% Suitable (native range) (deductive)

F - Bull Trout *(Salvelinus confluentus)* SOC

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

Species of Concern - Native Species Global: **G5** State: **S2** USFWS: **LT; CH** BLM: **THREATENED** FWP SWAP: **SGCN2**

Delineation Criteria Stream reaches and standing water bodies where the species is believed to be present based on the professional judgement of a fisheries biologist, potentially supported by habitat assessment, direct capture, or confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Mar 19, 2024)

Predicted Models: N 1% Suitable (native range) (deductive)

F - Northern Redbelly X Finescale Dace *(Chrosomus eos x Chrosomus neogaeus)* SOC

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

Species of Concern - Native Species Global: **GNA** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Delineation Criteria Stream reaches and standing water bodies where the species presence has been confirmed through direct capture. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Mar 19, 2024)

Predicted Models: N 1% Suitable (native range) (deductive)

F - Sauger *(Sander canadensis)* SOC

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

Species of Concern - Native Species Global: **G5** State: **S2** 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 14, 2024)

Predicted Models: N 1% Suitable (native range) (deductive)

V - Almutaster pauciflorus *(Alkali Marsh Aster)* SOC

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

Species of Concern - Native Species Global: **G4** State: **S1** Plant Threat Score: **No Known Threats** CCVI: **Highly Vulnerable**

Predicted Models: N 1% Suitable (native range) (deductive)

V - Atriplex canescens *(Four-wing Saltbush)* PSOC

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

Potential Species of Concern - Native Species Global: **G5** State: **S3S4** Plant Threat Score: **Unknown**

Predicted Models: N 1% Suitable (native range) (deductive)

V - Bacopa rotundifolia *(Roundleaf Water-hyssop)* SOC | 1 | 1 | Y

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

Species of Concern - Native Species Global: **G5** State: **S3?** Plant Threat Score: **No Known Threats** CCVI: **Moderately Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Apr 26, 2018)

Predicted Models: N 1% Suitable (native range) (deductive)

V - Braya humilis *(Low Braya)* SOC | 3 | 35 | Y

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

USFS: **Sensitive - Known in Forests (BD)**

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

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Aug 21, 2019)

Predicted Models: N 1% Suitable (native range) (deductive)

V - Carex sychnocephala *(Many-headed Sedge)* SOC | 1 | + | Y

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

Species of Concern - Native Species Global: **G5** State: **S1S2** Plant Threat Score: **High - Medium**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Apr 26, 2018)

Predicted Models: N 1% Suitable (native range) (deductive)

V - Downingia laeta *(Great Basin Downingia)* SOC | 4 | 9 + | Y

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

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

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Sep 29, 2023)

Predicted Models: N 1% Suitable (native range) (deductive)

V - Elymus innovatus *(Northern Wildrye)* SOC | 1 | + | Y

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

Species of Concern - Native Species Global: **G5** State: **S2** USFS: **Species of Conservation Concern in Forests (HLC)** Plant Threat Score: **No Known Threats**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Jan 20, 2023)

Predicted Models: N 1% Suitable (native range) (deductive)

V - Equisetum palustre *(Marsh Horsetail)* SOC | 1 | | Y

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

Species of Concern - Native Species Global: **G5** State: **S3** Plant Threat Score: **No Known Threats**

Predicted Models: N 1% Suitable (native range) (deductive)

V - Juncus acuminatus *(Tapered Rush)* SOC | 1 | 1 | Y

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

Species of Concern - Native Species Global: **G5** State: **S1** Plant Threat Score: **Unknown**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Apr 26, 2018)

Predicted Models: N 1% Suitable (native range) (deductive)

V - Lycopodium dendroideum *(Treelike Clubmoss)* SOC | 2 | 2 | Y

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

USFS: **Sensitive - Known in Forests (KOOT)**

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

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Sep 27, 2021)

Predicted Models: N 1% Suitable (native range) (deductive)

V - Mimulus ringens *(Square-stem Monkeyflower)* SOC | 4 | 8 | Y

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

Species of Concern - Native Species Global: **G5** State: **S2?** Plant Threat Score: **No Known Threats** CCVI: **Highly Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Mar 13, 2024)

Predicted Models: N 1% Suitable (native range) (deductive)

V - Muhlenbergia andina *(Foxtail Muhly)* SOC | 1 | | Y

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

Species of Concern - Native Species Global: **G4** State: **S2S3** Plant Threat Score: **Unknown**

Predicted Models: N 1% Suitable (native range) (deductive)

V - Najas guadalupensis *(Guadalupe Water-nymph)* SOC | 1 | | Y

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

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

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Oct 27, 2023)

Predicted Models: N 1% Suitable (native range) (deductive)

V - Sporobolus neglectus *(Small Dropseed)* SOC — 1 — + — Y

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

Species of Concern - Native Species — Global: **G5** State: **S1S2** Plant Threat Score: **No Known Threats**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Jan 29, 2021)

Predicted Models: N 1% Suitable (native range) (deductive)

B - Clark's Grebe *(Aechmophorus clarkii)* SOC — 1 — 40 + — S — M

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

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

Delineation Criteria Standing water bodies with evidence of nesting buffered by 100 meters in order to reflect importance of adjacent terrestrial habitats to breeding success. (Last Updated: Dec 28, 2022)

Predicted Models: N 1% Suitable (native range) (deductive)

V - Carex crawei *(Crawe's Sedge)* SOC — 4 — 3 — Y

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

Species of Concern - Native Species — Global: **G5** State: **S2S3** Plant Threat Score: **Low**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Apr 26, 2018)

Predicted Models: O 3% Optimal (inductive), M 35% Moderate (inductive), L 31% Low (inductive)

V - Lilium philadelphicum *(Wood Lily)* SOC — 8 — 4 — Y

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

Species of Concern - Native Species — Global: **G5** State: **S3** Plant Threat Score: **Low** CCVI: **Less Vulnerable**

Predicted Models: O 3% Optimal (inductive), M 8% Moderate (inductive), L 18% Low (inductive)

I - Oreohelix strigosa berryi *(Berry's Mountainsnail)* SOC — 4 — 3 + — Y

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

Species of Concern - Native Species — Global: **G5T2** State: **S1S2**

Delineation Criteria Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 100 meters in order to encompass the home range of the individual as well as adjacent habitat likely to support other individuals and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 20, 2022)

Predicted Models: O 2% Optimal (inductive), M 10% Moderate (inductive), L 6% Low (inductive)

M - Merriam's Shrew *(Sorex merriami)* SOC — 1 — 1 — Y

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

Species of Concern - Native Species — Global: **G4** State: **S3** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 100 meters in order to encompass the maximum home range size for small shrews and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 26, 2024)

Predicted Models: O 1% Optimal (inductive), M 41% Moderate (inductive), L 46% Low (inductive)

B - Long-billed Curlew *(Numenius americanus)* SOC — 903 — 1571 + — S — M

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

Species of Concern - Native Species — Global: **G4** State: **S3B** USFWS: **MBTA; BCC11** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 200 meters in order to approximate the breeding territory size reported for the species in Idaho and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 18, 2024)

Predicted Models: O 1% Optimal (inductive), M 35% Moderate (inductive), L 56% Low (inductive)

M - Dwarf Shrew *(Sorex nanus)* SOC — 1 — 1 — Y

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

Species of Concern - Native Species — Global: **G4** State: **S2S3** FWP SWAP: **SGCN2-3**

Delineation Criteria Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 100 meters in order to encompass the probable maximum home range size for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 14, 2014)

Predicted Models: O 1% Optimal (inductive), M 18% Moderate (inductive), L 45% Low (inductive)

M - Townsend's Big-eared Bat *(Corynorhinus townsendii)* SOC — 14 — 32 — Y

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

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

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a distance of 4,500 meters in order to encompass the 95% confidence interval for nightly foraging distance reported for the species in California and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. When cave locations are involved, point observations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 4,500 meters and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Dec 26, 2024)

Predicted Models: O 1% Optimal (inductive), M 15% Moderate (inductive), L 43% Low (inductive)

B - Golden Eagle *(Aquila chrysaetos)* SOC — 141 — 1210 + — Y

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

Species of Concern - Native Species — Global: **G5** State: **S3** USFWS: **BGEPA; MBTA** BLM: **SENSITIVE** FWP SWAP: **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 5,000 meters. (Last Updated: Sep 20, 2024)

Predicted Models: O 1% Optimal (inductive), M 14% Moderate (inductive), L 66% Low (inductive)

B - Thick-billed Longspur *(Rhynchophanes mccownii)* SOC — 248 — 419 + — S M

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

Species of Concern - Native Species — Global: **G4** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 100 meters in order to encompass the maximum breeding territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 20, 2024)

Predicted Models: O 1% Optimal (inductive), M 13% Moderate (inductive), L 49% Low (inductive)

V - Elodea bifoliata *(Long-sheath Waterweed)* SOC — 12 — 15 — Y

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

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

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Oct 27, 2023)

Predicted Models: O 1% Optimal (inductive), M 12% Moderate (inductive), L 74% Low (inductive)

M - Hoary Bat *(Lasiurus cinereus)* SOC — 132 — 151 — S M

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

Species of Concern - Native Species — Global: **G3G4** State: **S3B** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles during the active season. Point observation location is buffered by a minimum distance of 3,500 meters in order to be conservative about encompassing the maximum reported foraging distance for the congeneric Lasiurus borealis and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 26, 2024)

Predicted Models: O 1% Optimal (inductive), M 11% Moderate (inductive), L 88% Low (inductive)

B - American White Pelican *(Pelecanus erythrorhynchos)* SOC — 1 — 636 + — S M

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

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

Delineation Criteria Standing water bodies with confirmed evidence of reproduction on islands buffered by 100 meters in order to reflect importance of adjacent terrestrial habitats to survival of breeding adults and new fledglings. (Last Updated: Dec 18, 2024)

Predicted Models: O 1% Optimal (inductive), M 11% Moderate (inductive), L 68% Low (inductive)

M - Long-legged Myotis *(Myotis volans)* SOC — 18 — 30 — Y

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

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

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a minimum distance of 2,000 meters in order to encompass the average distances traveled from capture locations to roosts in Washington, Oregon, and in the Black Hills of South Dakota and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. When cave locations are involved, point observations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 2,000 meters and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Jun 26, 2024)

Predicted Models: O 1% Optimal (inductive), M 10% Moderate (inductive), L 63% Low (inductive)

B - Veery *(Catharus fuscescens)* SOC — 73 — 98 + — S M

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

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

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

Predicted Models: O 1% Optimal (inductive), M 10% Moderate (inductive), L 48% Low (inductive)

V - Eleocharis rostellata *(Beaked Spikerush)* SOC — 3 — + — Y

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

Species of Concern - Native Species — Global: **G5** State: **S3** USFS: **Species of Conservation Concern in Forests (CG, FLAT, HLC)** Plant Threat Score: **Unknown** CCVI: **Less Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Apr 12, 2023)

Predicted Models: O 1% Optimal (inductive), M 8% Moderate (inductive), L 6% Low (inductive)

V - Oxytropis lagopus var. conjugans *(Hare's-foot Locoweed)* PSOC — 2 — 2 — Y

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

Potential Species of Concern - Native Species — Global: **G4G5T3T4** State: **S3S4**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Jan 29, 2021)

Predicted Models: O 1% Optimal (inductive), M 8% Moderate (inductive), L 2% Low (inductive)

B - Bobolink *(Dolichonyx oryzivorus)* SOC — 156 — 230 + — S M

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

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

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 150 meters in order to conservatively encompass male territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 20, 2024)

Predicted Models: O 1% Optimal (inductive), M 7% Moderate (inductive), L 63% Low (inductive)

I - Danaus plexippus *(Monarch)* SOC — 3 — 2 — S

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

Species of Concern - Native Species — Global: **G4** State: **S2S3** USFWS: **P** USFS: **Sensitive - Migratory in Forests (BD, BRT, KOOT)**

Delineation Criteria Confirmed breeding area based on the presence of a resident animal of any age/stage. Point observation location is buffered by a minimum distance of 2,000 meters in order to encompass documented travel distances of some butterfly species as well as adjacent habitat likely to support other individuals and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 18, 2024)

Predicted Models: O 1% Optimal (inductive), M 7% Moderate (inductive), L 55% Low (inductive)

V - Cypripedium parviflorum *(Small Yellow Lady's-slipper)* PSOC

2 | 2 | Y

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

Potential Species of Concern - Native Species Global: **G5** State: **S3S4** USFS: **Sensitive - Known in Forests (LOLO)** **Species of Conservation Concern in Forests (CG, HLC)**

Predicted Models: O 1% Optimal (inductive), M 7% Moderate (inductive), L 39% Low (inductive)

B - Bald Eagle *(Haliaeetus leucocephalus)* SSS

97 | 1468 + | Y

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

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

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 2,000 meters in order to be conservative about encompassing the breeding territory and area commonly used for renesting. Only nesting observations with a locational uncertainty of 1,000 meters or less will be used to delineate a nesting area. (Last Updated: Sep 09, 2024)

Predicted Models: O 1% Optimal (inductive), M 7% Moderate (inductive), L 30% Low (inductive)

B - Mountain Plover *(Anarhynchus montanus)* SOC

34 | 110 + | S | M

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

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

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. When the observation is within a prairie dog town, the outer boundary of town (currently based on the grid-based delineation of 100m x 100m cells with evidence of prairie dog activity visible in aerial imagery) is used as the delineation of the breeding area. When the observation is not within a prairie dog town, the point observation location is buffered by a minimum distance of 550 meters in order to encompass the maximum brood rearing range size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. When prairie dog town boundaries or locational uncertainties associated with point observations overlap they will be merged into a common tracking unit associated with all of the observations contained within the tracking unit. (Last Updated: Dec 26, 2024)

Predicted Models: O 1% Optimal (inductive), M 5% Moderate (inductive), L 29% Low (inductive)

B - Horned Grebe *(Podiceps auritus)* SOC

5 | 74 + | S | M

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

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

Delineation Criteria Standing water bodies with evidence of breeding activity buffered by 100 meters in order to reflect importance of adjacent terrestrial habitats to breeding success. (Last Updated: Dec 19, 2024)

Predicted Models: O 1% Optimal (inductive), M 5% Moderate (inductive), L 20% Low (inductive)

B - American Goshawk *(Accipiter atricapillus)* SOC

11 | 161 | Y | WM

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

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

Delineation Criteria 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 5,000 meters. (Last Updated: Dec 26, 2024)

Predicted Models: O 1% Optimal (inductive), M 5% Moderate (inductive), L 5% Low (inductive)

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

28 | 488 + | YS | M

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

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

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 6,500 meters in order to be conservative about encompassing the areas commonly used for foraging near the breeding colony. If the locational uncertainty associated with the observation is greater than 5,000 meters, the observation is not valid for creation of a species occurrence. (Last Updated: Nov 12, 2024)

Predicted Models: O 1% Optimal (inductive), M 4% Moderate (inductive), L 29% Low (inductive)

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

2 | 122 + | S | M

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

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

Delineation Criteria Standing water bodies with confirmed nesting areas buffered by 100 meters in order to reflect importance of adjacent terrestrial habitats to breeding success. (Last Updated: Dec 19, 2024)

Predicted Models: O 1% Optimal (inductive), M 4% Moderate (inductive), L 22% Low (inductive)

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

5 | 12 + | S | M

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

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

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 5,000 meters. (Last Updated: Dec 26, 2024)

Predicted Models: O 1% Optimal (inductive), M 4% Moderate (inductive), L 20% Low (inductive)

V - Mimulus floribundus *(Floriferous Monkeyflower)* SOC

1 | Y

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

Species of Concern - Native Species Global: **G5** State: **SH** Plant Threat Score: **No Known Threats** CCVI: **Highly Vulnerable**

Predicted Models: O 1% Optimal (inductive), M 4% Moderate (inductive), L 14% Low (inductive)

B - Burrowing Owl *(Athene cunicularia)* SOC

78 | 164 + | S | M

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

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Direct observation of a bird or birds at/on a prairie dog town is indirect but sufficient evidence of breeding (b). Point observation location is buffered by a minimum distance of 2,700 meters in order to encompass the maximum foraging distance reported for breeding adults and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 19, 2024)

Predicted Models: O 1% Optimal (inductive), M 3% Moderate (inductive), L 49% Low (inductive)

B - American Bittern *(Botaurus lentiginosus)* SOC

7 | 40 + | S | M

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

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

Delineation Criteria Wetlands and wetland complexes with evidence of breeding activity buffered by 1,000 meters in order to encompass reported home range sizes. Observations with poor spatial precision where an individual wetland or wetland complex cannot be identified with certainty will be buffered by the locational uncertainty and then an additional 1,000 meters out to a maximum distance of 5,000 meters. (Last Updated: Dec 27, 2023)

Predicted Models: O 1% Optimal (inductive), M 3% Moderate (inductive), L 33% Low (inductive)

V - Chenopodium subglabrum *(Smooth Goosefoot)* SOC — 1 | 1 | Y

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

Species of Concern - Native Species — Global: **G3G4** State: **S2** Plant Threat Score: **Unknown** CCVI: **Highly Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: May 19, 2020)

Predicted Models: O 1% Optimal (inductive), M 3% Moderate (inductive), L 19% Low (inductive)

V - Potentilla plattensis *(Platte Cinquefoil)* SOC — 1 | + | Y

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

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

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Jan 20, 2023)

Predicted Models: O 1% Optimal (inductive), M 3% Moderate (inductive), L 15% Low (inductive)

V - Centunculus minimus *(Chaffweed)* SOC — 1 | + | Y

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

Species of Concern - Native Species — Global: **G5** State: **S2** Plant Threat Score: **No Known Threats**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Sep 06, 2017)

Predicted Models: O 1% Optimal (inductive), M 3% Moderate (inductive), L 11% Low (inductive)

V - Pediomelum hypogaeum var. hypogaeum *(Little Indian Breadroot)* PSOC — 2 | 1 | Y

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

Potential Species of Concern - Native Species — Global: **G5T4** State: **S3S4**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Aug 25, 2021)

Predicted Models: O 1% Optimal (inductive), M 3% Moderate (inductive), L 8% Low (inductive)

B - Black-necked Stilt *(Himantopus mexicanus)* SOC — 4 | 153 + | S | M

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

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

Delineation Criteria Standing water bodies and adjacent terrestrial habitats documented as having been used for breeding. Water bodies are buffered by 300 meters in order to encompass terrestrial habitats that are likely to be used for nesting. (Last Updated: Dec 18, 2024)

Predicted Models: O 1% Optimal (inductive), M 2% Moderate (inductive), L 22% Low (inductive)

V - Cyperus schweinitzii *(Schweinitz's Flatsedge)* SOC — 1 | 1 | Y

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

Species of Concern - Native Species — Global: **G5** State: **S2** Plant Threat Score: **Low**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Dec 08, 2022)

Predicted Models: O 1% Optimal (inductive), M 2% Moderate (inductive), L 17% Low (inductive)

B - Caspian Tern *(Hydroprogne caspia)* SOC — 2 | 76 + | S | M

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

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

Delineation Criteria Standing water bodies with evidence of nesting buffered by 100 meters in order to reflect importance of adjacent terrestrial habitats to breeding success. (Last Updated: Dec 19, 2024)

Predicted Models: O 1% Optimal (inductive), M 2% Moderate (inductive), L 10% Low (inductive)

V - Adoxa moschatellina *(Musk-root)* SOC — 5 | 7 | Y

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

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

Species of Concern - Native Species — Global: **G5** State: **S3** **Species of Conservation Concern in Forests (CG, HLC)** Plant Threat Score: **Low** CCVI: **Highly Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Mar 07, 2024)

Predicted Models: O 1% Optimal (inductive), M 2% Moderate (inductive), L 3% Low (inductive)

V - Impatiens aurella *(Pale-yellow Jewel-weed)* SOC — 1 | | Y

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

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

Predicted Models: O 1% Optimal (inductive), M 2% Moderate (inductive), L 2% Low (inductive)

M - Spotted Bat *(Euderma maculatum)* SOC — 2 | 1 | S | M

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

Species of Concern - Native Species — Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN**

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a distance of 10,000 meters in order to encompass the reported maximum foraging distance for the species in British Columbia. If the locational uncertainty associated with the observation is greater than 5,000 meters, the observation is not valid for creation of a species occurrence. (Last Updated: Dec 26, 2024)

Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 35% Low (inductive)

B - Pinyon Jay *(Gymnorhinus cyanocephalus)* SOC — 5 | 13 | Y

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

Species of Concern - Native Species — Global: **G3** State: **S3** USFWS: **MBTA; BCC10; BCC17** FWP SWAP: **SGCN3**

Delineation Criteria Observations with evidence of breeding activity buffered by a minimum distance of 4,500 meters in order to be conservative about encompassing the home ranges reported for flocks and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Sep 25, 2024)

Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 24% Low (inductive)

B - Black Tern *(Chlidonias niger)* SOC — 5 — 57 + — S M

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

Species of Concern - Native Species — Global: **G4G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Delineation Criteria Standing water bodies with confirmed nesting areas buffered by 100 meters in order to reflect importance of adjacent terrestrial habitats to breeding success. (Last Updated: Dec 18, 2024)

Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 23% Low (inductive)

R - Plains Hog-nosed Snake *(Heterodon nasicus)* SOC — 3 — 3 — Y

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

Species of Concern - Native Species — Global: **G5** State: **S2** BLM: **SENSITIVE** FWP SWAP: **SGCN2, SGIN**

Delineation Criteria Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 500 meters in order to encompass the maximum summer home range size reported for the congeneric Eastern Hog-nosed Snake and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 18, 2024)

Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 22% Low (inductive)

B - Franklin's Gull *(Leucophaeus pipixcan)* SOC — 2 — 419 + — S M

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

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

Delineation Criteria Standing water bodies with evidence of nesting buffered by 100 meters in order to reflect importance of adjacent terrestrial habitats to breeding success. (Last Updated: Dec 18, 2024)

Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 13% Low (inductive)

B - Trumpeter Swan *(Cygnus buccinator)* SOC — 5 — 83 + — Y M

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

Species of Concern - Native Species — Global: **G4** State: **S3** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

Delineation Criteria Standing water bodies with confirmed nesting areas buffered by 100 meters in order to reflect importance of adjacent terrestrial habitats to breeding success. (Last Updated: Dec 18, 2024)

Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 9% Low (inductive)

V - Goodyera repens *(Northern Rattlesnake-plantain)* SOC — 113 — 125 — Y

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

Species of Concern - Native Species — Global: **G5** State: **S3** USFS: **Species of Conservation Concern in Forests (HLC)** Plant Threat Score: **High - Low** CCVI: **Moderately Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: May 16, 2024)

Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 9% Low (inductive)

B - Common Tern *(Sterna hirundo)* SOC — 6 — 109 + — S M

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

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

Delineation Criteria Standing water bodies with evidence of nesting buffered by 100 meters in order to reflect importance of adjacent terrestrial habitats to breeding success. (Last Updated: Dec 19, 2024)

Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 8% Low (inductive)

B - Forster's Tern *(Sterna forsteri)* SOC — 3 — 117 + — S M

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

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

Delineation Criteria Standing water bodies with evidence for nesting buffered by 100 meters in order to reflect importance of adjacent terrestrial habitats to breeding success. (Last Updated: Dec 26, 2024)

Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 8% Low (inductive)

V - Lobelia kalmii *(Kalm's Lobelia)* SOC — 2 — 3 — Y

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

Species of Concern - Native Species — Global: **G5** State: **S3** Plant Threat Score: **No Known Threats**

Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 7% Low (inductive)

V - Senecio integerrimus var. scribneri *(Scribner's Ragwort)* SOC — 2 — Y

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

Species of Concern - Native Species — Global: **G5T2T3** State: **S2S3** Plant Threat Score: **No Known Threats** CCVI: **Less Vulnerable**

Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 6% Low (inductive)

B - Black-crowned Night-Heron *(Nycticorax nycticorax)* SOC — 2 — 108 + — S M

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

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

Delineation Criteria Standing water bodies with confirmed nesting areas buffered by 100 meters in order to reflect importance of adjacent terrestrial habitats to breeding success. (Last Updated: Dec 19, 2024)

Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 5% Low (inductive)

B - Meesia triquetra *(Meesia Moss)* SOC — 1 — 1 — Y

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

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

Species of Concern - Native Species — Global: **G5** State: **S2** **Species of Conservation Concern in Forests (CG, FLAT)**

Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 4% Low (inductive)

V - Salix serissima *(Autumn Willow)* SOC — 3 — 2 + — Y

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

Species of Concern - Native Species — Global: **G5** State: **S3** Plant Threat Score: **Unknown** CCVI: **Less Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Apr 11, 2023)

Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 3% Low (inductive)

R - Spiny Softshell *(Apalone spinifera)* SOC — 4 — 36 + — Y — H

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

Species of Concern - Native Species — Global: **G5** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Delineation Criteria Stream reaches and impounded streams within the species' native range where the species naturally occurs and their presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a 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 and impounded streams 50 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Dec 18, 2024)

Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 2% Low (inductive)

V - Aquilegia brevistyla *(Short-styled Columbine)* SOC — 11 — 33 — Y

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

Species of Concern - Native Species — Global: **G5** State: **S2S3** USFS: **Species of Conservation Concern in Forests (HLC)** Plant Threat Score: **Low** CCVI: **Highly Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Apr 18, 2024)

Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 2% Low (inductive)

V - Agoseris aurantiaca var. carnea *(Pink Agoseris)* PSOC — 8 — 8 — Y

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

Potential Species of Concern - Native Species — Global: **G5T4** State: **S3S4** USFS: **Sensitive - Known in Forests (BRT)** Plant Threat Score: **Medium - Low**

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

V - Amerorchis rotundifolia *(Round-leaved Orchis)* SOC — 1 — 1 — Y

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

USFS: **Sensitive - Known in Forests (KOOT)**
Sensitive - Suspected in Forests (LOLO)

Species of Concern - Native Species — Global: **G5** State: **S3** **Species of Conservation Concern in Forests (FLAT, HLC)** Plant Threat Score: **Low** CCVI: **Moderately Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Mar 07, 2024)

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

V - Gentianopsis macounii *(Macoun's Gentian)* SOC — 2 — 3 — Y

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

Species of Concern - Native Species — Global: **G5** State: **S2** USFS: **Species of Conservation Concern in Forests (HLC)** Plant Threat Score: **No Known Threats** CCVI: **Highly Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Jan 20, 2023)

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

V - Trichophorum pumilum *(Rolland's bulrush)* SOC — 2 — 2 — Y

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

Species of Concern - Native Species — Global: **G5** State: **S3** Plant Threat Score: **No Known Threats** CCVI: **Highly Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Aug 03, 2021)

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

B - Scorpidium scorpioides *(A Scorpidium Moss)* SOC — 1 — Y

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

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

Species of Concern - Native Species — Global: **G5** State: **S2** **Species of Conservation Concern in Forests (FLAT, HLC)**

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

B - Alder Flycatcher *(Empidonax alnorum)* SOC — 14 — 32 + — S — M

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

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

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 100 meters in order to encompass the average breeding territory size of the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 26, 2024)

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

I - Bombus suckleyi *(Suckley Cuckoo Bumble Bee)* SOC — 6 — 4 — Y

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

Species of Concern - Native Species — Global: **G2G3** State: **S1** USFWS: **P**

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

Predicted Models: M 32% Moderate (inductive), L 46% Low (inductive)

M - Preble's Shrew *(Sorex preblei)* SOC — 7 — 6 + — Y

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

Species of Concern - Native Species — Global: **G4** State: **S3** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 100 meters in order to encompass the maximum home range size for small shrews and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 26, 2024)

Predicted Models: M 28% Moderate (inductive), L 31% Low (inductive)

B - Ferruginous Hawk *(Buteo regalis)* **SOC** 218 717 + S M

View in Field Guide View Predicted Models View Range Maps

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

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 2,000 meters in order to encompass the average home range size reported for the species and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Sep 25, 2024)

Predicted Models: M 18% Moderate (inductive), L 61% Low (inductive)

B - Clark's Nutcracker *(Nucifraga columbiana)* **SOC** 150 314 + Y

View in Field Guide View Predicted Models View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** USFS: **Species of Conservation Concern in Forests (FLAT)** FWP SWAP: **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 5,000 meters. (Last Updated: Dec 18, 2024)

Predicted Models: M 14% Moderate (inductive), L 19% Low (inductive)

M - Little Brown Myotis *(Myotis lucifugus)* **SOC** 92 118 Y

View in Field Guide View Predicted Models View Range Maps

Species of Concern - Native Species Global: **G3G4** State: **S3** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT)** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, or definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a distance of 1,600 meters in order to encompass the greater than 1,500 meters foraging distance reported for the species in New Brunswick, Canada and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. When cave locations are involved, point observations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 1,600 meters and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Dec 26, 2024)

Predicted Models: M 11% Moderate (inductive), L 74% Low (inductive)

B - Sprague's Pipit *(Anthus spragueii)* **SOC** 7 191 273 + S M

View in Field Guide View Predicted Models View Range Maps

Species of Concern - Native Species Global: **G3G4** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

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 115 meters in order to encompass the maximum breeding territory sizes reported for the species in Montana and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 26, 2024)

Predicted Models: M 11% Moderate (inductive), L 66% Low (inductive)

M - Fringed Myotis *(Myotis thysanodes)* **SOC** 4 10 Y

View in Field Guide View Predicted Models View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a minimum distance of 2,000 meters in order to encompass the range of distances traveled from capture locations to roosts in the Black Hills of South Dakota and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. When cave locations are involved, point observations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 2,000 meters and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Jun 26, 2024)

Predicted Models: M 10% Moderate (inductive), L 40% Low (inductive)

B - Cassin's Finch *(Haemorhous cassinii)* **SOC** 65 87 + Y

View in Field Guide View Predicted Models View Range Maps

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

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

Predicted Models: M 9% Moderate (inductive), L 9% Low (inductive)

B - Greater Sage-Grouse *(Centrocercus urophasianus)* **SOC** 99 811 + Y

View in Field Guide View Predicted Models View Range Maps

USFS: **Sensitive - Known in Forests (BD)**

Species of Concern - Native Species Global: **G3G4** State: **S2** **Species of Conservation Concern in Forests (CG)** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **1**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, juveniles, or adults on a lek. Point observations are mapped in the center of a one-square mile hexagon to protect the exact locations of leks. The outer edges of this hexagon are then buffered by a distance of 6,400 meters in order to encompass a body of research indicating that females typically nest within this distance of a lek and that lek numbers are negatively impacted by fossil fuel drilling activities within this distance of a lek. If the locational uncertainty associated with the observation is greater than 5,000 meters, the observation is not valid for creation of a species occurrence. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Jun 27, 2024)

Predicted Models: M 7% Moderate (inductive), L 25% Low (inductive)

B - Evening Grosbeak *(Coccothraustes vespertinus)* **SOC** 61 142 + Y WM

View in Field Guide View Predicted Models View Range Maps

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

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 1,000 meters in order to encompass the maximum foraging distance from nests reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 26, 2024)

Predicted Models: M 7% Moderate (inductive), L 9% Low (inductive)

M - Eastern Red Bat *(Lasiurus borealis)* **SOC** 5 9 S M

View in Field Guide View Predicted Models View Range Maps

Species of Concern - Native Species Global: **G3G4** State: **S3B** BLM: **SENSITIVE**

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles during the active season. Point observation location is buffered by a minimum distance of 3,500 meters in order to be conservative about encompassing the maximum reported foraging distance for the congeneric Lasiurus borealis and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 26, 2024)

Predicted Models: M 6% Moderate (inductive), L 40% Low (inductive)

B - Brown Creeper *(Certhia americana)* SOC — 52 — 94 + — Y

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

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **1**

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

Predicted Models: M 5% Moderate (inductive), L 4% Low (inductive)

M - Long-eared Myotis *(Myotis evotis)* SOC — 36 — 45 — Y

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

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

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a minimum distance of 1,000 meters in order to encompass the average distances traveled from capture locations to roosts and between roosts in western Montana, Alberta, and Oregon and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. When cave locations are involved, point observations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 1,000 meters and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Jun 26, 2024)

Predicted Models: M 4% Moderate (inductive), L 72% Low (inductive)

B - Sage Thrasher *(Oreoscoptes montanus)* SOC — 8 — 10 + — S — M

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

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **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 75 meters in order to encompass the maximum breeding territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 26, 2024)

Predicted Models: M 4% Moderate (inductive), L 64% Low (inductive)

B - Brewer's Sparrow *(Spizella breweri)* SOC — 115 — 230 + — S — M

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

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

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 100 meters in order to encompass the maximum territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 26, 2024)

Predicted Models: M 3% Moderate (inductive), L 77% Low (inductive)

M - Black-tailed Prairie Dog *(Cynomys ludovicianus)* SOC — 84 — 143 + — Y

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

Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Delineation Criteria Areas with recent evidence of activity (i.e. burrow entrances) visible on recent National Agricultural Imagery Program (NAIP) aerial color photographic imagery that are within a distance of 200 meters of definitive observations buffered by the locational uncertainty of less than or equal to 1,000 meters. (Last Updated: Jul 03, 2019)

Predicted Models: M 3% Moderate (inductive), L 43% Low (inductive)

R - Greater Short-horned Lizard *(Phrynosoma hernandesi)* SOC — 30 — 38 + — Y

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

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

Delineation Criteria Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 300 meters in order to encompass habitats supporting other individuals and documented distances moved betweeen summer and winter habitats. Otherwise the point observation is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 18, 2024)

Predicted Models: M 3% Moderate (inductive), L 27% Low (inductive)

B - Chestnut-collared Longspur *(Calcarius ornatus)* SOC — 157 — 259 + — S — M

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

Species of Concern - Native Species Global: **G5** State: **S2B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **2**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 115 meters in order to encompass the maximum breeding territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 20, 2024)

Predicted Models: M 2% Moderate (inductive), L 39% Low (inductive)

B - Loggerhead Shrike *(Lanius ludovicianus)* SOC — 97 — 239 + — S — M

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

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

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 300 meters in order to encompass the maximum breeding territory size reported for the species in Alberta and Idaho and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 26, 2024)

Predicted Models: M 2% Moderate (inductive), L 39% Low (inductive)

V - Triodanis leptocarpa *(Slim-pod Venus'-looking-glass)* SOC — 1 — Y

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

Species of Concern - Native Species Global: **G5?** State: **S3** Plant Threat Score: **No Known Threats** CCVI: **Moderately Vulnerable**

Predicted Models: M 2% Moderate (inductive), L 13% Low (inductive)

B - Great Gray Owl *(Strix nebulosa)* SOC — 16 — 21 + — Y

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

Species of Concern - Native Species Global: **G5** State: **S3S4** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN** PIF: **3**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults in suitable habitat during the breeding season. Point observation location is buffered by a minimum distance of 3,200 meters in order to encompass the known foraging distance and area likely to be used for renesting and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Sep 25, 2024)

Predicted Models: M 2% Moderate (inductive), L 6% Low (inductive)

B - Pileated Woodpecker *(Dryocopus pileatus)* SOC — 11 — 19 — Y

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

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

Delineation Criteria Observations with evidence of breeding activity buffered by a minimum distance of 1,500 meters in order to be conservative about encompassing home ranges and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 20, 2024)

Predicted Models: M 2% Moderate (inductive), L 2% Low (inductive)

B - Baird's Sparrow *(Centronyx bairdii)* SOC — 103 | 135 + | S | M

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

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

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

Predicted Models: M 1% Moderate (inductive), L 43% Low (inductive)

M - Grizzly Bear *(Ursus arctos)* SOC — 7 | 2 | 29 + | Y | H

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

Species of Concern - Native Species Global: **G4** State: **S2S3** USFWS: **LT** BLM: **THREATENED** FWP SWAP: **SGCN2-3**

Delineation Criteria Species Occurrence polygons represent areas delineated by the U.S. Fish and Wildlife Service (USFWS) that encompass both home ranges and potential transitory movements based on verified sightings. Within these areas, the USFWS wants project proponents to consider whether the species "may be present" when evaluating the potential impacts of a project and to work with the USFWS to develop and implement best management practices to minimize or eliminate project effects on the species. (Last Updated: Dec 26, 2024)

Predicted Models: M 1% Moderate (inductive), L 40% Low (inductive)

A - Great Plains Toad *(Anaxyrus cognatus)* SOC — 1 | 3 | Y

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

Species of Concern - Native Species Global: **G5** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN2**

Delineation Criteria Standing 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. When specific water bodies are not able to be identified due to the difficulties of estimating distances to breeding choruses during calling surveys for this species and its tendency to breed in ephemeral waters, the species occurrence consists of the best estimate of the breeding location buffered by the locational uncertainty of the observation to a maximum distance of 5,000 meters. (Last Updated: Dec 21, 2023)

Predicted Models: M 1% Moderate (inductive), L 29% Low (inductive)

B - Black-billed Cuckoo *(Coccyzus erythropthalmus)* SOC — 4 | 4 + | S | M

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

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

Delineation Criteria Observations with evidence of breeding activity buffered by a minimum distance of 300 meters in order to be conservative about encompassing home ranges and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 19, 2024)

Predicted Models: M 1% Moderate (inductive), L 19% Low (inductive)

B - Lewis's Woodpecker *(Melanerpes lewis)* SOC — 3 | 5 + | S | M

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

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

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 300 meters in order to encompass the likely foraging area used by breeding adults around the nest tree and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 20, 2024)

Predicted Models: M 1% Moderate (inductive), L 17% Low (inductive)

V - Physaria ludoviciana *(Silver Bladderpod)* SOC — 1 | Y

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

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

Predicted Models: M 1% Moderate (inductive), L 7% Low (inductive)

B - Red-headed Woodpecker *(Melanerpes erythrocephalus)* SOC — 3 | 6 | S | M

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

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

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 165 meters in order to encompass the maximum breeding territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 24, 2024)

Predicted Models: M 1% Moderate (inductive), L 7% Low (inductive)

M - Swift Fox *(Vulpes velox)* SOC — 2 | 7 + | Y

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

Species of Concern - Native Species Global: **G3** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed breeding or continued presence on a home range (e.g., active den site, pairs, or consistent observations over several years). Point observation location is buffered by a minimum distance of 3,300 meters in order to encompass the maximum 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 5,000 meters. (Last Updated: Dec 18, 2024)

Predicted Models: M 1% Moderate (inductive), L 6% Low (inductive)

M - Canada Lynx *(Lynx canadensis)* SOC — 7 | 1 | 17 + | Y

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

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **LT; CH** BLM: **THREATENED** FWP SWAP: **SGCN3**

Delineation Criteria Areas designated as Critical Habitat for the species by the U.S. Fish and Wildlife Service on September 12, 2014 because they currently contain physical and biological features (e.g. boreal forests with snowshoe hare) essential to the conservation of the species and state and other lands within the outer boundaries of USFWS Critical Habitat polygons. (Last Updated: Dec 26, 2024)

Predicted Models: M 1% Moderate (inductive), L 5% Low (inductive)

M - Wolverine *(Gulo gulo)* SOC — 7 | 3 | 21 + | Y

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

Species of Concern - Native Species Global: **G4** State: **S3** USFWS: **LT** USFS: **Sensitive - Known in Forests (LOLO)** BLM: **THREATENED** 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: Dec 26, 2024)

Predicted Models: M 1% Moderate (inductive), L 4% Low (inductive)

B - Pacific Wren *(Troglodytes pacificus)* SOC — 3 | 7 + | Y

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

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

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

Predicted Models: M 1% Moderate (inductive), L 4% Low (inductive)

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

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

Species of Concern - Native Species Global: **G4** State: **S2** USFS: **Sensitive - Known in Forests (BD, BRT, 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: Jun 18, 2024)

Predicted Models: M 1% Moderate (inductive), L 4% Low (inductive)

I - Rhyacophila betteni *(A Caddisfly)* SSS — 1 — 1 — Y

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

Special Status Species - Native Species Global: **G2G4** State: **S3S4**

Delineation Criteria Confirmed breeding area based on the presence of a resident animal of any age/stage. Point observation location is buffered by a minimum distance of 300 meters in order to encompass the home range of the individual as well as adjacent habitat likely to support other individuals and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 16, 2022)

Predicted Models: M 1% Moderate (inductive), L 3% Low (inductive)

V - Atriplex suckleyi *(Suckley's Saltbush)* PSOC — 2 — 2 — Y

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

Potential Species of Concern - Native Species Global: **G4** State: **S3S4**

Predicted Models: M 1% Moderate (inductive), L 3% Low (inductive)

V - Cirsium longistylum *(Long-styled Thistle)* SOC — 31 — 46 + — Y

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

Species of Concern - Native Species Global: **G3** State: **S2S3** Plant Threat Score: **Medium** CCVI: **Less Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Sep 06, 2024)

Predicted Models: M 1% Moderate (inductive), L 3% Low (inductive)

V - Psilocarphus brevissimus *(Dwarf woolly-heads)* SOC — 1 — + — Y

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

Species of Concern - Native Species Global: **G4** State: **S2S3** Plant Threat Score: **No Known Threats**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Dec 01, 2023)

Predicted Models: M 1% Moderate (inductive), L 3% Low (inductive)

V - Botrychium simplex *(Least Moonwort)* SOC — 1 — 1 — Y

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

Species of Concern - Native Species Global: **G5** State: **S2** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT)** CCVI: **Less Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Jan 20, 2023)

Predicted Models: M 1% Moderate (inductive), L 2% Low (inductive)

V - Physaria klausii *(Divide Bladderpod)* SOC — 12 — 19 — Y

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

Species of Concern - Native Species Global: **G3** State: **S3** Plant Threat Score: **Low** CCVI: **Moderately Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Aug 16, 2023)

Predicted Models: M 1% Moderate (inductive), L 2% Low (inductive)

V - Pinus albicaulis *(Whitebark Pine)* SOC — 7 — 88 — 86 — Y

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

Species of Concern - Native Species Global: **G3G4** State: **S3** USFWS: **LT** USFS: **Sensitive - Known in Forests (LOLO)** BLM: **THREATENED** Plant Threat Score: **Unknown** CCVI: **Highly Vulnerable**

Delineation Criteria Point and/or polygonal observations are buffered by a minimum distance of 400 meters in order to account for stands instead of individual trees and to a maximum distance of 2,000 meters in order to encompass locational uncertainty associated with some common data sources for this species. (Last Updated: Dec 12, 2024)

Predicted Models: M 1% Moderate (inductive), L 2% Low (inductive)

B - Varied Thrush *(Ixoreus naevius)* SOC — 5 — 17 + — S — M

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

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

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 225 meters in order to encompass the reported minimum stand size occupied by breeding pairs and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 20, 2024)

Predicted Models: M 1% Moderate (inductive), L 2% Low (inductive)

B - Black-backed Woodpecker *(Picoides arcticus)* SOC — 1 — 1 — Y

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

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** USFS: **Sensitive - Known in Forests (LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

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 majority of home range sizes reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 20, 2024)

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

B - Gray-crowned Rosy-Finch *(Leucosticte tephrocotis)* SOC — 1 — 93 + — Y — W M

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

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

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 4,000 meters in order to encompass the known foraging distance from nests of the congeneric Black Rosy-Finch and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Sep 20, 2024)

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

I - Margaritifera falcata *(Western Pearlshell)* SOC

1 | 2 | Y

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

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

Species of Concern - Native Species Global: **G3G4** State: **S2** **Species of Conservation Concern in Forests (CG, HLC)** BLM: **SENSITIVE** FWP SWAP: **SGCN2**

Delineation Criteria Stream reaches where the species recent presence has been confirmed through detection of live individuals or recent shells. Detection locations are buffered up and downstream by 500 meters to encompass potential adjacent populations and occupied stream reaches separated by less than 2000 meters are combined into a single species occurrence. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. But see Lake Alva exception. (Last Updated: Jul 26, 2024)

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

V - Ageratina occidentalis *(Western Joepye-weed)* SOC

1 | Y

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

USFS: **Sensitive - Known in Forests (BRT)**

Species of Concern - Native Species Global: **G4** State: **S2** **Sensitive - Suspected in Forests (BD, LOLO)** Plant Threat Score: **Unknown** CCVI: **Less Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Apr 25, 2018)

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

V - Draba densifolia *(Dense-leaf Draba)* SOC

3 | 4 | Y

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

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

Species of Concern - Native Species Global: **G5** State: **S2** **Species of Conservation Concern in Forests (CG, HLC)** Plant Threat Score: **Low**
CCVI: **Moderately Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Jan 20, 2023)

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

V - Drosera rotundifolia *(Roundleaf Sundew)* PSOC

1 | 1 | Y

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

Potential Species of Concern - Native Species Global: **G5** State: **S3S4** Plant Threat Score: **Unknown**

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

V - Primula incana *(Mealy Primrose)* SOC

1 | 1 | Y

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

Species of Concern - Native Species Global: **G5** State: **S3** Plant Threat Score: **High** CCVI: **Highly Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Mar 14, 2024)

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

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

3 | 1 + | Y

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

Species of Concern - Native Species Global: **G5** State: **S2** USFS: **Species of Conservation Concern in Forests (FLAT)** Plant Threat Score: **No Known Threats**
CCVI: **Moderately Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Dec 16, 2022)

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

M - Fisher *(Pekania pennanti)* SOC

1 | Y

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

Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Sensitive - Known in Forests (LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed area of occupancy based on the documented presence of adults or juveniles within tracking regions containing core habitat for the species. Outer boundaries of tracking regions are defined by areas of forest cover on individual mountain ranges or clusters of adjacent mountain ranges with continuous forest cover.
(Last Updated: Jul 08, 2024)

Predicted Models: L 1% Low (inductive)

V - Castilleja nivea *(Snow Indian Paintbrush)* SOC

1 | Y

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

Species of Concern - Native Species Global: **G3** State: **S3** Plant Threat Score: **No Known Threats** CCVI: **Extremely Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Dec 01, 2023)

Predicted Models: L 1% Low (inductive)

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

4 | 2 | S | M

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

Species of Concern - Native Species Global: **G4** State: **S2** USFWS: **MBTA; BCC10** FWP SWAP: **SGCN2, SGIN** PIF: **2**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 4,000 meters in order to encompass the known foraging distance reported for breeding adults and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 20, 2024)

Predicted Models: L 1% Low (inductive)

I - Euphydryas gillettii *(Gillette's Checkerspot)* SOC

2 | + | Not Assessed | Y

View in Field Guide **View Range Maps**

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

Delineation Criteria Confirmed breeding area based on the presence of a resident animal of any age/stage. Point observation location is buffered by a minimum distance of 2,000 meters in order to encompass documented travel distances of some butterfly species as well as adjacent habitat likely to support other individuals and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 18, 2024)

I - Isocapnia integra *(Alberta Snowfly)* SOC — 1 | 1 | Not Assessed | Y

View in Field Guide View Range Maps

Species of Concern - Native Species Global: **G4G5** State: **S2**

Delineation Criteria Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 100 meters in order to encompass the home range of the individual as well as adjacent habitat likely to support other individuals and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Mar 22, 2016)

I - Leucorrhinia borealis *(Boreal Whiteface)* SOC — 1 | 1 | Not Assessed | Y

View in Field Guide View Range Maps

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

Delineation Criteria Standing water bodies with confirmed evidence of reproduction (larval nymphs) or presumed reproduction (adults) buffered by 100 meters in order to reflect importance of adjacent terrestrial habitats to adults and wetland health. If no standing water body can be identified on aerial imagery or topographic maps for digitization, the point observation coordinates are buffered by the locational uncertainty associated with the observation, with a minimum buffer distance of 100 meters. (Last Updated: Jul 22, 2022)

I - Oxyloma missoula *(Ninepipes Ambersnail)* SSS — 1 | 1 | Not Assessed | Y

View in Field Guide View Range Maps

Special Status Species - Native Species Global: **G2G4** State: **S3S4**

Delineation Criteria Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 100 meters in order to encompass the home range of the individual as well as adjacent habitat likely to support other individuals and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jun 16, 2022)

I - Somatochlora walshii *(Brush-tipped Emerald)* SOC — 2 | 2 | Not Assessed | Y

View in Field Guide View Range Maps

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

Delineation Criteria Standing water bodies with confirmed evidence of reproduction (larval nymphs) or presumed reproduction (adults) buffered by 100 meters in order to reflect importance of adjacent terrestrial habitats to adults and wetland health. (Last Updated: Jul 21, 2022)

B - Red Knot *(Calidris canutus)* SSS — 7 | 2 | 1 + | Not Assessed

View in Field Guide

Special Status Species - Native Species Global: **G4** State: **SNA** USFWS: **LT; MBTA** BLM: **THREATENED**

Delineation Criteria Water bodies, wetland complexes, or management areas, with documented repeated use as migratory stopover locations. Water bodies are buffered by 5 km to protect against potential wind turbine collisions when birds descend to or ascend from migratory wetland habitats. (Last Updated: Jun 26, 2024)

V - Maianthemum canadense *(Wild Lily-of-the-valley)* PSOC — 1 | 1 | Not Assessed

View in Field Guide

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

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Jan 20, 2023)

V - Sphenopholis intermedia *(Slender Wedgegrass)* PSOC — 1 | Not Assessed

View in Field Guide

Potential Species of Concern - Native Species Global: **G5** State: **S3S4** Plant Threat Score: **Unknown**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Aug 23, 2017)

B - Amblyodon dealbatus *(An Amblyodon Moss)* PSOC — 1 | 1 | Not Assessed

View in Field Guide

Potential Species of Concern - Native Species Global: **G3G5** State: **SNR**

B - Brachythecium turgidum *(Stiff Matt Moss)* PSOC — 1 | Not Assessed

View in Field Guide

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

B - Catoscopium nigritum *(Black Golf Club Moss)* SOC — 1 | 1 | Not Assessed

View in Field Guide

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

B - Cinclidium stygium *(A Cinclidium Moss)* SOC — 1 | Not Assessed

View in Field Guide

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

B - Cynodontium tenellum *(A Cynodontium Moss)* SOC — 2 | 1 | Not Assessed

View in Field Guide

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

B - Distichium inclinatum *(Incline Thread Moss)* PSOC — 1 | 1 | Not Assessed

View in Field Guide

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

B - Entosthodon rubiginosus *(Rusty Cord Moss)* PSOC — 2 | + | Not Assessed

View in Field Guide

Potential Species of Concern - Native Species Global: **G1G3** State: **SH**

B - Fissidens fontanus *(Flat Pocket Moss)* SOC — 1 | 1 | Not Assessed

View in Field Guide

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

B - Hennediella heimii *(Heim's Hennediella Moss)* SOC — 5 | 4 | Not Assessed

View in Field Guide

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

B - Hygroamblystegium varium ssp. noterophilum *(A Conecap Moss)* SOC | 2 | 2 | Not Assessed

View in Field Guide
Species of Concern - Native Species Global: **G5T4** State: **S1**

B - Meiotrichum lyallii *(Lyall's Polytrichum Moss)* SOC | 1 | | Not Assessed

View in Field Guide
Species of Concern - Native Species Global: **G3G5** State: **S1**

B - Physcomitrium hookeri *(Hooker's Physcomitrium Moss)* SOC | 1 | | Not Assessed

View in Field Guide
Species of Concern - Native Species Global: **G2G4** State: **S1**

B - Pseudocalliergon turgescens *(A Pseudocalliergon Moss)* PSOC | 1 | | Not Assessed

View in Field Guide
Potential Species of Concern - Native Species Global: **G5** State: **SH**

B - Sarmentypnum exannulatum *(Warnstorfia Moss)* SOC | 1 | 1 | Not Assessed

View in Field Guide
Species of Concern - Native Species Global: **G5** State: **S1**

B - Scorpidium revolvens *(Limprichtia Moss)* SOC | 1 | | Not Assessed

View in Field Guide
Species of Concern - Native Species Global: **G5** State: **S1** USFS: **Sensitive - Known in Forests (KOOT)**

B - Sphagnum fimbriatum *(Fringed Bogmoss)* SOC | 4 | 4 | Not Assessed

View in Field Guide
USFS: **Sensitive - Known in Forests (BD)**
Species of Concern - Native Species Global: **G5** State: **S1** **Species of Conservation Concern in Forests (HLC)**

B - Tayloria acuminata *(Acuminate Dung Moss)* PSOC | 1 | | Not Assessed

View in Field Guide
Potential Species of Concern - Native Species Global: **G3G4** State: **SH**

O - Bat Roost (Cave) *(Bat Roost (Cave))* IAH | 12 | | Not Assessed

View in Field Guide
Important Animal Habitat - Native Species Global: **GNR** State: **SNR**

Delineation Criteria Confirmed occupancy of a cave based on the documented presence of adults or juveniles of any bat species. Point observation locations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 4,500 meters in order to encompass the 95% confidence interval for nightly foraging distance reported for Townsend's Big-eared Bat (a resident Montana bat Species of Concern) and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record.
(Last Updated: Sep 05, 2017)

O - Bat Roost (Non-Cave) *(Bat Roost (Non-Cave))* IAH | 87 | | Not Assessed

View in Field Guide
Important Animal Habitat - Native Species Global: **GNR** State: **SNR**

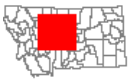
Delineation Criteria Confirmed area of occupancy based on the documented presence of adults or juveniles of any bat species at non-cave natural roost sites (e.g. rock outcrops, trees), below ground human created roost sites (e.g. mines), and above ground human created roost sites (e.g., bridges, buildings). Point observation locations are buffered by a distance of 4,500 meters in order to encompass the 95% confidence interval for nightly foraging distance reported for Townsend's Big-eared Bat (a resident Montana bat Species of Concern) and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Oct 22, 2019)

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Legend

Model Icons	Habitat Icons	Range Icons
N Suitable (native range)	C Common	Y Native / Year-round
O Optimal Suitability	O Occasional	S Summer
M Moderate Suitability		W Winter
L Low Suitability		M Migratory
I Suitable (introduced range)		N Non-native
		H Historical

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



Latitude	Longitude
46.18272	-108.61859
48.57699	-112.50272

Native Species

Summarized by: **25PRVT0177** *(Custom Area of Interest)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Other Observed Species

	USFWS Sec7	# Obs	Predicted Model	Range
F - Burbot *(Lota lota)* PSOC		22 +		Y
View in Field Guide · View Predicted Models · View Range Maps Potential Species of Concern - Native Species Global: **G5** State: **S4** **Predicted Models:** N 3% Suitable (native range) (deductive)				
F - Brassy Minnow *(Hybognathus hankinsoni)* PSOC		50 +		Y
View in Field Guide · View Predicted Models · View Range Maps Potential Species of Concern - Native Species Global: **G5** State: **S4** **Predicted Models:** N 2% Suitable (native range) (deductive)				
F - Brook Stickleback *(Culaea inconstans)* PSOC		65 +		Y
View in Field Guide · View Predicted Models · View Range Maps Potential Species of Concern - Native/Non-native Species - (depends on location or taxa) Global: **G5** State: **S4** **Predicted Models:** N 2% Suitable (native range) (deductive)				
F - Plains Minnow *(Hybognathus placitus)* PSOC		24 +		Y
View in Field Guide · View Predicted Models · View Range Maps Potential Species of Concern - Native Species Global: **G4** State: **S4** **Predicted Models:** N 1% Suitable (native range) (deductive)				
B - Short-eared Owl *(Asio flammeus)* PSOC		332 +		Y
View in Field Guide · View Predicted Models · View Range Maps Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA; BCC11; BCC17** PIF: **3** **Predicted Models:** O 1% Optimal (inductive), M 22% Moderate (inductive), L 44% Low (inductive)				
B - Ovenbird *(Seiurus aurocapilla)* PSOC		85 +		S M
View in Field Guide · View Predicted Models · View Range Maps Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA** PIF: **3** **Predicted Models:** O 1% Optimal (inductive), M 6% Moderate (inductive), L 26% Low (inductive)				
B - Eastern Screech-Owl *(Megascops asio)* PSOC		10		Y
View in Field Guide · View Predicted Models · View Range Maps Potential Species of Concern - Native Species Global: **G5** State: **S3S4** USFWS: **MBTA** PIF: **3** **Predicted Models:** O 1% Optimal (inductive), M 5% Moderate (inductive), L 17% Low (inductive)				
B - Dickcissel *(Spiza americana)* PSOC		12 +		S M
View in Field Guide · View Predicted Models · View Range Maps Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA** **Predicted Models:** O 1% Optimal (inductive), M 4% Moderate (inductive), L 7% Low (inductive)				
B - Eastern Bluebird *(Sialia sialis)* PSOC		4 +		S M
View in Field Guide · View Predicted Models · View Range Maps Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA** **Predicted Models:** O 1% Optimal (inductive), M 3% Moderate (inductive), L 22% Low (inductive)				
V - Kobresia simpliciuscula *(Simple Kobresia)* SOC		1		Y
View in Field Guide · View Predicted Models · View Range Maps Species of Concern - Native Species Global: **G5** State: **S3** Plant Threat Score: **Unknown** **Predicted Models:** O 1% Optimal (inductive), M 2% Moderate (inductive), L 8% Low (inductive)				
B - Western Screech-Owl *(Megascops kennicottii)* PSOC		17 +		Y
View in Field Guide · View Predicted Models · View Range Maps Potential Species of Concern - Native Species Global: **G4G5** State: **S3S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3** **Predicted Models:** O 1% Optimal (inductive), M 2% Moderate (inductive), L 4% Low (inductive)				
B - Hooded Merganser *(Lophodytes cucullatus)* PSOC		147 +		Y M
View in Field Guide · View Predicted Models · View Range Maps Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **2** **Predicted Models:** O 1% Optimal (inductive), M 1% Moderate (inductive), L 2% Low (inductive)				

B - Piping Plover *(Charadrius melodus)* **SOC**

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

Species of Concern - Native Species Global: **G3** State: **S2B** USFWS: **LT; CH; MBTA** BLM: **THREATENED** FWP SWAP: **SGCN2** PIF: **1**

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

M - North American Porcupine *(Erethizon dorsatum)* **PSOC**

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

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

Predicted Models: M 21% Moderate (inductive), L 70% Low (inductive)

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

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

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

Predicted Models: M 18% Moderate (inductive), L 73% Low (inductive)

M - Hayden's Shrew *(Sorex haydeni)* **PSOC**

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

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

Predicted Models: M 10% Moderate (inductive), L 72% Low (inductive)

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

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

Potential Species of Concern - Native Species Global: **G3G4** State: **S4**

Predicted Models: M 4% Moderate (inductive), L 79% Low (inductive)

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

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

Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3**

Predicted Models: M 3% Moderate (inductive), L 57% Low (inductive)

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

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

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

Predicted Models: M 2% Moderate (inductive), L 34% Low (inductive)

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

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

Species of Concern - Native Species Global: **G5** State: **S3S4** USFS: **Sensitive - Suspected in Forests (KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN1**

Predicted Models: M 2% Moderate (inductive), L 30% Low (inductive)

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

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

Potential Species of Concern - Native Species Global: **G4** State: **S4B** USFWS: **MBTA; BCC10** PIF: **3**

Predicted Models: M 2% Moderate (inductive), L 25% Low (inductive)

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

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

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **PS: LT; MBTA** BLM: **THREATENED** FWP SWAP: **SGCN3, SGIN** PIF: **2**

Predicted Models: M 1% Moderate (inductive), L 9% Low (inductive)

B - Plumbeous Vireo *(Vireo plumbeus)* **PSOC**

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

Potential Species of Concern - Native Species Global: **G5** State: **S3S4B** USFWS: **MBTA** PIF: **3**

Predicted Models: M 1% Moderate (inductive), L 8% Low (inductive)

B - Harlequin Duck *(Histrionicus histrionicus)* **SOC**

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

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

Predicted Models: M 1% Moderate (inductive), L 6% Low (inductive)

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

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

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

Predicted Models: M 1% Moderate (inductive), L 3% Low (inductive)

B - Chimney Swift *(Chaetura pelagica)* **PSOC**

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

Potential Species of Concern - Native Species Global: **G4G5** State: **S3S4B** USFWS: **MBTA; BCC11** FWP SWAP: **SGIN** PIF: **3**

Predicted Models: M 1% Moderate (inductive), L 2% Low (inductive)

B - Boreal Chickadee *(Poecile hudsonicus)* **SOC**

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

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

Predicted Models: L 1% Low (inductive)

B - Black-and-white Warbler *(Mniotilta varia)* **PSOC**

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

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

Predicted Models: L 1% Low (inductive)

B - Broad-tailed Hummingbird *(Selasphorus platycercus)* **PSOC** | + | S M

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

Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA; BCC10** FWP SWAP: **SGIN**

Predicted Models: L 1% Low (inductive)

F - Arctic Grayling *(Thymallus arcticus)* **SOC** | 10 + | N H

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

Species of Concern - Native/Non-native Species - (depends on location or taxa) Global: **G5** State: **S1** USFS: **Sensitive - Known in Forests (BD)** BLM: **SENSITIVE** FWP SWAP: **SGCN1**

Predicted Models: I 1% Suitable (introduced range) (deductive)

F - Lake Trout *(Salvelinus namaycush)* **SOC** | + | N

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

Species of Concern - Native/Non-native Species - (depends on location or taxa) Global: **G5** State: **S2** FWP SWAP: **SGCN2**

Predicted Models: I 1% Suitable (introduced range) (deductive)

F - Rocky Mountain Cutthroat Trout *(Oncorhynchus virginalis)* **SOC** | 7 | N

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

Species of Concern - Native/Non-native Species - (depends on location or taxa) Global: **GNR** State: **S2** BLM: **SENSITIVE** FWP SWAP: **SGCN2**

Predicted Models: I 1% Suitable (introduced range) (deductive)

F - Pallid Sturgeon *(Scaphirhynchus albus)* **SOC** | + | Not Assessed | Y

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G2** State: **S1** USFWS: **LE** BLM: **ENDANGERED** FWP SWAP: **SGCN1**

F - Sturgeon Chub *(Macrhybopsis gelida)* **SOC** | + | Not Assessed | Y | H

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G3** State: **S2S3** BLM: **SENSITIVE** FWP SWAP: **SGCN2-3**

I - Aeshna constricta *(Lance-tipped Darner)* **PSOC** | 1 | Not Assessed | Y

View in Field Guide | View Range Maps

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

I - Aeshna eremita *(Lake Darner)* **PSOC** | 2 | Not Assessed | Y

View in Field Guide | View Range Maps

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

I - Aeshna juncea *(Sedge Darner)* **PSOC** | 3 | Not Assessed | Y

View in Field Guide | View Range Maps

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

I - Aeshna sitchensis *(Zigzag Darner)* **PSOC** | 1 | Not Assessed | Y

View in Field Guide | View Range Maps

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

I - Agapetus montanus *(An Agapetus Caddisfly)* **PSOC** | 8 + | Not Assessed | Y

View in Field Guide | View Range Maps

Potential Species of Concern - Native Species Global: **G3** State: **S3**

I - Argia emma *(Emma's Dancer)* **PSOC** | 3 | Not Assessed | Y

View in Field Guide | View Range Maps

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

I - Argia vivida *(Vivid Dancer)* **PSOC** | 3 | Not Assessed | Y

View in Field Guide | View Range Maps

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

I - Colias gigantea *(Giant Sulphur)* **PSOC** | 1 | Not Assessed | Y

View in Field Guide | View Range Maps

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

I - Enallagma civile *(Familiar Bluet)* **PSOC** | 1 | Not Assessed | Y

View in Field Guide | View Range Maps

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

I - Enallagma clausum *(Alkali Bluet)* **PSOC** | 4 | Not Assessed | Y

View in Field Guide | View Range Maps

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

I - Enallagma praevarum *(Arroyo Bluet)* **PSOC** | 7 | Not Assessed | Y

View in Field Guide | View Range Maps

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

I - Gomphurus externus *(Plains Clubtail)* **PSOC** | 2 | Not Assessed | Y

View in Field Guide | View Range Maps

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

I - Leucorrhinia glacialis *(Crimson-ringed Whiteface)* **PSOC** | 1 | Not Assessed | Y

View in Field Guide | View Range Maps

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

I - Phanogomphus graslinellus *(Pronghorn Clubtail)* PSOC — 5 — Not Assessed — Y

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

I - Rhionaeschna californica *(California Darner)* PSOC — 10 — Not Assessed — Y

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

I - Rhionaeschna multicolor *(Blue-eyed Darner)* PSOC — 4 — Not Assessed — Y

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

I - Somatochlora minor *(Ocellated Emerald)* PSOC — 5 — Not Assessed — Y

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

I - Somatochlora semicircularis *(Mountain Emerald)* PSOC — 1 — Not Assessed — Y

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

I - Sympetrum madidum *(Red-veined Meadowhawk)* PSOC — 1 — Not Assessed — Y

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

V - Muhlenbergia minutissima *(Annual Muhly)* SOC — 1 — Not Assessed — Y

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

B - Northern Hawk Owl *(Surnia ulula)* SOC — 1 + — Not Assessed — WM

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

B - Common Loon *(Gavia immer)* SOC — 150 + — Not Assessed — M

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** USFS: **Sensitive - Known in Forests (LOLO)** FWP SWAP: **SGCN3** PIF: **1**

B - Tennessee Warbler *(Leiothlypis peregrina)* PSOC — 23 + — Not Assessed — M

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

M - Black-footed Ferret *(Mustela nigripes)* SOC — + — Not Assessed — H

View in Field Guide View Range Maps
Species of Concern - Native Species Global: **G1** State: **S1** USFWS: **LE; XN** BLM: **ENDANGERED** FWP SWAP: **SGCN1**

B - Cassin's Kingbird *(Tyrannus vociferans)* PSOC — 2 — Not Assessed

View in Field Guide
Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA**

B - Nelson's Sparrow *(Ammospiza nelsoni)* SOC — 4 — Not Assessed

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

B - Sagebrush Sparrow *(Artemisiospiza nevadensis)* SOC — 1 — Not Assessed

View in Field Guide
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

B - Whooping Crane *(Grus americana)* SOC — 3 — Not Assessed

View in Field Guide
Species of Concern - Native Species Global: **G1** State: **S1M** USFWS: **LE; MBTA** BLM: **ENDANGERED** FWP SWAP: **SGCN1**

F - Northern Pearl Dace *(Margariscus nachtriebi)* SOC — 1 — Not Assessed

View in Field Guide
Species of Concern - Native Species Global: **G5** State: **S2** BLM: **SENSITIVE** FWP SWAP: **SGCN2**

F - Sicklefin Chub *(Macrhybopsis meeki)* SOC — + — Not Assessed

View in Field Guide
Species of Concern - Native Species Global: **G3** State: **S1** FWP SWAP: **SGCN1**

I - Sericostriata surdickae *(Northern Rocky Mountains Refugium Caddisfly)* PSOC — 1 — Not Assessed

View in Field Guide
Potential Species of Concern - Native Species Global: **G3** State: **S3** USFS: **Sensitive - Known in Forests (BD)**

V - Carex amplifolia *(Big-leaf Sedge)* SOC — 1 — Not Assessed

View in Field Guide
Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known in Forests (KOOT)** Plant Threat Score: **Low**

V - Elymus triticoides *(Beardless Wildrye)* SOC — 2 — Not Assessed

View in Field Guide
Species of Concern - Native Species Global: **G4G5** State: **S3** Plant Threat Score: **No Known Threats**

V - Leptodactylon caespitosum *(Matted Prickly-phlox)* **SOC** | 2 | Not Assessed

View in Field Guide

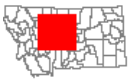
Species of Concern - Native Species Global: **G4** State: **S2S3** Plant Threat Score: **Low** CCVI: **Moderately Vulnerable**

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Legend

Model Icons	Habitat Icons	Range Icons
N Suitable (native range)	C Common	Y Native / Year-round
O Optimal Suitability	O Occasional	S Summer
M Moderate Suitability		W Winter
L Low Suitability		M Migratory
I Suitable (introduced range)		N Non-native
		H Historical

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



Latitude	Longitude
46.18272	-108.61859
48.57699	-112.50272

Native Species

Summarized by: **25PRVT0177** *(Custom Area of Interest)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Other Potential Species

	USFWS Sec7	Predicted Model	Range
V - Dichanthelium acuminatum *(Panic Grass)* SOC			Y
V - Ranunculus pedatifidus *(Northern Buttercup)* SOC			Y
V - Stellaria crassifolia *(Fleshy Stitchwort)* SOC			Y
V - Gratiola ebracteata *(Bractless Hedge-hyssop)* SOC			Y
M - Western Spotted Skunk *(Spilogale gracilis)* PSOC			Y
V - Physaria brassicoides *(Double Bladderpod)* SOC			Y
V - Ranunculus cardiophyllus *(Heart-leaved Buttercup)* SOC			Y
M - Western Pygmy Shrew *(Sorex eximius)* SOC			Y
V - Polygonum austiniae *(Austin's Knotweed)* PSOC			Y
V - Stipa lettermanii *(Letterman's Needlegrass)* SOC			Y
V - Utricularia intermedia *(Flatleaf Bladderwort)* SOC			Y
V - Botrychium hesperium *(Western Moonwort)* SOC			Y

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S2S3** Plant Threat Score: **Unknown**
Predicted Models: O 1% Optimal (inductive), M 5% Moderate (inductive), L 10% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Species of Conservation Concern in Forests (HLC)** Plant Threat Score: **Unknown**
Predicted Models: O 1% Optimal (inductive), M 4% Moderate (inductive), L 5% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S2** Plant Threat Score: **No Known Threats**
Predicted Models: O 1% Optimal (inductive), M 3% Moderate (inductive), L 16% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G4** State: **S2** Plant Threat Score: **No Known Threats** CCVI: **Moderately Vulnerable**
Predicted Models: O 1% Optimal (inductive), M 3% Moderate (inductive), L 14% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Potential Species of Concern - Native Species Global: **G5** State: **SU** FWP SWAP: **SGIN**
Predicted Models: O 1% Optimal (inductive), M 3% Moderate (inductive), L 1% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S3** Plant Threat Score: **No Known Threats**
Predicted Models: O 1% Optimal (inductive), M 2% Moderate (inductive), L 4% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S3** Plant Threat Score: **Low**
Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 10% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G4** State: **S3** FWP SWAP: **SGCN3**
Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 2% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Potential Species of Concern - Native Species Global: **G5T4** State: **S3S4** USFS: **Species of Conservation Concern in Forests (HLC)**
Predicted Models: M 3% Moderate (inductive), L 4% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S1S3** USFS: **Species of Conservation Concern in Forests (HLC)** Plant Threat Score: **No Known Threats**
Predicted Models: M 2% Moderate (inductive), L 7% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S2** USFS: **Sensitive - Known in Forests (KOOT)** Plant Threat Score: **No Known Threats**
Predicted Models: M 2% Moderate (inductive), L 5% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G4** State: **S3** CCVI: **Less Vulnerable**
Predicted Models: M 1% Moderate (inductive), L 6% Low (inductive)

V - Botrychium lanceolatum *(Lanceleaf Moonwort)* SOC

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

Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Sensitive - Known in Forests (BRT, KOOT)** CCVI: **Less Vulnerable**

Predicted Models: M 1% Moderate (inductive), L 3% Low (inductive)

R - Western Milksnake *(Lampropeltis gentilis)* SOC

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

Species of Concern - Native Species Global: **G5** State: **S2** BLM: **SENSITIVE** FWP SWAP: **SGCN2**

Predicted Models: M 1% Moderate (inductive), L 2% Low (inductive)

V - Botrychium ascendens *(Upward-lobed Moonwort)* SOC

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

Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known in Forests (BD, KOOT)** CCVI: **Less Vulnerable**

Predicted Models: M 1% Moderate (inductive), L 2% Low (inductive)

V - Botrychium crenulatum *(Wavy Moonwort)* SOC

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

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

Species of Concern - Native Species Global: **G4** State: **S3** **Species of Conservation Concern in Forests (HLC)** CCVI: **Less Vulnerable**

Predicted Models: M 1% Moderate (inductive), L 2% Low (inductive)

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

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

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

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

V - Aquilegia jonesii *(Jones' Columbine)* PSOC

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

Potential Species of Concern - Native Species Global: **G3** State: **S3S4** Plant Threat Score: **No Known Threats**

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

V - Asplenium trichomanes-ramosum *(Limestone Maidenhair Spleenwort)* SOC

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

Species of Concern - Native Species Global: **G5** State: **S3** Plant Threat Score: **No Known Threats** CCVI: **Moderately Vulnerable**

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

V - Botrychium paradoxum *(Peculiar Moonwort)* SOC

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

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

Species of Concern - Native Species Global: **G3G4** State: **S3** **Species of Conservation Concern in Forests (CG, FLAT, HLC)** BLM: **SENSITIVE**
CCVI: **Moderately Vulnerable**

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

V - Botrychium pedunculosum *(Stalked Moonwort)* SOC

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

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

Species of Concern - Native Species Global: **G3G4** State: **S2** **Species of Conservation Concern in Forests (FLAT)** CCVI: **Less Vulnerable**

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

V - Carex stenoptila *(Small-winged Sedge)* SOC

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

Species of Concern - Native Species Global: **G3** State: **S2S3** Plant Threat Score: **No Known Threats** CCVI: **Less Vulnerable**

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

V - Mimulus suksdorfii *(Suksdorf Monkeyflower)* PSOC

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

Potential Species of Concern - Native Species Global: **G4** State: **S3S4** Plant Threat Score: **No Known Threats**

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

V - Physaria saximontana var. dentata *(Rocky Mountain Twinpod)* SOC

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

Species of Concern - Native Species Global: **G3T3** State: **S3** Plant Threat Score: **No Known Threats** CCVI: **Moderately Vulnerable**

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

V - Potamogeton obtusifolius *(Blunt-leaved Pondweed)* SOC

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

USFS: **Sensitive - Suspected in Forests (LOLO)**

Species of Concern - Native Species Global: **G5** State: **S3** **Species of Conservation Concern in Forests (HLC)** Plant Threat Score: **Low**

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

V - Schoenoplectus subterminalis *(Water Bulrush)* SOC

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

USFS: **Sensitive - Known in Forests (LOLO)**

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

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

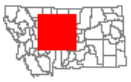
B - Flammulated Owl *(Psiloscops flammeolus)* **SOC**

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

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

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

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Structured Surveys

Summarized by: **25PRVT0177** *(Custom Area of Interest)*

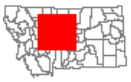
The Montana Natural Heritage Program (MTNHP) records information on the locations where more than 80 different types of well-defined repeatable survey protocols capable of detecting an animal species or suite of animal species have been conducted by state, federal, tribal, university, or private consulting 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.

