I-90 Structures – West of Alberton

Bridge Replacements:

Old Hwy 10, Clark Fork River, and Cyr Bridges

MDOT Project: UPN 9786000

Control #: NHPB 90-1(239)65

Biological Resources Report

Submitted to:
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

Prepared by:

HydroSolutions Inc
303 Clarke Street
Helena, MT 59601

WESTECH Environmental Services
P.O. Box 6045
Helena, MT 59604

December 28, 2021

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PREPARED FOR:

Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620

PREPARED BY:

I hereby certify that all work products (maps, reports, etc.) prepared for this project were done so under my direct supervision.

Lucas J. Osborne, P.E. | HydroSolutions Inc.
303 Clarke Street, Helena, MT 59601

Corey Baker | WESTECH Environmental Services
P.O. Box 6045, Helena, MT 59604

Pete Christensen | WESTECH Environmental Services
P.O. Box 6045, Helena, MT 59604

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Executive Summary

The Montana Department of Transportation (MDT) is proposing the removal and replacement of three existing bridge structures on westbound Interstate 90 (I-90) in Mineral County, west of the Town of Alberton (Alberton Bridges Replacement Project or Project). Existing structures to be replaced include Old Highway 10 Bridge (Reference Post [RP] 65.5), Clark Fork River Bridge (RP 66.3), and Cyr Bridge (RP 70.1). As part of the environmental resources review process, this Biological Resources Report (BRR) and Preliminary Biological Assessment (PBA) evaluates the potential impacts on plant and animal species, wetlands and other aquatic resources, state species of concern, and threatened or endangered species from the proposed Project. Potential impacts are evaluated at separate study areas, which surround the expected area of impact at each structure.

The existing bridges were constructed in the 1960s and are located in landscape areas classified as Rocky Mountain Montane Grassland or Shrubland landcover types, as described by the Gap Analysis Project (MSL 2013). Uplands are dominated by *Pinus ponderosa/Agropyron* spp. or *Pinus ponderosa/Festuca* spp. habitat types (Pfister et al. 1977). Native graminoid species were observed but crested wheat grass (*Agropyron cristatum*) and smooth brome (*Bromus inermis*), both introduced species, were the dominant upland grasses throughout the Project area. The vegetated portions of the riparian areas are dominated by willow species such as narrowleaf willow (*Salix exigua*), Geyer willow (*Salix geyeriana*), sandbar willow (*Salix interior*) and peachleaf willow (*Salix amygdaloides*). Dominant riparian zone forbs include wild mint (*Mentha arvensis*), water smartweed (*Polygonum amphibium*), scouring rush horsetail (*Equisetum hyemale*), field horsetail (*Equisetum arvense*), and American licorice (*Glycyrrhiza lepidota*). State and county-listed noxious weeds were recorded at each study area.

Land use in the Project area is predominantly related to transportation including Interstate highways, railroads, and other roads. The majority of proposed Project activities will take place within MDT right-of-way; however, there are a number of other private and publicly owned parcels within the boundaries of the study areas. The study area for the Old Highway 10 structure contains a low intensity residential area. The study areas for the Clark Fork River and Cyr Bridges include open water of the Clark Fork River that is associated with recreational and aquatic uses. Other predominant land uses in the study areas include MDT right-of-way, undeveloped floodplain, forest land, and rangeland.

Evaluations of terrestrial resources included vegetation communities, noxious weeds, wildlife habitat, and wildlife species. No permanent impacts to terrestrial resources are anticipated as a result of the Project. The existing bridges provide corridors for wildlife movement below I-90. Bridge replacements are expected to continue to accommodate wildlife passage both during and after Project construction. Fencing along the Interstate right-of-way could be used to direct animals towards the bridge locations, thereby enabling wildlife to cross under the Interstate and reducing the potential for wildlife-vehicle collisions. An analysis of potential wildlife accommodations identified the continuation of carcass removal and installation of wildlife exclusion fencing, cattle guards, or signage as feasible options.

Evaluations of aquatic resources focused on the extent of impacts to the Clark Fork River at the Clark Fork River Bridge and Cyr Bridge study areas. Additionally, a 0.03-acre scrub-shrub wetland was recorded at the Clark Fork River Bridge site on the west bank of the river, above the ordinary high-water mark (OHWM). No aquatic resources were observed at the Old Highway 10 Bridge site. Potential Project-related impacts to aquatic resources include temporary construction activities such as access roads, construction bridges, sediment runoff, and stream dewatering. Permanent construction impacts could include the placement of dredge and fill materials below the OHWM.

Project impacts to aquatic resources could be mitigated by reducing the construction footprint within the wetland and/or below the Clark Fork River's OHWM where possible, while still meeting engineering specifications. This would include limiting, to the extent practicable, placement of fill or excavations within the OHWM of the Clark Fork River. Due to the jurisdictional status of the Clark Fork River, placement of dredged or fill material within the river would require permitting under Section 404 of the Clean Water Act. Permanent stream impacts at the Clark Fork River or Cyr Bridge sites are subject to the Montana Stream Mitigation Procedure (MTSMP) (USACE 2013). If permanent construction impacts occur within jurisdictional streams or wetlands, compensatory mitigation could be required. Final determination for mitigation will be made upon selection of final design and construction limits and means.

Additional permits that could be required for the Project include Montana Stream Protection Act (SPA 124 Permit), DEQ Short-term Turbidity (318 Permit), DEQ 401 Water Quality Certification Dredge & Fill, and DEQ Montana Pollution Discharge Elimination System (MPDES) Stormwater Permit.

The habitats and observations for Species of Concern (SOC) and special status species were evaluated at each study area. No permanent impacts to SOC or special status species are anticipated as a result of Project construction. However, construction activity and noise have the potential to temporarily disrupt or displace individuals of SOC or special status species. Bald and golden eagles were observed in the vicinity of the Project, but no active nests were identified. The presence of active nesting eagles will be determined prior to the commencement of construction. To avoid impacts during nesting season, no blasting, pile driving, or other loud construction activities will occur within one half mile of an active nest, otherwise a take permit from United States Fish and Wildlife Service (USFWS) may be required.

Potential species listed for the Project area as threatened and endangered by the USFWS include grizzly bear, Canada lynx, bull trout, and whitebark pine. Given the low elevation and existing disturbances within the study areas, the Project is expected to have "No Effect" on grizzly bear, Canada lynx, and whitebark pine. Due to the proximity of construction activities to the Clark Fork River at the Clark Fork River bridge and Cyr Bridge sites, the Project "May Affect" bull trout.

Bull trout are listed as threatened in Mineral County and the Clark Fork River is bull trout designated critical habitat. Sub-adult and adult bull trout inhabit the main channel of the Clark Fork River and spawn in its tributaries. Potential Project-related temporary impacts to bull trout include displacement through noise and barometric pressures from bridge foundation replacement and habitat quality degradation from sediment runoff. Sheet pile installation has the potential to cause barotrauma (if impact driving is used) and temporarily displace bull trout. Dewatering around foundations during construction could potentially impact bull trout if individuals become trapped in the dewatered area. Bull trout movement may be temporarily impacted by bridge demolition where the existing bridge occurs within the OHWM of the river, or by the placement of temporary construction bridges within the river channel.

As part of initial consultation with the USFWS, several mitigation measures were identified for reducing the potential impacts to bull trout or bull trout habitat. Potential bull trout mitigation measures include monitoring at stream dewatering sites, recommendations for drilling rather than driving pilings, and timing and noise restrictions if impact driving is to be used. Additional mitigation could include containment of blasting debris, avoiding deposition of debris into river during bridge removal, and implementation of best management practices (BMPs) to control stormwater runoff.

1 Introduction

1.1 Project Description and Location

The Montana Department of Transportation (MDT) is proposing the removal and replacement of three existing bridge structures on westbound Interstate 90 (I-90) in Mineral County, west of the Town of Alberton (Alberton Bridges Replacement Project or Project). Existing structures to be replaced include Old Highway 10 Bridge (Reference Post [RP] 65.5), Clark Fork River Bridge (RP 66.3), and Cyr Bridge (RP 70.1). A summary of each structure including its MDT Structure ID and NBI Structure Number, legal description, and approximate Project area are shown in Table 1-1.

The Project area for each structure (site) was defined by the Project engineer and represents the study area for this Biological Resources Report (BRR) and Preliminary Biological Assessment (PBA). The BRR provides a comprehensive analysis and discussion of the baseline conditions, potential Project impacts, and recommendations for the avoidance and/or minimization of impacts.

Table 1-1: Project, Structure Identification and Location

Structure Name (local reference)	Reference Post (RP)	MDT Structure ID	Location	Approximate Project Study Area (acres)
Old Highway 10 (Old Highway 10 and Elizabeth Lane)	65.5	#01377 (NBI Structure Number I00090065+04972)	T15N R24W S31	22.0
Clark Fork River (Triple Bridges)	66.3	#01379 (NBI Structure Number I00090066+02792)	T15N R24W S32	31.1
Cyr	70.1	#01385 (NBI Structure Number I00090070+00902)	T14N R24W S01	37.3

Notes: All structures are in Mineral County. Legal description, Township-Range-Section, Montana Principal Meridian. Reference Posts are for I-90 West.

The sites of the three structures are shown in Figure 1-1. The Project study area for each site is shown in Figure 1-2 (Old Highway 10), Figure 1-3 (Clark Fork River), and Figure 1-4 (Cyr). Representative photos of the Project areas are provided in Attachment 1.

All three structures were constructed in the 1960s. The latest inspections were completed in summer 2019 and spring 2021, and documented growing cracks in transverse steel girders, fracture critical details, and substandard elements. A repair investigation conducted by MDT determined that repair would not be feasible, and replacement is preferred due to the bridge types, existing capacities, deficiencies, and inability to meet future needs, (Morrison Maierle meeting minutes, Project No. NHPB 90-1(239)65 UPN 9786, 5/21/2021). Additionally, the Old Highway 10 bridge is fracture critical, in poor condition, and provides substandard vertical clearance.

1.2 Ecological Setting and General Area Description

1.2.1 Ecoregion

The Project is within the Northern Rockies level 3 ecoregion and the Grave Creek Range-Nine Mile Divide level 4 ecoregion (Woods, et al. 2002).

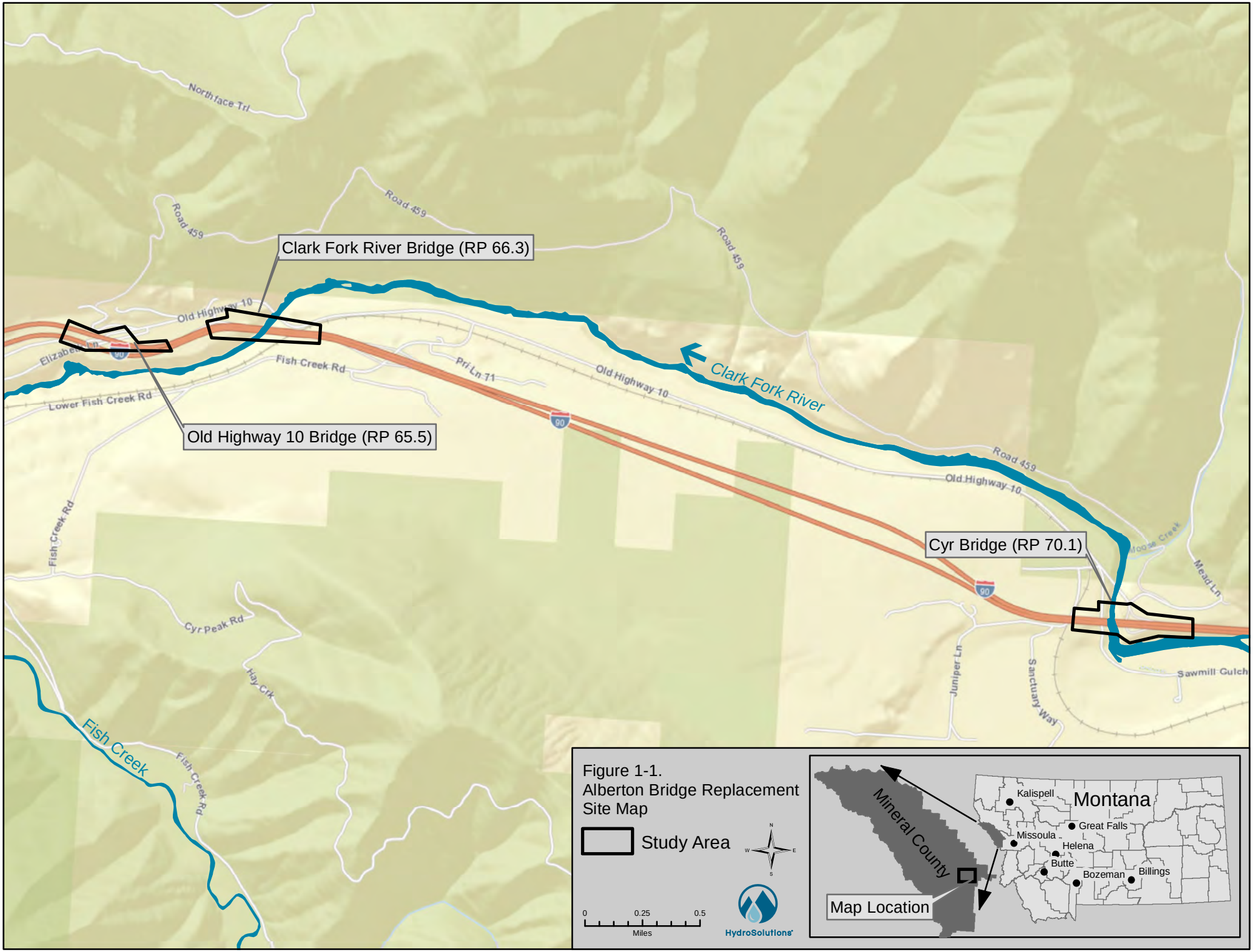
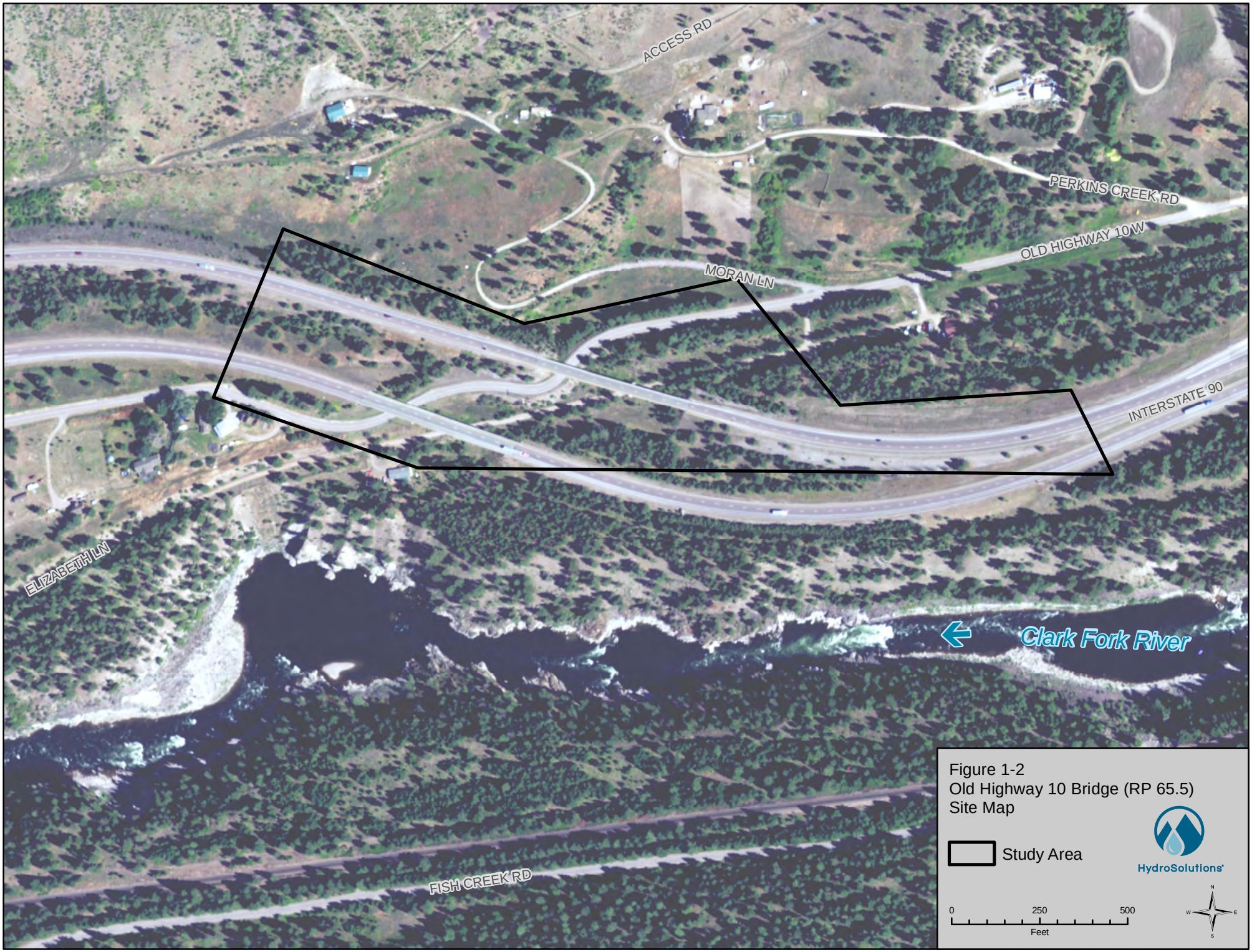


Figure 1-1.
Alberton Bridge Replacement
Site Map


ACCESS RD
PERKINS CREEK RD
OLD HIGHWAY 10 W
MORAN LN
INTERSTATE 90
ELIZABETH LN
Clark Fork River
FISH CREEK RD
Figure 1-2
Old Highway 10 Bridge (RP 65.5)
Site Map
Study Area
HydroSolutions
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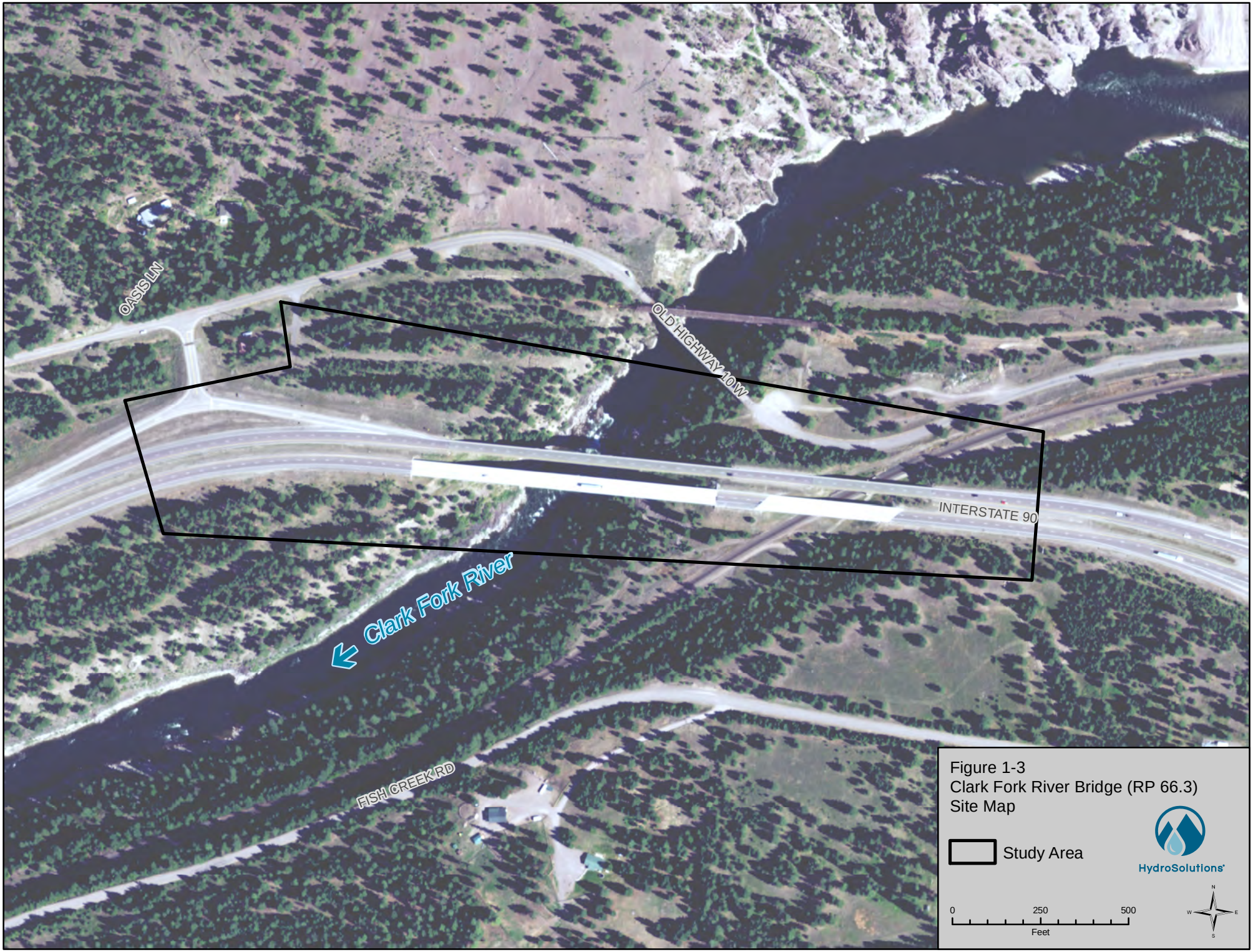
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OLD HIGHWAY 10W
INTERSTATE 90
Clark Fork River
FISH CREEK RD
Figure 1-3
Clark Fork River Bridge (RP 66.3)
Site Map
Study Area
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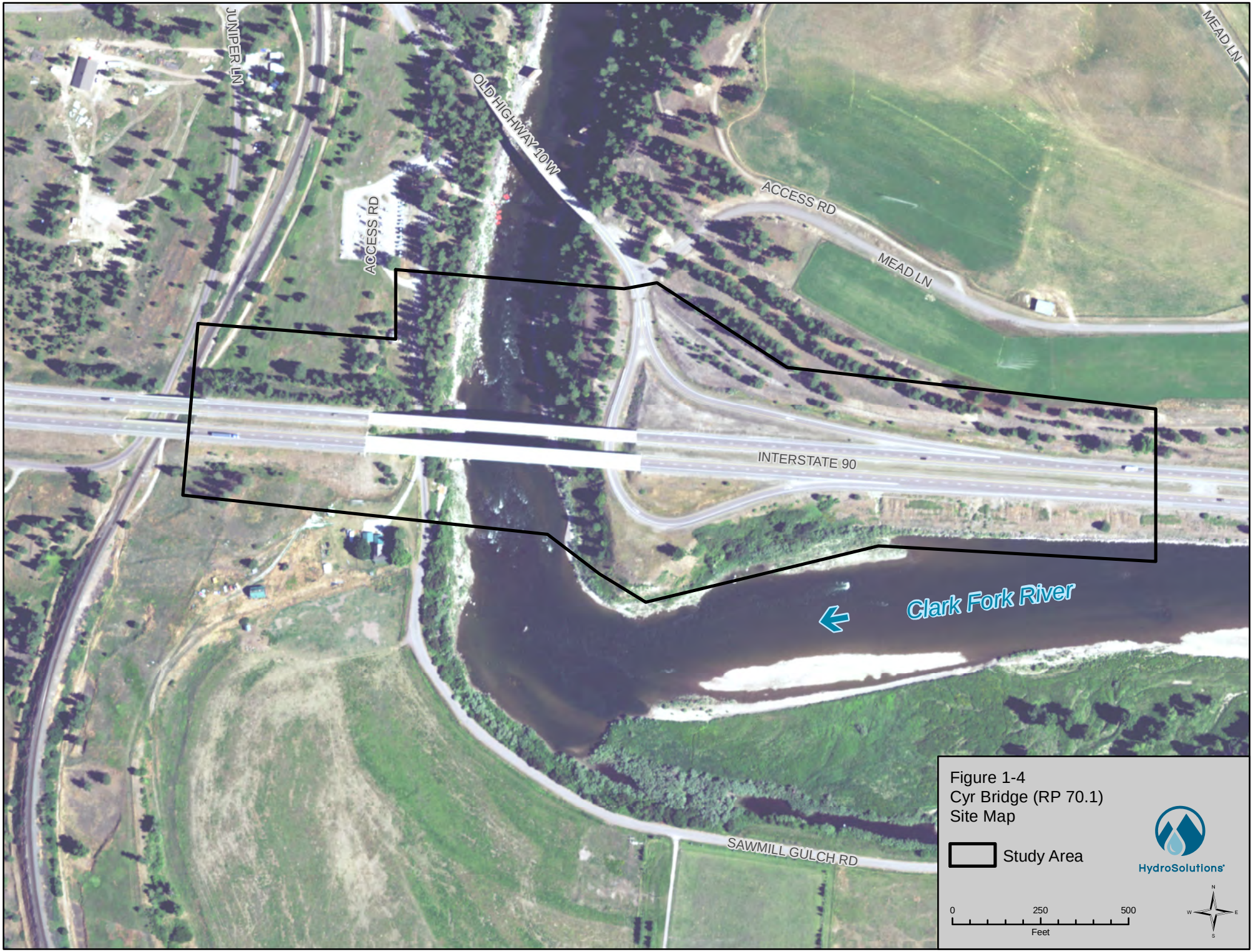
JUNIPER LN
OLD HIGHWAY 10W
ACCESS RD
ACCESS RD
MEAD LN
MEAD LN
INTERSTATE 90
Clark Fork River
SAWMILL GULCH RD
Figure 1-4
Cyr Bridge (RP 70.1)
Site Map
Study Area
HydroSolutions
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1.2.2 Landcover

Landcover for the Project was analyzed using geographic information system (GIS) analysis with landcover data from the Gap Analysis Project (GAP)and National Terrestrial Ecosystems landcover spatial data (LANDFIRE) acquired from US Geological Survey (MSL 2013, LANDFIRE 2021).

Acreages and proportions of landcover for the three study areas are summarized in Table 1-2. Acreage summaries for each landcover type are provided as well as a subtotal for each bridge study area. The proportion of each landcover type is summarized by study area in the Percent of Project Area column. The values in this column represent percentages for each Landcover type within a study area (i.e., Old Highway 10 or Cyr) while the subtotal values provide the proportion of each study area to the combined study area of all three bridge sites.

Table 1-2: Summary of Landcover for the Study Areas.

Bridge	Landcover Name	Sum of Acres	Percent of Project Area
Old Highway 10	Interstate	20.17	92%
	Low Intensity Residential	0.11	0.5%
	Major Roads	1.03	4.7%
	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	0.69	3.1%
	Rocky Mountain Montane-Foothill Deciduous Shrubland	0.00	0.0%
Old Highway 10 Sub-Total		**22.00**	**24.4%**
Clark Fork River	Interstate	22.14	71%
	Major Roads	1.31	4.2%
	Open Water	0.43	1.4%
	Railroad	3.48	11%
	Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest	1.16	3.7%
	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	0.62	2.0%
	Rocky Mountain Ponderosa Pine Woodland and Savanna	1.93	6.2%
Clark Fork River Sub-Total		**31.08**	**34.4%**
Cyr	Interstate	28.04	75%
	Open Water	2.95	7.9%
	Other Roads	1.37	3.7%
	Railroad	0.75	2.0%
	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	4.16	11%
Cyr Sub-Total		**37.27**	**41.3%**
Grand Total		**90.36**	**100%**

1.2.3 Land Use and Land Ownership

Land use within the Project area is predominantly related to transportation, including Interstate highways, railroads, and other roads. The study area for the Old Highway 10 structure contains a small low-intensity residential area. The study areas for the Clark Fork River and Cyr structures include open water of the Clark Fork River, which is associated with recreational and aquatic uses. Other land uses in the Project area include MDT right-of-way, undeveloped floodplain, forest land, and rangeland.

The majority of the Project activities will take place within MDT right-of-way, although private and other public parcels are located within the study areas. A summary of property parcels is provided in Table 1-3 (MSL 2021).

Table 1-3: Parcels within Project Study Areas (MSL 2021).

Study Area	Parcel ID	Property Type	Owner Name
Old Highway 10	54242431201030000	Exempt Property	MT FWP
	54242432101010000	Farmstead - Rural	VAILLANCOURT JESSICA A
	54242431101040000	Vacant Land - Rural	COOLEY ROCHELLE Y
	54242431101010000	Farmstead - Rural	COOLEY ROCHELLE Y
	54242432101060000	Vacant Land - Rural	VAILLANCOURT JESSICA A
	54242431101100000	Exempt Property	MDT
	54242432201010000	Vacant Land - Rural	ATKINSON BOB
	54242432101030000	Improved Property - Rural	WHITE ANNAMARIE
Clark Fork River	54242432101150000	Improved Property - Rural	COOK DONALD H
	54242432101020000	Vacant Land - Rural	ATKINSON BOB
	54242432103010000	Exempt Property	MT DFWP
	54242432201010000	Vacant Land - Rural	ATKINSON BOB
	54242432101030000	Improved Property - Rural	WHITE ANNAMARIE
Cyr	54232001201010000	Farmstead - Rural	YOUNG DANIEL JAMES
	54232001202010000	Improved Property - Rural	MONTANA RIVER GUIDES INC
	54232001202020000	Vacant Land - Rural	MT FWP

NOTES:
MT DFWP – Montana Fish, Wildlife and Parks
MDT – Montana Department of Transportation

2 Terrestrial Resources

2.1 General Habitat and Vegetation Communities

The study areas primarily consist of upland areas such as forested terraces and slopes above the river and riparian areas of the Clark Fork River. The information provided in this section describes the species composition and distribution of vegetation in the Project areas.

2.1.1 Methods

The information in this section was obtained from a combination of database inquiries, landcover spatial data, and field surveys. Montana Natural Heritage Program (MTNHP) observation data was acquired for the three Project areas, as well as GAP and LANDFIRE landcover spatial data (MSL 2013, LANDFIRE 2021). WESTECH biologists conducted field surveys of the Project areas for sensitive/listed species and their habitat, vegetation community types, wetlands and waterbodies, and noxious weeds.

2.1.2 Species Presence and Distribution

The Project areas are primarily comprised of paved roads (LANDFIRE 2021). Uplands are dominated by *Pinus ponderosa/Agropyron* spp. or *Pinus ponderosa/Festuca* spp. habitat types (Pfister et al. 1977). Native graminoid species were observed but crested wheat grass (*Agropyron cristatum*) and smooth brome (*Bromus inermis*), both introduced species, were the dominant upland grasses throughout the Project areas.

The vegetated portions of the riparian zones at the Clark Fork River and Cyr bridges are dominated by willow species. WESTECH biologists observed narrowleaf willow (*Salix exigua*), Geyer willow (*Salix geyeriana*), sandbar willow (*Salix interior*), and peachleaf willow (*Salix amygdaloides*). Dominant riparian zone forbs include wild mint (*Mentha arvensis*), water smartweed (*Polygonum amphibium*), scouring rush horsetail (*Equisetum hyemale*), field horsetail (*Equisetum arvense*), and American licorice (*Glycyrrhiza lepidota*). Landcover data identified ten cover types within the Project areas, as shown in Table 1-2.

Representative photos of the Project areas are provided in Attachment 1.

2.1.3 Potential Impacts

Impacts to vegetation would include removal, where grading is required, and mowing or crushing on non-graded travel routes. Temporary impacts to vegetation will occur during construction, primarily during moving and staging of equipment.

2.1.4 Avoidance and Minimization Recommendations

Construction activities will be confined to predetermined disturbance areas. BMPs will be utilized to minimize impacts to existing vegetation.

2.2 Noxious Weeds / Regulated Plants

Noxious weeds in Montana are divided into four categories based on management objectives (MDA 2021). The categories are:

- Priority 1A (weeds not present or have a very limited presence in Montana; eradication required if detected)
- Priority 1B (weeds with limited presence in Montana; eradication or containment and education required)
- Priority 2A (weeds common in isolated areas; eradication or containment required where less abundant, under prioritization by local weed districts)
- Priority 2B (weeds abundant and widespread in many counties; eradication or containment required where less abundant, under prioritization by local weed districts).

- Priority 3 (Regulated Plants – not Montana-listed noxious weeds)

The classification system is modified and updated as needed by the Statewide Noxious Weed List Advisory Committee and determined by Rule of the Montana Department of Agriculture under the provisions of the Montana County Weed Control Act. The committee uses established criteria to review requests for additions to the list.

Counties may also declare local noxious weeds with management prioritized by local weed districts. Mineral County Weed District maintains a list of noxious weeds species that are regulated in addition to the species on the Montana Noxious Weed List (MCWD 2019).

2.2.1 Methods

WESTECH biologists conducted noxious weed field surveys in conjunction with other habitat assessment and wetland/waterbody field surveys within the Project areas.

Prior to survey, biologists familiarized themselves with Mineral County and state-listed noxious weed species previously reported near the Project areas, as well as relevant phenological characteristics to distinguish noxious weeds from similar, non-listed species.

Noxious weed density is difficult to estimate for large areas given the variable nature of plant distributions due to factors such as site disturbance, vegetation characteristics, and soil quality. However, these density estimates do provide a baseline for the characteristics of weed species prior to Project construction and can be applied to qualitative evaluations of weed management. The weed density for each species was estimated at each of the three Project sites using an overall average of stems per 0.01-acre plot (11.8-feet radius from the plot center). The weed density categories provided in Table 2-1 were used to record average measurements of stems per species for 0.01-acre sample collected at representative plots within each study area.

Table 2-1: Noxious Weed Survey Density Categories

Density Class	Density Range (stems per 0.01 acre)
None	0
Trace	1 - 5
Scattered	5.1 - 10
Common	10.1 - 50
Dense	> 50

2.2.2 Species Presence and Distribution

Noxious weeds were observed within each of the three Project study areas. Weed densities were generally greatest near the existing roadways and other areas of disturbance. Species observed, listing status, and average densities within each Project area are shown in Table 2-2.

Table 2-2: Noxious Weed Density by Project Area

Species	Scientific Name	Priority/Listing Status	Overall Density Per Bridge Site		
			Old Hwy 10	Clark Fork River	Cyr
Spotted knapweed	*Centaurea maculosa*	2b	Dense	Scattered	Scattered
Canada thistle	*Cirsium arvense*	2b	Scattered	Trace	Trace
Common tansy	*Tanacetum vulgare*	2b	Dense	Common	Common
Dalmatian toadflax	*Linaria dalmatica*	2b	Trace	None	Trace
St. Johnswort	*Hypericum perforatum*	2b	Trace	Trace	Trace
Sulfur cinquefoil	*Potentilla recta*	2b	Common	Trace	Trace
Oxeye daisy	*Leucanthemum vulgare*	2b	Scattered	None	Trace
Houndstongue	*Cynoglossum officinale*	2b	Common	Trace	Trace
Common mullein	*Verbascum thapsus*	County-listed	Trace	Trace	Trace
Cheatgrass	*Bromus tectorum*	3	Common	Common	Common

2.2.3 Avoidance and Minimization Recommendations

Standard specifications 208.03.5.A, Noxious Weed Management, and 208.03.5.B, Noxious Weed Control (MDT 2020a), will be included in final construction bid documents. These specifications provide the necessary measures to control the spread of noxious weeds, including equipment cleaning requirements, controlling weeds by pulling or spraying with herbicide prior to ground-disturbing activities, and using MDA-certified weed-seed-free materials for any product containing forage (straw wattles, etc.).

2.3 General Wildlife Species

Published wildlife species data were obtained via MTNHP database inquiry and supplemented through field surveys. The MTNHP habitat and species reports are provided in Appendix A. Note that the Old Hwy 10 and Clark Fork Bridge study areas are both included in the report titled “Mile 65 Bridges” due to proximity of these study areas. WESTECH biologists conducted wildlife surveys of the Project areas on July 28 and August 31, 2021.

2.3.1 Mammals

Species Observed

WESTECH biologists directly observed red squirrel (*Tamiasciurus hudsonicus*), yellow-pine chipmunk (*Tamias amoenus*), beaver (*Castor canadensis*), mule deer (*Odocoileus hemionus*), and white-tailed deer (*Odocoileus virginianus*). Indirect observations (scat, tracks, burrows, runs, caches, etc.) were made for elk (*Cervus elaphus*), black bear (*Ursus americanus*), American mink (*Mustela vison*), coyote (*Canis latrans*), red fox (*Vulpes vulpes*), and several rodent species. No direct observations of bats were made

within the Project area, nor was any secondary evidence (guano, staining in cracks and crevices, etc.) observed.

Potential Impacts

Terrestrial mammals using the area under the bridges as corridors may be temporarily displaced due to construction activity. The topography under the bridges will enable large and small mammal species to resume using the river corridor as a method of crossing below the Interstate once construction is complete and when construction is not active.

All three of the Project areas have abundant non-cave roosting opportunities under the bridges and in the adjacent stands of trees. Further, the bridges being replaced are within the range and have records of use by multiple bat species (see Section 4, Species of Concern), likely due to the abundance of roosting and foraging opportunities (Attachment A). Construction activity may temporarily displace bats that are foraging near the bridges or using them as a day roost. However, construction activities are limited to the westbound bridges at all three sites. The eastbound bridge structures will not be affected or altered during this Project.

No permanent impacts to mammals are anticipated.

Avoidance and Minimization Recommendations

Exclusion techniques to keep bats off of structures during construction is the most effective means to avoid impacts to individuals (Caltrans 2016). Filling cracks with foam and wrapping structures in netting to keep bats out during construction are two potential mitigation measures. Additionally, construction activity may be restricted to daylight hours to avoid temporary impacts to foraging bats at night.

No specific avoidance and mitigation measures are necessary for other mammals.

2.3.2 Birds

Species Observed

Direct observations were made for several species of birds during surveys conducted on July 28 and August 31, 2021, and are summarized in Table 2-3. Bald eagles were identified during field surveys but are discussed with other Species of Concern (SOC) in Section 4.

Potential Impacts

Swallow nests were observed on the Cyr and Clark Fork River bridges. Bridge replacement may temporarily displace birds attempting to nest, perch, and forage within the Project area.

Avoidance and Mitigation Measures

Tree removal will only occur where necessary for construction activities (bridge construction, access road construction, construction yard preparation), and all disturbed areas will be reseeded according to MDT specifications. MDT Standard Specifications 208.03.4.A require that vegetation and nest removal be accomplished when nests are not active, typically between August 16th and April 15th (MDT 2020a).

Table 2-3: Bird species observed within the Project Area.

Bird Species	Scientific Name	Bird Species	Scientific Name
Bald eagle	*Haliaetus leucocephalus*	House wren	*Troglodytes aedon*
Bank swallow	*Riparia*	Red-breasted nuthatch	*Sitta canadensis*
Belted kingfisher	*Megaceryle alcyon*	Red-tailed hawk	*Buteo jamaicensis*
Black-capped chickadee	*Poecile atricapillus*	Rock pigeon	*Columba livia*
Cedar waxwing	*Bombycilla cedrorum*	Rock wren	*Salpinctes obsoletus*
Chipping sparrow	*Spizella passerine*	Song sparrow	*Melospiza melodia*
Cinnamon teal	*Spatula cyanoptera*	Tree swallow	*Tachicineta bicolor*
Cliff swallow	*Petrochelidon pyrrhonota*	Turkey vulture	*Cathartes aura*
Common merganser	*Mergus merganser*	Western kingbird	*Tyrannus verticalis*
Dark-eyed junco	*Junco hyemalis*	Western tanager	*Piranga ludoviciana*
Eastern kingbird	*Tyrannus tyrannus*	White-breasted nuthatch	*Sitta carolinensis*
House sparrow	*Passer domesticus*		

2.3.3 Reptiles and Amphibians

Species Observed

No reptiles or amphibians were observed during field surveys. MTNHP database inquiries identify only the western skink (*Plestiodon skiltonianus*) and northern alligator lizard (*Elgaria coerulea*) as having the potential to occur within the Project area; both are listed as species of concern for Montana (MTNHP 2021a, 2021b, 2021c).

Potential Impacts

Habitat quality for reptiles and amphibians within the Project area is rated as low by MTNHP. Dispersing individuals may be temporarily displaced due to construction activity, but no permanent impacts to reptiles and amphibians are anticipated.

Avoidance and Mitigation Measures

No specific avoidance and mitigation measures are necessary for reptiles and amphibians.

2.4 Wildlife Accommodation Needs and Opportunities

All three bridge locations currently provide corridors for wildlife passage beneath the bridges. There are no existing wildlife-specific accommodations or structures on the Project. Based on available data and observations made during surveys, deer and several species of small to medium-sized mammals utilize the bridges as a travel corridor.

2.4.1 Wildlife Collision Data Analysis

Geographically referenced, statewide carcass data from 2016 – 2020 provided by MDT were used to compare wildlife-vehicle collision data for the portion of I-90 within the Project areas to the entire I-90 corridor in Montana. The mean wildlife collision rate for the entire I-90 corridor in Montana is 1.4 carcasses per mile per year. The Project area has a slightly lower collision rate of 1.2 carcasses per mile per year.

The locations of the wildlife collisions and the recommended areas for wildlife accommodations are provided on Figure 2-1. A summary of carcasses from wildlife collisions from the MDT dataset for the Project area is provided in Table 2-4.

Table 2-4: Summary of MDT Wildlife Carcass Data for the Project Area.

