

DRAFT ENVIRONMENTAL ASSESSMENT



RED LODGE EAST BENCH MINE RECLAMATION CARBON COUNTY, MONTANA

MT049141

PREPARED BY:

*MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
ABANDONED MINE LANDS PROGRAM
REMEDIATION DIVISION
P.O. BOX 200901
HELENA, MONTANA 59620*

*IN COOPERATION WITH
UNITED STATES DEPARTMENT OF THE INTERIOR
OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT
CASPER, WYOMING FIELD OFFICE*

January 2023

MT049141

Table of Contents

Acronym List.....	4
Description of Proposed Action and Need for Proposed Action.....	5
Project Location.....	5
Project History	6
Alternatives Considered.....	7
Alternative 1 – Approval Red Lodge East Bench Mine Flooding Reclamation Project.....	7
Alternative 2 – No Action	7
Other Reasonable Alternatives:.....	7
Affected Environment.....	7
General Setting.....	7
Regional and Local Geology.....	7
Hydrogeologic Setting	8
Surface Water Hydrology.....	8
Vegetation.....	9
Fish and Wildlife.....	9
Historic or Archeologically Significant Features	10
Soils	10
Air Quality	11
Noise	11
Topography	11
Social and Economic Values.....	11
Conformance with Federal, State, Regional, and/or Local Land Use Plans, Programs and Policies.....	11
Environmental Justice	12
ENVIRONMENTAL IMPACTS OF THE PROPOSED ALTERNATIVES	12
Alternative 1 – Approval of the Proposed Red Lodge East Bench Flooding Reclamation (The “Preferred Alternative”)....	12
Resource Values.....	12
Cumulative Impacts	13
Alternative 1.....	13
Alternative 2 – Disapproval of the Proposed Abandoned Mine Construction Project (The “No Action Alternative”).....	13
Cumulative Impacts	14
Alternative 2.....	14
SUMMARY.....	14
REFERENCES	15
Attachment A.....	17
Attachment B.....	18
Attachment C.....	19

Acronym List

Acronym Meaning

AML	Abandoned Mine Lands
amsl	above mean sea level
ATP	Authorization to Proceed
BMP	Best Management Practices
DEQ	Department of Environmental Quality
EA	Environmental Assessment
FONSI	Finding of No Significant Impact
NRHP	National Register of Historic Places
OSMRE	Office of Surface Mining Reclamation and Enforcement
SMCRA	Surface Mining Control and Reclamation Act
USGS	United States Geological Survey
USFWS	United States Fish and Wildlife Services

Description of Proposed Action and Need for Proposed Action

The purpose of this Environmental Assessment (EA) is to document the potential environmental impacts that could result from the proposed Red Lodge East Bench Mine Flood Reclamation Project. In accordance with the Montana Abandoned Mine Reclamation Plan, as amended July 19, 1995 (Federal Register Vol. 60 No. 138 pg. 36998), the Montana Department of Environmental Quality, Abandoned Mine Lands (DEQ AML), is proposing to reclaim a repository at a former mine reclamation project impacted by severe flooding. In June 2022, the City of Red Lodge experienced a 500-year flood event at Rock Creek (Figure 1). The flooding eroded the toe of a slope at reclaimed East Bench Red Lodge Coal Mine, which is adjacent to Rock Creek (Figure 1). DEQ AML has determined that there are potential negative impacts due to the eroded repository, including a dangerous highwall and sediment loading of Rock Creek. Additional repository erosion continues to enter this section of Rock Creek's east bank, contributing to increased sediment entering the receiving water. This project will include reduction of the highwall and erosion into the creek. The proposal will need to be approved by an Authorization to Proceed (ATP) issued by the Office of Surface Mining Reclamation and Enforcement (OSMRE) after issuance of a Finding of No Significant Impact (FONSI) before grant funds can be expended to fund this project.

This effort will protect public health and safety by eliminating the dangerous highwall. Aquatic life will benefit from eliminating sedimentation caused by the erosion into the creek. Eligibility for the abandoned mine reclamation fund is based on mine abandonment before August 3, 1977. Previous repository reclamation was completed in 1993, and in December 2021 DEQ AML performed subsidence reclamation in grazing land above the East Bench Mine.



Figure 1 Project site before and after June 2022 flood event.