A-Nocturnal Calling Amphibian *(Nocturnal Breeding Amphibian Calling Survey)*	**Survey Count**: 348	**Obs Count**: 132	**Recent Survey**: 2022
AR-Amphibian/Reptile Lentic *(Lentic Amphibian/Reptile Surveys)*	**Survey Count**: 169	**Obs Count**: 159	**Recent Survey**: 2010
B-Bald Eagle Nest *(Bald Eagle Nest Survey)*	**Survey Count**: 456	**Obs Count**: 418	**Recent Survey**: 2017
B-BBS *(Breeding Bird Survey Stop)*	**Survey Count**: 1068	**Obs Count**: 5169	**Recent Survey**: 2007
B-BUOW/MOPL *(Burrowing Owl and Mountain Plover Surveys)*	**Survey Count**: 8	**Obs Count**: 8	**Recent Survey**: 2011
B-Chimney Swift *(Chimney Swift Survey)*	**Survey Count**: 30	**Obs Count**: 1	**Recent Survey**: 2024
B-Cuckoo Playback Survey *(Riparian Playback Surveys for Cuckoos)*	**Survey Count**: 23	**Obs Count**:	**Recent Survey**: 2012
B-Flammuled Owl Call Playback *(Flammulated Owl Call Playback Survey)*	**Survey Count**: 44	**Obs Count**:	**Recent Survey**: 2005
B-Goshawk Call Playback *(Northern Goshawk Call Playback Survey)*	**Survey Count**: 135	**Obs Count**: 7	**Recent Survey**: 2007
B-Great Blue Heron Rookery *(Great Blue Heron Rookery)*	**Survey Count**: 8	**Obs Count**: 4	**Recent Survey**: 2021
B-Great Gray Owl ARUs *(Great Gray Owl Passive Acoustic Recording)*	**Survey Count**: 2	**Obs Count**:	**Recent Survey**: 2020
B-Grid-based Point Count *(RMBO Generalized Random-tesselation Stratification)*	**Survey Count**: 1497	**Obs Count**: 7372	**Recent Survey**: 2024
B-Hummingbird Trapping *(Hummingbird Trapping Survey)*	**Survey Count**: 1	**Obs Count**: 1	**Recent Survey**: 2005
B-Long-billed Curlew *(Long-billed Curlew, Road-based, Point Count)*	**Survey Count**: 578	**Obs Count**: 319	**Recent Survey**: 2018
B-MAPS *(Monitoring Avian Production and Survival Station)*	**Survey Count**: 1	**Obs Count**: 67	**Recent Survey**: 1992
B-Point Count *(Bird Point Count)*	**Survey Count**: 1110	**Obs Count**: 7643	**Recent Survey**: 2012
B-Raptor Migration *(Raptor Migration Survey)*	**Survey Count**: 49	**Obs Count**: 319	**Recent Survey**: 2011
B-Raptor nest *(Raptor Nest Survey)*	**Survey Count**: 371	**Obs Count**: 320	**Recent Survey**: 2024
B-Sage Grouse Lek *(Greater Sage Grouse Lek Survey)*	**Survey Count**: 1739	**Obs Count**: 782	**Recent Survey**: 2023
B-Sharp-tailed Grouse Lek *(Sharp-tailed Grouse Lek Survey)*	**Survey Count**: 817	**Obs Count**: 647	**Recent Survey**: 2023
B-Variable-Width Line Transect *(Unrestricted-width Line Transect Survey)*	**Survey Count**: 25	**Obs Count**: 167	**Recent Survey**: 2004
B-Waterbird/Shorebird *(Colonial-nesting Waterbird/Shorebird/Waterfowl Surveys)*	**Survey Count**: 111	**Obs Count**: 143	**Recent Survey**: 2020
B-Winter Breeding Owl *(Late Winter Breeding Owl Survey)*	**Survey Count**: 198	**Obs Count**: 76	**Recent Survey**: 2021
BM-Bird/Bat Turbine Fatality *(Wind Turbine Fatality Visual Survey)*	**Survey Count**: 408	**Obs Count**: 58	**Recent Survey**: 2017
E-Eastern Heath Snail *(Eastern Heath Snail Survey)*	**Survey Count**: 1219	**Obs Count**: 139	**Recent Survey**: 2023
E-Eurasian Water-milfoil Rake *(Rake tows/pulls for Eurasian Water-milfoil)*	**Survey Count**: 1990	**Obs Count**: 1755	**Recent Survey**: 2024
E-Invasive Mussel eDNA *(eDNA for Invasive Mussels)*	**Survey Count**: 1	**Obs Count**:	**Recent Survey**: 2017
E-Invasive Mussel Plankton Tow *(Plankton tows for veligers of Invasive Mussels)*	**Survey Count**: 817	**Obs Count**:	**Recent Survey**: 2023
E-Invasive Mussel Substrate *(Artificial Substrate for Invasive Mussels)*	**Survey Count**: 2	**Obs Count**:	**Recent Survey**: 2017
E-Kicknet *(Kicknet Collection Survey for Invasive Mussels and Snails)*	**Survey Count**: 835	**Obs Count**: 341	**Recent Survey**: 2024
E-Noxious Weed, Road-based *(Noxious Weed Road-based Visual Surveys)*	**Survey Count**: 1621	**Obs Count**: 4270	**Recent Survey**: 2005
E-Noxious Weed, Visual *(Noxious Weed Visual Surveys)*	**Survey Count**: 49	**Obs Count**: 1033	**Recent Survey**: 2009
E-Visual Aquatic Invasives *(Visual Encounter Surveys for Aquatic Invasives on Shorelines or Underwater)*	**Survey Count**: 1314	**Obs Count**: 823	**Recent Survey**: 2024
F-Fish Angling *(Fish Angling Survey)*	**Survey Count**: 26	**Obs Count**: 16	**Recent Survey**: 2022
F-Fish Electrofishing *(Fish Electrofishing Surveys)*	**Survey Count**: 634	**Obs Count**: 1167	**Recent Survey**: 2022
F-Fish Lentic Seine *(Fish Lentic Seine Survey)*	**Survey Count**: 22	**Obs Count**: 92	**Recent Survey**: 2005
F-Fish Other Survey *(Fish Other Survey (FWP Survey Type))*	**Survey Count**: 210	**Obs Count**: 622	**Recent Survey**: 2016
F-Fish Trapping/Netting *(Fish Trapping or Netting Surveys)*	**Survey Count**: 400	**Obs Count**: 1289	**Recent Survey**: 2022
I-Aquatic Invert Lotic Dipnet *(Invertebrate Lotic Site Dipnet and Visual Encounter Survey)*	**Survey Count**: 74	**Obs Count**: 551	**Recent Survey**: 2011
I-Bumble Bee *(Bumble Bee Collection Surveys)*	**Survey Count**: 69	**Obs Count**: 120	**Recent Survey**: 2015
I-Crayfish *(Crayfish Survey)*	**Survey Count**: 8	**Obs Count**: 8	**Recent Survey**: 2006
I-Land Mollusk VES *(Terrestrial Mollusk Visual Encounter Survey)*	**Survey Count**: 1	**Obs Count**: 7	**Recent Survey**: 2005
I-Light Traps *(Light Trapping for Nocturnal Insects)*	**Survey Count**: 3	**Obs Count**: 28	**Recent Survey**: 2022
I-Mosquito Traps *(Montana Mosquito Surveillance Project)*	**Survey Count**: 115	**Obs Count**: 629	**Recent Survey**: 2017
I-Mussel *(Stream Mussel Survey)*	**Survey Count**: 58	**Obs Count**: 11	**Recent Survey**: 2012
I-Odonates/Butterfly VES *(Visual Encounter Survey for Damselfly/Dragonfly/Butterfly)*	**Survey Count**: 25	**Obs Count**: 58	**Recent Survey**: 1997
M-Bat Acoustic *(Bat Acoustic Survey)*	**Survey Count**: 300	**Obs Count**: 327	**Recent Survey**: 2017
M-Bat Hibernacula *(Bat Roost (Hibernacula) Survey)*	**Survey Count**: 57	**Obs Count**: 56	**Recent Survey**: 2019
M-Bat Mistnet *(Bat Mistnet Survey)*	**Survey Count**: 25	**Obs Count**: 38	**Recent Survey**: 2017
M-Bat Roost (Active Season) *(Bat Roost (Active Season) Survey)*	**Survey Count**: 212	**Obs Count**: 113	**Recent Survey**: 2019
M-Camera Trap (Non-Montane) *(Carnivore Camera Trap (Non-montane))*	**Survey Count**: 11	**Obs Count**: 1	**Recent Survey**: 2020
M-Prairie Dog Ground *(Prairie Dog Town Ground Survey)*	**Survey Count**: 57	**Obs Count**: 35	**Recent Survey**: 2010
M-SMammal Snap/Sherman/Pitfall *(Small Mammal Snap, Sherman, and Pitfall Trap Survey)*	**Survey Count**: 173	**Obs Count**: 237	**Recent Survey**: 2010
P-AIM Terrestrial Plot *(BLM AIM Terrestrial Survey Plot)*	**Survey Count**: 38	**Obs Count**: 1538	**Recent Survey**: 2023
P-Algal scraping *(Algal Scraping)*	**Survey Count**: 173	**Obs Count**: 7853	**Recent Survey**: 2018
P-FIA Ecosystem *(USFS FIA Ecosystem Survey)*	**Survey Count**: 2	**Obs Count**: 45	**Recent Survey**: 2011
P-LMF Rangeland Survey *(BLM LMF Rangeland Survey)*	**Survey Count**: 17	**Obs Count**: 319	**Recent Survey**: 2021
P-PIBO Cross Section *(PIBO Riparian Vegetation Cross Section)*	**Survey Count**: 34	**Obs Count**: 1066	**Recent Survey**: 2022
P-USFS ECODATA Plot *(USFS ECODATA Ecological Inventory Survey Plot)*	**Survey Count**: 440	**Obs Count**: 10617	**Recent Survey**: 1995
P-Wetland EIA *(MTNHP Wetland EIA)*	**Survey Count**: 26	**Obs Count**: 409	**Recent Survey**: 2016
R-Reptile VES *(Visual Encounter Surveys for Reptiles)*	**Survey Count**: 85	**Obs Count**: 18	**Recent Survey**: 2010
R-Turtle Trapping *(Turtle Trapping Surveys)*	**Survey Count**: 26	**Obs Count**: 16	**Recent Survey**: 2015

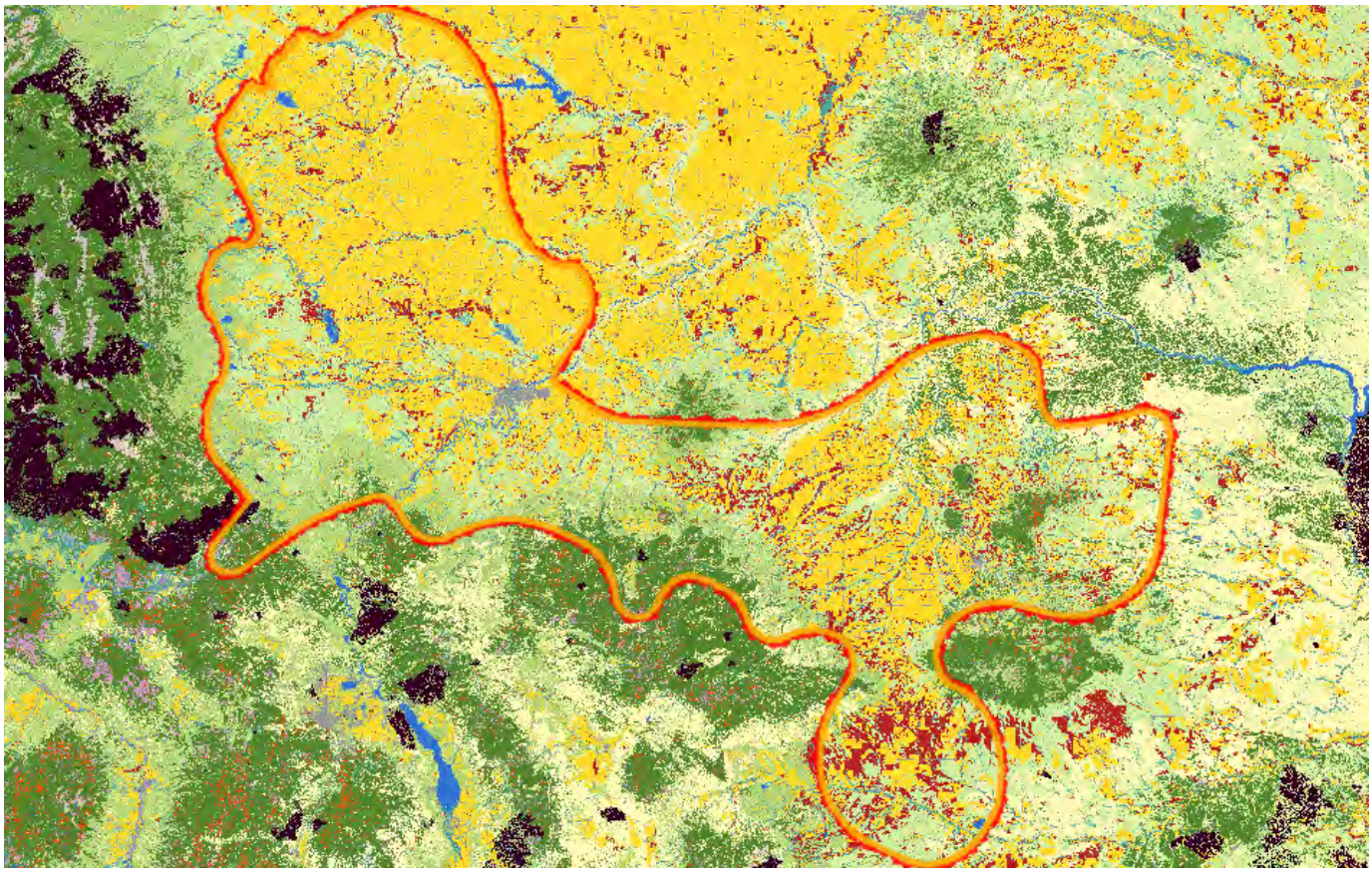
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Land Cover

Summarized by: **25PRVT0177** *(Custom Area of Interest)*





33% (2,397,877 Acres)

Human Land Use
Agriculture
Cultivated Crops

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



23% (1,650,547 Acres)

Grassland Systems
Lowland/Prairie Grassland
Great Plains Mixedgrass Prairie

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



7% (541,876 Acres)

Recently Disturbed or Modified
Introduced Vegetation
Introduced Upland Vegetation - Annual and Biennial Forbland

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



7% (506,280 Acres)

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

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



4% (326,636 Acres)

Human Land Use
Agriculture
Pasture/Hay

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



4% (292,761 Acres)

Shrubland, Steppe and Savanna Systems
Sagebrush Steppe
Big Sagebrush Steppe

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



2% (156,616 Acres)

Shrubland, Steppe and Savanna Systems
Deciduous Shrubland
Great Plains Shrubland

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



2% (132,009 Acres)

Wetland and Riparian Systems
Floodplain and Riparian
Great Plains Riparian

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

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



2% (125,274 Acres)

Forest and Woodland Systems
Conifer-dominated forest and woodland (xeric-mesic)
Great Plains Ponderosa Pine Woodland and Savanna

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

Additional Limited Land Cover

1% (*107,804 Acres*) Rocky Mountain Montane Douglas-fir Forest and Woodland
1% (*91,807 Acres*) Other Roads
1% (*86,570 Acres*) Rocky Mountain Lodgepole Pine Forest
1% (*82,664 Acres*) Great Plains Badlands
1% (*80,673 Acres*) Montane Sagebrush Steppe
1% (*77,784 Acres*) Great Plains Sand Prairie
1% (*45,199 Acres*) Great Plains Floodplain
1% (*40,134 Acres*) Rocky Mountain Ponderosa Pine Woodland and Savanna
<1% (*35,913 Acres*) Rocky Mountain Subalpine-Montane Mesic Meadow
<1% (*33,468 Acres*) Northern Rocky Mountain Lower Montane Riparian Woodland and Shrubland
<1% (*33,259 Acres*) Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland
<1% (*31,731 Acres*) Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest
<1% (*30,974 Acres*) Rocky Mountain Foothill Woodland-Steppe Transition
<1% (*30,953 Acres*) Open Water
<1% (*29,099 Acres*) Rocky Mountain Montane-Foothill Deciduous Shrubland
<1% (*28,214 Acres*) Great Plains Wooded Draw and Ravine
<1% (*25,170 Acres*) Greasewood Flat
<1% (*21,376 Acres*) Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland
<1% (*19,855 Acres*) Aspen Forest and Woodland
<1% (*19,261 Acres*) Low Intensity Residential
<1% (*19,074 Acres*) Insect-Killed Forest
<1% (*17,525 Acres*) Major Roads
<1% (*13,973 Acres*) Developed, Open Space
<1% (*13,627 Acres*) Rocky Mountain Foothill Limber Pine - Juniper Woodland
<1% (*12,324 Acres*) Great Plains Saline Depression Wetland
<1% (*10,095 Acres*) Emergent Marsh
<1% (*9,408 Acres*) Rocky Mountain Subalpine-Upper Montane Grassland
<1% (*8,868 Acres*) Commercial / Industrial
<1% (*8,229 Acres*) Rocky Mountain Subalpine Deciduous Shrubland
<1% (*7,873 Acres*) Recently burned forest
<1% (*7,651 Acres*) Railroad
<1% (*6,675 Acres*) Interstate
<1% (*6,385 Acres*) Rocky Mountain Subalpine Mesic Spruce-Fir Forest and Woodland
<1% (*6,063 Acres*) Rocky Mountain Cliff, Canyon and Massive Bedrock
<1% (*5,990 Acres*) Great Plains Closed Depressional Wetland
<1% (*5,647 Acres*) Great Plains Open Freshwater Depression Wetland
<1% (*5,194 Acres*) High Intensity Residential
<1% (*4,332 Acres*) Harvested forest-tree regeneration
<1% (*3,904 Acres*) Great Plains Cliff and Outcrop
<1% (*3,223 Acres*) Aspen and Mixed Conifer Forest
<1% (*2,982 Acres*) Harvested forest-grass regeneration
<1% (*2,789 Acres*) Harvested forest-shrub regeneration
<1% (*2,696 Acres*) Rocky Mountain Subalpine-Montane Riparian Shrubland
<1% (*2,612 Acres*) Recently burned grassland
<1% (*2,359 Acres*) Rocky Mountain Subalpine-Montane Fen
<1% (*1,784 Acres*) Mountain Mahogany Woodland and Shrubland
<1% (*1,519 Acres*) Rocky Mountain Subalpine Woodland and Parkland
<1% (*1,085 Acres*) Quarries, Strip Mines and Gravel Pits
<1% (*1,040 Acres*) Burned Sagebrush
<1% (*966 Acres*) Alpine-Montane Wet Meadow
<1% (*856 Acres*) Rocky Mountain Poor Site Lodgepole Pine Forest
<1% (*751 Acres*) Recently burned shrubland
<1% (*319 Acres*) Shale Badland
<1% (*178 Acres*) Rocky Mountain Lower Montane-Foothill Shrubland
<1% (*122 Acres*) Post-Fire Recovery
<1% (*116 Acres*) Oil and Oil / Gas
<1% (*99 Acres*) Introduced Riparian and Wetland Vegetation
<1% (*64 Acres*) Gas and Gas Storage
<1% (*46 Acres*) Low Sagebrush Shrubland
<1% (*27 Acres*) Rocky Mountain Wooded Vernal Pool
<1% (*21 Acres*) Wind Turbine

<1% (*14 Acres*) Rocky Mountain Mesic Montane Mixed Conifer Forest

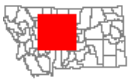
<1% (*10 Acres*) Injection

<1% (*8 Acres*) Introduced Upland Vegetation - Perennial Grassland and Forbland

<1% (*5 Acres*) Rocky Mountain Conifer Swamp

<1% (*3 Acres*) Alpine Bedrock and Scree

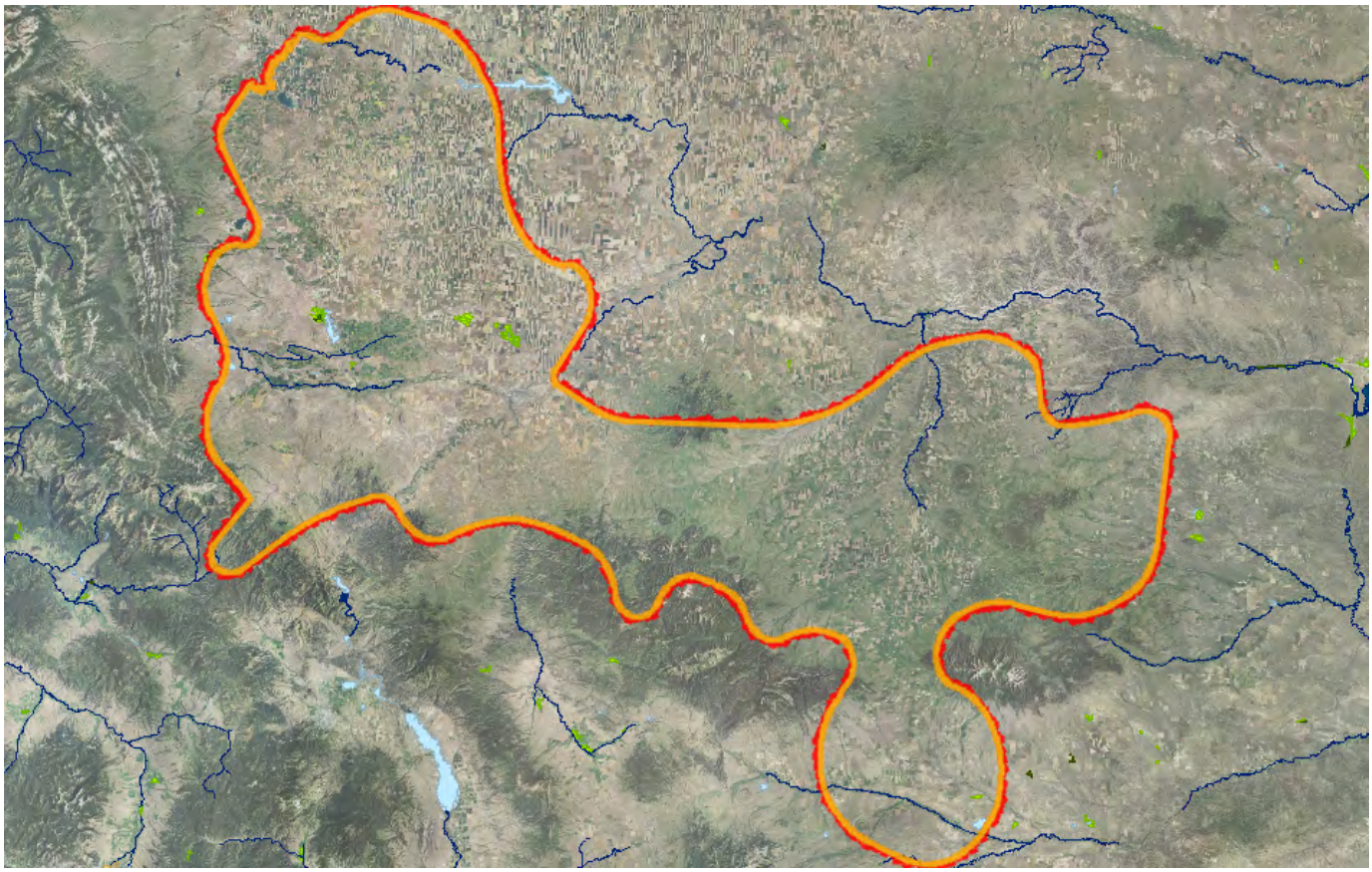
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48.57699	-112.50272

Wetland and Riparian

Summarized by: **25PRVT0177** *(Custom Area of Interest)*



Wetland and Riparian Mapping

P - Palustrine

UB - Unconsolidated Bottom

F - Semipermanently Flooded	16 Acres	
(no modifier)	**16 Acres**	**PUBF**
G - Intermittently Exposed	2 Acres	
(no modifier)	**1 Acres**	**PUBG**
h - Diked/Impounded	**1 Acres**	**PUBGh**
F - Semipermanently Flooded	75 Acres	
h - Diked/Impounded	**68 Acres**	**PUBFh**
x - Excavated	**7 Acres**	**PUBFx**
G - Intermittently Exposed	6 Acres	
x - Excavated	**6 Acres**	**PUBGx**
F - Semipermanently Flooded	1 Acres	
b - Beaver	**1 Acres**	**PUBFb**

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

AB - Aquatic Bed

F - Semipermanently Flooded	5,095 Acres	
h - Diked/Impounded	**5,095 Acres**	**PABFh**
G - Intermittently Exposed	80 Acres	
x - Excavated	**70 Acres**	**PABGx**
b - Beaver	**10 Acres**	**PABGb**
H - Permanently Flooded	19 Acres	
h - Diked/Impounded	**19 Acres**	**PABHh**
F - Semipermanently Flooded	1,034 Acres	
(no modifier)	**1,034 Acres**	**PABF**
C - Seasonally Flooded	<1 Acres	
x - Excavated	**<1 Acres**	**PABCx**
K - Artificially Flooded	51 Acres	
x - Excavated	**51 Acres**	**PABKx**

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

F - Semipermanently Flooded 281 Acres
b - Beaver **281 Acres** PABFb

G - Intermittently Exposed 203 Acres
h - Diked/Impounded **169 Acres** PABGh
(no modifier) **34 Acres** PABG

F - Semipermanently Flooded 195 Acres
x - Excavated **195 Acres** PABFx

US - Unconsolidated Shore

P - Palustrine, US - Unconsolidated Shore
Wetlands with less than 75% areal cover of stones, boulders, or bedrock. AND with less than 30% vegetative cover AND the wetland is irregularly exposed due to seasonal or irregular flooding and subsequent drying.

J - Intermittently Flooded 1 Acres
h - Diked/Impounded **1 Acres** PUSJh

A - Temporarily Flooded 24 Acres
f - Farmed **24 Acres** PUSAf

C - Seasonally Flooded <1 Acres
f - Farmed **<1 Acres** PUSCf

A - Temporarily Flooded 535 Acres
h - Diked/Impounded **535 Acres** PUSAh

J - Intermittently Flooded 2 Acres
d - Partially Drained/Ditched **2 Acres** PUSJd

C - Seasonally Flooded 301 Acres
d - Partially Drained/Ditched **2 Acres** PUSCd
h - Diked/Impounded **286 Acres** PUSCh
x - Excavated **13 Acres** PUSCx

A - Temporarily Flooded 23 Acres
x - Excavated **23 Acres** PUSAx

J - Intermittently Flooded 1 Acres
x - Excavated **1 Acres** PUSJx

A - Temporarily Flooded 1,052 Acres
(no modifier) **1,052 Acres** PUSA

J - Intermittently Flooded 347 Acres
(no modifier) **347 Acres** PUSJ

F - Semipermanently Flooded <1 Acres
h - Diked/Impounded **<1 Acres** PUSFh

C - Seasonally Flooded 361 Acres
(no modifier) **327 Acres** PUSC
b - Beaver **34 Acres** PUSCb

EM - Emergent

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

F - Semipermanently Flooded 14 Acres
x - Excavated **14 Acres** PEMFx

J - Intermittently Flooded 9,738 Acres
(no modifier) **9,738 Acres** PEMJ

A - Temporarily Flooded 755 Acres
d - Partially Drained/Ditched **755 Acres** PEMAd

K - Artificially Flooded 1 Acres
(no modifier) **1 Acres** PEMK

C - Seasonally Flooded 2,017 Acres
h - Diked/Impounded **2,017 Acres** PEMCh

F - Semipermanently Flooded 378 Acres
(no modifier) **378 Acres** PEMF

C - Seasonally Flooded 458 Acres
b - Beaver **28 Acres** PEMCb
d - Partially Drained/Ditched **430 Acres** PEMCd

A - Temporarily Flooded 36,000 Acres
x - Excavated **371 Acres** PEMAx
(no modifier) **35,629 Acres** PEMA

C - Seasonally Flooded 163 Acres
x - Excavated **163 Acres** PEMCx

J - Intermittently Flooded 106 Acres
d - Partially Drained/Ditched **106 Acres** PEMJd

F - Semipermanently Flooded 1,355 Acres
h - Diked/Impounded **1,355 Acres** PEMFh

A - Temporarily Flooded 5,188 Acres
h - Diked/Impounded **5,188 Acres** PEMAh

F - Semipermanently Flooded 22 Acres
d - Partially Drained/Ditched **22 Acres** PEMFd

B - Saturated 147 Acres
(no modifier) **147 Acres** PEMB

F - Semipermanently Flooded 18 Acres
f - Farmed **1 Acres** PEMFf
b - Beaver **17 Acres** PEMFb

C - Seasonally Flooded 7,485 Acres
(no modifier) **7,485 Acres** PEMC

J - Intermittently Flooded 1,234 Acres
h - Diked/Impounded **1,234 Acres** PEMJh

C - Seasonally Flooded 230 Acres
f - Farmed **230 Acres** PEMCf

A - Temporarily Flooded 3,417 Acres
f - Farmed **3,417 Acres** PEMAf

J - Intermittently Flooded 6 Acres
x - Excavated **6 Acres** PEMJx

A - Temporarily Flooded 3 Acres
b - Beaver **3 Acres** PEMAb

J - Intermittently Flooded 1,588 Acres
f - Farmed **1,588 Acres** PEMJf

SS - Scrub-Shrub

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

C - Seasonally Flooded 61 Acres
b - Beaver **61 Acres** PSSCb

A - Temporarily Flooded 10 Acres
b - Beaver **1 Acres** PSSAb
x - Excavated **9 Acres** PSSAx

J - Intermittently Flooded 2,685 Acres
(no modifier) **2,685 Acres** PSSJ

A - Temporarily Flooded <1 Acres
d - Partially Drained/Ditched **<1 Acres** PSSAd

F - Semipermanently Flooded 3 Acres
b - Beaver **3 Acres** PSSFb

C - Seasonally Flooded 1,869 Acres
(no modifier) **1,869 Acres** PSSC

A - Temporarily Flooded 7,356 Acres
(no modifier) **7,240 Acres** PSSA
h - Diked/Impounded **116 Acres** PSSAh

C - Seasonally Flooded 1 Acres
d - Partially Drained/Ditched **1 Acres** PSSCd

F - Semipermanently Flooded 131 Acres
(no modifier) **131 Acres** PSSF

B - Saturated 31 Acres
(no modifier) **31 Acres** PSSB

C - Seasonally Flooded 10 Acres
h - Diked/Impounded **10 Acres** PSSCh

FO - Forested

P - Palustrine, FO - Forested
Wetlands dominated by woody vegetation greater than 6 meters (20 feet) tall.

A - Temporarily Flooded 1,353 Acres
(no modifier) **1,351 Acres** PFOA
h - Diked/Impounded **2 Acres** PFOAh

L - Lacustrine (Lakes)

1 - Limnetic

UB - Unconsolidated Bottom

L - Lacustrine (Lakes), 1 - Limnetic, UB - Unconsolidated Bottom
Deep waterbodies with mud or silt covering at least 25% of the bottom.

H - Permanently Flooded 163 Acres
(no modifier) **163 Acres** L1UBH

F - Semipermanently Flooded 58 Acres
(no modifier) **58 Acres** L1UBF

G - Intermittently Exposed 87 Acres
h - Diked/Impounded **87 Acres** L1UBGh

F - Semipermanently Flooded 2,117 Acres
h - Diked/Impounded **2,117 Acres** L1UBFh

H - Permanently Flooded 10,168 Acres
h - Diked/Impounded **10,168 Acres** L1UBHh

2 - Littoral

AB - Aquatic Bed

L - Lacustrine (Lakes), 2 - Littoral, AB - Aquatic Bed
Shorelines with vegetation growing on or below the water surface for most of the growing season.

G - Intermittently Exposed 273 Acres
h - Diked/Impounded **273 Acres** L2ABGh

F - Semipermanently Flooded 4 Acres

h - Diked/Impounded **4 Acres** L2ABFh

H - Permanently Flooded 306 Acres
h - Diked/Impounded **306 Acres** L2ABHh

F - Semipermanently Flooded 45 Acres
(no modifier) **45 Acres** L2ABF

US - Unconsolidated Shore

L - Lacustrine (Lakes), 2 - Littoral, US - Unconsolidated Shore
Shorelines where there is less than 75% areal cover of stones, boulders, or bedrock, and less than 30% vegetation cover. The area is also irregularly exposed due to seasonal or irregular flooding and subsequent drying.

A - Temporarily Flooded 662 Acres
h - Diked/Impounded **662 Acres** L2USAh

C - Seasonally Flooded 9 Acres
(no modifier) **9 Acres** L2USC

J - Intermittently Flooded 95 Acres
(no modifier) **95 Acres** L2USJ

C - Seasonally Flooded 273 Acres
h - Diked/Impounded **273 Acres** L2USCh

A - Temporarily Flooded 90 Acres
(no modifier) **90 Acres** L2USA

EM - Emergent

L - Lacustrine (Lakes), 2 - Littoral, EM - Emergent
Shorelines that have nonpersistent, erect, rooted herbaceous vegetation during most of the growing season.

F - Semipermanently Flooded 274 Acres
(no modifier) **10 Acres** L2EMF
h - Diked/Impounded **264 Acres** L2EMFh

A - Temporarily Flooded <1 Acres
h - Diked/Impounded **<1 Acres** L2EMAh

R - Riverine (Rivers)

2 - Lower Perennial

UB - Unconsolidated Bottom

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

G - Intermittently Exposed 2 Acres
x - Excavated **2 Acres** R2UBGx

H - Permanently Flooded 418 Acres
(no modifier) **418 Acres** R2UBH

G - Intermittently Exposed 590 Acres
(no modifier) **590 Acres** R2UBG

US - Unconsolidated Shore

R - Riverine (Rivers), 2 - Lower Perennial, US - Unconsolidated Shore
Shorelines with less than 75% areal cover of stones, boulders, or bedrock and less than 30% vegetation cover. The area is also irregularly exposed due to seasonal or irregular flooding and subsequent drying.

A - Temporarily Flooded 12 Acres
(no modifier) **12 Acres** R2USA

C - Seasonally Flooded 6 Acres
(no modifier) **6 Acres** R2USC

A - Temporarily Flooded 2 Acres
h - Diked/Impounded **2 Acres** R2USAh

3 - Upper Perennial

UB - Unconsolidated Bottom

R - Riverine (Rivers), 3 - Upper Perennial, UB - Unconsolidated Bottom
Stream channels where the substrate is at least 25% mud, silt or other fine particles.

G - Intermittently Exposed 1,301 Acres
(no modifier) **1,301 Acres** R3UBG

H - Permanently Flooded 2,111 Acres
x - Excavated **13 Acres** R3UBHx
(no modifier) **2,098 Acres** R3UBH

G - Intermittently Exposed 98 Acres
x - Excavated **98 Acres** R3UBGx

F - Semipermanently Flooded 2,075 Acres
(no modifier) **1,323 Acres** R3UBF
x - Excavated **752 Acres** R3UBFx

US - Unconsolidated Shore

R - Riverine (Rivers), 3 - Upper Perennial, US - Unconsolidated Shore
Shorelines with less than 75% areal cover of stones, boulders, or bedrock and less than 30% vegetation cover. The area is also irregularly exposed due to seasonal or irregular flooding and subsequent drying.

C - Seasonally Flooded 612 Acres
(no modifier) **612 Acres** R3USC

A - Temporarily Flooded 1,534 Acres
(no modifier) **1,534 Acres** R3USA

4 - Intermittent

SB - Stream Bed

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

C - Seasonally Flooded 3,418 Acres
(no modifier) **2,179 Acres** R4SBC
x - Excavated **1,239 Acres** R4SBCx

A - Temporarily Flooded 1,900 Acres
x - Excavated **358 Acres** R4SBAx
(no modifier) **1,542 Acres** R4SBA

Rp - Riparian

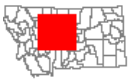
1 - Lotic

SS - Scrub-Shrub (no modifier)	**5,308 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)	**13,660 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)	**12,175 Acres** Rp1EM	**Rp - Riparian, 1 - Lotic, EM - Emergent** *Riparian areas that have erect, rooted herbaceous vegetation during most of the growing season.*

2 - Lentic

SS - Scrub-Shrub (no modifier)	**37 Acres** Rp2SS	**Rp - Riparian, 2 - Lentic, 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)	**54 Acres** Rp2FO	**Rp - Riparian, 2 - Lentic, FO - Forested** *This riparian class has woody vegetation that is greater than 6 meters (20 feet) tall.*
EM - Emergent (no modifier)	**356 Acres** Rp2EM	**Rp - Riparian, 2 - Lentic, EM - Emergent** *Riparian areas that have erect, rooted herbaceous vegetation during most of the growing season.*

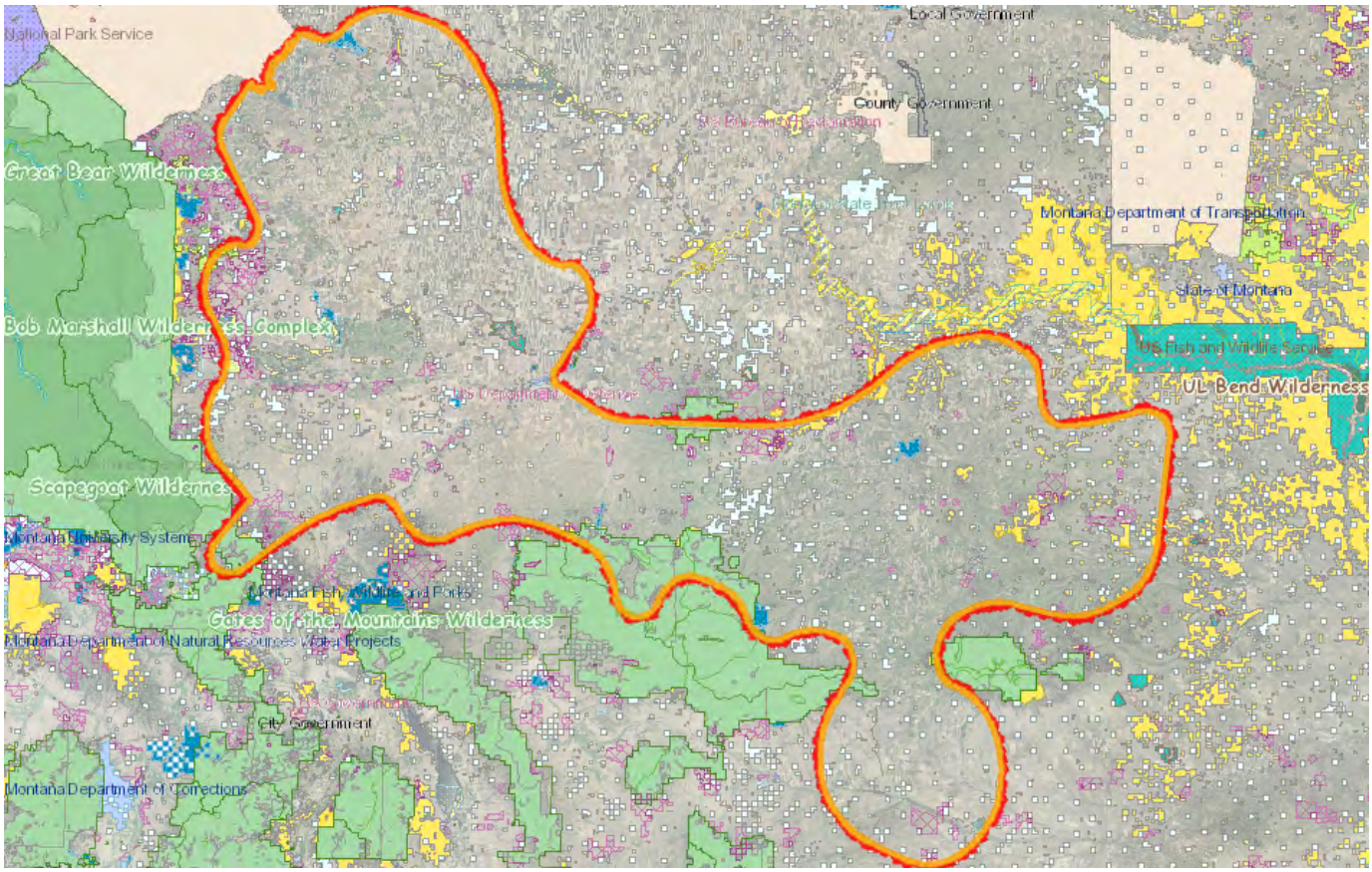
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Latitude	Longitude
46.18272	-108.61859
48.57699	-112.50272

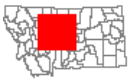
Land Management

Summarized by: **25PRVT0177** *(Custom Area of Interest)*



No Land Management records were found in the selected area

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46.18272	-108.61859
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Biological Reports

Summarized by: **25PRVT0177** *(Custom Area of Interest)*

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

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

No Biological Reports were found in the selected area

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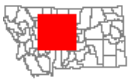
Legend

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

Habitat Icons
- C Common
- O Occasional

Range Icons
- N Non-native

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



Latitude	Longitude
46.18272	-108.61859
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Invasive and Pest Species

Summarized by: **25PRVT0177** *(Custom Area of Interest)*

	# Obs	Predicted Model	Range

Aquatic Invasive Species

V - Potamogeton crispus *(Curly-leaf Pondweed)* **N2B/AIS** — # Obs: 98 — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 3% Moderate (inductive), L 17% Low (inductive)

V - Iris pseudacorus *(Yellowflag Iris)* **N2A/AIS** — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 2% Moderate (inductive), L 25% Low (inductive)

V - Butomus umbellatus *(Flowering-rush)* **N2A/AIS** — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 2% Low (inductive)

V - Myriophyllum spicatum *(Eurasian Water-milfoil)* **N2A/AIS** — # Obs: 4 — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 1% Moderate (inductive), L 9% Low (inductive)

V - Nymphaea odorata *(American Water-lily)* **AIS** — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**
Predicted Models: I 63% Suitable (introduced range) (deductive)

F - Common Carp *(Cyprinus carpio)* **AIS** — # Obs: 46 + — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**
Predicted Models: I 4% Suitable (introduced range) (deductive)

I - Bithynia tentaculata *(Mud Bithynia)* **AIS** — # Obs: 2 — Not Assessed

View in Field Guide
Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**

I - Faxonius virilis *(Virile Crayfish)* **AIS** — # Obs: 176 + — Not Assessed — Range: N

View in Field Guide | View Range Maps
Aquatic Invasive Species - Native/Non-native Species - (depends on location or taxa) Global: **G5** State: **S5**

I - Potamopyrgus antipodarum *(New Zealand Mudsnail)* **AIS** — # Obs: 21 — Not Assessed

View in Field Guide
Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**

Noxious Weeds: Priority 1A

V - Centaurea solstitialis *(Yellow Starthistle)* **N1A** — # Obs: 1 — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1A - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 2% Optimal (inductive), M 12% Moderate (inductive), L 19% Low (inductive)

V - Isatis tinctoria *(Dyer's Woad)* **N1A** — # Obs: 1 — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1A - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 3% Moderate (inductive), L 56% Low (inductive)

V - Taeniatherum caput-medusae *(Medusahead)* **N1A** — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1A - Non-native Species Global: **G4G5** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 33% Low (inductive)

V - Phragmites australis ssp. australis *(European Common Reed)* **N1A** — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1A - Non-native Species Global: **G5T5** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 17% Low (inductive)

Noxious Weeds: Priority 1B

V - Polygonum cuspidatum *(Japanese Knotweed)* **N1B** — # Obs: 14 — Range: N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1B - Non-native Species Global: **GNRTNR** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 7% Moderate (inductive), L 28% Low (inductive)

V - Lythrum salicaria *(Purple Loosestrife)* **N1B** 28

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

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

Predicted Models: O 1% Optimal (inductive), M 6% Moderate (inductive), L 33% Low (inductive)

V - Polygonum x bohemicum *(Bohemian Knotweed)* **N1B**

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

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

Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 8% Low (inductive)

V - Cytisus scoparius *(Scotch Broom)* **N1B**

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

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

Predicted Models: M 1% Moderate (inductive), L 17% Low (inductive)

V - Chondrilla juncea *(Rush Skeletonweed)* **N1B**

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

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

Predicted Models: M 1% Moderate (inductive), L 13% Low (inductive)

V - Echium vulgare *(Blueweed)* **N1B**

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

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

Predicted Models: M 1% Moderate (inductive), L 3% Low (inductive)

Noxious Weeds: Priority 2A

V - Hieracium piloselloides *(Tall Hawkweed)* **N2A**

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

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

Predicted Models: O 1% Optimal (inductive), M 20% Moderate (inductive), L 5% Low (inductive)

V - Rhamnus cathartica *(Common Buckthorn)* **N2A** 5

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

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

Predicted Models: O 1% Optimal (inductive), M 6% Moderate (inductive), L 35% Low (inductive)

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

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

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

Predicted Models: O 1% Optimal (inductive), M 4% Moderate (inductive), L 19% Low (inductive)

V - Lepidium latifolium *(Perennial Pepperweed)* **N2A** 104

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

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

Predicted Models: O 1% Optimal (inductive), M 2% Moderate (inductive), L 39% Low (inductive)

V - Iris pseudacorus *(Yellowflag Iris)* **N2A/AIS**

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

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

Predicted Models: O 1% Optimal (inductive), M 2% Moderate (inductive), L 25% Low (inductive)

V - Ranunculus acris *(Tall Buttercup)* **N2A** 7

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

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

Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 11% Low (inductive)

V - Butomus umbellatus *(Flowering-rush)* **N2A/AIS**

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

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

Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 2% Low (inductive)

V - Ventenata dubia *(Ventenata)* **N2A** 23

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

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

Predicted Models: M 5% Moderate (inductive), L 88% Low (inductive)

V - Hieracium caespitosum *(Meadow Hawkweed)* **N2A** 5

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

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

Predicted Models: M 1% Moderate (inductive), L 10% Low (inductive)

V - Myriophyllum spicatum *(Eurasian Water-milfoil)* **N2A/AIS** 4

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

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

Predicted Models: M 1% Moderate (inductive), L 9% Low (inductive)

V - Hieracium aurantiacum *(Orange Hawkweed)* **N2A** 1

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

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

Predicted Models: M 1% Moderate (inductive), L 5% Low (inductive)

V - Senecio jacobaea *(Tansy Ragwort)* **N2A** 2 N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 1% Moderate (inductive), L 1% Low (inductive)

Noxious Weeds: Priority 2B

V - Lepidium draba *(Whitetop)* **N2B** 1188 N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 5% Optimal (inductive), M 48% Moderate (inductive), L 43% Low (inductive)

V - Centaurea stoebe *(Spotted Knapweed)* **N2B** 2205 N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 35% Moderate (inductive), L 63% Low (inductive)

V - Linaria dalmatica *(Dalmatian Toadflax)* **N2B** 739 N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 25% Moderate (inductive), L 70% Low (inductive)

V - Euphorbia virgata *(Leafy Spurge)* **N2B** 2078 N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 21% Moderate (inductive), L 77% Low (inductive)

V - Cynoglossum officinale *(Common Hound's-tongue)* **N2B** 1455 N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 18% Moderate (inductive), L 51% Low (inductive)

V - Cirsium arvense *(Canada Thistle)* **N2B** 2265 N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 14% Moderate (inductive), L 85% Low (inductive)

V - Acroptilon repens *(Russian Knapweed)* **N2B** 1473 N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 14% Moderate (inductive), L 57% Low (inductive)

V - Convolvulus arvensis *(Field Bindweed)* **N2B** 768 N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 14% Moderate (inductive), L 56% Low (inductive)

V - Centaurea diffusa *(Diffuse Knapweed)* **N2B** 118 N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 6% Moderate (inductive), L 37% Low (inductive)

V - Potamogeton crispus *(Curly-leaf Pondweed)* **N2B/AIS** 98 N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 3% Moderate (inductive), L 17% Low (inductive)

V - Berteroa incana *(Hoary False-alyssum)* **N2B** 22 N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 2% Moderate (inductive), L 26% Low (inductive)

V - Linaria vulgaris *(Yellow Toadflax)* **N2B** 34 N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 2% Moderate (inductive), L 18% Low (inductive)

V - Tamarix ramosissima *(Salt Cedar)* **N2B** 146 N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 26% Low (inductive)

V - Tanacetum vulgare *(Common Tansy)* **N2B** 13 N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 14% Low (inductive)

V - Leucanthemum vulgare *(Oxeye Daisy)* **N2B** 29 N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 11% Low (inductive)

V - Potentilla recta *(Sulphur Cinquefoil)* **N2B** 27 N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 1% Moderate (inductive), L 33% Low (inductive)

V - Hypericum perforatum *(Common St. John's-wort)* **N2B** 3 N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 1% Moderate (inductive), L 4% Low (inductive)

Regulated Weeds: Priority 3

V - Elaeagnus angustifolia *(Russian Olive)* **R3** 42 N

View in Field Guide | View Predicted Models | View Range Maps
Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 1% Moderate (inductive), L 28% Low (inductive)

V - Bromus tectorum *(Cheatgrass)* **R3** 60 N

View in Field Guide | View Predicted Models | View Range Maps
Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 2% Moderate (inductive), L 60% Low (inductive)

Forest Pests

I - Leucoma salicis *(Satin Moth)* **PESTF** 1 Not Assessed

View in Field Guide
Forest Pest - Native Species Global: **GNR** State: **SNR**

Agricultural Pests

I - Xerolenta obvia *(Eastern Heath Snail)* **PESTA** 245 + N

View in Field Guide | View Predicted Models | View Range Maps
Agricultural Pest - Non-native Species Global: **G5** State: **SNA**
Predicted Models: O 4% Optimal (inductive), M 14% Moderate (inductive), L 44% Low (inductive)

I - Cephus cinctus *(Wheat Stem Sawfly)* **PESTA** 4 Not Assessed Y

View in Field Guide | View Range Maps
Agricultural Pest - Native Species Global: **GNR** State: **SNR**

I - Deroceras reticulatum *(Gray Fieldslug)* **PESTA** 1 Not Assessed N

View in Field Guide | View Range Maps
Agricultural Pest - Non-native Species Global: **G5** State: **SNA**

Biocontrol Species

I - Cyphocleonus achates *(Knapweed Root Weevil)* **BIOCNTRL** 3 N

View in Field Guide | View Predicted Models | View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 2% Optimal (inductive), M 22% Moderate (inductive), L 24% Low (inductive)

I - Aphthona nigriscutis *(Black Dot Leafy Spurge Flea Beetle)* **BIOCNTRL** 2 N

View in Field Guide | View Predicted Models | View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 2% Optimal (inductive), M 17% Moderate (inductive), L 16% Low (inductive)

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

View in Field Guide | View Predicted Models | View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 2% Optimal (inductive), M 7% Moderate (inductive), L 20% Low (inductive)

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

View in Field Guide | View Predicted Models | View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 39% Moderate (inductive), L 15% Low (inductive)

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

View in Field Guide | View Predicted Models | View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 21% Moderate (inductive), L 57% Low (inductive)

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

View in Field Guide | View Predicted Models | View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 1% Optimal (inductive), M 7% Moderate (inductive), L 28% Low (inductive)

I - Agapeta zoegana *(Sulphur Knapweed Moth)* **BIOCNTRL** 1 Not Assessed

View in Field Guide
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

I - Aphthona cyparissiae *(Brown Dot Leafy Spurge Flea Beetle)* **BIOCNTRL** 2 Not Assessed

View in Field Guide
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

I - Aphthona flava *(Copper Leafy Spurge Flea Beetle)* **BIOCNTRL** 1 Not Assessed

View in Field Guide
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

I - Hyles euphorbiae *(Spurge Hawkmoth)* **BIOCNTRL** | 10 | Not Assessed | N

View in Field Guide **View Range Maps**
Biocontrol Species - Non-native Species Global: **G5** State: **SNA**

I - Hylobius transversovittatus *(Goeze Root-boring Weevil)* **BIOCNTRL** | 3 | Not Assessed

View in Field Guide
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

I - Neogalerucella calmariensis *(Black-margined Loosestrife Beetle)* **BIOCNTRL** | 6 | Not Assessed

View in Field Guide
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Introduction to Montana Natural Heritage Program

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

Introduction

The Montana Natural Heritage Program (MTNHP) is Montana's source for reliable and objective information on Montana's native species and habitats, emphasizing those of conservation concern. MTNHP was created by the Montana legislature in 1983 as part of the Natural Resource Information System (NRIS) at the Montana State Library (MSL). MTNHP is "a program of information acquisition, storage, and retrieval for data relating to the flora, fauna, and biological community types of Montana" (MCA 90-15-102). MTNHP's activities are guided by statute as well as through ongoing interaction with, and feedback from, principal data source agencies such as Montana Fish, Wildlife, and Parks, the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation, the Montana University System, the US Forest Service, and the US Bureau of Land Management. Since the first staff was hired in 1985, the Program has logged a long record of success, and developed into a highly respected, service-oriented program. MTNHP is widely recognized as one of the most advanced and effective of over 60 natural heritage programs that are distributed across North America.

Vision

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

Core Values

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

Confidentiality

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

Information Managed

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

Data Use Terms and Conditions

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

Suggested Contacts for Natural Resource Management Agencies

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

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

Montana Fish, Wildlife, and Parks

Fish Species	Zachary Shattuck zshattuck@mt.gov (406) 444-1231 or Eric Roberts eroberts@mt.gov (406) 444-5334
American Bison Black-footed Ferret Black-tailed Prairie Dog Bald Eagle Golden Eagle Common Loon Least Tern Piping Plover Whooping Crane	Kristina Smucker KSmucker@mt.gov (406) 444-5209
Grizzly Bear Greater Sage Grouse Trumpeter Swan Big Game Upland Game Birds Furbearers	Brian Wakeling brian.wakeling@mt.gov (406) 444-3940
Managed Terrestrial Game Data	Adam Messer – MFWP GIS Coordinator amesser@mt.gov (406) 444-0095
Fisheries Data and Nongame Animal Data	Adam Messer – MFWP GIS Coordinator amesser@mt.gov (406) 444-0095
Wildlife and Fisheries Scientific Collector's Permits	https://fwp.mt.gov/buyandapply/commercialwildlifeandscientificpermits/scientific Kristina Smucker for Wildlife ksmucker@mt.gov (406) 444-5209 Dave Schmetterling for Fisheries dschmetterling@mt.gov (406) 542-5514
Fish and Wildlife Recommendations for Subdivision Development	Stevie Burton stevie.burton@mt.gov (406) 594-7354 See https://fwp.mt.gov/conservation/living-with-wildlife/subdivision-recommendations
Regional Contacts  	Region 1 (Kalispell) (406) 752-5501 fwprg12@mt.gov Region 2 (Missoula) (406) 542-5500 fwprg22@mt.gov Region 3 (Bozeman) (406) 577-7900 fwprg3@mt.gov Region 4 (Great Falls) (406) 454-5840 fwprg42@mt.gov Region 5 (Billings) (406) 247-2940 fwprg52@mt.gov Region 6 (Glasgow) (406) 228-3700 fwprg62@mt.gov Region 7 (Miles City) (406) 234-0900 fwprg72@mt.gov

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

Montana Department of Environmental Quality
Permitting and Operator Assistance for all Environmental Permits: https://deq.mt.gov/Permitting
Opencut Mining Web Mapping Application for review of opencut mining applications
https://gis.mtdeq.us/portal/apps/webappviewer/index.html?id=7b60084bc4c444a19c9a7a0867e7635a

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

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

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

Bureau of Land Management

Montana Field Office Contacts:



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

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

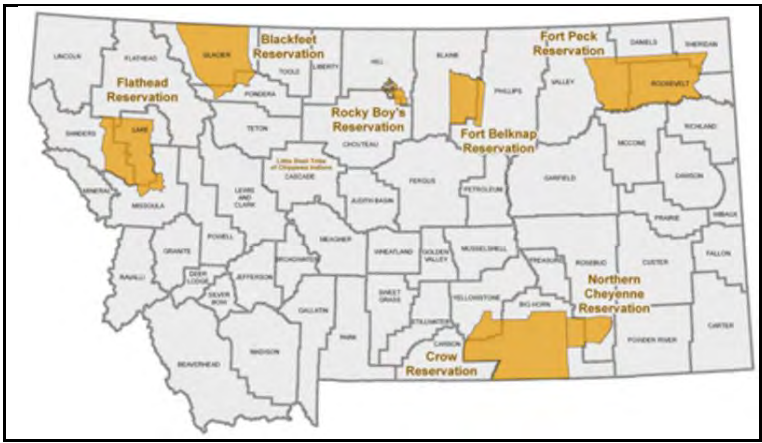
United States Environmental Protection Agency
Environmental information, notices, permitting, and contacts https://www.epa.gov/mt
Gateway to state resource locators https://www.envcap.org/srl/index.php

United States Fish and Wildlife Service
Information Planning and Conservation (IPAC) website: https://ipac.ecosphere.fws.gov
Montana Ecological Services Field Office: https://www.fws.gov/office/montana-ecological-services (406) 449-5225

United States Forest Service

Regional Office – Missoula, Montana Contacts			
Wildlife Program Leader	Tammy Fletcher	tammy.fletcher2@usda.gov	(406) 329-3086
Aquatic Ecologist	Justin Jimenez	justin.jimenez@usda.gov	(435) 370-6830
TES Program	Lydia Allen	lydia.allen@usda.gov	(406) 329-3558
Interagency Grizzly Bear Coordinator	Scott Jackson	scott.jackson@usda.gov	(406) 329-3664
Regional Botanist	Amanda Hendrix	amanda.hendrix@usda.gov	(651) 447-3016
Regional Vegetation Ecologist	Mary Manning	marry.manning@usda.gov	(406) 329-3304
Invasive Species Program Manager	Michelle Cox	michelle.cox2@usda.gov	(406) 329-3669

Tribal Nations



[Assiniboine & Gros Ventre Tribes – Fort Belknap Reservation]

[Assiniboine & Sioux Tribes – Fort Peck Reservation]

[Blackfeet Tribe - Blackfeet Reservation]

[Chippewa Creek Tribe - Rocky Boy's Reservation]

[Crow Tribe – Crow Reservation]

[Little Shell Chippewa Tribe]

[Northern Cheyenne Tribe – Northern Cheyenne Reservation]

[Salish & Kootenai Tribes - Flathead Reservation]

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

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

Invasive Species Management Contacts and Information

Aquatic Invasive Species

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

Noxious Weeds

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

Introduction to Native Species

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

If you are aware of observation datasets that the MTNHP is missing, please report them to the Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov If you have animal or plant observations that you would like to contribute, you can also submit them via Excel spreadsheets, geodatabases, iNaturalist, or a Survey123 form. Various methods of data submission are reviewed in this playlist of videos: https://www.youtube.com/playlist?list=PLRaydtZpHu2qOHPoSPq9cnM9uXGmEXACx

Observations

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

Species Occurrences

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

Plant Species Occurrences

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

Animal Species Occurrences

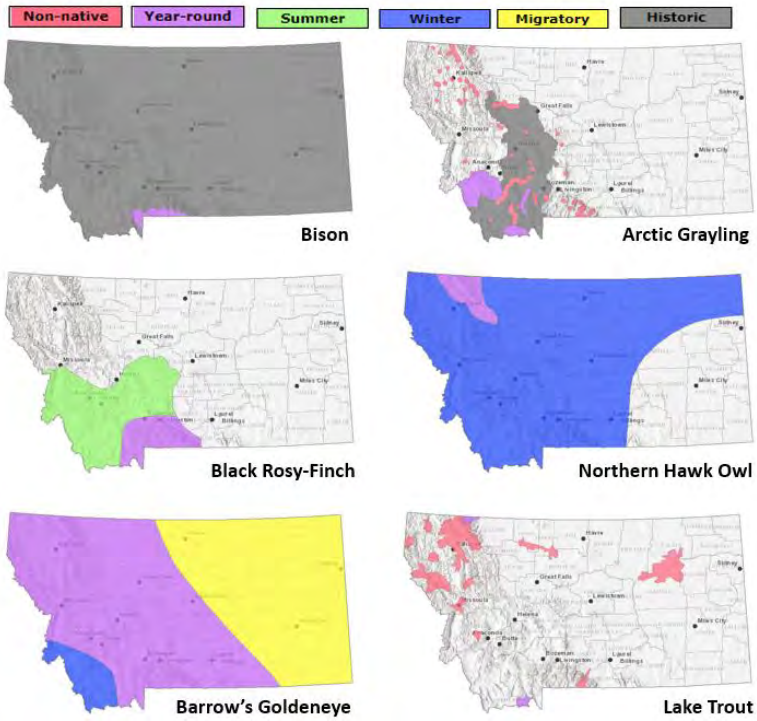
The location of a verified observation or specimen record typically known or assumed to represent a breeding population or a portion of a breeding population. Animal SO's are generally: (1) buffers of terrestrial point observations based on documented species' home range sizes; (2) buffers of stream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

Other Occurrence Polygons

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

Geographic Range Polygons

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



Predicted Suitable Habitat Models

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

Associated Habitats

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

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

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

Introduction to Land Cover

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

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

Literature Cited

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

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

Introduction to Wetland and Riparian

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

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

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

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

Literature Cited

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

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

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

Introduction to Land Management

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

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

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

Public Lands
Conservation Easements
Private Conservation Lands
Managed Areas

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

Introduction to Invasive and Pest Species

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

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

If you are aware of observation or survey datasets for invasive or pest species that the MTNHP is missing, please report them to the Program Coordinator bmaxell@mt.gov Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov If you have animal or plant observations that you would like to contribute, you can also submit them via Excel spreadsheets, geodatabases, iNaturalist, or a Survey123 form. Various methods of data submission are reviewed in this playlist of videos:
https://www.youtube.com/playlist?list=PLRaydtZpHu2qOHPoSPq9cnM9uXGmEXACx

Additional Information Resources

Effects of Recreation on Rocky Mountain Wildlife

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

MTNHP Staff Contact Information

Montana Field Guide

MTNHP Species of Concern Report - Animals and Plants

MTNHP Species Status Codes - Explanation

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

MTNHP Request Information page

Montana Cadastral

Montana Code Annotated

Montana Fisheries Information System

Montana Fish, Wildlife, and Parks Subdivision Recommendations

Montana Forestry Best Management Practices

Montana GIS Data Layers

Montana GIS Data Bundler

Montana Greater Sage-Grouse Project Submittal Site

Montana Guide to Streamside Management Zone Law and Rules

Montana Ground Water Information Center

Montana Index of Environmental Permits, 21st Edition (2018)

Montana Environmental Policy Act (MEPA)

Montana Environmental Policy Act Analysis Resource List

Montana Native Plant Conservation Strategy

Montana Spatial Data Infrastructure Layers

Montana State Historic Preservation Office Review and Compliance

Montana Stream Permitting: a guide for conservation district supervisors and others

Montana Water Information System

Montana Web Map Services

National Environmental Policy Act

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

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

Uses of Information from the Montana Natural Heritage Program

Web Soil Survey Tool

Xerces Society for Invertebrate Conservation Resources

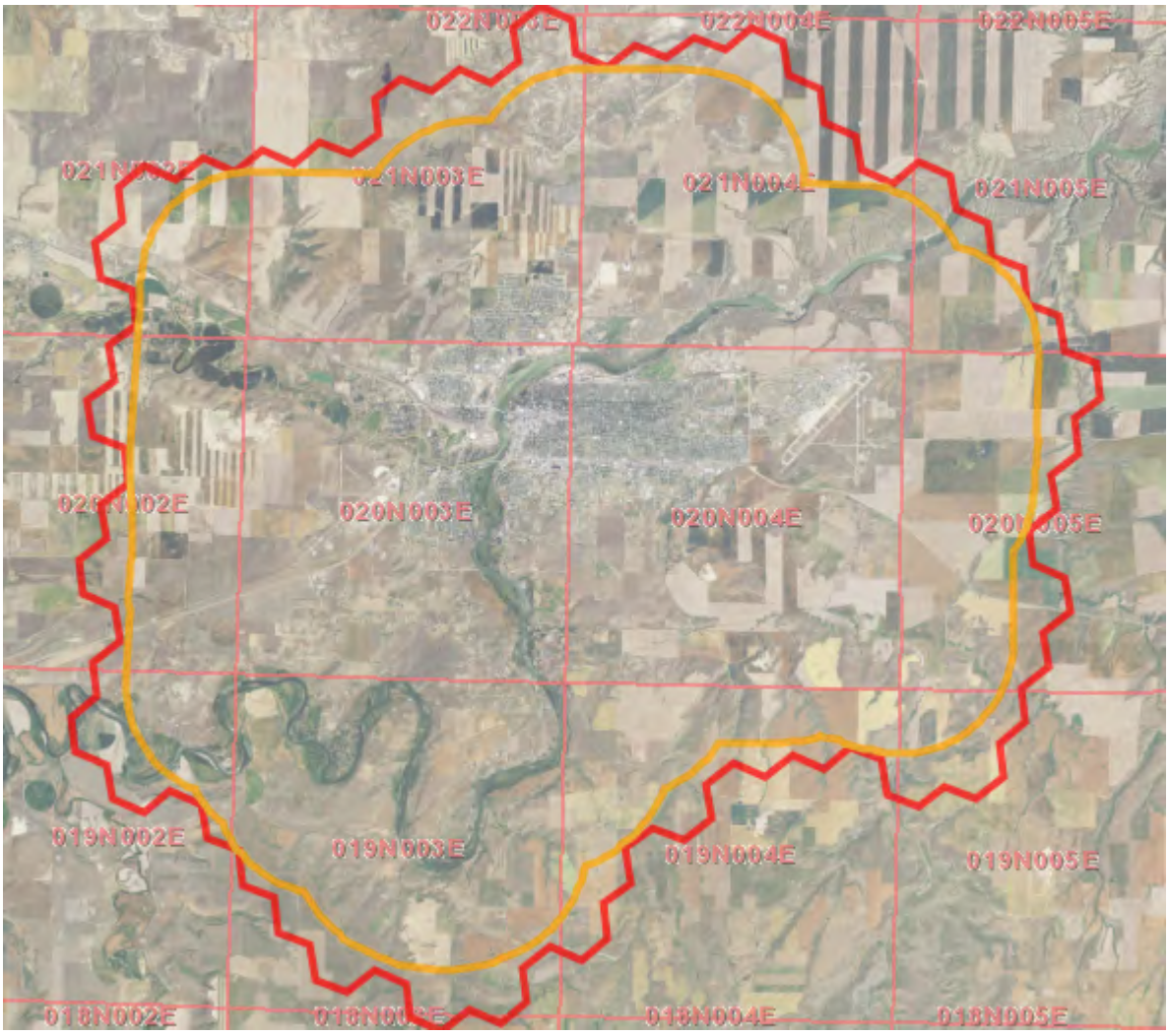
Environmental Summary

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Latitude	Longitude
47.34198	-111.08356
47.61623	-111.47196

Summarized by:
25mt0002 GreatFalls
(Custom Area of Interest)



Suggested Citation
Montana Natural Heritage Program. Environmental Summary Report.
for Latitude 47.34198 to 47.61623 and Longitude -111.08356 to -111.47196. Retrieved on 8/16/2024.