Year	Species	Sex	Reference Point
2018	White-tailed deer	Female	65.5
2018	White-tailed deer	Female	65.9
2018	White-tailed deer	Female	70
2018	White-tailed deer	Female	70.3
2019	White-tailed deer	Female	66.4
2020	White-tailed deer	Male	65.4
2020	White-tailed deer	Female	66.0
2020	Elk	Female	66.0

The primary species considered for wildlife accommodation analysis are white-tailed deer, mule deer, and elk, based on the carcasses recorded near the Project. However, accommodations were also considered for reducing impacts to grizzly bear since the Project is within the general range for grizzly bears (MNHP 2021a). This habitat designation indicates that while bears could be present and could use the Clark Fork River as a travel corridor, the Project area does not contain favorable grizzly bear foraging, denning, or secure habitat.

2.4.2 Wildlife Accommodations Considered

Wildlife accommodations considered for the Project can primarily be categorized as measures to modify traffic/driver behavior or measures to modify animal behavior near the bridge sites. Traffic/driver modification options include reducing speed or advisory speed limits, wildlife crossing signage, and animal detection systems. Animal behavior modification accommodations include wildlife crossing barriers such as fences, rock boulders, or wildlife/cattle guards in the roadway. Removing carcasses from

roadways and avoiding using salt for winter road maintenance can act as an accommodation by removing desirable food sources near roadways.

Figure 2-1 shows potential location for exclusion fencing, and wildlife carcass data for 2016-2020. In this table the Old Hwy 10 and Clark Fork River bridges are listed together since the proximity of these sites could allow for shared accommodations. For example, speed limit or wildlife crossing signs could be placed east and west of these combined bridge sites, if warranted.

A list of potential wildlife accommodations and costs (not including monitoring or maintenance costs) is provided in Table 2-5.

Table 2-5: Potential wildlife accommodations and estimated costs.

Structure Name	Location (RP)	Primary Species Considered for Wildlife Accommodation	Feasible Accommodation Measures	Cost Estimate
Old Highway 10 & Clark Fork River	65.5 & 66.3	Grizzly bear, elk, mule and white-tailed deer	Speed limit reduction	$1,200/sign
			Wildlife crossing signage	$1,100/sign
			Animal detection system	$65,000-$154,000/mile
			Woven wire fencing	$11.60 / linear ft
			Boulder barriers	$400-$1000/ton
			Cattle guards	$25,000-$28,000/guard
			Carcass removal	$50-$270/animal
			Avoid/discontinue road salting	NA
Cyr	70.1	Grizzly bear, elk, mule and white-tailed deer	Speed limit reduction	$1,200/sign
			Wildlife crossing signage	$1,100/sign
			Animal detection system	$65,000-$154,000/mile
			Woven wire fencing	$11.60 / linear ft
			Boulder barriers	$400-$1000/ton
			Cattle guards	$25,000-$28,000/guard
			Carcass removal	$50-$270/animal
			Avoid/discontinue road salting	NA

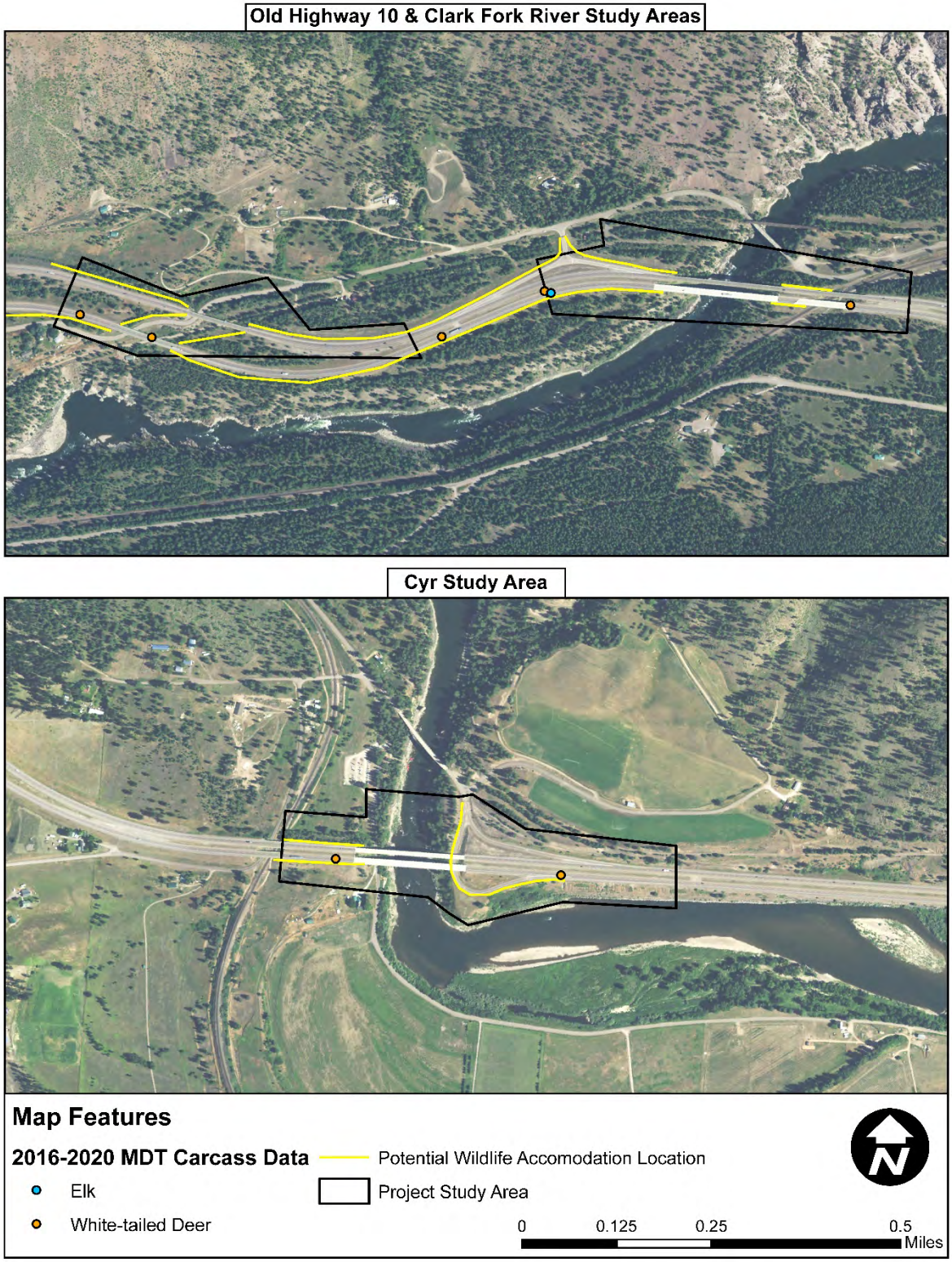


Figure 2-1: Potential Wildlife Accommodation Locations and MDT Carcass Data for the Project Area.

Due to high costs and the presence of existing underpasses at each site, accommodations such as vegetated overpasses or wildlife-specific underpasses were not considered feasible for this Project. The relatively low number of wildlife-vehicle collisions in the Project areas and distances between potential crossing routes would not justify the high installation and maintenance costs of an animal detection system. Similarly, the topography of the sites, the relatively low number of vehicle crashes, and the potential hazards of speed discrepancies on multi-lane travel do not support the use of reduced or advisory speed limits in the Project area. The use of stacked rock or boulders as a method for directing wildlife towards preferred crossing sites, such as the existing bridge underpasses, was determined to be infeasible for this Project. Stacked rocks and boulders pose potential hazards to motorists and are less likely to deter bears or other large mammals than tall fences (Huijser et al 2007).

2.4.3 Potentially Feasible Wildlife Accommodations

Some of the more feasible accommodations for this Project include carcass removal, road signage, fencing, and cattle/wildlife guards. Carcass removal reduces the potential for wildlife collisions by removing food sources for grizzly bears and other carnivores near highways. Signage to advise motorists of wildlife crossings is a relatively inexpensive option that could be utilized at any or all of the Project areas. The installation of cattle/wildlife guards could be used as a stand-alone accommodation, or in conjunction with fencing, to reduce the potential for wildlife to enter the highway via access ramps or frontage roads.

The existing bridges and presumably the replacement bridges would provide sufficient space underneath to allow wildlife passage. Fencing could be adapted to the topography, nature of the Project activities, human development in the area, recreational use, and wildlife species within in the Project area. Fencing could be tied into the bridges at the grade separation and would reduce the potential for wildlife-vehicle collisions by directing wildlife to cross under the bridges. The length and placement of fencing could vary from “wing” fences that extend for a relatively short distance from the bridges to longer sections of fencing placed on the edges of the interstate right-of-way.

Sections 2.4.3.1, 2.4.3.2, and 2.4.3.3 provide site- specific considerations for installation of exclusion fencing at each bridge site. The use and installation of wildlife/cattle guards should be considered during the design phase if or when exclusion fencing is selected as a wildlife accommodation. The other two feasible options (carcass removal and signage) have fewer site-specific considerations and could be utilized at any or all of the sites.

2.4.3.1 Old Highway 10 Bridge

The Old Highway 10 site is the only non-riparian bridge on the Project. There is evidence of use of the area below the bridge from both species of deer and small to medium sized mammals such as coyote and fox.

Since this bridge crosses a county road rather than the Clark Fork River, additional fencing between the east and westbound lanes of I-90 would be required to prevent wildlife from entering the Interstate right-of-way between the lanes.

Fencing could be tied into the Interstate bridges at the grade separation. Additionally, fencing could tie in to an existing cattleguard, east of the Project area, on the north side of the westbound lane. Fencing south of the eastbound lane could be combined with wildlife fencing efforts for the Clark Fork River Bridge. Approximately 8,833 feet of fencing would be required to exclude wildlife from the interstate

east of west of the site and funnel wildlife under the bridges. For this assessment an average cost of $11.60 per foot was used, for a total estimated cost of $102,462 for Old Highway 10.

2.4.3.2 Clark Fork River Bridge

The area below the Clark Fork River Bridge is comprised of fairly steep bedrock adjacent to the river, with a flat bench on either bank above the ordinary high-water mark. Similar to the Old Highway 10 Bridge, exclusion fencing is a feasible accommodation option for at the Clark Fork River Bridge. There is substantial recreational use at this site. Pedestrian access for recreational use would need to be considered if exclusion fencing is used.

Fencing could be tied in at grade separation below the bridge. On the western side of the Project area, fencing could be tied into the existing cattle guard on the north and combined with fencing from the Old Highway 10 site on the south. On the eastern side, fencing could run from the bridge grade separation to the railroad grade to the east. Approximately 5,056 feet of fencing would be required to exclude wildlife from the interstate on either side of the bridge and funnel wildlife under the bridges, at a unit cost of $11.60 per foot the total estimated cost of $58,650.

Some wildlife accommodations, such as exclusion fencing along the ROW could be combined between the Old Highway 10 and Clark Fork River sites to simplify implementation and reduce costs.

2.4.3.3 Cyr Bridge

The area below the Cyr Bridge is a mix of sandbars, cobble, and granite below the OHWM, and sandy soils with rock outcrops above. Exclusion fencing would be a feasible and effective accommodation for this site. The Cyr site receives high-intensity recreational use due to the presence of an FWP fishing access site as well as a raft launch, large parking lot, and a private rafting company headquarters. These sites would need to be considered when preparing exclusion fencing designs.

Fencing could be tied in at grade separation below the bridges. On the western side of the Project area, fencing could be tied into the railroad grade. On the eastern side north of the Interstate, fencing could run from the bridge grade separation to the existing cattle guard. Fencing south of the Interstate could tie into the bridge grade separation and run east to the steep topographic break at the eastern end of the I-90 on ramp. Cattle/wildlife guards could potentially be installed on the west bank roads within the Project area. Approximately 2,589 feet of fencing would be required to exclude wildlife from nearby segments of the interstate and funnel wildlife under the bridges, at a total estimated cost of $30,032 using $11.60 per foot unit cost.

2.4.4 Wildlife Accommodations Summary

Feasible wildlife accommodations for the Project area include carcass removal, signage, wildlife/cattle guards, and exclusion fencing. Carcass removal is an accommodation that is currently utilized on I-90 and will continue to reduce the potential for grizzly bears and other carnivores to congregate near the highway. Costs for carcass removal in the overall Project area is $100 to $540 per year.

Signage is an inexpensive option that could be readily adapted to site conditions and implemented using a variety of signs ranging from motion-activated lighted signs to passive signage. The considerations for motorist safety and cost would be included as part of the design phase if this accommodation is selected as a preferred option. Costs for signage could range from $1,200 to over $100,000 depending on the type of signage selected.

Installation of exclusion fencing is an accommodation option that would work in conjunction with the bridges at all three Project sites. The fencing could extend outside of the Project areas to direct wildlife toward the bridges and promote crossing under the Interstate. The installation of cattle/wildlife guards

could be used as a method of extending wildlife exclusion on other roads such as Interstate access ramps and frontage roads. The total estimated cost for exclusion fencing at all three sites is approximately $190,000 at a unit cost of $11.60 per linear foot.

3 Aquatic Resources

Aquatic resources were not identified within the study area of the Old Highway 10 bridge. The aquatic resources described in this section apply to the Clark Fork River and Cyr study areas.

3.1 Waterways

3.1.1 Methods

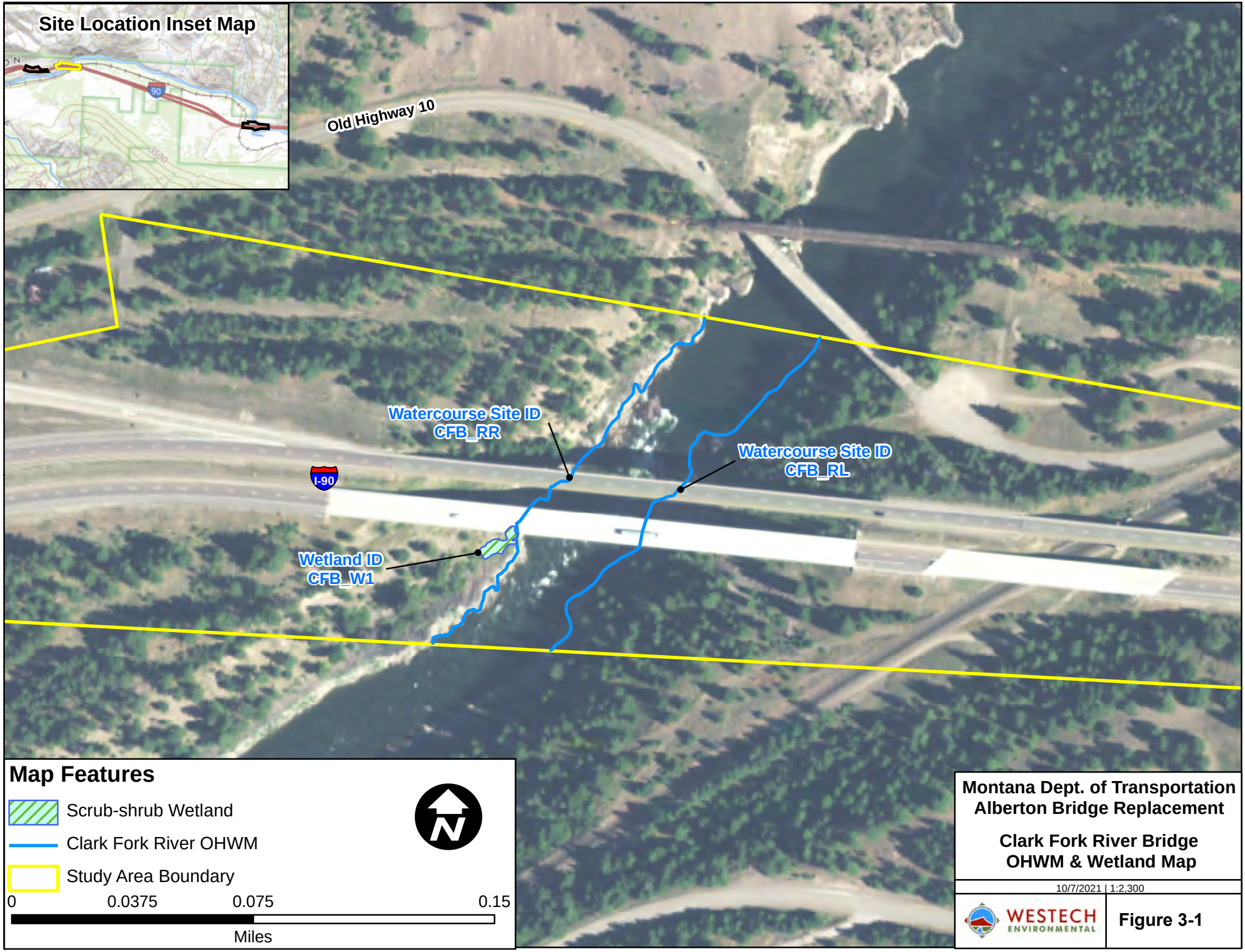
The information provided in this section was compiled from a combination of database queries, literature reviews, and site surveys completed on July 28 and August 31, 2021. On-site identification of the ordinary high-water mark (OHWM) was completed according to U.S. Army Corps of Engineers (USACE) guidance (Mersel and Lichvar 2005). OHWM, wetland boundaries, and sample plots were delineated with a handheld global positioning system (GPS) device with sub-meter accuracy. Data was collected according to USACE guidance and the MDT Wetland and Stream Delineation Process (MDT 2020b).

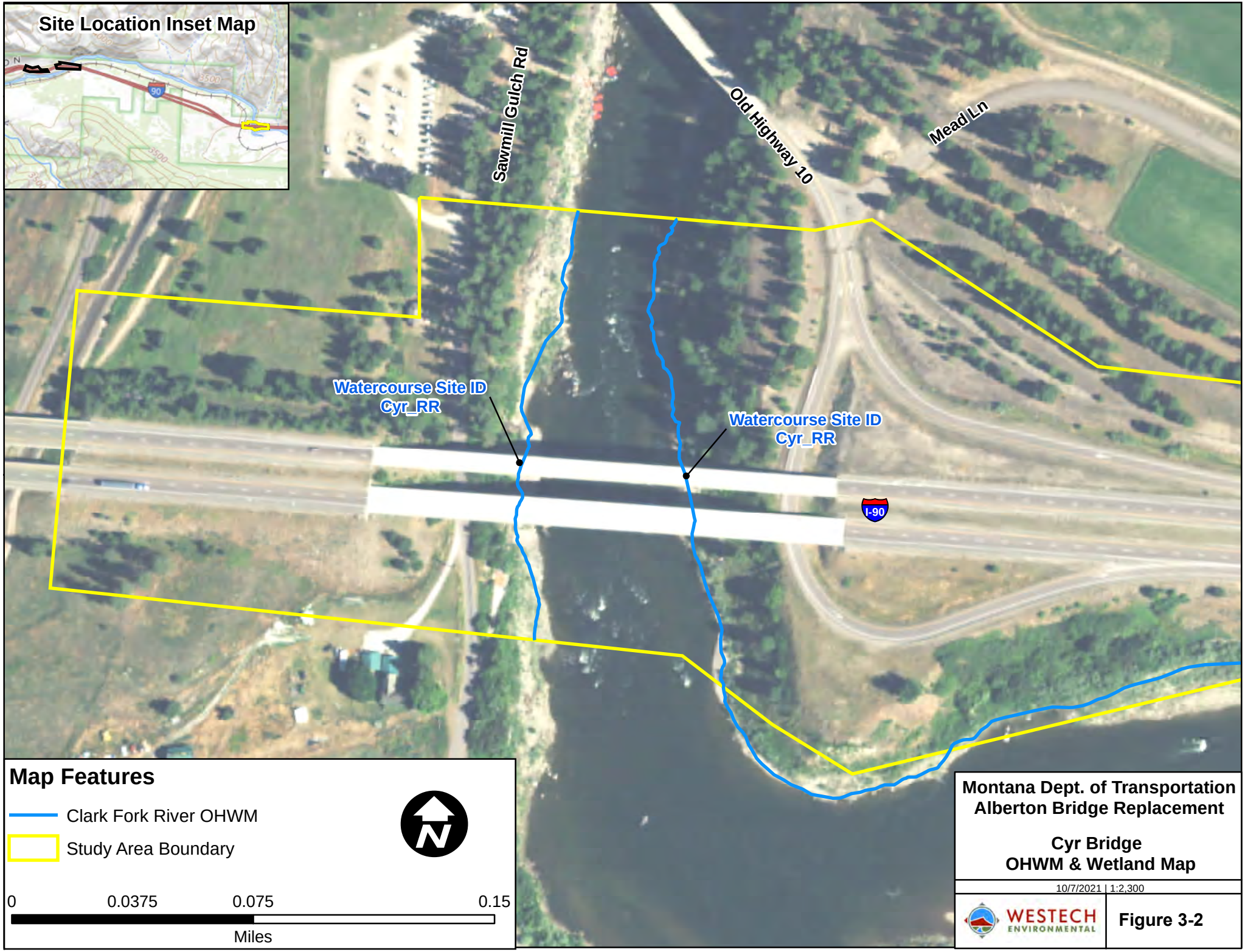
Field forms for OHWM delineations are provided in Attachment 2. Maps showing the locations of OHWM boundaries and stream sample plots are provided in Figure 3-1 (Clark Fork River Bridge) and Figure 3-2 (Cyr Bridge).

3.1.2 Site Description

The Clark Fork River and Cyr structures carry I-90 over the Clark Fork River. The Clark Fork River is a perennial stream that provides water to support a wide array of beneficial uses, including drinking water, irrigation, industry, hydro-electric power generation, and recreation. It also supports a diverse assemblage of aquatic life, including several threatened and endangered species.

The Clark Fork River is approximately 350 miles in length from its headwaters in western Montana to Lake Pend Oreille, and drains about 22,000 square miles, including most of Montana west of the Continental Divide. The Project is within the Middle Clark Fork Watershed, 8-digit Subbasin Hydrologic Unit Code (HUC) 17010204, which is a 1,970-square-mile drainage area of the Clark Fork River between its confluence with the Blackfoot and Flathead rivers (USGS 2019). The study areas are within the 24,052-acre Sawmill Creek-Clark Fork Subwatershed (12-digit HUC 170102040602) (USGS 2021).


Site Location Inset Map
Old Highway 10
Watercourse Site ID
CFB_RR
Watercourse Site ID
CFB_RL
I-90
Wetland ID
CFB_W1
Map Features
Scrub-shrub Wetland
Clark Fork River OHWM
Study Area Boundary
N
0
0.0375
0.075
0.15
Miles
Montana Dept. of Transportation
Alberton Bridge Replacement
Clark Fork River Bridge
OHWM & Wetland Map
10/7/2021 | 1:2,300
WESTECH
ENVIRONMENTAL
Figure 3-1


Site Location Inset Map
Sawmill Gulch Rd
Old Highway 10
Mead Ln
Watercourse Site ID
Cyr_RR
Watercourse Site ID
Cyr_RR
I-90
Map Features
Clark Fork River OHWM
Study Area Boundary
N
0
0.0375
0.075
0.15
Miles
Montana Dept. of Transportation
Alberton Bridge Replacement
Cyr Bridge
OHWM & Wetland Map
10/7/2021 | 1:2,300
WESTECH ENVIRONMENTAL
Figure 3-2

The Clark Fork River has long-term average annual flow of almost 22,000 cubic feet per second (cfs) leaving Montana (USGS 2018), 160 river miles downstream of the Project. Annual peak flows at the St. Regis, MT (USGS 12354500) gauging station, 40 river miles downstream from the Project, have ranged from 16,100 cfs to 68,900 cfs between 1991 and 2020 (USGS 2021). The timing of annual peak flows coincides with snowmelt runoff and typically occurs mid-May to early June, with the median date for the annual peak flow of May 21 over the past 30 years. The approximate bankfull discharge (2-year return interval) for the Clark Fork River at the structures is 33,400 cfs, estimated with methods from Sando, et al. (2016).

The Project is in the Middle Clark Fork River, a Strahler 7th order stream (EPA 2019), which extends approximately 119 miles from the confluence of the Blackfoot River with the Clark Fork River, downstream to the confluence of the Flathead River with the Clark Fork River. The Project area lies within a reach called the Alberton Gorge. Characteristics of the study areas of the river in this section include:

- River is confined to a single-thread channel within the gorge.
- The gorge is approximately 100 feet deep, which constrains lateral movement of the river.
- Walls and channel banks within the gorge are dominated by bedrock.
- Bed substrate materials include bedrock, boulders, cobbles, gravels, and sands.
- The OHWM for the Clark Fork River site was delineated and is shown in Figure 3-1.
- The OHWM for the Cyr site was delineated and is shown in Figure 3-2.
- Bankfull width at the Clark Fork River Bridge is approximately 119 feet to 163 feet, with approximate bankfull mean depth of 18 feet, based on survey of the OHWM completed for this Project.
- Bankfull width at the Cyr Bridge is approximately 307 feet at the upstream end of the site to 138 feet at the downstream end of the site, with approximate bankfull mean depth of 14 feet, based on survey of the OHWM completed for this Project.
- The river is entrenched throughout the Project reach, with an estimated entrenchment ratio of 1.1 to 1.2. Due to entrenchment within the gorge and the presence of bedrock controls, the river has low meander sinuosity (approximately 1.1 to 1.2).
- Run/riffle/pool spacing is dictated by geologic bedrock control and varies between approximately 500 feet to 2,500 feet within the Project reach. During high water these features can wash out and become submerged.
- Bedrock features within the Project reach produce rapids, which are then followed by pools.
- The floodplain and flood-prone width within the Project reach is limited by the canyon-like nature of the gorge. Floodplain width (of the 100-year flood) is approximately 220-feet at the Clark Fork River Bridge and varies from approximately 2,110 feet above the Cyr Bridge to approximately 255 feet within the gorge below the Cyr Bridge.

3.1.3 Total Maximum Daily Load Listing 303(d)

Total Maximum Daily Load (TMDL) information in this section is based on Montana Department of Environmental Quality (DEQ) 2020 Final Water Quality Integrated Report (Montana DEQ 2021). The study areas are within the Clark Fork River TMDL Planning Area, and more specifically are within the waterbody assessment unit Clark Fork River, Rattlesnake Creek to Fish Creek (ID MT76M001_020). The Water Quality Category within the reach is 4A with a Water Use Class of B-1. Category 4A is defined as waters where all TMDLs needed to rectify all identified threats or impairments have been completed and approved. Approved TMDLs for the unit include organic enrichment, total phosphorus, copper, total nitrogen, chlorophyll-a, iron, and lead. This assessment unit is documented by the Montana Department

of Environmental Quality (DEQ) as an impaired waterbody and not fully supporting the beneficial uses of primary contact recreation and aquatic life.

3.1.4 Potential Impacts

The extent of impacts to the Clark Fork River will be determined by the final construction limits and means. Potential Project-related impacts to aquatic resources include temporary impacts from construction activities and stream dewatering. Other potential impacts include installation of temporary construction access roads, access bridges or sediment discharge from construction disturbances. It is possible that the Project may include placement of dredge and fill materials below the OHWM. Fill materials may include riprap and other bank stabilization materials and possibly bridge pier foundations. Similarly, the removal of existing bridge foundations and decking could temporarily cause disturbance to aquatic resources in the Project study areas.

3.1.5 Avoidance and Minimization Recommendations

Impacts could be minimized by reducing the construction footprint below the OHWM as much as possible while still meeting engineering requirements. Other mitigation includes limiting, to the extent practicable, fill or excavation within Waters of the U.S.

3.1.6 Permitting Required

Due to the jurisdictional status of the Clark Fork River, any placement of dredged or fill material within the river would require permitting under Section 404 of the Clean Water Act. The permit application would be submitted to the USACE after jurisdictional determinations and delineations are reviewed by USACE and final construction limits are finalized through design. Proposed work at the Clark Fork River and Cyr Bridge sites is subject to the Montana Stream Mitigation Procedure (MTSMP) (USACE 2013). It is unknown yet if mitigation will be required. Final determination for mitigation will be made upon selection of final design and construction limits and means. Additional permits from Montana Fish Wildlife and Parks (FWP) and DEQ may also be required including Montana Stream Protection Act (SPA 124 Permit), DEQ Short-term Turbidity (318 Permit), DEQ 401 Water Quality Certification Dredge & Fill, and DEQ Montana Pollution Discharge Elimination System (MPDES) Stormwater Permit.

3.2 General Aquatic Species

3.2.1 Methods

Data regarding the species potentially occurring in the Project areas were obtained from information published by MTNHP and FWP. MTNHP data for sensitive aquatic species in the Project areas are provided in Appendix A. An inventory of general fish species data was derived from the FISHMT database managed by FWP.

Fish survey monitoring data is published by FWP in the FISHMT database for each stream and each year of survey. Survey records for the Clark Fork River between the years of 2005 and 2018 were reviewed to identify fish species present in the Clark Fork River segments at the Project sites.

3.2.2 Species Documented in Project Area Vicinity

No aquatic species occur in the vicinity of the Old Hwy 10 bridge. The Clark Fork River and Cyr bridge sites are located within the same river survey segment and thus share the same list of species.

FWP data lists 26 fish species for the Clark Fork River in the vicinity of the Clark Fork River and Cyr Bridge Projects. The common and scientific names for fish species in the study areas are listed in Table 3-1.

Table 3-1: List of Fish Species in Clark Fork River near Project Sites

Common Name	Scientific Name	Common Name	Scientific Name
Black bullhead	*Ameiurus melas*	Northern pike	*Esox lucius*
Brook trout	*Salvelinus fontinalis*	Northern pike minnow	*Ptychocheilus oregonensis*
Brown trout	*Salmo trutta*	Peamouth	*Mylocheilus caurinus*
Bull trout	*Salvelinus confluentus*	Pumpkinseed	*Lepomis gibbosus*
Kokanee	*Oncorhynchus nerka*	Rainbow trout	*Oncorhynchus mykiss*
Lake trout	*Salvelinus namaycush*	Redside shiner	*Richardsonius balteatus*
Lake whitefish	*Coregonus clupeaformis*	Rocky mountain sculpin	*Cottus bondi*
Largemouth bass	*Micropterus salmoides*	Slimy sculpin	*Cottus cognatus*
Largescale sucker	*Catostomus macrocheilus*	Smallmouth bass	*Micropterus dolomieu*
Longnose dace	*Rhinichthys cataractae*	Variable platyfish	*Xiphophorus variatus*
Longnose sucker	*Catostomus catostomus*	Walleye	*Sander vitreus*
Mottled sculpin	*Cottus bondi*	Westslope cutthroat trout	*Oncorhynchus clarkii lewisi*
Mountain whitefish	*Prosopium williamsoni*	Yellow perch	*Perca flavescens*

3.2.3 Potential Impacts

Potential project-related impacts to aquatic species include temporary displacement from construction noise or temporary stream dewatering. Other potential impacts include installation of temporary construction bridges or sediment discharge from construction disturbances. Construction activity such as installation of pilings could cause barotrauma and temporarily displace fish in the Project areas. Similarly, the removal of existing bridge foundations and decking could temporarily displace fish in the Project areas.

3.2.4 Avoidance and Minimization Recommendations

Standard Specification 208.03.2, Aquatic Resource Protection, requires that all temporary facilities and in-water construction activity must follow specific requirements when working in and around aquatic resources (MDT 2020a). These requirements include the following measures:

- Minimize disturbance to regulated aquatic resources,
- Not restrict or impede fish passage in streams,
- Not restrict water flow and
- Remove temporary facilities as soon as practicable once they are no longer needed.

Several Project-specific measures were provided by USFWS to mitigate impacts to bull trout and bull trout critical habitat in the Clark Fork River (Appendix C). These mitigation measures will also reduce impacts to other aquatic species during construction. Some measures that would reduce impacts to fish include:

- Impact driving of pilings is restricted to a short window in late summer.
- Hydroacoustic monitoring is sometimes necessary during driving of pile to determine sound thresholds and to limit harmful sound exposure.
- Vibratory hammers are recommended over impact drivers, as vibratory hammers are less likely than impact drivers to cause barotrauma in fish.

Section 5.4.3 describes these and additional measures in greater detail.

3.3 Wetlands

3.3.1 Methods

The Project sites were inventoried for wetlands in conjunction with vegetation and wildlife surveys on July 28 and August 31, 2021. Wetland surveyors followed the delineation procedures described in the USACE 1987 Wetland Delineation Manual (Environmental Laboratory 1987) along with the Western Mountains Valleys and Coasts Regional Supplement (USACE 2010). Other survey methods include the Montana Wetland Assessment Method (MWAM) published by the Montana Department of Transportation (Berglund and McEldowney 2008).

Wetland boundaries and sample points were recorded using resource-grade GPS receivers with sub-meter spatial accuracy. Field data collected during the site visit to document wetlands determination are provided in Attachment 3. Electronic .shp files showing delineated wetland boundaries are provided with this report.

3.3.2 Wetlands Documented in Project Area Vicinity

Wetlands were not observed at the Old Hwy 10 or Cyr Bridge sites.

One 0.03-acre wetland was recorded at the Clark Fork River Bridge site. This wetland is located on the cliffs above the west bank of the Clark Fork River and formed near a small seep on the slope at the top of the bedrock exposure. The wetland consists of narrowleaf willows (*Salix exigua*) and reed canary grass (*Phalaris arundinacea*) growing from the small pools in fractured bedrock. Water flowing into the wetland from the bedrock outcrop drains down the rock face and into the Clark Fork River channel. The wetland feature is topographically higher than the boundary of the OHWM, except for a narrow outlet where the water in the wetland drains into the Clark Fork River.

Completed wetland / upland data forms, a completed MWAM form, and site photos for the wetland are provided in Attachment 3. Location of the wetland at the Clark Fork River Bridge site is shown in Figure 3-1.

3.3.3 Potential Impacts

Potential impacts to the wetland include damage to vegetation as a result of bridge removal or equipment staging during construction. Since the wetland has formed on and within the fractured bedrock surface, construction-related impacts would not permanently alter the hydrologic function of the wetland and are expected to be temporary in nature, if they occur at all. The location of the wetland could be outside of construction disturbances, depending on construction methods used.

3.3.4 Avoidance and Minimization Recommendations

MDT Standard Specification 208.03.2, Aquatic Resource Protection, provides measures to reduce or avoid impacts to wetlands (MDT 2020a). These measures require that construction operations are completed in a manner that prevents materials from entering areas adjacent to aquatic resources. Impacts can also be reduced by minimizing disturbances within aquatic resource areas and removing temporary facilities as soon as practicable.

4 Species of Concern and Special Status Species

4.1 Introduction

Species of Concern (SOC) are native plants and animals considered at risk due to declining population trends, threats to their habitats, and/or restricted distribution. The SOC designation is not a regulatory driver or statutory classification. SOC designation provides a basis for resource managers and decision makers to proactively direct resources to priority species research and conservation efforts. The USFWS, through consultation specific to this Project, provided an official list of threatened and endangered species that may occur in the Project area (Appendix B). MTNHP uses a standardized ranking system to define rankings for species of concern. Table 4-1 provides the State of Montana SOC ranking categories and definitions for each rank (MTNHP 2021e).

Table 4-1: Species of Concern Ranking in Montana

State of Montana Rank	Definition
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.

State of Montana Rank	Definition
S5	Common, widespread, and abundant (although it may be rare in parts of its range). Not vulnerable in most of its range
SX	Presumed Extinct or Extirpated - Species is believed to be extinct throughout its range or extirpated in Montana. Not located despite intensive searches of historical sites and other appropriate habitat, and small likelihood that it will ever be rediscovered.

4.2 Methods

MTNHP database inquiries were performed for the three bridge locations and a one-mile buffer around the Project areas (Appendix A). Evaluations of habitat and presence for SOC species were conducted as part of the site surveys on July 28 and August 31, 2021. The SOC species that have been observed or have the potential to occur within each Project area are listed in Table 4-2.

MTNHP data shows a bald eagle nest adjacent to the Cyr bridge Project area (MTNHP 2021c), and United States Fish and Wildlife Service (USFWS) has identified another eagle nest within 0.1 mile of the Old Highway 10 Bridge (USFWS 2021a). Biologists did not observe eagle nests during field surveys, although foraging bald eagles were observed in the area.

Federally listed species and critical habitats are covered in Section 5 and are omitted from analysis in this section.

Table 4-2: Species of Concern Observations by Project Area

Species	Scientific Name	State of Montana Rank	MTNHP Species Observations by Project Area		
			Old Hwy 10	Clark Fork River	Cyr
Fish					
Westslope cutthroat trout	*Oncorhynchus clarkii lewisi*	S2		X	X
Birds					
Bald eagle	*Haliaeetus leucocephalus*	S4	X		X
Ferruginous hawk	*Buteo regalis*	S3B	X		
Great blue heron	*Ardea herodias*	S3	X		
Peregrine falcon	*Falco peregrinus*	S3	X		X
Pileated woodpecker	*Dryocopus pileatus*	S3			X
Mammals					
Fisher	*Pekania pennanti*	S3			X
Fringed myotis	*Myotis thysanodes*	S3	X		
Hoary bat	*Lasiurus cinereus*	S3			X
Little brown myotis	*Myotis lucifugus*	S3	X		

Species	Scientific Name	State of Montana Rank	MTNHP Species Observations by Project Area		
			Old Hwy 10	Clark Fork River	Cyr
Long-eared myotis	*Myotis evotis*	S3	X		
Silver-haired bat	*Lasionycteris noctivagans*	S4	X		
Wolverine	*Gulo*	S3			X
Plant					
Small-flowered pennycress	*Noccaea parviflora*	S3			X
Reptiles and Amphibians					
Northern alligator lizard	*Elgaria coerulea*	S3	X		
Western skink	*Plestiodon skiltonianus*	S3	X		

4.3 Potential Impacts

No permanent impacts to identified SOC are anticipated as a result of Project construction. Construction activity and noise have the potential to temporarily disrupt or displace individuals.

Specifically, nesting bald eagles may be disrupted if an active nest is located within one-half mile of a Project site and construction activities occur during nesting or fledging seasons (February 1 through August 15). The Project sites should be surveyed during nesting season to identify the presence and location of active nests.

Fish SOC may be temporarily affected during demolition and bridge foundation replacement.

4.4 Avoidance and Minimization Recommendations

The Bald and Golden Eagle Protection Act and MBTA prohibits the "take" of eagles. Take is defined as to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb." Nesting activity will be determined prior to the commencement of construction. To avoid take during nesting season, no blasting, pile driving, or other loud construction activities should occur within one-half mile of an active nest, otherwise a take permit from USFWS may be required.

If a bald eagle nest is identified within ½ mile of a Project site and the nest is confirmed to be active prior to construction mitigation measures, such as timing restrictions, could be required (MBEWG 2010). Timing restrictions typically require avoidance of disturbances within the nest buffers between February 1 and August 15. The nest buffer can be adjusted to account for factors such as visual and auditory screening of the Project site from the nest and the type of construction activity proposed at the site. If the timing restrictions cannot be applied to work at a Project site, then a take permit from the USFWS may be necessary for the bald eagle nest adjacent to the Project area.

5 Threatened and Endangered Species Preliminary Biological Assessment

5.1 Introduction

The Ecological Services section of the USFWS Montana Field Office maintains a list of endangered, threatened, proposed, and candidate species by county. The Project is located in Mineral County. Listed species within Mineral County are described in Appendix B and summarized in Table 5-1 (USFWS 2021a).

Table 5-1: Federally Listed Threatened and Endangered Species in Mineral County, Montana.

Species	Scientific Name	Federal Status	Potential Occurrence by Project Area		
			Old Hwy 10	Clark Fork River	Cyr
Fish					
Bull trout	*Salvelinus confluentus*	Listed Threatened, Designated Critical Habitat	No	Yes	Yes
Mammals					
Grizzly bear	*Ursus arctos horribilis*	Listed Threatened	Yes	Yes	Yes
Lynx	*Lynx canadensis*	Listed Threatened	Yes	Yes	Yes
Plant					
Whitebark pine	*Pinus albicaulis*	Proposed	No	No	No

5.2 Methods

The habitats and observations of federally listed threatened or endangered species within the proposed Project areas were cross-referenced using USFWS (USFWS 2021a) and MTNHP data (Appendix A). Aerial imagery was analyzed to identify potential habitats and assess the effects of the Project on listed species or their habitats within the proposed Project area. Additionally, field surveys were conducted to characterize habitats for listed species within the Project area.

Preliminary consultation with the USFWS was initiated by MDT on June 10, 2021. The USFWS provided a written response to the data request on July 1, 2021, that provides descriptions of the species and habitats that could occur within the Project area (Appendix C). WESTECH consulted with the MDT regional biologist on July 19, 2021, to discuss potential species impacts and mitigation measures for consideration in the BRR and the PBA.

5.3 Action Area and Environmental Baseline

The action area is "all areas to be affected directly or indirectly by the proposed action and not merely the immediate area directly adjacent to the action" (50 CFR §402.02). Factors associated with the Project that may affect the action area are noise and lights (if night construction occurs). For this assessment area, the action area at each bridge site is approximately 300 feet from the centerline of the westbound bridges in north and south directions, and 300 feet beyond the western and eastern extents

of the proposed construction. Action area boundaries are shown in Figures 1-1 to 1-4 in Section 1. Representative photos of the Action area are shown in Attachment 1.

5.4 Preliminary Biological Assessment

5.4.1 Grizzly Bear

Species status, distribution, habitat requirements, reasons for decline

The grizzly bear was listed as threatened under the Endangered Species Act (ESA) in 1975. Grizzly bears have massive home ranges and require large areas of undeveloped habitat. The Grizzly Bear Recovery Plan identifies "grizzly bear ecosystems" that contain specific recovery areas and BMUs (USFWS 1993). The Project areas are located approximately 27 miles from the Northern Continental Divide Ecosystem (NCDE) and are not located within a BMU. Though declining in other portions of their range due to habitat loss, the NCDE contains the largest population of grizzly bears in the lower 48 states and is increasing in number (Costello and Roberts 2021).