Project Location

The project is located on privately owned property within the City of Red Lodge in the Island at Rock Creek subdivision and one block north of the 9th Street Bridge. The 9th Street Bridge was washed away in the June 2022 flood event (Figure 2). Rock Creek forms the western border of the site at approximately 45.1895 North, -109.2422 West. The eastern side of the site is composed of reclaimed mine waste. Rock Creek flows from south to north and joins the Yellowstone River approximately 50 miles downstream near Rockvale, MT.



Figure 2 Site map and image of flooding event.

Project History

The portion of the site that lies within the reclaimed repository is within the Red Lodge Coal Field. The site was initially developed as a coal mine by the Rocky Fork Coal Company in 1887. Commercial mining began thriving when the Rocky Fork and Cooke City Railway Company completed a line on the Northern Pacific Railroad from Laurel to Red Lodge in 1889. Peak production occurred from 1910 to 1923, after the Northern Pacific Railway Company made improvements to the mine in response to losing men from coal fires on June 7, 1906, and November 20, 1908. In 1924, Colstrip began producing coal at lower cost due to stripping the coal from shallow deposits on

Rosebud creek, and ability to use non-union labor. As a result, the Red Lodge East Bench Mine closed in 1932. Increasing demand for chrome after the start of World War II led the United States Vanadium Corporation to pursue chromium processing at the East Bench Mine. In 1941, 7,000 tons of chromium were stockpiled for processing and a gravity feed chromium concentration mill was built on site. It operated for about nine months until closure in 1942. Three intact structures remain on site from the original mining operation. In 1993 the Abandoned Mine Lands Program completed reclamation involving closing adits, removing dangerous structures, and reclaiming coal waste by regrading and revegetation.

Alternatives Considered

Alternative 1 – Approval Red Lodge East Bench Mine Flooding Reclamation Project

Under this alternative, the Office of Surface Mining (OSM) Field Office Director would approve stabilizing the dangerous highwall and eliminating erosion into the creek. A geotechnical site investigation and stability assessment will be used to determine the streambank stabilization and floodplain design, the amount of coal waste repository material to be removed, and re-seeding for the project area.

Summer and Fall 2022	Complete geotechnical site investigation and stability assessment. Determine disposal opportunities for waste material. Temporary fencing will be installed to reduce the risk the injury.
Winter 2022	Incorporate geotechnical site investigation into Environmental Assessment. Finalize design, complete bid process, select contractor, and complete required permitting.
Spring-Summer 2023	Complete site reclamation and reseeding.

A professional engineering firm licensed in Montana will complete the engineering design for the project. Work by this firm will be contracted for, supervised, and approved by staff from the Montana Department of Environmental Quality. Contract bidding and award will be by the Department of Environmental Quality staff. After the construction contract is awarded, and construction begins, a full-time construction inspector will be on-site to ensure quality control during construction.

Alternative 2 – No Action

Under this alternative, no action would be taken and the highwall will be allowed to continue to erode into Rock Creek. OSMRE funding would not be requested, and therefore the OSMRE Field Office Director would not approve the Red Lodge East Bench Mine Reclamation Project. This may create conditions that pose a risk to area residents and aquatic life, including continued incision and caving of the highwall and sediment entering Rock Creek.

Other Reasonable Alternatives:

Montana AML knows of no other reasonable alternatives for concerns at Red Lodge East Bench Mine.

Affected Environment

General Setting

The site is located within Red Lodge City Limits and is bordered by Rock Creek on the west side at approximately 45.1895 North, -109.2422 West. Although Rock Creek borders the project site, streamside vegetation is generally replaced with open development. The eastern side of the site is composed of reclaimed mine waste. Rock Creek flows from south to north and joins the Yellowstone River approximately 50 miles downstream near Rockvale, MT. The project area is located within the Northwestern Great Plains ecoregion, which is a semiarid rolling plain of shale and sandstone punctuated by occasional buttes. The elevation of the site is approximately 5,530 feet above mean sea level.

Regional and Local Geology

The Red Lodge East Bench Mine is located within the Tongue River Member of Fort Union Formation (Tfr). The Tongue River Member covers approximately 12% of Carbon County and is a well-known coal producer. The U.S.