The Montana Natural Heritage Program is part of the Montana State Library's Natural Resource Information System. Since 1985, it has served as a neutral and non-regulatory provider of easily accessible information on Montana's species and biological communities to inform all stakeholders in environmental review, permitting, and planning processes. The program is part of the NatureServe network that is composed of over 60 member programs across North America that work to provide current and comprehensive distribution and status information on species and biological communities.

MONTANA STATE LIBRARY NATURAL HERITAGE PROGRAM
NATURESERVE

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Introduction to Environmental Summary Report

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

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

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NATURAL HERITAGE PROGRAM
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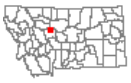
Legend

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

Habitat Icons
- C Common
- O Occasional

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

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



Latitude	Longitude
47.34198	-111.08356
47.61623	-111.47196

Native Species

Summarized by: **25mt0002 GreatFalls** *(Custom Area of Interest)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Map not shown for scales greater than 1:80,000

Species Occurrences

	USFWS Sec7	# SO	# Obs	Predicted Model	Range
V - Carex sychnocephala *(Many-headed Sedge)* SOC		1	+		Y
V - Muhlenbergia andina *(Foxtail Muhly)* SOC		1			Y
V - Bacopa rotundifolia *(Roundleaf Water-hyssop)* SOC		1	1		Y
V - Najas guadalupensis *(Guadalupe Water-nymph)* SOC		1			Y
V - Mimulus ringens *(Square-stem Monkeyflower)* SOC		2	2		Y
B - Bald Eagle *(Haliaeetus leucocephalus)* SSS		18	200 +		Y
B - Long-billed Curlew *(Numenius americanus)* SOC		16	19 +		S M
V - Impatiens aurella *(Pale-yellow Jewel-weed)* SOC		1			Y
B - Veery *(Catharus fuscescens)* SOC		5	5 +		S M

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

Species of Concern - Native Species Global: **G5** State: **S1S2** Plant Threat Score: **High - Medium**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Apr 26, 2018)

Predicted Models: N 38% Suitable (native range) (deductive)

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

Species of Concern - Native Species Global: **G4** State: **S2S3** Plant Threat Score: **Unknown**

Predicted Models: N 23% Suitable (native range) (deductive)

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

Species of Concern - Native Species Global: **G5** State: **S3?** Plant Threat Score: **No Known Threats** CCVI: **Moderately Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Apr 26, 2018)

Predicted Models: N 16% Suitable (native range) (deductive)

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

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

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Oct 27, 2023)

Predicted Models: N 16% Suitable (native range) (deductive)

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

Species of Concern - Native Species Global: **G5** State: **S2?** Plant Threat Score: **No Known Threats** CCVI: **Highly Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Mar 13, 2024)

Predicted Models: N 1% Suitable (native range) (deductive)

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

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

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 2,000 meters in order to be conservative about encompassing the breeding territory and area commonly used for renesting. Only nesting observations with a locational uncertainty of 1,000 meters or less will be used to delineate a nesting area. (Last Updated: Jun 26, 2024)

Predicted Models: O 2% Optimal (inductive), M 12% Moderate (inductive), L 32% Low (inductive)

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

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC11** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 200 meters in order to approximate the breeding territory size reported for the species in Idaho and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 26, 2024)

Predicted Models: O 1% Optimal (inductive), M 47% Moderate (inductive), L 52% Low (inductive)

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

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

Predicted Models: O 1% Optimal (inductive), M 21% Moderate (inductive), L 10% Low (inductive)

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

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

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

Predicted Models: O 1% Optimal (inductive), M 19% Moderate (inductive), L 59% Low (inductive)

B - Forster's Tern *(Sterna forsteri)* SOC — 1 — 20 + — S M

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

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

Delineation Criteria Standing water bodies with evidence for nesting buffered by 100 meters in order to reflect importance of adjacent terrestrial habitats to breeding success. (Last Updated: Apr 02, 2024)

Predicted Models: O 1% Optimal (inductive), L 18% Low (inductive)

B - Great Blue Heron *(Ardea herodias)* SOC — 4 — 66 + — Y S M

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

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

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 6,500 meters in order to be conservative about encompassing the areas commonly used for foraging near the breeding colony. If the locational uncertainty associated with the observation is greater than 5,000 meters, the observation is not valid for creation of a species occurrence. (Last Updated: Jun 27, 2024)

Predicted Models: O 1% Optimal (inductive), M 11% Moderate (inductive), L 35% Low (inductive)

V - Pediomelum hypogaeum var. hypogaeum *(Little Indian Breadroot)* PSOC — 1 — Y

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

Potential Species of Concern - Native Species Global: **G5T4** State: **S3S4**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Aug 25, 2021)

Predicted Models: O 1% Optimal (inductive), M 3% Moderate (inductive), L 10% Low (inductive)

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

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

Species of Concern - Native Species Global: **G2G3** State: **S1**

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

Predicted Models: M 50% Moderate (inductive), L 45% Low (inductive)

M - Hoary Bat *(Lasiurus cinereus)* SOC — 1 — 1 — S M

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

Species of Concern - Native Species Global: **G3G4** State: **S3B** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles during the active season. Point observation location is buffered by a minimum distance of 3,500 meters in order to be conservative about encompassing the maximum reported foraging distance for the congeneric Lasiurus borealis and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 26, 2024)

Predicted Models: M 17% Moderate (inductive), L 80% Low (inductive)

B - Ferruginous Hawk *(Buteo regalis)* SOC — 2 — 9 + — S M

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

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

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 2,000 meters in order to encompass the average home range size reported for the species and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 25, 2024)

Predicted Models: M 9% Moderate (inductive), L 69% Low (inductive)

B - Loggerhead Shrike *(Lanius ludovicianus)* SOC — 2 — 8 + — S M

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

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

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 300 meters in order to encompass the maximum breeding territory size reported for the species in Alberta and Idaho and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 26, 2024)

Predicted Models: M 7% Moderate (inductive), L 63% Low (inductive)

B - Thick-billed Longspur *(Rhynchophanes mccownii)* SOC — 1 — 1 + — S M

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

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 100 meters in order to encompass the maximum breeding territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 26, 2024)

Predicted Models: M 4% Moderate (inductive), L 56% Low (inductive)

R - Spiny Softshell *(Apalone spinifera)* SOC — 1 — 1 — Y H

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

Species of Concern - Native Species Global: **G5** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Delineation Criteria Stream reaches and impounded streams within the species' native range where the species naturally occurs and their presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a 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 and impounded streams 50 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Jun 19, 2024)

Predicted Models: M 4% Moderate (inductive), L 20% Low (inductive)

B - Common Tern *(Sterna hirundo)* SOC — 2 — 33 + — S M

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

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

Delineation Criteria Standing water bodies with evidence of nesting buffered by 100 meters in order to reflect importance of adjacent terrestrial habitats to breeding success. (Last Updated: Jan 03, 2023)

Predicted Models: M 4% Moderate (inductive), L 16% Low (inductive)

R - Greater Short-horned Lizard *(Phrynosoma hernandesi)* SOC 4 3 + Y

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

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

Delineation Criteria Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 300 meters in order to encompass habitats supporting other individuals and documented distances moved betweeen summer and winter habitats. Otherwise the point observation is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 26, 2024)

Predicted Models: M 3% Moderate (inductive), L 38% Low (inductive)

B - Bobolink *(Dolichonyx oryzivorus)* SOC 2 1 S M

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

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

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 150 meters in order to conservatively encompass male territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 26, 2024)

Predicted Models: M 2% Moderate (inductive), L 68% Low (inductive)

V - Centunculus minimus *(Chaffweed)* SOC 1 + Y

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

Species of Concern - Native Species Global: **G5** State: **S2** Plant Threat Score: **No Known Threats**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Sep 06, 2017)

Predicted Models: M 2% Moderate (inductive), L 18% Low (inductive)

B - Sprague's Pipit *(Anthus spragueii)* SOC 7 2 2 + S M

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

Species of Concern - Native Species Global: **G3G4** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

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 115 meters in order to encompass the maximum breeding territory sizes reported for the species in Montana and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 26, 2024)

Predicted Models: M 1% Moderate (inductive), L 60% Low (inductive)

B - Burrowing Owl *(Athene cunicularia)* SOC 5 9 + S M

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

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Direct observation of a bird or birds at/on a prairie dog town is indirect but sufficient evidence of breeding (b). Point observation location is buffered by a minimum distance of 2,700 meters in order to encompass the maximum foraging distance reported for breeding adults and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 26, 2024)

Predicted Models: M 1% Moderate (inductive), L 50% Low (inductive)

A - Great Plains Toad *(Anaxyrus cognatus)* SOC 1 1 Y

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

Species of Concern - Native Species Global: **G5** State: **S2** BLM: **SENSITIVE** FWP SWAP: **SGCN2**

Delineation Criteria Standing 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. When specific water bodies are not able to be identified due to the difficulties of estimating distances to breeding choruses during calling surveys for this species and its tendency to breed in ephemeral waters, the species occurrence consists of the best estimate of the breeding location buffered by the locational uncertainty of the observation to a maximum distance of 5,000 meters. (Last Updated: Dec 21, 2023)

Predicted Models: M 1% Moderate (inductive), L 45% Low (inductive)

V - Psilocarphus brevissimus *(Dwarf woolly-heads)* SOC 1 + Y

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

Species of Concern - Native Species Global: **G4** State: **S2S3** Plant Threat Score: **No Known Threats**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Dec 01, 2023)

Predicted Models: M 1% Moderate (inductive)

B - Chestnut-collared Longspur *(Calcarius ornatus)* SOC 1 3 + S M

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

Species of Concern - Native Species Global: **G5** State: **S2B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **2**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 115 meters in order to encompass the maximum breeding territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 26, 2024)

Predicted Models: L 29% Low (inductive)

M - Grizzly Bear *(Ursus arctos)* SOC 7 1 Y H

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

Species of Concern - Native Species Global: **G4** State: **S2S3** USFWS: **LT** BLM: **THREATENED** FWP SWAP: **SGCN2-3**

Delineation Criteria Species Occurrence polygons represent areas delineated by the U.S. Fish and Wildlife Service (USFWS) that encompass both home ranges and potential transitory movements based on verified sightings. Within these areas, the USFWS wants project proponents to consider whether the species â€œmay be presentâ€ when evaluating the potential impacts of a project and to work with the USFWS to develop and implement best management practices to minimize or eliminate project effects on the species. (Last Updated: Jul 08, 2024)

Predicted Models: L 21% Low (inductive)

B - Cassin's Finch *(Haemorhous cassinii)* SOC 2 11 Y

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

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

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

Predicted Models: L 13% Low (inductive)

V - Mimulus floribundus *(Floriferous Monkeyflower)* SOC — 1 — Y

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

Species of Concern - Native Species — Global: **G5** State: **SH** Plant Threat Score: **No Known Threats** CCVI: **Highly Vulnerable**

Predicted Models: L 9% Low (inductive)

V - Triodanis leptocarpa *(Slim-pod Venus'-looking-glass)* SOC — 1 — Y

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

Species of Concern - Native Species — Global: **G5?** State: **S3** Plant Threat Score: **No Known Threats** CCVI: **Moderately Vulnerable**

Predicted Models: L 3% Low (inductive)

B - Brown Creeper *(Certhia americana)* SOC — 1 — 22 — Not Assessed — Y

View in Field Guide | View Range Maps

Species of Concern - Native Species — Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **1**

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

F - Sauger *(Sander canadensis)* SOC — 1 — Not Assessed — Y

View in Field Guide | View Range Maps

Species of Concern - Native Species — Global: **G5** State: **S2** 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 14, 2024)

B - Red Knot *(Calidris canutus)* SSS — 7 — 1 — + — Not Assessed

View in Field Guide

Special Status Species - Native Species — Global: **G4** State: **SNA** USFWS: **LT; MBTA** BLM: **THREATENED**

Delineation Criteria Water bodies, wetland complexes, or management areas, with documented repeated use as migratory stopover locations. Water bodies are buffered by 5 km to protect against potential wind turbine collisions when birds descend to or ascend from migratory wetland habitats. (Last Updated: Jun 26, 2024)

B - Entosthodon rubiginosus *(Rusty Cord Moss)* PSOC — 2 — + — Not Assessed

View in Field Guide

Potential Species of Concern - Native Species — Global: **G1G3** State: **SH**

B - Fissidens fontanus *(Flat Pocket Moss)* SOC — 1 — 1 — Not Assessed

View in Field Guide

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

B - Hennediella heimii *(Heim's Hennediella Moss)* SOC — 5 — 4 — Not Assessed

View in Field Guide

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

B - Hygroamblystegium varium ssp. noterophilum *(A Conecap Moss)* SOC — 2 — 2 — Not Assessed

View in Field Guide

Species of Concern - Native Species — Global: **G5T4** State: **S1**

B - Physcomitrium hookeri *(Hooker's Physcomitrium Moss)* SOC — 1 — Not Assessed

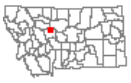
View in Field Guide

Species of Concern - Native Species — Global: **G2G4** State: **S1**

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Legend

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



Latitude	Longitude
47.34198	-111.08356
47.61623	-111.47196

Native Species

Summarized by: **25mt0002 GreatFalls** *(Custom Area of Interest)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Other Observed Species

	USFWS Sec7	# Obs	Predicted Model	Range
B - American White Pelican *(Pelecanus erythrorhynchos)* **SOC**		225 +		S M
View in Field Guide · View Predicted Models · View Range Maps Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3** **Predicted Models:** O 12% Optimal (inductive), M 35% Moderate (inductive), L 37% Low (inductive)				
B - White-faced Ibis *(Plegadis chihi)* **SOC**		11 +		S M
View in Field Guide · View Predicted Models · View Range Maps Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2** **Predicted Models:** O 2% Optimal (inductive), M 27% Moderate (inductive), L 42% Low (inductive)				
B - Short-eared Owl *(Asio flammeus)* **PSOC**		8 +		Y
View in Field Guide · View Predicted Models · View Range Maps Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA; BCC11; BCC17** PIF: **3** **Predicted Models:** O 1% Optimal (inductive), M 57% Moderate (inductive), L 38% Low (inductive)				
B - Franklin's Gull *(Leucophaeus pipixcan)* **SOC**		165 +		S M
View in Field Guide · View Predicted Models · View Range Maps Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2** **Predicted Models:** O 1% Optimal (inductive), L 15% Low (inductive)				
B - Ovenbird *(Seiurus aurocapilla)* **PSOC**		3		S M
View in Field Guide · View Predicted Models · View Range Maps Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA** PIF: **3** **Predicted Models:** O 1% Optimal (inductive), M 12% Moderate (inductive), L 32% Low (inductive)				
B - Black-necked Stilt *(Himantopus mexicanus)* **SOC**		15 +		S M
View in Field Guide · View Predicted Models · View Range Maps Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3** **Predicted Models:** O 1% Optimal (inductive), M 9% Moderate (inductive), L 54% Low (inductive)				
B - American Bittern *(Botaurus lentiginosus)* **SOC**		1 +		S M
View in Field Guide · View Predicted Models · View Range Maps Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **3** **Predicted Models:** O 1% Optimal (inductive), M 4% Moderate (inductive), L 30% Low (inductive)				
B - Black-crowned Night-Heron *(Nycticorax nycticorax)* **SOC**		4 +		S M
View in Field Guide · View Predicted Models · View Range Maps Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3** **Predicted Models:** O 1% Optimal (inductive), M 2% Moderate (inductive), L 20% Low (inductive)				
M - North American Porcupine *(Erethizon dorsatum)* **PSOC**		2 +		Y
View in Field Guide · View Predicted Models · View Range Maps Potential Species of Concern - Native Species Global: **G5** State: **S3S4** FWP SWAP: **SGIN** **Predicted Models:** M 46% Moderate (inductive), L 44% Low (inductive)				
B - Rufous Hummingbird *(Selasphorus rufus)* **PSOC**		6		S M
View in Field Guide · View Predicted Models · View Range Maps Potential Species of Concern - Native Species Global: **G4** State: **S4B** USFWS: **MBTA; BCC10** PIF: **3** **Predicted Models:** M 27% Moderate (inductive), L 37% Low (inductive)				
M - Little Brown Myotis *(Myotis lucifugus)* **SOC**		1		Y
View in Field Guide · View Predicted Models · View Range Maps Species of Concern - Native Species Global: **G3G4** State: **S3** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT)** FWP SWAP: **SGCN3** **Predicted Models:** M 16% Moderate (inductive), L 60% Low (inductive)				
B - Golden Eagle *(Aquila chrysaetos)* **SOC**		15 +		Y
View in Field Guide · View Predicted Models · View Range Maps Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **BGEPA; MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** **Predicted Models:** M 8% Moderate (inductive), L 49% Low (inductive)				

B - Caspian Tern *(Hydroprogne caspia)* SOC — 28 + — S M

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

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

Predicted Models: M 5% Moderate (inductive), L 23% Low (inductive)

B - Sharp-tailed Grouse *(Tympanuchus phasianellus)* SOC — 8 + — Y

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

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

Predicted Models: M 4% Moderate (inductive), L 96% Low (inductive)

M - Black-tailed Prairie Dog *(Cynomys ludovicianus)* SOC — 1 + — Y

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

Species of Concern - Native Species — Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Predicted Models: M 3% Moderate (inductive), L 87% Low (inductive)

B - Barrow's Goldeneye *(Bucephala islandica)* PSOC — 92 + — Y WM

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

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

Predicted Models: M 3% Moderate (inductive), L 46% Low (inductive)

A - Northern Leopard Frog *(Lithobates pipiens)* SOC — 3 — Y

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

Species of Concern - Native Species — Global: **G5** State: **S1,S4** USFS: **Sensitive - Suspected in Forests (KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN1**

Predicted Models: M 3% Moderate (inductive), L 27% Low (inductive)

B - Green-tailed Towhee *(Pipilo chlorurus)* SOC — 2 — S M

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

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

Predicted Models: M 2% Moderate (inductive), L 31% Low (inductive)

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

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

Species of Concern - Native Species — Global: **G4** State: **S2B** USFWS: **MBTA; BCC10; BCC17** USFS: **Species of Conservation Concern in Forests (HLC)** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **2**

Predicted Models: M 2% Moderate (inductive), L 23% Low (inductive)

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

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

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

Predicted Models: M 1% Moderate (inductive), L 47% Low (inductive)

B - Baird's Sparrow *(Centronyx bairdii)* SOC — 1 + — S M

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

Species of Concern - Native Species — Global: **G4** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

Predicted Models: M 1% Moderate (inductive), L 44% Low (inductive)

B - Black Tern *(Chlidonias niger)* SOC — 3 + — S M

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

Species of Concern - Native Species — Global: **G4G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Predicted Models: M 1% Moderate (inductive), L 22% Low (inductive)

B - Horned Grebe *(Podiceps auritus)* SOC — 21 + — S M

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

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

Predicted Models: M 1% Moderate (inductive), L 22% Low (inductive)

M - Swift Fox *(Vulpes velox)* SOC — + — Y

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

Species of Concern - Native Species — Global: **G3** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Predicted Models: M 1% Moderate (inductive), L 15% Low (inductive)

B - Clark's Nutcracker *(Nucifraga columbiana)* SOC — 2 — Y

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

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

Predicted Models: L 8% Low (inductive)

B - Great Gray Owl *(Strix nebulosa)* SOC — 1 — Y

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

Species of Concern - Native Species — Global: **G5** State: **S3** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN** PIF: **3**

Predicted Models: L 3% Low (inductive)

B - Evening Grosbeak *(Coccothraustes vespertinus)* SOC — 3 — Y WM

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

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

Predicted Models: L 1% Low (inductive)

B - American Goshawk *(Accipiter atricapillus)* SOC — 10 — Not Assessed — Y WM

View in Field Guide | View Range Maps

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

F - Brassy Minnow *(Hybognathus hankinsoni)* **PSOC** | + | Not Assessed | Y

View in Field Guide | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4**

F - Brook Stickleback *(Culaea inconstans)* **PSOC** | + | Not Assessed | Y

View in Field Guide | View Range Maps
Potential Species of Concern - Native/Non-native Species - (depends on location or taxa) Global: **G5** State: **S4**

F - Northern Redbelly X Finescale Dace *(Chrosomus eos x Chrosomus neogaeus)* **SOC** | + | Not Assessed | Y

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **GNA** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

I - Enallagma praevarum *(Arroyo Bluet)* **PSOC** | 1 | Not Assessed | Y

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

B - Gray-crowned Rosy-Finch *(Leucosticte tephrocotis)* **SOC** | 2 + | Not Assessed | W M

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

B - Black-and-white Warbler *(Mniotilta varia)* **PSOC** | 6 | Not Assessed | M

View in Field Guide | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA**

B - Clark's Grebe *(Aechmophorus clarkii)* **SOC** | 5 + | Not Assessed | M

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11** FWP SWAP: **SGCN3** PIF: **3**

B - Common Loon *(Gavia immer)* **SOC** | 63 + | Not Assessed | M

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** USFS: **Sensitive - Known in Forests (LOLO)** FWP SWAP: **SGCN3** PIF: **1**

B - Hooded Merganser *(Lophodytes cucullatus)* **PSOC** | 87 + | Not Assessed | M

View in Field Guide | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **2**

B - Piping Plover *(Charadrius melodus)* **SOC** | 7 | + | Not Assessed | M

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G3** State: **S2B** USFWS: **LT; CH; MBTA** BLM: **THREATENED** FWP SWAP: **SGCN2** PIF: **1**

B - Tennessee Warbler *(Leiothlypis peregrina)* **PSOC** | 1 | Not Assessed | M

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

B - Trumpeter Swan *(Cygnus buccinator)* **SOC** | 13 + | Not Assessed | M

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

M - Black-footed Ferret *(Mustela nigripes)* **SOC** | + | Not Assessed | H

View in Field Guide | View Range Maps
Species of Concern - Native Species Global: **G1** State: **S1** USFWS: **LE; XN** BLM: **ENDANGERED** FWP SWAP: **SGCN1**

B - Harlequin Duck *(Histrionicus histrionicus)* **SOC** | 1 | Not Assessed

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

B - Pacific Wren *(Troglodytes pacificus)* **SOC** | 1 | Not Assessed

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

B - Pileated Woodpecker *(Dryocopus pileatus)* **SOC** | 3 | Not Assessed

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

B - Varied Thrush *(Ixoreus naevius)* **SOC** | 5 | Not Assessed

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

B - Western Screech-Owl *(Megascops kennicottii)* **PSOC** | 3 | Not Assessed

View in Field Guide
Potential Species of Concern - Native Species Global: **G4G5** State: **S3S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3**

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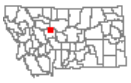
Legend

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

Habitat Icons
- C Common
- O Occasional

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

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



Latitude	Longitude
47.34198	-111.08356
47.61623	-111.47196

Native Species

Summarized by: **25mt0002 GreatFalls** *(Custom Area of Interest)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Other Potential Species

	USFWS Sec7	Predicted Model	Range

F - Burbot *(Lota lota)* PSOC

View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4**
Predicted Models: N 23% Suitable (native range) (deductive)

I - Danaus plexippus *(Monarch)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2S3** USFWS: **C** USFS: **Sensitive - Migratory in Forests (BD, BRT, KOOT)**
Predicted Models: O 13% Optimal (inductive), M 25% Moderate (inductive), L 31% Low (inductive)

V - Oxytropis lagopus var. conjugans *(Hare's-foot Locoweed)* PSOC

View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G4G5T3T4** State: **S3S4**
Predicted Models: O 7% Optimal (inductive), M 10% Moderate (inductive), L 1% Low (inductive)

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

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** BLM: **SENSITIVE** FWP SWAP: **SGCN2, SGIN**
Predicted Models: O 4% Optimal (inductive), M 13% Moderate (inductive), L 33% Low (inductive)

M - Spotted Bat *(Euderma maculatum)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN**
Predicted Models: O 3% Optimal (inductive), M 17% Moderate (inductive), L 44% Low (inductive)

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

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** FWP SWAP: **SGCN3**
Predicted Models: O 1% Optimal (inductive), M 67% Moderate (inductive), L 32% Low (inductive)

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

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4G5** State: **S3**
Predicted Models: O 1% Optimal (inductive), M 5% Moderate (inductive), L 64% Low (inductive)

M - Dwarf Shrew *(Sorex nanus)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2S3** FWP SWAP: **SGCN2-3**
Predicted Models: M 34% Moderate (inductive), L 63% Low (inductive)

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

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S3B** BLM: **SENSITIVE**
Predicted Models: M 21% Moderate (inductive), L 30% Low (inductive)

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

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2S3** Plant Threat Score: **Low**
Predicted Models: M 17% Moderate (inductive), L 47% Low (inductive)

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

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known in Forests (LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN3**
Predicted Models: M 17% Moderate (inductive), L 35% Low (inductive)

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

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN** PIF: **2**
Predicted Models: M 13% Moderate (inductive), L 53% Low (inductive)

B - Eastern Bluebird *(Sialia sialis)* PSOC

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

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

Predicted Models: M 13% Moderate (inductive), L 37% Low (inductive)

M - Fringed Myotis *(Myotis thysanodes)* SOC

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

Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Predicted Models: M 10% Moderate (inductive), L 27% Low (inductive)

V - Chenopodium subglabrum *(Smooth Goosefoot)* SOC

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

Species of Concern - Native Species Global: **G3G4** State: **S2** Plant Threat Score: **Unknown** CCVI: **Highly Vulnerable**

Predicted Models: M 8% Moderate (inductive), L 24% Low (inductive)

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

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

Species of Concern - Native Species Global: **G5T2** State: **S1S2**

Predicted Models: M 8% Moderate (inductive), L 10% Low (inductive)

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

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

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

Predicted Models: M 7% Moderate (inductive), L 57% Low (inductive)

R - Western Milksnake *(Lampropeltis gentilis)* SOC

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

Species of Concern - Native Species Global: **G5** State: **S2** BLM: **SENSITIVE** FWP SWAP: **SGCN2**

Predicted Models: M 7% Moderate (inductive), L 29% Low (inductive)

M - Hayden's Shrew *(Sorex haydeni)* PSOC

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

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

Predicted Models: M 5% Moderate (inductive), L 90% Low (inductive)

V - Cypripedium parviflorum *(Small Yellow Lady's-slipper)* PSOC

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

USFS: **Sensitive - Known in Forests (LOLO)**

Potential Species of Concern - Native Species Global: **G5** State: **S3S4** **Species of Conservation Concern in Forests (CG, HLC)**

Predicted Models: M 5% Moderate (inductive), L 35% Low (inductive)

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

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

Potential Species of Concern - Native Species Global: **G3G4** State: **S4**

Predicted Models: M 4% Moderate (inductive), L 66% Low (inductive)

B - Sage Thrasher *(Oreoscoptes montanus)* SOC

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

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

Predicted Models: M 4% Moderate (inductive), L 53% Low (inductive)

V - Stellaria crassifolia *(Fleshy Stitchwort)* SOC

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

Species of Concern - Native Species Global: **G5** State: **S2** Plant Threat Score: **No Known Threats**

Predicted Models: M 3% Moderate (inductive), L 32% Low (inductive)

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

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

Species of Concern - Native Species Global: **G5** State: **S2** Plant Threat Score: **Low**

Predicted Models: M 3% Moderate (inductive), L 10% Low (inductive)

B - Common Poorwill *(Phalaenoptilus nuttallii)* PSOC

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

Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3**

Predicted Models: M 2% Moderate (inductive), L 57% Low (inductive)

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

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

Species of Concern - Native Species Global: **G4** State: **S3** FWP SWAP: **SGCN3**

Predicted Models: M 2% Moderate (inductive), L 14% Low (inductive)

V - Lilium philadelphicum *(Wood Lily)* SOC

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

Species of Concern - Native Species Global: **G5** State: **S3** Plant Threat Score: **Low** CCVI: **Less Vulnerable**

Predicted Models: M 2% Moderate (inductive), L 10% Low (inductive)

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

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

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

Predicted Models: M 1% Moderate (inductive), L 66% Low (inductive)

B - Pinyon Jay *(Gymnorhinus cyanocephalus)* **SOC** Y

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

Species of Concern - Native Species Global: **G3** State: **S3** USFWS: **MBTA; BCC10; BCC17** FWP SWAP: **SGCN3**

Predicted Models: M 1% Moderate (inductive), L 36% Low (inductive)

V - Gratiola ebracteata *(Bractless Hedge-hyssop)* **SOC** Y

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

Species of Concern - Native Species Global: **G4** State: **S2** Plant Threat Score: **No Known Threats** CCVI: **Moderately Vulnerable**

Predicted Models: M 1% Moderate (inductive), L 10% Low (inductive)

V - Dichanthelium acuminatum *(Panic Grass)* **SOC** Y

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

Species of Concern - Native Species Global: **G5** State: **S2S3** Plant Threat Score: **Unknown**

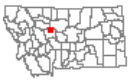
Predicted Models: M 1% Moderate (inductive), L 1% Low (inductive)

M - Canada Lynx *(Lynx canadensis)* **SOC** 7 Not Assessed Y

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **LT; CH** BLM: **THREATENED** FWP SWAP: **SGCN3**

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47.34198	-111.08356
47.61623	-111.47196

Structured Surveys

Summarized by: **25mt0002 GreatFalls** *(Custom Area of Interest)*

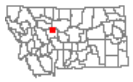
The Montana Natural Heritage Program (MTNHP) records information on the locations where more than 80 different types of well-defined repeatable survey protocols capable of detecting an animal species or suite of animal species have been conducted by state, federal, tribal, university, or private consulting 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.

A-Nocturnal Calling Amphibian *(Nocturnal Breeding Amphibian Calling Survey)*	**Survey Count**: 2	**Obs Count**: 2	**Recent Survey**: 2007
B-Bald Eagle Nest *(Bald Eagle Nest Survey)*	**Survey Count**: 68	**Obs Count**: 58	**Recent Survey**: 2014
B-BBS *(Breeding Bird Survey Stop)*	**Survey Count**: 171	**Obs Count**: 868	**Recent Survey**: 2007
B-Cuckoo Playback Survey *(Riparian Playback Surveys for Cuckoos)*	**Survey Count**: 6	**Obs Count**:	**Recent Survey**: 2012
B-Long-billed Curlew *(Long-billed Curlew, Road-based, Point Count)*	**Survey Count**: 20	**Obs Count**: 1	**Recent Survey**: 2015
B-Point Count *(Bird Point Count)*	**Survey Count**: 28	**Obs Count**: 733	**Recent Survey**: 2008
B-Waterbird/Shorebird *(Colonial-nesting Waterbird/Shorebird/Waterfowl Surveys)*	**Survey Count**: 2	**Obs Count**: 3	**Recent Survey**: 2014
B-Winter Breeding Owl *(Late Winter Breeding Owl Survey)*	**Survey Count**: 4	**Obs Count**: 3	**Recent Survey**: 2014
E-Eastern Heath Snail *(Eastern Heath Snail Survey)*	**Survey Count**: 158	**Obs Count**: 64	**Recent Survey**: 2022
E-Eurasian Water-milfoil Rake *(Rake tows/pulls for Eurasian Water-milfoil)*	**Survey Count**: 59	**Obs Count**: 114	**Recent Survey**: 2023
E-Invasive Mussel Plankton Tow *(Plankton tows for veligers of Invasive Mussels)*	**Survey Count**: 76	**Obs Count**:	**Recent Survey**: 2023
E-Invasive Mussel Substrate *(Artificial Substrate for Invasive Mussels)*	**Survey Count**: 1	**Obs Count**:	**Recent Survey**: 2017
E-Kicknet *(Kicknet Collection Survey for Invasive Mussels and Snails)*	**Survey Count**: 93	**Obs Count**: 37	**Recent Survey**: 2023
E-Noxious Weed, Road-based *(Noxious Weed Road-based Visual Surveys)*	**Survey Count**: 140	**Obs Count**: 461	**Recent Survey**: 2004
E-Noxious Weed, Visual *(Noxious Weed Visual Surveys)*	**Survey Count**: 3	**Obs Count**: 95	**Recent Survey**: 2009
E-Visual Aquatic Invasives *(Visual Encounter Surveys for Aquatic Invasives on Shorelines or Underwater)*	**Survey Count**: 89	**Obs Count**: 30	**Recent Survey**: 2023
F-Fish Trapping/Netting *(Fish Trapping or Netting Surveys)*	**Survey Count**: 14	**Obs Count**: 91	**Recent Survey**: 2022
I-Bumble Bee *(Bumble Bee Collection Surveys)*	**Survey Count**: 1	**Obs Count**: 1	**Recent Survey**: 1994
I-Crayfish *(Crayfish Survey)*	**Survey Count**: 2	**Obs Count**: 2	**Recent Survey**: 2001
I-Mosquito Traps *(Montana Mosquito Surveillance Project)*	**Survey Count**: 4	**Obs Count**: 18	**Recent Survey**: 2016
I-Mussel *(Stream Mussel Survey)*	**Survey Count**: 2	**Obs Count**: 1	**Recent Survey**: 2009
M-Bat Mistnet *(Bat Mistnet Survey)*	**Survey Count**: 3	**Obs Count**: 3	**Recent Survey**: 2009
M-Bat Roost (Active Season) *(Bat Roost (Active Season) Survey)*	**Survey Count**: 1	**Obs Count**: 2	**Recent Survey**: 2004
P-Algal scraping *(Algal Scraping)*	**Survey Count**: 2	**Obs Count**: 173	**Recent Survey**: 2015

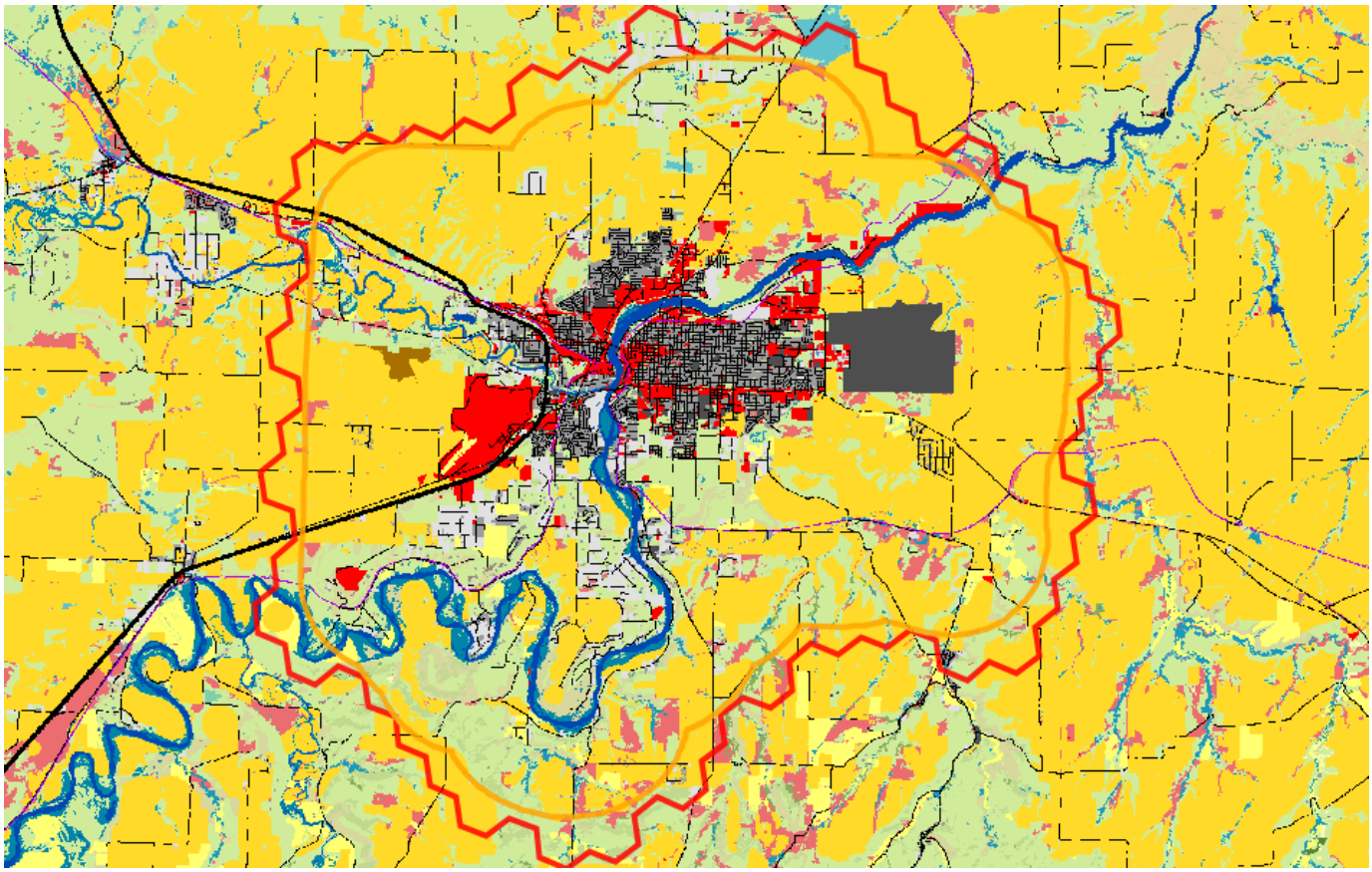
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Land Cover

Summarized by: **25mt0002 GreatFalls** *(Custom Area of Interest)*





45% (*66,302 Acres*)

Human Land Use
Agriculture
Cultivated Crops

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



21% (*30,755 Acres*)

Grassland Systems
Lowland/Prairie Grassland
Great Plains Mixedgrass Prairie

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

No Image

5% (*7,372 Acres*)

Human Land Use
Developed
Other Roads

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



4% (*5,817 Acres*)

Human Land Use
Developed

Low Intensity Residential

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

No Image

4% (*5,616 Acres*)

Human Land Use
Developed

Commercial / Industrial

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



4% (*5,285 Acres*)

Human Land Use
Developed

Developed, Open Space

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



3% (*4,291 Acres*)

Recently Disturbed or Modified
Introduced Vegetation

Introduced Upland Vegetation - Annual and Biennial Forbland

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



3% (*3,706 Acres*)

Human Land Use
Developed

High Intensity Residential

Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50-80% of the total cover. These areas most commonly include single-family housing units in urban areas. Paved roadways, parking lots, and other large impervious surfaces may be classified into this category.



2% (*3,538 Acres*)

Grassland Systems
Lowland/Prairie Grassland

Great Plains Sand Prairie

The sand prairies constitute a very unique system within the western Great Plains. The unifying and controlling feature for this system is that coarse-textured soils predominate and the dominant grasses are well-adapted to this condition. In the northwestern portion of the systemâ€™s range, stand size corresponds to the area of exposed caprock sandstone, and small patches predominate, but larger patches are found embedded in the encompassing Great Plains Mixed Grass Prairie, and usually occupy higher positions in local landscapes where former caprock formations have eroded into more subdued and planar topography. In most of eastern Montana, substrates supporting this system have weathered in place from sandstone caprock. Soils can be relatively thin or deep due to varying amounts of downslope movement of weathered sands. Needle and thread (*Hesperostipa comata*) is the dominant grass species. Other frequent species include little bluestem (*Schizachyrium scoparium*), often occurring with threadleaf sedge (*Carex filifolia*) and dominating both sandy sites and actively eroding sites. Prairie sandreed (*Calamovilfa longifolia*), sand bluestem (*Andropogon hallii*) and big bluestem (*Andropogon gerardii*) are sporadically distributed and found generally on the coarsest-textured sands. Other graminoids include bluebunch wheatgrass (*Pseudoroegneria spicata*), sun sedge (*Carex inops ssp. heliophila*), and purple threeawn (*Aristida purpurea*). Characteristic forbs differ by occurrence, but species of scurf pea (*Psoralidium* species) and Indian breadroot (*Pediomelum*) species are common. Communities of silver sage (*Artemisia cana* ssp. *cana*) or skunkbush sumac (*Rhus trilobata*) can occur within this system. Wind erosion, fire and grazing constitute the other major dynamic processes that can influence this system.



2% (*3,118 Acres*)

Wetland and Riparian Systems
Open Water

Open Water

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



2% (*2,820 Acres*)

Wetland and Riparian Systems
Floodplain and Riparian

Great Plains Floodplain

This system occurs along the Missouri and Yellowstone Rivers and their larger tributaries, including parts of the Little Missouri, Clarkâ€™s Fork Yellowstone, Powder, Tongue, Bighorn, Milk, and Musselshell rivers. These are the big perennial rivers of the region, with hydrologic dynamics largely driven by snowmelt and rainfall originating in their headwater watersheds, rather than local precipitation events. In the absence of disturbance, periodic flooding of fluvial and alluvial soils and channel migration will create depressions and backwaters that support a mosaic of wetland and riparian vegetation, whose composition and structure is sustained, altered and redistributed by hydrology. Dominant communities within this system range from floodplain forests to wet meadows to gravel/sand flats, linked by underlying soils and flooding regimes. In the western part of the systemâ€™s range in Montana, the overstory dominant species is black cottonwood (*Populus balsamifera ssp. trichocarpa*) with narrowleaf cottonwood *(Populus angustifolia)* and eastern cottonwood (*Populus deltoides)* occurring as co-dominants in the riparian/floodplain interface near the mountains. Further east, narrowleaf cottonwood and Plains cottonwood become dominant. In relatively undisturbed stands, willow (*Salix* species), redosier dogwood (*Cornus sericea*) and common chokecherry (*Prunus virginiana*) form a thick, multi-layered shrub understory, with a mixture of cool and warm season graminoid species below.

In Montana, many occurrences are now degraded to the point where the cottonwood overstory is the only remaining natural component. The hydrology of these floodplain systems has been affected by dams, highways, railroads and agricultural ditches, and as a result, they have lost their characteristic wetland /riparian mosaic structure. This has resulted in a highly altered community consisting of relict cottonwood stands with little regeneration. The understory vegetation is dominated by non-native pasture grasses, legumes and other introduced forbs, or by the disclimax western snowberry (*Symphoricarpos occidentalis*) and rose (*Rosa* species) shrub community.



2% (*2,245 Acres*)

Human Land Use
Agriculture

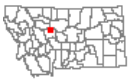
Pasture/Hay

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

Additional Limited Land Cover

1% (*1,783 Acres*) Great Plains Shrubland
1% (*950 Acres*) Great Plains Riparian
1% (*794 Acres*) Interstate
<1% (*641 Acres*) Major Roads
<1% (*641 Acres*) Railroad
<1% (*458 Acres*) Great Plains Saline Depression Wetland
<1% (*311 Acres*) Quarries, Strip Mines and Gravel Pits
<1% (*227 Acres*) Great Plains Wooded Draw and Ravine
<1% (*132 Acres*) Great Plains Badlands
<1% (*61 Acres*) Great Plains Closed Depressional Wetland
<1% (*58 Acres*) Great Plains Cliff and Outcrop
<1% (*31 Acres*) Introduced Riparian and Wetland Vegetation
<1% (*24 Acres*) Emergent Marsh
<1% (*21 Acres*) Big Sagebrush Steppe
<1% (*13 Acres*) Greasewood Flat
<1% (*11 Acres*) Rocky Mountain Foothill Woodland-Steppe Transition
<1% (*10 Acres*) Great Plains Open Freshwater Depression Wetland
<1% (*1 Acres*) Wind Turbine

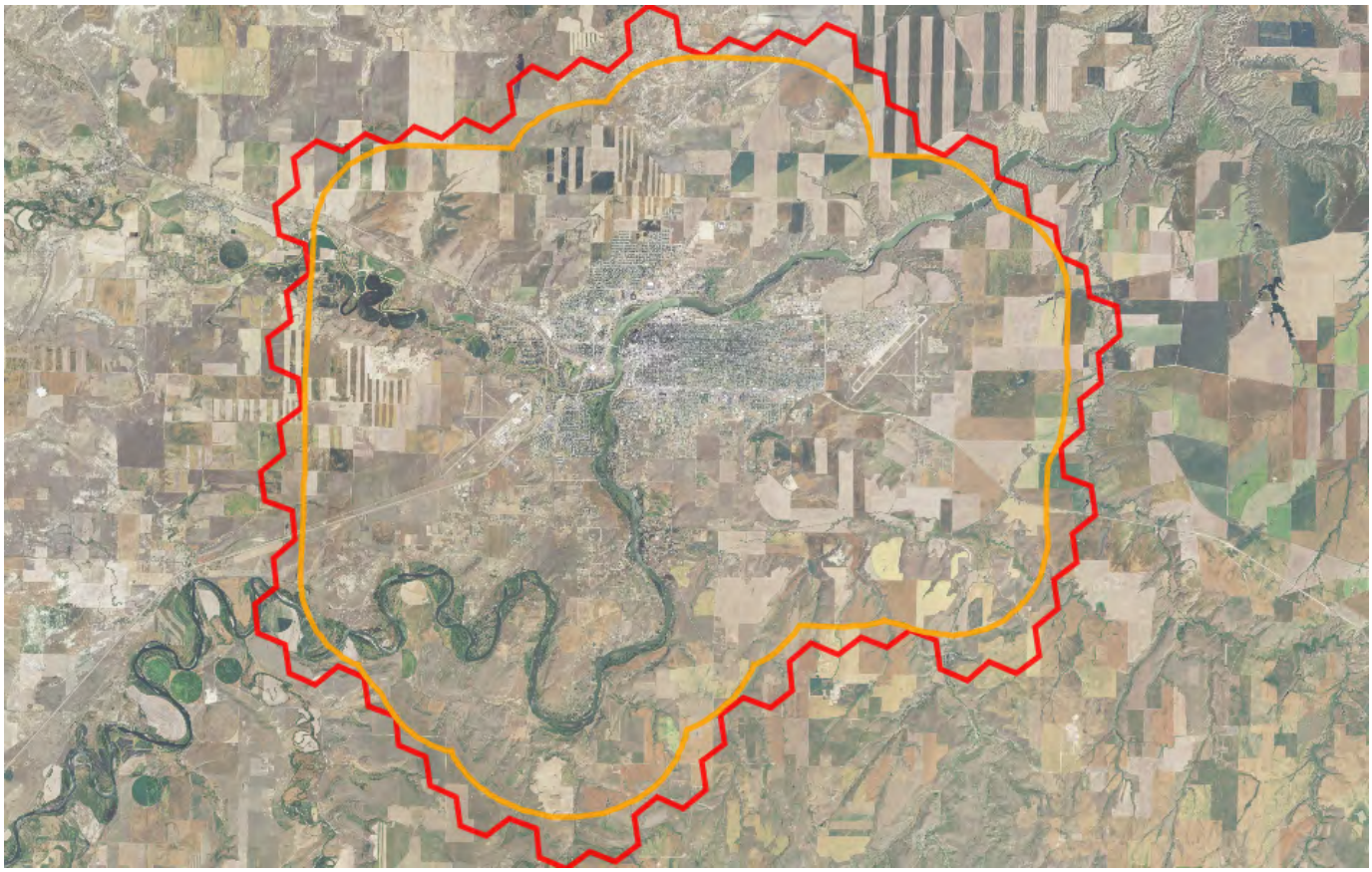
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47.34198	-111.08356
47.61623	-111.47196

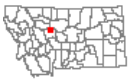
Wetland and Riparian

Summarized by: **25mt0002 GreatFalls** *(Custom Area of Interest)*



No Wetland records were found in the selected area

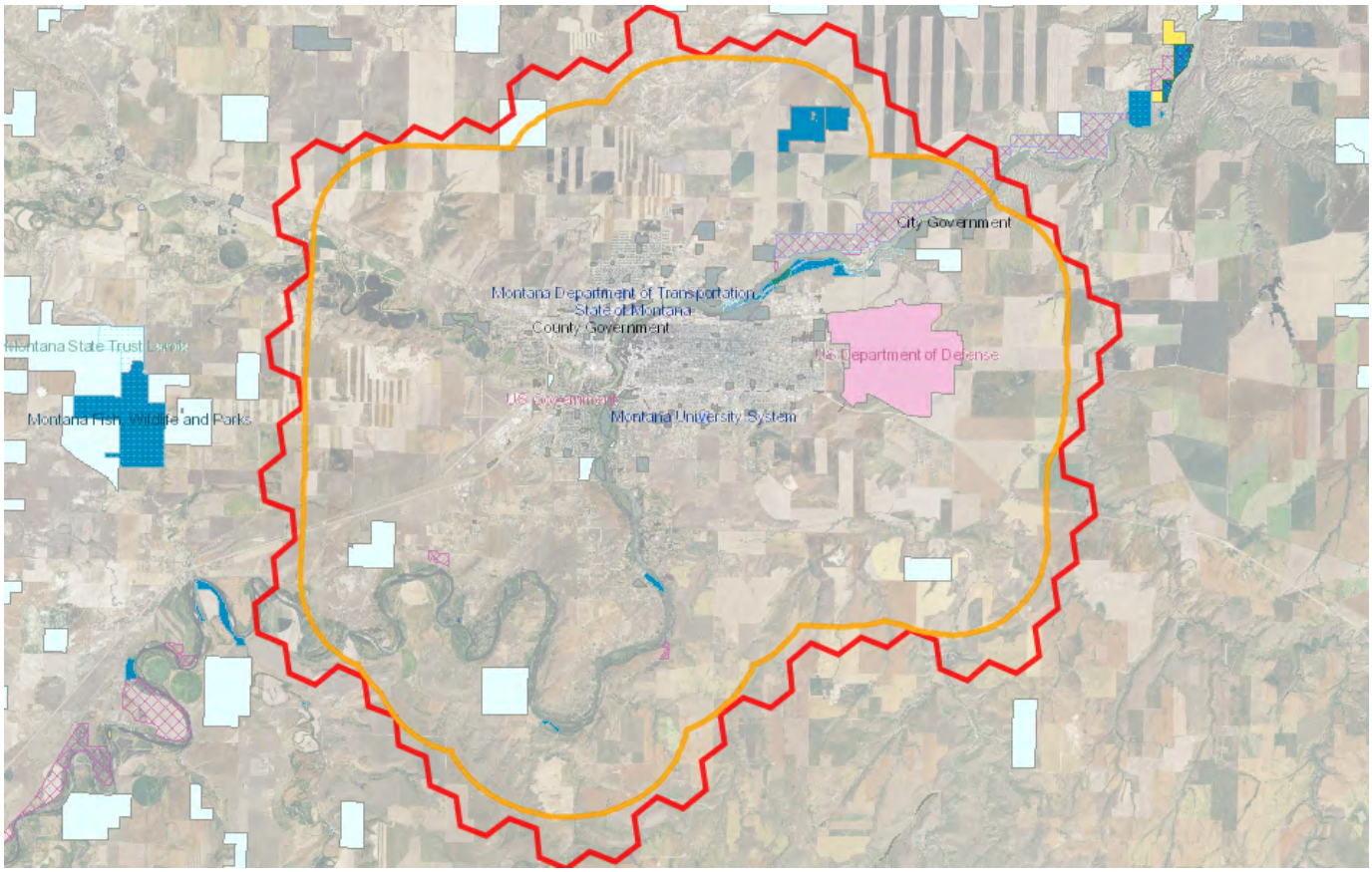
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Land Management

Summarized by: **25mt0002 GreatFalls** *(Custom Area of Interest)*



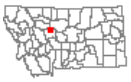
Land Management Summary

	Ownership	Tribal	Easements	Other Boundaries (possible overlap)
Public Lands	**8,857 Acres (6%)**			
Federal	**3,275 Acres (2%)**			
US Forest Service				
USFS Ranger Districts				**27 Acres**
Helena-Lewis & Clark National Forest, Belt Creek Ranger District				27 Acres
USFS National Forest Boundaries				**27 Acres**
Helena-Lewis & Clark National Forest				27 Acres
US Department of Defense	**3,267 Acres (2%)**			
USDOD Owned	**3,267 Acres (2%)**			
US Government	**8 Acres (<1%)**			
US Government Owned	**8 Acres (<1%)**			
State	**3,430 Acres (2%)**			
Montana State Trust Lands	**2,400 Acres (2%)**			
MT State Trust Owned	**2,400 Acres (2%)**			
Montana Fish, Wildlife and Parks	**932 Acres (1%)**			
MTFWP Owned	**932 Acres (1%)**			
MTFWP State Parks				**1,912 Acres**
Giant Springs State Park				1,912 Acres
MTFWP Fishing Access Sites				**59 Acres**
Big Bend Fishing Access Site				17 Acres
White Bear Fishing Access Site				42 Acres
Montana University System	**36 Acres (<1%)**			
MUS Owned	**36 Acres (<1%)**			
Montana Department of Transportation	**42 Acres (<1%)**			
MTDOT Owned	**42 Acres (<1%)**			
State of Montana	**20 Acres (<1%)**			
State of Montana Owned	**20 Acres (<1%)**			
Local	**2,152 Acres (1%)**			
Local Government	**2,152 Acres (1%)**			
Local Government Owned	**2,152 Acres (1%)**			

Land Management Summary

	Ownership	Tribal	Easements	Other Boundaries (possible overlap)
Conservation Easements			1,607 Acres (1%)	
Private			82 Acres (<1%)	
Montana Land Reliance			82 Acres (<1%)	
State & Local			1,525 Acres (1%)	
Montana Fish, Wildlife and Parks			1,525 Acres (1%)	
Private Lands or Unknown Ownership	136,568 Acres (93%)			

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Biological Reports

Summarized by: **25mt0002 GreatFalls** *(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

- Cobell, B. and R. Wagner. 2002. ***An evaluation of the terrestrial and aquatic resources of Malmstrom Air Force Base***. USFWS - Montana Fish and Wildlife Management Assistance Office. 28 pgs + append.
- Grisak, Grant. 2010. ***First report of a freshwater jelly fish in Montana***
- Rogers, Ralph and Jay Sumner. 2004. Montana Peregrine Falcon Survey. Centmont Bioconsultants. Winifred, Montana. 32 pp plus appendix.
- Walcheck, K.C. 1999. ***The Lewis and Clark Expedition: Montana's First Bird Inventory Through the Eyes of Lewis and Clark***. Lewis and Clark Interpretive Association. 48 pp.

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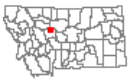
Legend

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

Habitat Icons
- C Common
- O Occasional

Range Icons
- N Non-native

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



Latitude	Longitude
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Invasive and Pest Species

Summarized by: **25mt0002 GreatFalls** *(Custom Area of Interest)*

	# Obs	Predicted Model	Range
Aquatic Invasive Species			
V - Potamogeton crispus *(Curly-leaf Pondweed)* **N2B/AIS**	23		N
View in Field Guide **View Predicted Models** **View Range Maps**			
Noxious Weed: Priority 2B - Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**			
Predicted Models: O 6% Optimal (inductive), M 12% Moderate (inductive), L 21% Low (inductive)			
V - Butomus umbellatus *(Flowering-rush)* **N2A/AIS**			N
View in Field Guide **View Predicted Models** **View Range Maps**			
Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**			
Predicted Models: O 1% Optimal (inductive), M 3% Moderate (inductive), L 19% Low (inductive)			
V - Myriophyllum spicatum *(Eurasian Water-milfoil)* **N2A/AIS**			N
View in Field Guide **View Predicted Models** **View Range Maps**			
Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: **GNR** State: **SNA**			
Predicted Models: M 3% Moderate (inductive), L 26% Low (inductive)			
V - Nymphaea odorata *(American Water-lily)* **AIS**			N
View in Field Guide **View Predicted Models** **View Range Maps**			
Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**			
Predicted Models: I 65% Suitable (introduced range) (deductive)			
F - Common Carp *(Cyprinus carpio)* **AIS**	10 +		N
View in Field Guide **View Predicted Models** **View Range Maps**			
Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**			
Predicted Models: I 23% Suitable (introduced range) (deductive)			
I - Faxonius virilis *(Virile Crayfish)* **AIS**	21	Not Assessed	N
View in Field Guide **View Range Maps**			
Aquatic Invasive Species - Native/Non-native Species - (depends on location or taxa) Global: **G5** State: **S5**			
I - Potamopyrgus antipodarum *(New Zealand Mudsnail)* **AIS**	6	Not Assessed	
View in Field Guide			
Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**			
Noxious Weeds: Priority 1A			
V - Centaurea solstitialis *(Yellow Starthistle)* **N1A**			N
View in Field Guide **View Predicted Models** **View Range Maps**			
Noxious Weed: Priority 1A - Non-native Species Global: **GNR** State: **SNA**			
Predicted Models: O 24% Optimal (inductive), M 23% Moderate (inductive), L 24% Low (inductive)			
V - Isatis tinctoria *(Dyer's Woad)* **N1A**			N
View in Field Guide **View Predicted Models** **View Range Maps**			
Noxious Weed: Priority 1A - Non-native Species Global: **GNR** State: **SNA**			
Predicted Models: O 19% Optimal (inductive), M 24% Moderate (inductive), L 36% Low (inductive)			
V - Phragmites australis ssp. australis *(European Common Reed)* **N1A**			N
View in Field Guide **View Predicted Models** **View Range Maps**			
Noxious Weed: Priority 1A - Non-native Species Global: **G5T5** State: **SNA**			
Predicted Models: M 10% Moderate (inductive), L 29% Low (inductive)			
V - Taeniatherum caput-medusae *(Medusahead)* **N1A**			N
View in Field Guide **View Predicted Models** **View Range Maps**			
Noxious Weed: Priority 1A - Non-native Species Global: **G4G5** State: **SNA**			
Predicted Models: M 4% Moderate (inductive), L 63% Low (inductive)			
Noxious Weeds: Priority 1B			
V - Lythrum salicaria *(Purple Loosestrife)* **N1B**	21		N
View in Field Guide **View Predicted Models** **View Range Maps**			
Noxious Weed: Priority 1B - Non-native Species Global: **G5** State: **SNA**			
Predicted Models: O 27% Optimal (inductive), M 22% Moderate (inductive), L 31% Low (inductive)			
V - Polygonum cuspidatum *(Japanese Knotweed)* **N1B**			N
View in Field Guide **View Predicted Models** **View Range Maps**			
Noxious Weed: Priority 1B - Non-native Species Global: **GNRTNR** State: **SNA**			
Predicted Models: O 13% Optimal (inductive), M 12% Moderate (inductive), L 29% Low (inductive)			

V - Polygonum x bohemicum *(Bohemian Knotweed)* **N1B**

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

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

Predicted Models: O 4% Optimal (inductive), M 3% Moderate (inductive), L 19% Low (inductive)

V - Cytisus scoparius *(Scotch Broom)* **N1B**

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

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

Predicted Models: M 12% Moderate (inductive), L 34% Low (inductive)

V - Chondrilla juncea *(Rush Skeletonweed)* **N1B**

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

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

Predicted Models: M 1% Moderate (inductive), L 37% Low (inductive)

V - Echium vulgare *(Blueweed)* **N1B**

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

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

Predicted Models: M 1% Moderate (inductive), L 30% Low (inductive)

Noxious Weeds: Priority 2A

V - Rhamnus cathartica *(Common Buckthorn)* **N2A** 3

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

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

Predicted Models: O 23% Optimal (inductive), M 17% Moderate (inductive), L 23% Low (inductive)

V - Lepidium latifolium *(Perennial Pepperweed)* **N2A**

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

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

Predicted Models: O 1% Optimal (inductive), M 11% Moderate (inductive), L 66% Low (inductive)

V - Butomus umbellatus *(Flowering-rush)* **N2A/AIS**

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

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

Predicted Models: O 1% Optimal (inductive), M 3% Moderate (inductive), L 19% Low (inductive)

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

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

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

Predicted Models: M 51% Moderate (inductive), L 49% Low (inductive)

V - Hieracium piloselloides *(Tall Hawkweed)* **N2A**

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

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

Predicted Models: M 17% Moderate (inductive), L 3% Low (inductive)

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

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

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

Predicted Models: M 9% Moderate (inductive), L 14% Low (inductive)

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

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

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

Predicted Models: M 3% Moderate (inductive), L 26% Low (inductive)

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

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

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

Predicted Models: L 30% Low (inductive)

Noxious Weeds: Priority 2B

V - Lepidium draba *(Whitetop)* **N2B** 14

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

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

Predicted Models: O 27% Optimal (inductive), M 49% Moderate (inductive), L 24% Low (inductive)

V - Linaria dalmatica *(Dalmatian Toadflax)* **N2B** 27

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

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

Predicted Models: O 15% Optimal (inductive), M 50% Moderate (inductive), L 31% Low (inductive)

V - Convolvulus arvensis *(Field Bindweed)* **N2B** 76

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

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

Predicted Models: O 9% Optimal (inductive), M 47% Moderate (inductive), L 43% Low (inductive)

V - Potamogeton crispus *(Curly-leaf Pondweed)* **N2B/AIS** 23

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

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

Predicted Models: O 6% Optimal (inductive), M 12% Moderate (inductive), L 21% Low (inductive)

V - Centaurea diffusa *(Diffuse Knapweed)* N2B

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

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

Predicted Models: O 2% Optimal (inductive), M 48% Moderate (inductive), L 22% Low (inductive)

V - Berteroa incana *(Hoary False-alyssum)* N2B — 4

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

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

Predicted Models: O 1% Optimal (inductive), M 22% Moderate (inductive), L 33% Low (inductive)

V - Tanacetum vulgare *(Common Tansy)* N2B — 1

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

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

Predicted Models: O 1% Optimal (inductive), M 15% Moderate (inductive), L 35% Low (inductive)

V - Centaurea stoebe *(Spotted Knapweed)* N2B — 131

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

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

Predicted Models: M 63% Moderate (inductive), L 36% Low (inductive)

V - Euphorbia virgata *(Leafy Spurge)* N2B — 128

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

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

Predicted Models: M 49% Moderate (inductive), L 50% Low (inductive)

V - Cirsium arvense *(Canada Thistle)* N2B — 169

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

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

Predicted Models: M 47% Moderate (inductive), L 53% Low (inductive)

V - Cynoglossum officinale *(Common Hound's-tongue)* N2B — 53

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

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

Predicted Models: M 41% Moderate (inductive), L 39% Low (inductive)

V - Acroptilon repens *(Russian Knapweed)* N2B

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

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

Predicted Models: M 31% Moderate (inductive), L 55% Low (inductive)

V - Tamarix ramosissima *(Salt Cedar)* N2B

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

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

Predicted Models: M 11% Moderate (inductive), L 44% Low (inductive)

V - Potentilla recta *(Sulphur Cinquefoil)* N2B — 9

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

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

Predicted Models: L 63% Low (inductive)

V - Leucanthemum vulgare *(Oxeye Daisy)* N2B

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

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

Predicted Models: L 34% Low (inductive)

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

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

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

Predicted Models: L 31% Low (inductive)

V - Linaria vulgaris *(Yellow Toadflax)* N2B

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

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

Predicted Models: L 31% Low (inductive)

Regulated Weeds: Priority 3

V - Elaeagnus angustifolia *(Russian Olive)* R3 — 18

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

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

Predicted Models: M 10% Moderate (inductive), L 51% Low (inductive)

V - Bromus tectorum *(Cheatgrass)* R3 — 3

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

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

Predicted Models: M 3% Moderate (inductive), L 65% Low (inductive)

Forest Pests

I - Leucoma salicis *(Satin Moth)* PESTF — 1 — Not Assessed

View in Field Guide

Forest Pest - Native Species Global: **GNR** State: **SNR**

Agricultural Pests

I - Xerolenta obvia *(Eastern Heath Snail)* **PESTA** 68 N

View in Field Guide **View Predicted Models** **View Range Maps**
Agricultural Pest - Non-native Species Global: **G5** State: **SNA**
Predicted Models: O 25% Optimal (inductive), M 20% Moderate (inductive), L 34% Low (inductive)

Biocontrol Species

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

View in Field Guide **View Predicted Models** **View Range Maps**
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 3% Optimal (inductive), M 27% Moderate (inductive), L 18% Low (inductive)

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

View in Field Guide **View Predicted Models** **View Range Maps**
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 3% Optimal (inductive), M 19% Moderate (inductive), L 36% Low (inductive)

I - Cyphocleonus achates *(Knapweed Root Weevil)* **BIOCNTRL** 2 N

View in Field Guide **View Predicted Models** **View Range Maps**
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 2% Optimal (inductive), M 30% Moderate (inductive), L 42% Low (inductive)

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

View in Field Guide **View Predicted Models** **View Range Maps**
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 48% Moderate (inductive), L 15% Low (inductive)

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

View in Field Guide **View Predicted Models** **View Range Maps**
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 27% Moderate (inductive), L 71% Low (inductive)

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

View in Field Guide **View Predicted Models** **View Range Maps**
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 10% Moderate (inductive), L 27% Low (inductive)

I - Hyles euphorbiae *(Spurge Hawkmoth)* **BIOCNTRL** 3 Not Assessed N

View in Field Guide **View Range Maps**
Biocontrol Species - Non-native Species Global: **G5** State: **SNA**

I - Hylobius transversovittatus *(Goeze Root-boring Weevil)* **BIOCNTRL** 2 Not Assessed

View in Field Guide
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

I - Neogalerucella calmariensis *(Black-margined Loosestrife Beetle)* **BIOCNTRL** 2 Not Assessed

View in Field Guide
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Introduction to Montana Natural Heritage Program

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

Introduction

The Montana Natural Heritage Program (MTNHP) is Montana's source for reliable and objective information on Montana's native species and habitats, emphasizing those of conservation concern. MTNHP was created by the Montana legislature in 1983 as part of the Natural Resource Information System (NRIS) at the Montana State Library (MSL). MTNHP is "a program of information acquisition, storage, and retrieval for data relating to the flora, fauna, and biological community types of Montana" (MCA 90-15-102). MTNHP's activities are guided by statute as well as through ongoing interaction with, and feedback from, principal data source agencies such as Montana Fish, Wildlife, and Parks, the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation, the Montana University System, the US Forest Service, and the US Bureau of Land Management. Since the first staff was hired in 1985, the Program has logged a long record of success, and developed into a highly respected, service-oriented program. MTNHP is widely recognized as one of the most advanced and effective of over 60 natural heritage programs that are distributed across North America.