Occurrence in Action Area

MTNHP predictive habitat models rank all three bridge areas as low quality for grizzly bears (MTNHP 2021a). There are no records of grizzly bear observations within the three Project action areas (Appendix A). The Project areas are all significantly developed, and the heavy traffic from I-90 make it unlikely that grizzly bears would use the habitat within the Action area.

Potential Impact Analysis

The action area does not contain grizzly bear habitat. There is the potential for an individual grizzly bear moving through the area to be temporarily displaced during construction activities. The proposed Project would not degrade or destroy any grizzly bear habitat. Construction activity will likely occur during daylight hours, reducing the risk of disturbing a grizzly bear moving through the Project areas.

Mitigation/Conservation Measures

The Standard Specifications contain a provision for work in bear habitat (MDT 2021a). This specification will be included in construction documents to generally avoid impacts to grizzly bears.

Preliminary Determination of Effect

There is the potential for an individual grizzly bear moving through the area to be temporarily displaced during construction activities. The Project “May Affect” grizzly bears.

5.4.2 Canada Lynx

Species status, distribution, habitat requirements, reasons for decline

Canada lynx show strong association with cool, moist spruce-fir boreal forests (WDNR 2006). Home ranges are concentrated within large, contiguous forest, and more specifically forested ridges, saddles, and riparian zones (ILBT 2013). Canada lynx require heavy vegetative cover for both stalking prey and security and have been shown to avoid open areas that are wider than 100 meters (MTNHP 2021b). Canada lynx population declines in Montana are attributed to incompatible land uses including recreation and timber harvest (WDNR 2006).

Occurrence in Action Area

There are historic records of Canada lynx observations within the vicinity of the three Project action areas (Appendix A). The proposed Project area is dominated by developed lands (roadways, homes,

etc.), introduced upland grasses and forbs, and Rocky Mountain montane forest (LANDFIRE 2021). The Project is located within the generalized geographic range of Canada lynx, although the habitat quality within the study areas is ranked as "low" (MTNHP 2021b). Canada lynx make long range movements during dispersal and have the potential to travel through the Project areas.

Potential Impact Analysis

The proposed Project area does not contain suitable Canada lynx habitat. It is unlikely that individuals will move through the Project areas during construction or encounter construction activity.

Mitigation/Conservation Measures

No additional mitigation measures for Canada lynx are recommended.

Preliminary Determination of Effect

The proposed Project areas are dominated by developed lands and open stands of ponderosa pine. The Project will be located in poor lynx habitat, such as previously disturbed areas and along road rights-of-way. The Project would have "No Effect" on Canada lynx.

5.4.3 Bull Trout/Bull Trout Designated Critical Habitat

Species status, distribution, habitat requirements, reasons for decline

Bull trout are listed as threatened in Mineral County. The Clark Fork River is bull trout designated critical habitat. They are found in the Clark Fork and Flathead drainages of western Montana. Sub-adult and adult bull trout inhabit the main channel of the Clark Fork River and spawn in its tributaries. Spawning occurs between late August and early November. Bull trout are sensitive to sedimentation, isolation and fragmentation of habitat, habitat loss due to water management practices, and hybridization with non-native brook trout, which produces sterile hybrids (MTNHP 2021c).

Occurrence in Action Area

Bull trout are found in the Clark Fork River at both the Clark Fork River Bridge and Cyr Bridge Project areas. The State of Montana has identified core areas for bull trout in the bull trout restoration plan (MBTRT 2000). The Project area falls within the Middle Clark Fork Drainage and is USFWS-designated critical habitat. Bull trout are currently considered uncommon to rare in this section of the Clark Fork (MBTRT 2000).

Potential Impact Analysis

Bridge foundation replacement has the potential to impact bull trout and bull trout designated critical habitat through sediment runoff if stormwater is directed into the Clark Fork River during construction. Sheet pile installation and use has the potential to cause barotrauma (if impact driving is used) and temporarily displace bull trout. Dewatering around foundations during construction could potentially impact bull trout if individuals become trapped in the dewatered area. Bull trout movement may be temporarily impacted by bridge demolition if the existing bridge is demolished and dropped into the river, or by the placement of temporary construction bridges and associated temporary driven piling supports within the river channel.

Mitigation/Conservation Measures

The USFWS outlined several mitigation measures to lessen potential impacts to bull trout and their designated critical habitat in the July 1, 2021, letter (Appendix C). USFWS recommendations and mitigation measures for bull trout (Conard 2021) for construction at the Clark Fork River Bridge and Cyr Bridge sites include:

- Using existing foundations rather than replacement.
- Using drilled shafts for installation rather than impact driving to reduce the risk of barotrauma to bull trout.
- The typical timing window for construction using impact driving is from July 15 to August 31. If impact driving activities occur outside of this six-week window, the USFWS could require limiting construction to 12 hours per day or hydroacoustic monitoring of sound pressure levels. Monitoring would be used to ensure that the physical harm threshold (206dB) and the daily cumulative sound exposure level (185dB) are not exceeded by impact driving activities.
- Using vibratory hammers to drive piles to such a point that impact hammers are required to finish driving the pile. Vibratory hammers present a much lower risk of causing barotrauma to bull trout.
- Using a "soft start" to driving piles, which may encourage fish to leave and avoid the construction area during driving.
- Monitoring all dewatering activities to visually detect if bull trout have become trapped in the dewatered area. Material excavated from the dewatered areas should not be placed in the active channel.
- If blasting is used for demolition of the bridge, containment systems should be employed to mitigate the pressure wave caused by the blast and to catch debris and prevent it from entering the active channel. Any blast activity must meet the MDT Standard Specification section on blasting (MDT 2020a).
- During removal of existing structures, debris should not be allowed to fall into the river channel. If bridge debris does fall into the river during demolition, USFWS requires that material to be removed from the river within two days, without dragging it along the streambed during removal.
- Implementing BMPs to keep stormwater and sediment out of the river. Fuels, lubricating fluids, herbicides, and any other chemicals should be stored in specified areas to prevent leaking into the river. During construction, all equipment must be inspected daily for leaks (Conard 2021).

Preliminary Determination of Effect

The permitting process and construction limitations for any construction activity that takes place within bull trout streams mitigates impacts to bull trout and their designated critical habitat. The Project "May Affect" bull trout and bull trout designated critical habitat.

5.4.4 Whitebark Pine

Species status, distribution, habitat requirements, reasons for decline

Whitebark pine is found primarily in the subalpine and treeline habitats of central and western Montana. Mountain pine beetle outbreaks and white pine blister rust have caused declines in whitebark pine across much of its range in Montana (MTNHP 2021d).

Occurrence in Action Area

The Project areas contain no suitable high elevation habitat that supports whitebark pine. There are no records of whitebark pine observations within the three Project action areas (Appendix A). There is no whitebark pine present within the action area (MTNHP 2021d).

Potential Impact Analysis

It is not anticipated that the Project will affect whitebark pine. There is no high elevation upper montane habitat within the action area.

Mitigation/Conservation Measures

No additional mitigation measures for whitebark pine are recommended.

Preliminary Determination of Effect

The Project will have ”No Effect” on whitebark pine.

5.5 Potential Cumulative Effects Analysis

Cumulative effects analysis area encompasses the proposed Project, along with future local, state, tribal, or private actions that are likely to occur within the action area analyzed in this document using the USFWS IPaC system (USFWS 2021b). Potential future Projects in the area have not been identified by MDT. If future Projects are identified within the action area this section will be updated to summarize cumulative effects.

The bridge replacement Project is the only action identified for the action area. No additive cumulative effects are anticipated for this Project.

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Attachment 1: Representative Project Area Photos

Figure 1: Existing wildlife accommodation below Old Highway 10 Bridge.

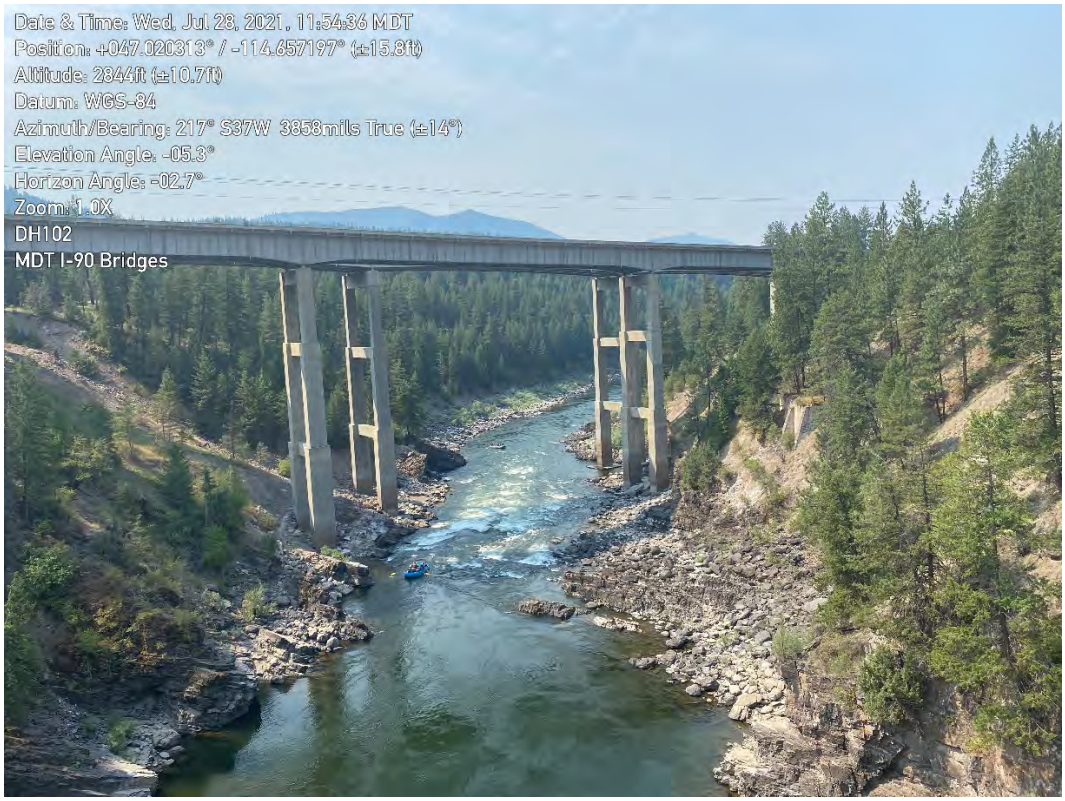


Figure 2: Clark Fork River Bridge facing south.

Figure 3: Underside of Clark Fork River Bridge facing southeast.

Figure 4: Cyr Bridge facing south.

Figure 5: Cyr Bridge facing west.

Figure 6: Underside of Cyr Bridge facing east.

Figure 7: Fringe wetland below Clark Fork River Bridge.

Figure 8: Fringe wetland below Clark Fork River Bridge.

Attachment 2: Watercourse Survey Field Forms

WESTECH Watercourse Survey Form

Project: __Alberton BRR_____ Date: _8/31/21_____ County:___Mineral_____ Crew: _CB, LO_____ State:_____MT_____	SiteID:__CYR-RL_____ Waterbody Name : ___Clark Fork _____

Photos (photographer initials-photo#)

(Complete for only one project type)		Other Photos (e.g. site disturbances, bridges, culverts, etc.)	
Linear Project	Non-linear Project		
Ahead:	N:	#: CB561	Description:
Behind:	S:	#: CB560	Description:
Upstream:	E:	#: CB562-563	Description:
Downstream:	W:	#: CB564-566	Description:

Ordinary High Water Mark (OHWM) Criteria (check all that apply) (see definition on Page 2, Box A)

☐ Slope break ☒ Sediment/debris change ☒ Vegetation change ☐ Other (describe in notes) ☐ None (swale)

OHWM Characteristics (average within survey segment)

Width: ___255__ft Depth: ____18____ft (Depth = OHWM to channel bottom) Stream Gradient: ___4_____%

Substrate Composition (choose a representative location within survey segment)

Relative to OHWM	Clay/silt	Sand	Gravel (<3" dia.)	Cobbles (3-10" dia.)	Boulders (>10" dia.)	Visible developed soil horizons?
Above	5 %	20 %	15 %	10 %	50 %	☐Yes ☒No
Below	0 %	5 %	5 %	40 %	50 %	☐Yes ☒No

Bank Characteristics (choose a representative location within survey segment)

Downstream Bank	Height (OHWM to top of bank)	Slope above OHWM Break	Vegetation (use 6-letter code)			
			Trees	Shrubs	Herbs	Noxious Weeds
Left	18 ft	☒Gentle (0-10%) ☐Moderate (10-50%) ☐Steep (50+%) ☐Vertical	_PINPON_____ _PSEMEN_____ _____ _____	_PHILEW_____ _SALEXI_____ _CORSER_____ _PRUVIR_____	GLYLEP_____ ARCMIN_____ EQUARV_____ _____	_EUPESU_____ _CIRARV_____ _VERTHA_____ _____
Right	ft	☐Gentle (0-10%) ☐Moderate (10-50%) ☐Steep (50+%) ☐Vertical	_____ _____ _____ _____	_____ _____ _____ _____	_____ _____ _____ _____	_____ _____ _____ _____

Hydrogeomorphic Classification (choose one) (see definitions on Page 2, Box B)

☒Riverine ☐Depressional ☐Slope ☐Mineral soil flats ☐Lacustrine fringe

Cowardin Classification (see definitions, on Page 2, Boxes C and D.)

System (select one)	Subsystem (select one)	Class (select one)	Water Regime (select all that apply)	Special Modifiers (select all that apply)
☒ Riverine	☒ Lower Perennial (R2) ☐ Upper Perennial (R3) ☐ Intermittent (R4) ☐ Ephemeral (R6)	☐ Rock Bottom (RB) – R3, L1, L2 ☐ Unconsolidated Bottom (UB) - R2, R3, L1, L2, P ☐ Aquatic Bed (AB) – R2, R3, L1, L2, P ☐ Streambed (SB) – R4 ☒ Rocky Shore (RS) – R2, R3, L2 ☐ Unconsolidated Shore (US) – R2, R3, L2, P	□ Temporarily flooded (A) □ Seasonally saturated (B) □ Seasonally flooded (C) □ Continuously saturated (D) □ Seasonally flooded/saturated (E) □ Semi-permanently flooded (F) □ Intermittently exposed (G) □ Permanently flooded (H) □ Intermittently flooded (J) □ Artificially flooded (K)	□ Beaver (b) □ Partly drained/ditched (d) □ Farmed (f) □ Diked/Impounded (h) □ Managed (m) □ Artificial substrate(r) □ Spoil (s) □ Excavated (x)
☐ Lacustrine	☐ Limnetic (L1) ☐ Littoral (L2)			
☐ Palustrine	*(no subsystem)*			
☐ Open water	*(no subsystem)*			

Code:___R2RS2_____

WESTECH Watercourse Survey Form

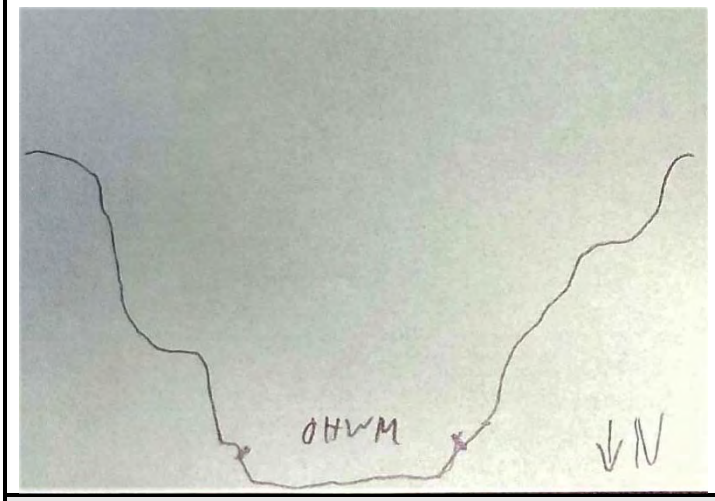
Flow Regime				Aquatic Habitat			
Riffle	Run	Pool	Other	Boulders	Logs/Debris	Undercut Banks	Structures
15 %	50 %	35 %	0 %	60 %	0 %	0 %	0 %

Comments (notes on wildlife observed, erosion, livestock impacts, etc.)

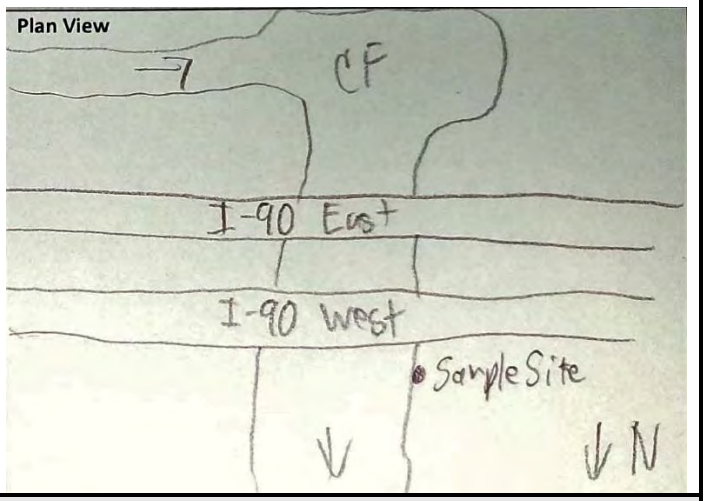
Wildlife observation: Bald eagle. Deer, skunk, and shorebird tracks.
Other: Boulder/bedrock outcrops.

Site Drawings (show dimensions; match those on Page 1)

Cross Section



Plan View



A. Ordinary High Water Mark (OHWM) Definition

That line on the shore established by the fluctuations of water and indicated by physical characteristics such as:

- a clear, natural line impressed on the bank;
- a slope break;
- shelving;
- a sediment/debris change;
- changes in soil character;
- a vegetation change;
- presence of litter/debris; or
- destruction of terrestrial vegetation.

OHWM is the extent of water in the majority of years, not in response to extraordinary events.

B. Hydrogeomorphic Classification

Riverine: Wetlands whose water source is overbank flow from a channel. Example: wetlands adjacent to streams and rivers.

Depressional: Wetlands whose water source is return flow from groundwater and/or surface flow into a closed basin. Example: prairie potholes.

Slope: Wetlands whose water source is return flow from groundwater. Example: spring, seep, or fen.

Mineral Soil Flats: Wetlands whose water source is precipitation. Example: saline flat.

Lacustrine fringe: Wetlands whose water source is overbank flow from a lake. Example: marsh surrounding a lake.

C. Cowardin Classification

Situated in a channel; water, when present, usually flowing.	**Riverine**
Persistent emergent herb, tree, shrub, or emergent moss cover ≥ 30% of area.	**Palustrine (Emergent)**
Persistent emergent herb, tree, shrub, or emergent moss cover < 30% of area.	
Area < 20 acres; no wave formed or bedrock shoreline feature present **AND** water < 2 m deep.	**Palustrine (Open Water)**
Area < 20 acres; with wave formed or bedrock shoreline feature present **OR** water > 2 m deep.	**Lacustrine**
Area ≥ 20 acres.	

D. Water Regime Definitions

Perennial: Surface water flowing continuously year-round.

Intermittent: Surface water flowing continuously during extended and predictable times of the year and more than in direct response to precipitation (e.g., when the groundwater table is seasonally elevated or when seasonal snowpack melts).

Ephemeral: Surface water flowing or pooling only in direct response to precipitation (e.g., rain or snowfall). A snowfall event is distinguished from melting snowpack that is continuous, such as for weeks or months at a time.

WESTECH Watercourse Survey Form

Project: __Alberton BRR_____ Date: _8/31/21_____ County:___Mineral_____ Crew: _RS, PJC_____ State:_____MT_____	SiteID: __CYR-RR_____ Waterbody Name : ___Clark Fork _____

Photos (photographer initials-photo#)

(Complete for only one project type)

Linear Project	Non-linear Project	Other Photos (e.g. site disturbances, bridges, culverts, etc.)	
Ahead: PC948	N:	#:	Description:
Behind: PC949	S:	#:	Description:
Upstream:	E:	#:	Description:
Downstream: PC947	W:	#:	Description:

Ordinary High Water Mark (OHWM) Criteria (check all that apply) (see definition on Page 2, Box A)

☐ Slope break ☒ Sediment/debris change ☐ Vegetation change ☐ Other (describe in notes) ☐ None (swale)

OHWM Characteristics (average within survey segment)

Width: ___255__ft Depth: ____16____ft (Depth = OHWM to channel bottom) Stream Gradient: ___5_____%

Substrate Composition (choose a representative location within survey segment)

Relative to OHWM	Clay/silt	Sand	Gravel (<3" dia.)	Cobbles (3-10" dia.)	Boulders (>10" dia.)	Visible developed soil horizons?
Above	5 %	15 %	20 %	10 %	50 %	☐Yes ☒No
Below	0 %	7 %	3 %	40 %	50 %	☐Yes ☒No

Bank Characteristics (choose a representative location within survey segment)

Downstream Bank	Height (OHWM to top of bank)	Slope above OHWM Break	Vegetation (use 6-letter code)			
			Trees	Shrubs	Herbs	Noxious Weeds
Left	ft	☐Gentle (0-10%) ☐Moderate (10-50%) ☐Steep (50+%) ☐Vertical	_____ _____ _____ _____	_____ _____ _____ _____	_____ _____ _____ _____	_____ _____ _____ _____
Right	50 ft	☐Gentle (0-10%) ☐Moderate (10-50%) ☒Steep (50+%) ☐Vertical	_PINPON_____ _PSEMEN_____ _____ _____	_SALEXI_____ _SALAMY_____ _SALGEY_____ _____	_GLYLEP_____ _ELEPAL_____ _MENARV_____ _PERAMP_____	_EUPESU_____ _CIRARV_____ _VERTHA_____ _TANVUL_____

Hydrogeomorphic Classification (choose one) (see definitions on Page 2, Box B)

☒Riverine ☐Depressional ☐Slope ☐Mineral soil flats ☐Lacustrine fringe

Cowardin Classification (see definitions, on Page 2, Boxes C and D.)

System (select one)	Subsystem (select one)	Class (select one)	Water Regime (select all that apply)	Special Modifiers (select all that apply)
☒ Riverine	☒ Lower Perennial (R2) ☐ Upper Perennial (R3) ☐ Intermittent (R4) ☐ Ephemeral (R6)	☐ Rock Bottom (RB) – R3, L1, L2 ☐ Unconsolidated Bottom (UB) - R2, R3, L1, L2, P ☐ Aquatic Bed (AB) – R2, R3, L1, L2, P ☐ Streambed (SB) – R4 ☒ Rocky Shore (RS) – R2, R3, L2 ☐ Unconsolidated Shore (US) – R2, R3, L2, P	□ Temporarily flooded (A) □ Seasonally saturated (B) □ Seasonally flooded (C) □ Continuously saturated (D) □ Seasonally flooded/saturated (E) □ Semi-permanently flooded (F) □ Intermittently exposed (G) □ Permanently flooded (H) □ Intermittently flooded (J) □ Artificially flooded (K)	□ Beaver (b) □ Partly drained/ditched (d) □ Farmed (f) □ Diked/Impounded (h) □ Managed (m) □ Artificial substrate(r) □ Spoil (s) □ Excavated (x)
☐ Lacustrine	☐ Limnetic (L1) ☐ Littoral (L2)			
☐ Palustrine	*(no subsystem)*			
☐ Open water	*(no subsystem)*			

Code:___R2RS2_____

WESTECH Watercourse Survey Form

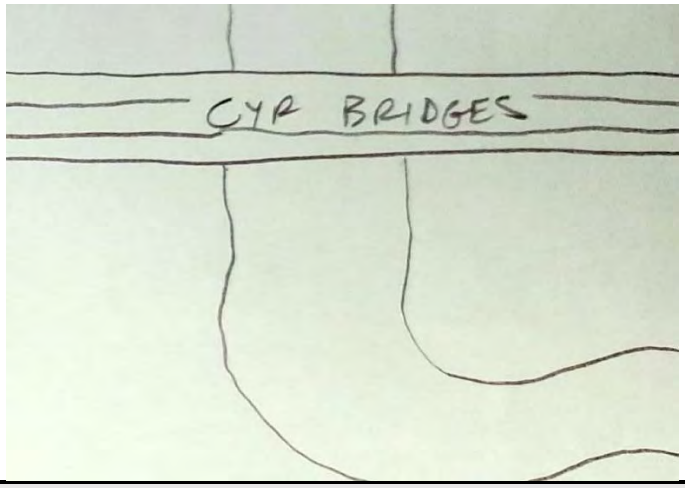
Flow Regime				Aquatic Habitat			
Riffle	Run	Pool	Other	Boulders	Logs/Debris	Undercut Banks	Structures
20 %	50 %	30 %	0 %	35 %	5 %	0 %	20 %

Comments (notes on wildlife observed, erosion, livestock impacts, etc.)

Site Drawings (show dimensions; match those on Page 1)

Cross Section

Plan View



A. Ordinary High Water Mark (OHWM) Definition

That line on the shore established by the fluctuations of water and indicated by physical characteristics such as:

- a clear, natural line impressed on the bank;
- a slope break;
- shelving;
- a sediment/debris change;
- changes in soil character;
- a vegetation change;
- presence of litter/debris; or
- destruction of terrestrial vegetation.

OHWM is the extent of water in the majority of years, not in response to extraordinary events.

B. Hydrogeomorphic Classification

Riverine: Wetlands whose water source is overbank flow from a channel. Example: wetlands adjacent to streams and rivers.

Depressional: Wetlands whose water source is return flow from groundwater and/or surface flow into a closed basin. Example: prairie potholes.

Slope: Wetlands whose water source is return flow from groundwater. Example: spring, seep, or fen.

Mineral Soil Flats: Wetlands whose water source is precipitation. Example: saline flat.

Lacustrine fringe: Wetlands whose water source is overbank flow from a lake. Example: marsh surrounding a lake.

C. Cowardin Classification

Situated in a channel; water, when present, usually flowing.	**Riverine**
Persistent emergent herb, tree, shrub, or emergent moss cover ≥ 30% of area.	**Palustrine (Emergent)**
Persistent emergent herb, tree, shrub, or emergent moss cover < 30% of area.	
Area < 20 acres; no wave formed or bedrock shoreline feature present **AND** water < 2 m deep.	**Palustrine (Open Water)**
Area < 20 acres; with wave formed or bedrock shoreline feature present **OR** water > 2 m deep.	**Lacustrine**
Area ≥ 20 acres.	

D. Water Regime Definitions

Perennial: Surface water flowing continuously year-round.

Intermittent: Surface water flowing continuously during extended and predictable times of the year and more than in direct response to precipitation (e.g., when the groundwater table is seasonally elevated or when seasonal snowpack melts).

Ephemeral: Surface water flowing or pooling only in direct response to precipitation (e.g., rain or snowfall). A snowfall event is distinguished from melting snowpack that is continuous, such as for weeks or months at a time.

WESTECH Watercourse Survey Form

Project: __Alberton BRR_____ Date: _8/31/21_____ County:___Mineral_____ Crew: _RS, PJC_____ State:_____MT_____	SiteID:__CFB-RL_____ Waterbody Name : ___Clark Fork _____

Photos (photographer initials-photo#)

(Complete for only one project type)

Linear Project	Non-linear Project	Other Photos (e.g. site disturbances, bridges, culverts, etc.)	
Ahead: PC952	N:	#:	Description:
Behind: PC954	S:	#:	Description:
Upstream: PC955	E:	#:	Description:
Downstream: PC956	W:	#:	Description:

Ordinary High Water Mark (OHWM) Criteria (check all that apply) (see definition on Page 2, Box A)

☒ Slope break ☒ Sediment/debris change ☐ Vegetation change ☐ Other (describe in notes) ☐ None (swale)

OHWM Characteristics (average within survey segment)

Width: ___120_ft Depth: ____18____ft (Depth = OHWM to channel bottom) Stream Gradient: ___10_____%

Substrate Composition (choose a representative location within survey segment)

Relative to OHWM	Clay/silt	Sand	Gravel (<3" dia.)	Cobbles (3-10" dia.)	Boulders (>10" dia.)	Visible developed soil horizons?
Above	10 %	20 %	40 %	20 %	10 %	☐Yes ☒No
Below	0 %	0 %	10 %	20 %	70 %	☐Yes ☒No

Bank Characteristics (choose a representative location within survey segment)

Downstream Bank	Height (OHWM to top of bank)	Slope above OHWM Break	Vegetation (use 6-letter code)			
			Trees	Shrubs	Herbs	Noxious Weeds
Left	40 ft	☐Gentle (0-10%) ☐Moderate (10-50%) ☒Steep (50+%) ☐Vertical	_PINPON_____ _PSEMEN_____ _JUNSCO_____ _____	_SALGEY_____ _SALEXI_____ _____ _____	GALBOR_____ POASEC_____ AGRSPI_____ BROINE_____	_EUPESU_____ _CENMAC_____ _____ _____
Right	ft	☐Gentle (0-10%) ☐Moderate (10-50%) ☐Steep (50+%) ☐Vertical	_____ _____ _____ _____	_____ _____ _____ _____	_____ _____ _____ _____	_____ _____ _____ _____

Hydrogeomorphic Classification (choose one) (see definitions on Page 2, Box B)

☒Riverine ☐Depressional ☐Slope ☐Mineral soil flats ☐Lacustrine fringe

Cowardin Classification (see definitions, on Page 2, Boxes C and D.)

System (select one)	Subsystem (select one)	Class (select one)	Water Regime (select all that apply)	Special Modifiers (select all that apply)
☒ Riverine	☒ Lower Perennial (R2) ☐ Upper Perennial (R3) ☐ Intermittent (R4) ☐ Ephemeral (R6)	☐ Rock Bottom (RB) – R3, L1, L2 ☐ Unconsolidated Bottom (UB) - R2, R3, L1, L2, P ☐ Aquatic Bed (AB) – R2, R3, L1, L2, P ☐ Streambed (SB) – R4 ☒ Rocky Shore (RS) – R2, R3, L2 ☐ Unconsolidated Shore (US) – R2, R3, L2, P	□ Temporarily flooded (A) □ Seasonally saturated (B) □ Seasonally flooded (C) □ Continuously saturated (D) □ Seasonally flooded/saturated (E) □ Semi-permanently flooded (F) □ Intermittently exposed (G) □ Permanently flooded (H) □ Intermittently flooded (J) □ Artificially flooded (K)	□ Beaver (b) □ Partly drained/ditched (d) □ Farmed (f) □ Diked/Impounded (h) □ Managed (m) □ Artificial substrate(r) □ Spoil (s) □ Excavated (x)
☐ Lacustrine	☐ Limnetic (L1) ☐ Littoral (L2)			
☐ Palustrine	*(no subsystem)*			
☐ Open water	*(no subsystem)*			

Code:___R2RS2_____

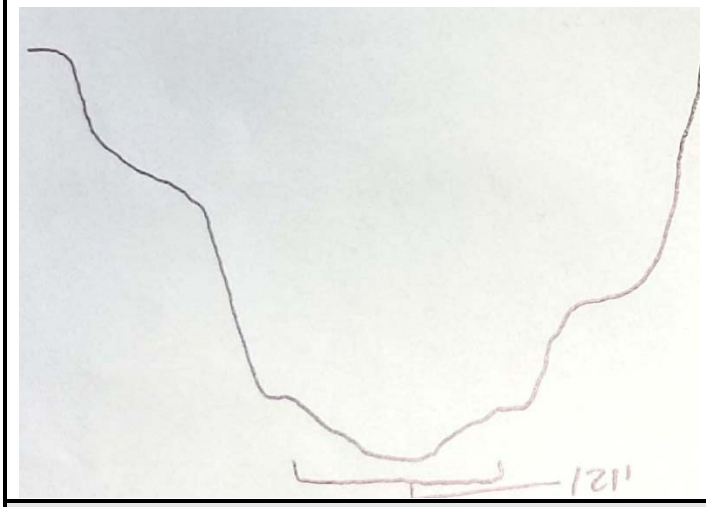
WESTECH Watercourse Survey Form

Flow Regime				Aquatic Habitat			
Riffle	Run	Pool	Other	Boulders	Logs/Debris	Undercut Banks	Structures
15 %	50 %	35 %	0 %	60 %	0 %	0 %	0 %

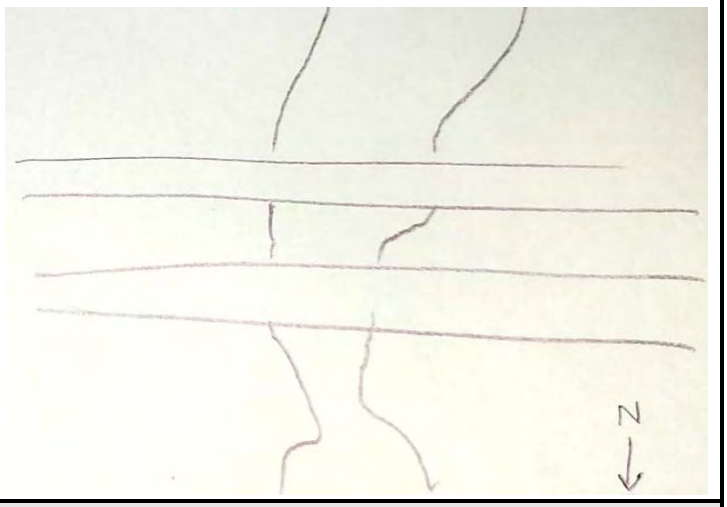
Comments (notes on wildlife observed, erosion, livestock impacts, etc.)

Site Drawings (show dimensions; match those on Page 1)

Cross Section



Plan View



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- a clear, natural line impressed on the bank;
- a slope break;
- shelving;
- a sediment/debris change;
- changes in soil character;
- a vegetation change;
- presence of litter/debris; or
- destruction of terrestrial vegetation.

OHWM is the extent of water in the majority of years, not in response to extraordinary events.

B. Hydrogeomorphic Classification

Riverine: Wetlands whose water source is overbank flow from a channel. Example: wetlands adjacent to streams and rivers.

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Persistent emergent herb, tree, shrub, or emergent moss cover ≥ 30% of area.	**Palustrine (Emergent)**
Persistent emergent herb, tree, shrub, or emergent moss cover < 30% of area.	
Area < 20 acres; no wave formed or bedrock shoreline feature present **AND** water < 2 m deep.	**Palustrine (Open Water)**
Area < 20 acres; with wave formed or bedrock shoreline feature present **OR** water > 2 m deep.	**Lacustrine**
Area ≥ 20 acres.	

D. Water Regime Definitions

Perennial: Surface water flowing continuously year-round.

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Ephemeral: Surface water flowing or pooling only in direct response to precipitation (e.g., rain or snowfall). A snowfall event is distinguished from melting snowpack that is continuous, such as for weeks or months at a time.

WESTECH Watercourse Survey Form

Project: __Alberton BRR_____	SiteID: __CRB-RR_____
Date: _8/31/21_____ County:___Mineral_____	
Crew: _CB, LO_____ State:_____MT_____	Waterbody Name : ___Clark Fork _____

Photos (photographer initials-photo#)

(Complete for only one project type)

Linear Project	Non-linear Project	Other Photos (e.g. site disturbances, bridges, culverts, etc.)
Ahead: CB574	N:	#: 580-582 Description: West side bridge footings.
Behind: CB575	S:	#: 583 Description: East side from underneath bridge.
Upstream: CB576	E:	#: Description:
Downstream: CB577-579	W:	#: Description:

Ordinary High Water Mark (OHWM) Criteria (check all that apply) (see definition on Page 2, Box A)

☐ Slope break ☒ Sediment/debris change ☐ Vegetation change ☐ Other (describe in notes) ☐ None (swale)

OHWM Characteristics (average within survey segment)

Width: ___120___ft Depth: ____15____ft (Depth = OHWM to channel bottom) Stream Gradient: ___6_____%

Substrate Composition (choose a representative location within survey segment)

Relative to OHWM	Clay/silt	Sand	Gravel (<3" dia.)	Cobbles (3-10" dia.)	Boulders (>10" dia.)	Visible developed soil horizons?
Above	1 %	4 %	15 %	10 %	70 %	☐Yes ☒No
Below	0 %	2 %	3 %	20 %	75 %	☐Yes ☒No

Bank Characteristics (choose a representative location within survey segment)

Downstream Bank	Height (OHWM to top of bank)	Slope above OHWM Break	Vegetation (use 6-letter code) Trees	Shrubs	Herbs	Noxious Weeds
Left	ft	☐Gentle (0-10%) ☐Moderate (10-50%) ☐Steep (50+%) ☐Vertical	_____ _____ _____ _____	_____ _____ _____ _____	_____ _____ _____ _____	_____ _____ _____ _____
Right	20 ft	☐Gentle (0-10%) ☐Moderate (10-50%) ☒Steep (50+%) ☐Vertical	_PINPON_____ _PSEMEN_____ _____ _____	_SALEXI_____ _RIBCET_____ _____ _____	_MENARV_____ _____ _____ _____	_None at OHWM_ _____ _____ _____

Hydrogeomorphic Classification (choose one) (see definitions on Page 2, Box B)

☒Riverine ☐Depressional ☐Slope ☐Mineral soil flats ☐Lacustrine fringe

Cowardin Classification (see definitions, on Page 2, Boxes C and D.)

System (select one)	Subsystem (select one)	Class (select one)	Water Regime (select all that apply)	Special Modifiers (select all that apply)
☒ Riverine	☒ Lower Perennial (R2) ☐ Upper Perennial (R3) ☐ Intermittent (R4) ☐ Ephemeral (R6)	☐ Rock Bottom (RB) – R3, L1, L2 ☐ Unconsolidated Bottom (UB) - R2, R3, L1, L2, P ☐ Aquatic Bed (AB) – R2, R3, L1, L2, P ☐ Streambed (SB) – R4 ☒ Rocky Shore (RS) – R2, R3, L2 ☐ Unconsolidated Shore (US) – R2, R3, L2, P	□ Temporarily flooded (A) □ Seasonally saturated (B) □ Seasonally flooded (C) □ Continuously saturated (D) □ Seasonally flooded/saturated (E) □ Semi-permanently flooded (F) □ Intermittently exposed (G) □ Permanently flooded (H) □ Intermittently flooded (J) □ Artificially flooded (K)	□ Beaver (b) □ Partly drained/ditched (d) □ Farmed (f) □ Diked/Impounded (h) □ Managed (m) □ Artificial substrate(r) □ Spoil (s) □ Excavated (x)
☐ Lacustrine	☐ Limnetic (L1) ☐ Littoral (L2)			
☐ Palustrine	*(no subsystem)*			
☐ Open water	*(no subsystem)*			

Code:___R2RS2_____

WESTECH Watercourse Survey Form

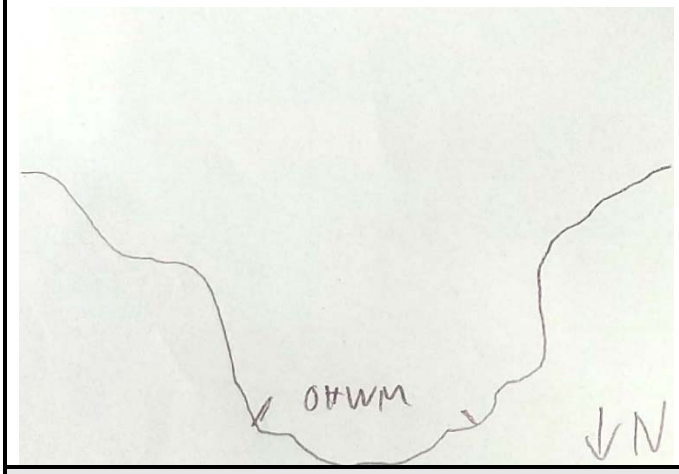
Flow Regime				Aquatic Habitat			
Riffle	Run	Pool	Other	Boulders	Logs/Debris	Undercut Banks	Structures
0 %	60 %	30 %	0 %	75 %	0 %	0 %	0 %

Comments (notes on wildlife observed, erosion, livestock impacts, etc.)

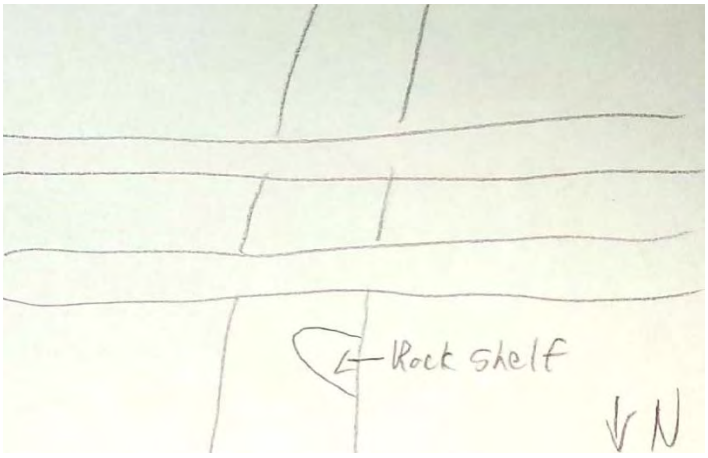
OHWM is 5' higher than flow at time of survey. Bridge footings are above water at time of survey and are right at OHWM. Steep rocky slopes on either side of river with large wave train rapid under both eastbound and westbound bridges. Access to lower stream terrace is not obvious.

Site Drawings (show dimensions; match those on Page 1)

Cross Section



Plan View



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Area < 20 acres; no wave formed or bedrock shoreline feature present **AND** water < 2 m deep.	**Palustrine (Open Water)**
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Area ≥ 20 acres.	