Vision

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

Core Values

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

Confidentiality

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

Information Managed

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

Data Use Terms and Conditions

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

Suggested Contacts for Natural Resource Management Agencies

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

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

Montana Fish, Wildlife, and Parks

Fish Species	Zachary Shattuck zshattuck@mt.gov (406) 444-1231 or Eric Roberts eroberts@mt.gov (406) 444-5334
American Bison Black-footed Ferret Black-tailed Prairie Dog Bald Eagle Golden Eagle Common Loon Least Tern Piping Plover Whooping Crane	Kristina Smucker KSmucker@mt.gov (406) 444-5209
Grizzly Bear Greater Sage Grouse Trumpeter Swan Big Game Upland Game Birds Furbearers	Brian Wakeling brian.wakeling@mt.gov (406) 444-3940
Managed Terrestrial Game Data	Adam Messer – MFWP GIS Coordinator amesser@mt.gov (406) 444-0095
Fisheries Data and Nongame Animal Data	Adam Messer – MFWP GIS Coordinator amesser@mt.gov (406) 444-0095
Wildlife and Fisheries Scientific Collector's Permits	https://fwp.mt.gov/buyandapply/commercialwildlifeandscientificpermits/scientific Kristina Smucker for Wildlife ksmucker@mt.gov (406) 444-5209 Dave Schmetterling for Fisheries dschmetterling@mt.gov (406) 542-5514
Fish and Wildlife Recommendations for Subdivision Development	Stevie Burton stevie.burton@mt.gov (406) 594-7354 See https://fwp.mt.gov/conservation/living-with-wildlife/subdivision-recommendations
Regional Contacts  	Region 1 (Kalispell) (406) 752-5501 fwprg12@mt.gov Region 2 (Missoula) (406) 542-5500 fwprg22@mt.gov Region 3 (Bozeman) (406) 577-7900 fwprg3@mt.gov Region 4 (Great Falls) (406) 454-5840 fwprg42@mt.gov Region 5 (Billings) (406) 247-2940 fwprg52@mt.gov Region 6 (Glasgow) (406) 228-3700 fwprg62@mt.gov Region 7 (Miles City) (406) 234-0900 fwprg72@mt.gov

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

Montana Department of Environmental Quality
Permitting and Operator Assistance for all Environmental Permits: https://deq.mt.gov/Permitting
Opencut Mining Web Mapping Application for review of opencut mining applications
https://gis.mtdeq.us/portal/apps/webappviewer/index.html?id=7b60084bc4c444a19c9a7a0867e7635a

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

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

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

Bureau of Land Management

Montana Field Office Contacts:



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

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

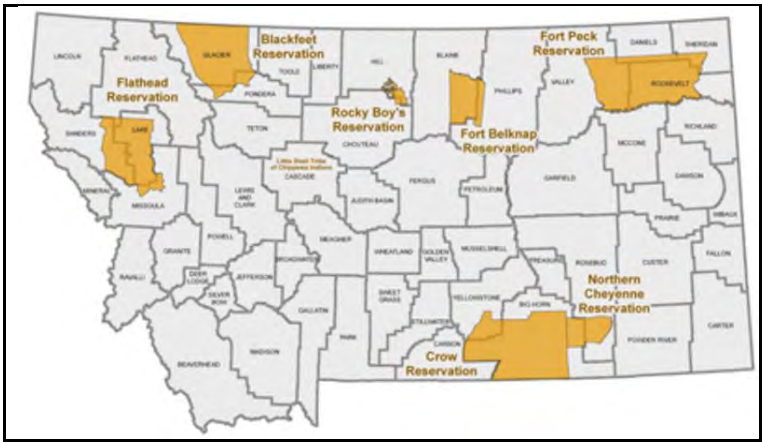
United States Environmental Protection Agency
Environmental information, notices, permitting, and contacts https://www.epa.gov/mt
Gateway to state resource locators https://www.envcap.org/srl/index.php

United States Fish and Wildlife Service
Information Planning and Conservation (IPAC) website: https://ipac.ecosphere.fws.gov
Montana Ecological Services Field Office: https://www.fws.gov/office/montana-ecological-services (406) 449-5225

United States Forest Service

Regional Office – Missoula, Montana Contacts			
Wildlife Program Leader	Tammy Fletcher	tammy.fletcher2@usda.gov	(406) 329-3086
Aquatic Ecologist	Justin Jimenez	justin.jimenez@usda.gov	(435) 370-6830
TES Program	Lydia Allen	lydia.allen@usda.gov	(406) 329-3558
Interagency Grizzly Bear Coordinator	Scott Jackson	scott.jackson@usda.gov	(406) 329-3664
Regional Botanist	Amanda Hendrix	amanda.hendrix@usda.gov	(651) 447-3016
Regional Vegetation Ecologist	Mary Manning	marry.manning@usda.gov	(406) 329-3304
Invasive Species Program Manager	Michelle Cox	michelle.cox2@usda.gov	(406) 329-3669

Tribal Nations



[Assiniboine & Gros Ventre Tribes – Fort Belknap Reservation]

[Assiniboine & Sioux Tribes – Fort Peck Reservation]

[Blackfeet Tribe - Blackfeet Reservation]

[Chippewa Creek Tribe - Rocky Boy's Reservation]

[Crow Tribe – Crow Reservation]

[Little Shell Chippewa Tribe]

[Northern Cheyenne Tribe – Northern Cheyenne Reservation]

[Salish & Kootenai Tribes - Flathead Reservation]

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

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

Invasive Species Management Contacts and Information

Aquatic Invasive Species

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

Noxious Weeds

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

Introduction to Native Species

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

If you are aware of observation datasets that the MTNHP is missing, please report them to the Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov If you have animal or plant observations that you would like to contribute, you can also submit them via Excel spreadsheets, geodatabases, iNaturalist, or a Survey123 form. Various methods of data submission are reviewed in this playlist of videos: https://www.youtube.com/playlist?list=PLRaydtZpHu2qOHPoSPq9cnM9uXGmEXACx

Observations

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

Species Occurrences

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

Plant Species Occurrences

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

Animal Species Occurrences

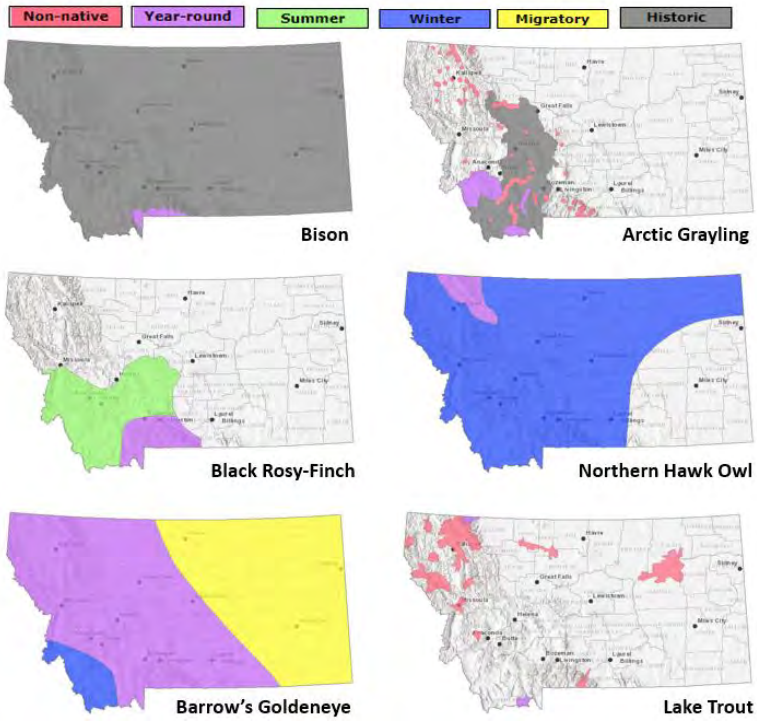
The location of a verified observation or specimen record typically known or assumed to represent a breeding population or a portion of a breeding population. Animal SO's are generally: (1) buffers of terrestrial point observations based on documented species' home range sizes; (2) buffers of stream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

Other Occurrence Polygons

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

Geographic Range Polygons

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



Predicted Suitable Habitat Models

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

Associated Habitats

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

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

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

Introduction to Land Cover

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

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

Literature Cited

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

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

Introduction to Wetland and Riparian

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

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

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

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

Literature Cited

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

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

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

Introduction to Land Management

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

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

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

Public Lands
Conservation Easements
Private Conservation Lands
Managed Areas

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

Introduction to Invasive and Pest Species

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

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

If you are aware of observation or survey datasets for invasive or pest species that the MTNHP is missing, please report them to the Program Coordinator bmaxell@mt.gov Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov If you have animal or plant observations that you would like to contribute, you can also submit them via Excel spreadsheets, geodatabases, iNaturalist, or a Survey123 form. Various methods of data submission are reviewed in this playlist of videos:
https://www.youtube.com/playlist?list=PLRaydtZpHu2qOHPoSPq9cnM9uXGmEXACx

Additional Information Resources

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

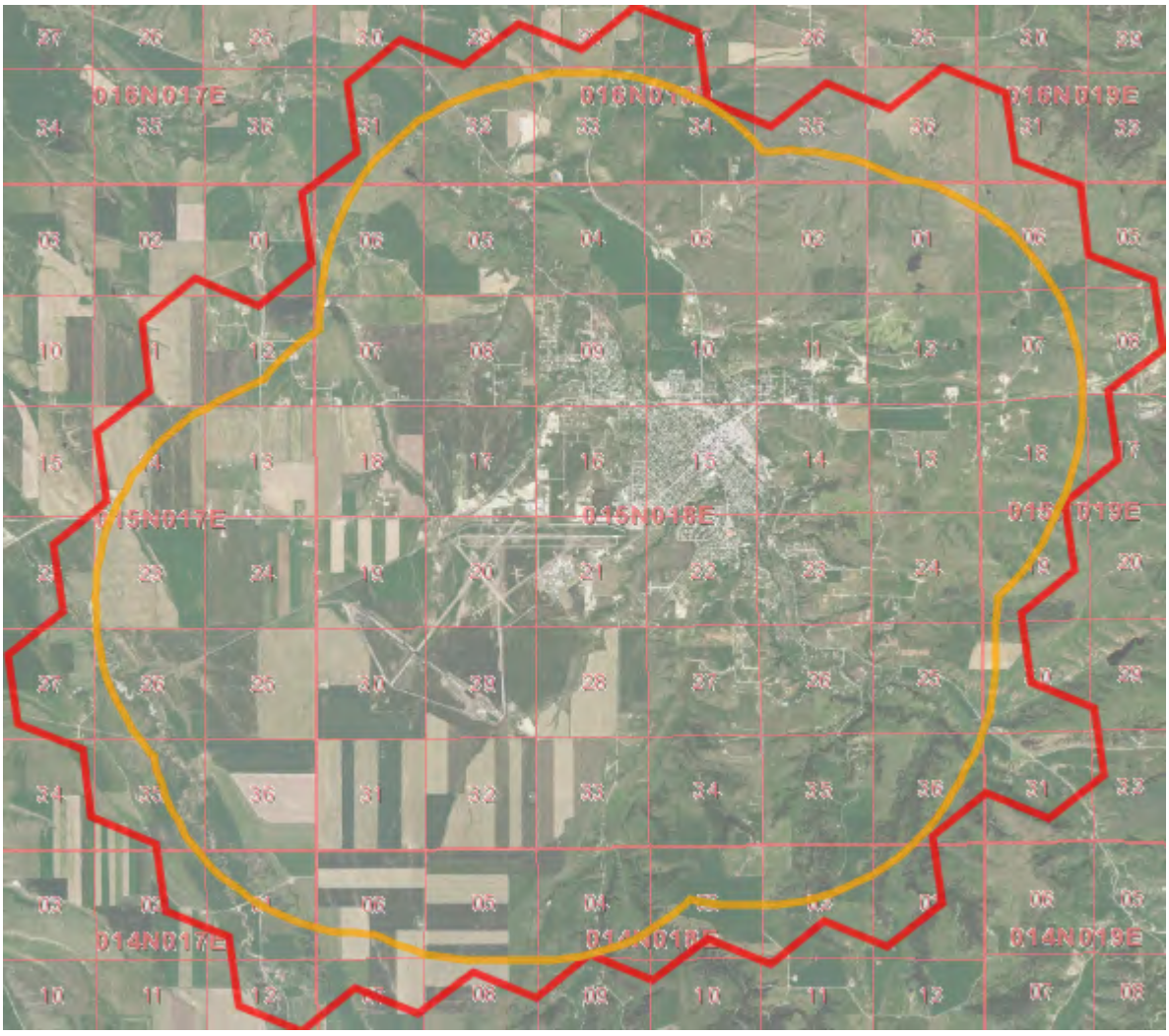
Environmental Summary

MONTANA STATE LIBRARY
NATURAL HERITAGE PROGRAM mtnhp.org
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Latitude	Longitude
46.98846	-109.34088
47.12229	-109.56154

Summarized by:
25mt0002 Lewistown
(Custom Area of Interest)



Suggested Citation
Montana Natural Heritage Program. Environmental Summary Report.
for Latitude 46.98846 to 47.12229 and Longitude -109.34088 to -109.56154. Retrieved on 8/16/2024.

The Montana Natural Heritage Program is part of the Montana State Library's Natural Resource Information System. Since 1985, it has served as a neutral and non-regulatory provider of easily accessible information on Montana's species and biological communities to inform all stakeholders in environmental review, permitting, and planning processes. The program is part of the NatureServe network that is composed of over 60 member programs across North America that work to provide current and comprehensive distribution and status information on species and biological communities.

MONTANA STATE LIBRARY NATURAL HERITAGE PROGRAM
NATURESERVE

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- Introduction to Native Species
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- Introduction to Land Management
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- Additional Information Resources

Introduction to Environmental Summary Report

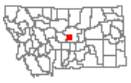
Environmental Summary Reports from the Montana Natural Heritage Program (MTNHP) provide information on species and biological communities to inform all stakeholders in environmental review, permitting, and planning processes. For information on environmental permits in Montana, please see permitting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

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

MONTANA STATE LIBRARY
NATURAL HERITAGE PROGRAM
A program of the **Montana State Library's Natural Resource Information System**

Legend

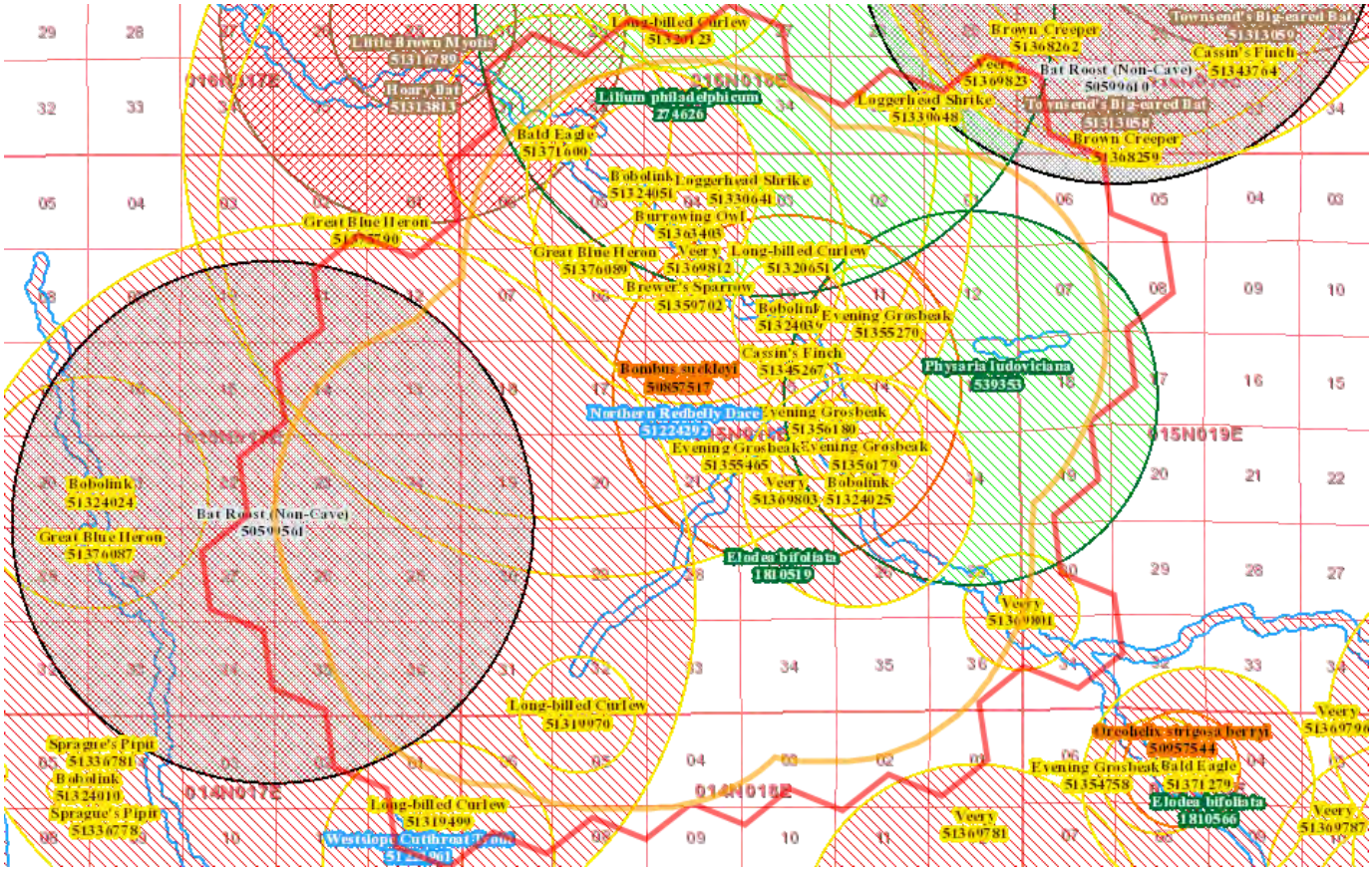
Model Icons	Habitat Icons	Range Icons	Num Obs
N Suitable (native range)	C Common	Y Native / Year-round	Count of obs with 'good precision' (<=1000m)
O Optimal Suitability	O Occasional	S Summer	+ indicates additional 'poor precision' obs (1001m-10,000m)
M Moderate Suitability		W Winter	
L Low Suitability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



Latitude	Longitude
46.98846	-109.34088
47.12229	-109.56154

Native Species

Summarized by: **25mt0002 Lewistown** *(Custom Area of Interest)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC



Species Occurrences

	USFWS Sec7	# SO	# Obs	Predicted Model	Range
F - Northern Redbelly Dace *(Chrosomus eos)* SOC		1	6 +		Y

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S3** FWP SWAP: **SGCN3**

Delineation Criteria Stream reaches and standing water bodies where the species presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a fisheries biologist due to confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Mar 19, 2024)

Predicted Models: N 33% Suitable (native range) (deductive)

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

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

Delineation Criteria Stream reaches and standing water bodies where the species presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a fisheries biologist due to confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Mar 08, 2024)

Predicted Models: N 2% Suitable (native range) (deductive)

B - Veery *(Catharus fuscescens)* SOC		5	9 +		S M

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

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

Predicted Models: O 3% Optimal (inductive), M 23% Moderate (inductive), L 70% Low (inductive)

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

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

Species of Concern - Native Species Global: **G2G3** State: **S1**

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

Predicted Models: M 65% Moderate (inductive), L 26% Low (inductive)

M - Hoary Bat *(Lasiurus cinereus)* SOC — 1 — S M

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

Species of Concern - Native Species Global: **G3G4** State: **S3B** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles during the active season. Point observation location is buffered by a minimum distance of 3,500 meters in order to be conservative about encompassing the maximum reported foraging distance for the congeneric Lasiurus borealis and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 26, 2024)

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

B - Long-billed Curlew *(Numenius americanus)* SOC — 4 — 7 — S M

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

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC11** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 200 meters in order to approximate the breeding territory size reported for the species in Idaho and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 26, 2024)

Predicted Models: M 26% Moderate (inductive), L 70% Low (inductive)

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

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

Species of Concern - Native Species Global: **G3G4** State: **S3** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT)** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, or definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a distance of 1,600 meters in order to encompass the greater than 1,500 meters foraging distance reported for the species in New Brunswick, Canada and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. When cave locations are involved, point observations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 1,600 meters and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Jun 26, 2024)

Predicted Models: M 24% Moderate (inductive), L 70% Low (inductive)

B - Bobolink *(Dolichonyx oryzivorus)* SOC — 3 — 5 — S M

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

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

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 150 meters in order to conservatively encompass male territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 26, 2024)

Predicted Models: M 20% Moderate (inductive), L 76% Low (inductive)

M - Townsend's Big-eared Bat *(Corynorhinus townsendii)* SOC — 1 — Y

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

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

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a distance of 4,500 meters in order to encompass the 95% confidence interval for nightly foraging distance reported for the species in California and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. When cave locations are involved, point observations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 4,500 meters and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Jun 26, 2024)

Predicted Models: M 17% Moderate (inductive), L 58% Low (inductive)

B - Evening Grosbeak *(Coccothraustes vespertinus)* SOC — 4 — 20 — Y WM

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

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

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 1,000 meters in order to encompass the maximum foraging distance from nests reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 26, 2024)

Predicted Models: M 15% Moderate (inductive), L 24% Low (inductive)

B - Great Blue Heron *(Ardea herodias)* SOC — 3 — 37 + — Y S M

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

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

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 6,500 meters in order to be conservative about encompassing the areas commonly used for foraging near the breeding colony. If the locational uncertainty associated with the observation is greater than 5,000 meters, the observation is not valid for creation of a species occurrence. (Last Updated: Jun 27, 2024)

Predicted Models: M 6% Moderate (inductive), L 48% Low (inductive)

B - Cassin's Finch *(Haemorhous cassinii)* SOC — 3 — 5 + — Y

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

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

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

Predicted Models: M 6% Moderate (inductive), L 15% Low (inductive)

B - Loggerhead Shrike *(Lanius ludovicianus)* SOC — 2 — 3 — S M

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

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

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 300 meters in order to encompass the maximum breeding territory size reported for the species in Alberta and Idaho and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 26, 2024)

Predicted Models: M 5% Moderate (inductive), L 50% Low (inductive)

B - Bald Eagle *(Haliaeetus leucocephalus)* SSS — 1 — 75 + — Y

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

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

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 2,000 meters in order to be conservative about encompassing the breeding territory and area commonly used for renesting. Only nesting observations with a locational uncertainty of 1,000 meters or less will be used to delineate a nesting area. (Last Updated: Jun 26, 2024)

Predicted Models: M 3% Moderate (inductive), L 18% Low (inductive)

B - Brewer's Sparrow *(Spizella breweri)* SOC — 1 — 5 — S M

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

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

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 100 meters in order to encompass the maximum territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 26, 2024)

Predicted Models: M 2% Moderate (inductive), L 67% Low (inductive)

V - Elodea bifoliata *(Long-sheath Waterweed)* SOC — 2 — 2 — Y

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

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

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Oct 27, 2023)

Predicted Models: L 89% Low (inductive)

V - Lilium philadelphicum *(Wood Lily)* SOC — 1 — Y

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

Species of Concern - Native Species Global: **G5** State: **S3** Plant Threat Score: **Low** CCVI: **Less Vulnerable**

Predicted Models: L 12% Low (inductive)

B - Burrowing Owl *(Athene cunicularia)* SOC — 1 — 1 — S M

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

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Direct observation of a bird or birds at/on a prairie dog town is indirect but sufficient evidence of breeding (b). Point observation location is buffered by a minimum distance of 2,700 meters in order to encompass the maximum foraging distance reported for breeding adults and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jun 26, 2024)

Predicted Models: L 12% Low (inductive)

V - Physaria ludoviciana *(Silver Bladderpod)* SOC — 1 — Y

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

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

Predicted Models: L 9% Low (inductive)

B - Brown Creeper *(Certhia americana)* SOC — 2 — 10 — Y

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

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **1**

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

Predicted Models: L 5% Low (inductive)

O - Bat Roost (Non-Cave) *(Bat Roost (Non-Cave))* IAH — 2 — Not Assessed

View in Field Guide

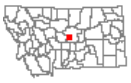
Important Animal Habitat - Native Species Global: **GNR** State: **SNR**

Delineation Criteria Confirmed area of occupancy based on the documented presence of adults or juveniles of any bat species at non-cave natural roost sites (e.g. rock outcrops, trees), below ground human created roost sites (e.g. mines), and above ground human created roost sites (e.g., bridges, buildings). Point observation locations are buffered by a distance of 4,500 meters in order to encompass the 95% confidence interval for nightly foraging distance reported for Townsendâ€™s Big-eared Bat (a resident Montana bat Species of Concern) and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Oct 22, 2019)

MONTANA STATE LIBRARY
NATURAL HERITAGE PROGRAM
A program of the **Montana State Library's Natural Resource Information System**

Legend

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



Latitude	Longitude
46.98846	-109.34088
47.12229	-109.56154

Native Species

Summarized by: **25mt0002 Lewistown** *(Custom Area of Interest)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Other Observed Species

	USFWS Sec7	# Obs	Predicted Model	Range
F - Plains Minnow *(Hybognathus placitus)* **PSOC**		1 +		Y
View in Field Guide · View Predicted Models · View Range Maps Potential Species of Concern - Native Species Global: **G4** State: **S4** **Predicted Models:** N 5% Suitable (native range) (deductive)				
F - Brook Stickleback *(Culaea inconstans)* **PSOC**		+		Y
View in Field Guide · View Predicted Models · View Range Maps Potential Species of Concern - Native/Non-native Species - (depends on location or taxa) Global: **G5** State: **S4** **Predicted Models:** N 3% Suitable (native range) (deductive)				
B - Ovenbird *(Seiurus aurocapilla)* **PSOC**		3		S M
View in Field Guide · View Predicted Models · View Range Maps Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA** PIF: **3** **Predicted Models:** O 6% Optimal (inductive), M 21% Moderate (inductive), L 45% Low (inductive)				
M - North American Porcupine *(Erethizon dorsatum)* **PSOC**		1		Y
View in Field Guide · View Predicted Models · View Range Maps Potential Species of Concern - Native Species Global: **G5** State: **S3S4** FWP SWAP: **SGIN** **Predicted Models:** M 59% Moderate (inductive), L 36% Low (inductive)				
B - American White Pelican *(Pelecanus erythrorhynchos)* **SOC**		2 +		S M
View in Field Guide · View Predicted Models · View Range Maps Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3** **Predicted Models:** M 39% Moderate (inductive), L 52% Low (inductive)				
B - Eastern Bluebird *(Sialia sialis)* **PSOC**		1		S M
View in Field Guide · View Predicted Models · View Range Maps Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA** **Predicted Models:** M 26% Moderate (inductive), L 48% Low (inductive)				
B - Yellow-billed Cuckoo *(Coccyzus americanus)* **SOC**		+		S M
View in Field Guide · View Predicted Models · View Range Maps Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **PS: LT; MBTA** BLM: **THREATENED** FWP SWAP: **SGCN3, SGIN** PIF: **2** **Predicted Models:** M 11% Moderate (inductive), L 36% Low (inductive)				
B - Clark's Nutcracker *(Nucifraga columbiana)* **SOC**		3		Y
View in Field Guide · View Predicted Models · View Range Maps Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** USFS: **Species of Conservation Concern in Forests (FLAT)** FWP SWAP: **SGCN3** PIF: **3** **Predicted Models:** M 11% Moderate (inductive), L 15% Low (inductive)				
A - Northern Leopard Frog *(Lithobates pipiens)* **SOC**		+		Y
View in Field Guide · View Predicted Models · View Range Maps Species of Concern - Native Species Global: **G5** State: **S1,S4** USFS: **Sensitive - Suspected in Forests (KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN1** **Predicted Models:** M 9% Moderate (inductive), L 64% Low (inductive)				
B - Ferruginous Hawk *(Buteo regalis)* **SOC**		6		S M
View in Field Guide · View Predicted Models · View Range Maps Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2** **Predicted Models:** M 5% Moderate (inductive), L 76% Low (inductive)				
B - Green-tailed Towhee *(Pipilo chlorurus)* **SOC**		1		S M
View in Field Guide · View Predicted Models · View Range Maps Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3** **Predicted Models:** M 5% Moderate (inductive), L 30% Low (inductive)				
B - Sharp-tailed Grouse *(Tympanuchus phasianellus)* **SOC**		32 +		Y
View in Field Guide · View Predicted Models · View Range Maps Species of Concern - Native Species Global: **G5** State: **SX,S4** FWP SWAP: **SGCN1** PIF: **2** **Predicted Models:** M 2% Moderate (inductive), L 94% Low (inductive)				

B - Plumbeous Vireo *(Vireo plumbeus)* PSOC — 1 — S M

View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4B** USFWS: **MBTA** PIF: **3**
Predicted Models: M 2% Moderate (inductive), L 32% Low (inductive)

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

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2S3** USFWS: **LT** BLM: **THREATENED** FWP SWAP: **SGCN2-3**
Predicted Models: L 52% Low (inductive)

B - Golden Eagle *(Aquila chrysaetos)* SOC — 18 + — Y

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **BGEPA; MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3**
Predicted Models: L 44% Low (inductive)

B - Greater Sage-Grouse *(Centrocercus urophasianus)* SOC — 1 — Y

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S2** USFS: **Sensitive - Known in Forests (BD)** **Species of Conservation Concern in Forests (CG)** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **1**
Predicted Models: L 29% Low (inductive)

B - Pinyon Jay *(Gymnorhinus cyanocephalus)* SOC — 2 — Y

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G3** State: **S3** USFWS: **MBTA; BCC10; BCC17** FWP SWAP: **SGCN3**
Predicted Models: L 15% Low (inductive)

B - American Goshawk *(Accipiter atricapillus)* SOC — 12 — Y W M

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **2**
Predicted Models: L 11% Low (inductive)

B - White-faced Ibis *(Plegadis chihi)* SOC — 1 — S M

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Predicted Models: L 8% Low (inductive)

B - Black-crowned Night-Heron *(Nycticorax nycticorax)* SOC — 2 — S M

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**
Predicted Models: L 2% Low (inductive)

V - Muhlenbergia minutissima *(Annual Muhly)* SOC — 1 — Not Assessed — Y

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

B - Chimney Swift *(Chaetura pelagica)* PSOC — 1 — Not Assessed — S M

View in Field Guide | View Range Maps
Potential Species of Concern - Native Species Global: **G4G5** State: **S3S4B** USFWS: **MBTA; BCC11** FWP SWAP: **SGIN** PIF: **3**

B - Gray-crowned Rosy-Finch *(Leucosticte tephrocotis)* SOC — 2 + — Not Assessed — W M

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

B - Hooded Merganser *(Lophodytes cucullatus)* PSOC — 3 — Not Assessed — M

View in Field Guide | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **2**

B - Tennessee Warbler *(Leiothlypis peregrina)* PSOC — 2 — Not Assessed — M

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

M - Canada Lynx *(Lynx canadensis)* SOC — + — Not Assessed

View in Field Guide
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **LT; CH** BLM: **THREATENED** FWP SWAP: **SGCN3**

M - Wolverine *(Gulo gulo)* SOC — 1 — Not Assessed

View in Field Guide
Species of Concern - Native Species Global: **G4** State: **S3** USFWS: **LT** USFS: **Sensitive - Known in Forests (LOLO)** BLM: **THREATENED** FWP SWAP: **SGCN3**

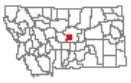
B - Harlequin Duck *(Histrionicus histrionicus)* SOC — 1 — Not Assessed

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

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Legend

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



Latitude	Longitude
46.98846	-109.34088
47.12229	-109.56154

Native Species

Summarized by: **25mt0002 Lewistown** *(Custom Area of Interest)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Other Potential Species

	USFWS Sec7	Predicted Model	Range
B - Eastern Screech-Owl *(Megascops asio)* **PSOC**			Y
B - Dickcissel *(Spiza americana)* **PSOC**			S M
I - Danaus plexippus *(Monarch)* **SOC**			S
V - Carex crawei *(Crawe's Sedge)* **SOC**			Y
R - Plains Hog-nosed Snake *(Heterodon nasicus)* **SOC**			Y
M - Dwarf Shrew *(Sorex nanus)* **SOC**			Y
B - Short-eared Owl *(Asio flammeus)* **PSOC**			Y
M - Eastern Red Bat *(Lasiurus borealis)* **SOC**			S M
M - Merriam's Shrew *(Sorex merriami)* **SOC**			Y
M - Hayden's Shrew *(Sorex haydeni)* **PSOC**			Y
I - Oreohelix strigosa berryi *(Berry's Mountainsnail)* **SOC**			Y
V - Cypripedium parviflorum *(Small Yellow Lady's-slipper)* **PSOC**			Y

View in Field Guide **View Predicted Models** **View Range Maps**
Potential Species of Concern - Native Species Global: **G5** State: **S3S4** USFWS: **MBTA** PIF: **3**
Predicted Models: O 8% Optimal (inductive), M 36% Moderate (inductive), L 50% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA**
Predicted Models: O 3% Optimal (inductive), M 67% Moderate (inductive), L 18% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G4** State: **S2S3** USFWS: **C** USFS: **Sensitive - Migratory in Forests (BD, BRT, KOOT)**
Predicted Models: O 3% Optimal (inductive), M 35% Moderate (inductive), L 47% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S2S3** Plant Threat Score: **Low**
Predicted Models: O 2% Optimal (inductive), M 83% Moderate (inductive), L 15% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S2** BLM: **SENSITIVE** FWP SWAP: **SGCN2, SGIN**
Predicted Models: O 2% Optimal (inductive), M 6% Moderate (inductive), L 45% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G4** State: **S2S3** FWP SWAP: **SGCN2-3**
Predicted Models: M 48% Moderate (inductive), L 52% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA; BCC11; BCC17** PIF: **3**
Predicted Models: M 27% Moderate (inductive), L 59% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G3G4** State: **S3B** BLM: **SENSITIVE**
Predicted Models: M 21% Moderate (inductive), L 52% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G4** State: **S3** FWP SWAP: **SGCN3**
Predicted Models: M 18% Moderate (inductive), L 82% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Potential Species of Concern - Native Species Global: **G5** State: **S3S4**
Predicted Models: M 15% Moderate (inductive), L 85% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5T2** State: **S1S2**
Predicted Models: M 12% Moderate (inductive), L 26% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Potential Species of Concern - Native Species Global: **G5** State: **S3S4** USFS: **Sensitive - Known in Forests (LOLO)** **Species of Conservation Concern in Forests (CG, HLC)**
Predicted Models: M 9% Moderate (inductive), L 67% Low (inductive)

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

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

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

Predicted Models: M 9% Moderate (inductive), L 39% Low (inductive)

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

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

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

Predicted Models: M 8% Moderate (inductive), L 64% Low (inductive)

M - Fringed Myotis *(Myotis thysanodes)* SOC

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

Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Predicted Models: M 8% Moderate (inductive), L 42% Low (inductive)

V - Physaria brassicoides *(Double Bladderpod)* SOC

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

Species of Concern - Native Species Global: **G5** State: **S3** Plant Threat Score: **No Known Threats**

Predicted Models: M 8% Moderate (inductive), L 23% Low (inductive)

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

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

Potential Species of Concern - Native Species Global: **G3G4** State: **S4**

Predicted Models: M 5% Moderate (inductive), L 82% Low (inductive)

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

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

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

Predicted Models: M 5% Moderate (inductive), L 74% Low (inductive)

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

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

Species of Concern - Native Species Global: **G4** State: **S3** FWP SWAP: **SGCN3**

Predicted Models: M 5% Moderate (inductive), L 35% Low (inductive)

V - Potentilla plattensis *(Platte Cinquefoil)* SOC

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

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

Predicted Models: M 5% Moderate (inductive), L 17% Low (inductive)

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

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

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

Predicted Models: M 3% Moderate (inductive), L 82% Low (inductive)

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

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

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

Predicted Models: M 3% Moderate (inductive), L 73% Low (inductive)

B - Common Poorwill *(Phalaenoptilus nuttallii)* PSOC

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

Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3**

Predicted Models: M 3% Moderate (inductive), L 71% Low (inductive)

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

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

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

Predicted Models: M 3% Moderate (inductive), L 67% Low (inductive)

B - Sage Thrasher *(Oreoscoptes montanus)* SOC

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

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

Predicted Models: M 3% Moderate (inductive), L 62% Low (inductive)

B - Thick-billed Longspur *(Rhynchophanes mccownii)* SOC

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

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Predicted Models: M 3% Moderate (inductive), L 42% Low (inductive)

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

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

Species of Concern - Native Species Global: **G5** State: **S2** BLM: **SENSITIVE** FWP SWAP: **SGCN2**

Predicted Models: M 2% Moderate (inductive), L 36% Low (inductive)

B - American Bittern *(Botaurus lentiginosus)* SOC

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

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

Predicted Models: M 2% Moderate (inductive), L 27% Low (inductive)

B - Chestnut-collared Longspur *(Calcarius ornatus)* **SOC**

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

Species of Concern - Native Species Global: **G5** State: **S2B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **2**

Predicted Models: M 2% Moderate (inductive), L 20% Low (inductive)

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

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

Species of Concern - Native Species Global: **G3G4** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

Predicted Models: L 85% Low (inductive)

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

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

Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN**

Predicted Models: L 50% Low (inductive)

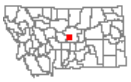
B - Black Tern *(Chlidonias niger)* **SOC**

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

Species of Concern - Native Species Global: **G4G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Predicted Models: L 20% Low (inductive)

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46.98846	-109.34088
47.12229	-109.56154

Structured Surveys

Summarized by: **25mt0002 Lewistown** *(Custom Area of Interest)*

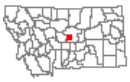
The Montana Natural Heritage Program (MTNHP) records information on the locations where more than 80 different types of well-defined repeatable survey protocols capable of detecting an animal species or suite of animal species have been conducted by state, federal, tribal, university, or private consulting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

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

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

B-Great Blue Heron Rookery *(Great Blue Heron Rookery)*	**Survey Count**: 1	**Obs Count**:	**Recent Survey**: 2020
B-Raptor nest *(Raptor Nest Survey)*	**Survey Count**: 1	**Obs Count**: 1	**Recent Survey**: 2020
E-Eastern Heath Snail *(Eastern Heath Snail Survey)*	**Survey Count**: 10	**Obs Count**:	**Recent Survey**: 2012
E-Eurasian Water-milfoil Rake *(Rake tows/pulls for Eurasian Water-milfoil)*	**Survey Count**: 25	**Obs Count**: 24	**Recent Survey**: 2023
E-Invasive Mussel Plankton Tow *(Plankton tows for veligers of Invasive Mussels)*	**Survey Count**: 45	**Obs Count**:	**Recent Survey**: 2023
E-Kicknet *(Kicknet Collection Survey for Invasive Mussels and Snails)*	**Survey Count**: 78	**Obs Count**: 28	**Recent Survey**: 2023
E-Noxious Weed, Road-based *(Noxious Weed Road-based Visual Surveys)*	**Survey Count**: 30	**Obs Count**: 17	**Recent Survey**: 2003
E-Noxious Weed, Visual *(Noxious Weed Visual Surveys)*	**Survey Count**: 9	**Obs Count**: 162	**Recent Survey**: 2009
E-Visual Aquatic Invasives *(Visual Encounter Surveys for Aquatic Invasives on Shorelines or Underwater)*	**Survey Count**: 63	**Obs Count**: 20	**Recent Survey**: 2023
F-Fish Electrofishing *(Fish Electrofishing Surveys)*	**Survey Count**: 25	**Obs Count**: 103	**Recent Survey**: 2022
F-Fish Other Survey *(Fish Other Survey (FWP Survey Type))*	**Survey Count**: 5	**Obs Count**: 4	**Recent Survey**: 2016
F-Fish Trapping/Netting *(Fish Trapping or Netting Surveys)*	**Survey Count**: 16	**Obs Count**: 87	**Recent Survey**: 2022
I-Aquatic Invert Lotic Dipnet *(Invertebrate Lotic Site Dipnet and Visual Encounter Survey)*	**Survey Count**: 5	**Obs Count**: 56	**Recent Survey**: 1994
I-Bumble Bee *(Bumble Bee Collection Surveys)*	**Survey Count**: 2	**Obs Count**: 4	**Recent Survey**: 2011
I-Mosquito Traps *(Montana Mosquito Surveillance Project)*	**Survey Count**: 2	**Obs Count**: 8	**Recent Survey**: 2016
I-Odonates/Butterfly VES *(Visual Encounter Survey for Damselfly/Dragonfly/Butterfly)*	**Survey Count**: 2	**Obs Count**: 4	**Recent Survey**: 1992
M-Bat Roost (Active Season) *(Bat Roost (Active Season) Survey)*	**Survey Count**: 2	**Obs Count**: 1	**Recent Survey**: 2017
P-Algal scraping *(Algal Scraping)*	**Survey Count**: 5	**Obs Count**: 233	**Recent Survey**: 2001

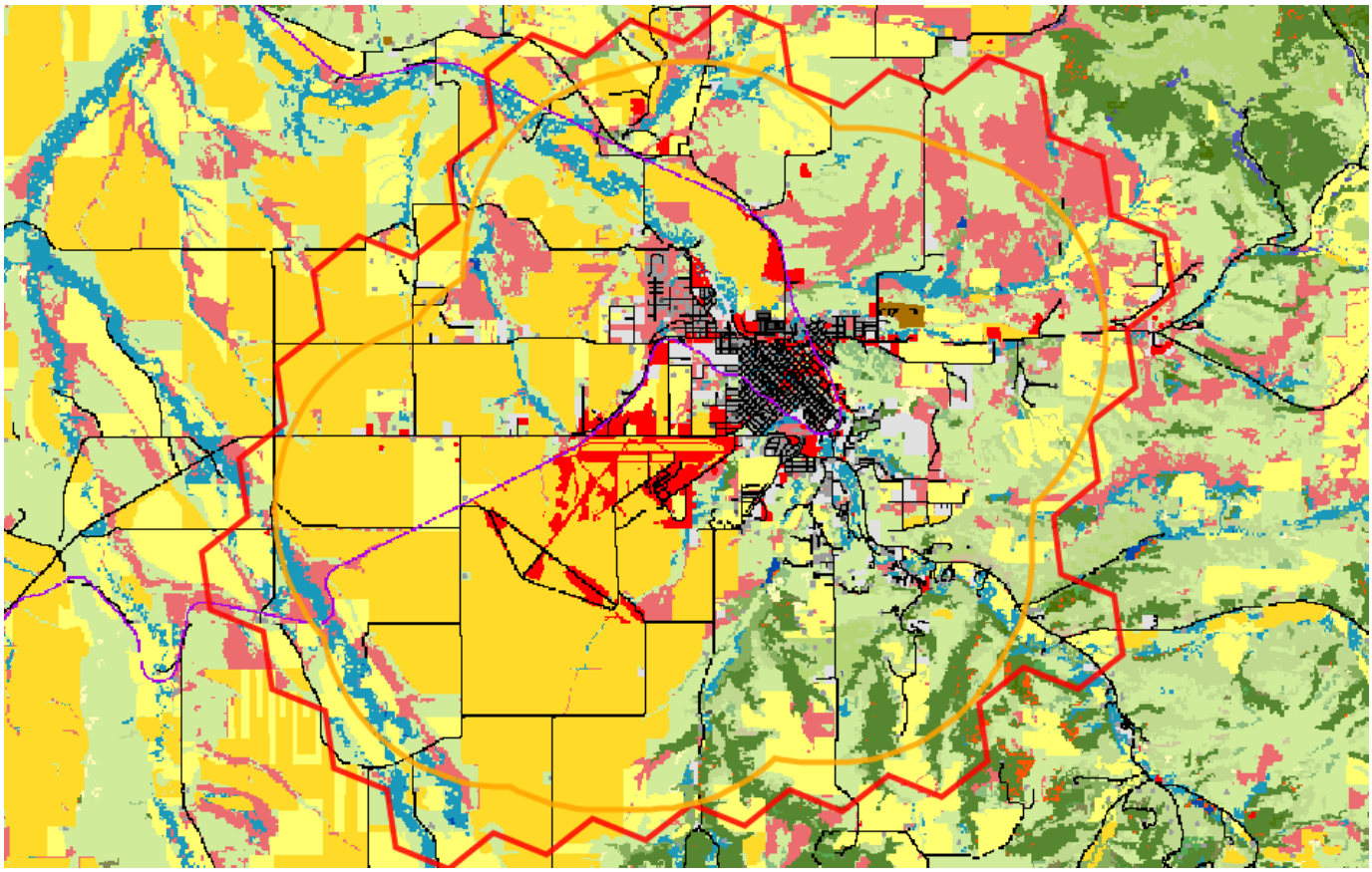
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Land Cover

Summarized by: **25mt0002 Lewistown** *(Custom Area of Interest)*





28% (*12,006 Acres*)

Human Land Use
Agriculture
Cultivated Crops

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



20% (*8,258 Acres*)

Grassland Systems
Lowland/Prairie Grassland
Great Plains Mixedgrass Prairie

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



13% (*5,410 Acres*)

Human Land Use
Agriculture
Pasture/Hay

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



10% (*4,357 Acres*)

Recently Disturbed or Modified
Introduced Vegetation
Introduced Upland Vegetation - Annual and Biennial Forbland

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

No Image

5% (*2,073 Acres*)

Human Land Use
Developed
Other Roads

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



5% (*2,023 Acres*)

Shrubland, Steppe and Savanna Systems
Deciduous Shrubland
Great Plains Shrubland

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



4% (*1,846 Acres*)

Wetland and Riparian Systems
Floodplain and Riparian
Great Plains Riparian

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

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



3% (*1,356 Acres*)

Forest and Woodland Systems
Conifer-dominated forest and woodland (xeric-mesic)
Great Plains Ponderosa Pine Woodland and Savanna

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

No Image

3% (*1,108 Acres*)

Human Land Use
Developed
Commercial / Industrial

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



2% (*956 Acres*)

Human Land Use
Developed
Developed, Open Space

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



2% (*845 Acres*)

Human Land Use
Developed
Low Intensity Residential

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

Additional Limited Land Cover

1% (*522 Acres*) Great Plains Wooded Draw and Ravine

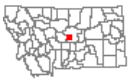
1% (*339 Acres*) Major Roads

1% (*233 Acres*) Rocky Mountain Lower Montane, Foothill, and Valley Grassland

1% (*224 Acres*) Railroad

<1% (*163 Acres*) Rocky Mountain Foothill Woodland-Steppe Transition
<1% (*101 Acres*) Big Sagebrush Steppe
<1% (*78 Acres*) High Intensity Residential
<1% (*56 Acres*) Rocky Mountain Cliff, Canyon and Massive Bedrock
<1% (*56 Acres*) Quarries, Strip Mines and Gravel Pits
<1% (*46 Acres*) Open Water
<1% (*42 Acres*) Insect-Killed Forest
<1% (*26 Acres*) Aspen and Mixed Conifer Forest
<1% (*24 Acres*) Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest
<1% (*23 Acres*) Great Plains Open Freshwater Depression Wetland
<1% (*6 Acres*) Aspen Forest and Woodland
<1% (*5 Acres*) Emergent Marsh
<1% (*5 Acres*) Greasewood Flat
<1% (*3 Acres*) Great Plains Sand Prairie
<1% (*2 Acres*) Rocky Mountain Foothill Limber Pine - Juniper Woodland
<1% (*1 Acres*) Montane Sagebrush Steppe
<1% (*1 Acres*) Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland

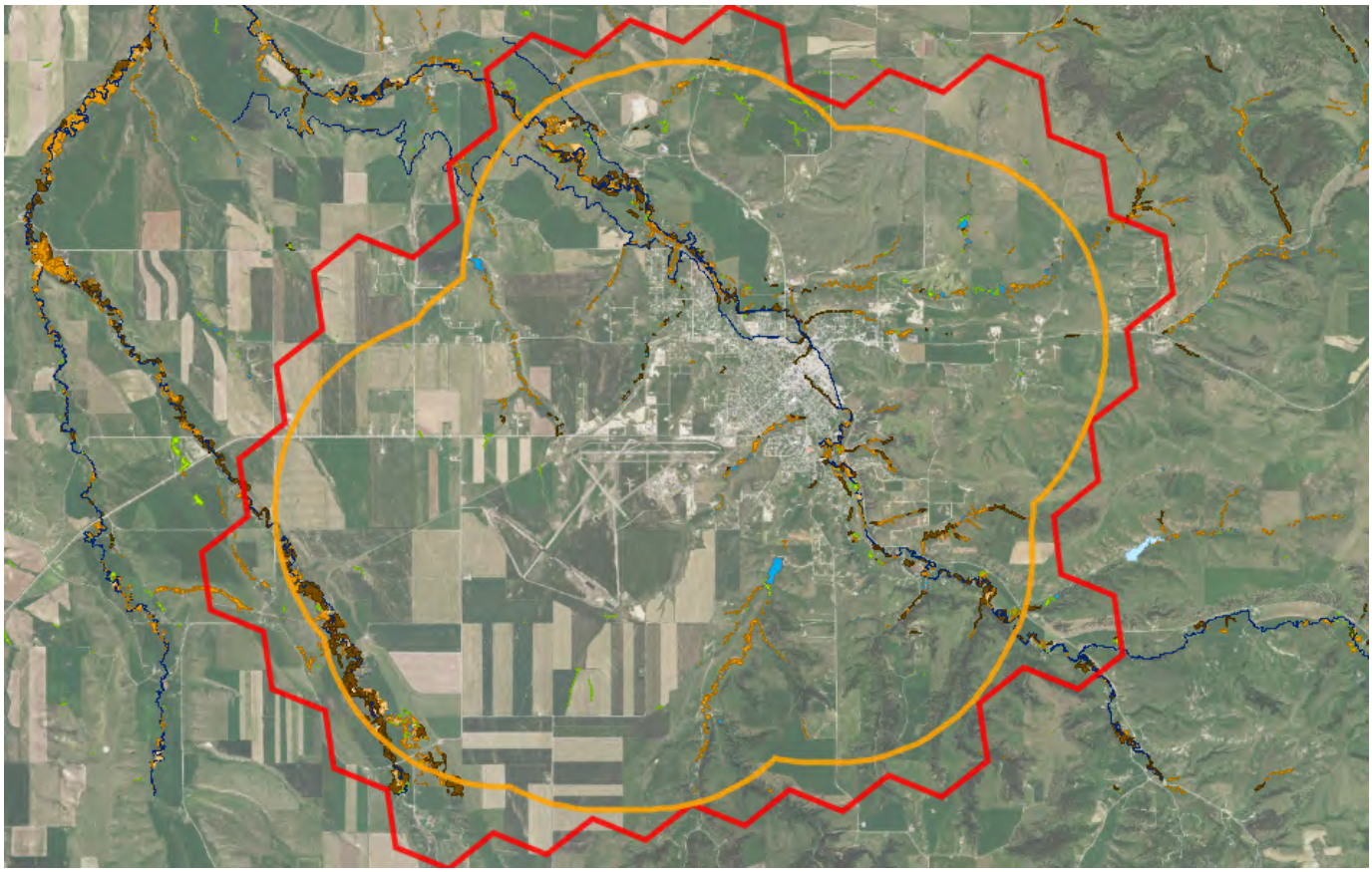
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Wetland and Riparian

Summarized by: **25mt0002 Lewistown** *(Custom Area of Interest)*



Wetland and Riparian Mapping

P - Palustrine

UB - Unconsolidated Bottom

F - Semipermanently Flooded	3 Acres	
(no modifier)	**<1 Acres**	**PUBF**
h - Diked/Impounded	**3 Acres**	**PUBFh**

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

AB - Aquatic Bed

F - Semipermanently Flooded	98 Acres	
(no modifier)	**17 Acres**	**PABF**
b - Beaver	**7 Acres**	**PABFb**
h - Diked/Impounded	**73 Acres**	**PABFh**
x - Excavated	**1 Acres**	**PABFx**
K - Artificially Flooded	1 Acres	
x - Excavated	**1 Acres**	**PABKx**

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

US - Unconsolidated Shore

C - Seasonally Flooded	<1 Acres	
h - Diked/Impounded	**<1 Acres**	**PUSCh**

P - Palustrine, US - Unconsolidated Shore
Wetlands with less than 75% areal cover of stones, boulders, or bedrock. AND with less than 30% vegetative cover AND the wetland is irregularly exposed due to seasonal or irregular flooding and subsequent drying.

EM - Emergent

A - Temporarily Flooded	25 Acres	
(no modifier)	**16 Acres**	**PEMA**
b - Beaver	**1 Acres**	**PEMAb**
h - Diked/Impounded	**6 Acres**	**PEMAh**
x - Excavated	**2 Acres**	**PEMAx**
C - Seasonally Flooded	36 Acres	
(no modifier)	**23 Acres**	**PEMC**
b - Beaver	**1 Acres**	**PEMCb**
h - Diked/Impounded	**12 Acres**	**PEMCh**

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

SS - Scrub-Shrub

C - Seasonally Flooded	1 Acres	
b - Beaver	**1 Acres**	

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.

PSSCb

R - Riverine (Rivers)

2 - Lower Perennial

UB - Unconsolidated Bottom

G - Intermittently Exposed — 100 Acres

(no modifier)	**98 Acres**	**R2UBG**
x - Excavated	**2 Acres**	**R2UBGx**

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

US - Unconsolidated Shore

A - Temporarily Flooded — 1 Acres

(no modifier)	**1 Acres**	**R2USA**

R - Riverine (Rivers), 2 - Lower Perennial, US - Unconsolidated Shore
Shorelines with less than 75% areal cover of stones, boulders, or bedrock and less than 30% vegetation cover. The area is also irregularly exposed due to seasonal or irregular flooding and subsequent drying.

4 - Intermittent

SB - Stream Bed

C - Seasonally Flooded — 17 Acres

x - Excavated	**17 Acres**	**R4SBCx**

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

Rp - Riparian

1 - Lotic

SS - Scrub-Shrub
(no modifier) — **405 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.

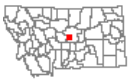
FO - Forested
(no modifier) — **438 Acres** **Rp1FO**

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) — **52 Acres** **Rp1EM**

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

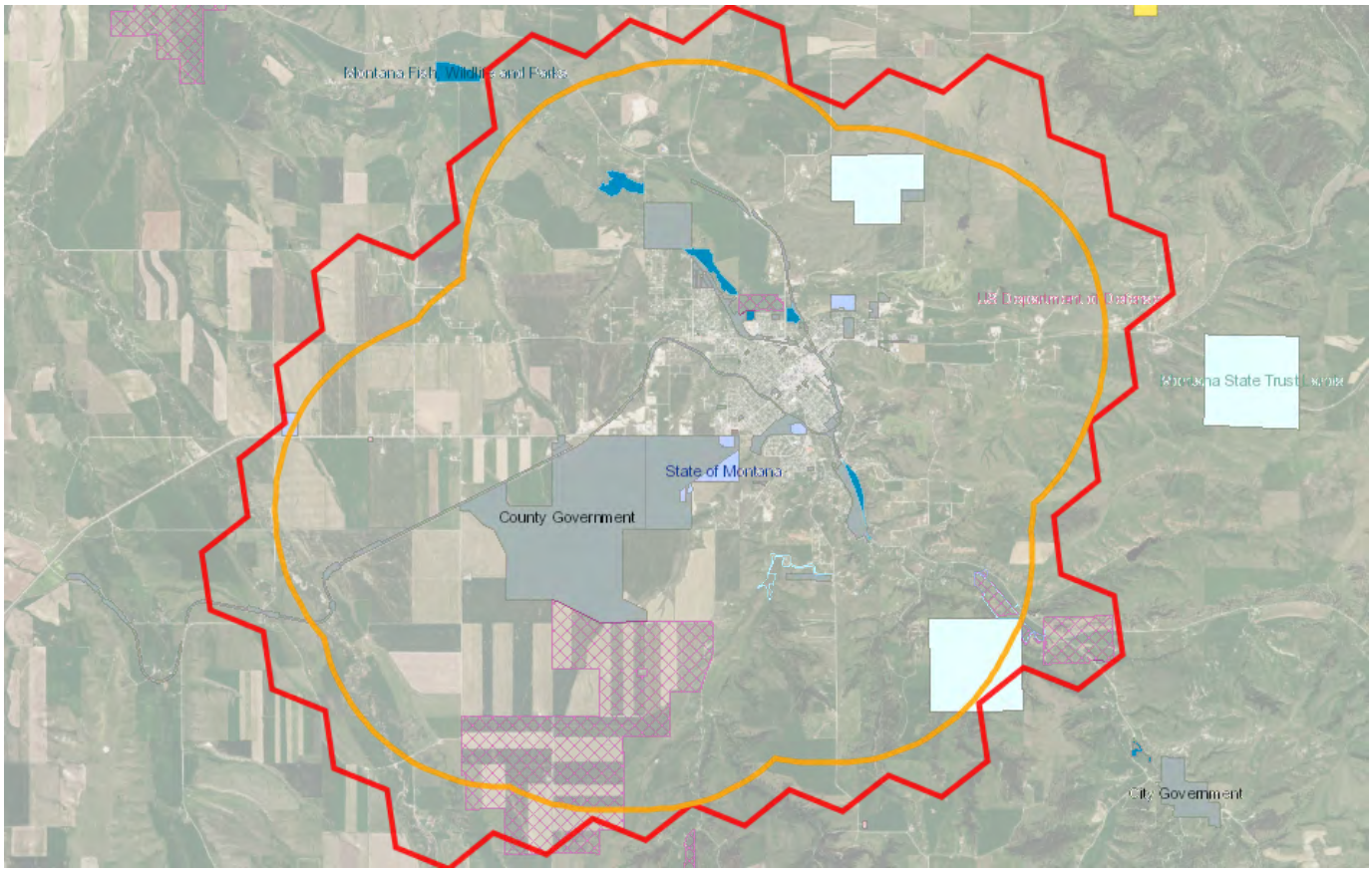
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Land Management

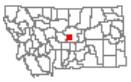
Summarized by: **25mt0002 Lewistown** *(Custom Area of Interest)*



Land Management Summary

	Ownership	Tribal	Easements	Other Boundaries (possible overlap)
Public Lands	3,753 Acres (9%)			
Federal	3 Acres (<1%)			
US Department of Defense	3 Acres (<1%)			
USDOD Owned	3 Acres (<1%)			
State	1,210 Acres (3%)			
Montana State Trust Lands	932 Acres (2%)			
MT State Trust Owned	932 Acres (2%)			
Montana Fish, Wildlife and Parks	138 Acres (<1%)			
MTFWP Owned	138 Acres (<1%)			
MTFWP Fishing Access Sites				235 Acres
Big Casino Creek Reservoir Fishing Access Site				27 Acres
Brewery Flats Fishing Access Site				23 Acres
Carroll Trail Fishing Access Site				46 Acres
Lazy KB Fishing Access Site				13 Acres
Reed & Bowles Fishing Access Site				50 Acres
Spring Creek Fishing Access Site				76 Acres
State of Montana	140 Acres (<1%)			
State of Montana Owned	140 Acres (<1%)			
Local	2,540 Acres (6%)			
Local Government	2,540 Acres (6%)			
Local Government Owned	2,540 Acres (6%)			
Conservation Easements			2,643 Acres (6%)	
Private			2,520 Acres (6%)	
Montana Land Reliance			2,520 Acres (6%)	
State & Local			123 Acres (<1%)	
Montana Fish, Wildlife and Parks			123 Acres (<1%)	
Private Lands or Unknown Ownership	35,793 Acres (85%)			

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Biological Reports

Summarized by: **25mt0002 Lewistown** *(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

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

- Lesnik, Mike. 2019. ***Email with tabular data of wintering bird observations around Lewiston, MT***. 22 February 2019.
- Stringer, A.L. 2018. ***Status of Northern Pearl Dace and chrosomid dace in prairie streams of Montana***. M.Sc. Thesis. Bozeman, MT: Montana State University. 150 p.

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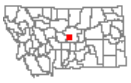
Legend

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

Habitat Icons
- C Common
- O Occasional

Range Icons
- N Non-native

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



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Invasive and Pest Species

Summarized by: **25mt0002 Lewistown** *(Custom Area of Interest)*

	# Obs	Predicted Model	Range

Aquatic Invasive Species

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

View in Field Guide | View Predicted Models | View Range Maps
Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**
Predicted Models: I 52% Suitable (introduced range) (deductive)

F - Common Carp *(Cyprinus carpio)* **AIS** — + — N

View in Field Guide | View Predicted Models | View Range Maps
Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**
Predicted Models: I 17% Suitable (introduced range) (deductive)

I - Faxonius virilis *(Virile Crayfish)* **AIS** — 9 — Not Assessed — N

View in Field Guide | View Range Maps
Aquatic Invasive Species - Native/Non-native Species - (depends on location or taxa) Global: **G5** State: **S5**

Noxious Weeds: Priority 1A

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

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1A - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 11% Optimal (inductive), M 21% Moderate (inductive), L 58% Low (inductive)

V - Centaurea solstitialis *(Yellow Starthistle)* **N1A** — N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1A - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 6% Moderate (inductive), L 12% Low (inductive)

Noxious Weeds: Priority 1B

V - Polygonum cuspidatum *(Japanese Knotweed)* **N1B** — N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1B - Non-native Species Global: **GNRTNR** State: **SNA**
Predicted Models: O 6% Optimal (inductive), M 11% Moderate (inductive), L 32% Low (inductive)

V - Lythrum salicaria *(Purple Loosestrife)* **N1B** — N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1B - Non-native Species Global: **G5** State: **SNA**
Predicted Models: M 15% Moderate (inductive), L 35% Low (inductive)

V - Cytisus scoparius *(Scotch Broom)* **N1B** — N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 20% Low (inductive)

Noxious Weeds: Priority 2A

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

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 9% Optimal (inductive), M 20% Moderate (inductive), L 41% Low (inductive)

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

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2A - Non-native Species Global: **G5** State: **SNA**
Predicted Models: O 8% Optimal (inductive), M 12% Moderate (inductive), L 47% Low (inductive)

V - Lepidium latifolium *(Perennial Pepperweed)* **N2A** — N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 2% Optimal (inductive), M 14% Moderate (inductive), L 79% Low (inductive)

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

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 29% Moderate (inductive), L 71% Low (inductive)

V - Hieracium piloselloides *(Tall Hawkweed)* **N2A** — N

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 20% Moderate (inductive), L 6% Low (inductive)

V - Hieracium caespitosum *(Meadow Hawkweed)* N2A

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

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

Predicted Models: M 3% Moderate (inductive), L 30% Low (inductive)

V - Hieracium aurantiacum *(Orange Hawkweed)* N2A

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

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

Predicted Models: M 3% Moderate (inductive), L 29% Low (inductive)

V - Hieracium praealtum *(Kingdevil Hawkweed)* N2A

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

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 3% Moderate (inductive), L 24% Low (inductive)

Noxious Weeds: Priority 2B

V - Lepidium draba *(Whitetop)* N2B 6

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 41% Optimal (inductive), M 48% Moderate (inductive), L 11% Low (inductive)

V - Convolvulus arvensis *(Field Bindweed)* N2B 22

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 11% Optimal (inductive), M 58% Moderate (inductive), L 30% Low (inductive)

V - Linaria dalmatica *(Dalmatian Toadflax)* N2B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**

Predicted Models: O 5% Optimal (inductive), M 55% Moderate (inductive), L 40% Low (inductive)

V - Euphorbia virgata *(Leafy Spurge)* N2B 36

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 3% Optimal (inductive), M 59% Moderate (inductive), L 38% Low (inductive)

V - Centaurea stoebe *(Spotted Knapweed)* N2B 74

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 2% Optimal (inductive), M 85% Moderate (inductive), L 13% Low (inductive)

V - Cirsium arvense *(Canada Thistle)* N2B 95

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**

Predicted Models: O 2% Optimal (inductive), M 59% Moderate (inductive), L 39% Low (inductive)

V - Centaurea diffusa *(Diffuse Knapweed)* N2B 1

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 2% Optimal (inductive), M 39% Moderate (inductive), L 41% Low (inductive)

V - Berteroa incana *(Hoary False-alyssum)* N2B 1

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 2% Optimal (inductive), M 9% Moderate (inductive), L 47% Low (inductive)

V - Cynoglossum officinale *(Common Hound's-tongue)* N2B 148

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 53% Moderate (inductive), L 41% Low (inductive)

V - Acroptilon repens *(Russian Knapweed)* N2B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 39% Moderate (inductive), L 45% Low (inductive)

V - Tanacetum vulgare *(Common Tansy)* N2B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 5% Moderate (inductive), L 50% Low (inductive)

V - Linaria vulgaris *(Yellow Toadflax)* N2B 6

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 2% Moderate (inductive), L 41% Low (inductive)

V - Potentilla recta *(Sulphur Cinquefoil)* N2B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 68% Low (inductive)

V - Leucanthemum vulgare *(Oxeye Daisy)* **N2B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 42% Low (inductive)

Regulated Weeds: Priority 3

V - Bromus tectorum *(Cheatgrass)* **R3**

View in Field Guide | View Predicted Models | View Range Maps

Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 5% Moderate (inductive), L 68% Low (inductive)

V - Elaeagnus angustifolia *(Russian Olive)* **R3**

View in Field Guide | View Predicted Models | View Range Maps

Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 2% Moderate (inductive), L 52% Low (inductive)

Agricultural Pests

I - Xerolenta obvia *(Eastern Heath Snail)* **PESTA**

View in Field Guide | View Predicted Models

Agricultural Pest - Non-native Species Global: **G5** State: **SNA**

Predicted Models: O 17% Optimal (inductive), M 48% Moderate (inductive), L 33% Low (inductive)

Biocontrol Species

I - Aphthona lacertosa *(Brown-legged Leafy Spurge Flea Beetle)* **BIOCNTRL**

View in Field Guide | View Predicted Models | View Range Maps

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 5% Optimal (inductive), M 71% Moderate (inductive), L 15% Low (inductive)

I - Mecinus janthinus *(Yellow Toadflax Stem-boring Weevil)* **BIOCNTRL**

View in Field Guide | View Predicted Models | View Range Maps

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 5% Optimal (inductive), M 27% Moderate (inductive), L 53% Low (inductive)

I - Aphthona nigriscutis *(Black Dot Leafy Spurge Flea Beetle)* **BIOCNTRL**

View in Field Guide | View Predicted Models | View Range Maps

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 5% Optimal (inductive), M 23% Moderate (inductive), L 24% Low (inductive)

I - Mecinus janthiniformis *(Dalmatian Toadflax Stem-boring Weevil)* **BIOCNTRL**

View in Field Guide | View Predicted Models | View Range Maps

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 52% Moderate (inductive), L 48% Low (inductive)

I - Cyphocleonus achates *(Knapweed Root Weevil)* **BIOCNTRL**

View in Field Guide | View Predicted Models | View Range Maps

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 33% Moderate (inductive), L 55% Low (inductive)

I - Oberea erythrocephala *(Red-headed Leafy Spurge Stem Borer)* **BIOCNTRL**

View in Field Guide | View Predicted Models | View Range Maps

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 11% Moderate (inductive), L 27% Low (inductive)

Introduction to Montana Natural Heritage Program

PO Box 201800 • 1201 11th Avenue • Helena, MT 59620-1800 • fax 406.444.0266 • phone 406.444.3989 • mtnhp.org

Introduction

The Montana Natural Heritage Program (MTNHP) is Montana's source for reliable and objective information on Montana's native species and habitats, emphasizing those of conservation concern. MTNHP was created by the Montana legislature in 1983 as part of the Natural Resource Information System (NRIS) at the Montana State Library (MSL). MTNHP is "a program of information acquisition, storage, and retrieval for data relating to the flora, fauna, and biological community types of Montana" (MCA 90-15-102). MTNHP's activities are guided by statute as well as through ongoing interaction with, and feedback from, principal data source agencies such as Montana Fish, Wildlife, and Parks, the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation, the Montana University System, the US Forest Service, and the US Bureau of Land Management. Since the first staff was hired in 1985, the Program has logged a long record of success, and developed into a highly respected, service-oriented program. MTNHP is widely recognized as one of the most advanced and effective of over 60 natural heritage programs that are distributed across North America.

Vision

Our vision is that public agencies, the private sector, the education sector, and the general public will trust and rely upon MTNHP as the source for information and expertise on Montana's species and habitats, especially those of conservation concern. We strive to provide easy access to our information to allow users to save time and money, speed environmental reviews, and make informed decisions.

Core Values

- We endeavor to be a single statewide source of accurate and up-to-date information on Montana's plants, animals, and aquatic and terrestrial biological communities.
- We actively listen to our data users and work responsively to meet their information and training needs.
- We strive to provide neutral, trusted, timely, and equitable service to all of our information users.
- We make every effort to be transparent to our data users in setting work priorities and providing data products.

Confidentiality

All information requests made to the Montana Natural Heritage Program are considered library records and are protected from disclosure by the Montana Library Records Confidentiality Act (MCA 22-1-11).

Information Managed

Information managed at the Montana Natural Heritage Program is botanical, zoological, and ecological information that describes the distribution (e.g., observations, structured surveys, range polygons, predicted habitat suitability models), conservation status (e.g., global and state conservation status ranks, including threats), and other supporting information (e.g., accounts and references) on the biology and ecology of species and biological communities.

Data Use Terms and Conditions

- Montana Natural Heritage Program (MTNHP) products and services are based on biological data and the objective interpretation of those data by professional scientists. MTNHP does not advocate any particular philosophy of natural resource protection, management, development, or public policy.
- MTNHP has no natural resource management or regulatory authority. Products, statements, and services from MTNHP are intended to inform parties as to the state of scientific knowledge about certain natural resources, and to further develop that knowledge. The information is not intended as natural resource management guidelines or prescriptions or a determination of environmental impacts. MTNHP recommends consultation with appropriate state, federal, and tribal resource management agencies and authorities in the area where your project is located.
- Information on the status and spatial distribution of biological resources produced by MTNHP are intended to inform parties of the state-wide status, known occurrence, or the likelihood of the presence of those resources. **These products are not intended to substitute for field-collected data, nor are they intended to be the sole basis for natural resource management decisions.**
- MTNHP does not portray its data as exhaustive or comprehensive inventories of rare species or biological communities. **Field verification of the absence or presence of sensitive species and biological communities will always be an important obligation of users of our data.**
- MTNHP responds equally to all requests for products and services, regardless of the purpose or identity of the requester.
- Because MTNHP constantly updates and revises its databases with new data and information, products will become outdated over time. Interested parties are encouraged to obtain the most current information possible from MTNHP, rather than using older products. We add, review, update, and delete records on a daily basis. Consequently, we strongly advise that you update your MTNHP data sets at a minimum of every four months for most applications of our information.
- MTNHP data require a certain degree of biological expertise for proper analysis, interpretation, and application. Our staff is available to advise you on questions regarding the interpretation or appropriate use of the data that we provide. See Contact Information for MTNHP Staff
- The information provided to you by MTNHP may include sensitive data that if publicly released might jeopardize the welfare of threatened, endangered, or sensitive species or biological communities. This information is intended for distribution or use only within your department, agency, or business. Subcontractors may have access to the data during the course of any given project, but should not be given a copy for their use on subsequent, unrelated work.
- MTNHP data are made freely available. Duplication of hard-copy or digital MTNHP products with the intent to sell is prohibited without written consent by MTNHP. Should you be asked by individuals outside your organization for the type of data that we provide, please refer them to MTNHP.
- MTNHP and appropriate staff members should be appropriately acknowledged as an information source in any third-party product involving MTNHP data, reports, papers, publications, or in maps that incorporate MTNHP graphic elements.
- Sources of our data include museum specimens, published and unpublished scientific literature, field surveys by state and federal agencies and private contractors, and reports from knowledgeable individuals. MTNHP actively solicits and encourages additions, corrections and updates, new observations or collections, and comments on any of the data we provide.
- MTNHP staff and contractors do not enter or cross privately-owned lands without express permission from the landowner. However, the program cannot guarantee that information provided to us by others was obtained under adherence to this policy.

Suggested Contacts for Natural Resource Management Agencies

As required by Montana statute (MCA 90-15), the Montana Natural Heritage Program works with state, federal, tribal, nongovernmental organizations, and private partners to ensure that the latest animal and plant distribution and status information is incorporated into our databases so that it can be used to inform a variety of permitting and planning processes and management decisions. We encourage you to contact state, federal, and tribal resource management agencies in the area where your project is located and review the permitting overviews by the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation and the Index of Environmental Permits for Montana for guidelines relevant to your efforts. In particular, we encourage you to contact the Montana Department of Fish, Wildlife, and Parks for the latest data and management information regarding hunted and high-profile management species and to use the U.S. Fish and Wildlife Service's Information Planning and Consultation (IPAC) website regarding U.S. Endangered Species Act listed Threatened, Endangered, or Candidate species.

For your convenience, we have compiled a list of relevant agency contacts and links below:

Montana Fish, Wildlife, and Parks

Fish Species	Zachary Shattuck zshattuck@mt.gov (406) 444-1231 or Eric Roberts eroberts@mt.gov (406) 444-5334
American Bison Black-footed Ferret Black-tailed Prairie Dog Bald Eagle Golden Eagle Common Loon Least Tern Piping Plover Whooping Crane	Kristina Smucker KSmucker@mt.gov (406) 444-5209
Grizzly Bear Greater Sage Grouse Trumpeter Swan Big Game Upland Game Birds Furbearers	Brian Wakeling brian.wakeling@mt.gov (406) 444-3940
Managed Terrestrial Game Data	Adam Messer – MFWP GIS Coordinator amesser@mt.gov (406) 444-0095
Fisheries Data and Nongame Animal Data	Adam Messer – MFWP GIS Coordinator amesser@mt.gov (406) 444-0095
Wildlife and Fisheries Scientific Collector's Permits	https://fwp.mt.gov/buyandapply/commercialwildlifeandscientificpermits/scientific Kristina Smucker for Wildlife ksmucker@mt.gov (406) 444-5209 Dave Schmetterling for Fisheries dschmetterling@mt.gov (406) 542-5514
Fish and Wildlife Recommendations for Subdivision Development	Stevie Burton stevie.burton@mt.gov (406) 594-7354 See https://fwp.mt.gov/conservation/living-with-wildlife/subdivision-recommendations
Regional Contacts  	Region 1 (Kalispell) (406) 752-5501 fwprg12@mt.gov Region 2 (Missoula) (406) 542-5500 fwprg22@mt.gov Region 3 (Bozeman) (406) 577-7900 fwprg3@mt.gov Region 4 (Great Falls) (406) 454-5840 fwprg42@mt.gov Region 5 (Billings) (406) 247-2940 fwprg52@mt.gov Region 6 (Glasgow) (406) 228-3700 fwprg62@mt.gov Region 7 (Miles City) (406) 234-0900 fwprg72@mt.gov

Montana Department of Agriculture
General Contact Information: https://agr.mt.gov/About/Office-Locations/Office-Locations-and-Field-Offices
Noxious Weeds: https://agr.mt.gov/Noxious-Weeds

Montana Department of Environmental Quality
Permitting and Operator Assistance for all Environmental Permits: https://deq.mt.gov/Permitting
Opencut Mining Web Mapping Application for review of opencut mining applications
https://gis.mtdeq.us/portal/apps/webappviewer/index.html?id=7b60084bc4c444a19c9a7a0867e7635a

Montana Department of Natural Resources and Conservation
Overview of, and contacts for, licenses and permits for state lands, water, and forested lands:
https://dnrc.mt.gov/Permits-Services

Stream Permitting (310 permits) and an overview of various water and stream related permits (e.g., Stream Protection Act 124, Federal Clean Water Act 404, Federal Rivers and Harbors Act Section 10, Short-term Water Quality Standard for Turbidity 318 Authorization, etc.).
https://dnrc.mt.gov/Licenses-and-Permits/Stream-Permitting

Wildfire Resources: https://dnrc.mt.gov/Forestry/Wildfire

Bureau of Land Management

Montana Field Office Contacts:



Billings	(406) 896-5013
Butte	(406) 533-7600
Dillon	(406) 683-8000
Glasgow	(406) 228-3750
Havre	(406) 262-2820
Lewistown	(406) 538-1900
Malta	(406) 654-5100
Miles City	(406) 233-2800
Missoula	(406) 329-3914

United States Army Corps of Engineers
Montana Regulatory Office for federal permits related to construction in water and wetlands
https://www.nwo.usace.army.mil/Missions/Regulatory-Program/Montana/ (406) 441-1375

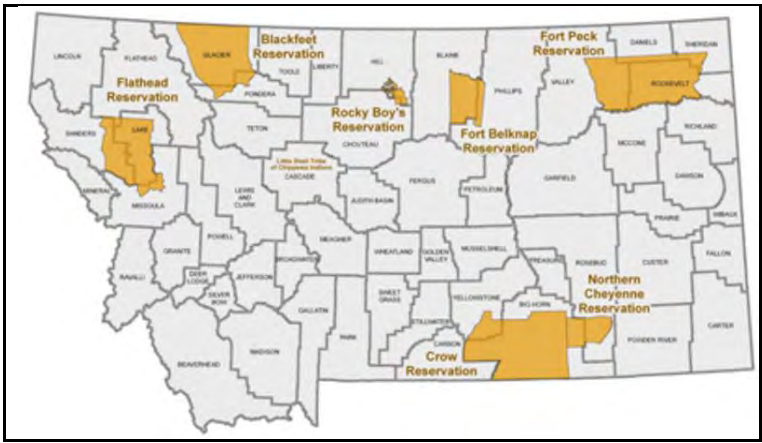
United States Environmental Protection Agency
Environmental information, notices, permitting, and contacts https://www.epa.gov/mt
Gateway to state resource locators https://www.envcap.org/srl/index.php

United States Fish and Wildlife Service
Information Planning and Conservation (IPAC) website: https://ipac.ecosphere.fws.gov
Montana Ecological Services Field Office: https://www.fws.gov/office/montana-ecological-services (406) 449-5225

United States Forest Service

Regional Office – Missoula, Montana Contacts			
Wildlife Program Leader	Tammy Fletcher	tammy.fletcher2@usda.gov	(406) 329-3086
Aquatic Ecologist	Justin Jimenez	justin.jimenez@usda.gov	(435) 370-6830
TES Program	Lydia Allen	lydia.allen@usda.gov	(406) 329-3558
Interagency Grizzly Bear Coordinator	Scott Jackson	scott.jackson@usda.gov	(406) 329-3664
Regional Botanist	Amanda Hendrix	amanda.hendrix@usda.gov	(651) 447-3016
Regional Vegetation Ecologist	Mary Manning	marry.manning@usda.gov	(406) 329-3304
Invasive Species Program Manager	Michelle Cox	michelle.cox2@usda.gov	(406) 329-3669

Tribal Nations



[Assiniboine & Gros Ventre Tribes – Fort Belknap Reservation]

[Assiniboine & Sioux Tribes – Fort Peck Reservation]

[Blackfeet Tribe - Blackfeet Reservation]

[Chippewa Creek Tribe - Rocky Boy's Reservation]

[Crow Tribe – Crow Reservation]

[Little Shell Chippewa Tribe]

[Northern Cheyenne Tribe – Northern Cheyenne Reservation]

[Salish & Kootenai Tribes - Flathead Reservation]

Natural Heritage Programs and Conservation Data Centers in Surrounding States and Provinces

[Alberta Conservation Information Management System]
[British Columbia Conservation Data Centre]
[Idaho Natural Heritage Program]
[North Dakota Natural Heritage Program]
[Saskatchewan Conservation Data Centre]
[South Dakota Natural Heritage Program]
[Wyoming Natural Diversity Database]

Invasive Species Management Contacts and Information

Aquatic Invasive Species

[Montana Fish, Wildlife, and Parks Aquatic Invasive Species staff]
[Montana Department of Natural Resources and Conservation's Aquatic Invasive Species Grant Program]
[Montana Invasive Species Council (MISC)]
[Western Montana Conservation Commission]

Noxious Weeds

[Montana Weed Control Association Contacts Webpage]
[Montana Biological Weed Control Coordination Project]
[Montana Department of Agriculture - Noxious Weeds]
[Montana Weed Control Association]
[Montana Fish, Wildlife, and Parks - Noxious Weeds]
[Montana State University Integrated Pest Management Extension]
[Integrated Noxious Weed Management after Wildfires]
[Fire Management and Invasive Plants]

Introduction to Native Species

Within the report area you have requested, separate summaries are provided for: (1) Species Occurrences (SO) for plant and animal Species of Concern, Special Status Species (SSS), Important Animal Habitat (IAH) and some Potential Plant Species of Concern; (2) other observed non Species of Concern or Species of Concern without suitable documentation to create Species Occurrence polygons; and (3) other non-documented species that are potentially present based on their range, predicted suitable habitat model output, or presence of associated habitats. Each of these summaries provides the following information when present for a species: (1) the number of Species Occurrences and associated delineation criteria for construction of these polygons that have long been used for considerations of documented Species of Concern in environmental reviews; (2) the number of observations of each species; (3) the geographic range polygons for each species that the report area overlaps; (4) predicted relative habitat suitability classes that are present if a predicted suitable habitat model has been created; (5) the percent of the report area that is mapped as commonly associated or occasionally associated habitat as listed for each species in the Montana Field Guide; and (6) a variety of conservation status ranks and links to species accounts in the Montana Field Guide. Details on each of these information categories are included under relevant section headers below or are defined on our Species Status Codes page. In presenting this information, the Montana Natural Heritage Program (MTNHP) is working towards assisting the user with rapidly determining what species have been documented and what species are potentially present in the report area. We remind users that this information is likely incomplete as surveys to document native and introduced species are lacking in many areas of the state, information on introduced species has only been tracked relatively recently, the MTNHP's staff and resources are restricted by budgets, and information is constantly being added and updated in our databases. **Thus, field verification by professional biologists of the absence or presence of species and biological communities will always be an important obligation of users of our data.**

If you are aware of observation datasets that the MTNHP is missing, please report them to the Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov If you have animal or plant observations that you would like to contribute, you can also submit them via Excel spreadsheets, geodatabases, iNaturalist, or a Survey123 form. Various methods of data submission are reviewed in this playlist of videos: https://www.youtube.com/playlist?list=PLRaydtZpHu2qOHPoSPq9cnM9uXGmEXACx

Observations

The MTNHP manages information on several million animal and plant observations that have been reported by professional biologists and private citizens from across Montana. The majority of these observations are submitted in digital format from standardized databases associated with research or monitoring efforts and spreadsheets of incidental observations submitted by professional biologists and amateur naturalists. At a minimum, accepted observation records must contain a credible species identification (i.e. appropriate geographic range, date, and habitat and, if species are difficult to identify, a photograph and/or notes on key identifying features), a date or date range, observer name, locational information (ideally with latitude and longitude in decimal degrees), notes on numbers observed, and species behavior or habitat use (e.g., is the observation likely associated with reproduction). Bird records are also required to have information associated with date-appropriate breeding or overwintering status of the species observed. MTNHP reviews observation records to ensure that they are mapped correctly, occur within date ranges when the species is known to be present or detectable, occur within the known seasonal geographic range of the species, and occur in appropriate habitats. MTNHP also assigns each record a locational uncertainty value in meters to indicate the spatial precision associated with the record's mapped coordinates. Only records with locational uncertainty values of 10,000 meters or less are included in environmental summary reports and number summaries are only provided for records with locational uncertainty values of 1,000 meters or less.

Species Occurrences

The MTNHP evaluates plant and animal observation records for species of higher conservation concern to determine whether they are worthy of inclusion in the Species Occurrence (SO) layer for use in environmental reviews; observations not worthy of inclusion in this layer include long distance dispersal events, migrants observed away from key migratory stopover habitats, and winter observations. An SO is a polygon depicting what is known about a species occupancy from direct observation with a defined level of locational uncertainty and any inference that can be made about adjacent habitat use from the latest peer-reviewed science. If an observation can be associated with a map feature that can be tracked (e.g., a wetland boundary for a wetland associated plant) then this polygon feature is used to represent the SO. Areas that can be inferred as probable occupied habitat based on direct observation of a species location and what is known about the foraging area or home range size of the species may be incorporated into the SO. Species Occurrences generally belong to one of the following categories:

Plant Species Occurrences

A documented location of a specimen collection or observed plant population. In some instances, adjacent, spatially separated clusters are considered subpopulations and are grouped as one occurrence (e.g., the subpopulations occur in ecologically similar habitats, and their spatial proximity likely allows them to interbreed). Tabular information for multiple observations at the same SO location is generally linked to a single polygon. Plant SO's are only created for Species of Concern and Potential Species of Concern.

Animal Species Occurrences

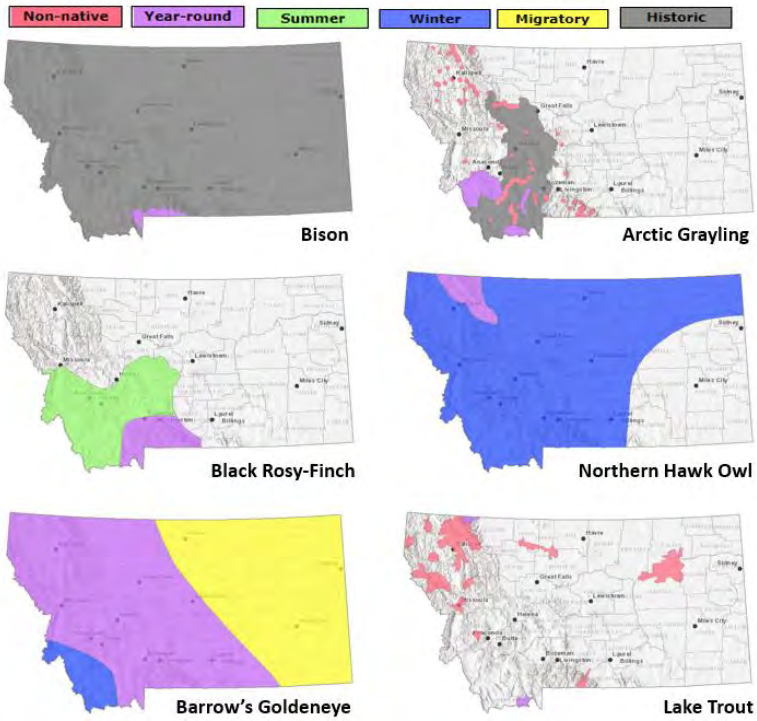
The location of a verified observation or specimen record typically known or assumed to represent a breeding population or a portion of a breeding population. Animal SO's are generally: (1) buffers of terrestrial point observations based on documented species' home range sizes; (2) buffers of stream segments to encompass occupied streams and immediate adjacent riparian habitats; (3) polygonal features encompassing known or likely breeding populations (e.g., a wetland for some amphibians or a forested portion of a mountain range for some wide-ranging carnivores); or (4) combinations of the above. Tabular information for multiple observations at the same SO location is generally linked to a single polygon. Species Occurrence polygons may encompass some unsuitable habitat in some instances in order to avoid heavy data processing associated with clipping out habitats that are readily assessed as unsuitable by the data user (e.g., a point buffer of a terrestrial species may overlap into a portion of a lake that is obviously inappropriate habitat for the species). Animal SO's are only created for Species of Concern and Special Status Species (e.g., Bald Eagle).

Other Occurrence Polygons

These include significant biological features not included in the above categories, such as Important Animal Habitats like bird rookeries and bat roosts, and peatlands or other wetland and riparian communities that support diverse plant and animal communities.

Geographic Range Polygons

Geographic range polygons are still under development for most plant and invertebrate species. Native year-round, summer, winter, migratory and historic geographic range polygons as well as polygons for introduced populations have been defined for most vertebrate animal species for which there are enough observations, surveys, and knowledge of appropriate seasonal habitat use to define them (see examples to left). These native or introduced range polygons bound the extent of known or likely occupied habitats for non-migratory and relative sedentary species and the regular extent of known or likely occupied habitats for migratory and long-distance dispersing species; polygons may include unsuitable intervening habitats. For most species, a single polygon can represent the year-round or seasonal range, but breeding ranges of some colonial nesting water birds and some introduced species are represented more patchily when supported by data. Some ranges are mapped more broadly than actual distributions in order to be visible on statewide maps (e.g., fish).



Predicted Suitable Habitat Models

Predicted habitat suitability models have been created for plant and animal Species of Concern and are undergoing development for non-Species of Concern. For species for which models have been completed, the environmental summary report includes simple rule-based associations with streams for aquatic species and seasonal habitats for game species as well as mathematically complex Maximum Entropy models (Phillips et al. 2006, Ecological Modeling 190:231-259) constructed from a variety of statewide biotic and abiotic layers and presence only data for individual species for most terrestrial species. For the Maximum Entropy models, we reclassified 90 x 90-meter continuous model output into suitability classes (unsuitable, low, moderate, and optimal) then aggregated that into the one square mile hexagons used in the environmental summary report; this is the finest spatial scale we suggest using this information in management decisions and survey planning. Full model write ups for individual species that discuss model goals, inputs, outputs, and evaluation in much greater detail are posted on the MTNHP's Predicted Suitable Habitat Models webpage. Evaluations of predictive accuracy and specific limitations are included with the metadata for models of individual species. **Model outputs should not be used in place of on-the-ground surveys for species. Instead model outputs should be used in conjunction with habitat evaluations to determine the need for on-the-ground surveys for species.** We suggest that the percentage of predicted optimal and moderate suitable habitat within the report area be used in conjunction with geographic range polygons and the percentage of commonly associated habitats to generate lists of potential species that may occupy broader landscapes for the purposes of landscape-level planning.

Associated Habitats

Within the boundary of the intersected hexagons, we provide the approximate percentage of commonly or occasionally associated habitat for vertebrate animal species that regularly breed, overwinter, or migrate through the state; a detailed list of commonly and occasionally associated habitats is provided in individual species accounts in the Montana Field Guide We assigned common or occasional use of each of the ecological

systems mapped in Montana by: (1) using personal knowledge and reviewing literature that summarizes the breeding, overwintering, or migratory habitat requirements of each species; (2) evaluating structural characteristics and distribution of each ecological system relative to the species' range and habitat requirements; (3) examining the observation records for each species in the state-wide point observation database associated with each ecological system; and (4) calculating the percentage of observations associated with each ecological system relative to the percent of Montana covered by each ecological system to get a measure of numbers of observations versus availability of habitat. Species that breed in Montana were only evaluated for breeding habitat use, species that only overwinter in Montana were only evaluated for overwintering habitat use, and species that only migrate through Montana were only evaluated for migratory habitat use. In general, species were listed as associated with an ecological system if structural characteristics of used habitat documented in the literature were present in the ecological system or large numbers of point observations were associated with the ecological system. However, species were not listed as associated with an ecological system if there was no support in the literature for use of structural characteristics in an ecological system, even if point observations were associated with that system. Common versus occasional association with an ecological system was assigned based on the degree to which the structural characteristics of an ecological system matched the preferred structural habitat characteristics for each species as represented in the scientific literature. The percentage of observations associated with each ecological system relative to the percent of Montana covered by each ecological system was also used to guide assignment of common versus occasional association.

We suggest that the percentage of commonly associated habitat within the report area be used in conjunction with geographic range polygons and the percentage of predicted optimal and moderate suitable habitat from predictive models to generate lists of potential species that may occupy broader landscapes for the purposes of landscape-level planning. Users of this information should be aware that land cover mapping accuracy is particularly problematic when the systems occur as small patches or where the land cover types have been altered over the past decade. Thus, particular caution should be used when using the associations in assessments of smaller areas (e.g., evaluations of public land survey sections).

Introduction to Land Cover

Land Use/Land Cover is one of 15 Montana Spatial Data Infrastructure framework layers considered vital for making statewide maps of Montana and understanding its geography. The layer records all Montana natural vegetation, land cover and land use, classified from satellite and aerial imagery, mapped at a scale of 1:100,000, and interpreted with supporting ground-level data. The baseline map is adapted from the Northwest ReGAP (NWGAP) project land cover classification, which used 30m resolution multi-spectral Landsat imagery acquired between 1999 and 2001. Vegetation classes were drawn from the Ecological System Classification developed by NatureServe (Comer et al. 2003). The land cover classes were developed by Anderson et al. (1976). The NWGAP effort encompasses 12 map zones. Montana overlaps seven of these zones. The two NWGAP teams responsible for the initial land cover mapping effort in Montana were Sanborn and NWGAP at the University of Idaho. Both Sanborn and NWGAP employed a similar modeling approach in which Classification and Regression Tree (CART) models were applied to Landsat ETM+ scenes. The Spatial Analysis Lab within the Montana Natural Heritage Program was responsible for developing a seamless Montana land cover map with a consistent statewide legend from these two separate products. Additionally, the Montana land cover layer incorporates several other land cover and land use products (e.g., MSDI Structures and Transportation themes and the Montana Department of Revenue Final Land Unit classification) and reclassifications based on plot-level data and the latest NAIP imagery to improve accuracy and enhance the usability of the theme. Updates are done as partner support and funding allow, or when other MSDI datasets can be incorporated. Recent updates include fire perimeters and agricultural land use (annually), energy developments such as wind, oil and gas installations (2014), roads, structures and other impervious surfaces (various years): and local updates/improvements to specific ecological systems (e.g., central Montana grassland and sagebrush ecosystems). Current and previous versions of the Land Use/Land Cover layer with full metadata are available for download from the Montana State Library's GIS Data List More information on the land cover layer is available at: https://msl.mt.gov/geoinfo/msdi/land_use_land_cover/

Within the report area you have requested, land cover is summarized by acres of Level 1, Level 2, and Level 3 Ecological Systems.

Literature Cited

Anderson, J.R. E.E. Hardy, J.T. Roach, and R.E. Witmer. 1976. A land use and land cover classification system for use with remote sensor data. U.S. Geological Survey Professional Paper 964.

Comer, P., D. Faber-Langendoen, R. Evans, S. Gawler, C. Josse, G. Kittel, S. Menard, M. Pyne, M. Reid, K. Schulz, K. Snow, and J. Teague. 2003. Ecological systems of the United States: A working classification of U.S. terrestrial systems. NatureServe, Arlington, VA.

Introduction to Wetland and Riparian

Within the report area you have requested, wetland and riparian mapping is summarized by acres of each classification present. Summaries are only provided for modern MTNHP wetland and riparian mapping and not for outdated (NWI Legacy) or incomplete (NWI Scalable) mapping efforts; described here. MTNHP has made all three of these datasets and associated metadata available for separate download on the Montana Wetland and Riparian Framework web page.

Wetland and Riparian mapping is one of 15 Montana Spatial Data Infrastructure framework layers considered vital for making statewide maps of Montana and understanding its geography. The wetland and riparian framework layer consists of spatial data representing the extent, type, and approximate location of wetlands, riparian areas, and deep water habitats in Montana.

Wetland and riparian mapping is completed through photointerpretation of 1-m resolution color infrared aerial imagery acquired from 2005 or later. A coding convention using letters and numbers is assigned to each mapped wetland. These letters and numbers describe the broad landscape context of the wetland, its vegetation type, its water regime, and the kind of alterations that may have occurred. Ancillary data layers such as topographic maps, digital elevation models, soils data, and other aerial imagery sources are also used to improve mapping accuracy. Wetland mapping follows the federal Wetland Mapping Standard and classifies wetlands according to the Cowardin classification system of the National Wetlands Inventory (NWI) (Cowardin et al. 1979, FGDC Wetlands Subcommittee 2013). Federal, State, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands differently than the NWI. Similar coding, based on U.S. Fish and Wildlife Service conventions, is applied to riparian areas (U.S. Fish and Wildlife Service 2009). These are mapped areas where vegetation composition and growth is influenced by nearby water bodies, but where soils, plant communities, and hydrology do not display true wetland characteristics. **These data are intended for use at a scale of 1:12,000 or smaller. Mapped wetland and riparian areas do not represent precise boundaries and digital wetland data cannot substitute for an on-site determination of jurisdictional wetlands.**

See detailed overviews, with examples, of both wetland and riparian classification systems and associated codes as a storymap and companion guide

Literature Cited

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service, FWS/OBS-79/31. Washington, D.C. 103pp.

Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, D.C.

U.S. Fish and Wildlife Services. 2009. A system for mapping riparian areas in the western United States. Division of Habitat and Resource Conservation, Branch of Resource and Mapping Support, Arlington, Virginia.

Introduction to Land Management

Within the report area you have requested, land management information is summarized by acres of federal, state, and local government lands, tribal reservation boundaries, private conservation lands, and federal, state, local, and private conservation easements. Acreage for "Owned", "Tribal", or "Easement" categories represents non-overlapping areas that may be totaled. However, "Other Boundaries" represents managed areas such as National Forest boundaries containing private inholdings and other mixed ownership which may cause boundaries to overlap (e.g. a wilderness area within a forest). Therefore, acreages may not total in a straight-forward manner.

Because information on land stewardship is critical to effective land management, the Montana Natural Heritage Program (MTNHP) began compiling ownership and management data in 1997. The goal of the Montana Land Management Database is to manage a single, statewide digital data set that incorporates information from both public and private entities. The database assembles information on public lands, private conservation lands, and conservation easements held by state and federal agencies and land trusts and is updated on a regular basis. Since 2011, the Information Management group in the Montana State Library's Digital Library Division has led the Montana Land Management Database in partnership with the MTNHP.

Public and private conservation land polygons are attributed with the name of the entity that owns it. The data are derived from the statewide Montana Cadastral Parcel layer Conservation easement data shows land parcels on which a public agency or qualified land trust has placed a conservation easement in cooperation with the landowner. The dataset contains no information about ownership or status of the mineral estate. For questions about the dataset or to report errors, please contact the Montana Natural Heritage Program at (406) 444-5363 or mtnhp@mt.gov. You can download various components of the Land Management Database and view associated metadata at the Montana State Library's GIS Data List at the following links:

Public Lands
Conservation Easements
Private Conservation Lands
Managed Areas

Map features in the Montana Land Management Database or summaries provided in this report are not intended as a legal depiction of public or private surface land ownership boundaries and should not be used in place of a survey conducted by a licensed land surveyor. Similarly, map features do not imply public access to any lands. The Montana Natural Heritage Program makes no representations or warranties whatsoever with respect to the accuracy or completeness of this data and assumes no responsibility for the suitability of the data for a particular purpose. The Montana Natural Heritage Program will not be liable for any damages incurred as a result of errors displayed here. Consumers of this information should review or consult the primary data and information sources to ascertain the viability of the information for their purposes.

Introduction to Invasive and Pest Species

Within the report area you have requested, separate summaries are provided for: Aquatic Invasive Species, Noxious Weeds, Agricultural Pests, Forest Pests, and Biocontrol species that have been documented or potentially occur there based on the predicted suitability of habitat. Definitions for each of these invasive and pest species categories can be found on our Species Status Codes page.

Each of these summaries provides the following information when present for a species: (1) the number of observations of each species; (2) the geographic range polygons for each species, if developed, that the report area overlaps; (3) predicted relative habitat suitability classes that are present if a predicted suitable habitat model has been created; (4) the percent of the report area that is mapped as commonly associated or occasionally associated habitat as listed for each species in the Montana Field Guide; and (5) links to species accounts in the Montana Field Guide. Details on each of these information categories are included under relevant section headers under the Introduction to Native Species above or are defined on our Species Status Codes page. In presenting this information, the Montana Natural Heritage Program (MTNHP) is working towards assisting the user with rapidly determining what invasive and pest species have been documented and what species are potentially present in the report area. We remind users that this information is likely incomplete as surveys to document introduced species are lacking in many areas of the state, information on introduced species has only been tracked relatively recently, the MTNHP's staff and resources are limited, and information is constantly being added and updated in our databases. **Thus, field verification by professional biologists of the absence or presence of species will always be an important obligation of users of our data.**

If you are aware of observation or survey datasets for invasive or pest species that the MTNHP is missing, please report them to the Program Coordinator bmaxell@mt.gov Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov If you have animal or plant observations that you would like to contribute, you can also submit them via Excel spreadsheets, geodatabases, iNaturalist, or a Survey123 form. Various methods of data submission are reviewed in this playlist of videos:
https://www.youtube.com/playlist?list=PLRaydtZpHu2qOHPoSPq9cnM9uXGmEXACx

Additional Information Resources

- MTNHP Staff Contact Information
- Montana Field Guide
- MTNHP Species of Concern Report - Animals and Plants
- MTNHP Species Status Codes - Explanation
- MTNHP Predicted Suitable Habitat Models (for select Animals and Plants)
- MTNHP Request Information page
- Montana Cadastral
- Montana Code Annotated
- Montana Fisheries Information System
- Montana Fish, Wildlife, and Parks Subdivision Recommendations
- Montana GIS Data Layers
- Montana GIS Data Bundler
- Montana Greater Sage-Grouse Project Submittal Site
- Montana Ground Water Information Center
- Montana Index of Environmental Permits, 21st Edition (2018)
- Montana Environmental Policy Act (MEPA)
- Montana Environmental Policy Act Analysis Resource List
- Laws, Treaties, Regulations, and Agreements on Animals and Plants
- Montana Spatial Data Infrastructure Layers
- Montana State Historic Preservation Office Review and Compliance
- Montana Stream Permitting: a guide for conservation district supervisors and others
- Montana Water Information System
- Montana Web Map Services
- National Environmental Policy Act
- Penalties for Misuse of Fish and Wildlife Location Data (MCA 87-6-222)
- U.S. Fish and Wildlife Service Information for Planning and Consultation (Section 7 Consultation)
- Web Soil Survey Tool

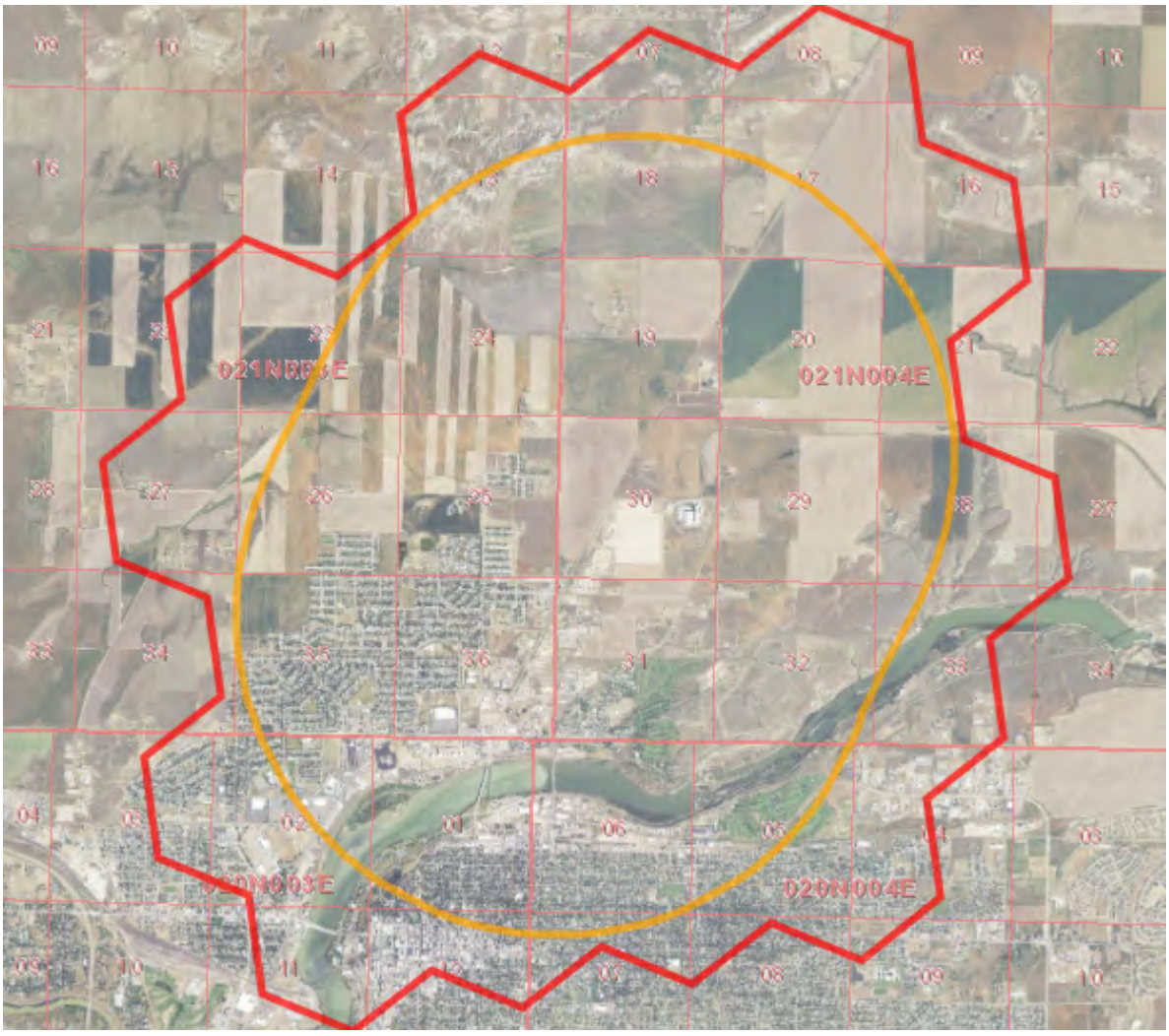
Environmental Summary

MONTANA STATE LIBRARY
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Latitude	Longitude
47.49724	-111.21548
47.59180	-111.34120

Summarized by:
24MT0016 Hwy87
(Custom Area of Interest)



Suggested Citation
Montana Natural Heritage Program. Environmental Summary Report.
for Latitude 47.49724 to 47.59180 and Longitude -111.21548 to -111.34120. Retrieved on 6/25/2024.

The Montana Natural Heritage Program is part of the Montana State Library's Natural Resource Information System. Since 1985, it has served as a neutral and non-regulatory provider of easily accessible information on Montana's species and biological communities to inform all stakeholders in environmental review, permitting, and planning processes. The program is part of the NatureServe network that is composed of over 60 member programs across North America that work to provide current and comprehensive distribution and status information on species and biological communities.

MONTANA STATE LIBRARY NATURAL HERITAGE PROGRAM
NATURESERVE

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- Introduction to Native Species
- Introduction to Land Cover
- Introduction to Wetland and Riparian
- Introduction to Land Management
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- Additional Information Resources

Introduction to Environmental Summary Report

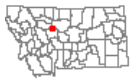
Environmental Summary Reports from the Montana Natural Heritage Program (MTNHP) provide information on species and biological communities to inform all stakeholders in environmental review, permitting, and planning processes. For information on environmental permits in Montana, please see permitting overviews by the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation, the Index of Environmental Permits for Montana and our Suggested Contacts for Natural Resource Management Agencies. The report for your area of interest consists of introductory and related materials in this PDF and an Excel workbook with worksheets summarizing information managed in the MTNHP databases for: (1) species occurrences; (2) other observed species without species occurrences; (3) other species potentially present based on their range, presence of associated habitats, or predictive distribution model output if available; (4) structured surveys that follow a protocol capable of detecting one or more species; (5) land cover mapped as ecological systems; (6) wetland and riparian mapping; (7) land management categories; and (8) biological reports associated with plant and animal observations. If your area of interest corresponds to a statewide polygon layer (e.g., watersheds, counties, or public land survey sections) information summaries in your report will exactly match those boundaries. However, if your report is for a custom area, users should be aware that summaries do not correspond to the exact boundaries of the polygon they have specified, but instead are a summary across a layer of hexagons intersected by the polygon they specified as shown on the report cover. Summarizing by these hexagons which are one square mile in area and approximately one kilometer in length on each side allows for consistent and rapid delivery of summaries based on a uniform grid that has been used for planning efforts across North America.

In presenting this information, MTNHP is working towards assisting the user with rapidly assessing the known or potential species and biological communities, land management categories, and biological reports associated with the report area. Users are reminded that this information is likely incomplete and may be inaccurate as surveys to document species are lacking in many areas of the state, species' range polygons often include regions of unsuitable habitat, methods of predicting the presence of species or communities are constantly improving, and information is constantly being added and updated in our databases. **Field verification by professional biologists of the absence or presence of species and biological communities in a report area will always be an important obligation of users of our data. Users are encouraged to only use this environmental summary report as a starting point for more in depth analyses and are encouraged to contact state, federal, and tribal resource management agencies for additional data or management guidelines relevant to your efforts. Please see the Appendix for introductory materials to each section of the report, additional information resources, and a list of relevant agency contacts.**

MONTANA STATE LIBRARY
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A program of the **Montana State Library's Natural Resource Information System**

Legend

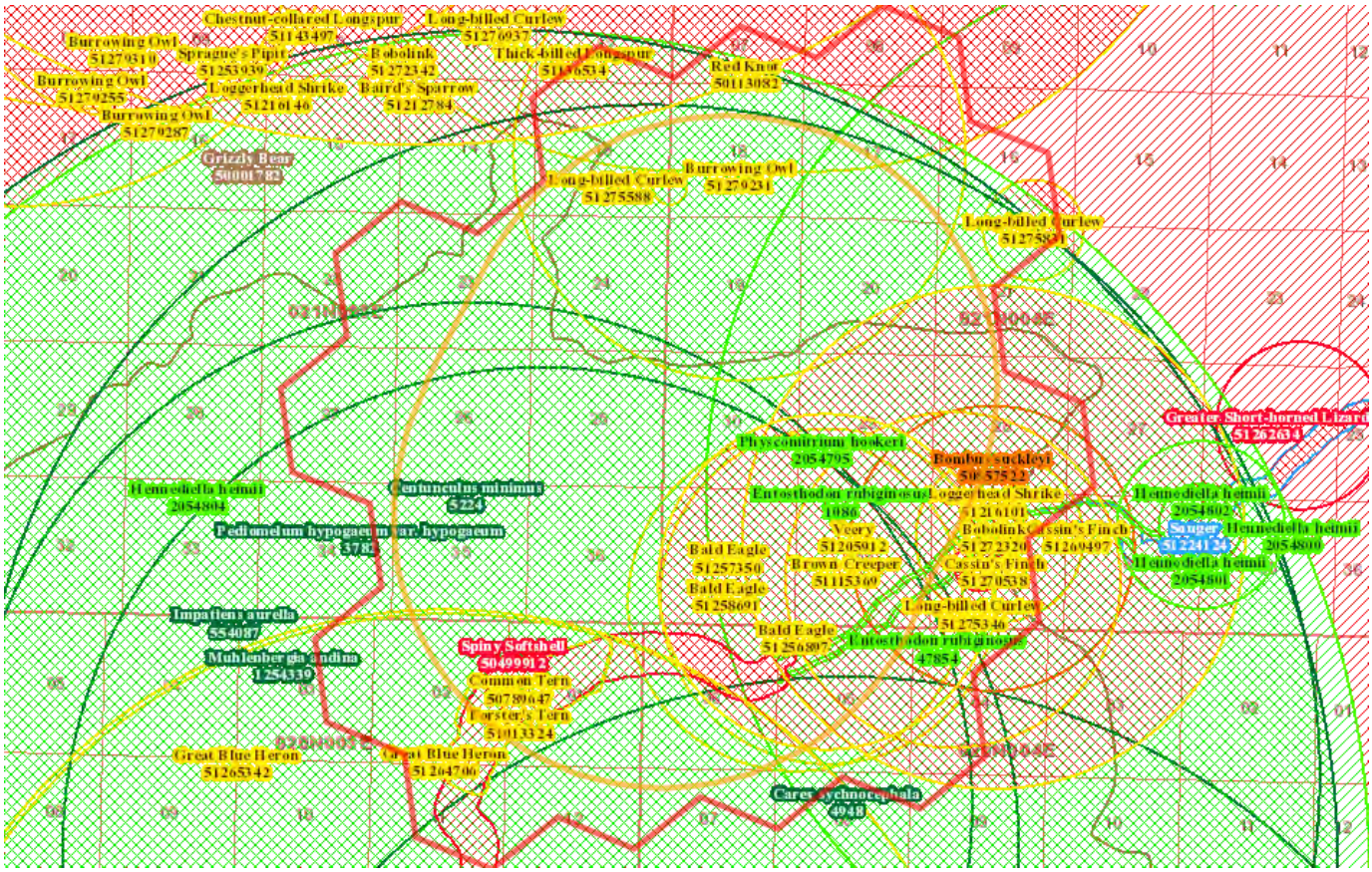
Model Icons	Habitat Icons	Range Icons	Num Obs
N Suitable (native range)	C Common	Y Native / Year-round	Count of obs with 'good precision' (<=1000m)
O Optimal Suitability	O Occasional	S Summer	+ indicates additional 'poor precision' obs (1001m-10,000m)
M Moderate Suitability		W Winter	
L Low Suitability		M Migratory	
I Suitable (introduced range)		N Non-native	
		H Historical	



Latitude	Longitude
47.49724	-111.21548
47.59180	-111.34120

Native Species

Summarized by: **24MT0016 Hwy87** *(Custom Area of Interest)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC



Species Occurrences

	USFWS Sec7	# SO	# Obs	Predicted Model	Range
V - Muhlenbergia andina *(Foxtail Muhly)* SOC		1			Y

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G4** State: **S2S3** Plant Threat Score: **Unknown**
Predicted Models: N 63% Suitable (native range) (deductive)

V - Carex sychnocephala *(Many-headed Sedge)* SOC		1	+		Y

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S1S2** Plant Threat Score: **High - Medium**
Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Apr 26, 2018)
Predicted Models: N 22% Suitable (native range) (deductive)

I - Bombus suckleyi *(Suckley Cuckoo Bumble Bee)* SOC		1	1		Y

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G2G3** State: **S1**
Delineation Criteria Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 1700 meters in order to encompass the home range of the individual as well as adjacent habitat likely to support other individuals and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jun 22, 2022)
Predicted Models: M 63% Moderate (inductive), L 33% Low (inductive)

B - Long-billed Curlew *(Numenius americanus)* SOC		4	3		S M

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC11** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 200 meters in order to approximate the breeding territory size reported for the species in Idaho and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jun 21, 2024)
Predicted Models: M 52% Moderate (inductive), L 48% Low (inductive)

V - Impatiens aurella *(Pale-yellow Jewel-weed)* SOC — 1 — Y

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species — Global: **G4** State: **S3** Plant Threat Score: **No Known Threats**

Predicted Models: M 30% Moderate (inductive), L 11% Low (inductive)

B - Loggerhead Shrike *(Lanius ludovicianus)* SOC — 2 — 5 — S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species — Global: **G4** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 300 meters in order to encompass the maximum breeding territory size reported for the species in Alberta and Idaho and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 28, 2023)

Predicted Models: M 19% Moderate (inductive), L 67% Low (inductive)

B - Bald Eagle *(Haliaeetus leucocephalus)* SSS — 3 — 101 + — Y

View in Field Guide | View Predicted Models | View Range Maps

Special Status Species - Native Species — Global: **G5** State: **S4** USFWS: **BGEPA; MBTA** USFS: **Sensitive - Known in Forests (LOLO)** BLM: **SENSITIVE** PIF: **2**

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 2,000 meters in order to be conservative about encompassing the breeding territory and area commonly used for renesting. Only nesting observations with a locational uncertainty of 1,000 meters or less will be used to delineate a nesting area. (Last Updated: Jun 06, 2024)

Predicted Models: M 19% Moderate (inductive), L 26% Low (inductive)

B - Common Tern *(Sterna hirundo)* SOC — 2 — 28 + — S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species — Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Delineation Criteria Standing water bodies with evidence of nesting buffered by 100 meters in order to reflect importance of adjacent terrestrial habitats to breeding success. (Last Updated: Jan 03, 2023)

Predicted Models: M 15% Moderate (inductive), L 15% Low (inductive)

B - Veery *(Catharus fuscescens)* SOC — 1 — 2 — S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species — Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Delineation Criteria Observations with evidence of breeding activity buffered by a minimum distance of 300 meters in order to be conservative about encompassing home ranges and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 28, 2023)

Predicted Models: M 11% Moderate (inductive), L 70% Low (inductive)

B - Great Blue Heron *(Ardea herodias)* SOC — 2 — 47 + — Y S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species — Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 6,500 meters in order to be conservative about encompassing the areas commonly used for foraging near the breeding colony and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jun 20, 2024)

Predicted Models: M 11% Moderate (inductive), L 41% Low (inductive)

B - Thick-billed Longspur *(Rhynchophanes mccownii)* SOC — 1 — S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species — Global: **G4** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 100 meters in order to encompass the maximum breeding territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jun 29, 2023)

Predicted Models: M 4% Moderate (inductive), L 48% Low (inductive)

R - Greater Short-horned Lizard *(Phrynosoma hernandesi)* SOC — 1 — 1 — Y

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species — Global: **G5** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN**

Delineation Criteria Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 300 meters in order to encompass habitats supporting other individuals and documented distances moved betweeen summer and winter habitats. Otherwise the point observation is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jun 18, 2024)

Predicted Models: M 4% Moderate (inductive), L 33% Low (inductive)

B - Burrowing Owl *(Athene cunicularia)* SOC — 2 — 6 + — S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species — Global: **G4** State: **S3B** USFWS: **MBTA; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Direct observation of a bird or birds at/on a prairie dog town is indirect but sufficient evidence of breeding (b). Point observation location is buffered by a minimum distance of 2,700 meters in order to encompass the maximum foraging distance reported for breeding adults and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jun 21, 2024)

Predicted Models: L 41% Low (inductive)

B - Baird's Sparrow *(Centronyx bairdii)* SOC — 1 — 1 — S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species — Global: **G4** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

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 100 meters in order to encompass the average breeding territory size of the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 28, 2023)

Predicted Models: L 37% Low (inductive)

B - Bobolink *(Dolichonyx oryzivorus)* SOC — 2 — S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species — Global: **G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** FWP SWAP: **SGCN3** PIF: **3**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 150 meters in order to conservatively encompass male territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jun 21, 2024)

Predicted Models: L 37% Low (inductive)

R - Spiny Softshell *(Apalone spinifera)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Delineation Criteria Stream reaches and impounded streams within the species' native range where the species naturally occurs and their presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a 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 and impounded streams 50 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Jun 19, 2024)

Predicted Models: L 26% Low (inductive)

B - Chestnut-collared Longspur *(Calcarius ornatus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **2**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 115 meters in order to encompass the maximum breeding territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jun 24, 2024)

Predicted Models: L 22% Low (inductive)

B - Forster's Tern *(Sterna forsteri)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Delineation Criteria Standing water bodies with evidence for nesting buffered by 100 meters in order to reflect importance of adjacent terrestrial habitats to breeding success. (Last Updated: Apr 02, 2024)

Predicted Models: L 22% Low (inductive)

B - Sprague's Pipit *(Anthus spragueii)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G3G4** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

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 115 meters in order to encompass the maximum breeding territory sizes reported for the species in Montana and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jun 04, 2024)

Predicted Models: L 22% Low (inductive)

V - Centunculus minimus *(Chaffweed)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2** Plant Threat Score: **No Known Threats**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Sep 06, 2017)

Predicted Models: L 11% Low (inductive)

B - Cassin's Finch *(Haemorhous cassinii)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA; BCC10** FWP SWAP: **SGCN3** PIF: **3**

Delineation Criteria Observations with evidence of breeding activity buffered by a minimum distance of 300 meters in order to be conservative about encompassing the courtship and foraging distance from nesting areas and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jun 20, 2024)

Predicted Models: L 7% Low (inductive)

M - Grizzly Bear *(Ursus arctos)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S2S3** USFWS: **LT** BLM: **THREATENED** FWP SWAP: **SGCN2-3**

Delineation Criteria Species Occurrence polygons represent areas delineated by the U.S. Fish and Wildlife Service (USFWS) that encompass both home ranges and potential transitory movements based on verified sightings. Within these areas, the USFWS wants project proponents to consider whether the species â€œmay be presentâ€ when evaluating the potential impacts of a project and to work with the USFWS to develop and implement best management practices to minimize or eliminate project effects on the species. (Last Updated: Dec 22, 2023)

Predicted Models: L 4% Low (inductive)

V - Pediomelum hypogaeum var. hypogaeum *(Little Indian Breadroot)* PSOC

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5T4** State: **S3S4**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Aug 25, 2021)

Predicted Models: L 4% Low (inductive)

B - Brown Creeper *(Certhia americana)* SOC

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **1**

Delineation Criteria Observations with evidence of breeding activity buffered by a minimum distance of 300 meters in order to be conservative about encompassing home ranges and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jun 29, 2023)

F - Sauger *(Sander canadensis)* SOC

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2** 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 14, 2024)

B - Red Knot *(Calidris canutus)* SSS

View in Field Guide

Special Status Species - Native Species Global: **G4** State: **SNA** USFWS: **LT; MBTA** BLM: **THREATENED**

Delineation Criteria Water bodies, wetland complexes, or management areas, with documented repeated use as migratory stopover locations. Water bodies are buffered by 5 km to protect against potential wind turbine collisions when birds descend to or ascend from migratory wetland habitats. (Last Updated: Jan 10, 2023)

B - Entosthodon rubiginosus *(Rusty Cord Moss)* **PSOC**	2	+	Not Assessed	

View in Field Guide
Potential Species of Concern - Native Species Global: **G1G3** State: **SH**

B - Fissidens fontanus *(Flat Pocket Moss)* **SOC**	1	1	Not Assessed	

View in Field Guide
Species of Concern - Native Species Global: **G5** State: **S1**

B - Hennediella heimii *(Heim's Hennediella Moss)* **SOC**	1		Not Assessed	

View in Field Guide
Species of Concern - Native Species Global: **G5** State: **S1**

B - Hygroamblystegium varium ssp. noterophilum *(A Conecap Moss)* **SOC**	2	2	Not Assessed	

View in Field Guide
Species of Concern - Native Species Global: **G5T4** State: **S1**

B - Physcomitrium hookeri *(Hooker's Physcomitrium Moss)* **SOC**	1		Not Assessed	

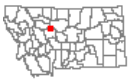
View in Field Guide
Species of Concern - Native Species Global: **G2G4** State: **S1**

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Legend

Model Icons	Habitat Icons	Range Icons
N Suitable (native range)	C Common	Y Native / Year-round
O Optimal Suitability	O Occasional	S Summer
M Moderate Suitability		W Winter
L Low Suitability		M Migratory
I Suitable (introduced range)		N Non-native
		H Historical

Num Obs
Count of obs with 'good precision' (<=1000m)
+ indicates additional 'poor precision' obs (1001m-10,000m)



Latitude	Longitude
47.49724	-111.21548
47.59180	-111.34120

Native Species

Summarized by: **24MT0016 Hwy87** *(Custom Area of Interest)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Other Observed Species

	USFWS Sec7	# Obs	Predicted Model	Range
B - American White Pelican *(Pelecanus erythrorhynchos)* **SOC**		210 +		S M
B - White-faced Ibis *(Plegadis chihi)* **SOC**		9		S M
B - Black-crowned Night-Heron *(Nycticorax nycticorax)* **SOC**		4 +		S M
B - Short-eared Owl *(Asio flammeus)* **PSOC**		1 +		Y
M - North American Porcupine *(Erethizon dorsatum)* **PSOC**		1		Y
B - Rufous Hummingbird *(Selasphorus rufus)* **PSOC**		1		S M
B - Caspian Tern *(Hydroprogne caspia)* **SOC**		26 +		S M
B - Black-necked Stilt *(Himantopus mexicanus)* **SOC**		14		S M
B - Ovenbird *(Seiurus aurocapilla)* **PSOC**		2		S M
B - Ferruginous Hawk *(Buteo regalis)* **SOC**		4 +		S M
B - Barrow's Goldeneye *(Bucephala islandica)* **PSOC**		91 +		Y W M
M - Black-tailed Prairie Dog *(Cynomys ludovicianus)* **SOC**		+		Y

B - American White Pelican *(Pelecanus erythrorhynchos)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**
Predicted Models: O 30% Optimal (inductive), M 19% Moderate (inductive), L 37% Low (inductive)

B - White-faced Ibis *(Plegadis chihi)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Predicted Models: O 7% Optimal (inductive), M 33% Moderate (inductive), L 33% Low (inductive)

B - Black-crowned Night-Heron *(Nycticorax nycticorax)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**
Predicted Models: O 4% Optimal (inductive), M 15% Moderate (inductive), L 11% Low (inductive)

B - Short-eared Owl *(Asio flammeus)* **PSOC**

View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA; BCC11; BCC17** PIF: **3**
Predicted Models: M 63% Moderate (inductive), L 33% Low (inductive)

M - North American Porcupine *(Erethizon dorsatum)* **PSOC**

View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4** FWP SWAP: **SGIN**
Predicted Models: M 56% Moderate (inductive), L 41% Low (inductive)

B - Rufous Hummingbird *(Selasphorus rufus)* **PSOC**

View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G4** State: **S4B** USFWS: **MBTA; BCC10** PIF: **3**
Predicted Models: M 41% Moderate (inductive), L 30% Low (inductive)

B - Caspian Tern *(Hydroprogne caspia)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **2**
Predicted Models: M 19% Moderate (inductive), L 19% Low (inductive)

B - Black-necked Stilt *(Himantopus mexicanus)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**
Predicted Models: M 15% Moderate (inductive), L 56% Low (inductive)

B - Ovenbird *(Seiurus aurocapilla)* **PSOC**

View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA** PIF: **3**
Predicted Models: M 15% Moderate (inductive), L 37% Low (inductive)

B - Ferruginous Hawk *(Buteo regalis)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Predicted Models: M 7% Moderate (inductive), L 74% Low (inductive)

B - Barrow's Goldeneye *(Bucephala islandica)* **PSOC**

View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **2**
Predicted Models: M 7% Moderate (inductive), L 59% Low (inductive)

M - Black-tailed Prairie Dog *(Cynomys ludovicianus)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**
Predicted Models: M 4% Moderate (inductive), L 70% Low (inductive)

B - Green-tailed Towhee *(Pipilo chlorurus)* SOC — 2 — S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species — Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**

Predicted Models: M 4% Moderate (inductive), L 44% Low (inductive)

B - Sharp-tailed Grouse *(Tympanuchus phasianellus)* SOC — 2 — Y

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species — Global: **G5** State: **SX,S4** FWP SWAP: **SGCN1** PIF: **2**

Predicted Models: L 100% Low (inductive)

B - Black Tern *(Chlidonias niger)* SOC — 3 — S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species — Global: **G4G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Predicted Models: L 30% Low (inductive)

B - American Bittern *(Botaurus lentiginosus)* SOC — 1 — S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species — Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **3**

Predicted Models: L 22% Low (inductive)

M - Swift Fox *(Vulpes velox)* SOC — + — Y

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species — Global: **G3** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Predicted Models: L 19% Low (inductive)

B - Golden Eagle *(Aquila chrysaetos)* SOC — 5 + — Y

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species — Global: **G5** State: **S3** USFWS: **BGEPA; MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Predicted Models: L 15% Low (inductive)

B - Horned Grebe *(Podiceps auritus)* SOC — 20 — S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species — Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Predicted Models: L 15% Low (inductive)

B - Franklin's Gull *(Leucophaeus pipixcan)* SOC — 146 + — S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species — Global: **G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Predicted Models: L 4% Low (inductive)

B - American Goshawk *(Accipiter atricapillus)* SOC — 5 — Not Assessed — Y WM

View in Field Guide | View Range Maps

Species of Concern - Native Species — Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **2**

B - Clark's Nutcracker *(Nucifraga columbiana)* SOC — 2 — Not Assessed — Y

View in Field Guide | View Range Maps

Species of Concern - Native Species — Global: **G5** State: **S3** USFWS: **MBTA** USFS: **Species of Conservation Concern in Forests (FLAT)** FWP SWAP: **SGCN3** PIF: **3**

B - Gray-crowned Rosy-Finch *(Leucosticte tephrocotis)* SOC — 2 + — Not Assessed — WM

View in Field Guide | View Range Maps

Species of Concern - Native Species — Global: **G5** State: **S2** USFWS: **MBTA** FWP SWAP: **SGCN2, SGIN**

B - Black-and-white Warbler *(Mniotilta varia)* PSOC — 3 — Not Assessed — M

View in Field Guide | View Range Maps

Potential Species of Concern - Native Species — Global: **G5** State: **S4B** USFWS: **MBTA**

B - Clark's Grebe *(Aechmophorus clarkii)* SOC — 4 — Not Assessed — M

View in Field Guide | View Range Maps

Species of Concern - Native Species — Global: **G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11** FWP SWAP: **SGCN3** PIF: **3**

B - Common Loon *(Gavia immer)* SOC — 53 + — Not Assessed — M

View in Field Guide | View Range Maps

Species of Concern - Native Species — Global: **G5** State: **S3B** USFWS: **MBTA** USFS: **Sensitive - Known in Forests (LOLO)** FWP SWAP: **SGCN3** PIF: **1**

B - Hooded Merganser *(Lophodytes cucullatus)* PSOC — 79 + — Not Assessed — M

View in Field Guide | View Range Maps

Potential Species of Concern - Native Species — Global: **G5** State: **S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **2**

B - Piping Plover *(Charadrius melodus)* SOC — + — Not Assessed — M

View in Field Guide | View Range Maps

Species of Concern - Native Species — Global: **G3** State: **S2B** USFWS: **LT; CH; MBTA** BLM: **THREATENED** FWP SWAP: **SGCN2** PIF: **1**

B - Tennessee Warbler *(Leiothlypis peregrina)* PSOC — 1 — Not Assessed — M

View in Field Guide | View Range Maps

Potential Species of Concern - Native Species — Global: **G5** State: **S3S4B** USFWS: **MBTA**

B - Trumpeter Swan *(Cygnus buccinator)* SOC — 12 + — Not Assessed — M

View in Field Guide | View Range Maps

Species of Concern - Native Species — Global: **G4** State: **S3** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

M - Black-footed Ferret *(Mustela nigripes)* **SOC** | + | Not Assessed | H

View in Field Guide **View Range Maps**

Species of Concern - Native Species Global: **G1** State: **S1** USFWS: **LE; XN** BLM: **ENDANGERED** FWP SWAP: **SGCN1**

B - Harlequin Duck *(Histrionicus histrionicus)* **SOC** | 1 | Not Assessed

View in Field Guide

Species of Concern - Native Species Global: **G4** State: **S2B** USFWS: **MBTA** USFS: **Sensitive - Known in Forests (BD, KOOT, LOLO)** **Sensitive - Migratory in Forests (BRT)** FWP SWAP: **SGCN2** PIF: **1**

B - Pacific Wren *(Troglodytes pacificus)* **SOC** | 1 | Not Assessed

View in Field Guide

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **2**

B - Pileated Woodpecker *(Dryocopus pileatus)* **SOC** | 2 | Not Assessed

View in Field Guide

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **2**

B - Varied Thrush *(Ixoreus naevius)* **SOC** | 1 | Not Assessed

View in Field Guide

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**

B - Western Screech-Owl *(Megascops kennicottii)* **PSOC** | 2 | Not Assessed

View in Field Guide

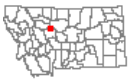
Potential Species of Concern - Native Species Global: **G4G5** State: **S3S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3**

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Legend

Model Icons	Habitat Icons	Range Icons
N Suitable (native range)	C Common	Y Native / Year-round
O Optimal Suitability	O Occasional	S Summer
M Moderate Suitability		W Winter
L Low Suitability		M Migratory
I Suitable (introduced range)		N Non-native
		H Historical

Num Obs
Count of obs with 'good precision' (<=1000m)
+ indicates additional 'poor precision' obs (1001m-10,000m)



Latitude	Longitude
47.49724	-111.21548
47.59180	-111.34120

Native Species

Summarized by: **24MT0016 Hwy87** *(Custom Area of Interest)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Other Potential Species

	USFWS Sec7	Predicted Model	Range
F - Burbot *(Lota lota)* PSOC			Y
I - Danaus plexippus *(Monarch)* SOC			S
R - Plains Hog-nosed Snake *(Heterodon nasicus)* SOC			Y
M - Spotted Bat *(Euderma maculatum)* SOC			S M
M - Merriam's Shrew *(Sorex merriami)* SOC			Y
M - Dwarf Shrew *(Sorex nanus)* SOC			Y
B - Black-billed Cuckoo *(Coccyzus erythropthalmus)* SOC			S M
M - Hoary Bat *(Lasiurus cinereus)* SOC			S M
M - Eastern Red Bat *(Lasiurus borealis)* SOC			S M
M - Long-legged Myotis *(Myotis volans)* SOC			Y
M - Little Brown Myotis *(Myotis lucifugus)* SOC			Y
V - Stellaria crassifolia *(Fleshy Stitchwort)* SOC			Y

F - Burbot *(Lota lota)* PSOC

View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4**
Predicted Models: N 26% Suitable (native range) (deductive)

I - Danaus plexippus *(Monarch)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2S3** USFWS: **C** USFS: **Sensitive - Migratory in Forests (BD, BRT, KOOT)**
Predicted Models: O 30% Optimal (inductive), M 15% Moderate (inductive), L 30% Low (inductive)

R - Plains Hog-nosed Snake *(Heterodon nasicus)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** BLM: **SENSITIVE** FWP SWAP: **SGCN2, SGIN**
Predicted Models: O 11% Optimal (inductive), M 22% Moderate (inductive), L 44% Low (inductive)

M - Spotted Bat *(Euderma maculatum)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN**
Predicted Models: O 11% Optimal (inductive), M 22% Moderate (inductive), L 44% Low (inductive)

M - Merriam's Shrew *(Sorex merriami)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** FWP SWAP: **SGCN3**
Predicted Models: O 4% Optimal (inductive), M 85% Moderate (inductive), L 11% Low (inductive)

M - Dwarf Shrew *(Sorex nanus)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2S3** FWP SWAP: **SGCN2-3**
Predicted Models: M 30% Moderate (inductive), L 67% Low (inductive)

B - Black-billed Cuckoo *(Coccyzus erythropthalmus)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN** PIF: **2**
Predicted Models: M 26% Moderate (inductive), L 48% Low (inductive)

M - Hoary Bat *(Lasiurus cinereus)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S3B** BLM: **SENSITIVE** FWP SWAP: **SGCN3**
Predicted Models: M 15% Moderate (inductive), L 81% Low (inductive)

M - Eastern Red Bat *(Lasiurus borealis)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S3B** BLM: **SENSITIVE**
Predicted Models: M 15% Moderate (inductive), L 41% Low (inductive)

M - Long-legged Myotis *(Myotis volans)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4G5** State: **S3**
Predicted Models: M 11% Moderate (inductive), L 70% Low (inductive)

M - Little Brown Myotis *(Myotis lucifugus)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S3** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT)** FWP SWAP: **SGCN3**
Predicted Models: M 11% Moderate (inductive), L 56% Low (inductive)

V - Stellaria crassifolia *(Fleshy Stitchwort)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** Plant Threat Score: **No Known Threats**
Predicted Models: M 11% Moderate (inductive), L 33% Low (inductive)

M - Hayden's Shrew *(Sorex haydeni)* PSOC

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3S4**

Predicted Models: M 7% Moderate (inductive), L 93% Low (inductive)

R - Western Milksnake *(Lampropeltis gentilis)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2** BLM: **SENSITIVE** FWP SWAP: **SGCN2**

Predicted Models: M 7% Moderate (inductive), L 37% Low (inductive)

V - Cypripedium parviflorum *(Small Yellow Lady's-slipper)* PSOC

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3S4** USFS: **Sensitive - Known in Forests (LOLO)** **Species of Conservation Concern in Forests (CG, HLC)**

Predicted Models: M 4% Moderate (inductive), L 41% Low (inductive)

B - Sage Thrasher *(Oreoscoptes montanus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **3**

Predicted Models: M 4% Moderate (inductive), L 41% Low (inductive)

B - Lewis's Woodpecker *(Melanerpes lewis)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S2B** USFWS: **MBTA; BCC10; BCC17** USFS: **Species of Conservation Concern in Forests (HLC)** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **2**

Predicted Models: M 4% Moderate (inductive), L 37% Low (inductive)

B - Brewer's Sparrow *(Spizella breweri)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Predicted Models: M 4% Moderate (inductive), L 26% Low (inductive)

I - Oreohelix strigosa berryi *(Berry's Mountainsnail)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5T2** State: **S1S2**

Predicted Models: M 4% Moderate (inductive), L 4% Low (inductive)

V - Elodea bifoliata *(Long-sheath Waterweed)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4G5** State: **S2?** Plant Threat Score: **No Known Threats**

Predicted Models: L 70% Low (inductive)

B - Common Poorwill *(Phalaenoptilus nuttallii)* PSOC

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3**

Predicted Models: L 63% Low (inductive)

M - Long-eared Myotis *(Myotis evotis)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3**

Predicted Models: L 56% Low (inductive)

M - Silver-haired Bat *(Lasionycteris noctivagans)* PSOC

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G3G4** State: **S4**

Predicted Models: L 56% Low (inductive)

B - Eastern Bluebird *(Sialia sialis)* PSOC

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA**

Predicted Models: L 48% Low (inductive)

V - Carex crawei *(Crawe's Sedge)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2S3** Plant Threat Score: **Low**

Predicted Models: L 37% Low (inductive)

A - Great Plains Toad *(Anaxyrus cognatus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2** BLM: **SENSITIVE** FWP SWAP: **SGCN2**

Predicted Models: L 30% Low (inductive)

A - Northern Leopard Frog *(Lithobates pipiens)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S1,S4** USFS: **Sensitive - Suspected in Forests (KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN1**

Predicted Models: L 26% Low (inductive)

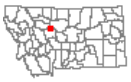
M - Townsend's Big-eared Bat *(Corynorhinus townsendii)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known in Forests (LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Predicted Models: L 22% Low (inductive)

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Structured Surveys

Summarized by: **24MT0016 Hwy87** *(Custom Area of Interest)*

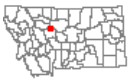
The Montana Natural Heritage Program (MTNHP) records information on the locations where more than 80 different types of well-defined repeatable survey protocols capable of detecting an animal species or suite of animal species have been conducted by state, federal, tribal, university, or private consulting biologists. Examples of structured survey protocols tracked by MTNHP include: visual encounter and dip net surveys for pond breeding amphibians, point counts for birds, call playback surveys for selected bird species, visual surveys of migrating raptors, kick net stream reach surveys for macroinvertebrates, visual encounter cover object surveys for terrestrial mollusks, bat acoustic or mist net surveys, pitfall and/or snap trap surveys for small terrestrial mammals, track or camera trap surveys for large mammals, and trap surveys for turtles. Whenever possible, photographs of survey locations are stored in MTNHP databases.