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Attachment 3: Wetland Determination Data Forms and Representative Photographs

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Alberton BRR | City/County: Alberton/Mineral | Sampling Date: 8/31/2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: CFB_W1_W

Investigator(s): C. Baker, L. Osborne | Section, Township, Range: S32, T15N, R24W

Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): concave | Slope (%): 8

Subregion (LRR): E | Lat: 47.019268 | Long: -114.658162 | Datum: WGS84

Soil Map Unit Name: Kr3 | NWI Classification: PSS

Are climatic/hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks: Slope wetland at bedrock-lithic contact. Running water at time of survey in small rivulets and pockets. Climatic conditions are extremely dry in 2021.

Photos: CB 584, 585 Associated Plot(s): CFB_W1_U

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: n/a)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Shrub Stratum (Plot size: 0.01 acre)			
1. *Salix exigua*	45	✓	FACW
2. *Cornus sericea*	3		FACW
3.			
4.			
5.			
	48	= Total Cover	
Herb Stratum (Plot size: 0.01 acre)			
1. *Phalaris arundinacea*	25	✓	FACW
2. *Equisetum arvense*	5		FAC
3. *Carex utriculata*	1		OBL
4. *Epilobium ciliatum*	1		FACW
5. *Geum macrophyllum*	1		FACW
6. *Mentha arvensis*	1		FACW
7. *Polygonum amphibium*	1		OBL
8. *Veronica americana*	1		OBL
9. *Mimulus guttatus*	0.5		OBL
10. *Tanacetum vulgare*	0.5		FACU
11.			
	37	= Total Cover	
Vine Stratum (Plot size: 0.01 acre)			
1. *Solanum dulcamara*	5	✓	FACU
2.			
	5	= Total Cover	

% Bare Ground in Herb Stratum 40

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL Species	3.5	x 1 =	3.5
FACW Species	76	x 2 =	152
FAC Species	5	x 3 =	15
FACU Species	5.5	x 4 =	22
UPL Species		x 5 =	
Column Totals	90 (A)		192.5 (B)

Prevalence Index (B/A) = 2.14

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☑ 2 – Dominance Test is >50%
- ☑ 3 – Prevalence Index is ≤3.0[1]
- ☐ 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 – Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: % Bare ground is actually rock cover. Pockets of soil and wetland vegetation in shelves of bedrock.

SOIL

Sampling Point: CFB_W1_W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 3	10 YR 2/1	100					OM	Humic

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☑ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 3

Hydric Soil Present? Yes ✓ **No** ____

Remarks: Wetland is series of pockets and rivulets with no soil development. Vegetation grows from rock cracks and pockets.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ✓ No ____ Depth (inches): 3

Water Table Present? Yes ____ No ✓ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): ____

Wetland Hydrology Present? Yes ✓ **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Water flowing over rock pockets and collecting in concave rock features.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Alberton BRR | City/County: Alberton/Mineral | Sampling Date: 8/31/2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: CFB_W1_U

Investigator(s): P. Christensen | Section, Township, Range: S32, T15N, R24W

Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): concave | Slope (%): 10

Subregion (LRR): E | Lat: 47.019268 | Long: -114.658162 | Datum: WGS84

Soil Map Unit Name: Hf1 | NWI Classification: UPL

Are climatic/hydrologic conditions on the site typical for this time of year? Yes _____ No ✓ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks: Upland plot. Climatic conditions are very dry in 2021.

Photos: PC957 Associated Plot(s): CFB_W1_W

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: n/a)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Shrub Stratum (Plot size: 0.01 acre)			
1. *Salix exigua*	36	✓	FACW
2.			
3.			
4.			
5.			
	36 = Total Cover		
Herb Stratum (Plot size: 0.01 acre)			
1. *Toxicodendron rydbergii*	25	✓	FACU
2. *Tanacetum vulgare*	10	✓	FACU
3. *Bromus inermis*	5		UPL
4. *Equisetum arvense*	5		FAC
5. *Solidago gigantea*	2		FACW
6. *Carex utriculata*	1		OBL
7. *Phalaris arundinacea*	1		FACW
8.			
9.			
10.			
11.			
	49 = Total Cover		
Vine Stratum (Plot size: n/a)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 50

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL Species	1	x 1 =	1
FACW Species	39	x 2 =	78
FAC Species	5	x 3 =	15
FACU Species	35	x 4 =	140
UPL Species	5	x 5 =	25
Column Totals	85 (A)		259 (B)

Prevalence Index (B/A) = 3.05

Hydrophytic Vegetation Indicators:

- ☐ 1 – Rapid Test for Hydrophytic Vegetation
- ☐ 2 – Dominance Test is >50%
- ☐ 3 – Prevalence Index is ≤3.0[1]
- ☐ 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 – Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: CFB_W1_U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 3								Rock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Bedrock

Depth (inches): 3

Hydric Soil Present? Yes ____ No ✓

Remarks: Vegetation growing from cracks in the rock. No soil development.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) **(LRR A)**
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) **(LRR A)**
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): ____

Water Table Present? Yes ____ No ✓ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No ✓ Depth (inches): ____ **Wetland Hydrology Present? Yes ____ No ✓**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology indicators.

Wetland Plot: CFB_W1_W

Upland Plot: CFB_W1_U

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: I-90 West Alberton Bridge Replacements **2. MDT Project #:** UPN9786000 **Control #:** NHPB 90-1(239)65

3. Evaluation Date: 08/31/2021 **4. Evaluator(s):** C. Baker, L. Osborne **5. Wetlands/Site #(s):** CFB_W1

6. Wetland Location(s): i. Legal: T15N,R24W,NW 1/4 of Section 32

Latitude/Longitude: 47.019268, -114.658162

iii. Watershed: 17010204

ii. Approx. Stationing or Mileposts: I-90 West RP 66.3

Watershed Name, County: Lower Clark Fork, Mineral

7. a. Evaluating Agency: MDOT

b. Purpose of Evaluation:

1. X Wetlands potentially affected by MDT project
2. __ Mitigation wetlands; pre-construction
3. __ Mitigation wetlands; post-construction
4. __ Other:

8. Wetland size: 0.030 acres (measured)

9. Assessment area (AA): 0.030 acres (measured)

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Brinson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
S	SS	NA	PP	100.00

Abbreviations: *(see manual for definitions)*

HGM Classes: Riverine (**R**), Depressional (**D**), Slope (**S**), Mineral Soil Flats (**MSF**), Organic Soil Flats (**OSF**), Lacustrine Fringe (**LF**);

Cowardin Classes: Rock Bottom (**RB**), Unconsolidated bottom (**UB**), Aquatic Bed (**AB**), Unconsolidated Shore (**US**), Moss-lichen Wetland (**ML**), Emergent Wetland (**EM**), Scrub-Shrub Wetland (**SS**), Forested Wetland (**FO**)

Modifiers: Excavated (**E**), Impounded (**I**), Diked (**D**), Partly Drained (**PD**), Farmed (**F**), Artificial (**A**)

Water Regimes: Permanent / Perennial (**PP**), Seasonal / Intermittent (**SI**), Temporary / Ephemeral (**TE**)

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions)

COMMON

12. General condition of AA:

i. Disturbance: (use matrix below to determine [circle] appropriate response – see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (**ANVS**) list)

Conditions within AA	*Predominant conditions adjacent to (within 500 feet of) AA*		
	Managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or buildings; and noxious weed or ANVS cover is >=15%.	Land not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains few roads or buildings; noxious weed or ANVS cover is <= 30%.	Land cultivated or heavily grazed or logged; subject to substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is > 30%.
AA occurs and is managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or ANVS cover is <= 15%.	low disturbance	low disturbance	moderate disturbance
AA not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to relatively minor clearing, fill placement, or hydrological alteration; contains few roads or buildings; noxious weed or ANVS cover is <=	moderate disturbance	moderate disturbance	high disturbance
AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is > 30%.	high disturbance	high disturbance	**high disturbance**

Comments: (types of disturbance, intensity, season, etc.): Wetland is located directly underneath the westbound lane of I-90 on slopes below the highway and above the OHWM boundary. Wetland appears to receive perennial groundwater flows although the site is located on bedrock slopes and does not provide water or sediment retention.

ii. Prominent noxious, aquatic nuisance, & other exotic vegetation species: The wetland does not contain listed noxious weeds. Reed canary grass is the dominant species of herbaceous vegetation and is listed by Montana Natural Heritage Program as a non-native species.

iii. Provide brief descriptive summary of AA and surrounding land use/habitat: The lands surrounding the wetland were previously disturbed, likely during grading for interstate construction. The adjacent lands contain several introduced vegetation species and listed noxious weeds as well as areas of bare soil or rock.

13. Structural Diversity: (based on number of "Cowardin" ***vegetated*** classes present [do not include unvegetated classes], see #10 above)

Existing # of "Cowardin" Vegetated Classes in AA	**Initial Rating**	**Is current management preventing (passive) existence of additional vegetated classes?**		**Modified Rating**
>= 3 (or 2 if 1 is forested) classes	H	NA	NA	NA
2 (or 1 if forested) classes	**M**	NA	NA	NA
1 class, but not a monoculture	M	<-- NO	YES -->	L
1 class, monoculture (1 species comprises >= 90% of total cover)	L	NA	NA	NA

Comments: Wetland consists of a willow overstory with grasses and forbs in the understory. The site also consists of 40 percent exposed bedrock.

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals:

i. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):

Primary or critical habitat (**list species**)
Secondary habitat (**list species**)
Incidental habitat (**list species**)
No usable habitat S

ii. Rating (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating)

Highest Habitat Level	*doc/primary*	*sus/primary*	*doc/secondary*	*sus/secondary*	*doc/incidental*	*sus/incidental*	*None*
Functional Points and Rating	1H	.9H	.8H	.7H	.3L	.1L	**0L**

Sources for documented use (e.g. observations, records, etc): No evidence of sensitive species was observed at the during the site surveys. Based on the small size of the wetland and it's location underneath an interstate it is unlikely that wetland provides suitable habitat for sensitive species.

14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in14A above)

i. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):

Primary or critical habitat (**list species**)
Secondary habitat (**list species**)
Incidental habitat (**list species**)
No usable habitat S

ii. Rating (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating)

Highest Habitat Level	*doc/primary*	*sus/primary*	*doc/secondary*	*sus/secondary*	*doc/incidental*	*sus/incidental*	*None*
***S1 Species:** Functional Points and Rating*	1H	.8H	.7H	.6H	.2L	.1L	0L
***S2 and S3 Species:** Functional Points and Rating*	.9H	.7H	.6H	.5H	.2L	.1L	**0L**

Sources for documented use (e.g. observations, records, etc): No evidence of sensitive species was observed at the during the site surveys. The small size and location of the wetland would likely preclude the use of the wetland by sensitive species.

14C. General Wildlife Habitat Rating:

i. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):

Substantial (based on any of the following [check]):
__ observations of abundant wildlife #s or high species diversity (during any period)
__ abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
__ presence of extremely limiting habitat features not available in the surrounding area
__ interviews with local biologists with knowledge of the AA

Minimal (based on any of the following [check]):
__ few or no wildlife observations during peak use periods
X little to no wildlife sign
X sparse adjacent upland food sources
__ interviews with local biologists with knowledge of the AA

Moderate (based on any of the following [check]):
__ observations of scattered wildlife groups or individuals or relatively few species during peak periods
__ common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
__ adequate adjacent upland food sources
__ interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other interms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of these terms])

Structural diversity (see #13)	High								Moderate								Low			
Class cover distribution (all vegetated classes)	Even				Uneven				Even				Uneven				Even			
Duration of surface water in >=10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
Low disturbance at AA (see #12i)	E	E	E	H	E	E	H	H	E	H	H	M	E	H	M	M	E	H	M	M
Moderate disturbance at AA (see #12i)	H	H	H	H	H	H	H	M	H	H	M	M	H	M	M	L	H	M	L	L
High disturbance at AA (see #12i)	M	M	M	L	M	M	L	L	**M**	M	L	L	M	L	L	L	L	L	L	L

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating)

Evidence of wildlife use (i)	*Wildlife habitat features rating (ii)*			
	Exceptional	High	Moderate	Moderate
Substantial	1E	.9H	.8H	.7M
Moderate	.9H	.7M	.5M	.3L
Minimal	.6M	.4M	**.2L**	.1L

Comments: The wetland consists of extremely shallow, small pockets that temporarily contain groundwater flow. Overall vegetative cover at the site is sparse and ongoing disturbances in the area are frequent. All of these factors would limit use of the area by wildlife and limit the establishment of sensitive plant species.

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then mark **X** **NA** and proceed to 14E.)

Type of Fishery: Cold Water **(CW)** **X** Warm Water **(WW)** ___ **Use the CW or WW guidelines in the user manual to complete the matrix**

i. Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [circle] the functional points and rating)

Duration of surface water in AA	Permanent / Perennial						Seasonal / Intermittent						Temporary / Ephemeral					
Aquatic hiding / resting / escape cover	Optimal		Adequate		Poor		Optimal		Adequate		Poor		Optimal		Adequate		Poor	
Thermal cover optimal / suboptimal	O	S	O	S	O	S	O	S	O	S	O	S	O	S	O	S	O	S
FWP Tier I fish species	1E	.9H	.8H	.7M	.6M	.5M	.9H	.8H	.7M	.6M	.5M	.4M	.7M	.6M	.5M	.4M	.3L	.2L
FWP Tier II or Native Game fish species	.9H	.8H	.7M	.6M	.5M	.5M	.8H	.7M	.6M	.5M	.4M	.4M	.6M	.5M	.4M	.3L	.2L	.2L
FWP Tier III or Introduced Game fish	.8H	.7M	.6M	.5M	.5M	.4M	.7M	.6M	.5M	.4M	.4M	.3L	.5M	.4M	.3L	.2L	.2L	.1L
FWP Non-Game Tier IV or No fish species	.5M	.5M	.5M	.4M	.4M	.3L	.4M	.4M	.4M	.3L	.3L	.2L	.2L	.2L	.2L	.1L	.1L	.1L

Sources used for identifying fish sp. potentially found in AA:

ii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1)

a) Is fish use of the AA significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? ___ *If yes, reduce score in i above by 0.1.*

b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for native fish or introduced game fish? ___ *If yes, add 0.1 to the adjusted score in **i** or **iia.***

iii. Final Score and Rating: NA **Comments:** Fish habitat is not present in the wetland.

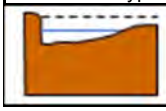
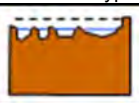
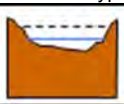
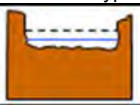
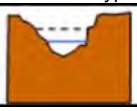
14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, mark **X** **NA** and proceed to 14F.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

Estimated or Calculated Entrenchment (Rosgen 1994, 1996)	Slightly entrenched - C, D, E stream types			Moderately entrenched – B stream type			Entrenched-A, F, G stream types		
% of flooded wetland classified as forested and/or scrub/shrub	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%
AA contains **no outlet or restricted outlet**	1H	.9H	.6M	.8H	.7M	.5M	.4M	.3L	.2L
AA contains **unrestricted outlet**	.9H	.8H	.5M	.7M	.6M	.4M	.3L	.2L	.1L

Entrenchment ratio (ER) estimation – see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.

/	=	
Flood-prone width	*Bankfull width*	*Entrenchment ratio (ER)*

Slightly Entrenched ER = >2.2			**Moderately Entrenched ER = 1.41 – 2.2**	**Entrenched ER = 1.0 – 1.4**		
C stream type	D stream type	E stream type	B stream type	A stream type	F stream type	G stream type
						

ii. Are ≥10 acres of wetland in the AA subject to flooding **AND** are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (circle)? ___ **Comments:** The wetland hydrology is not typically influenced by in-channel or overbank flows. It is possible that the wetland could be flooded during extreme flood events, but the site would not retain any significant quantity of water due to the location on a sloping bedrock outcrop.

14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, mark **X NA** and proceed to 14G.)

i. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding	>5 acre feet			1.1 to 5 acre feet			<=1 acre foot		
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E
Wetlands in AA flood or pond **>= 5 out of 10 years**	1H	.9H	.8H	.8H	.6M	.5M	.4M	.3L	.2L
Wetlands in AA flood or pond **< 5 out of 10 years**	.9H	.8H	.7M	.7M	.5M	.4M	.3L	.2L	.1L

Comments: Site would not be subject to flooding or ponding due to the location of the wetland on a sloping bedrock outcrop.

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, mark **NA** and proceed to 14H.)

i. Rating

Sediment, nutrient, and toxicant input levels within AA	AA receives or surrounding land use with potential to deliver levels of sediments, nutrients, or compounds at levels such that other functions are not substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				Waterbody on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use with potential to deliver high levels of sediments, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.			
% cover of wetland vegetation in AA	>= 70%		< 70%		>= 70%		< 70%	
Evidence of flooding / ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No
AA contains **no or restricted outlet**	1H	.8H	.7M	.5M	.5M	.4M	.3L	.2L
AA contains **unrestricted outlet**	.9H	.7M	.6M	.4M	.4M	**.3L**	.2L	.1L

Comments: The site could receive substantial inputs from overland flows and runoff from the nearby paved highways.

14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, mark **NA** and proceed to 14I.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

*% Cover of **wetland** streambank or shoreline by species with stability ratings of >=6 (see **Appendix F**).*	*Duration of surface water adjacent to rooted vegetation*		
	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral
>= 65%	**1H**	.9H	.7M
35-64%	.7M	.6M	.5M
35%	.3L	.2L	.1L

Comments: Although the site contains perennial vegetation these species do not contribute to the stability of the site since the substrate at the site is bedrock. The wetland is located on a vertical bedrock cliff above the ordinary high water mark of the river.

14I. Production Export/Food Chain Support:

i. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [circle])

General Fish Habitat Rating (14D.iii.)	**General Wildlife Habitat Rating (14C.iii.)**		
	E/H	M	L
E/H	H	H	M
M	H	M	M
L	M	M	L
N/A	H	M	**L**

ii. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = acreage of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (14I.i.); Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P, S/I, and T/E are as previously defined, and A = "absent" [see instructions for further definitions of these terms].)

A	Vegetated component >5 acres						Vegetated component 1-5 acres						Vegetated component < 1 acre					
B	High		Moderate		Low		High		Moderate		Low		High		Moderate		Low	
C	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
P/P	1H	.7M	.8H	.5M	.6M	.4M	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.6M	.6M	.4M	**.3L**	.2L
S/I	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.5M	.5M	.3L	.3L	.2L
T/E/A	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L	.2L	.1L

iii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) **Vegetated Upland Buffer (VUB):** Area with >= 30% plant cover, = 15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless for weed control).

a) Is there an average >= 50 foot-wide vegetated upland buffer around >= 75% of the AA circumference? ___ If yes, add 0.1 to the score in ii above.

iv. Final Score and Rating: **0.30L** **Comments:** The ecological production of the wetland is limited by the lack of soil within the wetland, the short duration flow-through nature of the hydrology, and the minimal potential for water retention.

14J. Groundwater Discharge/Recharge: (check the appropriate indicators in i & ii below)

	i. Discharge Indicators
X	The AA is a slope wetland
X	Springs or seeps are known or observed
X	Vegetation growing during dormant season/drought
X	Wetland occurs at the toe of a natural slope
X	AA permanently flooded during drought periods
	Wetland contains an outlet, but no inlet
	Shallow water table and the site is saturated to the surface
	Other:

ii. Recharge Indicators
Permeable substrate present without underlying impeding layer
Wetland contains inlet but no outlet
Stream is a known 'losing' stream; discharge volume decreases
Other:

iii. Rating (use the information from i and ii above and the table below to arrive at [circle] the functional points and rating)

	Duration of saturation at AA Wetlands *FROM GROUNDWATER DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM*			
Criteria	P/P	S/I	T	None
Groundwater Discharge or Recharge	**1H**	.7M	.4M	.1L
Insufficient Data/Information	N/A			

Comments: Wetland formed as a result of groundwater discharge at the lithic contact between bedrock and overlying sediments.

14K. Uniqueness:

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

Replacement potential	AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland **or** plant association listed as "S1" by the MTNHP			AA does not contain previously cited rare types **and** structural diversity (#13) is high **or** contains plant association listed as "S2" by the MTNHP			AA does not contain previously cited rare types or associations **and** structural diversity (#13) is low-moderate		
Estimated relative abundance (#11)	rare	common	abundant	rare	common	abundant	rare	common	abundant
Low disturbance at AA (#12i)	1H	.9H	.8H	.8H	.6M	.5M	.5M	.4M	.3L
Moderate disturbance at AA (#12i)	.9H	.8H	.7M	.7M	.5M	.4M	.4M	.3L	.2L
High disturbance at AA (#12i)	.8H	.7M	.6M	.6M	.4M	.3L	.3L	**.2L**	.1L

14L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity)

i. Is the AA a known or potential rec./ed. site: (circle) ___ (if 'Yes' continue with the evaluation; if 'No' then mark **X** **NA** and proceed to the overall summary and rating page)

ii. Check categories that apply to the AA: ___Educational/scientific study; ___Consumptive rec.; ___Non-consumptive rec.; ___Other :

iii. Rating (use the matrix below to arrive at [circle] the functional points and rating)

Known or Potential Recreation or Education Area	Known	Potential
Public ownership or public easement with general public access (no permission required)	.2H	.15H
Private ownership with general public access (no permission required)	.15H	.1M
Private or public ownership without general public access, or requiring permission for public access	.1M	.05L

Comments: The wetland site does not provide recreational or education potential due to the location on a rock cliff underneath the interstate bridge.

General Site Notes

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): CFB_W1

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0.00	1	0.00	
B. MT Natural Heritage Program Species Habitat	L	0.00	1	0.00	
C. General Wildlife Habitat	L	0.20	1	0.01	
D. General Fish Habitat	NA				
E. Flood Attenuation	NA				
F. Short and Long Term Surface Water Storage	NA				
G. Sediment/Nutrient/Toxicant Removal	L	0.30	1	0.01	*
H. Sediment/Shoreline Stabilization	H	1.00	1	0.03	*
I. Production Export/Food Chain Support	L	0.30	1	0.01	*
J. Groundwater Discharge/Recharge	H	1.00	1	0.03	*
K. Uniqueness	L	0.20	1	0.01	
L. Recreation/Education Potential (bonus points)	NA				
Totals:		3.00	8.00	0.00	
Percent of Possible Score			38%		

Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II)
- ____ Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; **or**
- ____ Score of 1 functional point for Uniqueness; **or**
- ____ Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; **or**
- ____ Percent of possible score > 80% (round to nearest whole #).

Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV)
- ____ Score of 1 functional point for MT Natural Heritage Program Species Habitat; **or**
- ____ Score of .9 or 1 functional point for General Wildlife Habitat; **or**
- ____ Score of .9 or 1 functional point for General Fish Habitat; **or**
- ____ "High" to "Exceptional" ratings for **both** General Wildlife Habitat **and** General Fish/Aquatic Habitat; **or**
- ____ Score of .9 functional point for Uniqueness; **or**
- ____ Percent of possible score > 65% (round to nearest whole #).

Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)

Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III)
- **X** "Low" rating for Uniqueness; **and**
- **X** Vegetated wetland component 1 acre (do not include upland vegetated buffer); **and**
- ____ Percent of possible score 35% (round to nearest whole #).

OVERALL ANALYSIS AREA RATING: III

Summary Comments: The site is a marginal wetland feature that is not unlike many of the other areas along the rocky cliffs of the floodplain. The reason for delineating this wetland was the presence of the seep and shallow groundwater in some eroded rock pockets.

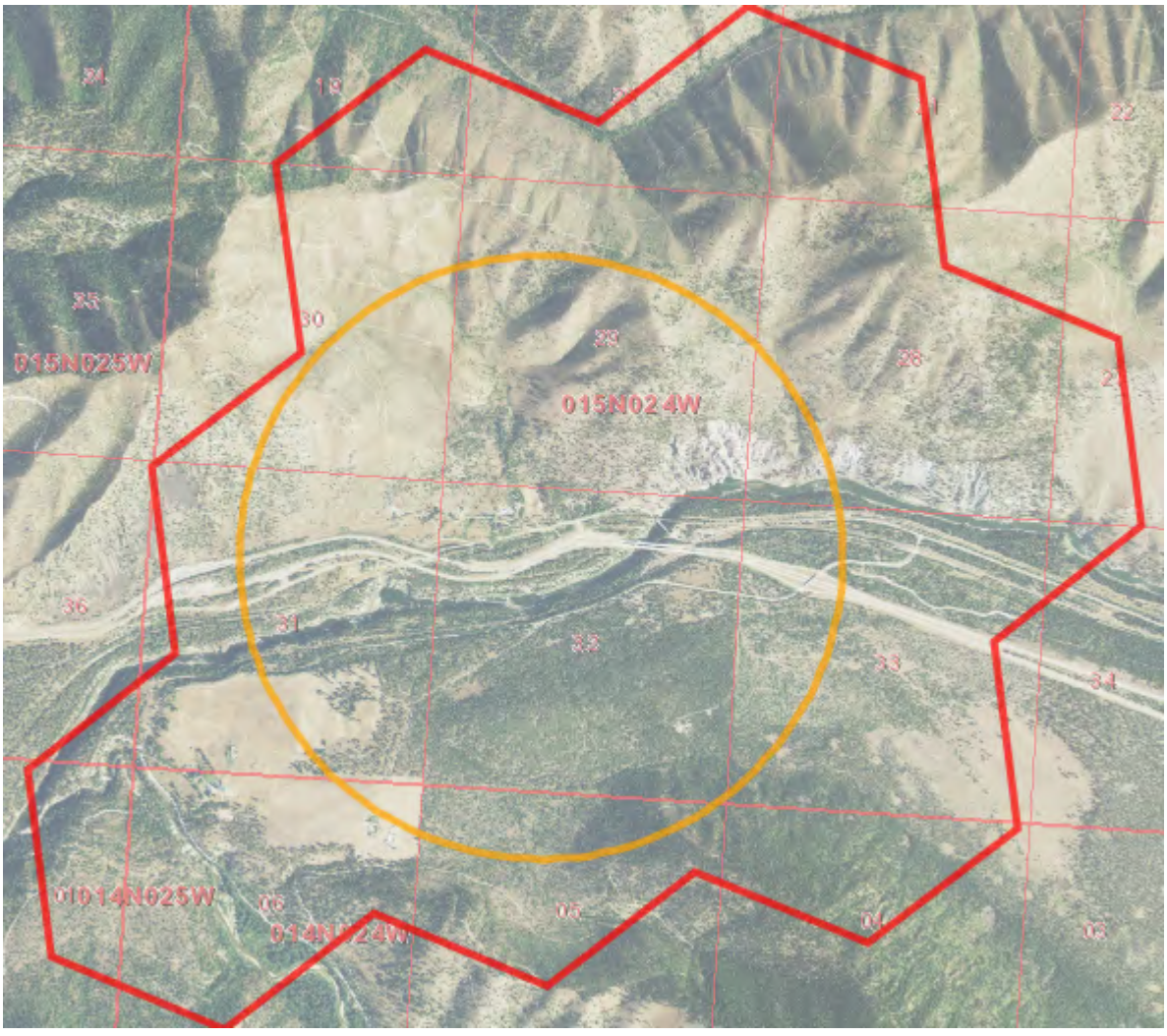
Appendix A: Montana Natural Heritage Program - Environmental Summaries for Alberton Bridges Projects

Environmental Summary

MONTANA
Natural Heritage Program
1515 East 6th Avenue
Helena, MT 59620
(406) 444-5363
mtnhp.org

Latitude	Longitude
46.99417	-114.62596
47.04637	-114.69882

Summarized by:
21MDT0011 Mile65Bridges
(Custom Area of Interest)



Suggested Citation
Montana Natural Heritage Program. Environmental Summary Report.
for Latitude 46.99417 to 47.04637 and Longitude -114.62596 to -114.69882. Retrieved on 3/25/2021.

Table of Contents

Introduction to Environmental Summary Report

The Environmental Summary report for your area of interest consists of introductory and related materials in this PDF and an Excel workbook with worksheets summarizing information managed in the Montana Natural Heritage Program's (MTNHP) databases for: (1) species occurrences; (2) other observed species without Species Occurrences; (3) other species potentially present based on their range, presence of associated habitats, or predictive distribution model output if available; (4) structured surveys (organized efforts following a protocol capable of detecting one or more species); (5) land cover mapped as ecological systems; (6) wetland and riparian mapping; (7) land management categories; and (8) biological reports associated with plant and animal observations. In order to do this in a consistent manner across Montana and allow for rapid delivery of summaries, we have intersected this information with a uniform grid of hexagons that have been used for planning efforts across the western United States (e.g. Western Association of Fish and Wildlife Agencies - Crucial Habitat Assessment Tool). Each hexagon is one square mile in area and approximately one kilometer in length on each side. Summary information for each data layer is then stored with each hexagon and those summaries are added up to an overall summary for the report area you have requested. Users should be aware that summaries do not correspond to the exact boundaries of the polygon they have specified, but instead are a summary across all hexagons intersected by the polygon they specified.

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

MONTANA Natural Heritage Program

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

Legend

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

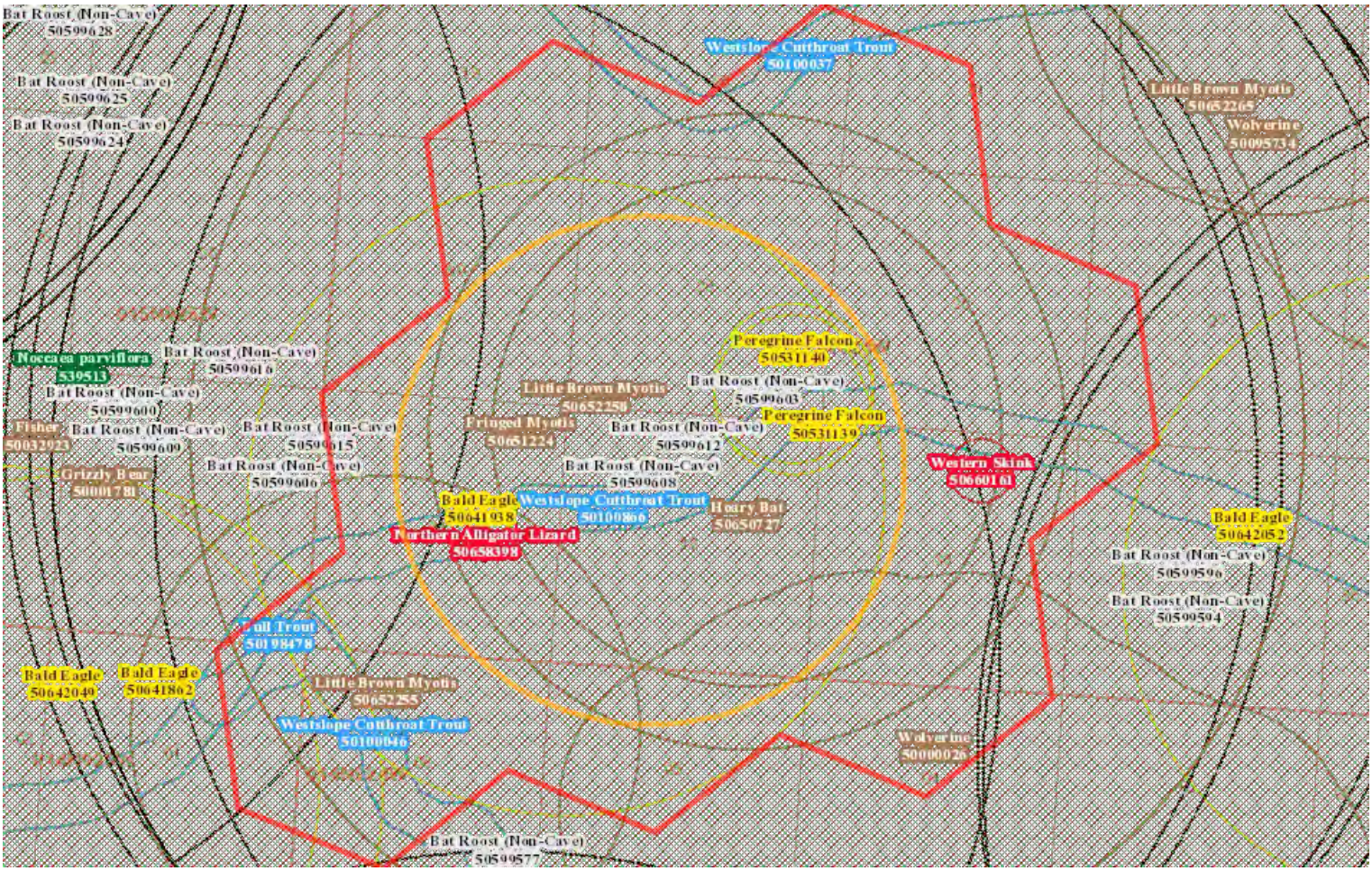
Latitude	Longitude
46.99417	-114.62596
47.04637	-114.69882

Native Species

Summarized by: **21MDT0011 Mile65Bridges** *(Custom Area of Interest)*

Filtered by:

MT_Status='Species of Concern', 'Special Status', 'Important Animal Habitat', 'Potential SOC'



Species Occurrences

	USFWS Sec7	# SO	# Obs	Predictive Model	Associated Habitat	Range
F - Westslope Cutthroat Trout *(Oncorhynchus clarkii lewisi)* SOC		3	1 +		Not Assigned	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 on Forests (BD, BRT, CG, HLC, KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN2**

Delineation Criteria Stream reaches and standing water bodies where the species presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a fisheries biologist due to confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Sep 15, 2020)

Predictive Models: N 88% Suitable (native range) (deductive)

	USFWS Sec7	# SO	# Obs	Predictive Model	Associated Habitat	Range
F - Bull Trout *(Salvelinus confluentus)* SOC	7	1	+		Not Assigned	Y

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

Species of Concern - Native Species Global: **G5** State: **S2** USFWS: **LT; CH**

USFS: **Threatened, Critical Habitat on Forests (BD, BRT, HLC, KOOT, LOLO)** 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 30, 2018)

Predictive Models: N 63% Suitable (native range) (deductive)

B - Bald Eagle *(Haliaeetus leucocephalus)* **SSS** 3 1 + Y

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

Special Status Species - Native Species Global: **G5** State: **S4** USFWS: **DM; BGEPA; MBTA; BCC10; BCC11; BCC17**
USFS: **Sensitive - Known on Forests (BD, BRT, CG, HLC, KOOT, LOLO)** BLM: **SENSITIVE** PIF: **2**

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 and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 17, 2020)

Predictive Models: O 12% Optimal (inductive), M 63% Moderate (inductive), L 25% Low (inductive)
Associated Habitats: C 32% Common, O 24% Occasional

B - Peregrine Falcon *(Falco peregrinus)* **SOC** 2 10 Y

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

Species of Concern - Native Species Global: **G4** State: **S3** USFWS: **DM; MBTA; BCC10; BCC11; BCC17**
USFS: **Sensitive - Known on Forests (BD, BRT, CG, HLC, KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 500 meters in order to encompass the area around the nest known to be defended by adults as well as the minimum distance reported between nests. Otherwise the nest area is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jun 28, 2019)

Predictive Models: O 12% Optimal (inductive), M 38% Moderate (inductive), L 50% Low (inductive)
Associated Habitats: C 29% Common, O 5% Occasional

M - Fringed Myotis *(Myotis thysanodes)* **SOC** 1 3 Y

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

Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

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 10,000 meters. When cave locations are involved, point observations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 2,000 meters and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Dec 18, 2020)

Predictive Models: M 88% Moderate (inductive), L 12% Low (inductive) **Associated Habitats:** C 86% Common, O 10% Occasional

R - Northern Alligator Lizard *(Elgaria coerulea)* **SOC** 1 1 Y

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

Species of Concern - Native Species Global: **G5** State: **S3** 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 200 meters in order to encompass habitats supporting other individuals and probable maximum home range sizes. 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: Dec 23, 2020)

Predictive Models: M 75% Moderate (inductive), L 25% Low (inductive) **Associated Habitats:** C 67% Common, O 25% Occasional

R - Western Skink *(Plestiodon skiltonianus)* **SOC** 1 1 Y

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

Species of Concern - Native Species Global: **G5** State: **S3** 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 200 meters in order to encompass habitats supporting other individuals in adjacent territories. 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: Dec 23, 2020)

Predictive Models: M 63% Moderate (inductive), L 37% Low (inductive) **Associated Habitats:** C 58% Common, O 32% Occasional

M - Hoary Bat *(Lasiurus cinereus)* **SOC** 1 1 S M

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

Species of Concern - Native Species Global: **G3G4** 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 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 10,000 meters. (Last Updated: Dec 18, 2020)

Predictive Models: M 50% Moderate (inductive), L 50% Low (inductive) **Associated Habitats:** C 90% Common, O 6% Occasional

M - Little Brown Myotis *(Myotis lucifugus)* **SOC** 2 2 Y

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

Species of Concern - Native Species Global: **G3** State: **S3** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, or definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a distance of 1,600 meters in order to encompass the greater than 1,500 meters foraging distance reported for the species in New Brunswick, Canada and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. When cave locations are involved, point observations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 1,600 meters and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Dec 23, 2020)

Predictive Models: M 37% Moderate (inductive), L 50% Low (inductive) **Associated Habitats:** C 93% Common, O 7% Occasional

M - Grizzly Bear *(Ursus arctos)* **SOC** 7 1 Y

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

Species of Concern - Native Species Global: **G4** State: **S2S3** USFWS: **PS: LT; XN** USFS: **Threatened on Forests (BD, CG, HLC, KOOT, LOLO)** 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 29, 2020)

Predictive Models: L 100% Low (inductive) **Associated Habitats:** C 64% Common, O 27% Occasional

M - Fisher *(Pekania pennanti)* SOC | 1 | + | Y

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

Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Sensitive - Known on Forests (BD, BRT, HLC, KOOT, 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: Aug 27, 2014)

Predictive Models: L 75% Low (inductive) **Associated Habitats:** C 29% Common, O 4% Occasional

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

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

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

Delineation Criteria Confirmed area of occupancy supported by recent (post-1980), nearby (within 10 kilometers) observations of adults or juveniles. Tracking regions were defined by areas of primary habitat and adjacent female dispersal habitat as modeled by Inman et al. (2013). These regions were buffered by 1 kilometer in order to link smaller areas and account for potential inaccuracies in independent variables used in the model. (Last Updated: Dec 29, 2020)

Predictive Models: L 12% Low (inductive) **Associated Habitats:** C 30% Common, O 34% Occasional

V - Noccaea parviflora *(Small-flowered Pennycress)* SOC | 1 | Not Available

View in Field Guide View Associated Habitat

Species of Concern - Native Species Global: **G3** State: **S3** MNPS: **3**

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)

Associated Habitats: C 1% Common

O - Bat Roost (Non-Cave) *(Bat Roost (Non-Cave))* IAH | 11 | Not Available | Not Assigned

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)

Legend

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

Latitude	Longitude
46.99417	-114.62596
47.04637	-114.69882

Native Species

Summarized by: **21MDT0011 Mile65Bridges** *(Custom Area of Interest)*
Filtered by:
MT_Status='Species of Concern', 'Special Status', 'Important Animal Habitat', 'Potential SOC'

Other Observed Species

	USFWS Sec7	# Obs	Predictive Model	Associated Habitat	Range
M - Long-eared Myotis *(Myotis evotis)* SOC		2			Y
M - Silver-haired Bat *(Lasionycteris noctivagans)* PSOC		5			Y
M - Canada Lynx *(Lynx canadensis)* SOC	7	+			Y
B - Great Blue Heron *(Ardea herodias)* SOC		1			Y S M
B - Ferruginous Hawk *(Buteo regalis)* SOC		+	Not Available		M

View in Field Guide **View Predicted Models** **View Associated Habitat** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S3**
Predictive Models: M 63% Moderate (inductive), L 37% Low (inductive) **Associated Habitats:** C 87% Common, O 9% Occasional

View in Field Guide **View Predicted Models** **View Associated Habitat** **View Range Maps**
Potential Species of Concern - Native Species Global: **G3G4** State: **S4**
Predictive Models: M 50% Moderate (inductive), L 50% Low (inductive) **Associated Habitats:** C 92% Common, O 3% Occasional

View in Field Guide **View Predicted Models** **View Associated Habitat** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **LT; CH** USFS: **Threatened on Forests (BD, BRT)** **Threatened, Critical Habitat on Forests (CG, HLC, KOOT, LOLO)**
BLM: **THREATENED** FWP SWAP: **SGCN3**
Predictive Models: L 100% Low (inductive) **Associated Habitats:** C 33% Common, O 34% Occasional

View in Field Guide **View Predicted Models** **View Associated Habitat** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3**
Predictive Models: L 75% Low (inductive) **Associated Habitats:** C 1% Common

View in Field Guide **View Associated Habitat** **View Range Maps**
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC10; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Associated Habitats: C 29% Common

Legend

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

Latitude	Longitude
46.99417	-114.62596
47.04637	-114.69882

Native Species

Summarized by: **21MDT0011 Mile65Bridges** *(Custom Area of Interest)*
Filtered by:
MT_Status='Species of Concern', 'Special Status', 'Important Animal Habitat', 'Potential SOC'

Other Potential Species

	USFWS Sec7	Predictive Model	Associated Habitat	Range
V - Carex scoparia *(Pointed Broom Sedge)* SOC			Not Assigned	Y
B - Black-backed Woodpecker *(Picoides arcticus)* SOC				Y
B - Rufous Hummingbird *(Selasphorus rufus)* PSOC				S M
B - Evening Grosbeak *(Coccothraustes vespertinus)* SOC				Y W M
B - Cassin's Finch *(Haemorhous cassinii)* SOC				Y
B - Western Screech-Owl *(Megascops kennicottii)* PSOC				Y
B - Lewis's Woodpecker *(Melanerpes lewis)* SOC				S M
B - Veery *(Catharus fuscescens)* SOC				S M
V - Impatiens aurella *(Pale-yellow Jewel-weed)* SOC			Not Assigned	Y
M - Townsend's Big-eared Bat *(Corynorhinus townsendii)* SOC				Y
B - Pileated Woodpecker *(Dryocopus pileatus)* SOC				Y

V - Carex scoparia *(Pointed Broom Sedge)* SOC

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

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

Predictive Models: O 12% Optimal (inductive), M 88% Moderate (inductive)

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

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

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA**
USFS: **Sensitive - Known on Forests (BD, BRT, CG, HLC, KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

Predictive Models: O 12% Optimal (inductive), M 25% Moderate (inductive), L 63% Low (inductive) **Associated Habitats:** C 58% Common

B - Rufous Hummingbird *(Selasphorus rufus)* PSOC

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

Potential Species of Concern - Native Species Global: **G4** State: **S4B** USFWS: **MBTA** PIF: **3**

Predictive Models: M 88% Moderate (inductive), L 12% Low (inductive) **Associated Habitats:** C 91% Common, O 1% Occasional

B - Evening Grosbeak *(Coccothraustes vespertinus)* SOC

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

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

Predictive Models: M 88% Moderate (inductive), L 12% Low (inductive) **Associated Habitats:** C 68% Common, O 1% Occasional

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

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

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

Predictive Models: M 88% Moderate (inductive), L 12% Low (inductive) **Associated Habitats:** C 38% Common

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

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

Potential Species of Concern - Native Species Global: **G4G5** State: **S3S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3**

Predictive Models: M 75% Moderate (inductive), L 25% Low (inductive) **Associated Habitats:** C 82% Common

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

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

Species of Concern - Native Species Global: **G4** State: **S2B** USFWS: **MBTA; BCC10; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **2**

Predictive Models: M 75% Moderate (inductive), L 25% Low (inductive) **Associated Habitats:** C 47% Common, O 12% Occasional

B - Veery *(Catharus fuscescens)* SOC

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

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

Predictive Models: M 75% Moderate (inductive), L 25% Low (inductive) **Associated Habitats:** C 1% Common, O 28% Occasional

V - Impatiens aurella *(Pale-yellow Jewel-weed)* SOC

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

Species of Concern - Native Species Global: **G4** State: **S3**

Predictive Models: M 75% Moderate (inductive)

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

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

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

Predictive Models: M 63% Moderate (inductive), L 37% Low (inductive) **Associated Habitats:** C 87% Common, O 6% Occasional

B - Pileated Woodpecker *(Dryocopus pileatus)* SOC

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **2**
Predictive Models: M 62% Moderate (inductive), L 38% Low (inductive) **Associated Habitats:** C 58% Common, O 4% Occasional

B - Flammulated Owl *(Psiloscops flammeolus)* SOC — S M

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC10**
USFS: **Sensitive - Known on Forests (BD, BRT, HLC, KOOT, LOLO)**
Sensitive - Suspected on Forests (CG)
Species of Conservation Concern on Forests (FLAT) BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**
Predictive Models: M 50% Moderate (inductive), L 50% Low (inductive) **Associated Habitats:** C 56% Common, O 6% Occasional

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **BGEPA; MBTA; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3**
Predictive Models: M 50% Moderate (inductive), L 50% Low (inductive) **Associated Habitats:** C 33% Common, O 27% Occasional

A - Coeur d'Alene Salamander *(Plethodon idahoensis)* SOC — Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2** USFS: **Sensitive - Known on Forests (BRT, KOOT, LOLO)** FWP SWAP: **SGCN2, SGIN**
Predictive Models: M 50% Moderate (inductive), L 37% Low (inductive) **Associated Habitats:** C 27% Common, O 2% Occasional

V - Eleocharis rostellata *(Beaked Spikerush)* SOC — Not Assigned — Y

View in Field Guide View Predicted Models View Range Maps
USFS: **Sensitive - Known on Forests (BD, CG, HLC)**
Species of Concern - Native Species Global: **G5** State: **S3** **Species of Conservation Concern on Forests (FLAT)** MNPS: **3**
Predictive Models: M 50% Moderate (inductive), L 25% Low (inductive)

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** USFS: **Species of Conservation Concern on Forests (FLAT)**
FWP SWAP: **SGCN3** PIF: **3**
Predictive Models: M 37% Moderate (inductive), L 63% Low (inductive) **Associated Habitats:** C 28% Common

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

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** USFS: **Sensitive - Known on Forests (KOOT)** MNPS: **3**
Predictive Models: M 37% Moderate (inductive), L 38% Low (inductive)

V - Allium acuminatum *(Tapertip Onion)* SOC — Not Assigned — Y

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2S3** USFS: **Sensitive - Known on Forests (BD, BRT, LOLO)**
Predictive Models: M 25% Moderate (inductive), L 62% Low (inductive)

V - Epipactis gigantea *(Giant Helleborine)* SOC — Not Assigned — Y

View in Field Guide View Predicted Models View Range Maps
USFS: **Sensitive - Known on Forests (BD, HLC, LOLO)**
Sensitive - Suspected on Forests (BRT, CG, KOOT)
Species of Concern - Native Species Global: **G4** State: **S2S3** **Species of Conservation Concern on Forests (FLAT)** MNPS: **2**
Predictive Models: M 13% Moderate (inductive), L 50% Low (inductive)

V - Stipa lettermanii *(Letterman's Needlegrass)* SOC — Not Assigned — Y

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S1S3**
Predictive Models: M 13% Moderate (inductive), L 50% Low (inductive)

V - Cypripedium fasciculatum *(Clustered Lady's-slipper)* SOC — Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
USFS: **Sensitive - Known on Forests (KOOT, LOLO)**
Species of Concern - Native Species Global: **G4** State: **S3** **Species of Conservation Concern on Forests (FLAT)** MNPS: **1**
Predictive Models: M 13% Moderate (inductive), L 38% Low (inductive) **Associated Habitats:** C 26% Common

V - Ligusticum verticillatum *(Idaho Lovage)* SOC — Not Assigned — Y

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G4G5** State: **S3**
Predictive Models: M 13% Moderate (inductive)

M - Yuma Myotis *(Myotis yumanensis)* SOC — Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** FWP SWAP: **SGIN**
Predictive Models: M 12% Moderate (inductive), L 88% Low (inductive) **Associated Habitats:** C 86% Common, O 9% Occasional

B - Black Swift *(Cypseloides niger)* SOC — S M

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4** State: **S1B** USFWS: **MBTA; BCC10** USFS: **Species of Conservation Concern on Forests (FLAT)** FWP SWAP: **SGCN1, SGIN** PIF: **2**
Predictive Models: M 12% Moderate (inductive), L 88% Low (inductive) **Associated Habitats:** C 3% Common

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **2**
Predictive Models: M 12% Moderate (inductive), L 63% Low (inductive) **Associated Habitats:** C 32% Common, O 27% Occasional

B - Hooded Merganser *(Lophodytes cucullatus)* **PSOC** Y M

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **2**
Predictive Models: M 12% Moderate (inductive), L 63% Low (inductive) **Associated Habitats:** C 2% Common

V - Botrychium hesperium *(Western Moonwort)* **SOC** Not Assigned Y

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known on Forests (BD, KOOT)** MNPS: **2**
Predictive Models: M 12% Moderate (inductive), L 63% Low (inductive)

V - Heterocodon rariflorum *(Western Pearl-flower)* **SOC** Not Assigned Y

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** USFS: **Sensitive - Known on Forests (BRT, KOOT, LOLO)** MNPS: **2**
Predictive Models: M 12% Moderate (inductive), L 50% Low (inductive)

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4G5** State: **S3**
Predictive Models: L 100% Low (inductive) **Associated Habitats:** C 86% Common, O 10% Occasional

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**
Predictive Models: L 100% Low (inductive) **Associated Habitats:** C 68% Common, O 1% Occasional

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4** FWP SWAP: **SGIN**
Predictive Models: L 100% Low (inductive) **Associated Habitats:** C 60% Common

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **2**
Predictive Models: L 100% Low (inductive) **Associated Habitats:** C 32% Common, O 1% Occasional

B - Brown Creeper *(Certhia americana)* **SOC** Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **1**
Predictive Models: L 100% Low (inductive) **Associated Habitats:** C 32% Common

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2** USFS: **Sensitive - Known on Forests (BD, BRT, CG, HLC, KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN2**
Predictive Models: L 75% Low (inductive) **Associated Habitats:** C 70% Common, O 23% Occasional

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN** PIF: **3**
Predictive Models: L 75% Low (inductive) **Associated Habitats:** C 56% Common, O 4% Occasional

V - Satureja douglasii *(Yerba Buena)* **SOC** Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3**
Predictive Models: L 75% Low (inductive) **Associated Habitats:** C 26% Common

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **2**
Predictive Models: L 75% Low (inductive) **Associated Habitats:** C 2% Common

V - Botrychium crenulatum *(Wavy Moonwort)* **SOC** Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known on Forests (BD, HLC, KOOT, LOLO)** MNPS: **2**
Predictive Models: L 63% Low (inductive) **Associated Habitats:** C 12% Common

V - Botrychium ascendens *(Upward-lobed Moonwort)* **SOC** Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G3** State: **S3** USFS: **Sensitive - Known on Forests (HLC, KOOT)** MNPS: **2**
Predictive Models: L 63% Low (inductive) **Associated Habitats:** C 10% Common

V - Ageratina occidentalis *(Western Joepye-weed)* **SOC** Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
USFS: **Sensitive - Known on Forests (BRT)**
Species of Concern - Native Species Global: **G4** State: **S2** **Sensitive - Suspected on Forests (BD, KOOT, LOLO)**
Predictive Models: L 63% Low (inductive) **Associated Habitats:** C 1% Common

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

View in Field Guide View Predicted Models View Range Maps
USFS: **Sensitive - Known on Forests (BRT, CG, KOOT)**
Sensitive - Suspected on Forests (LOLO)
Species of Concern - Native Species Global: **G5** State: **S2** **Species of Conservation Concern on Forests (FLAT)**
Predictive Models: L 63% Low (inductive)

V - Mimulus ampliatus *(Stalk-leaved Monkeyflower)* **SOC** Not Assigned Y

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G3** State: **S3** USFS: **Sensitive - Known on Forests (KOOT)**
Predictive Models: L 62% Low (inductive)

V - Athysanus pusillus *(Sandweed)* **SOC** Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
USFS: **Sensitive - Known on Forests (BRT)**
Species of Concern - Native Species Global: **G5** State: **S1S2** **Sensitive - Suspected on Forests (LOLO)** MNPS: **1**
Predictive Models: L 38% Low (inductive) **Associated Habitats:** C 26% Common

V - Penstemon flavescens *(Yellow Beardtongue)* **SOC** Not Assigned Y

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G3** State: **S3** MNPS: **3**
Predictive Models: L 38% Low (inductive)

B - Grimmia brittoniae *(Britton's Dry Rock Moss)* **SOC** Not Assigned Y

View in Field Guide View Predicted Models View Range Maps
USFS: **Sensitive - Known on Forests (KOOT, LOLO)**
Species of Concern - Native Species Global: **G2** State: **S2** **Species of Conservation Concern on Forests (FLAT)**
Predictive Models: L 38% Low (inductive)

B - Tennessee Warbler *(Leiothlypis peregrina)* **PSOC** S M

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4B** USFWS: **MBTA**
Predictive Models: L 37% Low (inductive) **Associated Habitats:** C 60% Common

V - Botrychium lanceolatum *(Lanceleaf Moonwort)* **SOC** Not Assigned Y

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3**
Predictive Models: L 37% Low (inductive)

V - Dryopteris cristata *(Crested Shieldfern)* **SOC** Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
USFS: **Sensitive - Known on Forests (BRT, KOOT, LOLO)**
Species of Concern - Native Species Global: **G5** State: **S3** **Species of Conservation Concern on Forests (FLAT)** MNPS: **3**
Predictive Models: L 25% Low (inductive) **Associated Habitats:** C 10% Common

B - American Bittern *(Botaurus lentiginosus)* **SOC** S M

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **3**
Predictive Models: L 25% Low (inductive) **Associated Habitats:** C 1% Common

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Predictive Models: L 25% Low (inductive) **Associated Habitats:** C 1% Common

B - Yellow-billed Cuckoo *(Coccyzus americanus)* **SOC** 7 S M

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **PS: LT; MBTA; BCC10** USFS: **Threatened on Forests (BRT, LOLO)**
BLM: **THREATENED** FWP SWAP: **SGCN3, SGIN** PIF: **2**
Predictive Models: L 25% Low (inductive) **Associated Habitats:** C 1% Common

V - Idahoa scapigera *(Scalepod)* SOC — Not Assigned Y

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

Species of Concern - Native Species — Global: **G5** State: **S1S2** — USFS: **Sensitive - Known on Forests (BRT)**, **Sensitive - Suspected on Forests (LOLO)**, **Species of Conservation Concern on Forests (FLAT)** — MNPS: **1**

Predictive Models: L 25% Low (inductive)

V - Castilleja covilleana *(Coville Indian Paintbrush)* SOC — Y

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

Species of Concern - Native Species — Global: **G3G4** State: **S3** — USFS: **Sensitive - Known on Forests (BRT)**, **Sensitive - Suspected on Forests (BD)** — MNPS: **2**

Predictive Models: L 13% Low (inductive) **Associated Habitats:** C 42% Common, O 22% Occasional

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

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

Species of Concern - Native Species — Global: **G5** State: **S2** — USFS: **Sensitive - Known on Forests (BD, HLC, KOOT)**, **Species of Conservation Concern on Forests (FLAT)** — MNPS: **3**

Predictive Models: L 12% Low (inductive) **Associated Habitats:** C 1% Common

V - Carex crawei *(Crawe's Sedge)* SOC — Not Assigned Y

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

Species of Concern - Native Species — Global: **G5** State: **S2S3** MNPS: **2**

Predictive Models: L 12% Low (inductive)

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

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

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

Associated Habitats: C 64% Common, O 1% Occasional

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

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

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

Associated Habitats: C 60% Common, O 1% Occasional

M - Western Pygmy Shrew *(Sorex eximius)* SOC — Not Available — Y

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

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

Associated Habitats: C 56% Common, O 4% Occasional

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

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

Species of Concern - Native Species — Global: **G3** State: **S3**

Associated Habitats: C 39% Common

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

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

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

Associated Habitats: C 31% Common, O 1% Occasional

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

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

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

Associated Habitats: C 31% Common, O 1% Occasional

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

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

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

Associated Habitats: C 28% Common, O 4% Occasional

B - Boreal Chickadee *(Poecile hudsonicus)* SOC — Not Available — Y

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

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

Associated Habitats: C 28% Common, O 1% Occasional

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

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

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

Associated Habitats: C 25% Common, O 1% Occasional

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

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

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

Associated Habitats: C 23% Common, O 27% Occasional

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**
Associated Habitats: C 23% Common

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Associated Habitats: C 22% Common, O 1% Occasional

V - Botrychium pallidum *(Pale Moonwort)* SOC — Not Available — Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G3** State: **S1S2** MNPS: **2**
Associated Habitats: C 22% Common

V - Erigeron linearis *(Linear-leaf Fleabane)* SOC — Not Available — Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** MNPS: **2**
Associated Habitats: C 22% Common

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC10; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Associated Habitats: C 22% Common

V - Clarkia rhomboidea *(Diamond Clarkia)* SOC — Not Available — Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Sensitive - Known on Forests (BRT, KOOT, LOLO)** MNPS: **2**
Associated Habitats: C 21% Common

V - Botrychium michiganense *(Michigan Moonwort)* SOC — Not Available — Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G3** State: **S2**
Associated Habitats: C 12% Common

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2**
Associated Habitats: C 11% Common, O 1% Occasional

V - Botrychium paradoxum *(Peculiar Moonwort)* SOC — Not Available — Y

View in Field Guide View Associated Habitat View Range Maps
USFS: **Sensitive - Known on Forests (BD, HLC, KOOT)**
Sensitive - Suspected on Forests (LOLO)
Species of Concern - Native Species Global: **G3G4** State: **S3** **Species of Conservation Concern on Forests (FLAT)** BLM: **SENSITIVE** MNPS: **2**
Associated Habitats: C 11% Common

V - Botrychium pedunculosum *(Stalked Moonwort)* SOC — Not Available — Y

View in Field Guide View Associated Habitat View Range Maps
USFS: **Sensitive - Known on Forests (KOOT)**
Species of Concern - Native Species Global: **G3G4** State: **S2** **Species of Conservation Concern on Forests (FLAT)** MNPS: **3**
Associated Habitats: C 10% Common

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3**
Associated Habitats: C 6% Common, O 1% Occasional

V - Dichanthelium oligosanthes var. scribnerianum *(Scribner's Panic Grass)* SOC — Not Available — Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5T5** State: **S1S2**
Associated Habitats: C 4% Common

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4** FWP SWAP: **SGIN**
Associated Habitats: C 2% Common, O 2% Occasional

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

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

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** USFWS: **MBTA** FWP SWAP: **SGCN2, SGIN**
Associated Habitats: C 2% Common

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S1S3**
Associated Habitats: C 2% Common

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4**
Associated Habitats: C 2% Common

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G4** State: **S2S3**
Associated Habitats: O 2% Occasional

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S4**
Associated Habitats: C 2% Common

V - Pinus albicaulis *(Whitebark Pine)* **SOC** Not Available Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S3** USFWS: **P** USFS: **Candidate on Forests (BD, BRT, CG, HLC, KOOT, LOLO)** BLM: **SENSITIVE**
Associated Habitats: C 2% Common

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**
Associated Habitats: C 2% Common

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

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

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** USFWS: **MBTA** USFS: **Sensitive - Known on Forests (BD, CG)** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**
Associated Habitats: C 2% Common

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

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

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S3**
Associated Habitats: C 1% Common, O 25% Occasional

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** USFS: **Sensitive - Known on Forests (BD, BRT, HLC, KOOT, LOLO)** FWP SWAP: **SGCN2, SGIN**
Associated Habitats: C 1% Common, O 11% Occasional

I - Limenitis arthemis *(Red-spotted Admiral)* **PSOC** Not Available Y

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S3**
Associated Habitats: C 1% Common, O 5% Occasional

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S4**
Associated Habitats: C 1% Common, O 2% Occasional

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S5**
Associated Habitats: C 1% Common, O 2% Occasional

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3**
Associated Habitats: C 1% Common, O 2% Occasional

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

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

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S1S2**
Associated Habitats: C 1% Common, O 1% Occasional

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

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

I - Epitheca spinigera *(Spiny Baskettail)* **PSOC** Not Available Y

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

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

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

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

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

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

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

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S1S3**
Associated Habitats: C 1% Common, O 1% Occasional

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

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

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

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

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S3**
Associated Habitats: C 1% Common, O 1% Occasional

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4G5** State: **S3B** USFWS: **MBTA; BCC11** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Associated Habitats: C 1% Common, O 1% Occasional

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2B** USFWS: **MBTA** USFS: **Sensitive - Known on Forests (BD, CG, HLC, KOOT, LOLO)**
FWP SWAP: **SGCN2** PIF: **1**
Associated Habitats: C 1% Common, O 1% Occasional

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Species of Concern - Native Species Global: **G5** State: **S1,S4** USFS: **Sensitive - Known on Forests (CG, HLC, KOOT)** **Sensitive - Suspected on Forests (BRT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN1**

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

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

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

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

Associated Habitats: C 1% Common

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

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

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

Associated Habitats: C 1% Common

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

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

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

Associated Habitats: C 1% Common

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

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

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

Associated Habitats: C 1% Common

V - Botrychium lineare *(Linearleaf Moonwort)* **SOC** — Not Available — Y

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

Species of Concern - Native Species Global: **G3** State: **S1S2** MNPS: **4**

Associated Habitats: C 1% Common

V - Botrychium simplex *(Least Moonwort)* **SOC** — Not Available — Y

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

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

Associated Habitats: C 1% Common

V - Braya humilis *(Low Braya)* **SOC** — Not Available — Y

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

Species of Concern - Native Species Global: **G5** State: **S2** MNPS: **2**

Associated Habitats: C 1% Common

V - Centunculus minimus *(Chaffweed)* **SOC** — Not Available — Y

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

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

Associated Habitats: C 1% Common

V - Elodea bifoliata *(Long-sheath Waterweed)* **SOC** — Not Available — Y

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

Species of Concern - Native Species Global: **G4G5** State: **S2?** MNPS: **3**

Associated Habitats: C 1% Common

V - Hornungia procumbens *(Hutchinsia)* **SOC** — Not Available — Y

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

Species of Concern - Native Species Global: **G5** State: **S2** MNPS: **3**

Associated Habitats: C 1% Common

V - Juncus covillei *(Coville's Rush)* **SOC** — Not Available — Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2S3**
Associated Habitats: C 1% Common

V - Polystichum kruckebergii *(Kruckeberg's Swordfern)* SOC — Not Available — Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2S3**
Associated Habitats: C 1% Common

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S1S2** MNPS: **1**
Associated Habitats: C 1% Common

V - Ranunculus pedatifidus *(Northern Buttercup)* SOC — Not Available — Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** MNPS: **2**
Associated Habitats: C 1% Common

V - Senecio eremophilus *(Desert Groundsel)* SOC — Not Available — Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S1S2**
Associated Habitats: C 1% Common

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

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

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

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

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** USFS: **Sensitive - Known on Forests (KOOT, LOLO)** FWP SWAP: **SGCN3** PIF: **1**
Associated Habitats: C 1% Common

Latitude	Longitude
46.99417	-114.62596
47.04637	-114.69882

Structured Surveys

Summarized by: **21MDT0011 Mile65Bridges** *(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.

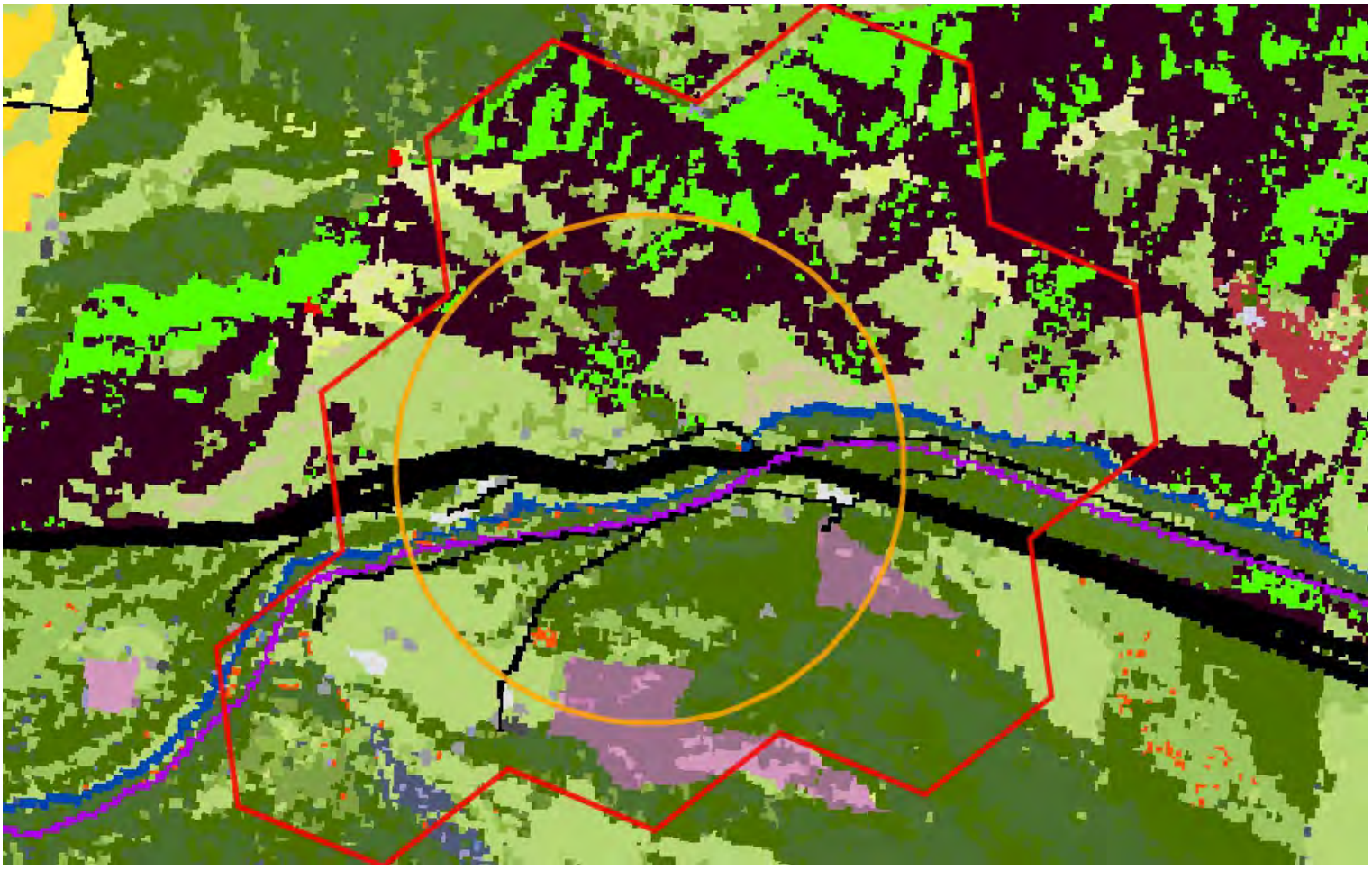
Within the report area you have requested, structured surveys are summarized by the number of each type of structured survey protocol that has been conducted, the number of species detections/observations resulting from these surveys, and the most recent year a survey has been conducted.

B-Bald Eagle Nest *(Bald Eagle Nest Survey)*	**Survey Count**: 1	**Obs Count**: 1	**Recent Survey**: 2017
B-Raptor nest *(Raptor Nest Survey)*	**Survey Count**: 11	**Obs Count**: 11	**Recent Survey**: 2018
E-Eastern Heath Snail *(Eastern Heath Snail Survey)*	**Survey Count**: 1	**Obs Count**:	**Recent Survey**: 2012
E-Invasive Mussel Plankton Tow *(Plankton tows for veligers of Invasive Mussels)*	**Survey Count**: 1	**Obs Count**:	**Recent Survey**: 2017
E-Noxious Weed, Road-based *(Noxious Weed Road-based Visual Surveys)*	**Survey Count**: 8	**Obs Count**: 23	**Recent Survey**: 2003
E-Noxious Weed, Visual *(Noxious Weed Visual Surveys)*	**Survey Count**: 6	**Obs Count**: 43	**Recent Survey**: 2009
E-Visual Aquatic Invasives *(Visual Encounter Surveys for Aquatic Invasives on Shorelines or Underwater)*	**Survey Count**: 2	**Obs Count**:	**Recent Survey**: 2017
F-Fish Electrofishing *(Fish Electrofishing Surveys)*	**Survey Count**: 12	**Obs Count**: 2	**Recent Survey**: 2011
M-Bat Acoustic *(Bat Acoustic Survey)*	**Survey Count**: 7	**Obs Count**: 13	**Recent Survey**: 2012
M-Bat Mistnet *(Bat Mistnet Survey)*	**Survey Count**: 1	**Obs Count**: 3	**Recent Survey**: 2011
M-Bat Roost (Active Season) *(Bat Roost (Active Season) Survey)*	**Survey Count**: 10	**Obs Count**: 7	**Recent Survey**: 2014

Latitude	Longitude
46.99417	-114.62596
47.04637	-114.69882

Land Cover

Summarized by: **21MDT0011 Mile65Bridges** *(Custom Area of Interest)*



22% (*1,107 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.

19% (*989 Acres*)

Recently Disturbed or Modified
Recently burned
Recently burned forest

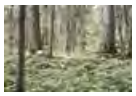
Land cover is apparently modified by recent fires which have burned forest and woodland vegetation. Vegetation is a mixture of herbaceous, shrub, and tree species.

15% (*791 Acres*)

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

Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest

This ecological system, composed of highly variable montane conifer forests, is found throughout Montana. It is associated with a submesic climate regime with annual precipitation ranging from 250 to 1,000 millimeters (10-39 inches), with most precipitation occurring during winter, and April through June. Winter snowpacks typically melt off in early spring at lower elevations. Elevations range from valley bottoms to 1,676 meters (5,500 feet) in northwestern Montana and up to 2,286 meters (7,500 feet) on warm aspects in southern Montana. In northwestern and west-central Montana, this ecosystem forms a forest belt on warm, dry to slightly moist sites. It generally occurs on gravelly soils with good aeration and drainage and a neutral to slightly acidic pH. In the western part of the state, it is seen mostly on well drained mountain slopes and valleys from lower treeline to up to 1,676 meters (5,500 feet). Immediately east of the Continental Divide, in north-central Montana, it occurs at montane elevations. Douglas-fir (*Pseudotsuga menziesii*) is the dominant conifer both as a seral and climax species. West of the Continental Divide, occurrences can be dominated by any combination of Douglas-fir and long-lived, seral western larch (*Larix occidentalis*), grand fir (*Abies grandis*), ponderosa pine (*Pinus ponderosa*) and lodgepole pine (*Pinus contorta*). Aspen (*Populus tremuloides*) and western white pine (*Pinus monticola*) have a minor status, with western white pine only in extreme western Montana. East of the Continental Divide, larch is absent and lodgepole pine is the co-dominant. Engelmann spruce (*Picea engelmannii),* white spruce, (*Picea glauca*)or their hybrid, become increasingly common towards the eastern edge of the Douglas-fir forest belt.



10% (*496 Acres*)

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

Rocky Mountain Mesic Montane Mixed Conifer Forest

These forests are generally dominated by western hemlock (*Tsuga heterophylla*), western red cedar (*Thuja plicata*), and grand fir (*Abies grandis*). They are found in areas influenced by incursions of mild, wet, Pacific maritime air masses west of the Continental Divide in Montana. Occurrences are found on all slopes and aspects but grow best on sites with high soil moisture, such as toeslopes and bottomlands. At the periphery of its distribution, this system is confined to moist canyons and cooler, moister aspects. Generally, these are moist, non-flooded or upland forest sites that are not saturated yearlong. In northwestern Montana, western hemlock and western red cedarforests occur on bottomland and northerly exposures between 609-1,585 meters (2,000-5,200 feet) on sites with an average annual precipitation of 635 millimeters (25 inches). These forests are common in extreme northwestern Montana, and extend eastward to the Continental Divide in the Lake McDonald drainage of Glacier National Park. Isolated stands of western hemlock occur in the Swan Valley, but are found most commonly in the Libby and Thompson Falls vicinities, west to the Idaho border. Western red cedaroccurs extensively in the Mission Mountain ranges south to Missoula, and on lower flanks of the Swan Range north of Lion Creek. It is confined to the riparian zone of major streams on the east face of the Bitterroot Mountain Range. Grand fir, being less moisture dependent, occurs in more southerly and easterly sites than western red cedar and western hemlock. This system is similar to Rocky Mountain Dry-Mesic Mixed Montane Conifer Forest, which can be described as a seral phase of this system on appropriate sites west of the Continental Divide.

No Image

7% (*351 Acres*)

Recently Disturbed or Modified
Recently burned

Post-Fire Recovery

No Image

5% (*239 Acres*)

Shrubland, Steppe and Savanna Systems
Deciduous Shrubland

Rocky Mountain Montane-Foothill Deciduous Shrubland

This system is found in the lower montane and foothill regions of western Montana, and north and east into the northern Rocky Mountains. These shrublands typically occur below treeline, within the matrix of surrounding low-elevation grasslands and sagebrush shrublands. They are usually found on steep slopes of canyons, on toeslopes and occasionally on valley bottom lands. These communities can occur on all aspects. In northwestern and west-central Montana, this system forms within Douglas-fir (*Pseudotsuga menziesii*) and ponderosa pine (*Pinus ponderosa)* forests and adjacent to fescue grasslands and big sagebrush (*Artemisia tridentata*) shrublands. In northwestern Montana, these shrublands commonly occur within the upper montane grasslands and forests along the Rocky Mountain Front. Immediately east of the Continental Divide, this system is found within montane grasslands and steep canyon slopes. Most sites have shallow soils that are either loess deposits or volcanic clays. Common ninebark (*Physocarpus malvaceus*), bittercherry (*Prunus emarginata*), common chokecherry (*Prunus virginiana*), rose (*Rosa* spp.), smooth sumac (*Rhus glabra*), Rocky Mountain maple (*Acer glabrum*), serviceberry (*Amelanchier alnifolia*), and oceanspray (*Holodiscus discolor*) are the most common dominant shrubs.

4% (*195 Acres*)

Recently Disturbed or Modified
Harvested Forest

Harvested forest-tree regeneration

Land cover has been modified by logging. New growth is primarily trees.

No Image

4% (*180 Acres*)

Human Land Use
Developed

Interstate

National Highway System (NHS) limited access highways and their shoulders and rights of way.

3% (*173 Acres*)

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

Rocky Mountain Ponderosa Pine Woodland and Savanna

This system occurs on warm, dry, exposed sites in the foothills of the Rocky Mountains in west-central and central Montana, at the ecotone between grasslands or shrublands and more mesic coniferous forests. Elevations range from 1,066 to 1,676 meters (3,500-5,500 feet), with higher elevation examples mostly confined to central Montana. Occurrences are found on all slopes and aspects; however, moderately steep to very steep slopes or ridgetops are most common. True savanna types are infrequent; the system is more characteristically an open forest with a grassy understory. In the western part of the state, this system is seen mostly on dry slopes in the rainshadow of the Bitterroot Mountains. East of the Continental Divide, it is most widespread around Helena and Lewistown, although it occurs throughout mountain ranges as far east as the Little Rocky and Bearpaw Mountains. Ponderosa pine (*Pinus ponderosa*) is the dominant conifer. Douglas-fir (*Pseudotsuga menziesii*) and western larch (*Larix occidentalis*) may be present in the tree canopy in the more western areas, but are usually absent. In central Montana, limber pine (*Pinus flexilis*) and horizontal juniper (*Juniperus horizontalis*) are frequently components. Although the understory of ponderosa pine forests is often shrubby in other states, in Montana, habitats are mostly dominated by graminoids, although bitterbrush (*Purshia tridentata*), white snowberry (*Symphoricarpos albus*), and skunkrush (*Rhus trilobata*) occur in forests on benchlands and rocky slopes in the central portion of the state. Understory vegetation is more typically grasses and forbs that resprout following low to moderate intensity surface fires. Prolonged drought, beetle kill and exotic invasion are rapidly changing the dynamics of this system.

2% (*86 Acres*)

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

Rocky Mountain Subalpine Mesic Spruce-Fir Forest and Woodland

These forests are similar to Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland (4242), but occur in locations with cold-air drainage or ponding, or where snowpacks linger late into the summer, such as north-facing slopes and high-elevation ravines. They are distinguished by their occurrence on mesic to wet microsites within the matrix of the drier (and warmer) subalpine spruce-fir or lodgepole pine forests. The microsites include north-facing slopes, swales or ravines, toeslopes, cold pockets, and other locations where available soil moisture is higher or lasts longer into the growing season. This system can extend down in elevation below the subalpine zone in places where cold-air ponding occurs, especially on north and east aspects. Elevations range from 884 to 1,981 meters (2,900-6,500 feet) west of the Continental Divide, and 1,585 to 2,682 meters (5,200-8,800 feet) east of the Continental Divide. Spruceis usually associated with subalpine fir and occurs either as a climax co-dominant or as a persistent, long-lived seral species in most upper elevation subalpine fir stands. Mountain hemlock (*Tsuga mertensiana*) occurs as small patches within the matrix of this mesic spruce-fir system, but only in the most maritime of environments of northwestern Montana, in the coldest and wettest sites. The shrub understory contains many ericaceous species such as rusty leaf menziesia (*Menziesia ferruginea*), dwarf huckleberry (*Vaccinium caespitosum*), mountain huckleberry *(Vaccinium membranaceum*), bilberry (*Vaccinium myrtillus*), grouse whortleberry (*Vaccinium scoparium*), pink mountain heath (*Phyllodoce empetriformis*), black twinberry honeysuckle (*Lonicera involucrata*), gooseberry (*Ribes*species) and thimbleberry (*Rubus parviflorus*). The herbaceous understory contains mesic forbs, graminoids, and ferns and fern allies on the wettest sites. Moss cover is often high. Stand-replacing fires are less common in mesic spruce-fir forests than in dry-mesic forests.

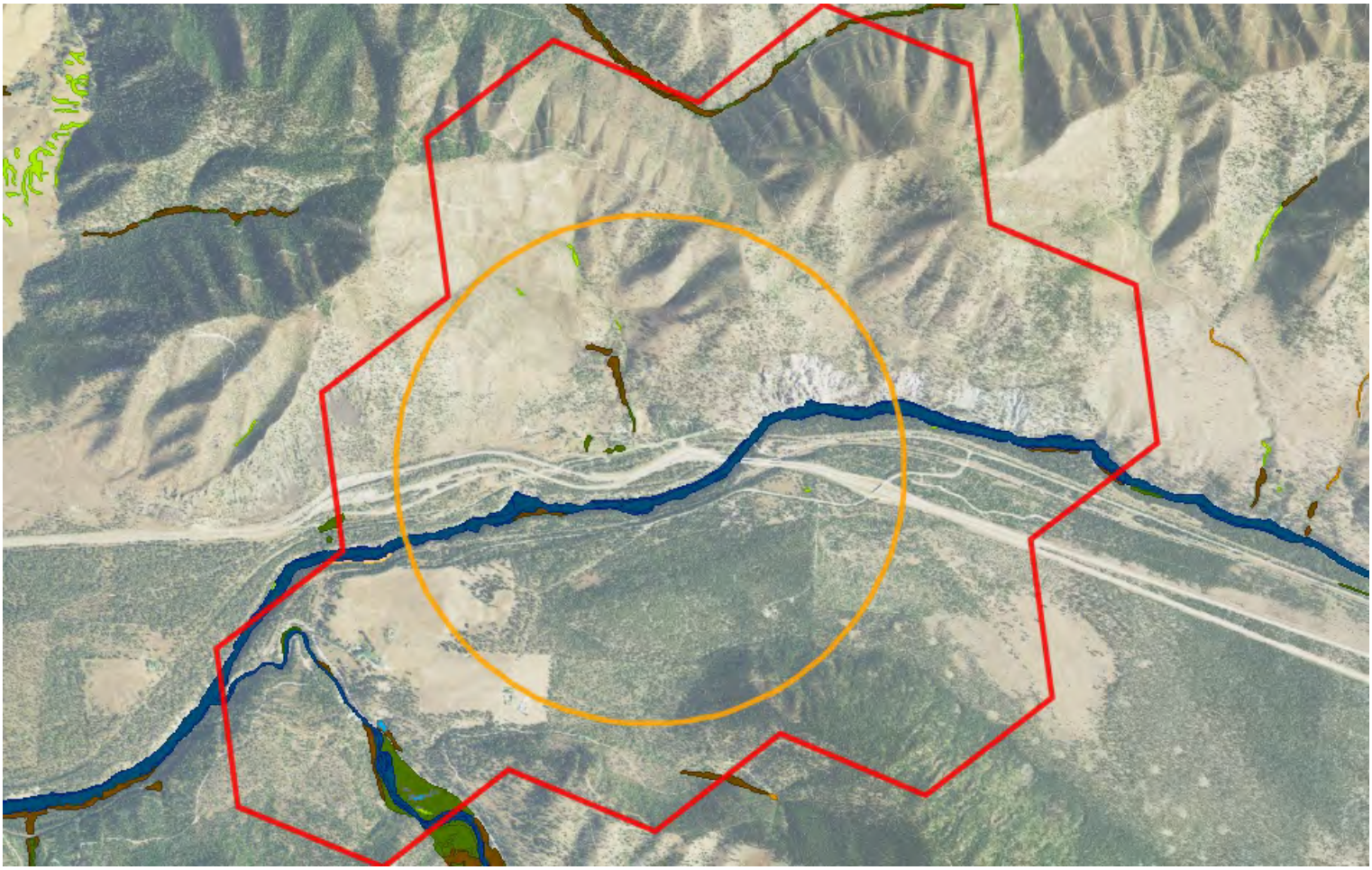
Additional Limited Land Cover

1% (*68 Acres*) Open Water
1% (*65 Acres*) Rocky Mountain Cliff, Canyon and Massive Bedrock
1% (*64 Acres*) Other Roads
1% (*55 Acres*) Railroad
1% (*37 Acres*) Rocky Mountain Subalpine Deciduous Shrubland
1% (*37 Acres*) Rocky Mountain Subalpine-Upper Montane Grassland
1% (*36 Acres*) Northern Rocky Mountain Lower Montane Riparian Woodland and Shrubland
1% (*33 Acres*) Major Roads
<1% (*25 Acres*) Low Intensity Residential
<1% (*23 Acres*) Harvested forest-grass regeneration
<1% (*17 Acres*) Developed, Open Space
<1% (*15 Acres*) Insect-Killed Forest
<1% (*11 Acres*) Harvested forest-shrub regeneration
<1% (*8 Acres*) Alpine-Montane Wet Meadow
<1% (*7 Acres*) Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland
<1% (*4 Acres*) Rocky Mountain Subalpine-Montane Mesic Meadow
<1% (*3 Acres*) High Intensity Residential
<1% (*2 Acres*) Emergent Marsh
<1% (*0 Acres*) Recently burned shrubland

Latitude	Longitude
46.99417	-114.62596
47.04637	-114.69882

Wetland and Riparian

Summarized by: **21MDT0011 Mile65Bridges** *(Custom Area of Interest)*



Wetland and Riparian Mapping

Explain

P - Palustrine

AB - Aquatic Bed

F - Semipermanently Flooded	2 Acres	
(no modifier)	**2 Acres**	**PABF**

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

EM - Emergent

A - Temporarily Flooded	2 Acres	
(no modifier)	**2 Acres**	**PEMA**

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

SS - Scrub-Shrub

A - Temporarily Flooded	6 Acres	
(no modifier)	**6 Acres**	**PSSA**

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.