MTNHP does not typically manage information on structured surveys for plants; surveys for invasive species may be a future exception.

Within the report area you have requested, structured surveys are summarized by the number of each type of structured survey protocol that has been conducted, the number of species detections/observations resulting from these surveys, and the most recent year a survey has been conducted.

B-Bald Eagle Nest *(Bald Eagle Nest Survey)*	**Survey Count**: 7	**Obs Count**: 7	**Recent Survey**: 2014
B-BBS *(Breeding Bird Survey Stop)*	**Survey Count**: 144	**Obs Count**: 748	**Recent Survey**: 2007
B-Waterbird/Shorebird *(Colonial-nesting Waterbird/Shorebird/Waterfowl Surveys)*	**Survey Count**: 1	**Obs Count**: 3	**Recent Survey**: 2014
E-Eastern Heath Snail *(Eastern Heath Snail Survey)*	**Survey Count**: 16	**Obs Count**:	**Recent Survey**: 2012
E-Eurasian Water-milfoil Rake *(Rake tows/pulls for Eurasian Water-milfoil)*	**Survey Count**: 21	**Obs Count**: 46	**Recent Survey**: 2023
E-Invasive Mussel Plankton Tow *(Plankton tows for veligers of Invasive Mussels)*	**Survey Count**: 35	**Obs Count**:	**Recent Survey**: 2023
E-Invasive Mussel Substrate *(Artificial Substrate for Invasive Mussels)*	**Survey Count**: 1	**Obs Count**:	**Recent Survey**: 2017
E-Kicknet *(Kicknet Collection Survey for Invasive Mussels and Snails)*	**Survey Count**: 45	**Obs Count**: 15	**Recent Survey**: 2023
E-Noxious Weed, Road-based *(Noxious Weed Road-based Visual Surveys)*	**Survey Count**: 38	**Obs Count**: 93	**Recent Survey**: 2003
E-Visual Aquatic Invasives *(Visual Encounter Surveys for Aquatic Invasives on Shorelines or Underwater)*	**Survey Count**: 29	**Obs Count**: 10	**Recent Survey**: 2023
I-Bumble Bee *(Bumble Bee Collection Surveys)*	**Survey Count**: 1	**Obs Count**: 1	**Recent Survey**: 1994
I-Crayfish *(Crayfish Survey)*	**Survey Count**: 1	**Obs Count**: 1	**Recent Survey**: 1957
I-Mussel *(Stream Mussel Survey)*	**Survey Count**: 2	**Obs Count**: 1	**Recent Survey**: 2009
M-Bat Mistnet *(Bat Mistnet Survey)*	**Survey Count**: 1	**Obs Count**: 1	**Recent Survey**: 2009
M-Bat Roost (Active Season) *(Bat Roost (Active Season) Survey)*	**Survey Count**: 1	**Obs Count**: 2	**Recent Survey**: 2004

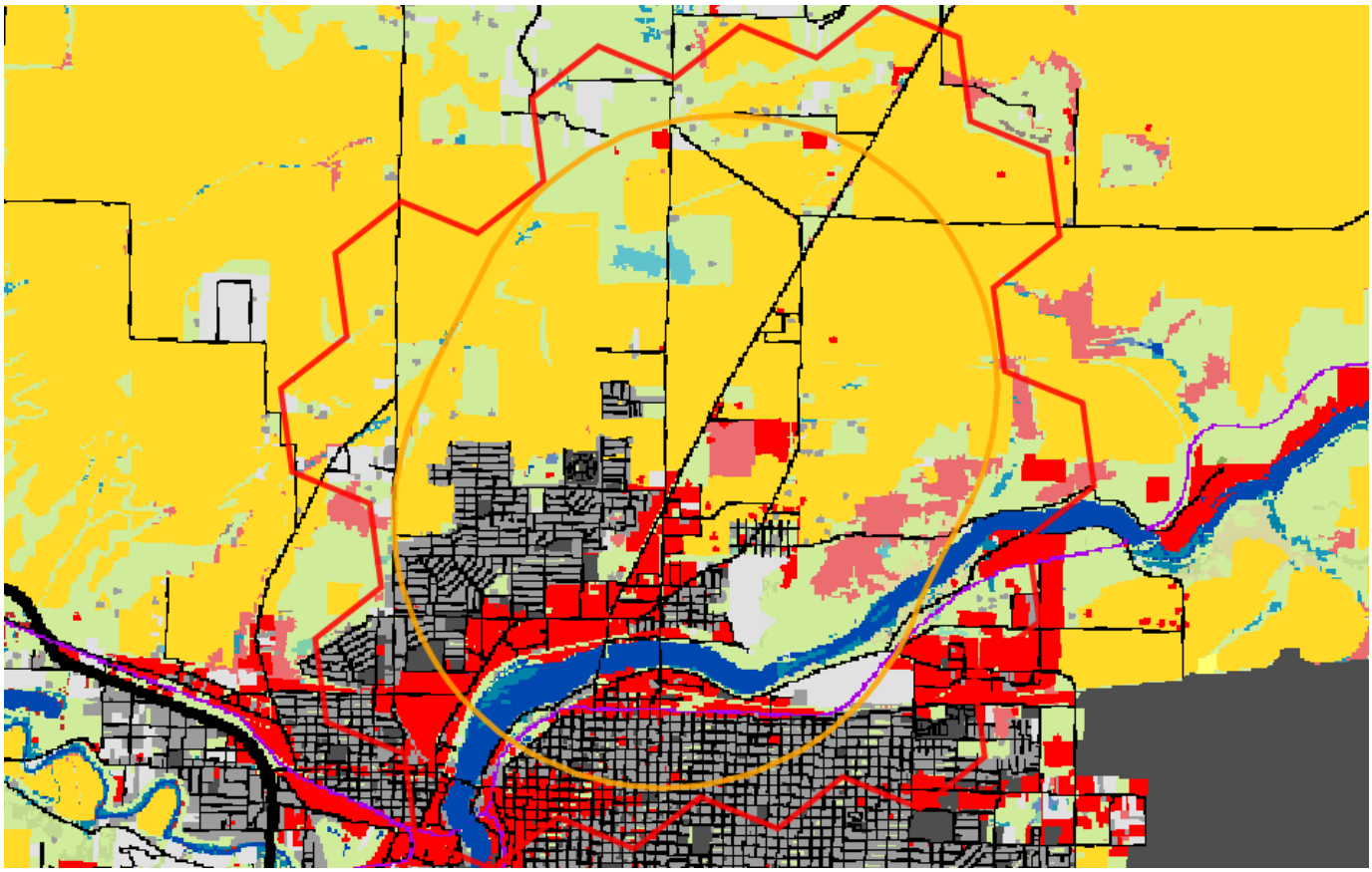
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Land Cover

Summarized by: **24MT0016 Hwy87** *(Custom Area of Interest)*





41% (*7,010 Acres*)

Human Land Use
Agriculture
Cultivated Crops

These areas used for the production of crops, such as corn, soybeans, small grains, sunflowers, vegetables, and cotton, typically on an annual cycle. Agricultural plant cover is variable depending on season and type of farming. Other areas include more stable land cover of orchards and vineyards.



16% (*2,722 Acres*)

Grassland Systems
Lowland/Prairie Grassland
Great Plains Mixedgrass Prairie

The system covers much of the eastern two-thirds of Montana, occurring continuously for hundreds of square kilometers, interrupted only by wetland/riparian areas or sand prairies. Soils are primarily fine and medium-textured. The growing season averages 115 days, ranging from 100 days on the Canadian border to 130 days on the Wyoming border. Climate is typical of mid-continental regions with long severe winters and hot summers. Grasses typically comprise the greatest canopy cover, and western wheatgrass (*Pascopyrum smithii*) is usually dominant. Other species include thickspike wheatgrass (*Elymus lanceolatus*), green needlegrass (*Nassella viridula*), blue grama (*Bouteloua gracilis*), and needle and thread (*Hesperostipa comata*). Near the Canadian border in north-central Montana, this system grades into rough fescue (*Festuca campestris)* and Idaho fescue (*Festuca idahoensis*) grasslands. Remnants of shortbristle needle and thread *(Hesperostipa curtiseta)* dominated vegetation are found in northernmost Montana and North Dakota, and are associated with productive sites, now mostly converted to farmland. Forb diversity is typically high. In areas of southeastern and central Montana where sagebrush steppe borders the mixed grass prairie, common plant associations include Wyoming big sagebrush-western wheatgrass (*Artemisia tridentata* ssp. *wyomingensis/ Pascopyrum smithii*). Fire and grazing are the primary drivers of this system. Drought can also impact it, in general favoring the shortgrass component at the expense of the mid-height grasses. With intensive grazing, cool season exotics such as Kentucky bluegrass (*Poa pratensis*), smooth brome (*Bromus inermis*), and Japanese brome (*Bromus japonicus*) increase in dominance; both of these rhizomatous species have been shown to markedly decrease species diversity. Previously cultivated acres that have been re-vegetated with non-native plants have been transformed into associations such as Kentucky bluegrass (*Poa pratensis*)/western wheatgrass *(Pascopyrum smithii)* or into pure crested wheatgrass (*Agropyron cristatum)* stands.

No Image

11% (*1,878 Acres*)

Human Land Use
Developed
Other Roads

County, city and or rural roads generally open to motor vehicles.



10% (*1,655 Acres*)

Human Land Use
Developed
Low Intensity Residential

Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20-50% of total cover. These areas most commonly include single-family housing units in rural and suburban areas. Paved roadways may be classified into this category.

No Image

9% (*1,481 Acres*)

Human Land Use
Developed
Commercial / Industrial

Businesses, industrial parks, hospitals, airports; utilities in commercial/industrial areas.



4% (*621 Acres*)

Wetland and Riparian Systems
Open Water
Open Water

All areas of open water, generally with less than 25% cover of vegetation or soil



3% (*524 Acres*)

Human Land Use
Developed
Developed, Open Space

Vegetation (primarily grasses) planted in developed settings for recreation, erosion control, or aesthetic purposes. Impervious surfaces account for less than 20% of total cover. This category often includes highway and railway rights of way and graveled rural roads.



3% (*518 Acres*)

Recently Disturbed or Modified
Introduced Vegetation
Introduced Upland Vegetation - Annual and Biennial Forbland

Land cover is significantly altered/disturbed by introduced annual and biennial forbs. Natural vegetation types are no longer recognizable. Typical species that dominate these areas are knapweed, oxeye daisy, Canada thistle, leafy spurge, pepperweed, and yellow sweetclover.



2% (*281 Acres*)

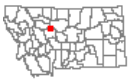
Human Land Use
Developed
High Intensity Residential

Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50-80% of the total cover. These areas most commonly include single-family housing units in urban areas. Paved roadways, parking lots, and other large impervious surfaces may be classified into this category.

Additional Limited Land Cover

1% (*191 Acres*) Major Roads
<1% (*85 Acres*) Great Plains Floodplain
<1% (*84 Acres*) Railroad
<1% (*68 Acres*) Great Plains Saline Depression Wetland
<1% (*55 Acres*) Great Plains Sand Prairie
<1% (*33 Acres*) Great Plains Riparian
<1% (*26 Acres*) Great Plains Badlands
<1% (*9 Acres*) Great Plains Closed Depressional Wetland
<1% (*8 Acres*) Great Plains Shrubland
<1% (*6 Acres*) Great Plains Open Freshwater Depression Wetland
<1% (*5 Acres*) Emergent Marsh
<1% (*2 Acres*) Great Plains Cliff and Outcrop

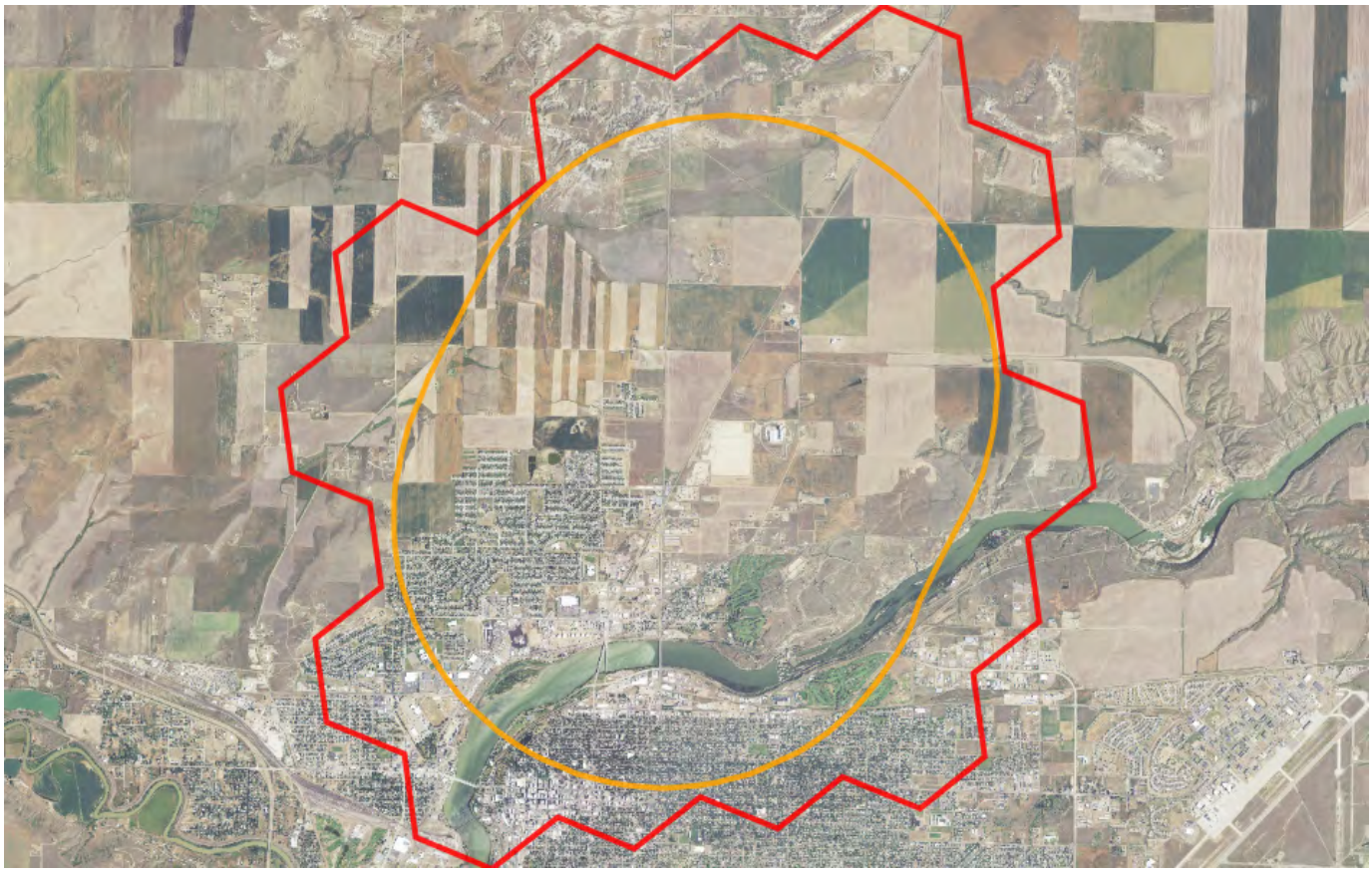
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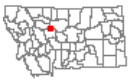
Wetland and Riparian

Summarized by: **24MT0016 Hwy87** *(Custom Area of Interest)*



No Wetland records were found in the selected area

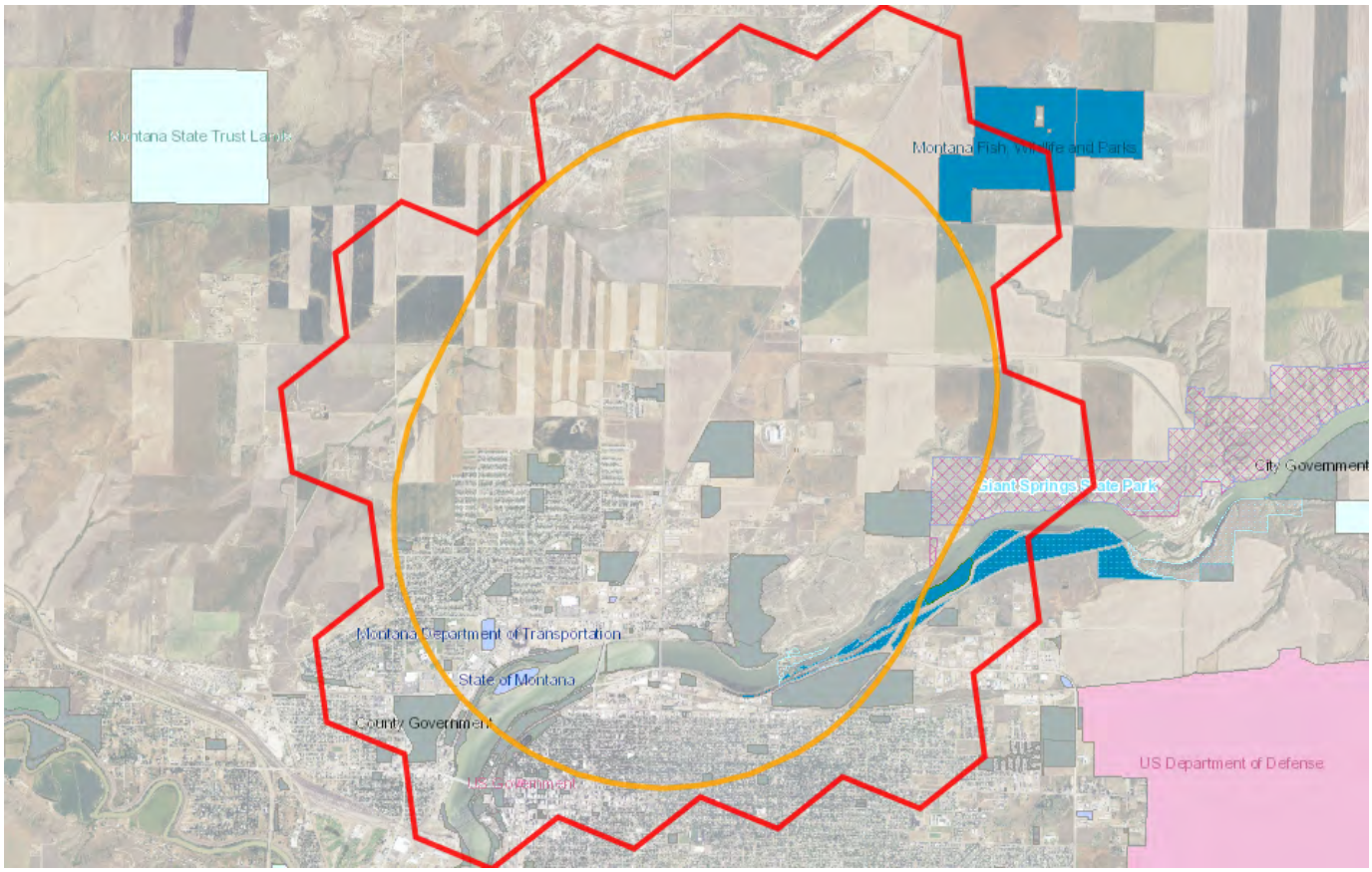
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Land Management

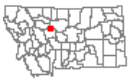
Summarized by: **24MT0016 Hwy87** *(Custom Area of Interest)*



Land Management Summary

	Ownership	Tribal	Easements	Other Boundaries (possible overlap)
Public Lands	**1,418 Acres (8%)**			
Federal	**3 Acres (<1%)**			
US Forest Service				
USFS Ranger Districts				**27 Acres**
Helena-Lewis & Clark National Forest, Belt Creek Ranger District				27 Acres
USFS National Forest Boundaries				**27 Acres**
Helena-Lewis & Clark National Forest				27 Acres
US Government	**3 Acres (<1%)**			
US Government Owned	**3 Acres (<1%)**			
State	**411 Acres (2%)**			
Montana Fish, Wildlife and Parks	**375 Acres (2%)**			
MTFWP Owned	**375 Acres (2%)**			
MTFWP State Parks				**471 Acres**
Giant Springs State Park				471 Acres
Montana Department of Transportation	**16 Acres (<1%)**			
MTDOT Owned	**16 Acres (<1%)**			
State of Montana	**20 Acres (<1%)**			
State of Montana Owned	**20 Acres (<1%)**			
Local	**1,004 Acres (6%)**			
Local Government	**1,004 Acres (6%)**			
Local Government Owned	**1,004 Acres (6%)**			
Conservation Easements			**320 Acres (2%)**	
State & Local			**320 Acres (2%)**	
Montana Fish, Wildlife and Parks			**320 Acres (2%)**	
Private Lands or Unknown Ownership	**15,523 Acres (90%)**			

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Biological Reports

Summarized by: **24MT0016 Hwy87** *(Custom Area of Interest)*

Within the report area you have requested, citations for all reports and publications associated with plant or animal observations in Montana Natural Heritage Program (MTNHP) databases are listed and, where possible, links to the documents are included.

The MTNHP plans to include reports associated with terrestrial and aquatic communities in the future as allowed for by staff resources. If you know of reports or publications associated with species or biological communities within the report area that are not shown in this report, please let us know: mtnhp@mt.gov

No Biological Reports were found in the selected area

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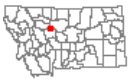
Legend

Model Icons
- N Suitable (native range)
- O Optimal Suitability
- M Moderate Suitability
- L Low Suitability
- I Suitable (introduced range)

Habitat Icons
- C Common
- O Occasional

Range Icons
- N Non-native

Num Obs
Count of obs with 'good precision' (<=1000m)
+ indicates additional 'poor precision' obs (1001m-10,000m)



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Invasive and Pest Species

Summarized by: **24MT0016 Hwy87** *(Custom Area of Interest)*

	# Obs	Predicted Model	Range
Aquatic Invasive Species			
V - Potamogeton crispus *(Curly-leaf Pondweed)* **N2B/AIS**	11		N
View in Field Guide · View Predicted Models · View Range Maps			
Noxious Weed: Priority 2B - Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**			
Predicted Models: O 11% Optimal (inductive), M 7% Moderate (inductive), L 15% Low (inductive)			
V - Butomus umbellatus *(Flowering-rush)* **N2A/AIS**			N
View in Field Guide · View Predicted Models · View Range Maps			
Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**			
Predicted Models: O 4% Optimal (inductive), M 7% Moderate (inductive), L 19% Low (inductive)			
V - Myriophyllum spicatum *(Eurasian Water-milfoil)* **N2A/AIS**			N
View in Field Guide · View Predicted Models · View Range Maps			
Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: **GNR** State: **SNA**			
Predicted Models: L 26% Low (inductive)			
V - Nymphaea odorata *(American Water-lily)* **AIS**			N
View in Field Guide · View Predicted Models · View Range Maps			
Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**			
Predicted Models: I 81% Suitable (introduced range) (deductive)			
F - Common Carp *(Cyprinus carpio)* **AIS**	+		N
View in Field Guide · View Predicted Models · View Range Maps			
Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**			
Predicted Models: I 26% Suitable (introduced range) (deductive)			
I - Faxonius virilis *(Virile Crayfish)* **AIS**	9	Not Assessed	N
View in Field Guide · View Range Maps			
Aquatic Invasive Species - Native/Non-native Species - (depends on location or taxa) Global: **G5** State: **S5**			
I - Potamopyrgus antipodarum *(New Zealand Mudsnail)* **AIS**	2	Not Assessed	
View in Field Guide			
Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**			
Noxious Weeds: Priority 1A			
V - Isatis tinctoria *(Dyer's Woad)* **N1A**			N
View in Field Guide · View Predicted Models · View Range Maps			
Noxious Weed: Priority 1A - Non-native Species Global: **GNR** State: **SNA**			
Predicted Models: O 41% Optimal (inductive), M 15% Moderate (inductive), L 30% Low (inductive)			
V - Centaurea solstitialis *(Yellow Starthistle)* **N1A**			N
View in Field Guide · View Predicted Models · View Range Maps			
Noxious Weed: Priority 1A - Non-native Species Global: **GNR** State: **SNA**			
Predicted Models: O 37% Optimal (inductive), M 7% Moderate (inductive), L 22% Low (inductive)			
V - Taeniatherum caput-medusae *(Medusahead)* **N1A**			N
View in Field Guide · View Predicted Models · View Range Maps			
Noxious Weed: Priority 1A - Non-native Species Global: **G4G5** State: **SNA**			
Predicted Models: M 15% Moderate (inductive), L 44% Low (inductive)			
V - Phragmites australis ssp. australis *(European Common Reed)* **N1A**			N
View in Field Guide · View Predicted Models · View Range Maps			
Noxious Weed: Priority 1A - Non-native Species Global: **G5T5** State: **SNA**			
Predicted Models: M 11% Moderate (inductive), L 37% Low (inductive)			
Noxious Weeds: Priority 1B			
V - Lythrum salicaria *(Purple Loosestrife)* **N1B**	19		N
View in Field Guide · View Predicted Models · View Range Maps			
Noxious Weed: Priority 1B - Non-native Species Global: **G5** State: **SNA**			
Predicted Models: O 44% Optimal (inductive), M 15% Moderate (inductive), L 26% Low (inductive)			
V - Polygonum cuspidatum *(Japanese Knotweed)* **N1B**			N
View in Field Guide · View Predicted Models · View Range Maps			
Noxious Weed: Priority 1B - Non-native Species Global: **GNRTNR** State: **SNA**			
Predicted Models: O 33% Optimal (inductive), M 11% Moderate (inductive), L 11% Low (inductive)			

V - Polygonum x bohemicum *(Bohemian Knotweed)* **N1B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1B - Non-native Species Global: **GNA** State: **SNA**

Predicted Models: O 11% Optimal (inductive), M 7% Moderate (inductive), L 19% Low (inductive)

V - Cytisus scoparius *(Scotch Broom)* **N1B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 15% Moderate (inductive), L 37% Low (inductive)

V - Chondrilla juncea *(Rush Skeletonweed)* **N1B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 4% Moderate (inductive), L 70% Low (inductive)

V - Echium vulgare *(Blueweed)* **N1B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 41% Low (inductive)

Noxious Weeds: Priority 2A

V - Rhamnus cathartica *(Common Buckthorn)* **N2A** 1

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 44% Optimal (inductive), M 7% Moderate (inductive), L 26% Low (inductive)

V - Butomus umbellatus *(Flowering-rush)* **N2A/AIS**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**

Predicted Models: O 4% Optimal (inductive), M 7% Moderate (inductive), L 19% Low (inductive)

V - Ventenata dubia *(Ventenata)* **N2A**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 56% Moderate (inductive), L 44% Low (inductive)

V - Lepidium latifolium *(Perennial Pepperweed)* **N2A**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 11% Moderate (inductive), L 70% Low (inductive)

V - Hieracium piloselloides *(Tall Hawkweed)* **N2A**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 7% Moderate (inductive), L 7% Low (inductive)

V - Hieracium praealtum *(Kingdevil Hawkweed)* **N2A**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 4% Moderate (inductive), L 19% Low (inductive)

V - Ranunculus acris *(Tall Buttercup)* **N2A**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **G5** State: **SNA**

Predicted Models: L 37% Low (inductive)

V - Myriophyllum spicatum *(Eurasian Water-milfoil)* **N2A/AIS**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 26% Low (inductive)

V - Hieracium aurantiacum *(Orange Hawkweed)* **N2A**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 22% Low (inductive)

Noxious Weeds: Priority 2B

V - Lepidium draba *(Whitetop)* **N2B** 6

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 22% Optimal (inductive), M 63% Moderate (inductive), L 15% Low (inductive)

V - Linaria dalmatica *(Dalmatian Toadflax)* **N2B** 10

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**

Predicted Models: O 22% Optimal (inductive), M 56% Moderate (inductive), L 22% Low (inductive)

V - Potamogeton crispus *(Curly-leaf Pondweed)* **N2B/AIS** 11

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**

Predicted Models: O 11% Optimal (inductive), M 7% Moderate (inductive), L 15% Low (inductive)

V - Centaurea diffusa *(Diffuse Knapweed)* **N2B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 4% Optimal (inductive), M 56% Moderate (inductive), L 26% Low (inductive)

V - Convolvulus arvensis *(Field Bindweed)* **N2B** 23

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 4% Optimal (inductive), M 48% Moderate (inductive), L 48% Low (inductive)

V - Berteroa incana *(Hoary False-alyssum)* **N2B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 4% Optimal (inductive), M 37% Moderate (inductive), L 26% Low (inductive)

V - Tanacetum vulgare *(Common Tansy)* **N2B** 1

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 4% Optimal (inductive), M 26% Moderate (inductive), L 37% Low (inductive)

V - Centaurea stoebe *(Spotted Knapweed)* **N2B** 30

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 67% Moderate (inductive), L 33% Low (inductive)

V - Cirsium arvense *(Canada Thistle)* **N2B** 38

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**

Predicted Models: M 44% Moderate (inductive), L 56% Low (inductive)

V - Euphorbia virgata *(Leafy Spurge)* **N2B** 14

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 44% Moderate (inductive), L 56% Low (inductive)

V - Acroptilon repens *(Russian Knapweed)* **N2B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 41% Moderate (inductive), L 48% Low (inductive)

V - Cynoglossum officinale *(Common Hound's-tongue)* **N2B** 6

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 33% Moderate (inductive), L 52% Low (inductive)

V - Tamarix ramosissima *(Salt Cedar)* **N2B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 26% Moderate (inductive), L 26% Low (inductive)

V - Potentilla recta *(Sulphur Cinquefoil)* **N2B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 63% Low (inductive)

V - Leucanthemum vulgare *(Oxeye Daisy)* **N2B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 48% Low (inductive)

V - Linaria vulgaris *(Yellow Toadflax)* **N2B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 44% Low (inductive)

V - Hypericum perforatum *(Common St. John's-wort)* **N2B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 41% Low (inductive)

Regulated Weeds: Priority 3

V - Elaeagnus angustifolia *(Russian Olive)* **R3** 6

View in Field Guide | View Predicted Models | View Range Maps

Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 19% Moderate (inductive), L 44% Low (inductive)

V - Bromus tectorum *(Cheatgrass)* **R3** 1

View in Field Guide | View Predicted Models | View Range Maps

Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 11% Moderate (inductive), L 67% Low (inductive)

Agricultural Pests

I - Xerolenta obvia *(Eastern Heath Snail)* **PESTA** N

View in Field Guide | View Predicted Models | View Range Maps

Agricultural Pest - Non-native Species Global: **G5** State: **SNA**

Predicted Models: O 7% Optimal (inductive), M 4% Moderate (inductive), L 59% Low (inductive)

Biocontrol Species

I - Oberea erythrocephala *(Red-headed Leafy Spurge Stem Borer)* **BIOCNTRL** N

View in Field Guide | View Predicted Models | View Range Maps

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 15% Optimal (inductive), M 30% Moderate (inductive), L 11% Low (inductive)

I - Cyphocleonus achates *(Knapweed Root Weevil)* **BIOCNTRL** 1 N

View in Field Guide | View Predicted Models | View Range Maps

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 11% Optimal (inductive), M 30% Moderate (inductive), L 26% Low (inductive)

I - Mecinus janthinus *(Yellow Toadflax Stem-boring Weevil)* **BIOCNTRL** N

View in Field Guide | View Predicted Models | View Range Maps

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 7% Optimal (inductive), M 15% Moderate (inductive), L 44% Low (inductive)

I - Aphthona lacertosa *(Brown-legged Leafy Spurge Flea Beetle)* **BIOCNTRL** N

View in Field Guide | View Predicted Models | View Range Maps

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 48% Moderate (inductive), L 7% Low (inductive)

I - Aphthona nigriscutis *(Black Dot Leafy Spurge Flea Beetle)* **BIOCNTRL** N

View in Field Guide | View Predicted Models | View Range Maps

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 30% Moderate (inductive), L 19% Low (inductive)

I - Mecinus janthiniformis *(Dalmatian Toadflax Stem-boring Weevil)* **BIOCNTRL** N

View in Field Guide | View Predicted Models | View Range Maps

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 26% Moderate (inductive), L 74% Low (inductive)

I - Hylobius transversovittatus *(Goeze Root-boring Weevil)* **BIOCNTRL** 2 Not Assessed

View in Field Guide

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

I - Neogalerucella calmariensis *(Black-margined Loosestrife Beetle)* **BIOCNTRL** 2 Not Assessed

View in Field Guide

Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**

Introduction to Montana Natural Heritage Program

PO Box 201800 • 1201 11th Avenue • Helena, MT 59620-1800 • fax 406.444.0266 • phone 406.444.3989 • mtnhp.org

Introduction

The Montana Natural Heritage Program (MTNHP) is Montana's source for reliable and objective information on Montana's native species and habitats, emphasizing those of conservation concern. MTNHP was created by the Montana legislature in 1983 as part of the Natural Resource Information System (NRIS) at the Montana State Library (MSL). MTNHP is "a program of information acquisition, storage, and retrieval for data relating to the flora, fauna, and biological community types of Montana" (MCA 90-15-102). MTNHP's activities are guided by statute as well as through ongoing interaction with, and feedback from, principal data source agencies such as Montana Fish, Wildlife, and Parks, the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation, the Montana University System, the US Forest Service, and the US Bureau of Land Management. Since the first staff was hired in 1985, the Program has logged a long record of success, and developed into a highly respected, service-oriented program. MTNHP is widely recognized as one of the most advanced and effective of over 60 natural heritage programs that are distributed across North America.

Vision

Our vision is that public agencies, the private sector, the education sector, and the general public will trust and rely upon MTNHP as the source for information and expertise on Montana's species and habitats, especially those of conservation concern. We strive to provide easy access to our information to allow users to save time and money, speed environmental reviews, and make informed decisions.

Core Values

- We endeavor to be a single statewide source of accurate and up-to-date information on Montana's plants, animals, and aquatic and terrestrial biological communities.
- We actively listen to our data users and work responsively to meet their information and training needs.
- We strive to provide neutral, trusted, timely, and equitable service to all of our information users.
- We make every effort to be transparent to our data users in setting work priorities and providing data products.

Confidentiality

All information requests made to the Montana Natural Heritage Program are considered library records and are protected from disclosure by the Montana Library Records Confidentiality Act (MCA 22-1-11).

Information Managed

Information managed at the Montana Natural Heritage Program is botanical, zoological, and ecological information that describes the distribution (e.g., observations, structured surveys, range polygons, predicted habitat suitability models), conservation status (e.g., global and state conservation status ranks, including threats), and other supporting information (e.g., accounts and references) on the biology and ecology of species and biological communities.

Data Use Terms and Conditions

- Montana Natural Heritage Program (MTNHP) products and services are based on biological data and the objective interpretation of those data by professional scientists. MTNHP does not advocate any particular philosophy of natural resource protection, management, development, or public policy.
- MTNHP has no natural resource management or regulatory authority. Products, statements, and services from MTNHP are intended to inform parties as to the state of scientific knowledge about certain natural resources, and to further develop that knowledge. The information is not intended as natural resource management guidelines or prescriptions or a determination of environmental impacts. MTNHP recommends consultation with appropriate state, federal, and tribal resource management agencies and authorities in the area where your project is located.
- Information on the status and spatial distribution of biological resources produced by MTNHP are intended to inform parties of the state-wide status, known occurrence, or the likelihood of the presence of those resources. **These products are not intended to substitute for field-collected data, nor are they intended to be the sole basis for natural resource management decisions.**
- MTNHP does not portray its data as exhaustive or comprehensive inventories of rare species or biological communities. **Field verification of the absence or presence of sensitive species and biological communities will always be an important obligation of users of our data.**
- MTNHP responds equally to all requests for products and services, regardless of the purpose or identity of the requester.
- Because MTNHP constantly updates and revises its databases with new data and information, products will become outdated over time. Interested parties are encouraged to obtain the most current information possible from MTNHP, rather than using older products. We add, review, update, and delete records on a daily basis. Consequently, we strongly advise that you update your MTNHP data sets at a minimum of every four months for most applications of our information.
- MTNHP data require a certain degree of biological expertise for proper analysis, interpretation, and application. Our staff is available to advise you on questions regarding the interpretation or appropriate use of the data that we provide. See Contact Information for MTNHP Staff
- The information provided to you by MTNHP may include sensitive data that if publicly released might jeopardize the welfare of threatened, endangered, or sensitive species or biological communities. This information is intended for distribution or use only within your department, agency, or business. Subcontractors may have access to the data during the course of any given project, but should not be given a copy for their use on subsequent, unrelated work.
- MTNHP data are made freely available. Duplication of hard-copy or digital MTNHP products with the intent to sell is prohibited without written consent by MTNHP. Should you be asked by individuals outside your organization for the type of data that we provide, please refer them to MTNHP.
- MTNHP and appropriate staff members should be appropriately acknowledged as an information source in any third-party product involving MTNHP data, reports, papers, publications, or in maps that incorporate MTNHP graphic elements.
- Sources of our data include museum specimens, published and unpublished scientific literature, field surveys by state and federal agencies and private contractors, and reports from knowledgeable individuals. MTNHP actively solicits and encourages additions, corrections and updates, new observations or collections, and comments on any of the data we provide.
- MTNHP staff and contractors do not enter or cross privately-owned lands without express permission from the landowner. However, the program cannot guarantee that information provided to us by others was obtained under adherence to this policy.

Suggested Contacts for Natural Resource Management Agencies

As required by Montana statute (MCA 90-15), the Montana Natural Heritage Program works with state, federal, tribal, nongovernmental organizations, and private partners to ensure that the latest animal and plant distribution and status information is incorporated into our databases so that it can be used to inform a variety of permitting and planning processes and management decisions. We encourage you to contact state, federal, and tribal resource management agencies in the area where your project is located and review the permitting overviews by the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation and the Index of Environmental Permits for Montana for guidelines relevant to your efforts. In particular, we encourage you to contact the Montana Department of Fish, Wildlife, and Parks for the latest data and management information regarding hunted and high-profile management species and to use the U.S. Fish and Wildlife Service's Information Planning and Consultation (IPAC) website regarding U.S. Endangered Species Act listed Threatened, Endangered, or Candidate species.

For your convenience, we have compiled a list of relevant agency contacts and links below:

Montana Fish, Wildlife, and Parks

Fish Species	Zachary Shattuck zshattuck@mt.gov (406) 444-1231 or Eric Roberts eroberts@mt.gov (406) 444-5334
American Bison Black-footed Ferret Black-tailed Prairie Dog Bald Eagle Golden Eagle Common Loon Least Tern Piping Plover Whooping Crane	Kristina Smucker KSmucker@mt.gov (406) 444-5209
Grizzly Bear Greater Sage Grouse Trumpeter Swan Big Game Upland Game Birds Furbearers	Brian Wakeling brian.wakeling@mt.gov (406) 444-3940
Managed Terrestrial Game Data	Adam Messer – MFWP GIS Coordinator amesser@mt.gov (406) 444-0095
Fisheries Data and Nongame Animal Data	Adam Messer – MFWP GIS Coordinator amesser@mt.gov (406) 444-0095
Wildlife and Fisheries Scientific Collector's Permits	https://fwp.mt.gov/buyandapply/commercialwildlifeandscientificpermits/scientific Kristina Smucker for Wildlife ksmucker@mt.gov (406) 444-5209 Dave Schmetterling for Fisheries dschmetterling@mt.gov (406) 542-5514
Fish and Wildlife Recommendations for Subdivision Development	Stevie Burton stevie.burton@mt.gov (406) 594-7354 See https://fwp.mt.gov/conservation/living-with-wildlife/subdivision-recommendations
Regional Contacts  	Region 1 (Kalispell) (406) 752-5501 fwprg12@mt.gov Region 2 (Missoula) (406) 542-5500 fwprg22@mt.gov Region 3 (Bozeman) (406) 577-7900 fwprg3@mt.gov Region 4 (Great Falls) (406) 454-5840 fwprg42@mt.gov Region 5 (Billings) (406) 247-2940 fwprg52@mt.gov Region 6 (Glasgow) (406) 228-3700 fwprg62@mt.gov Region 7 (Miles City) (406) 234-0900 fwprg72@mt.gov

Montana Department of Agriculture
General Contact Information: https://agr.mt.gov/About/Office-Locations/Office-Locations-and-Field-Offices
Noxious Weeds: https://agr.mt.gov/Noxious-Weeds

Montana Department of Environmental Quality
Permitting and Operator Assistance for all Environmental Permits: https://deq.mt.gov/Permitting
Opencut Mining Web Mapping Application for review of opencut mining applications
https://gis.mtdeq.us/portal/apps/webappviewer/index.html?id=7b60084bc4c444a19c9a7a0867e7635a

Montana Department of Natural Resources and Conservation
Overview of, and contacts for, licenses and permits for state lands, water, and forested lands:
https://dnrc.mt.gov/Permits-Services

Stream Permitting (310 permits) and an overview of various water and stream related permits (e.g., Stream Protection Act 124, Federal Clean Water Act 404, Federal Rivers and Harbors Act Section 10, Short-term Water Quality Standard for Turbidity 318 Authorization, etc.).
https://dnrc.mt.gov/Licenses-and-Permits/Stream-Permitting

Wildfire Resources: https://dnrc.mt.gov/Forestry/Wildfire

Bureau of Land Management

Montana Field Office Contacts:



Billings	(406) 896-5013
Butte	(406) 533-7600
Dillon	(406) 683-8000
Glasgow	(406) 228-3750
Havre	(406) 262-2820
Lewistown	(406) 538-1900
Malta	(406) 654-5100
Miles City	(406) 233-2800
Missoula	(406) 329-3914

United States Army Corps of Engineers
Montana Regulatory Office for federal permits related to construction in water and wetlands
https://www.nwo.usace.army.mil/Missions/Regulatory-Program/Montana/ (406) 441-1375

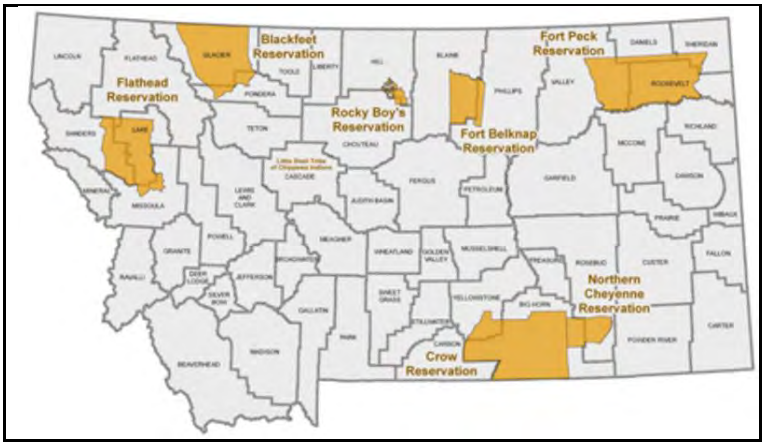
United States Environmental Protection Agency
Environmental information, notices, permitting, and contacts https://www.epa.gov/mt
Gateway to state resource locators https://www.envcap.org/srl/index.php

United States Fish and Wildlife Service
Information Planning and Conservation (IPAC) website: https://ipac.ecosphere.fws.gov
Montana Ecological Services Field Office: https://www.fws.gov/office/montana-ecological-services (406) 449-5225

United States Forest Service

Regional Office – Missoula, Montana Contacts			
Wildlife Program Leader	Tammy Fletcher	tammy.fletcher2@usda.gov	(406) 329-3086
Aquatic Ecologist	Justin Jimenez	justin.jimenez@usda.gov	(435) 370-6830
TES Program	Lydia Allen	lydia.allen@usda.gov	(406) 329-3558
Interagency Grizzly Bear Coordinator	Scott Jackson	scott.jackson@usda.gov	(406) 329-3664
Regional Botanist	Amanda Hendrix	amanda.hendrix@usda.gov	(651) 447-3016
Regional Vegetation Ecologist	Mary Manning	marry.manning@usda.gov	(406) 329-3304
Invasive Species Program Manager	Michelle Cox	michelle.cox2@usda.gov	(406) 329-3669

Tribal Nations



[Assiniboine & Gros Ventre Tribes – Fort Belknap Reservation]

[Assiniboine & Sioux Tribes – Fort Peck Reservation]

[Blackfeet Tribe - Blackfeet Reservation]

[Chippewa Creek Tribe - Rocky Boy's Reservation]

[Crow Tribe – Crow Reservation]

[Little Shell Chippewa Tribe]

[Northern Cheyenne Tribe – Northern Cheyenne Reservation]

[Salish & Kootenai Tribes - Flathead Reservation]

Natural Heritage Programs and Conservation Data Centers in Surrounding States and Provinces

[Alberta Conservation Information Management System]
[British Columbia Conservation Data Centre]
[Idaho Natural Heritage Program]
[North Dakota Natural Heritage Program]
[Saskatchewan Conservation Data Centre]
[South Dakota Natural Heritage Program]
[Wyoming Natural Diversity Database]

Invasive Species Management Contacts and Information

Aquatic Invasive Species

[Montana Fish, Wildlife, and Parks Aquatic Invasive Species staff]
[Montana Department of Natural Resources and Conservation's Aquatic Invasive Species Grant Program]
[Montana Invasive Species Council (MISC)]
[Western Montana Conservation Commission]

Noxious Weeds

[Montana Weed Control Association Contacts Webpage]
[Montana Biological Weed Control Coordination Project]
[Montana Department of Agriculture - Noxious Weeds]
[Montana Weed Control Association]
[Montana Fish, Wildlife, and Parks - Noxious Weeds]
[Montana State University Integrated Pest Management Extension]
[Integrated Noxious Weed Management after Wildfires]
[Fire Management and Invasive Plants]

Introduction to Native Species

Within the report area you have requested, separate summaries are provided for: (1) Species Occurrences (SO) for plant and animal Species of Concern, Special Status Species (SSS), Important Animal Habitat (IAH) and some Potential Plant Species of Concern; (2) other observed non Species of Concern or Species of Concern without suitable documentation to create Species Occurrence polygons; and (3) other non-documented species that are potentially present based on their range, predicted suitable habitat model output, or presence of associated habitats. Each of these summaries provides the following information when present for a species: (1) the number of Species Occurrences and associated delineation criteria for construction of these polygons that have long been used for considerations of documented Species of Concern in environmental reviews; (2) the number of observations of each species; (3) the geographic range polygons for each species that the report area overlaps; (4) predicted relative habitat suitability classes that are present if a predicted suitable habitat model has been created; (5) the percent of the report area that is mapped as commonly associated or occasionally associated habitat as listed for each species in the Montana Field Guide; and (6) a variety of conservation status ranks and links to species accounts in the Montana Field Guide. Details on each of these information categories are included under relevant section headers below or are defined on our Species Status Codes page. In presenting this information, the Montana Natural Heritage Program (MTNHP) is working towards assisting the user with rapidly determining what species have been documented and what species are potentially present in the report area. We remind users that this information is likely incomplete as surveys to document native and introduced species are lacking in many areas of the state, information on introduced species has only been tracked relatively recently, the MTNHP's staff and resources are restricted by budgets, and information is constantly being added and updated in our databases. **Thus, field verification by professional biologists of the absence or presence of species and biological communities will always be an important obligation of users of our data.**

If you are aware of observation datasets that the MTNHP is missing, please report them to the Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov If you have animal or plant observations that you would like to contribute, you can also submit them via Excel spreadsheets, geodatabases, iNaturalist, or a Survey123 form. Various methods of data submission are reviewed in this playlist of videos: https://www.youtube.com/playlist?list=PLRaydtZpHu2qOHPoSPq9cnM9uXGmEXACx

Observations

The MTNHP manages information on several million animal and plant observations that have been reported by professional biologists and private citizens from across Montana. The majority of these observations are submitted in digital format from standardized databases associated with research or monitoring efforts and spreadsheets of incidental observations submitted by professional biologists and amateur naturalists. At a minimum, accepted observation records must contain a credible species identification (i.e. appropriate geographic range, date, and habitat and, if species are difficult to identify, a photograph and/or notes on key identifying features), a date or date range, observer name, locational information (ideally with latitude and longitude in decimal degrees), notes on numbers observed, and species behavior or habitat use (e.g., is the observation likely associated with reproduction). Bird records are also required to have information associated with date-appropriate breeding or overwintering status of the species observed. MTNHP reviews observation records to ensure that they are mapped correctly, occur within date ranges when the species is known to be present or detectable, occur within the known seasonal geographic range of the species, and occur in appropriate habitats. MTNHP also assigns each record a locational uncertainty value in meters to indicate the spatial precision associated with the record's mapped coordinates. Only records with locational uncertainty values of 10,000 meters or less are included in environmental summary reports and number summaries are only provided for records with locational uncertainty values of 1,000 meters or less.

Species Occurrences

The MTNHP evaluates plant and animal observation records for species of higher conservation concern to determine whether they are worthy of inclusion in the Species Occurrence (SO) layer for use in environmental reviews; observations not worthy of inclusion in this layer include long distance dispersal events, migrants observed away from key migratory stopover habitats, and winter observations. An SO is a polygon depicting what is known about a species occupancy from direct observation with a defined level of locational uncertainty and any inference that can be made about adjacent habitat use from the latest peer-reviewed science. If an observation can be associated with a map feature that can be tracked (e.g., a wetland boundary for a wetland associated plant) then this polygon feature is used to represent the SO. Areas that can be inferred as probable occupied habitat based on direct observation of a species location and what is known about the foraging area or home range size of the species may be incorporated into the SO. Species Occurrences generally belong to one of the following categories:

Plant Species Occurrences

A documented location of a specimen collection or observed plant population. In some instances, adjacent, spatially separated clusters are considered subpopulations and are grouped as one occurrence (e.g., the subpopulations occur in ecologically similar habitats, and their spatial proximity likely allows them to interbreed). Tabular information for multiple observations at the same SO location is generally linked to a single polygon. Plant SO's are only created for Species of Concern and Potential Species of Concern.

Animal Species Occurrences

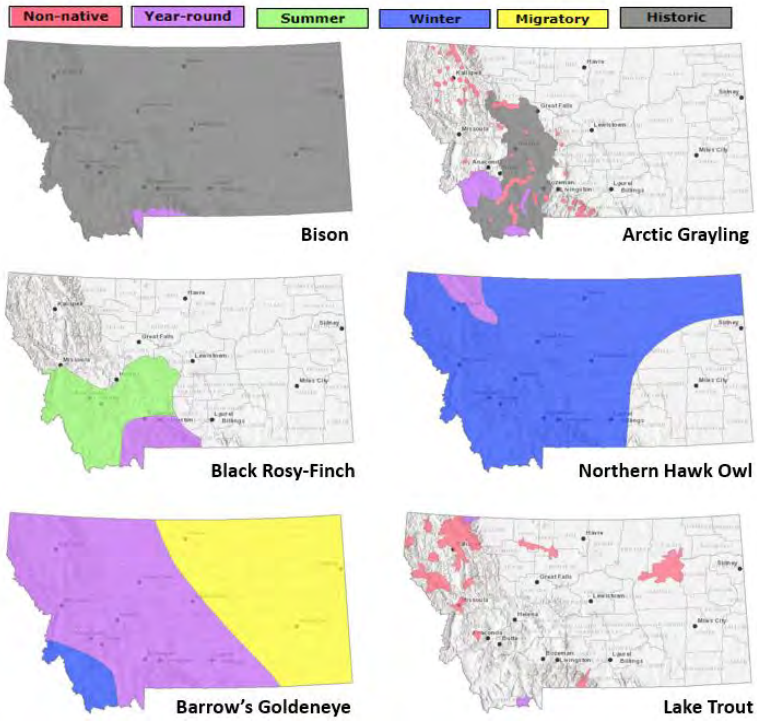
The location of a verified observation or specimen record typically known or assumed to represent a breeding population or a portion of a breeding population. Animal SO's are generally: (1) buffers of terrestrial point observations based on documented species' home range sizes; (2) buffers of stream segments to encompass occupied streams and immediate adjacent riparian habitats; (3) polygonal features encompassing known or likely breeding populations (e.g., a wetland for some amphibians or a forested portion of a mountain range for some wide-ranging carnivores); or (4) combinations of the above. Tabular information for multiple observations at the same SO location is generally linked to a single polygon. Species Occurrence polygons may encompass some unsuitable habitat in some instances in order to avoid heavy data processing associated with clipping out habitats that are readily assessed as unsuitable by the data user (e.g., a point buffer of a terrestrial species may overlap into a portion of a lake that is obviously inappropriate habitat for the species). Animal SO's are only created for Species of Concern and Special Status Species (e.g., Bald Eagle).

Other Occurrence Polygons

These include significant biological features not included in the above categories, such as Important Animal Habitats like bird rookeries and bat roosts, and peatlands or other wetland and riparian communities that support diverse plant and animal communities.

Geographic Range Polygons

Geographic range polygons are still under development for most plant and invertebrate species. Native year-round, summer, winter, migratory and historic geographic range polygons as well as polygons for introduced populations have been defined for most vertebrate animal species for which there are enough observations, surveys, and knowledge of appropriate seasonal habitat use to define them (see examples to left). These native or introduced range polygons bound the extent of known or likely occupied habitats for non-migratory and relative sedentary species and the regular extent of known or likely occupied habitats for migratory and long-distance dispersing species; polygons may include unsuitable intervening habitats. For most species, a single polygon can represent the year-round or seasonal range, but breeding ranges of some colonial nesting water birds and some introduced species are represented more patchily when supported by data. Some ranges are mapped more broadly than actual distributions in order to be visible on statewide maps (e.g., fish).



Predicted Suitable Habitat Models

Predicted habitat suitability models have been created for plant and animal Species of Concern and are undergoing development for non-Species of Concern. For species for which models have been completed, the environmental summary report includes simple rule-based associations with streams for aquatic species and seasonal habitats for game species as well as mathematically complex Maximum Entropy models (Phillips et al. 2006, Ecological Modeling 190:231-259) constructed from a variety of statewide biotic and abiotic layers and presence only data for individual species for most terrestrial species. For the Maximum Entropy models, we reclassified 90 x 90-meter continuous model output into suitability classes (unsuitable, low, moderate, and optimal) then aggregated that into the one square mile hexagons used in the environmental summary report; this is the finest spatial scale we suggest using this information in management decisions and survey planning. Full model write ups for individual species that discuss model goals, inputs, outputs, and evaluation in much greater detail are posted on the MTNHP's Predicted Suitable Habitat Models webpage. Evaluations of predictive accuracy and specific limitations are included with the metadata for models of individual species. **Model outputs should not be used in place of on-the-ground surveys for species. Instead model outputs should be used in conjunction with habitat evaluations to determine the need for on-the-ground surveys for species.** We suggest that the percentage of predicted optimal and moderate suitable habitat within the report area be used in conjunction with geographic range polygons and the percentage of commonly associated habitats to generate lists of potential species that may occupy broader landscapes for the purposes of landscape-level planning.

Associated Habitats

Within the boundary of the intersected hexagons, we provide the approximate percentage of commonly or occasionally associated habitat for vertebrate animal species that regularly breed, overwinter, or migrate through the state; a detailed list of commonly and occasionally associated habitats is provided in individual species accounts in the Montana Field Guide We assigned common or occasional use of each of the ecological

systems mapped in Montana by: (1) using personal knowledge and reviewing literature that summarizes the breeding, overwintering, or migratory habitat requirements of each species; (2) evaluating structural characteristics and distribution of each ecological system relative to the species' range and habitat requirements; (3) examining the observation records for each species in the state-wide point observation database associated with each ecological system; and (4) calculating the percentage of observations associated with each ecological system relative to the percent of Montana covered by each ecological system to get a measure of numbers of observations versus availability of habitat. Species that breed in Montana were only evaluated for breeding habitat use, species that only overwinter in Montana were only evaluated for overwintering habitat use, and species that only migrate through Montana were only evaluated for migratory habitat use. In general, species were listed as associated with an ecological system if structural characteristics of used habitat documented in the literature were present in the ecological system or large numbers of point observations were associated with the ecological system. However, species were not listed as associated with an ecological system if there was no support in the literature for use of structural characteristics in an ecological system, even if point observations were associated with that system. Common versus occasional association with an ecological system was assigned based on the degree to which the structural characteristics of an ecological system matched the preferred structural habitat characteristics for each species as represented in the scientific literature. The percentage of observations associated with each ecological system relative to the percent of Montana covered by each ecological system was also used to guide assignment of common versus occasional association.

We suggest that the percentage of commonly associated habitat within the report area be used in conjunction with geographic range polygons and the percentage of predicted optimal and moderate suitable habitat from predictive models to generate lists of potential species that may occupy broader landscapes for the purposes of landscape-level planning. Users of this information should be aware that land cover mapping accuracy is particularly problematic when the systems occur as small patches or where the land cover types have been altered over the past decade. Thus, particular caution should be used when using the associations in assessments of smaller areas (e.g., evaluations of public land survey sections).

Introduction to Land Cover

Land Use/Land Cover is one of 15 Montana Spatial Data Infrastructure framework layers considered vital for making statewide maps of Montana and understanding its geography. The layer records all Montana natural vegetation, land cover and land use, classified from satellite and aerial imagery, mapped at a scale of 1:100,000, and interpreted with supporting ground-level data. The baseline map is adapted from the Northwest ReGAP (NWGAP) project land cover classification, which used 30m resolution multi-spectral Landsat imagery acquired between 1999 and 2001. Vegetation classes were drawn from the Ecological System Classification developed by NatureServe (Comer et al. 2003). The land cover classes were developed by Anderson et al. (1976). The NWGAP effort encompasses 12 map zones. Montana overlaps seven of these zones. The two NWGAP teams responsible for the initial land cover mapping effort in Montana were Sanborn and NWGAP at the University of Idaho. Both Sanborn and NWGAP employed a similar modeling approach in which Classification and Regression Tree (CART) models were applied to Landsat ETM+ scenes. The Spatial Analysis Lab within the Montana Natural Heritage Program was responsible for developing a seamless Montana land cover map with a consistent statewide legend from these two separate products. Additionally, the Montana land cover layer incorporates several other land cover and land use products (e.g., MSDI Structures and Transportation themes and the Montana Department of Revenue Final Land Unit classification) and reclassifications based on plot-level data and the latest NAIP imagery to improve accuracy and enhance the usability of the theme. Updates are done as partner support and funding allow, or when other MSDI datasets can be incorporated. Recent updates include fire perimeters and agricultural land use (annually), energy developments such as wind, oil and gas installations (2014), roads, structures and other impervious surfaces (various years): and local updates/improvements to specific ecological systems (e.g., central Montana grassland and sagebrush ecosystems). Current and previous versions of the Land Use/Land Cover layer with full metadata are available for download from the Montana State Library's GIS Data List More information on the land cover layer is available at: https://msl.mt.gov/geoinfo/msdi/land_use_land_cover/

Within the report area you have requested, land cover is summarized by acres of Level 1, Level 2, and Level 3 Ecological Systems.

Literature Cited

Anderson, J.R. E.E. Hardy, J.T. Roach, and R.E. Witmer. 1976. A land use and land cover classification system for use with remote sensor data. U.S. Geological Survey Professional Paper 964.

Comer, P., D. Faber-Langendoen, R. Evans, S. Gawler, C. Josse, G. Kittel, S. Menard, M. Pyne, M. Reid, K. Schulz, K. Snow, and J. Teague. 2003. Ecological systems of the United States: A working classification of U.S. terrestrial systems. NatureServe, Arlington, VA.

Introduction to Wetland and Riparian

Within the report area you have requested, wetland and riparian mapping is summarized by acres of each classification present. Summaries are only provided for modern MTNHP wetland and riparian mapping and not for outdated (NWI Legacy) or incomplete (NWI Scalable) mapping efforts; described here. MTNHP has made all three of these datasets and associated metadata available for separate download on the Montana Wetland and Riparian Framework web page.

Wetland and Riparian mapping is one of 15 Montana Spatial Data Infrastructure framework layers considered vital for making statewide maps of Montana and understanding its geography. The wetland and riparian framework layer consists of spatial data representing the extent, type, and approximate location of wetlands, riparian areas, and deep water habitats in Montana.

Wetland and riparian mapping is completed through photointerpretation of 1-m resolution color infrared aerial imagery acquired from 2005 or later. A coding convention using letters and numbers is assigned to each mapped wetland. These letters and numbers describe the broad landscape context of the wetland, its vegetation type, its water regime, and the kind of alterations that may have occurred. Ancillary data layers such as topographic maps, digital elevation models, soils data, and other aerial imagery sources are also used to improve mapping accuracy. Wetland mapping follows the federal Wetland Mapping Standard and classifies wetlands according to the Cowardin classification system of the National Wetlands Inventory (NWI) (Cowardin et al. 1979, FGDC Wetlands Subcommittee 2013). Federal, State, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands differently than the NWI. Similar coding, based on U.S. Fish and Wildlife Service conventions, is applied to riparian areas (U.S. Fish and Wildlife Service 2009). These are mapped areas where vegetation composition and growth is influenced by nearby water bodies, but where soils, plant communities, and hydrology do not display true wetland characteristics. **These data are intended for use at a scale of 1:12,000 or smaller. Mapped wetland and riparian areas do not represent precise boundaries and digital wetland data cannot substitute for an on-site determination of jurisdictional wetlands.**

See detailed overviews, with examples, of both wetland and riparian classification systems and associated codes as a storymap and companion guide

Literature Cited

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service, FWS/OBS-79/31. Washington, D.C. 103pp.

Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, D.C.

U.S. Fish and Wildlife Services. 2009. A system for mapping riparian areas in the western United States. Division of Habitat and Resource Conservation, Branch of Resource and Mapping Support, Arlington, Virginia.

Introduction to Land Management

Within the report area you have requested, land management information is summarized by acres of federal, state, and local government lands, tribal reservation boundaries, private conservation lands, and federal, state, local, and private conservation easements. Acreage for "Owned", "Tribal", or "Easement" categories represents non-overlapping areas that may be totaled. However, "Other Boundaries" represents managed areas such as National Forest boundaries containing private inholdings and other mixed ownership which may cause boundaries to overlap (e.g. a wilderness area within a forest). Therefore, acreages may not total in a straight-forward manner.

Because information on land stewardship is critical to effective land management, the Montana Natural Heritage Program (MTNHP) began compiling ownership and management data in 1997. The goal of the Montana Land Management Database is to manage a single, statewide digital data set that incorporates information from both public and private entities. The database assembles information on public lands, private conservation lands, and conservation easements held by state and federal agencies and land trusts and is updated on a regular basis. Since 2011, the Information Management group in the Montana State Library's Digital Library Division has led the Montana Land Management Database in partnership with the MTNHP.