FO - Forested

A - Temporarily Flooded	23 Acres	
(no modifier)	**23 Acres**	**PFOA**

P - Palustrine, FO - Forested
Wetlands dominated by woody vegetation greater than 6 meters (20 feet) tall.

R - Riverine (Rivers)

3 - Upper Perennial

UB - Unconsolidated Bottom

R - Riverine (Rivers), 3 - Upper Perennial, UB - Unconsolidated Bottom

H - Permanently Flooded 89 Acres
(no modifier) **89 Acres** R3UBH

Stream channels where the substrate is at least 25% mud, silt or other fine particles.

US - Unconsolidated Shore

A - Temporarily Flooded 15 Acres
(no modifier) **15 Acres** R3USA

C - Seasonally Flooded 10 Acres
(no modifier) **10 Acres** R3USC

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.

Rp - Riparian

1 - Lotic

FO - Forested
(no modifier) **22 Acres** Rp1FO

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

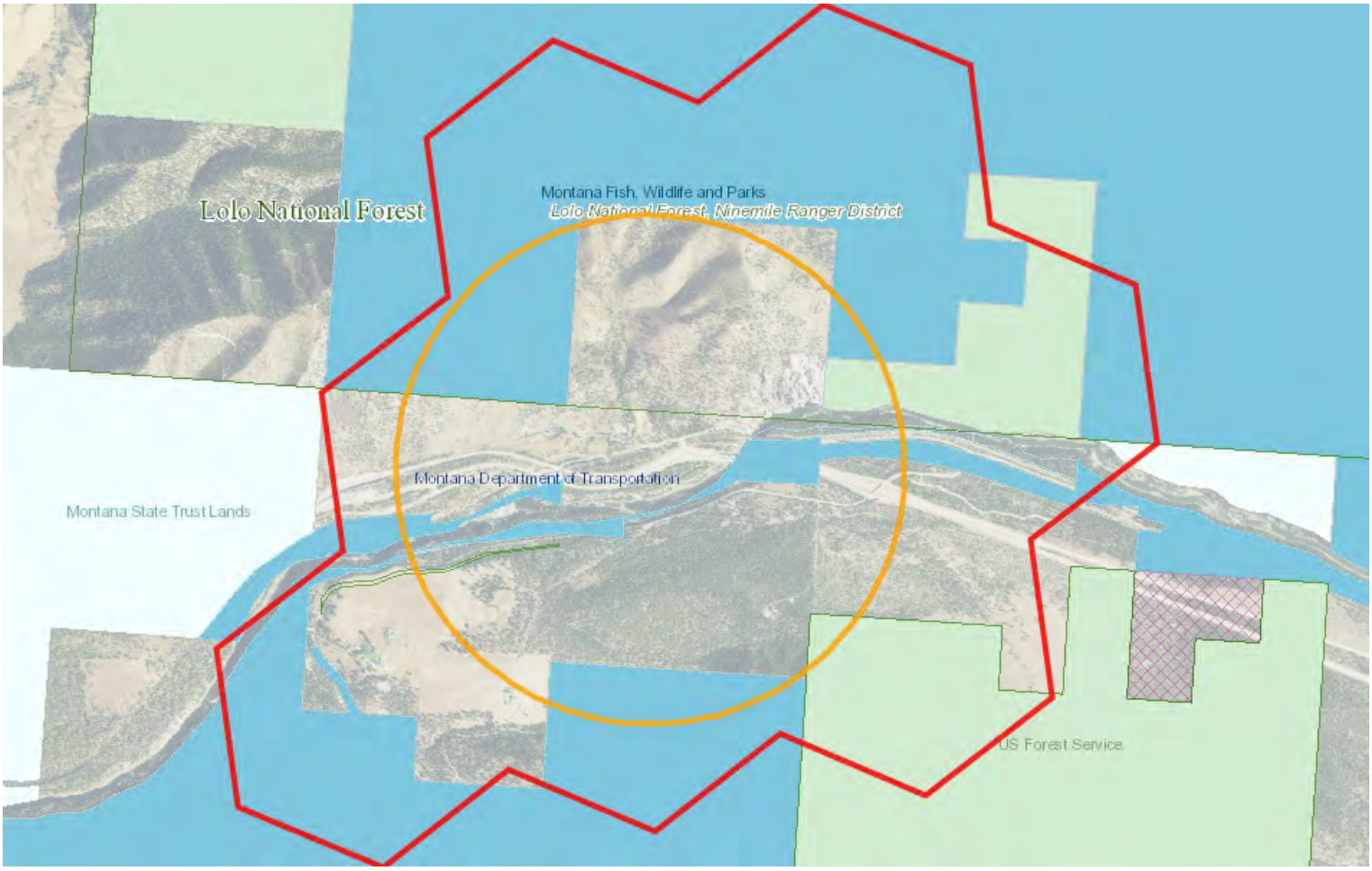
EM - Emergent
(no modifier) **2 Acres** Rp1EM

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

Latitude	Longitude
46.99417	-114.62596
47.04637	-114.69882

Land Management

Summarized by: **21MDT0011 Mile65Bridges** *(Custom Area of Interest)*



Land Management Summary

Explain

	Ownership	Tribal	Easements	Other Boundaries (possible overlap)
Public Lands	**2,820 Acres (55%)**			
Federal	**565 Acres (11%)**			
US Forest Service	**565 Acres (11%)**			
USFS Owned	**565 Acres (11%)**			
USFS Ranger Districts				**2,532 Acres**
Lolo National Forest, Ninemile Ranger District				2,532 Acres
USFS National Forest Boundaries				**2,532 Acres**
Lolo National Forest				2,532 Acres
State	**2,255 Acres (44%)**			
Montana State Trust Lands	**6 Acres (<1%)**			
MT State Trust Owned	**6 Acres (<1%)**			
Montana Fish, Wildlife and Parks	**2,246 Acres (44%)**			
MTFWP Owned	**2,246 Acres (44%)**			
MTFWP Fishing Access Sites				**159 Acres**
Alberton Gorge Fishing Access Site				97 Acres
Lower Osprey Fishing Access Site				8 Acres
Middle Osprey Fishing Access Site				6 Acres
Ralph's Takeout Fishing Access Site				41 Acres
Tarkio East Fishing Access Site				7 Acres
Montana Department of Transportation	**3 Acres (<1%)**			
MTDOT Owned	**3 Acres (<1%)**			

Land Management Summary		Explain
Private Lands or Unknown Ownership	2,294 Acres (45%)	

Latitude	Longitude
46.99417	-114.62596
47.04637	-114.69882

Biological Reports

Summarized by: **21MDT0011 Mile65Bridges** *(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

- Rogers, Ralph and Jay Sumner. 2004. Montana Peregrine Falcon Survey. Centmont Bioconsultants. Winifred, Montana. 32 pp plus appendix.
- Sumner, Jay and Ralph Rogers. 2006. Montana Peregrine Falcon Survey. Montana Peregrine Institute. Arlee, Montana. 36 pp plus appendix.

Legend

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

Habitat Icons
- C Common
- O Occasional

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

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

Latitude	Longitude
46.99417	-114.62596
47.04637	-114.69882

Invasive and Pest Species

Summarized by: **21MDT0011 Mile65Bridges** *(Custom Area of Interest)*

	# Obs	Predictive Model	Associated Habitat	Range

Aquatic Invasive Species

A - American Bullfrog *(Lithobates catesbeianus)* AIS — Range: D

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

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

Predictive Models: L 88% Low (inductive) **Associated Habitats:** C 2% Common, O 1% Occasional

Noxious Weeds: Priority 1A

V - Isatis tinctoria *(Dyer's Woad)* N1A — Not Assigned — Range: D

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

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

Predictive Models: M 75% Moderate (inductive), L 12% Low (inductive)

V - Centaurea solstitialis *(Yellow Starthistle)* N1A — Not Assigned — Range: D

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

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

Predictive Models: M 75% Moderate (inductive)

Noxious Weeds: Priority 1B

V - Echium vulgare *(Blueweed)* N1B — Not Assigned — Range: D

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

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

Predictive Models: O 38% Optimal (inductive), M 62% Moderate (inductive)

Noxious Weeds: Priority 2A

V - Hieracium caespitosum *(Meadow Hawkweed)* N2A — Not Assigned — Range: D

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

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

Predictive Models: M 100% Moderate (inductive)

V - Hieracium praealtum *(Kingdevil Hawkweed)* N2A — Not Assigned — Range: D

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

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

Predictive Models: M 75% Moderate (inductive), L 25% Low (inductive)

V - Hieracium aurantiacum *(Orange Hawkweed)* N2A — Not Assigned — Range: D

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

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

Predictive Models: M 63% Moderate (inductive), L 37% Low (inductive)

V - Lepidium latifolium *(Perennial Pepperweed)* N2A — Not Assigned — Range: D

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

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

Predictive Models: L 50% Low (inductive)

Noxious Weeds: Priority 2B

V - Linaria dalmatica *(Dalmatian Toadflax)* N2B — 31 — Not Assigned — Range: D

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

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

Predictive Models: O 38% Optimal (inductive), M 62% Moderate (inductive)

V - Hypericum perforatum *(Common St. John's-wort)* N2B — 5 — Not Assigned — Range: D

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

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

Predictive Models: O 25% Optimal (inductive), M 75% Moderate (inductive)

V - Leucanthemum vulgare *(Oxeye Daisy)* N2B — Not Assigned — Range: D

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

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

Predictive Models: M 88% Moderate (inductive), L 12% Low (inductive)

V - Centaurea stoebe *(Spotted Knapweed)* N2B — 52 — Not Assigned — Range: D

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: M 75% Moderate (inductive), L 25% Low (inductive)

V - Cynoglossum officinale *(Common Hound's-tongue)* N2B — 2 — Not Assigned — D

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: M 75% Moderate (inductive), L 25% Low (inductive)

V - Centaurea diffusa *(Diffuse Knapweed)* N2B — Not Assigned — D

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: M 63% Moderate (inductive), L 37% Low (inductive)

V - Linaria vulgaris *(Yellow Toadflax)* N2B — Not Assigned — D

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: M 63% Moderate (inductive), L 37% Low (inductive)

V - Cirsium arvense *(Canada Thistle)* N2B — 2 — Not Assigned — D

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**
Predictive Models: M 12% Moderate (inductive), L 88% Low (inductive)

V - Euphorbia virgata *(Leafy Spurge)* N2B — 3 — Not Assigned — D

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

V - Acroptilon repens *(Russian Knapweed)* N2B — Not Assigned — D

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: L 75% Low (inductive)

V - Berteroa incana *(Hoary False-alyssum)* N2B — Not Assigned — D

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: L 75% Low (inductive)

V - Convolvulus arvensis *(Field Bindweed)* N2B — Not Assigned — D

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: L 75% Low (inductive)

V - Lepidium draba *(Whitetop)* N2B — Not Assigned — D

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: L 75% Low (inductive)

V - Potentilla recta *(Sulphur Cinquefoil)* N2B — 7 — Not Available — Not Assigned — D

View in Field Guide View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

V - Tanacetum vulgare *(Common Tansy)* N2B — 7 — Not Available — Not Assigned — D

View in Field Guide View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Regulated Weeds: Priority 3

V - Bromus tectorum *(Cheatgrass)* R3 — 3 — Not Assigned — D

View in Field Guide View Predicted Models View Range Maps
Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: M 100% Moderate (inductive)

V - Elaeagnus angustifolia *(Russian Olive)* R3 — Not Assigned — D

View in Field Guide View Predicted Models View Range Maps
Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: L 50% Low (inductive)

Biocontrol Species

I - Mecinus janthinus *(Yellow Toadflax Stem-boring Weevil)* BIOCNTRL — Not Assigned — R

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: O 25% Optimal (inductive), M 38% Moderate (inductive), L 37% Low (inductive)

I - Cyphocleonus achates *(Knapweed Root Weevil)* BIOCNTRL — Not Assigned — R

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: M 75% Moderate (inductive), L 12% Low (inductive)

I - Mecinus janthiniformis *(Dalmatian Toadflax Stem-boring Weevil)* **BIOCNTRL** Not Assigned R

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: M 50% Moderate (inductive), L 50% Low (inductive)

I - Oberea erythrocephala *(Red-headed Leafy Spurge Stem Borer)* **BIOCNTRL** Not Assigned R

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: M 12% Moderate (inductive), L 75% Low (inductive)

Introduction to Montana Natural Heritage Program

P.O. Box 201800 • 1515 East Sixth Avenue • Helena, MT 59620-1800 • fax 406.444.0266 • tel 406.444.0241 • mtnhp.org

Introduction

The Montana Natural Heritage Program (MTNHP) is Montana's source for reliable and objective information on Montana's native species and habitats, emphasizing those of conservation concern. MTNHP was created by the Montana legislature in 1983 as part of the Natural Resource Information System (NRIS) at the Montana State Library (MSL). MTNHP is "a program of information acquisition, storage, and retrieval for data relating to the flora, fauna, and biological community types of Montana" (MCA 90-15-102). MTNHP's activities are guided by statute (MCA 90-15) as well as through ongoing interaction with, and feedback from, principal data source agencies such as Montana Fish, Wildlife, and Parks, the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation, the Montana University System, the US Forest Service, and the US Bureau of Land Management. The enabling legislation for MTNHP provides the State Library with the option to contract the operation of the Program. Since 2006, MTNHP has been operated as a program under the Office of the Vice President for Research and Creative Scholarship at the University of Montana (UM) through a renewable 2-year contract with the MSL. Since the first staff was hired in 1985, the Program has logged a long record of success, and developed into a highly respected, service-oriented program. MTNHP is widely recognized as one of the most advanced and effective of over 80 natural heritage programs throughout the Western Hemisphere.

Vision

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

Core Values

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

Confidentiality

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

Information Managed

Information managed at the Montana Natural Heritage Program includes: (1) lists of, and basic information on, plant and animal species and biological communities; (2) plant and animal surveys, observations, species occurrences, predictive distribution models, range polygons, and conservation status ranks; and (3) land cover and wetland and riparian mapping and the conservation status of these and other biological communities.

Data Use Terms and Conditions

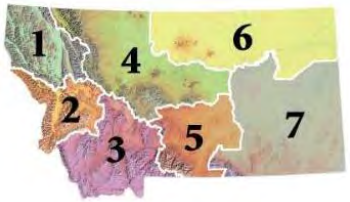
- Montana Natural Heritage Program (MTNHP) products and services are based on biological data and the objective interpretation of those data by professional scientists. MTNHP does not advocate any particular philosophy of natural resource protection, management, development, or public policy.
- MTNHP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

Suggested Contacts for Natural Resource Agencies

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

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

Montana Fish, Wildlife, and Parks

Fish Species	Zachary Shattuck zshattuck@mt.gov (406) 444-1231 or 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	Lauri Hanauska-Brown LHanauska-Brown@mt.gov (406) 444-5209
Grizzly Bear Greater Sage Grouse Trumpeter Swan Big Game Upland Game Birds Furbearers	John Vore jvore@mt.gov (406) 444-3940
Managed Terrestrial Game and Nongame Animal Data	Smith Wells – MFWP Data Analyst smith.wells@mt.gov (406) 444-3759
Fisheries Data	Ryan Alger – MFWP Data Analyst ryan.alger@mt.gov (406) 444-5365
Wildlife and Fisheries Scientific Collector's Permits	http://fwp.mt.gov/doingBusiness/licenses/scientificWildlife/ Kammi McClain for Wildlife Kammi.McClain@mt.gov (406) 444-2612 Kim Wedde for Fisheries kim.wedde@mt.gov (406) 444-5594
Fish and Wildlife Recommendations for Subdivision Development	Renee Lemon RLemon@mt.gov (406) 444-3738 and see http://fwp.mt.gov/fishAndWildlife/livingWithWildlife/buildingWithWildlife/subdivisionRecommendations/
Regional Contacts  	Region 1 (Kalispell) (406) 752-5501 Region 2 (Missoula) (406) 542-5500 Region 3 (Bozeman) (406) 994-4042 Region 4 (Great Falls) (406) 454-5840 Region 5 (Billings) (406) 247-2940 Region 6 (Glasgow) (406) 228-3700 Region 7 (Miles City) (406) 234-0900

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

Bureau of Land Management

Montana Field Office Contacts:

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

United States Forest Service

Regional Office – Missoula, Montana Contacts

Wildlife Program Leader	Tammy Fletcher	tammyfletcher@fs.fed.us	(406) 329-3588
Wildlife Ecologist	Cara Staab	cstaab@fs.fed.us	(406) 329-3677
Fish Program Leader	Scott Spaulding	scottspaulding@fs.fed.us	(406) 329-3287
Fish Ecologist	Cameron Thomas	cathomas@fs.fed.us	(406) 329-3087
TES Program	Lydia Allen	lrallen@fs.fed.us	(406) 329-3558
Interagency Grizzly Bear Coordinator	Scott Jackson	sjackson03@fs.fed.us	(406) 329-3664
Regional Botanist	Steve Shelly	sshelly@fs.fed.us	(406) 329-3041
Invasive Species Program Manager	Michelle Cox	michelle.cox2@usda.gov	(406) 329-3669

Tribal Nations

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

Natural Heritage Programs and Conservation Data Centers in Surrounding States and Provinces
Alberta Conservation Information Management System
British Columbia Conservation Data Centre
Idaho Natural Heritage Program
North Dakota Natural Heritage Program
Saskatchewan Conservation Data Centre
South Dakota Natural Heritage Program
Wyoming Natural Diversity Database

Invasive Species Management Contacts and Information

Aquatic Invasive Species

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

Noxious Weeds

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

Introduction to Native Species

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

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

Observations

The MTNHP manages information on more than 1.8 million animal and plant observations that have been reported by professional biologists and private citizens from across Montana. The majority of these observations are submitted in digital format from standardized databases associated with research or monitoring efforts and spreadsheets of incidental observations submitted by professional biologists and amateur naturalists. At a minimum, accepted observation records must contain a credible species identification (i.e. appropriate geographic range, date, and habitat and, if species are difficult to identify, a photograph and notes on key identifying features), a date or date range, observer name, locational information (ideally with latitude and longitude in decimal degrees), notes on numbers observed, and species behavior or habitat use (e.g., is the observation likely associated with reproduction). Bird records are also required to have information associated with date-appropriate breeding or overwintering status of the species observed. MTNHP reviews observation records to ensure that they are mapped correctly, occur within date ranges when the species is known to be present or detectable, occur within the known seasonal geographic range of the species, and occur in appropriate habitats. MTNHP also assigns each record a locational uncertainty value in meters to indicate the spatial precision associated with the record's mapped coordinates. Only records with locational uncertainty values of 10,000 meters or less are included in environmental summary reports and number summaries are only provided for records with locational uncertainty values of 1,000 meters or less.

Species Occurrences

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

Plant Species Occurrences

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

Animal Species Occurrences

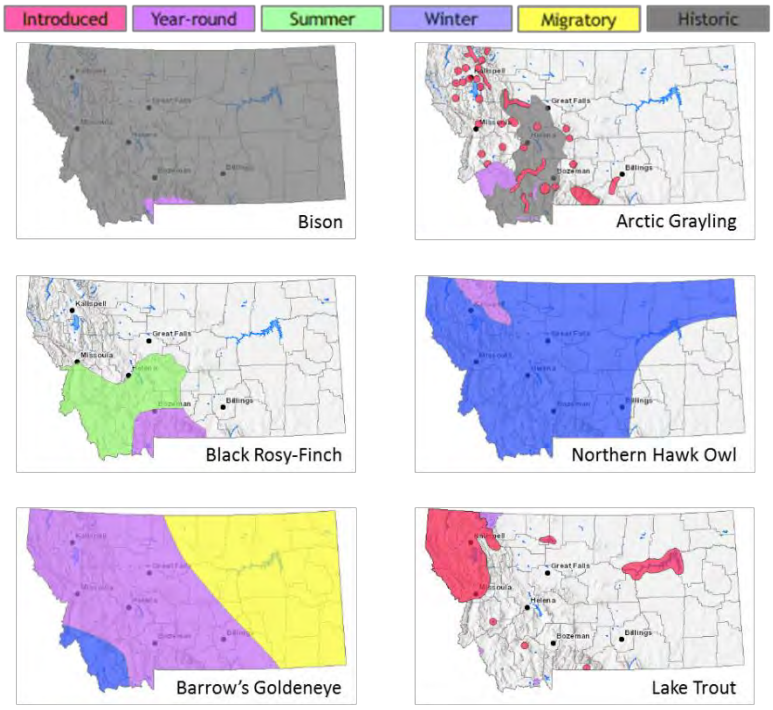
The location of a verified observation or specimen record typically known or assumed to represent a breeding population or a portion of a breeding population. Animal SO's are generally: (1) buffers of terrestrial point observations based on documented species' home range sizes; (2) buffers of stream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

Other Occurrence Polygons

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

Geographic Range Polygons

Geographic range polygons have not yet been defined for most plant species. Native year-round, summer, winter, migratory and historic geographic range polygons as well as polygons for introduced populations have been defined for most animal species for which there are enough observations, surveys, and knowledge of appropriate seasonal habitat use to define them (see examples to left). These native or introduced range polygons bound the extent of known or likely occupied habitats for non-migratory and relative sedentary species and the regular extent of known or likely occupied habitats for migratory and long-distance dispersing species; polygons may include unsuitable intervening habitats. For most species, a single polygon can represent the year-round or seasonal range, but breeding ranges of some colonial nesting water birds and some introduced species are represented more patchily when supported by data. Some ranges are mapped more broadly than actual distributions in order to be visible on statewide maps (e.g., fish).



Predicted Suitable Habitat Models

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

Associated Habitats

Within the boundary of the intersected hexagons, we provide the approximate percentage of commonly or occasionally associated habitat for vertebrate animal species that regularly breed, overwinter, or migrate through the state; a detailed list of commonly and occasionally associated habitats is provided in individual species accounts in the Montana Field Guide. We assigned common or occasional use of each of the 82 ecological systems mapped in Montana by: (1) using personal knowledge and reviewing literature that

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

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

Introduction to Land Cover

Land Use/Land Cover is one of 15 Montana Spatial Data Infrastructure framework layers considered vital for making statewide maps of Montana and understanding its geography. The layer records all Montana natural vegetation, land cover and land use, classified from satellite and aerial imagery, mapped at a scale of 1:100000, and interpreted with supporting ground-level data. The baseline map is adapted from the Northwest ReGAP (NWGAP) project land cover classification, which used 30m resolution multi-spectral Landsat imagery acquired between 1999 and 2001. Vegetation classes were drawn from the Ecological System Classification developed by NatureServe (Comer et al. 2003). The land cover classes were developed by Anderson et al. (1976). The NWGAP effort encompasses 12 map zones. Montana overlaps seven of these zones. The two NWGAP teams responsible for the initial land cover mapping effort in Montana were Sanborn and NWGAP at the University of Idaho. Both Sanborn and NWGAP employed a similar modeling approach in which Classification and Regression Tree (CART) models were applied to Landsat ETM+ scenes. The Spatial Analysis Lab within the Montana Natural Heritage Program was responsible for developing a seamless Montana land cover map with a consistent statewide legend from these two separate products. Additionally, the Montana land cover layer incorporates several other land cover and land use products (e.g., MSDI Structures and Transportation themes and the Montana Department of Revenue Final Land Unit classification) and reclassifications based on plot-level data and the latest NAIP imagery to improve accuracy and enhance the usability of the theme. Updates are done as partner support and funding allow, or when other MSDI datasets can be incorporated. Recent updates include fire perimeters and agricultural land use (annually), energy developments such as wind, oil and gas installations (2014), roads, structures and other impervious surfaces (various years): and local updates/improvements to specific ecological systems (e.g., central Montana grassland and sagebrush ecosystems). Current and previous versions of the Land Use/Land Cover layer with full metadata are available for download at the Montana State Library's Geographic Information Clearinghouse.

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

Literature Cited

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

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

Introduction to Wetland and Riparian

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

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

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

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

Literature Cited

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

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

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

Introduction to Land Management

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

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

Public and private conservation land polygons are attributed with the name of the entity that owns it. The data are derived from the statewide Montana Cadastral Parcel layer. Conservation easement data shows land parcels on which a public agency or qualified land trust has placed a conservation easement in cooperation with the land owner. The dataset contains no information about ownership or status of the mineral estate. For questions about the dataset or to report errors, please contact the Montana Natural Heritage Program at (406) 444-5363 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, and Forest Pests that have been documented or potentially occur there based on their known distribution in the state. Definitions for each of these invasive and pest species categories can be found on our Species Status Codes page.

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

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

Additional Information Resources

Home Page for Montana Natural Heritage Program (MTNHP)

MTNHP Staff Contact Information

Montana Field Guide

MTNHP Species of Concern Report - Animals and Plants

MTNHP Species Status Codes - Explanation

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

MTNHP Request Information page

Montana Cadastral

Montana Code Annotated

Montana Department of Environmental Quality

Montana Fisheries Information System

Montana Fish, Wildlife, and Parks Subdivision Recommendations

Montana GIS Data Layers

Montana GIS Data Bundler

Montana Greater Sage-Grouse Project Submittal Site

Montana Ground Water Information Center

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

Montana Environmental Policy Act (MEPA)

MEPA Analysis Resource List

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

Montana Spatial Data Infrastructure Layers

Montana State Historic Preservation Office Review and Compliance

Montana Water Information System

Montana Web Map Services

National Environmental Policy Act

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

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

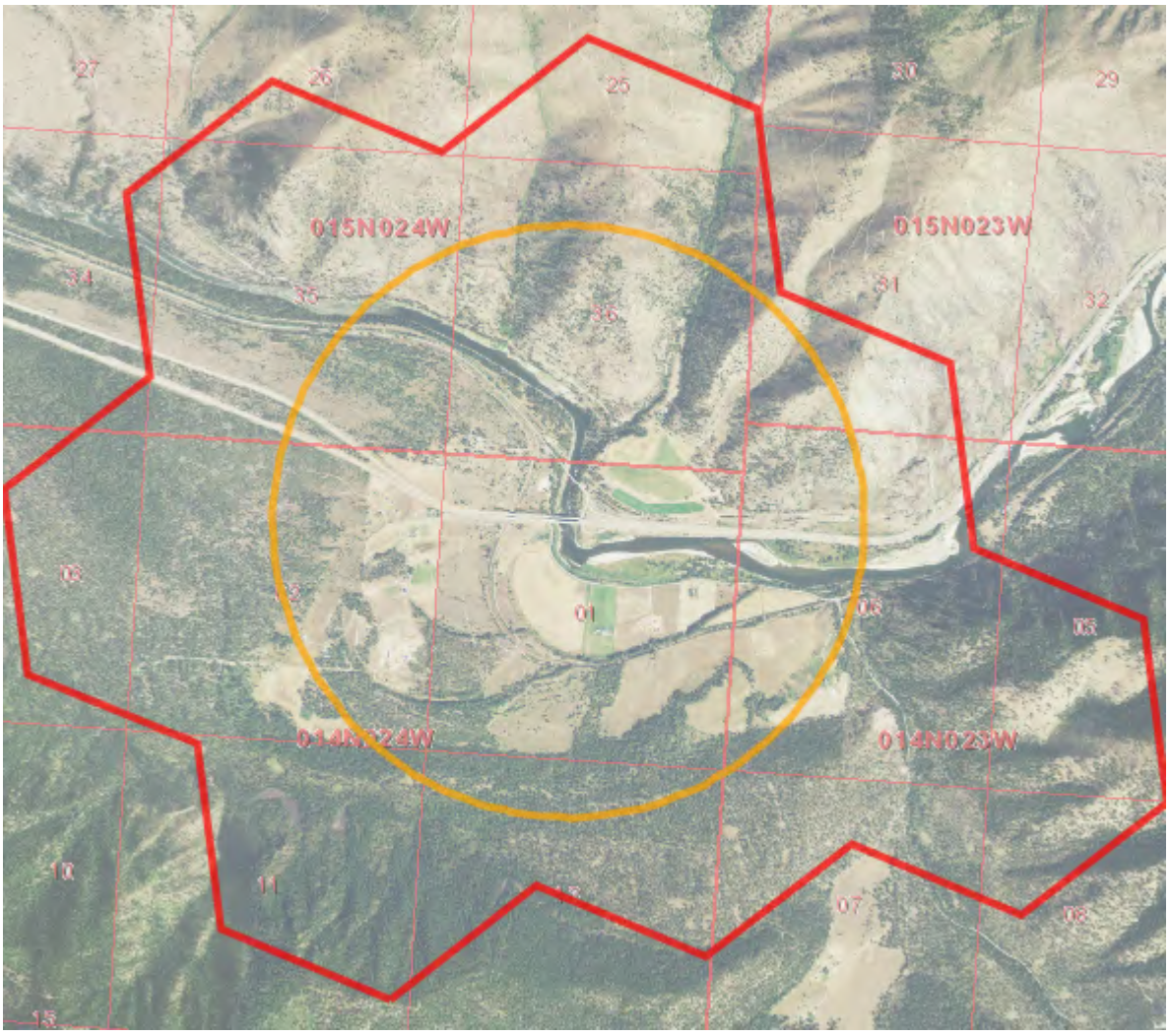
Web Soil Survey Tool

Environmental Summary

MONTANA
Natural Heritage Program
1515 East 6th Avenue
Helena, MT 59620
(406) 444-5363
mtnhp.org

Latitude	Longitude
46.97919	-114.53794
47.02953	-114.61613

Summarized by:
21MDT0011 CyrBridge
(Custom Area of Interest)



Suggested Citation
Montana Natural Heritage Program. Environmental Summary Report.
for Latitude 46.97919 to 47.02953 and Longitude -114.53794 to -114.61613. Retrieved on 3/25/2021.

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

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

Table of Contents

Introduction to Environmental Summary Report

The Environmental Summary report for your area of interest consists of introductory and related materials in this PDF and an Excel workbook with worksheets summarizing information managed in the Montana Natural Heritage Program's (MTNHP) databases for: (1) species occurrences; (2) other observed species without Species Occurrences; (3) other species potentially present based on their range, presence of associated habitats, or predictive distribution model output if available; (4) structured surveys (organized efforts following a protocol capable of detecting one or more species); (5) land cover mapped as ecological systems; (6) wetland and riparian mapping; (7) land management categories; and (8) biological reports associated with plant and animal observations. In order to do this in a consistent manner across Montana and allow for rapid delivery of summaries, we have intersected this information with a uniform grid of hexagons that have been used for planning efforts across the western United States (e.g. Western Association of Fish and Wildlife Agencies - Crucial Habitat Assessment Tool). Each hexagon is one square mile in area and approximately one kilometer in length on each side. Summary information for each data layer is then stored with each hexagon and those summaries are added up to an overall summary for the report area you have requested. Users should be aware that summaries do not correspond to the exact boundaries of the polygon they have specified, but instead are a summary across all hexagons intersected by the polygon they specified.

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

MONTANA Natural Heritage Program

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

Legend

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

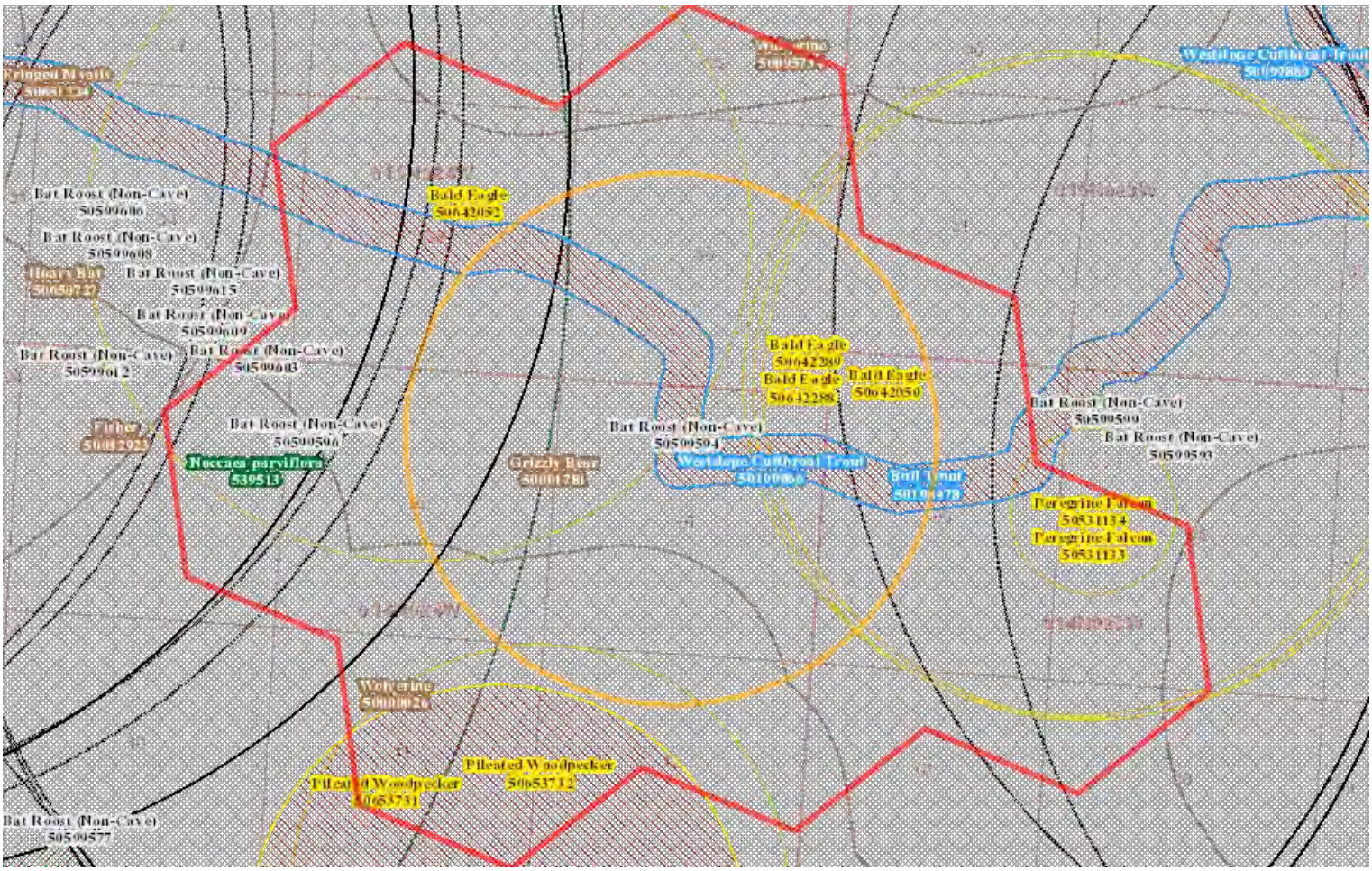
Latitude	Longitude
46.97919	-114.53794
47.02953	-114.61613

Native Species

Summarized by: **21MDT0011 CyrBridge** *(Custom Area of Interest)*

Filtered by:

MT_Status='Species of Concern', 'Special Status', 'Important Animal Habitat', 'Potential SOC'



Species Occurrences

	USFWS Sec7	# SO	# Obs	Predictive Model	Associated Habitat	Range
F - Bull Trout *(Salvelinus confluentus)* SOC	7	1	+		Not Assigned	Y

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

Species of Concern - Native Species Global: **G5** State: **S2** USFWS: **LT; CH**

USFS: **Threatened, Critical Habitat on Forests (BD, BRT, HLC, KOOT, LOLO)** 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 30, 2018)

Predictive Models: N 63% Suitable (native range) (deductive)

F - Westslope Cutthroat Trout *(Oncorhynchus clarkii lewisi)* SOC		1	+		Not Assigned	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 on Forests (BD, BRT, CG, HLC, KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN2**

Delineation Criteria Stream reaches and standing water bodies where the species presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a fisheries biologist due to confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Sep 15, 2020)

Predictive Models: N 63% Suitable (native range) (deductive)

B - Pileated Woodpecker *(Dryocopus pileatus)* **SOC** 2 Y

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

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

Delineation Criteria Observations with evidence of breeding activity buffered by a minimum distance of 1,500 meters in order to be conservative about encompassing home ranges and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 23, 2020)

Predictive Models: M 75% Moderate (inductive), L 25% Low (inductive) **Associated Habitats:** C 56% Common, O 1% Occasional

B - Bald Eagle *(Haliaeetus leucocephalus)* **SSS** 4 9 + Y

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

Special Status Species - Native Species Global: **G5** State: **S4** USFWS: **DM; BGEPA; MBTA; BCC10; BCC11; BCC17** USFS: **Sensitive - Known on Forests (BD, BRT, CG, HLC, KOOT, LOLO)** BLM: **SENSITIVE** PIF: **2**

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 and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 17, 2020)

Predictive Models: M 75% Moderate (inductive), L 25% Low (inductive) **Associated Habitats:** C 46% Common, O 28% Occasional

M - Hoary Bat *(Lasiurus cinereus)* **SOC** 1 S M

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

Species of Concern - Native Species Global: **G3G4** 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 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 10,000 meters. (Last Updated: Dec 18, 2020)

Predictive Models: M 50% Moderate (inductive), L 50% Low (inductive) **Associated Habitats:** C 90% Common, O 7% Occasional

B - Peregrine Falcon *(Falco peregrinus)* **SOC** 2 9 Y

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

Species of Concern - Native Species Global: **G4** State: **S3** USFWS: **DM; MBTA; BCC10; BCC11; BCC17** USFS: **Sensitive - Known on Forests (BD, BRT, CG, HLC, KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 500 meters in order to encompass the area around the nest known to be defended by adults as well as the minimum distance reported between nests. Otherwise the nest area is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jun 28, 2019)

Predictive Models: M 12% Moderate (inductive), L 75% Low (inductive) **Associated Habitats:** C 37% Common, O 2% Occasional

M - Grizzly Bear *(Ursus arctos)* **SOC** 7 1 Y

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

Species of Concern - Native Species Global: **G4** State: **S2S3** USFWS: **PS: LT; XN** USFS: **Threatened on Forests (BD, CG, HLC, KOOT, LOLO)** 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 29, 2020)

Predictive Models: L 100% Low (inductive) **Associated Habitats:** C 74% Common, O 12% Occasional

M - Wolverine *(Gulo gulo)* **SOC** 7 2 Y

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

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

Delineation Criteria Confirmed area of occupancy supported by recent (post-1980), nearby (within 10 kilometers) observations of adults or juveniles. Tracking regions were defined by areas of primary habitat and adjacent female dispersal habitat as modeled by Inman et al. (2013). These regions were buffered by 1 kilometer in order to link smaller areas and account for potential inaccuracies in independent variables used in the model. (Last Updated: Dec 29, 2020)

Predictive Models: L 88% Low (inductive) **Associated Habitats:** C 39% Common, O 18% Occasional

M - Fisher *(Pekania pennanti)* **SOC** 1 + Y

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

Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Sensitive - Known on Forests (BD, BRT, HLC, KOOT, 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: Aug 27, 2014)

Predictive Models: L 88% Low (inductive) **Associated Habitats:** C 39% Common, O 6% Occasional

V - Noccaea parviflora *(Small-flowered Pennycress)* **SOC** 1 Not Available

View in Field Guide | View Associated Habitat

Species of Concern - Native Species Global: **G3** State: **S3** MNPS: **3**

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)

Associated Habitats: C 1% Common

O - Bat Roost (Non-Cave) *(Bat Roost (Non-Cave))* **IAH** 10 Not Available Not Assigned

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)

Legend

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

Latitude	Longitude
46.97919	-114.53794
47.02953	-114.61613

Native Species

Summarized by: **21MDT0011 CyrBridge** *(Custom Area of Interest)*
Filtered by:
MT_Status='Species of Concern', 'Special Status', 'Important Animal Habitat', 'Potential SOC'

Other Observed Species

	USFWS Sec7	# Obs	Predictive Model	Associated Habitat	Range
M - Canada Lynx *(Lynx canadensis)* **SOC**	7	+			Y

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

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **LT; CH**
USFS: **Threatened on Forests (BD, BRT)**
Threatened, Critical Habitat on Forests (CG, HLC, KOOT, LOLO)
BLM: **THREATENED** FWP SWAP: **SGCN3**

Predictive Models: L 100% Low (inductive) **Associated Habitats:** C 39% Common, O 19% Occasional

Legend

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

Latitude	Longitude
46.97919	-114.53794
47.02953	-114.61613

Native Species

Summarized by: **21MDT0011 CyrBridge** *(Custom Area of Interest)*
Filtered by:
MT_Status='Species of Concern', 'Special Status', 'Important Animal Habitat', 'Potential SOC'

Other Potential Species

	USFWS Sec7	Predictive Model	Associated Habitat	Range
V - Carex scoparia *(Pointed Broom Sedge)* **SOC**			Not Assigned	Y
B - Lewis's Woodpecker *(Melanerpes lewis)* **SOC**				S M
B - Rufous Hummingbird *(Selasphorus rufus)* **PSOC**				S M
B - Western Screech-Owl *(Megascops kennicottii)* **PSOC**				Y
R - Western Skink *(Plestiodon skiltonianus)* **SOC**				Y
B - Evening Grosbeak *(Coccothraustes vespertinus)* **SOC**				Y WM
M - Fringed Myotis *(Myotis thysanodes)* **SOC**				Y
B - Veery *(Catharus fuscescens)* **SOC**				S M
V - Eleocharis rostellata *(Beaked Spikerush)* **SOC**			Not Assigned	Y
V - Impatiens aurella *(Pale-yellow Jewel-weed)* **SOC**			Not Assigned	Y
M - Yuma Myotis *(Myotis yumanensis)* **SOC**				Y

V - Carex scoparia *(Pointed Broom Sedge)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S1S2**
Predictive Models: O 38% Optimal (inductive), M 62% Moderate (inductive)

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

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2B** USFWS: **MBTA; BCC10; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **2**
Predictive Models: O 25% Optimal (inductive), M 50% Moderate (inductive), L 25% Low (inductive)
Associated Habitats: C 40% Common, O 15% Occasional

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

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Potential Species of Concern - Native Species Global: **G4** State: **S4B** USFWS: **MBTA** PIF: **3**
Predictive Models: M 100% Moderate (inductive) **Associated Habitats:** C 87% Common, O 1% Occasional

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

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Potential Species of Concern - Native Species Global: **G4G5** State: **S3S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3**
Predictive Models: M 100% Moderate (inductive) **Associated Habitats:** C 84% Common, O 1% Occasional

R - Western Skink *(Plestiodon skiltonianus)* **SOC**

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** FWP SWAP: **SGCN3, SGIN**
Predictive Models: M 100% Moderate (inductive) **Associated Habitats:** C 73% Common, O 14% Occasional

B - Evening Grosbeak *(Coccothraustes vespertinus)* **SOC**

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3**
Predictive Models: M 100% Moderate (inductive) **Associated Habitats:** C 59% Common, O 1% Occasional

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

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**
Predictive Models: M 88% Moderate (inductive), L 12% Low (inductive) **Associated Habitats:** C 89% Common, O 5% Occasional

B - Veery *(Catharus fuscescens)* **SOC**

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Predictive Models: M 88% Moderate (inductive), L 12% Low (inductive) **Associated Habitats:** C 1% Common, O 37% Occasional

V - Eleocharis rostellata *(Beaked Spikerush)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Sensitive - Known on Forests (BD, CG, HLC)** **Species of Conservation Concern on Forests (FLAT)** MNPS: **3**
Predictive Models: M 88% Moderate (inductive), L 12% Low (inductive)

V - Impatiens aurella *(Pale-yellow Jewel-weed)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3**
Predictive Models: M 88% Moderate (inductive), L 12% Low (inductive)

M - Yuma Myotis *(Myotis yumanensis)* **SOC**

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** FWP SWAP: **SGIN**
Predictive Models: M 75% Moderate (inductive), L 25% Low (inductive) **Associated Habitats:** C 90% Common, O 5% Occasional

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known on Forests (BD, BRT, CG, HLC, KOOT, LOLO)**
BLM: **SENSITIVE** FWP SWAP: **SGCN3**
Predictive Models: M 75% Moderate (inductive), L 25% Low (inductive) **Associated Habitats:** C 88% Common, O 2% Occasional

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** FWP SWAP: **SGCN3, SGIN**
Predictive Models: M 75% Moderate (inductive), L 25% Low (inductive) **Associated Habitats:** C 58% Common, O 30% Occasional

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA**
USFS: **Sensitive - Known on Forests (BD, BRT, CG, HLC, KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**
Predictive Models: M 63% Moderate (inductive), L 37% Low (inductive) **Associated Habitats:** C 56% Common

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA; BCC10** FWP SWAP: **SGCN3** PIF: **3**
Predictive Models: M 62% Moderate (inductive), L 38% Low (inductive) **Associated Habitats:** C 45% Common

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3**
Predictive Models: M 50% Moderate (inductive), L 50% Low (inductive) **Associated Habitats:** C 90% Common, O 5% Occasional

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC10**
USFS: **Sensitive - Known on Forests (BD, BRT, HLC, KOOT, LOLO)**
Sensitive - Suspected on Forests (CG)
Species of Conservation Concern on Forests (FLAT) BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**
Predictive Models: M 50% Moderate (inductive), L 50% Low (inductive) **Associated Habitats:** C 54% Common, O 2% Occasional

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **BGEPA; MBTA; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3**
Predictive Models: M 50% Moderate (inductive), L 50% Low (inductive) **Associated Habitats:** C 37% Common, O 16% Occasional

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** USFS: **Species of Conservation Concern on Forests (FLAT)**
FWP SWAP: **SGCN3** PIF: **3**
Predictive Models: M 50% Moderate (inductive), L 50% Low (inductive) **Associated Habitats:** C 32% Common

V - Allium acuminatum *(Tapertip Onion)* **SOC** Not Assigned Y

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2S3** USFS: **Sensitive - Known on Forests (BD, BRT, LOLO)**
Predictive Models: M 50% Moderate (inductive), L 25% Low (inductive)

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

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** USFS: **Sensitive - Known on Forests (KOOT)** MNPS: **3**
Predictive Models: M 50% Moderate (inductive), L 25% Low (inductive)

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G3** State: **S3** FWP SWAP: **SGCN3**
Predictive Models: M 38% Moderate (inductive), L 62% Low (inductive) **Associated Habitats:** C 90% Common, O 10% Occasional

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G3G4** State: **S4**
Predictive Models: M 38% Moderate (inductive), L 62% Low (inductive) **Associated Habitats:** C 90% Common, O 4% Occasional

V - Botrychium hesperium *(Western Moonwort)* **SOC** Not Assigned Y

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known on Forests (BD, KOOT)** MNPS: **2**
Predictive Models: M 38% Moderate (inductive), L 50% Low (inductive)

A - Western Toad *(Anaxyrus boreas)* **SOC**

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

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

Predictive Models: M 25% Moderate (inductive), L 62% Low (inductive) **Associated Habitats:** C 61% Common, O 29% Occasional

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

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

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

Predictive Models: M 25% Moderate (inductive), L 62% Low (inductive) **Associated Habitats:** C 2% Common

B - Hooded Merganser *(Lophodytes cucullatus)* **PSOC**

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

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

Predictive Models: M 25% Moderate (inductive), L 50% Low (inductive) **Associated Habitats:** C 4% Common

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

Not Assigned

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

USFS: **Sensitive - Known on Forests (BRT, CG, KOOT)**
Sensitive - Suspected on Forests (LOLO)
Species of Concern - Native Species Global: **G5** State: **S2** **Species of Conservation Concern on Forests (FLAT)**

Predictive Models: M 25% Moderate (inductive), L 50% Low (inductive)

B - Northern Goshawk *(Accipiter gentilis)* **SOC**

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

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

Predictive Models: M 25% Moderate (inductive), L 37% Low (inductive) **Associated Habitats:** C 42% Common, O 14% Occasional

M - North American Porcupine *(Erethizon dorsatum)* **PSOC**

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

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

Predictive Models: M 13% Moderate (inductive), L 87% Low (inductive) **Associated Habitats:** C 74% Common

V - Epipactis gigantea *(Giant Helleborine)* **SOC**

Not Assigned

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

USFS: **Sensitive - Known on Forests (BD, HLC, LOLO)**
Sensitive - Suspected on Forests (BRT, CG, KOOT)
Species of Concern - Native Species Global: **G4** State: **S2S3** **Species of Conservation Concern on Forests (FLAT)** MNPS: **2**

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

V - Penstemon flavescens *(Yellow Beardtongue)* **SOC**

Not Assigned

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

Species of Concern - Native Species Global: **G3** State: **S3** MNPS: **3**

Predictive Models: M 13% Moderate (inductive), L 50% Low (inductive)

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

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

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

Predictive Models: M 12% Moderate (inductive), L 88% Low (inductive) **Associated Habitats:** C 89% Common, O 5% Occasional

B - Brown Creeper *(Certhia americana)* **SOC**

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

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **1**

Predictive Models: M 12% Moderate (inductive), L 88% Low (inductive) **Associated Habitats:** C 43% Common, O 1% Occasional

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

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

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

Predictive Models: M 12% Moderate (inductive), L 88% Low (inductive) **Associated Habitats:** C 43% Common, O 1% Occasional

A - Coeur d'Alene Salamander *(Plethodon idahoensis)* **SOC**

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

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

Predictive Models: M 12% Moderate (inductive), L 63% Low (inductive) **Associated Habitats:** C 38% Common, O 2% Occasional

V - Satureja douglasii *(Yerba Buena)* **SOC**

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

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

Predictive Models: M 12% Moderate (inductive), L 37% Low (inductive) **Associated Habitats:** C 37% Common

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

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

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

Predictive Models: L 100% Low (inductive) **Associated Habitats:** C 58% Common, O 1% Occasional

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

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

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN** PIF: **3**

Predictive Models: L 100% Low (inductive) **Associated Habitats:** C 53% Common, O 4% Occasional

B - Black Swift *(Cypseloides niger)* **SOC**

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

Species of Concern - Native Species Global: **G4** State: **S1B** USFWS: **MBTA; BCC10** USFS: **Species of Conservation Concern on Forests (FLAT)** FWP SWAP: **SGCN1, SGIN** PIF: **2**

Predictive Models: L 88% Low (inductive) **Associated Habitats:** C 3% Common

V - Botrychium ascendens *(Upward-lobed Moonwort)* **SOC**

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

Species of Concern - Native Species Global: **G3** State: **S3** USFS: **Sensitive - Known on Forests (HLC, KOOT)** MNPS: **2**

Predictive Models: L 63% Low (inductive) **Associated Habitats:** C 15% Common

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

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

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

Predictive Models: L 63% Low (inductive) **Associated Habitats:** C 4% Common

B - American Bittern *(Botaurus lentiginosus)* **SOC**

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

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

Predictive Models: L 63% Low (inductive) **Associated Habitats:** C 2% Common

B - Tennessee Warbler *(Leiothlypis peregrina)* **PSOC**

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

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

Predictive Models: L 50% Low (inductive) **Associated Habitats:** C 51% Common

V - Cypripedium fasciculatum *(Clustered Lady's-slipper)* **SOC**

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

USFS: **Sensitive - Known on Forests (KOOT, LOLO)**

Species of Concern - Native Species Global: **G4** State: **S3** **Species of Conservation Concern on Forests (FLAT)** MNPS: **1**

Predictive Models: L 50% Low (inductive) **Associated Habitats:** C 37% Common

B - Bobolink *(Dolichonyx oryzivorus)* **SOC**

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

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

Predictive Models: L 50% Low (inductive) **Associated Habitats:** C 32% Common, O 1% Occasional

V - Ageratina occidentalis *(Western Joepye-weed)* **SOC**

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

USFS: **Sensitive - Known on Forests (BRT)**

Species of Concern - Native Species Global: **G4** State: **S2** **Sensitive - Suspected on Forests (BD, KOOT, LOLO)**

Predictive Models: L 50% Low (inductive) **Associated Habitats:** C 1% Common

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

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

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **PS: LT; MBTA; BCC10** USFS: **Threatened on Forests (BRT, LOLO)** BLM: **THREATENED** FWP SWAP: **SGCN3, SGIN** PIF: **2**

Predictive Models: L 50% Low (inductive) **Associated Habitats:** C 1% Common

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**

Predictive Models: L 50% Low (inductive)

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

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

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

Predictive Models: L 38% Low (inductive) **Associated Habitats:** C 2% Common

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** MNPS: **2**

Predictive Models: L 38% 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**

Predictive Models: L 38% Low (inductive)

V - Botrychium crenulatum *(Wavy Moonwort)* **SOC**

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known on Forests (BD, HLC, KOOT, LOLO)** MNPS: **2**
Predictive Models: L 37% Low (inductive) **Associated Habitats:** C 15% Common

V - Dryopteris cristata *(Crested Shieldfern)* **SOC** Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Sensitive - Known on Forests (BRT, KOOT, LOLO)** **Species of Conservation Concern on Forests (FLAT)** MNPS: **3**
Predictive Models: L 37% Low (inductive) **Associated Habitats:** C 15% Common

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** USFS: **Sensitive - Known on Forests (BD, HLC, KOOT)** **Species of Conservation Concern on Forests (FLAT)** MNPS: **3**
Predictive Models: L 37% Low (inductive) **Associated Habitats:** C 1% Common

V - Mimulus ampliatus *(Stalk-leaved Monkeyflower)* **SOC** Not Assigned Y

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G3** State: **S3** USFS: **Sensitive - Known on Forests (KOOT)**
Predictive Models: L 37% Low (inductive)

B - Black Tern *(Chlidonias niger)* **SOC** S M

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4G5** State: **S3B** USFWS: **MBTA; BCC11** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Predictive Models: L 25% Low (inductive) **Associated Habitats:** C 2% Common, O 1% Occasional

V - Eriophorum gracile *(Slender Cottongrass)* **SOC** Not Assigned Y

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Sensitive - Known on Forests (CG, KOOT)** **Species of Conservation Concern on Forests (FLAT)** MNPS: **2**
Predictive Models: L 25% Low (inductive)

B - Grimmia brittoniae *(Britton's Dry Rock Moss)* **SOC** Not Assigned Y

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G2** State: **S2** USFS: **Sensitive - Known on Forests (KOOT, LOLO)** **Species of Conservation Concern on Forests (FLAT)**
Predictive Models: L 25% Low (inductive)

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Predictive Models: L 13% Low (inductive) **Associated Habitats:** C 28% Common, O 1% Occasional

V - Botrychium michiganense *(Michigan Moonwort)* **SOC** Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G3** State: **S2**
Predictive Models: L 13% Low (inductive) **Associated Habitats:** C 15% Common

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3**
Predictive Models: L 12% Low (inductive) **Associated Habitats:** C 51% Common, O 1% Occasional

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

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S1,S4** USFS: **Sensitive - Known on Forests (CG, HLC, KOOT)** **Sensitive - Suspected on Forests (BRT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN1**
Predictive Models: L 12% Low (inductive) **Associated Habitats:** C 2% Common, O 2% Occasional

V - Centunculus minimus *(Chaffweed)* **SOC** Y

View in Field Guide View Predicted Models View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2**
Predictive Models: L 12% Low (inductive) **Associated Habitats:** C 1% Common

V - Heterocodon rariflorum *(Western Pearl-flower)* **SOC** Not Assigned Y

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** USFS: **Sensitive - Known on Forests (BRT, KOOT, LOLO)** MNPS: **2**
Predictive Models: L 12% Low (inductive)

V - Ligusticum verticillatum *(Idaho Lovage)* **SOC** Not Assigned Y

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G4G5** State: **S3**
Predictive Models: L 12% Low (inductive)

M - Western Pygmy Shrew *(Sorex eximius)* **SOC** — Not Available

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

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

Associated Habitats: C 70% Common

V - Castilleja covilleana *(Coville Indian Paintbrush)* **SOC** — Not Available

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

Species of Concern - Native Species — Global: **G3G4** State: **S3** USFS: **Sensitive - Known on Forests (BRT)** **Sensitive - Suspected on Forests (BD)** MNPS: **2**

Associated Habitats: C 54% Common, O 12% Occasional

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

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

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

Associated Habitats: C 53% Common, O 1% Occasional

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

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

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

Associated Habitats: C 41% Common, O 1% Occasional

B - Boreal Chickadee *(Poecile hudsonicus)* **SOC** — Not Available — Y

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

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

Associated Habitats: C 39% Common, O 1% Occasional

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

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

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

Associated Habitats: C 35% Common, O 1% Occasional

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

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

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

Associated Habitats: C 34% Common, O 5% Occasional

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

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

Species of Concern - Native Species — Global: **G3** State: **S3**

Associated Habitats: C 34% Common

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

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

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

Associated Habitats: C 33% Common, O 1% Occasional

V - Athysanus pusillus *(Sandweed)* **SOC** — Not Available — Y

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

Species of Concern - Native Species — Global: **G5** State: **S1S2** USFS: **Sensitive - Known on Forests (BRT)** **Sensitive - Suspected on Forests (LOLO)** MNPS: **1**

Associated Habitats: C 33% Common

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

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

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

Associated Habitats: C 32% Common, O 4% Occasional

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

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

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

Associated Habitats: C 29% Common, O 2% Occasional

V - Botrychium pallidum *(Pale Moonwort)* **SOC** — Not Available — Y

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

Species of Concern - Native Species — Global: **G3** State: **S1S2** MNPS: **2**

Associated Habitats: C 28% Common

V - Erigeron linearis *(Linear-leaf Fleabane)* **SOC** — Not Available — Y

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

Species of Concern - Native Species — Global: **G5** State: **S2** MNPS: **2**

Associated Habitats: C 28% Common

V - Clarkia rhomboidea *(Diamond Clarkia)* **SOC** — Not Available — Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Sensitive - Known on Forests (BRT, KOOT, LOLO)** MNPS: **2**
Associated Habitats: C 24% Common

V - Botrychium paradoxum *(Peculiar Moonwort)* **SOC** Not Available Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S3** USFS: **Sensitive - Known on Forests (BD, HLC, KOOT)** **Sensitive - Suspected on Forests (LOLO)** **Species of Conservation Concern on Forests (FLAT)** BLM: **SENSITIVE** MNPS: **2**
Associated Habitats: C 15% Common

V - Botrychium pedunculosum *(Stalked Moonwort)* **SOC** Not Available Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S2** USFS: **Sensitive - Known on Forests (KOOT)** **Species of Conservation Concern on Forests (FLAT)** MNPS: **3**
Associated Habitats: C 15% Common

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G3** State: **S2**
Associated Habitats: C 14% Common, O 30% Occasional

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2**
Associated Habitats: C 8% Common, O 1% Occasional

V - Dichanthelium oligosanthes var. scribnerianum *(Scribner's Panic Grass)* **SOC** Not Available Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5T5** State: **S1S2**
Associated Habitats: C 4% Common

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**
Associated Habitats: C 4% Common

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Associated Habitats: C 4% Common

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** USFWS: **MBTA** USFS: **Sensitive - Known on Forests (BD, CG)** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**
Associated Habitats: C 4% Common

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Associated Habitats: C 4% Common

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**
Associated Habitats: C 3% Common, O 3% Occasional

I - Limenitis arthemis *(Red-spotted Admiral)* **PSOC** Not Available Y

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S3**
Associated Habitats: C 3% Common, O 2% Occasional

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3**
Associated Habitats: C 3% Common, O 1% Occasional

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S1S3**
Associated Habitats: C 3% Common

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4**
Associated Habitats: C 3% Common

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G4** State: **S2S3**
Associated Habitats: O 3% Occasional

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S4**
Associated Habitats: C 3% Common

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** USFS: **Sensitive - Known on Forests (BD, BRT, HLC, KOOT, LOLO)**
FWP SWAP: **SGCN2, SGIN**
Associated Habitats: C 2% Common, O 15% Occasional

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S1S3**
Associated Habitats: C 2% Common, O 2% Occasional

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S4**
Associated Habitats: C 2% Common, O 2% Occasional

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**
Associated Habitats: C 2% Common, O 2% Occasional

I - Epitheca spinigera *(Spiny Baskettail)* **PSOC** Not Available Y

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S5**
Associated Habitats: C 2% Common, O 1% Occasional

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S4**
Associated Habitats: C 2% Common, O 1% Occasional

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **2**
Associated Habitats: C 2% Common, O 1% Occasional

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

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

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** USFWS: **MBTA** FWP SWAP: **SGCN2, SGIN**
Associated Habitats: C 2% Common

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S5**
Associated Habitats: C 2% Common

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4**
Associated Habitats: C 2% Common

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S2S4**
Associated Habitats: C 2% Common

V - Elodea bifoliata *(Long-sheath Waterweed)* **SOC** — Not Available — Y

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

Species of Concern - Native Species Global: **G4G5** State: **S2?** MNPS: **3**

Associated Habitats: C 2% Common

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

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

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**

Associated Habitats: C 2% Common

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

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

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

Associated Habitats: C 2% Common

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

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

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

Associated Habitats: C 2% Common

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2B** USFWS: **MBTA** USFS: **Sensitive - Known on Forests (BD, CG, HLC, KOOT, LOLO)** FWP SWAP: **SGCN2** PIF: **1**
Associated Habitats: C 1% Common, O 2% Occasional

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

View in Field Guide View Associated Habitat View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4** FWP SWAP: **SGIN**
Associated Habitats: C 1% Common, O 1% Occasional

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

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

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

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

V - Botrychium lineare *(Linearleaf Moonwort)* **SOC** Not Available Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G3** State: **S1S2** MNPS: **4**
Associated Habitats: C 1% Common

V - Botrychium simplex *(Least Moonwort)* **SOC** Not Available Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2**
Associated Habitats: C 1% Common

V - Braya humilis *(Low Braya)* **SOC** Not Available Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** MNPS: **2**
Associated Habitats: C 1% Common

V - Hornungia procumbens *(Hutchinsia)* **SOC** Not Available Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** MNPS: **3**
Associated Habitats: C 1% Common

V - Juncus covillei *(Coville's Rush)* **SOC** Not Available Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2S3**
Associated Habitats: C 1% Common

V - Pinus albicaulis *(Whitebark Pine)* **SOC** Not Available Y

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

V - Polystichum kruckebergii *(Kruckeberg's Swordfern)* **SOC** Not Available Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2S3**
Associated Habitats: C 1% Common

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

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S1S2** MNPS: **1**
Associated Habitats: C 1% Common

V - Ranunculus pedatifidus *(Northern Buttercup)* **SOC** Not Available Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** MNPS: **2**
Associated Habitats: C 1% Common

V - Senecio eremophilus *(Desert Groundsel)* **SOC** Not Available Y

View in Field Guide View Associated Habitat View Range Maps
Species of Concern - Native Species Global: **G5** State: **S1S2**
Associated Habitats: C 1% Common

Latitude	Longitude
46.97919	-114.53794
47.02953	-114.61613

Structured Surveys

Summarized by: **21MDT0011 CyrBridge** *(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.

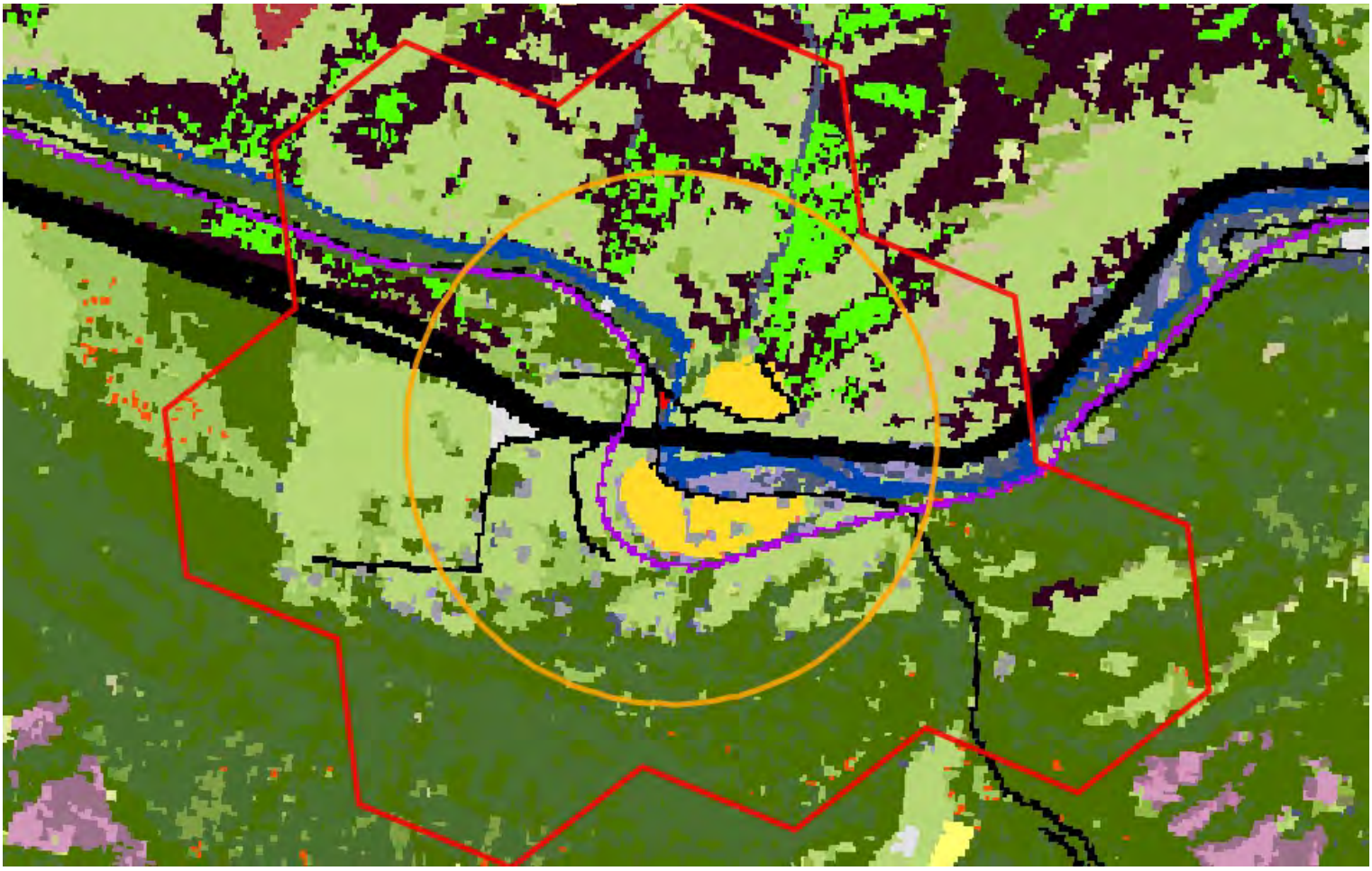
Within the report area you have requested, structured surveys are summarized by the number of each type of structured survey protocol that has been conducted, the number of species detections/observations resulting from these surveys, and the most recent year a survey has been conducted.

B-Bald Eagle Nest *(Bald Eagle Nest Survey)*	**Survey Count**: 11	**Obs Count**: 6	**Recent Survey**: 2017
B-Raptor nest *(Raptor Nest Survey)*	**Survey Count**: 12	**Obs Count**: 11	**Recent Survey**: 2018
E-Eastern Heath Snail *(Eastern Heath Snail Survey)*	**Survey Count**: 2	**Obs Count**:	**Recent Survey**: 2012
E-Invasive Mussel Plankton Tow *(Plankton tows for veligers of Invasive Mussels)*	**Survey Count**: 1	**Obs Count**:	**Recent Survey**: 2016
E-Kicknet *(Kicknet Collection Survey for Invasive Mussels and Snails)*	**Survey Count**: 1	**Obs Count**:	**Recent Survey**: 2016
E-Noxious Weed, Road-based *(Noxious Weed Road-based Visual Surveys)*	**Survey Count**: 8	**Obs Count**: 21	**Recent Survey**: 2003
E-Noxious Weed, Visual *(Noxious Weed Visual Surveys)*	**Survey Count**: 6	**Obs Count**: 38	**Recent Survey**: 2009
E-Visual Aquatic Invasives *(Visual Encounter Surveys for Aquatic Invasives on Shorelines or Underwater)*	**Survey Count**: 2	**Obs Count**:	**Recent Survey**: 2016
M-Bat Roost (Active Season) *(Bat Roost (Active Season) Survey)*	**Survey Count**: 3	**Obs Count**: 2	**Recent Survey**: 2014
P-Veg Plot *(Unspecified Vegetation Plot)*	**Survey Count**: 3	**Obs Count**: 36	**Recent Survey**: 1989

Latitude	Longitude
46.97919	-114.53794
47.02953	-114.61613

Land Cover

Summarized by: **21MDT0011 CyrBridge** *(Custom Area of Interest)*



29% (*1,476 Acres*)

Grassland Systems
Montane Grassland

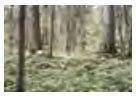
Rocky Mountain Lower Montane, Foothill, and Valley Grassland

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.

22% (*1,122 Acres*)

Forest and Woodland Systems
Conifer-dominated forest and woodland (xeric-mesic)
Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest

This ecological system, composed of highly variable montane conifer forests, is found throughout Montana. It is associated with a submesic climate regime with annual precipitation ranging from 250 to 1,000 millimeters (10-39 inches), with most precipitation occurring during winter, and April through June. Winter snowpacks typically melt off in early spring at lower elevations. Elevations range from valley bottoms to 1,676 meters (5,500 feet) in northwestern Montana and up to 2,286 meters (7,500 feet) on warm aspects in southern Montana. In northwestern and west-central Montana, this ecosystem forms a forest belt on warm, dry to slightly moist sites. It generally occurs on gravelly soils with good aeration and drainage and a neutral to slightly acidic pH. In the western part of the state, it is seen mostly on well drained mountain slopes and valleys from lower treeline to up to 1,676 meters (5,500 feet). Immediately east of the Continental Divide, in north-central Montana, it occurs at montane elevations. Douglas-fir (*Pseudotsuga menziesii*) is the dominant conifer both as a seral and climax species. West of the Continental Divide, occurrences can be dominated by any combination of Douglas-fir and long-lived, seral western larch (*Larix occidentalis*), grand fir (*Abies grandis*), ponderosa pine (*Pinus ponderosa*) and lodgepole pine (*Pinus contorta*). Aspen (*Populus tremuloides*) and western white pine (*Pinus monticola*) have a minor status, with western white pine only in extreme western Montana. East of the Continental Divide, larch is absent and lodgepole pine is the co-dominant. Engelmann spruce (*Picea engelmannii),* white spruce, (*Picea glauca*)or their hybrid, become increasingly common towards the eastern edge of the Douglas-fir forest belt.



15% (*752 Acres*)

Forest and Woodland Systems
Conifer-dominated forest and woodland (mesic-wet)
Rocky Mountain Mesic Montane Mixed Conifer Forest

These forests are generally dominated by western hemlock (*Tsuga heterophylla*), western red cedar (*Thuja plicata*), and grand fir (*Abies grandis*). They are found in areas influenced by incursions of mild, wet, Pacific maritime air masses west of the Continental Divide in Montana. Occurrences are found on all slopes and aspects but grow best on sites with high soil moisture, such as toeslopes and bottomlands. At the periphery of its distribution, this system is confined to moist canyons and cooler, moister aspects. Generally, these are moist, non-flooded or upland forest sites that are not saturated yearlong. In northwestern Montana, western hemlock and western red cedarforests occur on bottomland and northerly exposures between 609-1,585 meters (2,000-5,200 feet) on sites with an average annual precipitation of 635 millimeters (25 inches). These forests are common in extreme northwestern Montana, and extend eastward to the Continental Divide in the Lake McDonald drainage of Glacier National Park. Isolated stands of western hemlock occur in the Swan Valley, but are found most commonly in the Libby and Thompson Falls vicinities, west to the Idaho border. Western red cedaroccurs extensively in the Mission Mountain ranges south to Missoula, and on lower flanks of the Swan Range north of Lion Creek. It is confined to the riparian zone of major streams on the east face of the Bitterroot Mountain Range. Grand fir, being less moisture dependent, occurs in more southerly and easterly sites than western red cedar and western hemlock. This system is similar to Rocky Mountain Dry-Mesic Mixed Montane Conifer Forest, which can be described as a seral phase of this system on appropriate sites west of the Continental Divide.

9% (*459 Acres*)

Recently Disturbed or Modified
Recently burned
Recently burned forest

Land cover is apparently modified by recent fires which have burned forest and woodland vegetation. Vegetation is a mixture of herbaceous, shrub, and tree species.

4% (*224 Acres*)

Forest and Woodland Systems
Conifer-dominated forest and woodland (xeric-mesic)
Rocky Mountain Ponderosa Pine Woodland and Savanna

This system occurs on warm, dry, exposed sites in the foothills of the Rocky Mountains in west-central and central Montana, at the ecotone between grasslands or shrublands and more mesic coniferous forests. Elevations range from 1,066 to 1,676 meters (3,500-5,500 feet), with higher elevation examples mostly confined to central Montana. Occurrences are found on all slopes and aspects; however, moderately steep to very steep slopes or ridgetops are most common. True savanna types are infrequent; the system is more characteristically an open forest with a grassy understory. In the western part of the state, this system is seen mostly on dry slopes in the rainshadow of the Bitterroot Mountains. East of the Continental Divide, it is most widespread around Helena and Lewistown, although it occurs throughout mountain ranges as far east as the Little Rocky and Bearpaw Mountains. Ponderosa pine (*Pinus ponderosa*) is the dominant conifer. Douglas-fir (*Pseudotsuga menziesii*) and western larch (*Larix occidentalis*) may be present in the tree canopy in the more western areas, but are usually absent. In central Montana, limber pine (*Pinus flexilis*) and horizontal juniper (*Juniperus horizontalis*) are frequently components. Although the understory of ponderosa pine forests is often shrubby in other states, in Montana, habitats are mostly dominated by graminoids, although bitterbrush (*Purshia tridentata*), white snowberry (*Symphoricarpos albus*), and skunkrush (*Rhus trilobata*) occur in forests on benchlands and rocky slopes in the central portion of the state. Understory vegetation is more typically grasses and forbs that resprout following low to moderate intensity surface fires. Prolonged drought, beetle kill and exotic invasion are rapidly changing the dynamics of this system.

No Image

4% (*181 Acres*)

Recently Disturbed or Modified
Recently burned
Post-Fire Recovery

No Image

4% (*181 Acres*)

Human Land Use
Developed
Interstate

National Highway System (NHS) limited access highways and their shoulders and rights of way.

2% (*107 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.

No Image

2% (*104 Acres*)

Shrubland, Steppe and Savanna Systems
Deciduous Shrubland
Rocky Mountain Montane-Foothill Deciduous Shrubland

This system is found in the lower montane and foothill regions of western Montana, and north and east into the northern Rocky Mountains. These shrublands typically occur below treeline, within the matrix of surrounding low-elevation grasslands and sagebrush shrublands. They are usually found on steep slopes of canyons, on toeslopes and occasionally on valley bottom lands. These communities can occur on all aspects. In northwestern and west-central Montana, this system forms within Douglas-fir (*Pseudotsuga menziesii*) and ponderosa pine (*Pinus ponderosa)* forests and adjacent to fescue grasslands and big sagebrush (*Artemisia tridentata*) shrublands. In northwestern Montana, these shrublands commonly occur within the upper montane grasslands and forests along the Rocky Mountain Front. Immediately east of the Continental Divide, this system is found within montane grasslands and steep canyon slopes. Most sites have shallow soils that are either loess deposits or volcanic clays. Common ninebark (*Physocarpus malvaceus*), bittercherry (*Prunus emarginata*), common chokecherry (*Prunus virginiana*), rose (*Rosa* spp.), smooth sumac (*Rhus glabra*), Rocky Mountain maple (*Acer glabrum*), serviceberry (*Amelanchier alnifolia*), and oceanspray (*Holodiscus discolor*) are the most common dominant shrubs.

2% (*102 Acres*)

Wetland and Riparian Systems
Open Water
Open Water

All areas of open water, generally with less than 25% cover of vegetation or soil

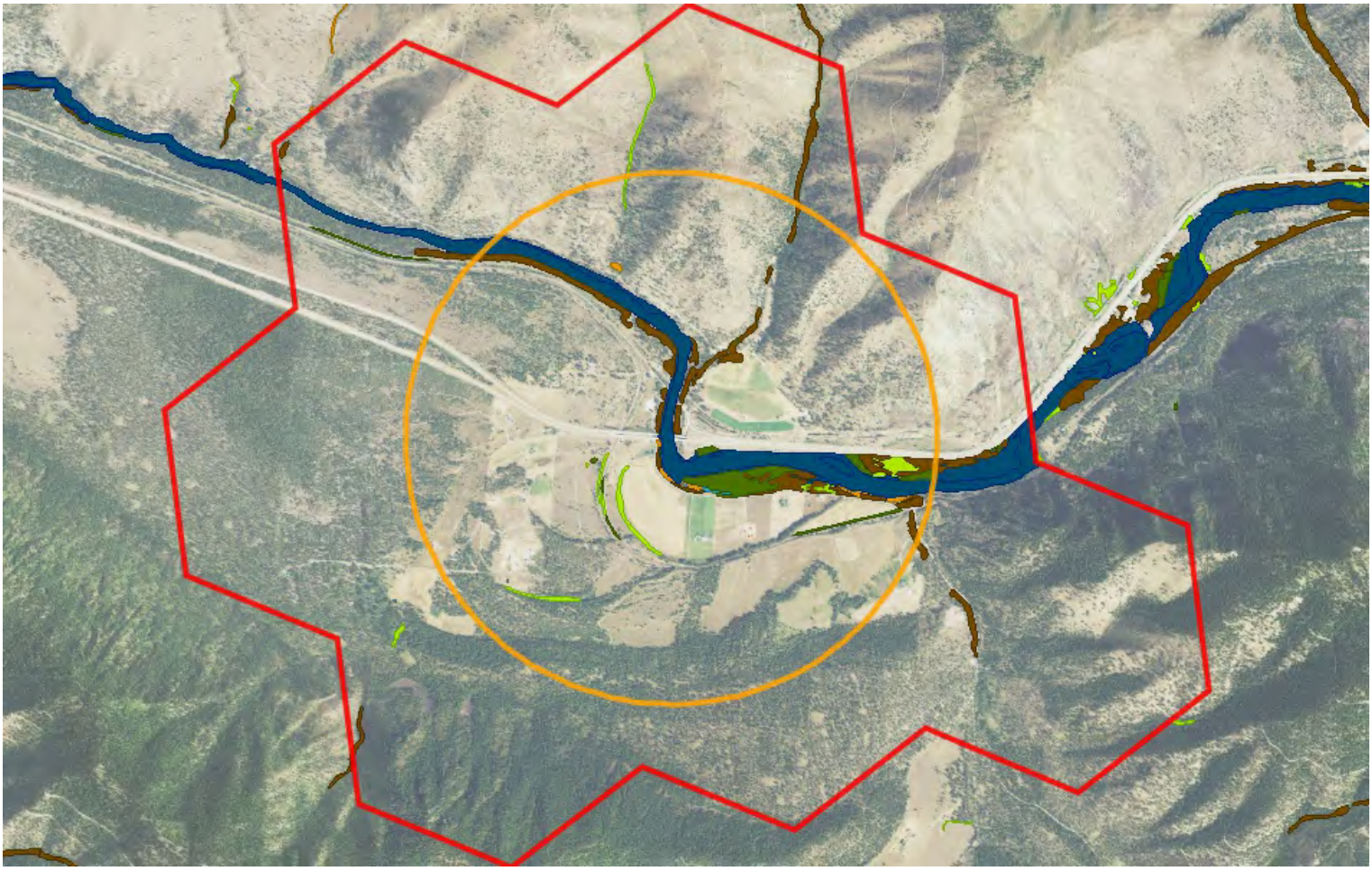
Additional Limited Land Cover

1% (*74 Acres*) Other Roads
1% (*71 Acres*) Northern Rocky Mountain Lower Montane Riparian Woodland and Shrubland
1% (*58 Acres*) Railroad
1% (*48 Acres*) Alpine-Montane Wet Meadow
1% (*43 Acres*) Low Intensity Residential
1% (*39 Acres*) Rocky Mountain Cliff, Canyon and Massive Bedrock
<1% (*16 Acres*) Major Roads
<1% (*13 Acres*) Rocky Mountain Subalpine-Montane Mesic Meadow
<1% (*12 Acres*) Rocky Mountain Subalpine Mesic Spruce-Fir Forest and Woodland
<1% (*11 Acres*) Developed, Open Space
<1% (*9 Acres*) Insect-Killed Forest
<1% (*3 Acres*) Emergent Marsh
<1% (*2 Acres*) Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland
<1% (*2 Acres*) Recently burned shrubland
<1% (*2 Acres*) Aspen Forest and Woodland
<1% (*2 Acres*) Introduced Upland Vegetation - Annual and Biennial Forbland
<1% (*2 Acres*) Rocky Mountain Subalpine-Upper Montane Grassland
<1% (*1 Acres*) High Intensity Residential
<1% (*1 Acres*) Rocky Mountain Subalpine Deciduous Shrubland
<1% (*1 Acres*) Commercial / Industrial
<1% (*1 Acres*) Rocky Mountain Lodgepole Pine Forest

Latitude	Longitude
46.97919	-114.53794
47.02953	-114.61613

Wetland and Riparian

Summarized by: **21MDT0011 CyrBridge** *(Custom Area of Interest)*



Wetland and Riparian Mapping

Explain

P - Palustrine

AB - Aquatic Bed

F - Semipermanently Flooded	1 Acres	
(no modifier)	**1 Acres**	**PABF**
x - Excavated	**<1 Acres**	**PABFx**

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

EM - Emergent

A - Temporarily Flooded	15 Acres	
(no modifier)	**15 Acres**	**PEMA**
x - Excavated	**<1 Acres**	**PEMAx**
C - Seasonally Flooded	1 Acres	
x - Excavated	**1 Acres**	**PEMCx**

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

SS - Scrub-Shrub

A - Temporarily Flooded	26 Acres	
(no modifier)	**23 Acres**	**PSSA**
x - Excavated	**3 Acres**	**PSSAx**

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

R - Riverine (Rivers)

3 - Upper Perennial

UB - Unconsolidated Bottom

R - Riverine (Rivers), 3 - Upper Perennial, UB - Unconsolidated Bottom

H - Permanently Flooded 107 Acres

(no modifier) **107 Acres** R3UBH

Stream channels where the substrate is at least 25% mud, silt or other fine particles.

US - Unconsolidated Shore

A - Temporarily Flooded 32 Acres

(no modifier) **32 Acres** R3USA

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.