Public and private conservation land polygons are attributed with the name of the entity that owns it. The data are derived from the statewide Montana Cadastral Parcel layer Conservation easement data shows land parcels on which a public agency or qualified land trust has placed a conservation easement in cooperation with the landowner. The dataset contains no information about ownership or status of the mineral estate. For questions about the dataset or to report errors, please contact the Montana Natural Heritage Program at (406) 444-5363 or mtnhp@mt.gov. You can download various components of the Land Management Database and view associated metadata at the Montana State Library's GIS Data List at the following links:

Public Lands
Conservation Easements
Private Conservation Lands
Managed Areas

Map features in the Montana Land Management Database or summaries provided in this report are not intended as a legal depiction of public or private surface land ownership boundaries and should not be used in place of a survey conducted by a licensed land surveyor. Similarly, map features do not imply public access to any lands. The Montana Natural Heritage Program makes no representations or warranties whatsoever with respect to the accuracy or completeness of this data and assumes no responsibility for the suitability of the data for a particular purpose. The Montana Natural Heritage Program will not be liable for any damages incurred as a result of errors displayed here. Consumers of this information should review or consult the primary data and information sources to ascertain the viability of the information for their purposes.

Introduction to Invasive and Pest Species

Within the report area you have requested, separate summaries are provided for: Aquatic Invasive Species, Noxious Weeds, Agricultural Pests, Forest Pests, and Biocontrol species that have been documented or potentially occur there based on the predicted suitability of habitat. Definitions for each of these invasive and pest species categories can be found on our Species Status Codes page.

Each of these summaries provides the following information when present for a species: (1) the number of observations of each species; (2) the geographic range polygons for each species, if developed, that the report area overlaps; (3) predicted relative habitat suitability classes that are present if a predicted suitable habitat model has been created; (4) the percent of the report area that is mapped as commonly associated or occasionally associated habitat as listed for each species in the Montana Field Guide; and (5) links to species accounts in the Montana Field Guide. Details on each of these information categories are included under relevant section headers under the Introduction to Native Species above or are defined on our Species Status Codes page. In presenting this information, the Montana Natural Heritage Program (MTNHP) is working towards assisting the user with rapidly determining what invasive and pest species have been documented and what species are potentially present in the report area. We remind users that this information is likely incomplete as surveys to document introduced species are lacking in many areas of the state, information on introduced species has only been tracked relatively recently, the MTNHP's staff and resources are limited, and information is constantly being added and updated in our databases. **Thus, field verification by professional biologists of the absence or presence of species will always be an important obligation of users of our data.**

If you are aware of observation or survey datasets for invasive or pest species that the MTNHP is missing, please report them to the Program Coordinator bmaxell@mt.gov Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov If you have animal or plant observations that you would like to contribute, you can also submit them via Excel spreadsheets, geodatabases, iNaturalist, or a Survey123 form. Various methods of data submission are reviewed in this playlist of videos:
https://www.youtube.com/playlist?list=PLRaydtZpHu2qOHPoSPq9cnM9uXGmEXACx

Additional Information Resources

- MTNHP Staff Contact Information
- Montana Field Guide
- MTNHP Species of Concern Report - Animals and Plants
- MTNHP Species Status Codes - Explanation
- MTNHP Predicted Suitable Habitat Models (for select Animals and Plants)
- MTNHP Request Information page
- Montana Cadastral
- Montana Code Annotated
- Montana Fisheries Information System
- Montana Fish, Wildlife, and Parks Subdivision Recommendations
- Montana GIS Data Layers
- Montana GIS Data Bundler
- Montana Greater Sage-Grouse Project Submittal Site
- Montana Ground Water Information Center
- Montana Index of Environmental Permits, 21st Edition (2018)
- Montana Environmental Policy Act (MEPA)
- Montana Environmental Policy Act Analysis Resource List
- Laws, Treaties, Regulations, and Agreements on Animals and Plants
- Montana Spatial Data Infrastructure Layers
- Montana State Historic Preservation Office Review and Compliance
- Montana Stream Permitting: a guide for conservation district supervisors and others
- Montana Water Information System
- Montana Web Map Services
- National Environmental Policy Act
- Penalties for Misuse of Fish and Wildlife Location Data (MCA 87-6-222)
- U.S. Fish and Wildlife Service Information for Planning and Consultation (Section 7 Consultation)
- Web Soil Survey Tool

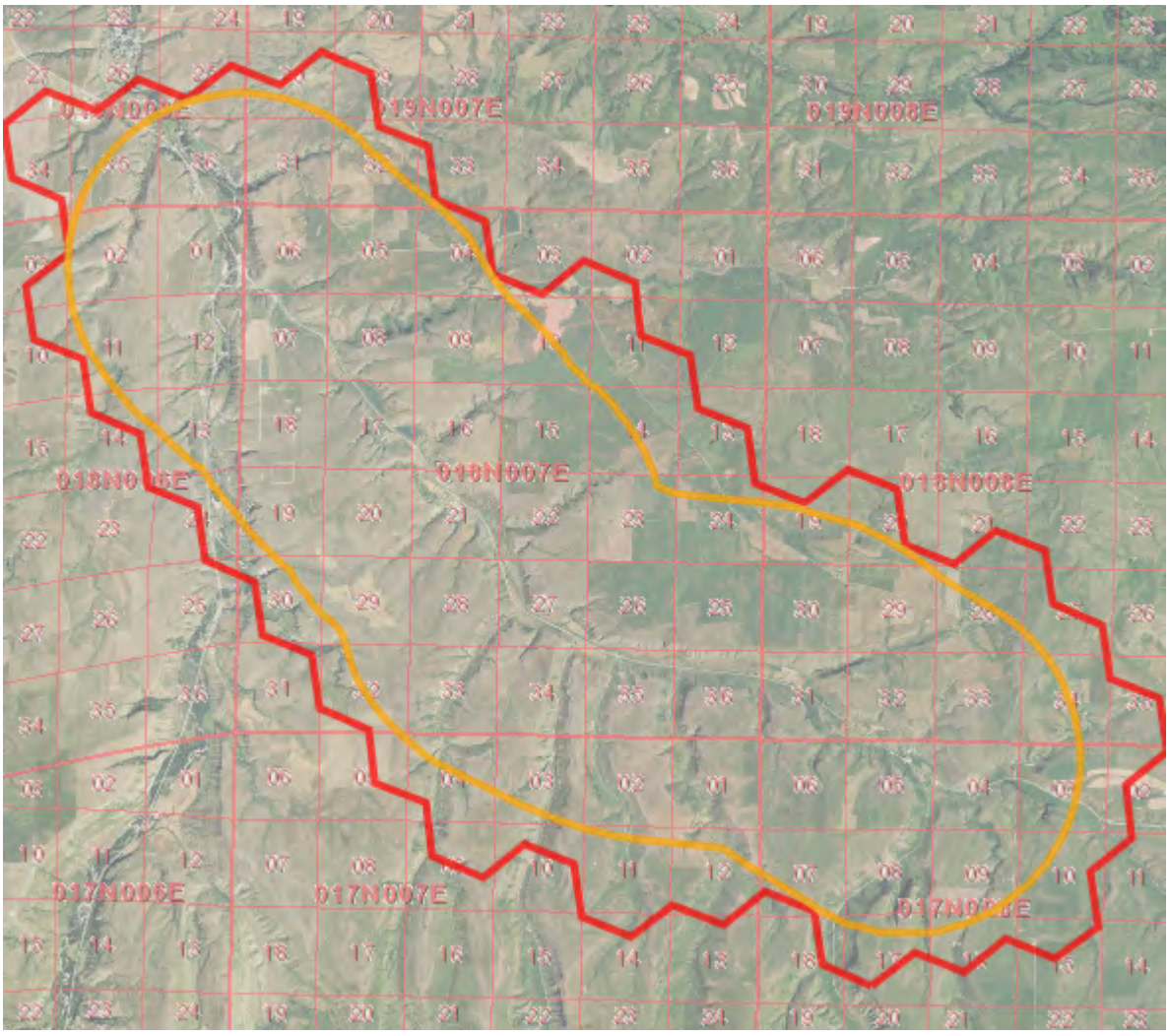
Environmental Summary

MONTANA STATE LIBRARY
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Latitude	Longitude
47.22831	-110.66991
47.38723	-110.95138

Summarized by:
24mt0016 Hwy200
(Custom Area of Interest)



Suggested Citation
Montana Natural Heritage Program. Environmental Summary Report.
for Latitude 47.22831 to 47.38723 and Longitude -110.66991 to -110.95138. Retrieved on 6/25/2024.

The Montana Natural Heritage Program is part of the Montana State Library's Natural Resource Information System. Since 1985, it has served as a neutral and non-regulatory provider of easily accessible information on Montana's species and biological communities to inform all stakeholders in environmental review, permitting, and planning processes. The program is part of the NatureServe network that is composed of over 60 member programs across North America that work to provide current and comprehensive distribution and status information on species and biological communities.

MONTANA STATE LIBRARY NATURAL HERITAGE PROGRAM
NATURESERVE

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Introduction to Environmental Summary Report

Environmental Summary Reports from the Montana Natural Heritage Program (MTNHP) provide information on species and biological communities to inform all stakeholders in environmental review, permitting, and planning processes. For information on environmental permits in Montana, please see permitting overviews by the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation, the Index of Environmental Permits for Montana and our Suggested Contacts for Natural Resource Management Agencies. The report for your area of interest consists of introductory and related materials in this PDF and an Excel workbook with worksheets summarizing information managed in the MTNHP databases for: (1) species occurrences; (2) other observed species without species occurrences; (3) other species potentially present based on their range, presence of associated habitats, or predictive distribution model output if available; (4) structured surveys that follow a protocol capable of detecting one or more species; (5) land cover mapped as ecological systems; (6) wetland and riparian mapping; (7) land management categories; and (8) biological reports associated with plant and animal observations. If your area of interest corresponds to a statewide polygon layer (e.g., watersheds, counties, or public land survey sections) information summaries in your report will exactly match those boundaries. However, if your report is for a custom area, users should be aware that summaries do not correspond to the exact boundaries of the polygon they have specified, but instead are a summary across a layer of hexagons intersected by the polygon they specified as shown on the report cover. Summarizing by these hexagons which are one square mile in area and approximately one kilometer in length on each side allows for consistent and rapid delivery of summaries based on a uniform grid that has been used for planning efforts across North America.

In presenting this information, MTNHP is working towards assisting the user with rapidly assessing the known or potential species and biological communities, land management categories, and biological reports associated with the report area. Users are reminded that this information is likely incomplete and may be inaccurate as surveys to document species are lacking in many areas of the state, species' range polygons often include regions of unsuitable habitat, methods of predicting the presence of species or communities are constantly improving, and information is constantly being added and updated in our databases. **Field verification by professional biologists of the absence or presence of species and biological communities in a report area will always be an important obligation of users of our data. Users are encouraged to only use this environmental summary report as a starting point for more in depth analyses and are encouraged to contact state, federal, and tribal resource management agencies for additional data or management guidelines relevant to your efforts. Please see the Appendix for introductory materials to each section of the report, additional information resources, and a list of relevant agency contacts.**

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NATURAL HERITAGE PROGRAM
A program of the **Montana State Library's Natural Resource Information System**

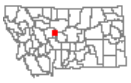
Legend

Model Icons
- N Suitable (native range)
- O Optimal Suitability
- M Moderate Suitability
- L Low Suitability
- I Suitable (introduced range)

Habitat Icons
- C Common
- O Occasional

Range Icons
- Y Native / Year-round
- S Summer
- W Winter
- M Migratory
- N Non-native
- H Historical

Num Obs
Count of obs with 'good precision' (<=1000m)
+ indicates additional 'poor precision' obs (1001m-10,000m)



Latitude	Longitude
47.22831	-110.66991
47.38723	-110.95138

Native Species

Summarized by: **24mt0016 Hwy200** *(Custom Area of Interest)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Map not shown for scales greater than 1:80,000

Species Occurrences

	USFWS Sec7	# SO	# Obs	Predicted Model	Range
B - Golden Eagle *(Aquila chrysaetos)* SOC		8	21 +		Y

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **BGEPA; MBTA** BLM: **SENSITIVE** FWP SWAP: **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: Jun 18, 2024)

Predicted Models: M 35% Moderate (inductive), L 61% Low (inductive)

M - Little Brown Myotis *(Myotis lucifugus)* SOC		3	3		Y

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G3G4** State: **S3** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT)** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, or definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a distance of 1,600 meters in order to encompass the greater than 1,500 meters foraging distance reported for the species in New Brunswick, Canada and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. When cave locations are involved, point observations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 1,600 meters and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Jun 20, 2024)

Predicted Models: M 13% Moderate (inductive), L 80% Low (inductive)

B - Long-billed Curlew *(Numenius americanus)* SOC		1	1 +		S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC11** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 200 meters in order to approximate the breeding territory size reported for the species in Idaho and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jun 21, 2024)

Predicted Models: M 8% Moderate (inductive), L 92% Low (inductive)

B - Ferruginous Hawk *(Buteo regalis)* SOC		1	4		S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 2,000 meters in order to encompass the average home range size reported for the species and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Mar 04, 2024)

Predicted Models: L 94% Low (inductive)

M - Spotted Bat *(Euderma maculatum)* SOC		1			S M

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN**

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a distance of 10,000 meters in order to encompass the reported maximum foraging distance for the species in British Columbia. If the locational uncertainty associated with the observation is greater than 10,000 meters, the observation is not valid for creation of a species occurrence. (Last Updated: Dec 22, 2022)

Predicted Models: L 77% Low (inductive)

M - Grizzly Bear *(Ursus arctos)* SOC	7	1			Y H

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S2S3** USFWS: **LT** BLM: **THREATENED** FWP SWAP: **SGCN2-3**

Delineation Criteria Species Occurrence polygons represent areas delineated by the U.S. Fish and Wildlife Service (USFWS) that encompass both home ranges and potential transitory movements based on verified sightings. Within these areas, the USFWS wants project proponents to consider whether the species â€œmay be presentâ€ when evaluating the potential impacts of a project and to work with the USFWS to develop and implement best management practices to minimize or eliminate project effects on the species. (Last Updated: Dec 22, 2023)

Predicted Models: L 27% Low (inductive)

O - Bat Roost (Non-Cave) *(Bat Roost (Non-Cave))* IAH		16		Not Assessed	

View in Field Guide

Important Animal Habitat - Native Species Global: **GNR** State: **SNR**

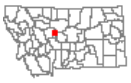
Delineation Criteria Confirmed area of occupancy based on the documented presence of adults or juveniles of any bat species at non-cave natural roost sites (e.g. rock outcrops, trees), below ground human created roost sites (e.g. mines), and above ground human created roost sites (e.g., bridges, buildings). Point observation locations are buffered by a distance of 4,500 meters in order to encompass the 95% confidence interval for nightly foraging distance reported for Townsendâ€™s Big-eared Bat (a resident Montana bat Species of Concern) and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Oct 22, 2019)

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Legend

Model Icons	Habitat Icons	Range Icons
N Suitable (native range)	C Common	Y Native / Year-round
O Optimal Suitability	O Occasional	S Summer
M Moderate Suitability		W Winter
L Low Suitability		M Migratory
I Suitable (introduced range)		N Non-native
		H Historical

Num Obs
Count of obs with 'good precision' (<=1000m)
+ indicates additional 'poor precision' obs (1001m-10,000m)



Latitude	Longitude
47.22831	-110.66991
47.38723	-110.95138

Native Species

Summarized by: **24mt0016 Hwy200** *(Custom Area of Interest)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Other Observed Species

	USFWS Sec7	# Obs	Predicted Model	Range
F - Brassy Minnow *(Hybognathus hankinsoni)* **PSOC**		1 +		Y
B - Bobolink *(Dolichonyx oryzivorus)* **SOC**		+		S M
M - North American Porcupine *(Erethizon dorsatum)* **PSOC**		3		Y
B - Bald Eagle *(Haliaeetus leucocephalus)* **SSS**		27 +		Y
B - Green-tailed Towhee *(Pipilo chlorurus)* **SOC**		1		S M
A - Northern Leopard Frog *(Lithobates pipiens)* **SOC**		1		Y
B - Great Blue Heron *(Ardea herodias)* **SOC**		4 +		Y S M
B - Clark's Nutcracker *(Nucifraga columbiana)* **SOC**		1		Y
M - Silver-haired Bat *(Lasionycteris noctivagans)* **PSOC**		1		Y
B - Sharp-tailed Grouse *(Tympanuchus phasianellus)* **SOC**		2		Y
B - Franklin's Gull *(Leucophaeus pipixcan)* **SOC**		1		S M

View in Field Guide **View Predicted Models** **View Range Maps**
Potential Species of Concern - Native Species Global: **G5** State: **S4**
Predicted Models: N 3% Suitable (native range) (deductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** FWP SWAP: **SGCN3** PIF: **3**
Predicted Models: M 28% Moderate (inductive), L 72% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Potential Species of Concern - Native Species Global: **G5** State: **S3S4** FWP SWAP: **SGIN**
Predicted Models: M 24% Moderate (inductive), L 75% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Special Status Species - Native Species Global: **G5** State: **S4** USFWS: **BGEPA; MBTA** USFS: **Sensitive - Known in Forests (LOLO)** BLM: **SENSITIVE** PIF: **2**
Predicted Models: M 6% Moderate (inductive), L 62% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**
Predicted Models: M 6% Moderate (inductive), L 41% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S1,S4** USFS: **Sensitive - Suspected in Forests (KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN1**
Predicted Models: M 4% Moderate (inductive), L 55% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3**
Predicted Models: M 3% Moderate (inductive), L 32% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** USFS: **Species of Conservation Concern in Forests (FLAT)** FWP SWAP: **SGCN3** PIF: **3**
Predicted Models: M 3% Moderate (inductive), L 31% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Potential Species of Concern - Native Species Global: **G3G4** State: **S4**
Predicted Models: M 1% Moderate (inductive), L 82% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **SX,S4** FWP SWAP: **SGCN1** PIF: **2**
Predicted Models: L 100% Low (inductive)

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Predicted Models: L 30% Low (inductive)

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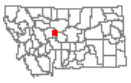
Legend

Model Icons
- N Suitable (native range)
- O Optimal Suitability
- M Moderate Suitability
- L Low Suitability
- I Suitable (introduced range)

Habitat Icons
- C Common
- O Occasional

Range Icons
- Y Native / Year-round
- S Summer
- W Winter
- M Migratory
- N Non-native
- H Historical

Num Obs
Count of obs with 'good precision' (<=1000m)
+ indicates additional 'poor precision' obs (1001m-10,000m)



Latitude	Longitude
47.22831	-110.66991
47.38723	-110.95138

Native Species

Summarized by: **24mt0016 Hwy200** *(Custom Area of Interest)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Other Potential Species

	USFWS Sec7	Predicted Model	Range
I - Bombus suckleyi *(Suckley Cuckoo Bumble Bee)* SOC			Y
M - Preble's Shrew *(Sorex preblei)* SOC			Y
M - Merriam's Shrew *(Sorex merriami)* SOC			Y
M - Dwarf Shrew *(Sorex nanus)* SOC			Y
B - Veery *(Catharus fuscescens)* SOC			S M
V - Carex crawei *(Crawe's Sedge)* SOC			Y
M - Fringed Myotis *(Myotis thysanodes)* SOC			Y
M - Townsend's Big-eared Bat *(Corynorhinus townsendii)* SOC			Y
B - American White Pelican *(Pelecanus erythrorhynchos)* SOC			S M
M - Hoary Bat *(Lasiurus cinereus)* SOC			S M
B - Rufous Hummingbird *(Selasphorus rufus)* PSOC			S M
B - Short-eared Owl *(Asio flammeus)* PSOC			Y

I - Bombus suckleyi *(Suckley Cuckoo Bumble Bee)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G2G3** State: **S1**
Predicted Models: M 86% Moderate (inductive), L 14% Low (inductive)

M - Preble's Shrew *(Sorex preblei)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** FWP SWAP: **SGCN3**
Predicted Models: M 51% Moderate (inductive), L 31% Low (inductive)

M - Merriam's Shrew *(Sorex merriami)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** FWP SWAP: **SGCN3**
Predicted Models: M 49% Moderate (inductive), L 51% Low (inductive)

M - Dwarf Shrew *(Sorex nanus)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2S3** FWP SWAP: **SGCN2-3**
Predicted Models: M 45% Moderate (inductive), L 52% Low (inductive)

B - Veery *(Catharus fuscescens)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Predicted Models: M 34% Moderate (inductive), L 66% Low (inductive)

V - Carex crawei *(Crawe's Sedge)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2S3** Plant Threat Score: **Low**
Predicted Models: M 31% Moderate (inductive), L 61% Low (inductive)

M - Fringed Myotis *(Myotis thysanodes)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**
Predicted Models: M 30% Moderate (inductive), L 46% Low (inductive)

M - Townsend's Big-eared Bat *(Corynorhinus townsendii)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known in Forests (LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN3**
Predicted Models: M 21% Moderate (inductive), L 63% Low (inductive)

B - American White Pelican *(Pelecanus erythrorhynchos)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**
Predicted Models: M 18% Moderate (inductive), L 77% Low (inductive)

M - Hoary Bat *(Lasiurus cinereus)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S3B** BLM: **SENSITIVE** FWP SWAP: **SGCN3**
Predicted Models: M 17% Moderate (inductive), L 83% Low (inductive)

B - Rufous Hummingbird *(Selasphorus rufus)* PSOC

View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G4** State: **S4B** USFWS: **MBTA; BCC10** PIF: **3**
Predicted Models: M 13% Moderate (inductive), L 80% Low (inductive)

B - Short-eared Owl *(Asio flammeus)* PSOC

View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA; BCC11; BCC17** PIF: **3**
Predicted Models: M 11% Moderate (inductive), L 55% Low (inductive)

M - Eastern Red Bat *(Lasiurus borealis)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G3G4** State: **S3B** BLM: **SENSITIVE**

Predicted Models: M 10% Moderate (inductive), L 52% Low (inductive)

V - Gratiola ebracteata *(Bractless Hedge-hyssop)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S2** Plant Threat Score: **No Known Threats** CCVI: **Moderately Vulnerable**

Predicted Models: M 10% Moderate (inductive), L 39% Low (inductive)

I - Oreohelix strigosa berryi *(Berry's Mountainsnail)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5T2** State: **S1S2**

Predicted Models: M 7% Moderate (inductive), L 7% Low (inductive)

B - Eastern Screech-Owl *(Megascops asio)* PSOC

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3S4** USFWS: **MBTA** PIF: **3**

Predicted Models: M 6% Moderate (inductive), L 39% Low (inductive)

V - Lilium philadelphicum *(Wood Lily)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** Plant Threat Score: **Low** CCVI: **Less Vulnerable**

Predicted Models: M 6% Moderate (inductive), L 20% Low (inductive)

V - Stipa lettermanii *(Letterman's Needlegrass)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S1S3** USFS: **Species of Conservation Concern in Forests (HLC)** Plant Threat Score: **No Known Threats**

Predicted Models: M 6% Moderate (inductive), L 14% Low (inductive)

V - Ranunculus pedatifidus *(Northern Buttercup)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Species of Conservation Concern in Forests (HLC)** Plant Threat Score: **Unknown**

Predicted Models: M 6% Moderate (inductive), L 11% Low (inductive)

M - Long-legged Myotis *(Myotis volans)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4G5** State: **S3**

Predicted Models: M 4% Moderate (inductive), L 72% Low (inductive)

I - Danaus plexippus *(Monarch)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S2S3** USFWS: **C** USFS: **Sensitive - Migratory in Forests (BD, BRT, KOOT)**

Predicted Models: M 3% Moderate (inductive), L 79% Low (inductive)

M - Long-eared Myotis *(Myotis evotis)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3**

Predicted Models: M 3% Moderate (inductive), L 76% Low (inductive)

B - Ovenbird *(Seiurus aurocapilla)* PSOC

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA** PIF: **3**

Predicted Models: M 3% Moderate (inductive), L 61% Low (inductive)

B - Black-billed Cuckoo *(Coccyzus erythropthalmus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN** PIF: **2**

Predicted Models: M 3% Moderate (inductive), L 31% Low (inductive)

V - Stellaria crassifolia *(Fleshy Stitchwort)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2** Plant Threat Score: **No Known Threats**

Predicted Models: M 3% Moderate (inductive), L 27% Low (inductive)

M - Hayden's Shrew *(Sorex haydeni)* PSOC

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3S4**

Predicted Models: M 1% Moderate (inductive), L 99% Low (inductive)

B - Black-necked Stilt *(Himantopus mexicanus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**

Predicted Models: M 1% Moderate (inductive), L 63% Low (inductive)

V - Cypripedium parviflorum *(Small Yellow Lady's-slipper)* PSOC

View in Field Guide | View Predicted Models | View Range Maps

USFS: **Sensitive - Known in Forests (LOLO)**

Potential Species of Concern - Native Species Global: **G5** State: **S3S4** **Species of Conservation Concern in Forests (CG, HLC)**

Predicted Models: M 1% Moderate (inductive), L 55% Low (inductive)

V - Potentilla plattensis *(Platte Cinquefoil)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** Plant Threat Score: **No Known Threats** CCVI: **Highly Vulnerable**

Predicted Models: M 1% Moderate (inductive), L 52% Low (inductive)

V - Cyperus schweinitzii *(Schweinitz's Flatsedge)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2** Plant Threat Score: **Low**

Predicted Models: M 1% Moderate (inductive), L 49% Low (inductive)

B - Eastern Bluebird *(Sialia sialis)* PSOC

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA**

Predicted Models: M 1% Moderate (inductive), L 39% Low (inductive)

B - Sprague's Pipit *(Anthus spragueii)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G3G4** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

Predicted Models: L 96% Low (inductive)

V - Elodea bifoliata *(Long-sheath Waterweed)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4G5** State: **S2?** Plant Threat Score: **No Known Threats**

Predicted Models: L 92% Low (inductive)

B - Brewer's Sparrow *(Spizella breweri)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Predicted Models: L 87% Low (inductive)

V - Chenopodium subglabrum *(Smooth Goosefoot)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G3G4** State: **S2** Plant Threat Score: **Unknown** CCVI: **Highly Vulnerable**

Predicted Models: L 55% Low (inductive)

B - Common Poorwill *(Phalaenoptilus nuttallii)* PSOC

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3**

Predicted Models: L 52% Low (inductive)

B - Sage Thrasher *(Oreoscoptes montanus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **3**

Predicted Models: L 45% Low (inductive)

B - Pinyon Jay *(Gymnorhinus cyanocephalus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G3** State: **S3** USFWS: **MBTA; BCC10; BCC17** FWP SWAP: **SGCN3**

Predicted Models: L 41% Low (inductive)

V - Physaria ludoviciana *(Silver Bladderpod)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2S3** Plant Threat Score: **No Known Threats**

Predicted Models: L 38% Low (inductive)

V - Senecio integerrimus var. scribneri *(Scribner's Ragwort)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5T2T3** State: **S2S3** Plant Threat Score: **No Known Threats** CCVI: **Less Vulnerable**

Predicted Models: L 38% Low (inductive)

B - American Bittern *(Botaurus lentiginosus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **3**

Predicted Models: L 35% Low (inductive)

B - Baird's Sparrow *(Centronyx bairdii)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

Predicted Models: L 35% Low (inductive)

B - Greater Sage-Grouse *(Centrocercus urophasianus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G3G4** State: **S2** USFS: **Sensitive - Known in Forests (BD)** **Species of Conservation Concern in Forests (CG)** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **1**

Predicted Models: L 30% Low (inductive)

A - Great Plains Toad *(Anaxyrus cognatus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2** BLM: **SENSITIVE** FWP SWAP: **SGCN2**

Predicted Models: L 30% Low (inductive)

B - White-faced Ibis *(Plegadis chihi)* **SOC**

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Predicted Models: L 28% Low (inductive)

B - Black Tern *(Chlidonias niger)* **SOC**

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G4G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Predicted Models: L 25% Low (inductive)

B - Lewis's Woodpecker *(Melanerpes lewis)* **SOC**

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G4** State: **S2B** USFWS: **MBTA; BCC10; BCC17** USFS: **Species of Conservation Concern in Forests (HLC)** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **2**
Predicted Models: L 24% Low (inductive)

B - Black-crowned Night-Heron *(Nycticorax nycticorax)* **SOC**

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**
Predicted Models: L 20% Low (inductive)

B - Thick-billed Longspur *(Rhynchophanes mccownii)* **SOC**

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Predicted Models: L 20% Low (inductive)

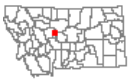
M - Canada Lynx *(Lynx canadensis)* **SOC**

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **LT; CH** BLM: **THREATENED** FWP SWAP: **SGCN3**
Predicted Models: L 3% Low (inductive)

M - Wolverine *(Gulo gulo)* **SOC**

View in Field Guide
Species of Concern - Native Species Global: **G4** State: **S3** USFWS: **LT** USFS: **Sensitive - Known in Forests (LOLO)** BLM: **THREATENED** FWP SWAP: **SGCN3**

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47.22831	-110.66991
47.38723	-110.95138

Structured Surveys

Summarized by: **24mt0016 Hwy200** *(Custom Area of Interest)*

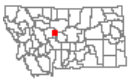
The Montana Natural Heritage Program (MTNHP) records information on the locations where more than 80 different types of well-defined repeatable survey protocols capable of detecting an animal species or suite of animal species have been conducted by state, federal, tribal, university, or private consulting 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**: 2008
B-Long-billed Curlew *(Long-billed Curlew, Road-based, Point Count)*	**Survey Count**: 2	**Obs Count**:	**Recent Survey**: 2012
B-Raptor nest *(Raptor Nest Survey)*	**Survey Count**: 10	**Obs Count**: 9	**Recent Survey**: 2015
B-Sharp-tailed Grouse Lek *(Sharp-tailed Grouse Lek Survey)*	**Survey Count**: 1	**Obs Count**: 1	**Recent Survey**: 2009
E-Eastern Heath Snail *(Eastern Heath Snail Survey)*	**Survey Count**: 59	**Obs Count**: 33	**Recent Survey**: 2023
E-Eurasian Water-milfoil Rake *(Rake tows/pulls for Eurasian Water-milfoil)*	**Survey Count**: 4	**Obs Count**:	**Recent Survey**: 2023
E-Invasive Mussel Plankton Tow *(Plankton tows for veligers of Invasive Mussels)*	**Survey Count**: 3	**Obs Count**:	**Recent Survey**: 2023
E-Kicknet *(Kicknet Collection Survey for Invasive Mussels and Snails)*	**Survey Count**: 4	**Obs Count**:	**Recent Survey**: 2023
E-Noxious Weed, Road-based *(Noxious Weed Road-based Visual Surveys)*	**Survey Count**: 25	**Obs Count**: 115	**Recent Survey**: 2003
E-Visual Aquatic Invasives *(Visual Encounter Surveys for Aquatic Invasives on Shorelines or Underwater)*	**Survey Count**: 1	**Obs Count**:	**Recent Survey**: 2023
F-Fish Other Survey *(Fish Other Survey (FWP Survey Type))*	**Survey Count**: 7	**Obs Count**: 14	**Recent Survey**: 2006
F-Fish Trapping/Netting *(Fish Trapping or Netting Surveys)*	**Survey Count**: 2	**Obs Count**: 1	**Recent Survey**: 2006
I-Aquatic Invert Lotic Dipnet *(Invertebrate Lotic Site Dipnet and Visual Encounter Survey)*	**Survey Count**: 10	**Obs Count**: 107	**Recent Survey**: 1996
I-Odonates/Butterfly VES *(Visual Encounter Survey for Damselfly/Dragonfly/Butterfly)*	**Survey Count**: 1	**Obs Count**: 2	**Recent Survey**: 1954
M-Bat Acoustic *(Bat Acoustic Survey)*	**Survey Count**: 3	**Obs Count**: 6	**Recent Survey**: 2008
M-Bat Roost (Active Season) *(Bat Roost (Active Season) Survey)*	**Survey Count**: 16	**Obs Count**: 13	**Recent Survey**: 2019
R-Reptile VES *(Visual Encounter Surveys for Reptiles)*	**Survey Count**: 2	**Obs Count**:	**Recent Survey**: 2008

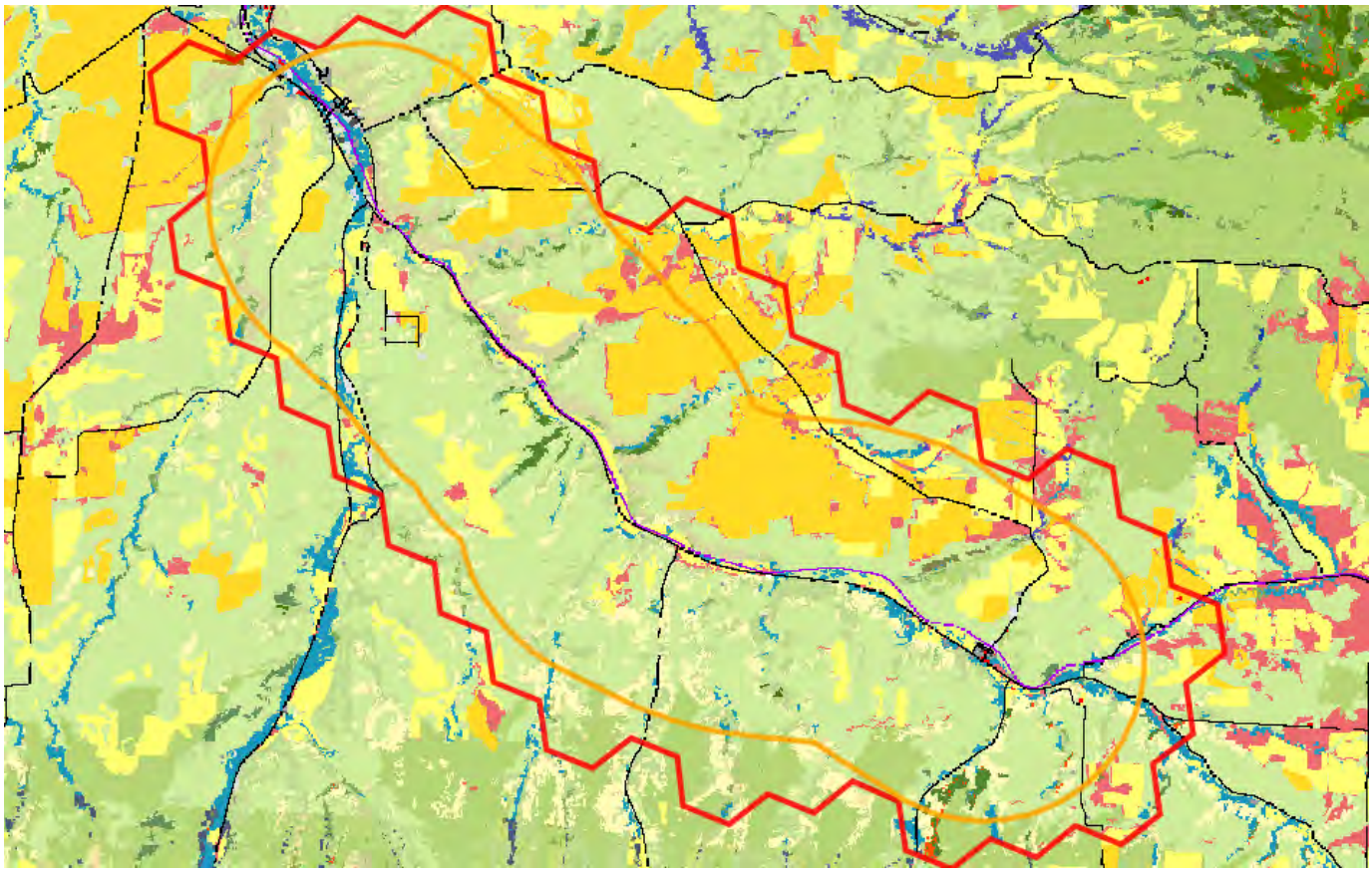
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Land Cover

Summarized by: **24mt0016 Hwy200** *(Custom Area of Interest)*





42% (*19,270 Acres*)

Grassland Systems
Lowland/Prairie Grassland

Great Plains Mixedgrass Prairie

The system covers much of the eastern two-thirds of Montana, occurring continuously for hundreds of square kilometers, interrupted only by wetland/riparian areas or sand prairies. Soils are primarily fine and medium-textured. The growing season averages 115 days, ranging from 100 days on the Canadian border to 130 days on the Wyoming border. Climate is typical of mid-continental regions with long severe winters and hot summers. Grasses typically comprise the greatest canopy cover, and western wheatgrass (*Pascopyrum smithii*) is usually dominant. Other species include thickspike wheatgrass (*Elymus lanceolatus*), green needlegrass (*Nassella viridula*), blue grama (*Bouteloua gracilis*), and needle and thread (*Hesperostipa comata*). Near the Canadian border in north-central Montana, this system grades into rough fescue (*Festuca campestris)* and Idaho fescue (*Festuca idahoensis*) grasslands. Remnants of shortbristle needle and thread *(Hesperostipa curtiseta)* dominated vegetation are found in northernmost Montana and North Dakota, and are associated with productive sites, now mostly converted to farmland. Forb diversity is typically high. In areas of southeastern and central Montana where sagebrush steppe borders the mixed grass prairie, common plant associations include Wyoming big sagebrush-western wheatgrass (*Artemisia tridentata* ssp. *wyomingensis/ Pascopyrum smithii*). Fire and grazing are the primary drivers of this system. Drought can also impact it, in general favoring the shortgrass component at the expense of the mid-height grasses. With intensive grazing, cool season exotics such as Kentucky bluegrass (*Poa pratensis*), smooth brome (*Bromus inermis*), and Japanese brome (*Bromus japonicus*) increase in dominance; both of these rhizomatous species have been shown to markedly decrease species diversity. Previously cultivated acres that have been re-vegetated with non-native plants have been transformed into associations such as Kentucky bluegrass (*Poa pratensis*)/western wheatgrass *(Pascopyrum smithii)* or into pure crested wheatgrass (*Agropyron cristatum)* stands.



16% (*7,324 Acres*)

Human Land Use
Agriculture

Cultivated Crops

These areas used for the production of crops, such as corn, soybeans, small grains, sunflowers, vegetables, and cotton, typically on an annual cycle. Agricultural plant cover is variable depending on season and type of farming. Other areas include more stable land cover of orchards and vineyards.



9% (*4,309 Acres*)

Human Land Use
Agriculture

Pasture/Hay

These agriculture lands typically have perennial herbaceous cover (e.g. regularly-shaped plantings) used for livestock grazing or the production of hay. There are obvious signs of management such as irrigation and haying that distinguish it from natural grasslands. Identified CRP lands are included in this land cover type.



7% (*3,285 Acres*)

Shrubland, Steppe and Savanna Systems
Deciduous Shrubland
Great Plains Shrubland

This ecological system is found from southern Alberta through northern Montanaâ€™s glaciated and unglaciated plains, typically at elevations ranging from 1,220 to 1,524 meters (4,000-5,000 feet). It can occur on all aspects but is more common on mesic sites with moderately shallow or deep, fine to sandy loam soils. Often it is located on slopes near breaklands and on the edge of coulees, or on upper terraces of rivers and streams. It differs from the Northwestern Great Plains Mixedgrass Prairie in that shrub cover is more than 10%, although the grass component is similar, and may occur where fire suppression in grasslands has allowed shrubs to establish. Dominant shrubs include serviceberry (*Amelanchier alnifolia*), skunkbush sumac (*Rhus trilobata*), snowberry (*Symphoricarpos* species), silver buffaloberry (Sheperdia argentea), shrubby cinquefoil (*Dasiphora fruticosa ssp. floribunda*), silverberry (*Elaeagnus commutata*) and horizontal rug juniper (*Juniperus horizontalis*). Silver sage (*Artemisia cana ssp. cana*) shrublands may occur on flat alluvial deposits on floodplains, terraces or benches, and alluvial fans.



6% (*2,651 Acres*)

Shrubland, Steppe and Savanna Systems
Sagebrush Steppe
Big Sagebrush Steppe

This widespread ecological system occurs throughout much of central Montana, and north and east onto the western fringe of the Great Plains. In central Montana, where this system occurs on both glaciated and non-glaciated landscapes, it differs slightly, with more summer rain than winter precipitation and more precipitation annually. Throughout its distribution, soils are typically deep and non-saline, often with a microphytic crust. This shrub-steppe is dominated by perennial grasses and forbs with greater than 25% cover. Overall shrub cover is less than 10 percent. In Montana and Wyoming, stands are more mesic, with more biomass of grass, and have less shrub diversity than stands farther to the west, and 50 to 90% of the occurrences are dominated by Wyoming big sagebrush with western wheatgrass (*Pascopyrum smithii*). Japanese brome (*Bromus japonicus*) and cheatgrass (*Bromus tectorum*) are indicators of disturbance, but cheatgrassis typically not as abundant as in the Intermountain West, possibly due to a colder climate. The natural fire regime of this ecological system maintains a patchy distribution of shrubs, preserving the steppe character. Shrubs may increase following heavy grazing and/or with fire suppression. In central and eastern Montana, complexes of prairie dog towns are common in this ecological system.



5% (*2,147 Acres*)

Grassland Systems
Montane Grassland
Rocky Mountain Lower Montane, Foothill, and Valley Grassland

This grassland system of the northern Rocky Mountains is found at lower montane to foothill elevations in mountains and valleys throughout Montana. These grasslands are floristically similar to Big Sagebrush Steppe but are defined by shorter summers, colder winters, and young soils derived from recent glacial and alluvial material. They are found at elevations from 548 - 1,650 meters (1,800-5,413 feet). In the lower montane zone, they range from small meadows to large open parks surrounded by conifers; below the lower treeline, they occur as extensive foothill and valley grasslands. Soils are relatively deep, fine-textured, often with coarse fragments, and non-saline. Microphytic crust may be present in high-quality occurrences. This system is typified by cool-season perennial bunch grasses and forbs (>25%) cover, with a sparse shrub cover (<10%). Rough fescue (*Festuca campestris*) is dominant in the northwestern portion of the state and Idaho fescue (*Festuca idahoensis*) is dominant or co-dominant throughout the range of the system. Bluebunch wheatgrass (*Pseudoroegneria spicata*) occurs as a co-dominant throughout the range as well, especially on xeric sites. Western wheatgrass (*Pascopyrum smithii*) is consistently present, often with appreciable coverage (>10%) in lower elevation occurrences in western Montana and virtually always present, with relatively high coverages (>25%), on the edge of the Northwestern Great Plains region. Species diversity ranges from a high of more than 50 per 400 square meter plot on mesic sites to 15 (or fewer) on xeric and disturbed sites. Most occurrences have at least 25 vascular species present. Farmland conversion, noxious species invasion, fire suppression, heavy grazing and oil and gas development are major threats to this system.



4% (*1,597 Acres*)

Grassland Systems
Lowland/Prairie Grassland
Great Plains Sand Prairie

The sand prairies constitute a very unique system within the western Great Plains. The unifying and controlling feature for this system is that coarse-textured soils predominate and the dominant grasses are well-adapted to this condition. In the northwestern portion of the systemâ€™s range, stand size corresponds to the area of exposed caprock sandstone, and small patches predominate, but larger patches are found embedded in the encompassing Great Plains Mixed Grass Prairie, and usually occupy higher positions in local landscapes where former caprock formations have eroded into more subdued and planar topography. In most of eastern Montana, substrates supporting this system have weathered in place from sandstone caprock. Soils can be relatively thin or deep due to varying amounts of downslope movement of weathered sands. Needle and thread (*Hesperostipa comata*) is the dominant grass species. Other frequent species include little bluestem (*Schizachyrium scoparium*), often occurring with threadleaf sedge (*Carex filifolia*) and dominating both sandy sites and actively eroding sites. Prairie sandreed (*Calamovilfa longifolia*), sand bluestem (*Andropogon hallii*) and big bluestem (*Andropogon gerardii*) are sporadically distributed and found generally on the coarsest-textured sands. Other graminoids include bluebunch wheatgrass (*Pseudoroegneria spicata*), sun sedge (*Carex inops ssp. heliophila*), and purple threeawn (*Aristida purpurea*). Characteristic forbs differ by occurrence, but species of scurf pea (*Psoralidium* species) and Indian breadroot (*Pediomelum*) species are common. Communities of silver sage (*Artemisia cana* ssp. *cana*) or skunkbush sumac (*Rhus trilobata*) can occur within this system. Wind erosion, fire and grazing constitute the other major dynamic processes that can influence this system.



3% (*1,323 Acres*)

Recently Disturbed or Modified
Introduced Vegetation
Introduced Upland Vegetation - Annual and Biennial Forbland

Land cover is significantly altered/disturbed by introduced annual and biennial forbs. Natural vegetation types are no longer recognizable. Typical species that dominate these areas are knapweed, oxeye daisy, Canada thistle, leafy spurge, pepperweed, and yellow sweetclover.



3% (*1,143 Acres*)

Wetland and Riparian Systems
Floodplain and Riparian

Great Plains Riparian

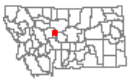
This system is associated with perennial to intermittent or ephemeral streams throughout the northwestern Great Plains. In Montana, it occurs along smaller tributaries of the Yellowstone and Missouri rivers, as well as tributaries to the large floodplain rivers that feed them (e.g. the Milk, Marias, Musselshell, Powder, Clarkâ€™s Fork Yellowstone, Tongue, etc). In areas adjacent to the mountain ranges of central and southeastern Montana, and near the Rocky Mountain Front, it grades into Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland systems. This system is found on alluvial soils in highly variable landscape settings, from confined, deep cut ravines to wide, braided streambeds. Channel migration occurs in less-confined areas, but within a more narrow range than would occur in broad, alluvial floodplains. Typically, the rivers are wadeable by mid-summer.

The primary inputs of water to these systems include groundwater discharge, overland flow, and subsurface interflow from the adjacent upland. Flooding is the key ecosystem process, creating suitable sites for seed dispersal and seedling establishment, and controlling vegetation succession. Communities within this system range from riparian forests and shrublands to tallgrass wet meadows and gravel/sand flats. Dominant species are similar to those found in the Great Plains Floodplain System. In the western part of the systemâ€™s range in Montana, the dominant overstory species is black cottonwood (*Populus balsamifera ssp. trichocarpa*) with narrowleaf cottonwood *(Populus angustifolia)* and Plains cottonwood (*Populus deltoides)* occurring as co-dominants in the riparian/floodplain interface near the mountains. Further east, narrowleaf cottonwood and Plains cottonwood become dominant. In wetter systems, the understory is typically willow (*Salix spp*.) and redosier dogwood (*Cornus stolonifera*) with graminoids such as western wheatgrass (*Pascopyrum smithii*) and forbs like American licorice (*Glycyrrhiza lepidota*). In areas where the channel is incised, the understory may be dominated by big sagebrush (*Artemisia tridentata*) or silver sagebrush (*Artemisia cana*). Like floodplain systems, riparian systems are often subjected to overgrazing and/or agriculture and can be heavily degraded, with salt cedar (*Tamarix ramosissima*) and Russian olive (*Eleagnus angustifolia*) replacing native woody vegetation and regrowth. Groundwater depletion and lack of fire have resulted in additional species changes.

Additional Limited Land Cover

1% (*546 Acres*) Other Roads
1% (*322 Acres*) Major Roads
1% (*295 Acres*) Great Plains Wooded Draw and Ravine
1% (*288 Acres*) Great Plains Ponderosa Pine Woodland and Savanna
1% (*254 Acres*) Railroad
<1% (*149 Acres*) Low Intensity Residential
<1% (*123 Acres*) Developed, Open Space
<1% (*67 Acres*) Montane Sagebrush Steppe
<1% (*49 Acres*) Rocky Mountain Foothill Woodland-Steppe Transition
<1% (*45 Acres*) Rocky Mountain Foothill Limber Pine - Juniper Woodland
<1% (*39 Acres*) Insect-Killed Forest
<1% (*37 Acres*) Aspen Forest and Woodland
<1% (*32 Acres*) Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland
<1% (*20 Acres*) Quarries, Strip Mines and Gravel Pits
<1% (*19 Acres*) High Intensity Residential
<1% (*18 Acres*) Commercial / Industrial
<1% (*11 Acres*) Greasewood Flat
<1% (*10 Acres*) Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest
<1% (*2 Acres*) Great Plains Cliff and Outcrop
<1% (*2 Acres*) Northern Rocky Mountain Lower Montane Riparian Woodland and Shrubland
<1% (*2 Acres*) Open Water
<1% (*2 Acres*) Rocky Mountain Montane Douglas-fir Forest and Woodland
<1% (*2 Acres*) Rocky Mountain Subalpine-Montane Mesic Meadow
<1% (*1 Acres*) Rocky Mountain Ponderosa Pine Woodland and Savanna
<1% (*1 Acres*) Emergent Marsh
<1% (*0 Acres*) Rocky Mountain Montane-Foothill Deciduous Shrubland

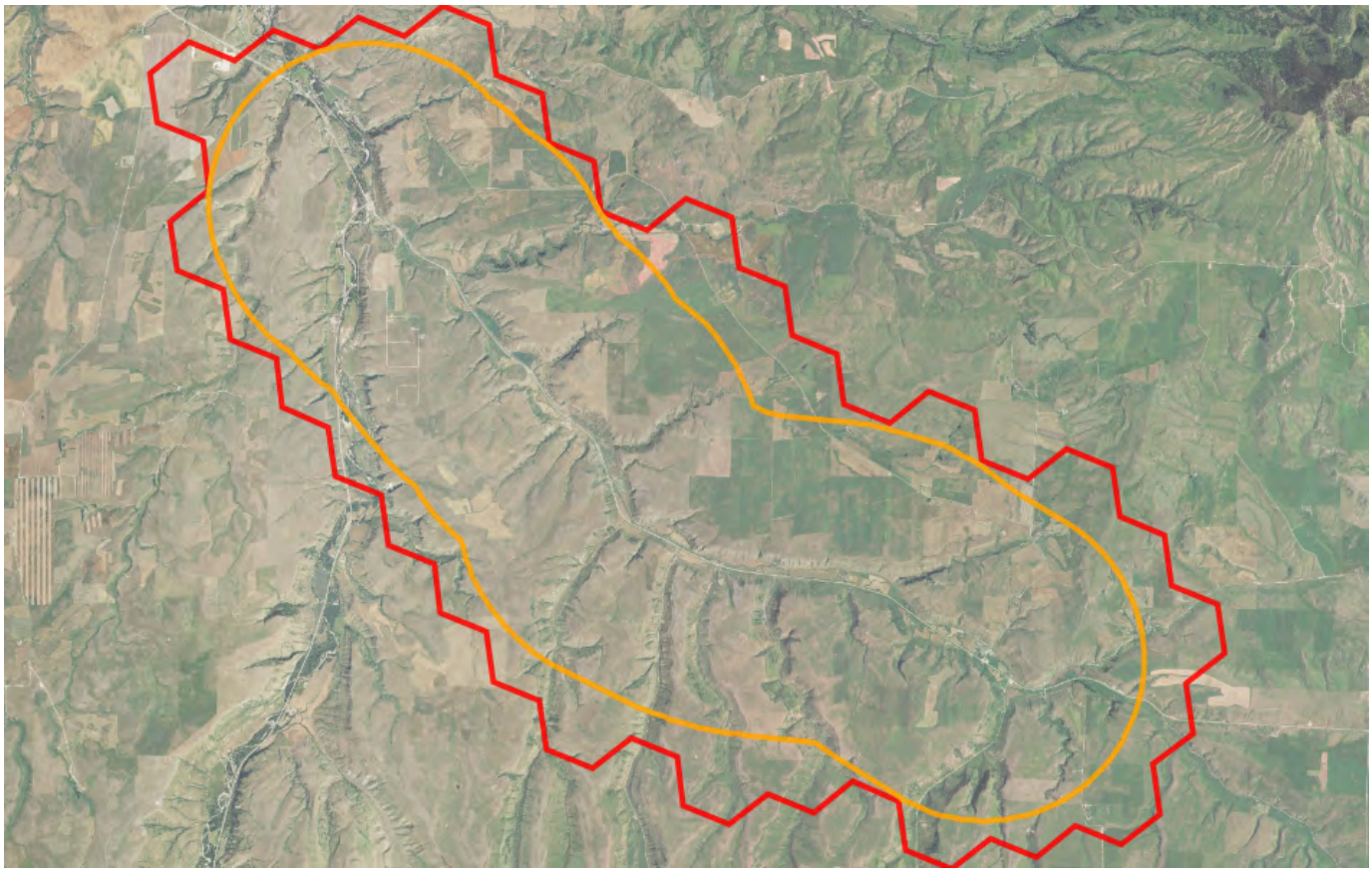
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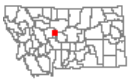
Wetland and Riparian

Summarized by: **24mt0016 Hwy200** *(Custom Area of Interest)*



No Wetland records were found in the selected area

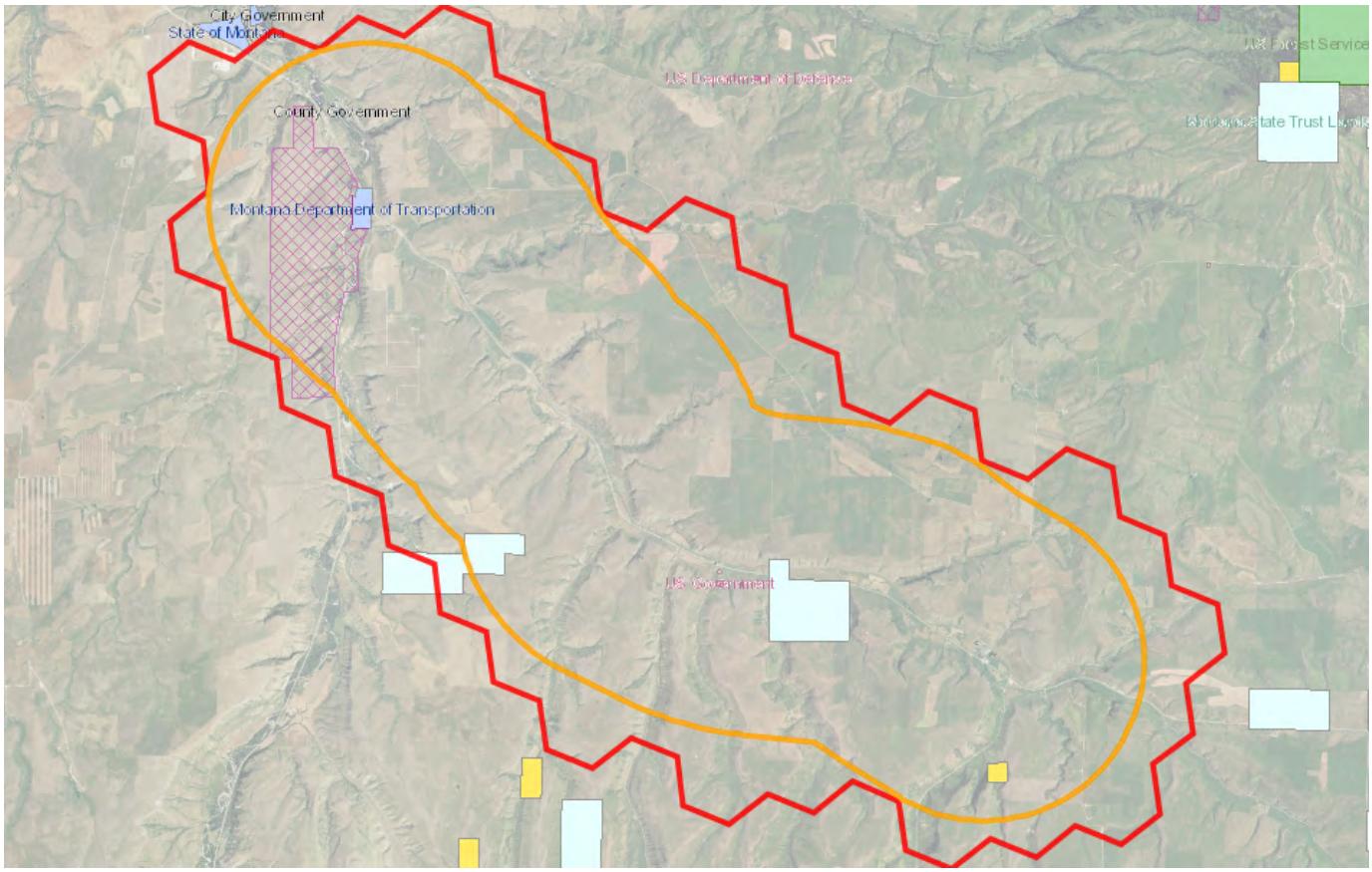
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Land Management

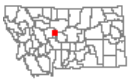
Summarized by: **24mt0016 Hwy200** *(Custom Area of Interest)*



Land Management Summary

	Ownership	Tribal	Easements	Other Boundaries (possible overlap)
Public Lands	**996 Acres (2%)**			
Federal	44 Acres (<1%)			
US Bureau of Land Management	38 Acres (<1%)			
BLM Owned	38 Acres (<1%)			
US Government	6 Acres (<1%)			
US Government Owned	6 Acres (<1%)			
State	947 Acres (2%)			
Montana State Trust Lands	862 Acres (2%)			
MT State Trust Owned	862 Acres (2%)			
Montana Department of Transportation	82 Acres (<1%)			
MTDOT Owned	82 Acres (<1%)			
State of Montana	3 Acres (<1%)			
State of Montana Owned	3 Acres (<1%)			
Local	5 Acres (<1%)			
Local Government	5 Acres (<1%)			
Local Government Owned	5 Acres (<1%)			
Conservation Easements			**1,879 Acres (4%)**	
Private			1,879 Acres (4%)	
Montana Land Reliance			1,879 Acres (4%)	
Private Lands or Unknown Ownership	**42,511 Acres (94%)**			

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Biological Reports

Summarized by: **24mt0016 Hwy200** *(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

Reichel, J.D. 1995a. ***Preliminary amphibian and reptile survey of the Lewis & Clark National Forest: 1994***. Montana Natural Heritage Program. Helena, MT. 92 p.

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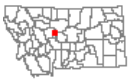
Legend

Model Icons
- N Suitable (native range)
- O Optimal Suitability
- M Moderate Suitability
- L Low Suitability
- I Suitable (introduced range)

Habitat Icons
- C Common
- O Occasional

Range Icons
- N Non-native

Num Obs
Count of obs with 'good precision' (<=1000m)
+ indicates additional 'poor precision' obs (1001m-10,000m)



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Invasive and Pest Species

Summarized by: **24mt0016 Hwy200** *(Custom Area of Interest)*

	# Obs	Predicted Model	Range
Aquatic Invasive Species			
V - Myriophyllum spicatum *(Eurasian Water-milfoil)* **N2A/AIS**			N
View in Field Guide · View Predicted Models · View Range Maps			
Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species — Global: **GNR** State: **SNA**			
Predicted Models: L 24% Low (inductive)			
V - Nymphaea odorata *(American Water-lily)* **AIS**			N
View in Field Guide · View Predicted Models · View Range Maps			
Aquatic Invasive Species - Non-native Species — Global: **G5** State: **SNA**			
Predicted Models: I 70% Suitable (introduced range) (deductive)			
F - Common Carp *(Cyprinus carpio)* **AIS**			N
View in Field Guide · View Predicted Models · View Range Maps			
Aquatic Invasive Species - Non-native Species — Global: **G5** State: **SNA**			
Predicted Models: I 6% Suitable (introduced range) (deductive)			
I - Faxonius virilis *(Virile Crayfish)* **AIS**	1	Not Assessed	N
View in Field Guide · View Range Maps			
Aquatic Invasive Species - Native/Non-native Species - (depends on location or taxa) — Global: **G5** State: **S5**			
Noxious Weeds: Priority 1A			
V - Centaurea solstitialis *(Yellow Starthistle)* **N1A**			N
View in Field Guide · View Predicted Models · View Range Maps			
Noxious Weed: Priority 1A - Non-native Species — Global: **GNR** State: **SNA**			
Predicted Models: O 3% Optimal (inductive), M 27% Moderate (inductive), L 32% Low (inductive)			
V - Isatis tinctoria *(Dyer's Woad)* **N1A**			N
View in Field Guide · View Predicted Models · View Range Maps			
Noxious Weed: Priority 1A - Non-native Species — Global: **GNR** State: **SNA**			
Predicted Models: M 7% Moderate (inductive), L 55% Low (inductive)			
V - Taeniatherum caput-medusae *(Medusahead)* **N1A**			N
View in Field Guide · View Predicted Models · View Range Maps			
Noxious Weed: Priority 1A - Non-native Species — Global: **G4G5** State: **SNA**			
Predicted Models: L 89% Low (inductive)			
Noxious Weeds: Priority 1B			
V - Lythrum salicaria *(Purple Loosestrife)* **N1B**			N
View in Field Guide · View Predicted Models · View Range Maps			
Noxious Weed: Priority 1B - Non-native Species — Global: **G5** State: **SNA**			
Predicted Models: O 6% Optimal (inductive), M 21% Moderate (inductive), L 62% Low (inductive)			
V - Polygonum cuspidatum *(Japanese Knotweed)* **N1B**			N
View in Field Guide · View Predicted Models · View Range Maps			
Noxious Weed: Priority 1B - Non-native Species — Global: **GNRTNR** State: **SNA**			
Predicted Models: M 20% Moderate (inductive), L 63% Low (inductive)			
V - Cytisus scoparius *(Scotch Broom)* **N1B**			N
View in Field Guide · View Predicted Models · View Range Maps			
Noxious Weed: Priority 1B - Non-native Species — Global: **GNR** State: **SNA**			
Predicted Models: L 27% Low (inductive)			
Noxious Weeds: Priority 2A			
V - Ventenata dubia *(Ventenata)* **N2A**			N
View in Field Guide · View Predicted Models · View Range Maps			
Noxious Weed: Priority 2A - Non-native Species — Global: **GNR** State: **SNA**			
Predicted Models: M 38% Moderate (inductive), L 62% Low (inductive)			
V - Rhamnus cathartica *(Common Buckthorn)* **N2A**			N
View in Field Guide · View Predicted Models · View Range Maps			
Noxious Weed: Priority 2A - Non-native Species — Global: **GNR** State: **SNA**			
Predicted Models: M 15% Moderate (inductive), L 54% Low (inductive)			
V - Hieracium piloselloides *(Tall Hawkweed)* **N2A**			N
View in Field Guide · View Predicted Models · View Range Maps			
Noxious Weed: Priority 2A - Non-native Species — Global: **GNR** State: **SNA**			
Predicted Models: M 6% Moderate (inductive), L 3% Low (inductive)			

V - Lepidium latifolium *(Perennial Pepperweed)* **N2A**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 3% Moderate (inductive), L 59% Low (inductive)

V - Ranunculus acris *(Tall Buttercup)* **N2A**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **G5** State: **SNA**

Predicted Models: M 1% Moderate (inductive), L 32% Low (inductive)

V - Myriophyllum spicatum *(Eurasian Water-milfoil)* **N2A/AIS**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 24% Low (inductive)

Noxious Weeds: Priority 2B

V - Lepidium draba *(Whitetop)* **N2B** 15

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 18% Optimal (inductive), M 82% Moderate (inductive)

V - Convolvulus arvensis *(Field Bindweed)* **N2B** 16

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 4% Optimal (inductive), M 32% Moderate (inductive), L 56% Low (inductive)

V - Linaria dalmatica *(Dalmatian Toadflax)* **N2B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**

Predicted Models: M 54% Moderate (inductive), L 42% Low (inductive)

V - Euphorbia virgata *(Leafy Spurge)* **N2B** 18

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 51% Moderate (inductive), L 49% Low (inductive)

V - Centaurea stoebe *(Spotted Knapweed)* **N2B** 32

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 45% Moderate (inductive), L 55% Low (inductive)

V - Cynoglossum officinale *(Common Hound's-tongue)* **N2B** 19

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 35% Moderate (inductive), L 62% Low (inductive)

V - Centaurea diffusa *(Diffuse Knapweed)* **N2B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 34% Moderate (inductive), L 51% Low (inductive)

V - Cirsium arvense *(Canada Thistle)* **N2B** 25

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**

Predicted Models: M 24% Moderate (inductive), L 76% Low (inductive)

V - Acroptilon repens *(Russian Knapweed)* **N2B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 13% Moderate (inductive), L 63% Low (inductive)

V - Berteroa incana *(Hoary False-alyssum)* **N2B** 2

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 4% Moderate (inductive), L 41% Low (inductive)

V - Tanacetum vulgare *(Common Tansy)* **N2B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 4% Moderate (inductive), L 31% Low (inductive)

V - Potentilla recta *(Sulphur Cinquefoil)* **N2B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 89% Low (inductive)

V - Linaria vulgaris *(Yellow Toadflax)* **N2B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 24% Low (inductive)

V - Tamarix ramosissima *(Salt Cedar)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 24% Low (inductive)

V - Leucanthemum vulgare *(Oxeye Daisy)* N2B

1

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 14% Low (inductive)

Regulated Weeds: Priority 3

V - Bromus tectorum *(Cheatgrass)* R3

View in Field Guide View Predicted Models View Range Maps
Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 1% Moderate (inductive), L 80% Low (inductive)

V - Elaeagnus angustifolia *(Russian Olive)* R3

View in Field Guide View Predicted Models View Range Maps
Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 27% Low (inductive)

Agricultural Pests

I - Xerolenta obvia *(Eastern Heath Snail)* PESTA

38 +

View in Field Guide View Predicted Models View Range Maps
Agricultural Pest - Non-native Species Global: **G5** State: **SNA**
Predicted Models: O 75% Optimal (inductive), M 25% Moderate (inductive)

Biocontrol Species

I - Mecinus janthinus *(Yellow Toadflax Stem-boring Weevil)* BIOCNTRL

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 8% Optimal (inductive), M 6% Moderate (inductive), L 63% Low (inductive)

I - Aphthona lacertosa *(Brown-legged Leafy Spurge Flea Beetle)* BIOCNTRL

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 87% Moderate (inductive), L 13% Low (inductive)

I - Mecinus janthiniformis *(Dalmatian Toadflax Stem-boring Weevil)* BIOCNTRL

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 83% Moderate (inductive), L 17% Low (inductive)

I - Cyphocleonus achates *(Knapweed Root Weevil)* BIOCNTRL

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 65% Moderate (inductive), L 35% Low (inductive)

I - Aphthona nigriscutis *(Black Dot Leafy Spurge Flea Beetle)* BIOCNTRL

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 32% Moderate (inductive), L 39% Low (inductive)

I - Oberea erythrocephala *(Red-headed Leafy Spurge Stem Borer)* BIOCNTRL

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 3% Moderate (inductive), L 23% Low (inductive)

Introduction to Montana Natural Heritage Program

PO Box 201800 • 1201 11th Avenue • Helena, MT 59620-1800 • fax 406.444.0266 • phone 406.444.3989 • mtnhp.org

Introduction

The Montana Natural Heritage Program (MTNHP) is Montana's source for reliable and objective information on Montana's native species and habitats, emphasizing those of conservation concern. MTNHP was created by the Montana legislature in 1983 as part of the Natural Resource Information System (NRIS) at the Montana State Library (MSL). MTNHP is "a program of information acquisition, storage, and retrieval for data relating to the flora, fauna, and biological community types of Montana" (MCA 90-15-102). MTNHP's activities are guided by statute as well as through ongoing interaction with, and feedback from, principal data source agencies such as Montana Fish, Wildlife, and Parks, the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation, the Montana University System, the US Forest Service, and the US Bureau of Land Management. Since the first staff was hired in 1985, the Program has logged a long record of success, and developed into a highly respected, service-oriented program. MTNHP is widely recognized as one of the most advanced and effective of over 60 natural heritage programs that are distributed across North America.

Vision

Our vision is that public agencies, the private sector, the education sector, and the general public will trust and rely upon MTNHP as the source for information and expertise on Montana's species and habitats, especially those of conservation concern. We strive to provide easy access to our information to allow users to save time and money, speed environmental reviews, and make informed decisions.