Rp - Riparian

1 - Lotic

SS - Scrub-Shrub

(no modifier) **5 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) **71 Acres** Rp1FO

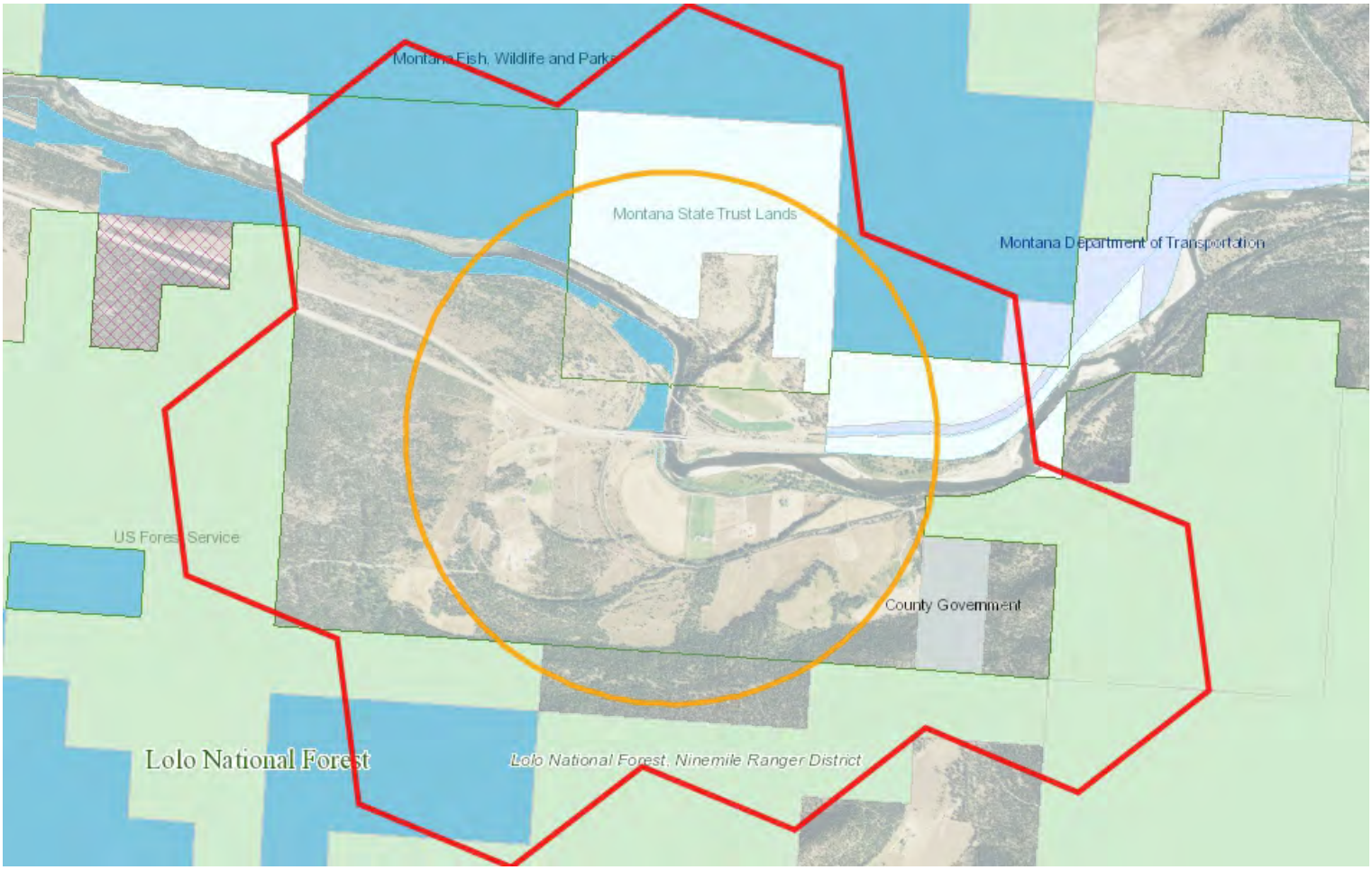
Rp - Riparian, 1 - Lotic, FO - Forested

This riparian class has woody vegetation that is greater than 6 meters (20 feet) tall.

Latitude	Longitude
46.97919	-114.53794
47.02953	-114.61613

Land Management

Summarized by: **21MDT0011 CyrBridge** *(Custom Area of Interest)*



Land Management Summary

Explain

	Ownership	Tribal	Easements	Other Boundaries (possible overlap)
Public Lands	**2,869 Acres (56%)**			
Federal	**1,146 Acres (22%)**			
US Forest Service	**1,146 Acres (22%)**			
USFS Owned	**1,146 Acres (22%)**			
USFS Ranger Districts				**2,593 Acres**
Lolo National Forest, Ninemile Ranger District				2,593 Acres
USFS National Forest Boundaries				**2,593 Acres**
Lolo National Forest				2,593 Acres
State	**1,643 Acres (32%)**			
Montana State Trust Lands	**599 Acres (12%)**			
MT State Trust Owned	**599 Acres (12%)**			
Montana Fish, Wildlife and Parks	**1,018 Acres (20%)**			
MTFWP Owned	**1,018 Acres (20%)**			
MTFWP Fishing Access Sites				**128 Acres**
Alberton Gorge Fishing Access Site				32 Acres
Cyr Bridge Fishing Access Site				12 Acres
St. John's Fishing Access Site				43 Acres
Upper Osprey Fishing Access Site				41 Acres
Montana Department of Transportation	**26 Acres (1%)**			
MTDOT Owned	**26 Acres (1%)**			

Land Management Summary

Explain

	Ownership	Tribal	Easements	Other Boundaries (possible overlap)
Local	80 Acres (2%)			
Local Government	80 Acres (2%)			
Local Government Owned	80 Acres (2%)			
Private Lands or Unknown Ownership	**2,245 Acres (44%)**			

Latitude	Longitude
46.97919	-114.53794
47.02953	-114.61613

Biological Reports

Summarized by: **21MDT0011 CyrBridge** *(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

- Rogers, Ralph and Jay Sumner. 2004. Montana Peregrine Falcon Survey. Centmont Bioconsultants. Winifred, Montana. 32 pp plus appendix.
- Sumner, Jay and Ralph Rogers. 2006. Montana Peregrine Falcon Survey. Montana Peregrine Institute. Arlee, Montana. 36 pp plus appendix.

Legend

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

Habitat Icons
C Common
O Occasional

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

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

Latitude	Longitude
46.97919	-114.53794
47.02953	-114.61613

Invasive and Pest Species

Summarized by: **21MDT0011 CyrBridge** *(Custom Area of Interest)*

	# Obs	Predictive Model	Associated Habitat	Range

Aquatic Invasive Species

A - American Bullfrog *(Lithobates catesbeianus)* AIS — # Obs: | Predictive Model: | Associated Habitat: | Range: D

View in Field Guide | View Predicted Models | View Associated Habitat | View Range Maps
Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**
Predictive Models: M 13% Moderate (inductive), L 62% Low (inductive) **Associated Habitats:** C 4% Common, O 1% Occasional

Noxious Weeds: Priority 1A

V - Centaurea solstitialis *(Yellow Starthistle)* N1A — # Obs: | Predictive Model: | Associated Habitat: Not Assigned | Range: D

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1A - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: M 63% Moderate (inductive), L 37% Low (inductive)

V - Isatis tinctoria *(Dyer's Woad)* N1A — # Obs: | Predictive Model: | Associated Habitat: Not Assigned | Range: D

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1A - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: M 38% Moderate (inductive), L 50% Low (inductive)

Noxious Weeds: Priority 1B

V - Echium vulgare *(Blueweed)* N1B — # Obs: | Predictive Model: | Associated Habitat: Not Assigned | Range: D

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1B - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: O 75% Optimal (inductive), M 25% Moderate (inductive)

Noxious Weeds: Priority 2A

V - Hieracium caespitosum *(Meadow Hawkweed)* N2A — # Obs: | Predictive Model: | Associated Habitat: Not Assigned | Range: D

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: M 100% Moderate (inductive)

V - Hieracium praealtum *(Kingdevil Hawkweed)* N2A — # Obs: | Predictive Model: | Associated Habitat: Not Assigned | Range: D

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: M 88% Moderate (inductive), L 12% Low (inductive)

V - Hieracium aurantiacum *(Orange Hawkweed)* N2A — # Obs: | Predictive Model: | Associated Habitat: Not Assigned | Range: D

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: M 12% Moderate (inductive), L 88% Low (inductive)

V - Lepidium latifolium *(Perennial Pepperweed)* N2A — # Obs: | Predictive Model: | Associated Habitat: Not Assigned | Range: D

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: L 63% Low (inductive)

Noxious Weeds: Priority 2B

V - Linaria dalmatica *(Dalmatian Toadflax)* N2B — # Obs: 4 | Predictive Model: | Associated Habitat: Not Assigned | Range: D

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**
Predictive Models: O 38% Optimal (inductive), M 62% Moderate (inductive)

V - Hypericum perforatum *(Common St. John's-wort)* N2B — # Obs: 1 | Predictive Model: | Associated Habitat: Not Assigned | Range: D

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: O 12% Optimal (inductive), M 88% Moderate (inductive)

V - Leucanthemum vulgare *(Oxeye Daisy)* N2B — # Obs: | Predictive Model: | Associated Habitat: Not Assigned | Range: D

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: O 12% Optimal (inductive), M 88% Moderate (inductive)

V - Centaurea stoebe *(Spotted Knapweed)* N2B — # Obs: 82 | Predictive Model: | Associated Habitat: Not Assigned | Range: D

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

V - Cynoglossum officinale *(Common Hound's-tongue)* N2B — 12 — Not Assigned — D

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: M 75% Moderate (inductive), L 25% Low (inductive)

V - Linaria vulgaris *(Yellow Toadflax)* N2B — Not Assigned — D

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: M 63% Moderate (inductive), L 37% Low (inductive)

V - Centaurea diffusa *(Diffuse Knapweed)* N2B — Not Assigned — D

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: M 50% Moderate (inductive), L 50% Low (inductive)

V - Cirsium arvense *(Canada Thistle)* N2B — 4 — Not Assigned — D

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**
Predictive Models: M 50% Moderate (inductive), L 50% Low (inductive)

V - Euphorbia virgata *(Leafy Spurge)* N2B — 53 — Not Assigned — D

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNRTNR** State: **SNA**
Predictive Models: M 25% Moderate (inductive), L 75% Low (inductive)

V - Acroptilon repens *(Russian Knapweed)* N2B — Not Assigned — D

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: M 25% Moderate (inductive), L 62% Low (inductive)

V - Berteroa incana *(Hoary False-alyssum)* N2B — Not Assigned — D

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

V - Convolvulus arvensis *(Field Bindweed)* N2B — Not Assigned — D

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

V - Lepidium draba *(Whitetop)* N2B — Not Assigned — D

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: L 75% Low (inductive)

V - Potentilla recta *(Sulphur Cinquefoil)* N2B — 2 — Not Available — Not Assigned — D

View in Field Guide View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

V - Tanacetum vulgare *(Common Tansy)* N2B — 57 — Not Available — Not Assigned — D

View in Field Guide View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Regulated Weeds: Priority 3

V - Bromus tectorum *(Cheatgrass)* R3 — Not Assigned — D

View in Field Guide View Predicted Models View Range Maps
Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: O 25% Optimal (inductive), M 75% Moderate (inductive)

V - Elaeagnus angustifolia *(Russian Olive)* R3 — Not Assigned — D

View in Field Guide View Predicted Models View Range Maps
Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: M 25% Moderate (inductive), L 37% Low (inductive)

Biocontrol Species

I - Mecinus janthinus *(Yellow Toadflax Stem-boring Weevil)* BIOCNTRL — Not Assigned — R

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: O 88% Optimal (inductive), L 12% Low (inductive)

I - Mecinus janthiniformis *(Dalmatian Toadflax Stem-boring Weevil)* BIOCNTRL — Not Assigned — R

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: O 13% Optimal (inductive), M 63% Moderate (inductive), L 24% Low (inductive)

I - Cyphocleonus achates *(Knapweed Root Weevil)* **BIOCNTRL** Not Assigned R

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: M 75% Moderate (inductive), L 25% Low (inductive)

I - Oberea erythrocephala *(Red-headed Leafy Spurge Stem Borer)* **BIOCNTRL** Not Assigned R

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predictive Models: M 37% Moderate (inductive), L 63% Low (inductive)

Introduction to Montana Natural Heritage Program

P.O. Box 201800 • 1515 East Sixth Avenue • Helena, MT 59620-1800 • fax 406.444.0266 • tel 406.444.0241 • mtnhp.org

Introduction

The Montana Natural Heritage Program (MTNHP) is Montana's source for reliable and objective information on Montana's native species and habitats, emphasizing those of conservation concern. MTNHP was created by the Montana legislature in 1983 as part of the Natural Resource Information System (NRIS) at the Montana State Library (MSL). MTNHP is "a program of information acquisition, storage, and retrieval for data relating to the flora, fauna, and biological community types of Montana" (MCA 90-15-102). MTNHP's activities are guided by statute (MCA 90-15) as well as through ongoing interaction with, and feedback from, principal data source agencies such as Montana Fish, Wildlife, and Parks, the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation, the Montana University System, the US Forest Service, and the US Bureau of Land Management. The enabling legislation for MTNHP provides the State Library with the option to contract the operation of the Program. Since 2006, MTNHP has been operated as a program under the Office of the Vice President for Research and Creative Scholarship at the University of Montana (UM) through a renewable 2-year contract with the MSL. Since the first staff was hired in 1985, the Program has logged a long record of success, and developed into a highly respected, service-oriented program. MTNHP is widely recognized as one of the most advanced and effective of over 80 natural heritage programs throughout the Western Hemisphere.

Vision

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

Core Values

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

Confidentiality

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

Information Managed

Information managed at the Montana Natural Heritage Program includes: (1) lists of, and basic information on, plant and animal species and biological communities; (2) plant and animal surveys, observations, species occurrences, predictive distribution models, range polygons, and conservation status ranks; and (3) land cover and wetland and riparian mapping and the conservation status of these and other biological communities.

Data Use Terms and Conditions

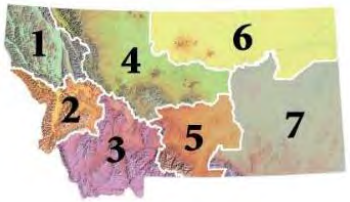
- Montana Natural Heritage Program (MTNHP) products and services are based on biological data and the objective interpretation of those data by professional scientists. MTNHP does not advocate any particular philosophy of natural resource protection, management, development, or public policy.
- MTNHP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

Suggested Contacts for Natural Resource Agencies

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

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

Montana Fish, Wildlife, and Parks

Fish Species	Zachary Shattuck zshattuck@mt.gov (406) 444-1231 or 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	Lauri Hanauska-Brown LHanauska-Brown@mt.gov (406) 444-5209
Grizzly Bear Greater Sage Grouse Trumpeter Swan Big Game Upland Game Birds Furbearers	John Vore jvore@mt.gov (406) 444-3940
Managed Terrestrial Game and Nongame Animal Data	Smith Wells – MFWP Data Analyst smith.wells@mt.gov (406) 444-3759
Fisheries Data	Ryan Alger – MFWP Data Analyst ryan.alger@mt.gov (406) 444-5365
Wildlife and Fisheries Scientific Collector's Permits	http://fwp.mt.gov/doingBusiness/licenses/scientificWildlife/ Kammi McClain for Wildlife Kammi.McClain@mt.gov (406) 444-2612 Kim Wedde for Fisheries kim.wedde@mt.gov (406) 444-5594
Fish and Wildlife Recommendations for Subdivision Development	Renee Lemon RLemon@mt.gov (406) 444-3738 and see http://fwp.mt.gov/fishAndWildlife/livingWithWildlife/buildingWithWildlife/subdivisionRecommendations/
Regional Contacts  	Region 1 (Kalispell) (406) 752-5501 Region 2 (Missoula) (406) 542-5500 Region 3 (Bozeman) (406) 994-4042 Region 4 (Great Falls) (406) 454-5840 Region 5 (Billings) (406) 247-2940 Region 6 (Glasgow) (406) 228-3700 Region 7 (Miles City) (406) 234-0900

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

Bureau of Land Management

Montana Field Office Contacts:

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

United States Forest Service

Regional Office – Missoula, Montana Contacts

Wildlife Program Leader	Tammy Fletcher	tammyfletcher@fs.fed.us	(406) 329-3588
Wildlife Ecologist	Cara Staab	cstaab@fs.fed.us	(406) 329-3677
Fish Program Leader	Scott Spaulding	scottspaulding@fs.fed.us	(406) 329-3287
Fish Ecologist	Cameron Thomas	cathomas@fs.fed.us	(406) 329-3087
TES Program	Lydia Allen	lrallen@fs.fed.us	(406) 329-3558
Interagency Grizzly Bear Coordinator	Scott Jackson	sjackson03@fs.fed.us	(406) 329-3664
Regional Botanist	Steve Shelly	sshelly@fs.fed.us	(406) 329-3041
Invasive Species Program Manager	Michelle Cox	michelle.cox2@usda.gov	(406) 329-3669

Tribal Nations

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

Natural Heritage Programs and Conservation Data Centers in Surrounding States and Provinces
Alberta Conservation Information Management System
British Columbia Conservation Data Centre
Idaho Natural Heritage Program
North Dakota Natural Heritage Program
Saskatchewan Conservation Data Centre
South Dakota Natural Heritage Program
Wyoming Natural Diversity Database

Invasive Species Management Contacts and Information

Aquatic Invasive Species

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

Noxious Weeds

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

Introduction to Native Species

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

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

Observations

The MTNHP manages information on more than 1.8 million animal and plant observations that have been reported by professional biologists and private citizens from across Montana. The majority of these observations are submitted in digital format from standardized databases associated with research or monitoring efforts and spreadsheets of incidental observations submitted by professional biologists and amateur naturalists. At a minimum, accepted observation records must contain a credible species identification (i.e. appropriate geographic range, date, and habitat and, if species are difficult to identify, a photograph and notes on key identifying features), a date or date range, observer name, locational information (ideally with latitude and longitude in decimal degrees), notes on numbers observed, and species behavior or habitat use (e.g., is the observation likely associated with reproduction). Bird records are also required to have information associated with date-appropriate breeding or overwintering status of the species observed. MTNHP reviews observation records to ensure that they are mapped correctly, occur within date ranges when the species is known to be present or detectable, occur within the known seasonal geographic range of the species, and occur in appropriate habitats. MTNHP also assigns each record a locational uncertainty value in meters to indicate the spatial precision associated with the record's mapped coordinates. Only records with locational uncertainty values of 10,000 meters or less are included in environmental summary reports and number summaries are only provided for records with locational uncertainty values of 1,000 meters or less.

Species Occurrences

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

Plant Species Occurrences

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

Animal Species Occurrences

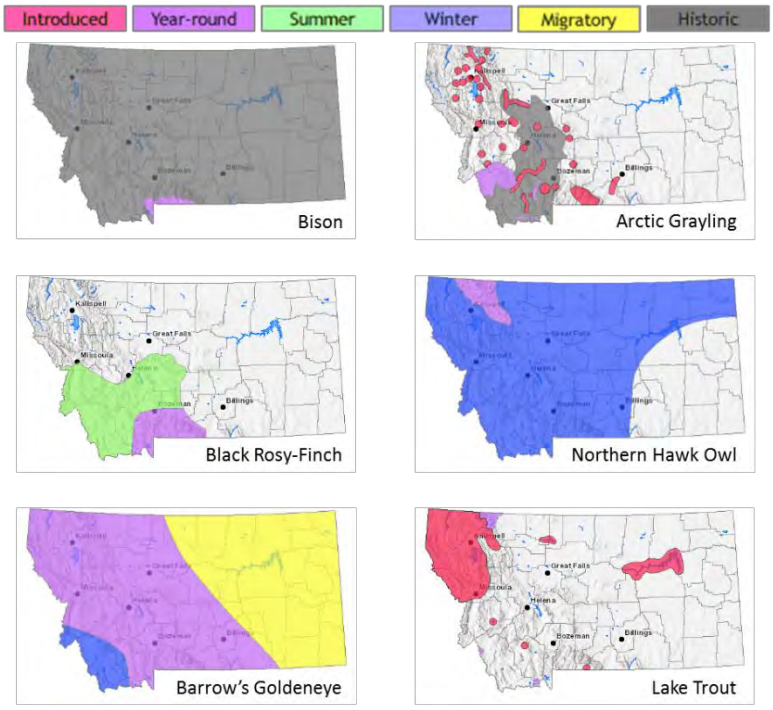
The location of a verified observation or specimen record typically known or assumed to represent a breeding population or a portion of a breeding population. Animal SO's are generally: (1) buffers of terrestrial point observations based on documented species' home range sizes; (2) buffers of stream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

Other Occurrence Polygons

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

Geographic Range Polygons

Geographic range polygons have not yet been defined for most plant species. Native year-round, summer, winter, migratory and historic geographic range polygons as well as polygons for introduced populations have been defined for most animal species for which there are enough observations, surveys, and knowledge of appropriate seasonal habitat use to define them (see examples to left). These native or introduced range polygons bound the extent of known or likely occupied habitats for non-migratory and relative sedentary species and the regular extent of known or likely occupied habitats for migratory and long-distance dispersing species; polygons may include unsuitable intervening habitats. For most species, a single polygon can represent the year-round or seasonal range, but breeding ranges of some colonial nesting water birds and some introduced species are represented more patchily when supported by data. Some ranges are mapped more broadly than actual distributions in order to be visible on statewide maps (e.g., fish).



Predicted Suitable Habitat Models

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

Associated Habitats

Within the boundary of the intersected hexagons, we provide the approximate percentage of commonly or occasionally associated habitat for vertebrate animal species that regularly breed, overwinter, or migrate through the state; a detailed list of commonly and occasionally associated habitats is provided in individual species accounts in the Montana Field Guide. We assigned common or occasional use of each of the 82 ecological systems mapped in Montana by: (1) using personal knowledge and reviewing literature that

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

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

Introduction to Land Cover

Land Use/Land Cover is one of 15 Montana Spatial Data Infrastructure framework layers considered vital for making statewide maps of Montana and understanding its geography. The layer records all Montana natural vegetation, land cover and land use, classified from satellite and aerial imagery, mapped at a scale of 1:100000, and interpreted with supporting ground-level data. The baseline map is adapted from the Northwest ReGAP (NWGAP) project land cover classification, which used 30m resolution multi-spectral Landsat imagery acquired between 1999 and 2001. Vegetation classes were drawn from the Ecological System Classification developed by NatureServe (Comer et al. 2003). The land cover classes were developed by Anderson et al. (1976). The NWGAP effort encompasses 12 map zones. Montana overlaps seven of these zones. The two NWGAP teams responsible for the initial land cover mapping effort in Montana were Sanborn and NWGAP at the University of Idaho. Both Sanborn and NWGAP employed a similar modeling approach in which Classification and Regression Tree (CART) models were applied to Landsat ETM+ scenes. The Spatial Analysis Lab within the Montana Natural Heritage Program was responsible for developing a seamless Montana land cover map with a consistent statewide legend from these two separate products. Additionally, the Montana land cover layer incorporates several other land cover and land use products (e.g., MSDI Structures and Transportation themes and the Montana Department of Revenue Final Land Unit classification) and reclassifications based on plot-level data and the latest NAIP imagery to improve accuracy and enhance the usability of the theme. Updates are done as partner support and funding allow, or when other MSDI datasets can be incorporated. Recent updates include fire perimeters and agricultural land use (annually), energy developments such as wind, oil and gas installations (2014), roads, structures and other impervious surfaces (various years): and local updates/improvements to specific ecological systems (e.g., central Montana grassland and sagebrush ecosystems). Current and previous versions of the Land Use/Land Cover layer with full metadata are available for download at the Montana State Library's Geographic Information Clearinghouse.

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

Literature Cited

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

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

Introduction to Wetland and Riparian

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

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

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

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

Literature Cited

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

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

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

Introduction to Land Management

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

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

Public and private conservation land polygons are attributed with the name of the entity that owns it. The data are derived from the statewide Montana Cadastral Parcel layer. Conservation easement data shows land parcels on which a public agency or qualified land trust has placed a conservation easement in cooperation with the land owner. The dataset contains no information about ownership or status of the mineral estate. For questions about the dataset or to report errors, please contact the Montana Natural Heritage Program at (406) 444-5363 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, and Forest Pests that have been documented or potentially occur there based on their known distribution in the state. Definitions for each of these invasive and pest species categories can be found on our Species Status Codes page.

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

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

Additional Information Resources

Home Page for Montana Natural Heritage Program (MTNHP)

MTNHP Staff Contact Information

Montana Field Guide

MTNHP Species of Concern Report - Animals and Plants

MTNHP Species Status Codes - Explanation

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

MTNHP Request Information page

Montana Cadastral

Montana Code Annotated

Montana Department of Environmental Quality

Montana Fisheries Information System

Montana Fish, Wildlife, and Parks Subdivision Recommendations

Montana GIS Data Layers

Montana GIS Data Bundler

Montana Greater Sage-Grouse Project Submittal Site

Montana Ground Water Information Center

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

Montana Environmental Policy Act (MEPA)

MEPA Analysis Resource List

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

Montana Spatial Data Infrastructure Layers

Montana State Historic Preservation Office Review and Compliance

Montana Water Information System

Montana Web Map Services

National Environmental Policy Act

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

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

Web Soil Survey Tool

Appendix B: United States Fish and Wildlife Survey - Endangered Species Report for Alberton Bridges Projects

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:
Consultation Code: 06E11000-2021-SLI-0704
Event Code: 06E11000-2021-E-01314
Project Name: MDT Alberton Bridge Replacement Project

September 17, 2021

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 ECOS-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 ECOS-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:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

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 Tracking Number 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

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

Consultation Code: 06E11000-2021-SLI-0704
Event Code: Some(06E11000-2021-E-01314)
Project Name: MDT Alberton Bridge Replacement Project
Project Type: BRIDGE CONSTRUCTION / MAINTENANCE
Project Description: Montana Dept. of Transportation is replacing the Cyr, Clark Fork River, and Old Highway 10 westbound bridges on I-90.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@47.0042636,-114.5765400479592,14z

Counties: Mineral County, Montana

Endangered Species Act Species

There is a total of 5 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. The location of the critical habitat is not available. 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. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7642	Threatened

Birds

NAME	STATUS
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Fishes

NAME	STATUS
Bull Trout *Salvelinus confluentus*	Threatened

Population: U.S.A., conterminous, 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

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Bull Trout *Salvelinus confluentus*	Final

https://ecos.fws.gov/ecp/species/8212#crithab

Appendix C: United States Fish and Wildlife Survey Comment Letter for Alberton Bridges Projects

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Montana Ecological Services Office
585 Shepard Way, Suite 1
Helena, Montana 59601–6287

In Reply Refer to:
FWS/IR05/IR07
M.17 FHWA;
06E11000-2021-TA-0552

July 1, 2021

Joe Weigand
Montana Department of Transportation
2701 Prospect
PO Box 201001
Helena, Montana 59620-1001

Dear Mr. Weigand:

This responds to your June 10, 2021 letter requesting comments on the proposed I-90 Structures—W of Alberton (NHPB 90-1(239)65; UPN 9786000) project. The purpose of this project would be to replace three westbound bridges along I-90 at Old Highway 10 (route post [RP] 65.5), Clark Fork River (RP 66.3), and Cyr (RP 70.1). The latter two bridges cross the Clark Fork River. The project is located west of Alberton, Montana, in Mineral County. The Service received your letter, a location map, and the Preliminary Field Review Report for the project on June 10, 2021.

Our comments are prepared under the authority of, and in accordance with, the provisions of the Endangered Species Act (ESA; 16 U.S.C. 1531 et. seq.), Migratory Bird Treaty Act (MBTA; 16 U.S.C. 703 et seq.), and Bald and Golden Eagle Protection Act (BGEPA; 16 U.S.C. 668-668d, 54 Stat. 250). We offer the following comments for your consideration.

Threatened and Endangered Species

The current list of candidate, proposed, threatened or endangered species, and designated critical habitat occurring in Mineral County, Montana is as follows:

Scientific Name	***Common Name***	***Status****
Salvelinus confluentus	Bull Trout	LT, CH
Lynx canadensis	Canada Lynx	LT
Ursus arctos horribilis	Grizzly Bear	LT
Pinus albicaulis	Whitebark Pine	P

*LE=Listed as Endangered, LT=Listed Threatened, P = Proposed, C = Candidate

Additional information may be obtained using the Service Information for Planning and Consultation (IPaC) project-planning tool, at https://ecos.fws.gov/ipac/.

Under the ESA, a Federal agency that authorizes, funds, or carries out a proposed action is required to evaluate the action with respect to effects to threatened or endangered species and critical habitat. If the Federal agency, or its delegated agent, determines that the action "may affect" listed species and/or designated critical habitat, the Federal agency is required to enter into section 7 consultation with the Service. It is the responsibility of the Federal agency to ensure that its actions are in compliance with the ESA. Further technical assistance can be provided if you have additional questions regarding project impacts to listed species, or future ESA responsibilities.

From the species listed above, the proposed bridge replacements crossing the Clark Fork River at route posts 66.3 and 70.1 have the greatest potential to adversely affect the threatened bull trout and designated bull trout critical habitat. Bull trout local populations in this Middle Clark Fork River Core Area are at dangerously low population levels, with many bordering on extirpation. For these reasons, the Service respectfully requests that the Department and Federal Highway Administration employ highly effective conservation measures in order to minimize adverse effects to these populations. As such, these bridge replacements are most likely to adversely affect bull trout and their designated critical habitat through: (1) long-term sediment and chemical contaminant inputs if bridge stormwater runoff is discharged directly into the Clark Fork River; (2) short-term adverse effects from barotraumas and temporary barriers to movement through the project area if there is impact pile driving; (3) short-term effects from potential sediment and chemical contaminant inputs during the construction process; and (4) short-term barriers to movement if the existing bridges are demolished by dropping them into the river below and dragging them out. In order to minimize the potential for these short- and long-term effects, the Service recommends the following conservation measures in the design and implementation of the proposed project:

1. If possible, use drilled shafts for installation of the foundation systems or utilize the foundations of the existing structures.

2. If impact pile driving must be used for the construction of temporary and permanent facilities, it may occur between July 15 and August 31. This includes dry land and in-water impact pile driving, and is intended to reduce the risk of barotraumas for bull trout.

3. Should piles be driven outside of the above work window:
    a. Limit the periods of driving pile to no more than 12 hours/day, except in rare circumstances, when safety issues require completion of work begun that day. The project manager must be notified and approve driving pile in excess of 12 hours/day.
    b. Conduct hydroacoustic monitoring. Through hydroacoustic monitoring, it is possible that that the physical harm thresholds of the peak sound pressure level (SPL) of 206 dB (re: 1 µPa) or the cumulative sound exposure level (SEL) of 187 dB (re: 1 µPa) may be attained or exceeded during the calibration exercise. The calibration period will be limited in duration with the purpose of obtaining a

representative sample of piles (e.g., size and materials) and locations to ensure that the appropriate sound information is collected for use in the National Marine Fisheries Service Calculator Tool. In combination with hydroacoustic monitoring, use one of the following measures:

i. Use a vibratory hammer to drive piles to such a point when an impact hammer will be required to drive the pile to the point of completion. Use of drilled shafts or vibratory hammers is preferable to impact pile driving because the risk of barotraumas is extremely low for these two methods. OR;

ii. For production pile driving, use a "soft start" or "ramp up" pile driving (e.g., driving does not begin at 100% energy) to encourage fish to vacate the surrounding area and use the information collected during hydroacoustic monitoring calibration and the National Marine Fisheries Service Calculator Tool to determine how many pile strikes can occur during a day, based on pile type and size, prior to reaching the cumulative sound exposure level (SEL) threshold of 187 dB. Once the number of strikes has been attained, impact pile driving must be stopped for the day. If driving pile with an impact hammer over consecutive days outside the work windows in 1) above, do not drive piling between the hours of 9:00 PM and 6:00 AM OR;.

iii. Use Department-approved noise reduction methods, such as those offered in Leslie and Schwertner (2013) (e.g., bubble curtain, cofferdams).

4. Monitor all dewatering activities visually to ensure bull trout are not trapped. In the unlikely event a live bull trout is found within a dewatering area, immediately return it to the river.

5. Instream removal of bridge piers should occur during low water (July 15 through October 15).

6. No construction equipment is allowed to operate within the active channel unless permitted to do so.

7. Materials excavated from inside any coffer dams shall not enter any waterbody, and if so, will be removed.

8. To the maximum extent practicable, disassemble and remove the existing bridges without pieces being allowed to fall into the river. If debris or portions of the existing bridge enter the river during demolition, within two (2) days completely remove them from the river without dragging the material along the streambed.

9. Any blasting required during demolition will be contained to the maximum extent practicable using some type of containment shielding device to attenuate the blast's pressure wave within the water and to prevent debris from entering the river. Meet all applicable requirements contained within Department's Standard Specifications Section 204 – Blasting.

10. Upon locating dead or injured bull trout, notify the Department's Project Manager and contact the USFWS Field Office at (406) 449-5225 within 24 hours. Record information relative to the date, time, and location of dead or injured bull trout when/if found. Include any activities that were occurring at the location and time of injury and/or death of each fish and provide this information to the USFWS.

11. Conduct project-related activities outside of construction limits in a manner which will not adversely affect species and/or designated critical habitat listed under the Endangered Species Act.

12. Stormwater facilities for the proposed I-90 bridges should be designed such that direct discharges to the Clark Fork River are eliminated or minimized through buffers and/or appropriate sloping.

13. Ensure best management practices (BMPs) are applied to this project, including, but not limited to:
    a. installing and maintaining appropriate structural BMPs to prevent erosion and sediment transport from entering state waters;
    b. reseeding and revegetating all disturbed areas with desirable vegetation excluding areas below the ordinary high water mark
    c. stabilizing disturbed channel banks using appropriate structural BMPs; and
    d. conducting work to minimize disturbance to riparian vegetation.

14. Collect and dispose of all waste fuels, lubricating fluids, herbicides, and other chemicals in accordance with all applicable laws, rules, and regulations to ensure no adverse environmental impacts will occur.

15. During active construction periods, inspect equipment daily to ensure hydraulic, fuel, and lubrication systems are in good condition and free of leaks to prevent these materials from entering any water body.

16. Locate vehicle servicing and refueling areas, fuel storage areas, and construction staging and materials storage areas to ensure that spilled fluids or stored materials do not enter any water body.

17. Monitor structures designed to minimize sediment and pollutant discharges such as settling ponds, vehicle and fuel storage areas, hazardous materials storage sites, erosion control structures, and coffer dams each workday and immediately following precipitation events to ensure these structures are functioning properly. These structures should be sized appropriately to handle foreseeable precipitation events and stream flow conditions.

18. Any detention basin outlets will be designed such that they are stabilized to prevent streambank erosion and will not otherwise impact the stream channel bank.

19. Keep in-water work within the river channel to the minimum amount necessary. This includes, but is not limited to, construction and removal of any temporary support structures that may be necessary and riprap placement below the ordinary high-water mark. In-water construction work shall be completed in the shortest amount of time practicable.

20. Do not operate construction equipment within the active channel of any water body unless allowed by temporary facilities permits and approved by the Department's Project Manager. Schedule construction activities to ensure as much of the work as practicable is completed during periods of low water levels.

21. Should in-water activities displace channel features (e.g., large woody debris, boulders, etc.), restore the channel to the conditions that existed prior to project commencement, unless included in the contract.

22. Span channel such that piers are located outside the ordinary high water mark to the extent practicable.

Migratory Birds

The MBTA prohibits the purposeful taking, killing, possession, and transportation, (among other actions) of migratory birds, their eggs, parts, and nests, except when specifically permitted. If work is proposed to take place in migratory bird habitats that may result in take of migratory birds, their eggs, or active nests, the Service recommends that the project proponent take all practicable measures to avoid and minimize take, such as maintaining adequate buffers, to protect the birds until the young have fledged. Active nests may not be removed. The Service has developed, and continues to revise and develop, general and industry-specific conservation measures for avoiding and minimizing impacts to birds (https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php). We recommend that the proposed project consider and incorporate these measures into project design, construction, and documentation as appropriate.

Bald and Golden Eagles

The Service is aware of several active golden eagle territories within the project area. However, only one nest is approximately 0.1 mile away from the I-90 bridge crossing at Old Highway 10 (RP 65.5), and is a cause for concern. We highly recommend that you contact Montana Fish, Wildlife and Parks for the most recent information regarding the territory and nest locations, and begin to explore options pursuing a disturbance take permit for bald eagles under the BGEPA.

The bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) are protected from a variety of harmful actions via take prohibitions in both the MBTA[1] (16 U.S.C. 703-712)

[1] On December 22, 2017, the Department of the Interior's (DOI) Office of the Solicitor Memorandum M-37050 titled The Migratory Bird Treaty Act Does Not Prohibit Incidental Take https://www.doi.gov/sites/doi.gov/files/uploads/m-37050.pdf) concludes that the MBTA's prohibitions on pursuing, hunting, taking, capturing, killing, or attempting to do the same apply only to affirmative actions that have as their

and the BGEPA. The BGEPA, enacted in 1940 and amended several times, prohibits take of bald eagles and golden eagles, including their parts, nests, young or eggs, except where otherwise permitted pursuant to Federal regulations. Incidental take of eagles from actions such as electrocutions from power lines or wind turbine strikes are prohibited unless specifically authorized via an eagle incidental take permit from the Service. BGEPA provides penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The BGEPA defines take to include the following actions: "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." The Service expanded this definition by regulation to include the term "destroy" to ensure that "take" also encompasses destruction of eagle nests. Also the Service defined the term disturb which means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

The Service has developed guidance for the public regarding means to avoid take of bald and golden eagles:

- The 2007 National Bald Eagle Management Guidelines serve to advise landowners, land managers, and others who share public and private lands with bald eagles when and under what circumstances the protective provisions of BGEPA may apply. They provide conservation recommendations to help people avoid and/or minimize such impacts to bald eagles, particularly where they may constitute "disturbance," which is prohibited by the BGEPA.
  https://www.fws.gov/northeast/ecologicalservices/pdf/NationalBaldEagleManagementGuidelines.pdf

- The 2013 Eagle Conservation Plan Guidance, Module 1- Land-based Wind Energy, Version 2 is specific to wind energy development and provides in-depth guidance for conserving bald and golden eagles in the course of siting, constructing, and operating wind energy facilities. Development of an Eagle Conservation Plan per these guidelines may serve as the basis for applying for an eagle incidental take permit for wind energy facilities. Applications for such eagle incidental take permits must include an Eagle Conservation Plan.
  https://www.fws.gov/migratorybirds/pdf/management/eagleconservationplanguidance.pdf

The Service also has promulgated new permit regulations under BGEPA:

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purpose the taking or killing of migratory birds, their nests, or their eggs. The MBTA list of protected species includes bald and golden eagles, and the law has been an effective tool to pursue incidental take cases involving eagles. However, the primary law protecting eagles is the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S. Code § 668), since the bald eagle was delisted under the Endangered Species Act in 2007. Memorandum-37050 does not affect the ability of the Service to refer entities for prosecution that have violated the take prohibitions for eagles established by the BGEPA.

- New eagle permit regulations, as allowed under BGEPA, were promulgated by the Service in 2009 (74 FR 46836; Sept. 11, 2009) and revised in 2016 (81 FR 91494; Dec. 16, 2016). The regulations authorize the limited take of bald and golden eagles where the take to be authorized is associated with otherwise lawful activities. These regulations also establish permit provisions for intentional take of eagle nests where necessary to ensure public health and safety, in addition to other limited circumstances. The revisions in 2016 included changes to permit issuance criteria and duration, definitions, compensatory mitigation standards, criteria for eagle nest removal permits, permit application requirements, and fees in order to clarify, improve implementation and increase compliance while still protecting eagles. https://www.gpo.gov/fdsys/pkg/FR-2016-12-16/pdf/2016-29908.pdf

The Service's Office of Law Enforcement carries out its mission to protect eagles through investigations and enforcement, as well as by fostering relationships with individuals, companies, industries and agencies that have taken effective steps to avoid take, including incidental take of these species, and encouraging others to implement measures to avoid take. The Office of Law Enforcement focuses its resources on investigating individuals and entities that take eagles without identifying and implementing all reasonable, prudent and effective measures to avoid that take. Those individuals and entities are encouraged to work closely with Service biologists to identify available protective measures, and to implement those measures during all activities or situations where their action or inaction may result in the take of an eagle(s).

In addition to the above guidance, the 2010 Montana Bald Eagle Management Guidelines: An Addendum to Montana Bald Eagle Management Plan (1994) developed by Montana Fish, Wildlife and Parks (FWP) also provides guidance for avoiding and minimizing the risk for bald eagle take (http://fwp.mt.gov/fwpDoc.html?id=44181).

Additional Comments

If wetlands will be affected by the project, the Service recommends keeping wetland disturbances to the minimum extent and duration possible, with as much occurring "in the dry" as possible. This would reduce impacts to aquatic species relative to disturbance and sediment inputs. We also recommend that appropriate erosion and sediment control efforts and measures be implemented during and following construction to avoid introducing sediments or other contaminants to adjacent waters.

In addition to coordination with the Service, we recommend coordination with FWP and the Montana Natural Heritage Program. These agencies may be able to provide updated, site-specific information regarding fish, wildlife, and sensitive plant resources occurring in the proposed project area. Contact information for these two agencies is below:

Montana Fish, Wildlife and Parks
1420 East Sixth Avenue
P.O. Box 200701
Helena, Montana 59620-0701
Phone: (406) 444-2535

Montana Natural Heritage Program
1515 East 6th Avenue, Box 201800
Helena, Montana 59620-1800
Phone: (406) 444-5354

Thank you for the opportunity to comment on the proposed project. The Service appreciates your efforts to incorporate fish and wildlife resource concerns into your project planning. If you have further questions related to this letter, please do not hesitate to contact Mike McGrath at mike_mcgrath@fws.gov, or 406-430-9009.

Sincerely,

for Jodi L. Bush
Office Supervisor

cc: Bill Semmens, Montana Department of Transportation, Helena, Montana