Core Values

- We endeavor to be a single statewide source of accurate and up-to-date information on Montana's plants, animals, and aquatic and terrestrial biological communities.
- We actively listen to our data users and work responsively to meet their information and training needs.
- We strive to provide neutral, trusted, timely, and equitable service to all of our information users.
- We make every effort to be transparent to our data users in setting work priorities and providing data products.

Confidentiality

All information requests made to the Montana Natural Heritage Program are considered library records and are protected from disclosure by the Montana Library Records Confidentiality Act (MCA 22-1-11).

Information Managed

Information managed at the Montana Natural Heritage Program is botanical, zoological, and ecological information that describes the distribution (e.g., observations, structured surveys, range polygons, predicted habitat suitability models), conservation status (e.g., global and state conservation status ranks, including threats), and other supporting information (e.g., accounts and references) on the biology and ecology of species and biological communities.

Data Use Terms and Conditions

- Montana Natural Heritage Program (MTNHP) products and services are based on biological data and the objective interpretation of those data by professional scientists. MTNHP does not advocate any particular philosophy of natural resource protection, management, development, or public policy.
- MTNHP has no natural resource management or regulatory authority. Products, statements, and services from MTNHP are intended to inform parties as to the state of scientific knowledge about certain natural resources, and to further develop that knowledge. The information is not intended as natural resource management guidelines or prescriptions or a determination of environmental impacts. MTNHP recommends consultation with appropriate state, federal, and tribal resource management agencies and authorities in the area where your project is located.
- Information on the status and spatial distribution of biological resources produced by MTNHP are intended to inform parties of the state-wide status, known occurrence, or the likelihood of the presence of those resources. **These products are not intended to substitute for field-collected data, nor are they intended to be the sole basis for natural resource management decisions.**
- MTNHP does not portray its data as exhaustive or comprehensive inventories of rare species or biological communities. **Field verification of the absence or presence of sensitive species and biological communities will always be an important obligation of users of our data.**
- MTNHP responds equally to all requests for products and services, regardless of the purpose or identity of the requester.
- Because MTNHP constantly updates and revises its databases with new data and information, products will become outdated over time. Interested parties are encouraged to obtain the most current information possible from MTNHP, rather than using older products. We add, review, update, and delete records on a daily basis. Consequently, we strongly advise that you update your MTNHP data sets at a minimum of every four months for most applications of our information.
- MTNHP data require a certain degree of biological expertise for proper analysis, interpretation, and application. Our staff is available to advise you on questions regarding the interpretation or appropriate use of the data that we provide. See Contact Information for MTNHP Staff
- The information provided to you by MTNHP may include sensitive data that if publicly released might jeopardize the welfare of threatened, endangered, or sensitive species or biological communities. This information is intended for distribution or use only within your department, agency, or business. Subcontractors may have access to the data during the course of any given project, but should not be given a copy for their use on subsequent, unrelated work.
- MTNHP data are made freely available. Duplication of hard-copy or digital MTNHP products with the intent to sell is prohibited without written consent by MTNHP. Should you be asked by individuals outside your organization for the type of data that we provide, please refer them to MTNHP.
- MTNHP and appropriate staff members should be appropriately acknowledged as an information source in any third-party product involving MTNHP data, reports, papers, publications, or in maps that incorporate MTNHP graphic elements.
- Sources of our data include museum specimens, published and unpublished scientific literature, field surveys by state and federal agencies and private contractors, and reports from knowledgeable individuals. MTNHP actively solicits and encourages additions, corrections and updates, new observations or collections, and comments on any of the data we provide.
- MTNHP staff and contractors do not enter or cross privately-owned lands without express permission from the landowner. However, the program cannot guarantee that information provided to us by others was obtained under adherence to this policy.

Suggested Contacts for Natural Resource Management Agencies

As required by Montana statute (MCA 90-15), the Montana Natural Heritage Program works with state, federal, tribal, nongovernmental organizations, and private partners to ensure that the latest animal and plant distribution and status information is incorporated into our databases so that it can be used to inform a variety of permitting and planning processes and management decisions. We encourage you to contact state, federal, and tribal resource management agencies in the area where your project is located and review the permitting overviews by the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation and the Index of Environmental Permits for Montana for guidelines relevant to your efforts. In particular, we encourage you to contact the Montana Department of Fish, Wildlife, and Parks for the latest data and management information regarding hunted and high-profile management species and to use the U.S. Fish and Wildlife Service's Information Planning and Consultation (IPAC) website regarding U.S. Endangered Species Act listed Threatened, Endangered, or Candidate species.

For your convenience, we have compiled a list of relevant agency contacts and links below:

Montana Fish, Wildlife, and Parks

Fish Species	Zachary Shattuck zshattuck@mt.gov (406) 444-1231 or Eric Roberts eroberts@mt.gov (406) 444-5334
American Bison Black-footed Ferret Black-tailed Prairie Dog Bald Eagle Golden Eagle Common Loon Least Tern Piping Plover Whooping Crane	Kristina Smucker KSmucker@mt.gov (406) 444-5209
Grizzly Bear Greater Sage Grouse Trumpeter Swan Big Game Upland Game Birds Furbearers	Brian Wakeling brian.wakeling@mt.gov (406) 444-3940
Managed Terrestrial Game Data	Adam Messer – MFWP GIS Coordinator amesser@mt.gov (406) 444-0095
Fisheries Data and Nongame Animal Data	Adam Messer – MFWP GIS Coordinator amesser@mt.gov (406) 444-0095
Wildlife and Fisheries Scientific Collector's Permits	https://fwp.mt.gov/buyandapply/commercialwildlifeandscientificpermits/scientific Kristina Smucker for Wildlife ksmucker@mt.gov (406) 444-5209 Dave Schmetterling for Fisheries dschmetterling@mt.gov (406) 542-5514
Fish and Wildlife Recommendations for Subdivision Development	Stevie Burton stevie.burton@mt.gov (406) 594-7354 See https://fwp.mt.gov/conservation/living-with-wildlife/subdivision-recommendations
Regional Contacts  	Region 1 (Kalispell) (406) 752-5501 fwprg12@mt.gov Region 2 (Missoula) (406) 542-5500 fwprg22@mt.gov Region 3 (Bozeman) (406) 577-7900 fwprg3@mt.gov Region 4 (Great Falls) (406) 454-5840 fwprg42@mt.gov Region 5 (Billings) (406) 247-2940 fwprg52@mt.gov Region 6 (Glasgow) (406) 228-3700 fwprg62@mt.gov Region 7 (Miles City) (406) 234-0900 fwprg72@mt.gov

Montana Department of Agriculture
General Contact Information: https://agr.mt.gov/About/Office-Locations/Office-Locations-and-Field-Offices
Noxious Weeds: https://agr.mt.gov/Noxious-Weeds

Montana Department of Environmental Quality
Permitting and Operator Assistance for all Environmental Permits: https://deq.mt.gov/Permitting
Opencut Mining Web Mapping Application for review of opencut mining applications
https://gis.mtdeq.us/portal/apps/webappviewer/index.html?id=7b60084bc4c444a19c9a7a0867e7635a

Montana Department of Natural Resources and Conservation
Overview of, and contacts for, licenses and permits for state lands, water, and forested lands:
https://dnrc.mt.gov/Permits-Services

Stream Permitting (310 permits) and an overview of various water and stream related permits (e.g., Stream Protection Act 124, Federal Clean Water Act 404, Federal Rivers and Harbors Act Section 10, Short-term Water Quality Standard for Turbidity 318 Authorization, etc.).
https://dnrc.mt.gov/Licenses-and-Permits/Stream-Permitting

Wildfire Resources: https://dnrc.mt.gov/Forestry/Wildfire

Bureau of Land Management

Montana Field Office Contacts:



Billings	(406) 896-5013
Butte	(406) 533-7600
Dillon	(406) 683-8000
Glasgow	(406) 228-3750
Havre	(406) 262-2820
Lewistown	(406) 538-1900
Malta	(406) 654-5100
Miles City	(406) 233-2800
Missoula	(406) 329-3914

United States Army Corps of Engineers
Montana Regulatory Office for federal permits related to construction in water and wetlands
https://www.nwo.usace.army.mil/Missions/Regulatory-Program/Montana/ (406) 441-1375

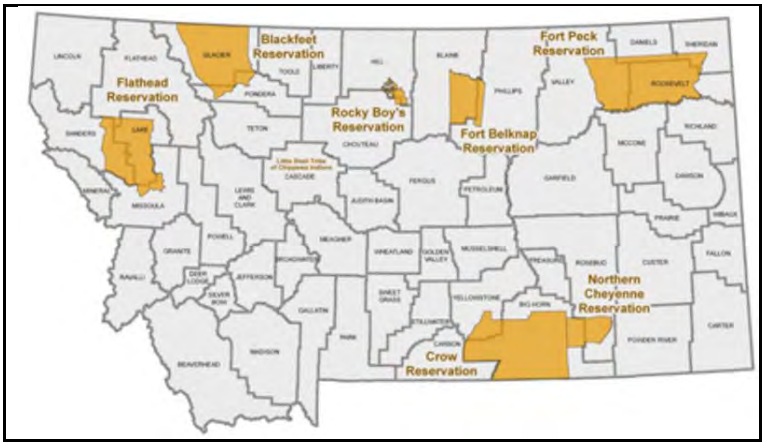
United States Environmental Protection Agency
Environmental information, notices, permitting, and contacts https://www.epa.gov/mt
Gateway to state resource locators https://www.envcap.org/srl/index.php

United States Fish and Wildlife Service
Information Planning and Conservation (IPAC) website: https://ipac.ecosphere.fws.gov
Montana Ecological Services Field Office: https://www.fws.gov/office/montana-ecological-services (406) 449-5225

United States Forest Service

Regional Office – Missoula, Montana Contacts			
Wildlife Program Leader	Tammy Fletcher	tammy.fletcher2@usda.gov	(406) 329-3086
Aquatic Ecologist	Justin Jimenez	justin.jimenez@usda.gov	(435) 370-6830
TES Program	Lydia Allen	lydia.allen@usda.gov	(406) 329-3558
Interagency Grizzly Bear Coordinator	Scott Jackson	scott.jackson@usda.gov	(406) 329-3664
Regional Botanist	Amanda Hendrix	amanda.hendrix@usda.gov	(651) 447-3016
Regional Vegetation Ecologist	Mary Manning	marry.manning@usda.gov	(406) 329-3304
Invasive Species Program Manager	Michelle Cox	michelle.cox2@usda.gov	(406) 329-3669

Tribal Nations



[Assiniboine & Gros Ventre Tribes – Fort Belknap Reservation]

[Assiniboine & Sioux Tribes – Fort Peck Reservation]

[Blackfeet Tribe - Blackfeet Reservation]

[Chippewa Creek Tribe - Rocky Boy's Reservation]

[Crow Tribe – Crow Reservation]

[Little Shell Chippewa Tribe]

[Northern Cheyenne Tribe – Northern Cheyenne Reservation]

[Salish & Kootenai Tribes - Flathead Reservation]

Natural Heritage Programs and Conservation Data Centers in Surrounding States and Provinces

[Alberta Conservation Information Management System]
[British Columbia Conservation Data Centre]
[Idaho Natural Heritage Program]
[North Dakota Natural Heritage Program]
[Saskatchewan Conservation Data Centre]
[South Dakota Natural Heritage Program]
[Wyoming Natural Diversity Database]

Invasive Species Management Contacts and Information

Aquatic Invasive Species

[Montana Fish, Wildlife, and Parks Aquatic Invasive Species staff]
[Montana Department of Natural Resources and Conservation's Aquatic Invasive Species Grant Program]
[Montana Invasive Species Council (MISC)]
[Western Montana Conservation Commission]

Noxious Weeds

[Montana Weed Control Association Contacts Webpage]
[Montana Biological Weed Control Coordination Project]
[Montana Department of Agriculture - Noxious Weeds]
[Montana Weed Control Association]
[Montana Fish, Wildlife, and Parks - Noxious Weeds]
[Montana State University Integrated Pest Management Extension]
[Integrated Noxious Weed Management after Wildfires]
[Fire Management and Invasive Plants]

Introduction to Native Species

Within the report area you have requested, separate summaries are provided for: (1) Species Occurrences (SO) for plant and animal Species of Concern, Special Status Species (SSS), Important Animal Habitat (IAH) and some Potential Plant Species of Concern; (2) other observed non Species of Concern or Species of Concern without suitable documentation to create Species Occurrence polygons; and (3) other non-documented species that are potentially present based on their range, predicted suitable habitat model output, or presence of associated habitats. Each of these summaries provides the following information when present for a species: (1) the number of Species Occurrences and associated delineation criteria for construction of these polygons that have long been used for considerations of documented Species of Concern in environmental reviews; (2) the number of observations of each species; (3) the geographic range polygons for each species that the report area overlaps; (4) predicted relative habitat suitability classes that are present if a predicted suitable habitat model has been created; (5) the percent of the report area that is mapped as commonly associated or occasionally associated habitat as listed for each species in the Montana Field Guide; and (6) a variety of conservation status ranks and links to species accounts in the Montana Field Guide. Details on each of these information categories are included under relevant section headers below or are defined on our Species Status Codes page. In presenting this information, the Montana Natural Heritage Program (MTNHP) is working towards assisting the user with rapidly determining what species have been documented and what species are potentially present in the report area. We remind users that this information is likely incomplete as surveys to document native and introduced species are lacking in many areas of the state, information on introduced species has only been tracked relatively recently, the MTNHP's staff and resources are restricted by budgets, and information is constantly being added and updated in our databases. **Thus, field verification by professional biologists of the absence or presence of species and biological communities will always be an important obligation of users of our data.**

If you are aware of observation datasets that the MTNHP is missing, please report them to the Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov If you have animal or plant observations that you would like to contribute, you can also submit them via Excel spreadsheets, geodatabases, iNaturalist, or a Survey123 form. Various methods of data submission are reviewed in this playlist of videos: https://www.youtube.com/playlist?list=PLRaydtZpHu2qOHPoSPq9cnM9uXGmEXACx

Observations

The MTNHP manages information on several million animal and plant observations that have been reported by professional biologists and private citizens from across Montana. The majority of these observations are submitted in digital format from standardized databases associated with research or monitoring efforts and spreadsheets of incidental observations submitted by professional biologists and amateur naturalists. At a minimum, accepted observation records must contain a credible species identification (i.e. appropriate geographic range, date, and habitat and, if species are difficult to identify, a photograph and/or notes on key identifying features), a date or date range, observer name, locational information (ideally with latitude and longitude in decimal degrees), notes on numbers observed, and species behavior or habitat use (e.g., is the observation likely associated with reproduction). Bird records are also required to have information associated with date-appropriate breeding or overwintering status of the species observed. MTNHP reviews observation records to ensure that they are mapped correctly, occur within date ranges when the species is known to be present or detectable, occur within the known seasonal geographic range of the species, and occur in appropriate habitats. MTNHP also assigns each record a locational uncertainty value in meters to indicate the spatial precision associated with the record's mapped coordinates. Only records with locational uncertainty values of 10,000 meters or less are included in environmental summary reports and number summaries are only provided for records with locational uncertainty values of 1,000 meters or less.

Species Occurrences

The MTNHP evaluates plant and animal observation records for species of higher conservation concern to determine whether they are worthy of inclusion in the Species Occurrence (SO) layer for use in environmental reviews; observations not worthy of inclusion in this layer include long distance dispersal events, migrants observed away from key migratory stopover habitats, and winter observations. An SO is a polygon depicting what is known about a species occupancy from direct observation with a defined level of locational uncertainty and any inference that can be made about adjacent habitat use from the latest peer-reviewed science. If an observation can be associated with a map feature that can be tracked (e.g., a wetland boundary for a wetland associated plant) then this polygon feature is used to represent the SO. Areas that can be inferred as probable occupied habitat based on direct observation of a species location and what is known about the foraging area or home range size of the species may be incorporated into the SO. Species Occurrences generally belong to one of the following categories:

Plant Species Occurrences

A documented location of a specimen collection or observed plant population. In some instances, adjacent, spatially separated clusters are considered subpopulations and are grouped as one occurrence (e.g., the subpopulations occur in ecologically similar habitats, and their spatial proximity likely allows them to interbreed). Tabular information for multiple observations at the same SO location is generally linked to a single polygon. Plant SO's are only created for Species of Concern and Potential Species of Concern.

Animal Species Occurrences

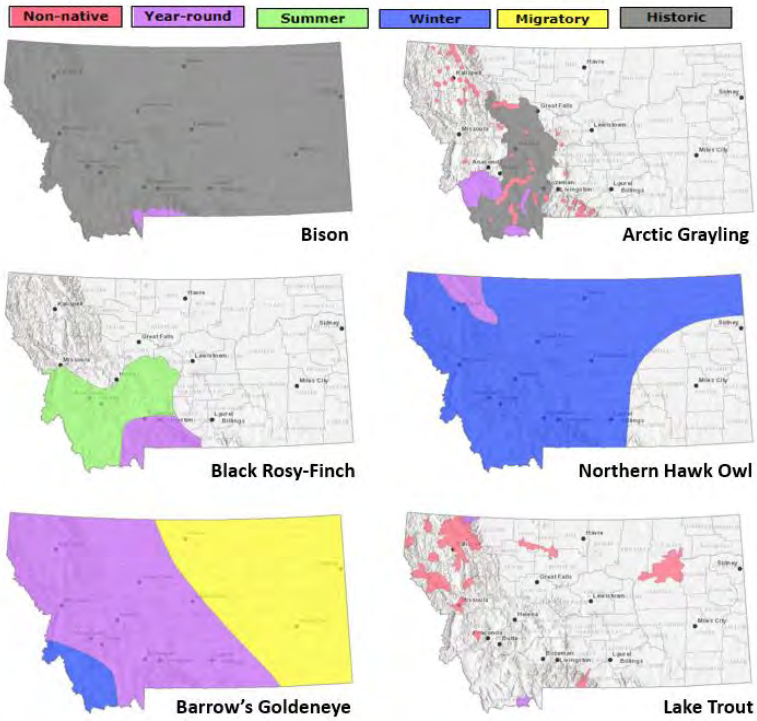
The location of a verified observation or specimen record typically known or assumed to represent a breeding population or a portion of a breeding population. Animal SO's are generally: (1) buffers of terrestrial point observations based on documented species' home range sizes; (2) buffers of stream segments to encompass occupied streams and immediate adjacent riparian habitats; (3) polygonal features encompassing known or likely breeding populations (e.g., a wetland for some amphibians or a forested portion of a mountain range for some wide-ranging carnivores); or (4) combinations of the above. Tabular information for multiple observations at the same SO location is generally linked to a single polygon. Species Occurrence polygons may encompass some unsuitable habitat in some instances in order to avoid heavy data processing associated with clipping out habitats that are readily assessed as unsuitable by the data user (e.g., a point buffer of a terrestrial species may overlap into a portion of a lake that is obviously inappropriate habitat for the species). Animal SO's are only created for Species of Concern and Special Status Species (e.g., Bald Eagle).

Other Occurrence Polygons

These include significant biological features not included in the above categories, such as Important Animal Habitats like bird rookeries and bat roosts, and peatlands or other wetland and riparian communities that support diverse plant and animal communities.

Geographic Range Polygons

Geographic range polygons are still under development for most plant and invertebrate species. Native year-round, summer, winter, migratory and historic geographic range polygons as well as polygons for introduced populations have been defined for most vertebrate animal species for which there are enough observations, surveys, and knowledge of appropriate seasonal habitat use to define them (see examples to left). These native or introduced range polygons bound the extent of known or likely occupied habitats for non-migratory and relative sedentary species and the regular extent of known or likely occupied habitats for migratory and long-distance dispersing species; polygons may include unsuitable intervening habitats. For most species, a single polygon can represent the year-round or seasonal range, but breeding ranges of some colonial nesting water birds and some introduced species are represented more patchily when supported by data. Some ranges are mapped more broadly than actual distributions in order to be visible on statewide maps (e.g., fish).



Predicted Suitable Habitat Models

Predicted habitat suitability models have been created for plant and animal Species of Concern and are undergoing development for non-Species of Concern. For species for which models have been completed, the environmental summary report includes simple rule-based associations with streams for aquatic species and seasonal habitats for game species as well as mathematically complex Maximum Entropy models (Phillips et al. 2006, Ecological Modeling 190:231-259) constructed from a variety of statewide biotic and abiotic layers and presence only data for individual species for most terrestrial species. For the Maximum Entropy models, we reclassified 90 x 90-meter continuous model output into suitability classes (unsuitable, low, moderate, and optimal) then aggregated that into the one square mile hexagons used in the environmental summary report; this is the finest spatial scale we suggest using this information in management decisions and survey planning. Full model write ups for individual species that discuss model goals, inputs, outputs, and evaluation in much greater detail are posted on the MTNHP's Predicted Suitable Habitat Models webpage. Evaluations of predictive accuracy and specific limitations are included with the metadata for models of individual species. **Model outputs should not be used in place of on-the-ground surveys for species. Instead model outputs should be used in conjunction with habitat evaluations to determine the need for on-the-ground surveys for species.** We suggest that the percentage of predicted optimal and moderate suitable habitat within the report area be used in conjunction with geographic range polygons and the percentage of commonly associated habitats to generate lists of potential species that may occupy broader landscapes for the purposes of landscape-level planning.

Associated Habitats

Within the boundary of the intersected hexagons, we provide the approximate percentage of commonly or occasionally associated habitat for vertebrate animal species that regularly breed, overwinter, or migrate through the state; a detailed list of commonly and occasionally associated habitats is provided in individual species accounts in the Montana Field Guide We assigned common or occasional use of each of the ecological

systems mapped in Montana by: (1) using personal knowledge and reviewing literature that summarizes the breeding, overwintering, or migratory habitat requirements of each species; (2) evaluating structural characteristics and distribution of each ecological system relative to the species' range and habitat requirements; (3) examining the observation records for each species in the state-wide point observation database associated with each ecological system; and (4) calculating the percentage of observations associated with each ecological system relative to the percent of Montana covered by each ecological system to get a measure of numbers of observations versus availability of habitat. Species that breed in Montana were only evaluated for breeding habitat use, species that only overwinter in Montana were only evaluated for overwintering habitat use, and species that only migrate through Montana were only evaluated for migratory habitat use. In general, species were listed as associated with an ecological system if structural characteristics of used habitat documented in the literature were present in the ecological system or large numbers of point observations were associated with the ecological system. However, species were not listed as associated with an ecological system if there was no support in the literature for use of structural characteristics in an ecological system, even if point observations were associated with that system. Common versus occasional association with an ecological system was assigned based on the degree to which the structural characteristics of an ecological system matched the preferred structural habitat characteristics for each species as represented in the scientific literature. The percentage of observations associated with each ecological system relative to the percent of Montana covered by each ecological system was also used to guide assignment of common versus occasional association.

We suggest that the percentage of commonly associated habitat within the report area be used in conjunction with geographic range polygons and the percentage of predicted optimal and moderate suitable habitat from predictive models to generate lists of potential species that may occupy broader landscapes for the purposes of landscape-level planning. Users of this information should be aware that land cover mapping accuracy is particularly problematic when the systems occur as small patches or where the land cover types have been altered over the past decade. Thus, particular caution should be used when using the associations in assessments of smaller areas (e.g., evaluations of public land survey sections).

Introduction to Land Cover

Land Use/Land Cover is one of 15 Montana Spatial Data Infrastructure framework layers considered vital for making statewide maps of Montana and understanding its geography. The layer records all Montana natural vegetation, land cover and land use, classified from satellite and aerial imagery, mapped at a scale of 1:100,000, and interpreted with supporting ground-level data. The baseline map is adapted from the Northwest ReGAP (NWGAP) project land cover classification, which used 30m resolution multi-spectral Landsat imagery acquired between 1999 and 2001. Vegetation classes were drawn from the Ecological System Classification developed by NatureServe (Comer et al. 2003). The land cover classes were developed by Anderson et al. (1976). The NWGAP effort encompasses 12 map zones. Montana overlaps seven of these zones. The two NWGAP teams responsible for the initial land cover mapping effort in Montana were Sanborn and NWGAP at the University of Idaho. Both Sanborn and NWGAP employed a similar modeling approach in which Classification and Regression Tree (CART) models were applied to Landsat ETM+ scenes. The Spatial Analysis Lab within the Montana Natural Heritage Program was responsible for developing a seamless Montana land cover map with a consistent statewide legend from these two separate products. Additionally, the Montana land cover layer incorporates several other land cover and land use products (e.g., MSDI Structures and Transportation themes and the Montana Department of Revenue Final Land Unit classification) and reclassifications based on plot-level data and the latest NAIP imagery to improve accuracy and enhance the usability of the theme. Updates are done as partner support and funding allow, or when other MSDI datasets can be incorporated. Recent updates include fire perimeters and agricultural land use (annually), energy developments such as wind, oil and gas installations (2014), roads, structures and other impervious surfaces (various years): and local updates/improvements to specific ecological systems (e.g., central Montana grassland and sagebrush ecosystems). Current and previous versions of the Land Use/Land Cover layer with full metadata are available for download from the Montana State Library's GIS Data List More information on the land cover layer is available at: https://msl.mt.gov/geoinfo/msdi/land_use_land_cover/

Within the report area you have requested, land cover is summarized by acres of Level 1, Level 2, and Level 3 Ecological Systems.

Literature Cited

Anderson, J.R. E.E. Hardy, J.T. Roach, and R.E. Witmer. 1976. A land use and land cover classification system for use with remote sensor data. U.S. Geological Survey Professional Paper 964.

Comer, P., D. Faber-Langendoen, R. Evans, S. Gawler, C. Josse, G. Kittel, S. Menard, M. Pyne, M. Reid, K. Schulz, K. Snow, and J. Teague. 2003. Ecological systems of the United States: A working classification of U.S. terrestrial systems. NatureServe, Arlington, VA.

Introduction to Wetland and Riparian

Within the report area you have requested, wetland and riparian mapping is summarized by acres of each classification present. Summaries are only provided for modern MTNHP wetland and riparian mapping and not for outdated (NWI Legacy) or incomplete (NWI Scalable) mapping efforts; described here. MTNHP has made all three of these datasets and associated metadata available for separate download on the Montana Wetland and Riparian Framework web page.

Wetland and Riparian mapping is one of 15 Montana Spatial Data Infrastructure framework layers considered vital for making statewide maps of Montana and understanding its geography. The wetland and riparian framework layer consists of spatial data representing the extent, type, and approximate location of wetlands, riparian areas, and deep water habitats in Montana.

Wetland and riparian mapping is completed through photointerpretation of 1-m resolution color infrared aerial imagery acquired from 2005 or later. A coding convention using letters and numbers is assigned to each mapped wetland. These letters and numbers describe the broad landscape context of the wetland, its vegetation type, its water regime, and the kind of alterations that may have occurred. Ancillary data layers such as topographic maps, digital elevation models, soils data, and other aerial imagery sources are also used to improve mapping accuracy. Wetland mapping follows the federal Wetland Mapping Standard and classifies wetlands according to the Cowardin classification system of the National Wetlands Inventory (NWI) (Cowardin et al. 1979, FGDC Wetlands Subcommittee 2013). Federal, State, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands differently than the NWI. Similar coding, based on U.S. Fish and Wildlife Service conventions, is applied to riparian areas (U.S. Fish and Wildlife Service 2009). These are mapped areas where vegetation composition and growth is influenced by nearby water bodies, but where soils, plant communities, and hydrology do not display true wetland characteristics. **These data are intended for use at a scale of 1:12,000 or smaller. Mapped wetland and riparian areas do not represent precise boundaries and digital wetland data cannot substitute for an on-site determination of jurisdictional wetlands.**

See detailed overviews, with examples, of both wetland and riparian classification systems and associated codes as a storymap and companion guide

Literature Cited

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service, FWS/OBS-79/31. Washington, D.C. 103pp.

Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, D.C.

U.S. Fish and Wildlife Services. 2009. A system for mapping riparian areas in the western United States. Division of Habitat and Resource Conservation, Branch of Resource and Mapping Support, Arlington, Virginia.

Introduction to Land Management

Within the report area you have requested, land management information is summarized by acres of federal, state, and local government lands, tribal reservation boundaries, private conservation lands, and federal, state, local, and private conservation easements. Acreage for "Owned", "Tribal", or "Easement" categories represents non-overlapping areas that may be totaled. However, "Other Boundaries" represents managed areas such as National Forest boundaries containing private inholdings and other mixed ownership which may cause boundaries to overlap (e.g. a wilderness area within a forest). Therefore, acreages may not total in a straight-forward manner.

Because information on land stewardship is critical to effective land management, the Montana Natural Heritage Program (MTNHP) began compiling ownership and management data in 1997. The goal of the Montana Land Management Database is to manage a single, statewide digital data set that incorporates information from both public and private entities. The database assembles information on public lands, private conservation lands, and conservation easements held by state and federal agencies and land trusts and is updated on a regular basis. Since 2011, the Information Management group in the Montana State Library's Digital Library Division has led the Montana Land Management Database in partnership with the MTNHP.

Public and private conservation land polygons are attributed with the name of the entity that owns it. The data are derived from the statewide Montana Cadastral Parcel layer Conservation easement data shows land parcels on which a public agency or qualified land trust has placed a conservation easement in cooperation with the landowner. The dataset contains no information about ownership or status of the mineral estate. For questions about the dataset or to report errors, please contact the Montana Natural Heritage Program at (406) 444-5363 or mtnhp@mt.gov. You can download various components of the Land Management Database and view associated metadata at the Montana State Library's GIS Data List at the following links:

Public Lands
Conservation Easements
Private Conservation Lands
Managed Areas

Map features in the Montana Land Management Database or summaries provided in this report are not intended as a legal depiction of public or private surface land ownership boundaries and should not be used in place of a survey conducted by a licensed land surveyor. Similarly, map features do not imply public access to any lands. The Montana Natural Heritage Program makes no representations or warranties whatsoever with respect to the accuracy or completeness of this data and assumes no responsibility for the suitability of the data for a particular purpose. The Montana Natural Heritage Program will not be liable for any damages incurred as a result of errors displayed here. Consumers of this information should review or consult the primary data and information sources to ascertain the viability of the information for their purposes.

Introduction to Invasive and Pest Species

Within the report area you have requested, separate summaries are provided for: Aquatic Invasive Species, Noxious Weeds, Agricultural Pests, Forest Pests, and Biocontrol species that have been documented or potentially occur there based on the predicted suitability of habitat. Definitions for each of these invasive and pest species categories can be found on our Species Status Codes page.

Each of these summaries provides the following information when present for a species: (1) the number of observations of each species; (2) the geographic range polygons for each species, if developed, that the report area overlaps; (3) predicted relative habitat suitability classes that are present if a predicted suitable habitat model has been created; (4) the percent of the report area that is mapped as commonly associated or occasionally associated habitat as listed for each species in the Montana Field Guide; and (5) links to species accounts in the Montana Field Guide. Details on each of these information categories are included under relevant section headers under the Introduction to Native Species above or are defined on our Species Status Codes page. In presenting this information, the Montana Natural Heritage Program (MTNHP) is working towards assisting the user with rapidly determining what invasive and pest species have been documented and what species are potentially present in the report area. We remind users that this information is likely incomplete as surveys to document introduced species are lacking in many areas of the state, information on introduced species has only been tracked relatively recently, the MTNHP's staff and resources are limited, and information is constantly being added and updated in our databases. **Thus, field verification by professional biologists of the absence or presence of species will always be an important obligation of users of our data.**

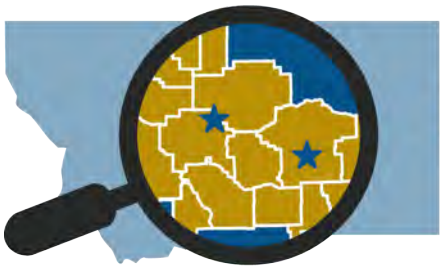
If you are aware of observation or survey datasets for invasive or pest species that the MTNHP is missing, please report them to the Program Coordinator bmaxell@mt.gov Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov If you have animal or plant observations that you would like to contribute, you can also submit them via Excel spreadsheets, geodatabases, iNaturalist, or a Survey123 form. Various methods of data submission are reviewed in this playlist of videos:
https://www.youtube.com/playlist?list=PLRaydtZpHu2qOHPoSPq9cnM9uXGmEXACx

Additional Information Resources

- MTNHP Staff Contact Information
- Montana Field Guide
- MTNHP Species of Concern Report - Animals and Plants
- MTNHP Species Status Codes - Explanation
- MTNHP Predicted Suitable Habitat Models (for select Animals and Plants)
- MTNHP Request Information page
- Montana Cadastral
- Montana Code Annotated
- Montana Fisheries Information System
- Montana Fish, Wildlife, and Parks Subdivision Recommendations
- Montana GIS Data Layers
- Montana GIS Data Bundler
- Montana Greater Sage-Grouse Project Submittal Site
- Montana Ground Water Information Center
- Montana Index of Environmental Permits, 21st Edition (2018)
- Montana Environmental Policy Act (MEPA)
- Montana Environmental Policy Act Analysis Resource List
- Laws, Treaties, Regulations, and Agreements on Animals and Plants
- Montana Spatial Data Infrastructure Layers
- Montana State Historic Preservation Office Review and Compliance
- Montana Stream Permitting: a guide for conservation district supervisors and others
- Montana Water Information System
- Montana Web Map Services
- National Environmental Policy Act
- Penalties for Misuse of Fish and Wildlife Location Data (MCA 87-6-222)
- U.S. Fish and Wildlife Service Information for Planning and Consultation (Section 7 Consultation)
- Web Soil Survey Tool

Appendix D

Threatened & Endangered Species List



Central Montana
Transportation Study

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Montana Ecological Services Field Office
585 Shephard Way, Suite 1
Helena, MT 59601-6287
Phone: (406) 449-5225 Fax: (406) 449-5339

In Reply Refer To: 12/30/2024 17:45:42 UTC
Project Code: 2025-0036481
Project Name: Central Montana Study

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Montana Ecological Services Field Office
585 Shephard Way, Suite 1
Helena, MT 59601-6287
(406) 449-5225

PROJECT SUMMARY

Project Code: 2025-0036481
Project Name: Central Montana Study
Project Type: Road/Hwy - Maintenance/Modification
Project Description: The United States Air Force (USAF) plans to invest $96 billion in Central Montana to renovate, construct and expand its military infrastructure and capabilities, known as the Sentinel Project. Additionally, VACOM Manufacturing has announced it is investing $90 million to build a new US headquarters location in Lewistown, MT.Due to the anticipated impacts from the two major projects described above, MDT has determined a need for a Pre-MEPA/NEPA Regional Study. The Regional Study will need to systematically analyze
the impacts of these major projects across central Montana, consider the already mounting
transportation system demand in Great Falls/Lewistown and surrounding communities, and to identify opportunities for MDT to leverage the investments made by the USAF and VACOM towards
accomplishing MDT's goals for maintaining and improving the state's transportation system for the benefit of the traveling public

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@47.44888765,-110.5716134317758,14z



Counties: Montana

ENDANGERED SPECIES ACT SPECIES

There is a total of 10 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Canada Lynx *Lynx canadensis* Population: Wherever Found in Contiguous U.S. There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3652	Threatened
Grizzly Bear *Ursus arctos horribilis* Population: U.S.A., conterminous (lower 48) States, except where listed as an experimental population There is **proposed** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/7642	Threatened
North American Wolverine *Gulo gulo luscus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5123	Threatened

BIRDS

NAME	STATUS
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Rufa Red Knot *Calidris canutus rufa* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

FISHES

NAME	STATUS
Bull Trout *Salvelinus confluentus* Population: U.S.A., coterminous, lower 48 states There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8212	Threatened
Pallid Sturgeon *Scaphirhynchus albus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7162	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CONIFERS AND CYCADS

NAME	STATUS
Whitebark Pine *Pinus albicaulis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1748	Threatened

CRITICAL HABITATS

There are 2 critical habitats wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Bull Trout *Salvelinus confluentus* https://ecos.fws.gov/ecp/species/8212#crithab	Final
Canada Lynx *Lynx canadensis* https://ecos.fws.gov/ecp/species/3652#crithab	Final

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

The following FWS National Wildlife Refuge Lands and Fish Hatcheries lie fully or partially within your project area:

FACILITY NAME	ACRES
BENTON LAKE NATIONAL WILDLIFE REFUGE https://www.fws.gov/our-facilities?$keywords="%5C%22BENTON+LAKE+NATIONAL+WILDLIFE+REFUGE%5C%22"	19,727.068
CHARLES M. RUSSELL NATIONAL WILDLIFE REFUGE https://www.fws.gov/our-facilities?$keywords="%5C%22CHARLES+M.+RUSSELL+NATIONAL+WILDLIFE+REFUGE%5C%22"	393,081.529

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

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1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

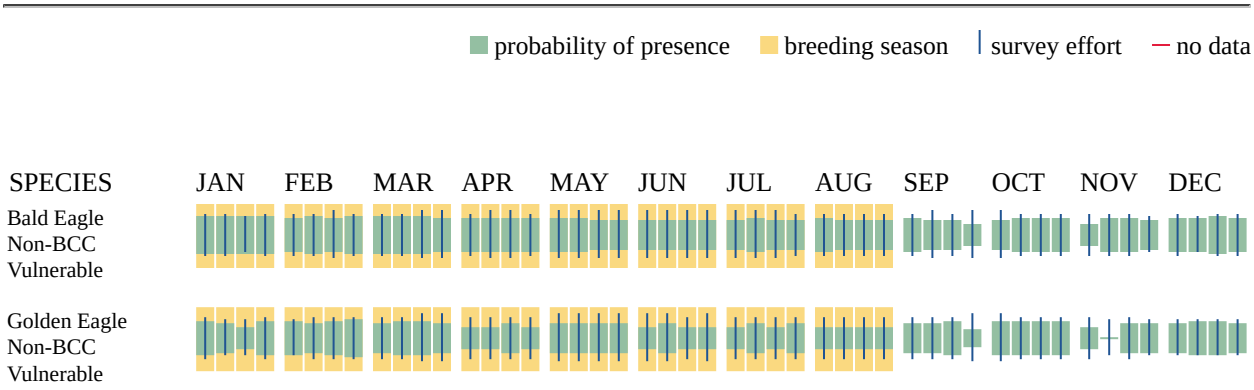
Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (▪)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider

implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Dipper *Cinclus mexicanus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11928	Breeds Mar 21 to Aug 21
American Golden-plover *Pluvialis dominica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10561	Breeds elsewhere
Baird's Sparrow *Centronyx bairdii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5113	Breeds May 20 to Aug 15
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Black Tern *Chlidonias niger surinamenisis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9454	Breeds May 20 to Jul 31

NAME	BREEDING SEASON
Broad-tailed Hummingbird *Selasphorus platycercus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/11935	Breeds May 25 to Aug 21
California Gull *Larus californicus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10955	Breeds Mar 1 to Jul 31
Calliope Hummingbird *Selasphorus calliope* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9526	Breeds May 1 to Aug 15
Cassin's Finch *Haemorhous cassinii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9462	Breeds May 15 to Jul 15
Chestnut-collared Longspur *Calcarius ornatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9437	Breeds May 1 to Aug 10
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10575	Breeds Jun 1 to Aug 31
Evening Grosbeak *Coccothraustes vespertinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9465	Breeds May 15 to Aug 10
Ferruginous Hawk *Buteo regalis* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6038	Breeds Mar 15 to Aug 15
Franklin's Gull *Leucophaeus pipixcan* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10567	Breeds May 1 to Jul 31

NAME	BREEDING SEASON
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Grasshopper Sparrow *Ammodramus savannarum perpallidus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8329	Breeds Jun 1 to Aug 20
Hudsonian Godwit *Limosa haemastica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9482	Breeds elsewhere
Lark Bunting *Calamospiza melanocorys* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9451	Breeds May 10 to Aug 15
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Lewis's Woodpecker *Melanerpes lewis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408	Breeds Apr 20 to Sep 30
Long-billed Curlew *Numenius americanus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/5511	Breeds Apr 1 to Jul 31
Long-eared Owl *asio otus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds Mar 1 to Jul 15
Marbled Godwit *Limosa fedoa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds May 1 to Jul 31
Mountain Plover *Charadrius montanus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3638	Breeds Apr 15 to Aug 15

NAME	BREEDING SEASON
Northern Harrier *Circus hudsonius* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8350	Breeds Apr 1 to Sep 15
Olive-sided Flycatcher *Contopus cooperi* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Pectoral Sandpiper *Calidris melanotos* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9561	Breeds elsewhere
Pinyon Jay *Gymnorhinus cyanocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9420	Breeds Feb 15 to Jul 15
Prairie Falcon *Falco mexicanus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/4736	Breeds Mar 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Ruddy Turnstone *Arenaria interpres morinella* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/10633	Breeds elsewhere
Rufous Hummingbird *Selasphorus rufus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds Apr 15 to Jul 15
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Sprague's Pipit *Anthus spragueii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8964	Breeds May 10 to Aug 31

NAME	BREEDING SEASON
Thick-billed Longspur *Rhynchophanes mccownii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/11901	Breeds May 1 to Aug 15
Western Grebe *aechmophorus occidentalis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10669	Breeds Apr 20 to Aug 5
Williamson's Sapsucker *Sphyrapicus thyroideus nataliae* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11995	Breeds May 1 to Jul 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

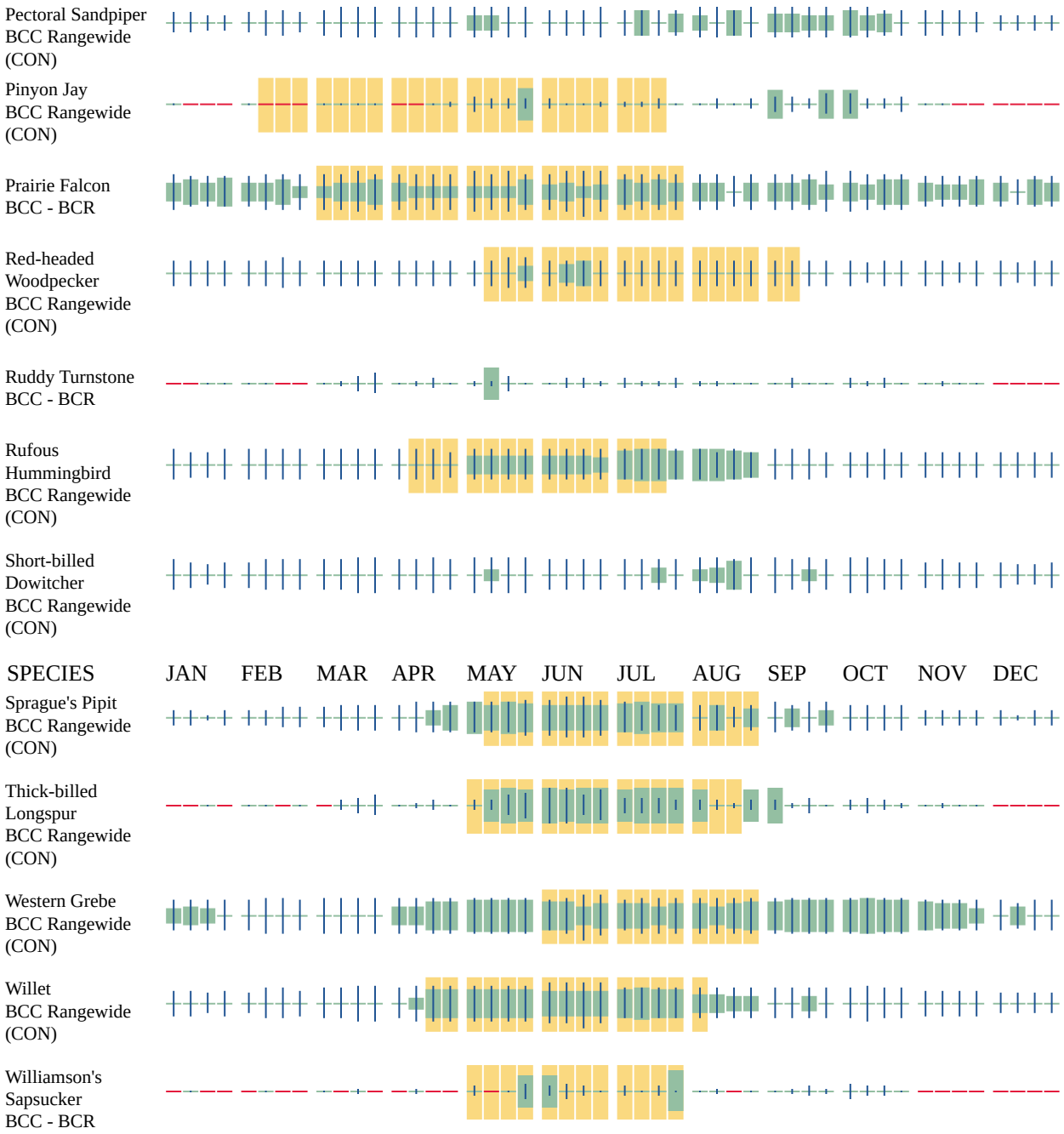
Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

■ probability of presence ■ breeding season | survey effort – no data


SPECIES
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
American Dipper
BCC - BCR
American Golden-plover
BCC Rangewide (CON)
Baird's Sparrow
BCC Rangewide (CON)
Bald Eagle
Non-BCC Vulnerable
Black Tern
BCC Rangewide (CON)
Black-billed Cuckoo
BCC Rangewide (CON)
Bobolink
BCC Rangewide (CON)
Broad-tailed Hummingbird
BCC Rangewide (CON)
California Gull
BCC Rangewide (CON)
Calliope Hummingbird
BCC Rangewide (CON)
Cassin's Finch
BCC Rangewide (CON)
Chestnut-collared Longspur
BCC Rangewide (CON)
SPECIES
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Chimney Swift
BCC Rangewide (CON)
Clark's Grebe
BCC Rangewide (CON)


Evening Grosbeak BCC Rangewide (CON)
Ferruginous Hawk BCC - BCR
Franklin's Gull BCC Rangewide (CON)
Golden Eagle Non-BCC Vulnerable
Grasshopper Sparrow BCC - BCR
Hudsonian Godwit BCC Rangewide (CON)
Lark Bunting BCC - BCR
Lesser Yellowlegs BCC Rangewide (CON)
Lewis's Woodpecker BCC Rangewide (CON)
Long-billed Curlew BCC - BCR
SPECIES
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Long-eared Owl BCC Rangewide (CON)
Marbled Godwit BCC Rangewide (CON)
Mountain Plover BCC Rangewide (CON)
Northern Harrier BCC - BCR
Olive-sided Flycatcher BCC Rangewide (CON)



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

Due to your project's size, the list below may be incomplete, or the acreages reported may be inaccurate. For a full list, please contact the local U.S. Fish and Wildlife office or visit https://www.fws.gov/wetlands/data/mapper.HTML

LAKE

- L2USA
- L2ABF
- L1UBGh
- L2ABFh
- L2ABG
- L2ABGh
- L2USK
- L2USCh
- L2USC
- L2USAh
- L2UBGh
- L2USAd
- L1UBHh

FRESHWATER POND

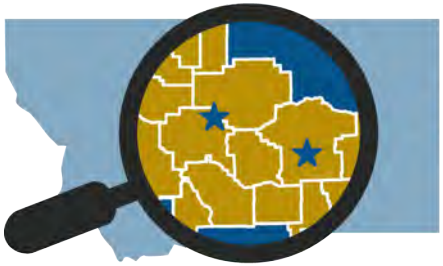
- PABF

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Susan Wall
Address: 101 East Broadway
City: Missoula
State: MT
Zip: 59802
Email swall@herrerainc.com
Phone: 4067214204

Appendix E

MT SHPO Reports



Central Montana
Transportation Study

STATE HISTORIC PRESERVATION OFFICE Montana Cultural Resource Database

Township, Range, Section Report

Report Date:8/6/2024

Site #	Twp	Rng	Sec	Qs	Site Type 1	Site Type 2	Time Period	Owner	NR Status
24CA0251	18N	7E	6	SW	Historic Vehicular/Foot Bridge		1940-1949	No Data	Undetermined*
24CA0255	18N	7E	22	SW	Historic Vehicular/Foot Bridge		1930-1939	No Data	Undetermined*
24CA0268	21N	4E	31	SE	Historic Smelter		1890-1899	Private	Ineligible
24CA0416	21N	3E	36		Historic Road		Historic More Than One Decade	State Owned	Eligible
24CA0624	18N	7E	35	NW	Historic Military Site		Historic More Than One Decade	State Owned	Eligible
24CA1278	21N	4E	30	NE	Historic Trash Dump		Historic Period	Private	Ineligible
24JT0212	18N	7E	36	Comb	Historic Railroad		Historic More Than One Decade	Private	Eligible
24CA1360	21N	3E	36	SE	Historic Religion		1920-1930	Private	Eligible
24CA1355	21N	3E	36	SE	Historic Residence		Historic More Than One Decade	Private	Eligible
24CA1348	21N	3E	36	SE	Historic Commercial Development		1950-1959	Private	Ineligible
24CA1351	21N	3E	36	SE	Historic Commercial Development		1950-1959	Private	Eligible
24CA1357	21N	3E	36	SE	Historic Apartment House		1950-1959	Private	Ineligible
24CA1352	21N	3E	36	SE	Historic Commercial Development		1950-1959	Private	Eligible
24CA1353	21N	3E	36	SE	Historic Commercial Development	Historic Architecture	1950-1959	Private	Ineligible
24CA1344	21N	4E	31	SW	Historic Vehicular/Foot Bridge		1950-1959	MDOT	Ineligible
24CA1344	21N	3E	36	SE	Historic Vehicular/Foot Bridge		1950-1959	MDOT	Ineligible
24CA1347	21N	3E	36	SE	Historic Commercial Development		1950-1959	Private	Ineligible
24CA1346	21N	3E	36	SE	Historic Commercial Development		1950-1959	Private	Ineligible
24CA1349	21N	3E	36	SE	Historic Residence	Historic Architecture	1950-1959	Private	Ineligible
24CA1361	21N	3E	36	SE	Historic Commercial Development	Historic Architecture	1940-1949	Private	Ineligible
24CA1368	21N	3E	36	SE	Historic Architecture		Historic Period	Private	Undetermined*
24CA1370	21N	3E	36	SE	Historic Commercial Development		1950-1959	Private	Ineligible
24CA1590	21N	4E	31	SE	Historic Transmission Line		Historic More Than One Decade	Private	Ineligible
24CA0371	18N	6E	12	comb	Historic Railroad		Historic More Than One Decade	Combination	Eligible
24CA0371	18N	7E	26	SW	Historic Railroad		Historic More Than One Decade	Combination	Eligible
24CA0371	18N	7E	27	comb	Historic Railroad		Historic More Than One Decade	Combination	Eligible
24CA0371	18N	7E	35	NE	Historic Railroad		Historic More Than One Decade	Combination	Eligible
24CA0371	18N	7E	7	NE	Historic Railroad		Historic More Than One Decade	Combination	Eligible
24CA0371	18N	7E	8	SW	Historic Railroad		Historic More Than One Decade	Combination	Eligible
24CA0371	18N	7E	16	SW	Historic Railroad		Historic More Than One Decade	Combination	Eligible
24CA0371	18N	7E	17	comb	Historic Railroad		Historic More Than One Decade	Combination	Eligible
24CA0371	18N	7E	21	comb	Historic Railroad		Historic More Than One Decade	Combination	Eligible
24CA0371	18N	7E	22	SW	Historic Railroad		Historic More Than One Decade	Combination	Eligible
24CA0371	18N	6E	1	comb	Historic Railroad		Historic More Than One Decade	Combination	Eligible

24CA0371	18N	7E	6	SW	Historic Railroad	Historic More Than One Decade	Combination	Eligible
24CA1619	18N	6E	1	Comb	Historic Road	Historic Period	Private	Unresolved
24CA1619	21N	4E	30	Comb	Historic Road	Historic Period	Private	Unresolved
24CA1619	21N	4E	31	Comb	Historic Road	Historic Period	Private	Unresolved
24CA1639	18N	7E	27	SE	Historic Road	Historic More Than One Decade	Private	Undetermined*
24CA1639	18N	7E	34	comb	Historic Road	Historic More Than One Decade	Private	Undetermined*
24CA1664	18N	6E	1	NE	Historic Vehicular/Foot Bridge	Historic Period	MDOT	Ineligible
24CA1796	18N	7E	26	SW	Historic Road	Historic More Than One Decade	Combination	Undetermined*
24CA1796	18N	7E	27	Comb	Historic Road	Historic More Than One Decade	Combination	Undetermined*
24CA1796	18N	7E	35	Comb	Historic Road	Historic More Than One Decade	Combination	Undetermined*
24CA1796	18N	7E	36	NW	Historic Road	Historic More Than One Decade	Combination	Undetermined*
24CA1796	18N	7E	6	SW	Historic Road	Historic More Than One Decade	Combination	Undetermined*
24CA1796	18N	7E	7	Comb	Historic Road	Historic More Than One Decade	Combination	Undetermined*
24CA1796	18N	7E	8	SW	Historic Road	Historic More Than One Decade	Combination	Undetermined*
24CA1796	18N	7E	16	SW	Historic Road	Historic More Than One Decade	Combination	Undetermined*
24CA1796	18N	7E	17	Comb	Historic Road	Historic More Than One Decade	Combination	Undetermined*
24CA1796	18N	7E	21	Comb	Historic Road	Historic More Than One Decade	Combination	Undetermined*
24CA1796	18N	6E	1	Comb	Historic Road	Historic More Than One Decade	Combination	Undetermined*
24CA1849	21N	4E	30	Comb	Historic Road	Historic More Than One Decade	County	Eligible
24CA1849	21N	4E	31	NW	Historic Road	Historic More Than One Decade	County	Eligible
24CA1849	21N	3E	25	Comb	Historic Road	Historic More Than One Decade	County	Eligible
24CA1849	21N	3E	36	NE	Historic Road	Historic More Than One Decade	County	Eligible
24CA1859	18N	6E	1	Comb	Historic Road	Historic More Than One Decade	Combination	Eligible
24CA1859	18N	6E	12	Comb	Historic Road	Historic More Than One Decade	Combination	Eligible
24CA1870	18N	6E	12	NE	Historic Residence	Historic More Than One Decade	Private	Undetermined*
24LC2808	18N	7E	34	NW	Historic Trash Dump	Historic Period	Forest Service	Ineligible
24CA1974	21N	3E	36	SW	Historic Residential Development	1960-1969	Private	Ineligible
24CA1982	21N	4E	31	SE	Historic District	Historic More Than One Decade	Municipality	Undetermined*
24CA1986	21N	4E	31	SE	Historic Designed Landscape	1970-1979	Municipality	Undetermined*

Township:18 N Range:7 E Section: 17

MUNSON GENE

1/15/1986 CULTURAL RESOURCE INVENTORY AND ASSESSMENT: BELT-EAST-CASCADE COUNTY

Report Document Number: CA 4 2039 Agency Document Number: FR57-1(2)1

Township:18 N Range:7 E Section: 21

MUNSON GENE

1/15/1986 CULTURAL RESOURCE INVENTORY AND ASSESSMENT: BELT-EAST-CASCADE COUNTY

Report Document Number: CA 4 2039 Agency Document Number: FR57-1(2)1

Township:18 N Range:6 E Section: 1

HUPPE KATHERINE M.

8/24/1984 CULTURAL RESOURCE RECONNAISSANCE OF PORTIONS OF MONTANA DEPARTMENT OF HIGHWAYS PROJECT FR 60-2(8)71, BELT EAST AND WEST

Report Document Number: CA 4 2030 Agency Document Number: FR60-2(8)71

Township:18 N Range:6 E Section: 1

TATE MARCIA J.

8/22/1990 ARMINGTON JUNCTION REST AREA

Report Document Number: CA 4 11706 Agency Document Number: F 60-2(20)71

Township:18 N Range:7 E Section: 6

TATE MARCIA J.

8/22/1990 ARMINGTON JUNCTION REST AREA

Report Document Number: CA 4 11706 Agency Document Number: F 60-2(20)71

Township:18 N Range:7 E Section: 6

LAHREN SYLVESTER L.

9/30/1995 NEIHART PROJECT

Report Document Number: CA 6 17417 Agency Document Number:

Township:21 N Range:4 E Section: 30

LAHREN LARRY A.

9/1/1999 CENTERVILLE/GREAT FALLS PROJECT

Report Document Number: CA 6 22254 Agency Document Number:

Township:21 N Range:4 E Section: 31

LAHREN LARRY A.

9/1/1999 CENTERVILLE/GREAT FALLS PROJECT

Report Document Number: CA 6 22254 Agency Document Number:

Township:18 N Range:6 E Section: 1

FERGUSON DAVID

6/6/2001 CULTURAL RESOURCES INVENTORY AND ASSESSMENT: US HIGHWAY 87/89, CASCADE COUNTY MONTANA, "BELT NORTH AND SOUTH" MONTANA DEPARTMENT OF TRANSPORTATION PROJECT

Report Document Number: CA 4 23833 Agency Document Number: NH60-2(55)71

Township:18 N Range:7 E Section: 6

FERGUSON DAVID

6/6/2001 CULTURAL RESOURCES INVENTORY AND ASSESSMENT: US HIGHWAY 87/89, CASCADE COUNTY MONTANA, "BELT NORTH AND SOUTH" MONTANA DEPARTMENT OF TRANSPORTATION PROJECT

Report Document Number: CA 4 23833 Agency Document Number: NH60-2(55)71

Township:18 N Range:7 E Section: 7

FERGUSON DAVID

6/6/2001 CULTURAL RESOURCES INVENTORY AND ASSESSMENT: US HIGHWAY 87/89, CASCADE COUNTY MONTANA, "BELT NORTH AND SOUTH" MONTANA DEPARTMENT OF TRANSPORTATION PROJECT

Report Document Number: CA 4 23833 Agency Document Number: NH60-2(55)71

Township:21 N Range:4 E Section: 30

WOOD GARVEY C.

1/24/2004 CULTURAL RESOURCES INVENTORY OF THE GREAT FALLS MALTING PLANT -GIANT SPRINGS RAW WATER LINE IN CASCADE COUNTY MONTANA

Report Document Number: CA 6 26764 Agency Document Number:

Township:21 N Range:4 E Section: 30

WOOD GARVEY C.

7/6/2004 GAR C WOOD & ASSOCIATES CULTURAL RESOURCE MANAGEMENT REPORT: VALUE-ADDED COMMODITY PROCESSING PARK, CASCADE COUNTY, MONTANA

Report Document Number: CA 6 27191 Agency Document Number:

Township:21 N Range:3 E Section: 25

GRAY DALE M.

11/29/2004 CULTURAL RESOURCE SURVEY AND ASSESSMENT OF 2KM NORTH OF GREAT FALLS IN CASCADE COUNTY, MONTANA

Report Document Number: CA 4 27572 Agency Document Number:

Township:21 N Range:3 E Section: 36

GRAY DALE M.

11/29/2004 CULTURAL RESOURCE SURVEY AND ASSESSMENT OF 2KM NORTH OF GREAT FALLS IN CASCADE COUNTY, MONTANA

Report Document Number: CA 4 27572 Agency Document Number:

Township:21 N Range:4 E Section: 30

GRAY DALE M.

11/29/2004 CULTURAL RESOURCE SURVEY AND ASSESSMENT OF 2KM NORTH OF GREAT FALLS IN CASCADE COUNTY, MONTANA

Report Document Number: CA 4 27572 Agency Document Number:

Township:21 N Range:4 E Section: 31

GRAY DALE M.

11/29/2004 CULTURAL RESOURCE SURVEY AND ASSESSMENT OF 2KM NORTH OF GREAT FALLS IN CASCADE COUNTY, MONTANA

Report Document Number: CA 4 27572 Agency Document Number:

Township:21 N Range:4 E Section: 30

GRAY DALE M.

3/8/2013 CULTURAL RESOURCE INVENTORY AND ASSESSMENT: GREAT FALLS NORTH

Report Document Number: CA 4 34127 Agency Document Number: NH 10-1(31)4

Township:21 N Range:3 E Section: 36

MORRISON JOHN G

8/27/2007 JCT BOOTLEGGER TRAIL NORTHEAST

Report Document Number: CA 4 29694 Agency Document Number: MT-10-1(25)3CN6049

Township:21 N Range:4 E Section: 30

MORRISON JOHN G

8/27/2007 JCT BOOTLEGGER TRAIL NORTHEAST

Report Document Number: CA 4 29694 Agency Document Number: MT-10-1(25)3CN6049

Township:21 N Range:4 E Section: 31

MORRISON JOHN G

8/27/2007 JCT BOOTLEGGER TRAIL NORTHEAST

Report Document Number: CA 4 29694 Agency Document Number: MT-10-1(25)3CN6049

Township:21 N Range:3 E Section: 36

AXLINE JON

2/25/2009 SMELTER AVENUE-BLACK EAGLE

Report Document Number: CA 4 30721 Agency Document Number: STPU 5204(3)

Township:21 N Range:4 E Section: 31

AXLINE JON

2/25/2009 SMELTER AVENUE-BLACK EAGLE

Report Document Number: CA 4 30721 Agency Document Number: STPU 5204(3)

Township:21 N Range:4 E Section: 31

ROSSILLON MITZI AND JAMES J SHIVE

3/4/2012 BLACK EAGLE 100 KV TRANSMISSION LINE UPGRADE, CASCADE COUNTY, MONTANA: A CULTURAL RESOURCE INVENTORY AND MANAGEMENT PLAN

Report Document Number: CA 6 33485 Agency Document Number:

Township:18 N Range:7 E Section: 27

PASSMANN DORI AND CRAIG BIGGART

3/23/2012 CULTURAL RESOURCE INVENTORY REPORT: OTTER CREEK WELL PROJECT

Report Document Number: CA 6 33499 Agency Document Number:

Township:18 N Range:6 E Section: 1

BRUMLEY JOHN

10/1/2012 A CULTURAL RESOURCES INVENTORY OF 3 RIVERS COMMUNICATIONS' 2012 RAYNESFORD EXCHANGE.

Report Document Number: JT 6 36287 Agency Document Number:

Township:18 N Range:6 E Section: 12

BRUMLEY JOHN

10/1/2012 A CULTURAL RESOURCES INVENTORY OF 3 RIVERS COMMUNICATIONS' 2012 RAYNESFORD EXCHANGE.

Report Document Number: JT 6 36287 Agency Document Number:

Township:18 N Range:7 E Section: 6

BRUMLEY JOHN

10/1/2012 A CULTURAL RESOURCES INVENTORY OF 3 RIVERS COMMUNICATIONS' 2012 RAYNESFORD EXCHANGE.

Report Document Number: JT 6 36287 Agency Document Number:

Township:18 N Range:7 E Section: 16

BRUMLEY JOHN

10/1/2012 A CULTURAL RESOURCES INVENTORY OF 3 RIVERS COMMUNICATIONS' 2012 RAYNESFORD EXCHANGE.

Report Document Number: JT 6 36287 Agency Document Number:

Township:18 N Range:7 E Section: 17

BRUMLEY JOHN

10/1/2012 A CULTURAL RESOURCES INVENTORY OF 3 RIVERS COMMUNICATIONS' 2012 RAYNESFORD EXCHANGE.

Report Document Number: JT 6 36287 Agency Document Number:

Township:18 N Range:7 E Section: 21

BRUMLEY JOHN

10/1/2012 A CULTURAL RESOURCES INVENTORY OF 3 RIVERS COMMUNICATIONS' 2012 RAYNESFORD EXCHANGE.

Report Document Number: JT 6 36287 Agency Document Number:

Township:18 N Range:7 E Section: 22

BRUMLEY JOHN

10/1/2012 A CULTURAL RESOURCES INVENTORY OF 3 RIVERS COMMUNICATIONS' 2012 RAYNESFORD EXCHANGE.

Report Document Number: JT 6 36287 Agency Document Number:

Township:18 N Range:7 E Section: 26

BRUMLEY JOHN

10/1/2012 A CULTURAL RESOURCES INVENTORY OF 3 RIVERS COMMUNICATIONS' 2012 RAYNESFORD EXCHANGE.

Report Document Number: JT 6 36287 Agency Document Number:

Township:18 N Range:7 E Section: 27

BRUMLEY JOHN

10/1/2012 A CULTURAL RESOURCES INVENTORY OF 3 RIVERS COMMUNICATIONS' 2012 RAYNESFORD EXCHANGE.

Report Document Number: JT 6 36287 Agency Document Number:

Township:18 N Range:7 E Section: 28

BRUMLEY JOHN

10/1/2012 A CULTURAL RESOURCES INVENTORY OF 3 RIVERS COMMUNICATIONS' 2012 RAYNESFORD EXCHANGE.

Report Document Number: JT 6 36287 Agency Document Number:

Township:18 N Range:7 E Section: 34

BRUMLEY JOHN

10/1/2012 A CULTURAL RESOURCES INVENTORY OF 3 RIVERS COMMUNICATIONS' 2012 RAYNESFORD EXCHANGE.

Report Document Number: JT 6 36287 Agency Document Number:

Township:18 N Range:7 E Section: 35

BRUMLEY JOHN

10/1/2012 A CULTURAL RESOURCES INVENTORY OF 3 RIVERS COMMUNICATIONS' 2012 RAYNESFORD EXCHANGE.

Report Document Number: JT 6 36287 Agency Document Number:

Township:18 N Range:7 E Section: 36

BRUMLEY JOHN

10/1/2012 A CULTURAL RESOURCES INVENTORY OF 3 RIVERS COMMUNICATIONS' 2012 RAYNESFORD EXCHANGE.

Report Document Number: JT 6 36287 Agency Document Number:

Township:18 N Range:6 E Section: 1

SCHURKE MICHAEL

5/20/2013 A CULTURAL RESOURCE IDENTIFICATION SURVEY FOR THE DEFENSE ACCESS ROAD BRIDGE REPAIR AND REPLACEMENT PROJECT

Report Document Number: CA 6 37196 Agency Document Number: MTDOD13(55)

Township:18 N Range:7 E Section: 35

WOOD GARVEY C.

5/28/2018 MALMSTROM AFB A-01 HELICOPTER PAD PRESERVATION

Report Document Number: CA 6 39397 Agency Document Number:

Township:18 N Range:7 E Section: 35

HOFFECKER JOHN F.

3/31/2019 CULTURAL RESOURCES SURVEY REPORT MALMSTROM AFB MISSILE ALERT FACILITIES SEWER LAGOON OVERFLOW PONDS, MONTANA.

Report Document Number: ZZ 6 40119 Agency Document Number:

Township:18 N Range:6 E Section: 1

FERGUSON DAVID M.

12/10/2019 A CLASS III CULTURAL RESOURCE INVENTORY OF US 89, BELT NORTH AND SOUTH, NH 60-2 (55) 71, PHASE 3, CASCADE COUNTY MONTANA.

Report Document Number: CA 4 40303 Agency Document Number:

Township:18 N Range:6 E Section: 1

LAMON JEAN, ET AL.

12/8/2021 CULTURAL RESOURCES SURVEY OF SELECTED MINUTEMAN MISSILE BASE ROADS AND THE PROPOSED REPLACEMENT OF CULVERTS, CASCADE, JUDITH BASIN, AND FERGUS COUNTIES, MONTANA: MT DAR 2022, DEFENSE ACCESS ROADS FY 2022, CONTRACT NO. DTFH7015D00007.

Report Document Number: ZZ 6 41308 Agency Document Number: DTFH7015D00007

Township:18 N Range:7 E Section: 6

LAMON JEAN, ET AL.

12/8/2021 CULTURAL RESOURCES SURVEY OF SELECTED MINUTEMAN MISSILE BASE ROADS AND THE PROPOSED REPLACEMENT OF CULVERTS, CASCADE, JUDITH BASIN, AND FERGUS COUNTIES, MONTANA: MT DAR 2022, DEFENSE ACCESS ROADS FY 2022, CONTRACT NO. DTFH7015D00007.

Report Document Number: ZZ 6 41308 Agency Document Number: DTFH7015D00007