Geological Survey characterizes it as yellowish orange sandstone, sandy and silty carbonaceous shale and coal, alluvial plain, and thickness of 300 meters (m). Rock Creek is located within alluvium, which covers approximately 3% of Carbon County and is characterized by gravel, sand, silt, and clay deposits of stream and river channels, and floodplains. The project area is located within Red Lodge Bear Creek coal field. The coal field is located on the northeastern edge of the Beartooth Mountains, extending to the western slope of the Pryor Mountains.

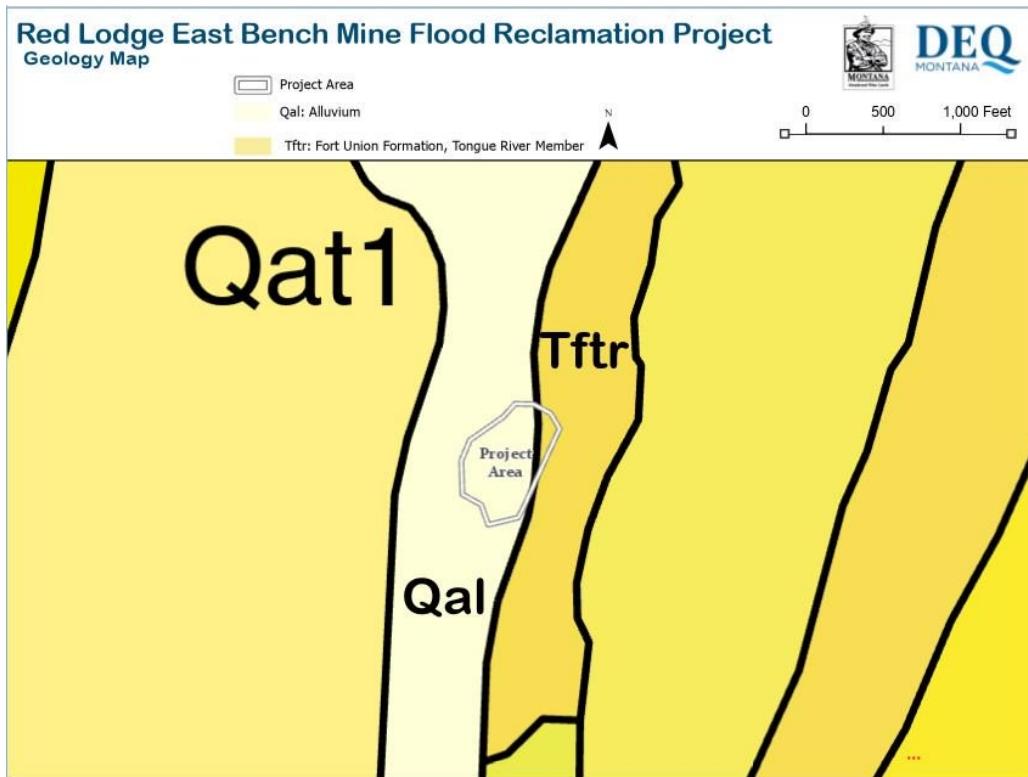


Figure 3 Geology of the project site.

Hydrogeologic Setting

The Red Lodge East Bench Mine is located within the Clarks Fork Yellowstone River watershed. The Montana well log report for the residence at the site states that 6 feet of coal slack overlies boulders and shale with a static water level in the resident well 9 feet below ground surface. The Montana Bureau of Mines and Geology (MBMG) identifies the western Rock Creek portion of the site as alluvium of youngest alluvial terrace, and the eastern edge as Tongue River Member of Fort Union Formation. The MBMG principal aquifer is Cenozoic basin fill and alluvium which are unconfined surficial aquifers with semi-confined to confined aquifers in deep basin fill and characterized by intermontane basins and unconsolidated sand, gravel, silt and clay.

Surface Water Hydrology

Rock Creek forms the western border of the site. Rock Creek is in the Upper Yellowstone River watershed and flows into the Clarks Fork of the Yellowstone approximately 50 miles downstream near the town of Rockvale, MT (Figure 4). When adit closure was completed in 1993, water was allowed to flow freely out of the mine. Runoff and mine water seepage drains to a channel that was routed to Rock Creek at that time.

Red Lodge East Bench Mine Flood Reclamation Project

Upper Yellowstone River Watershed Map
HUC 10070006: Clarks Fork Yellowstone



DEQ
MONTANA

Subbasin (WBD_HU8)



0 5 10 Miles

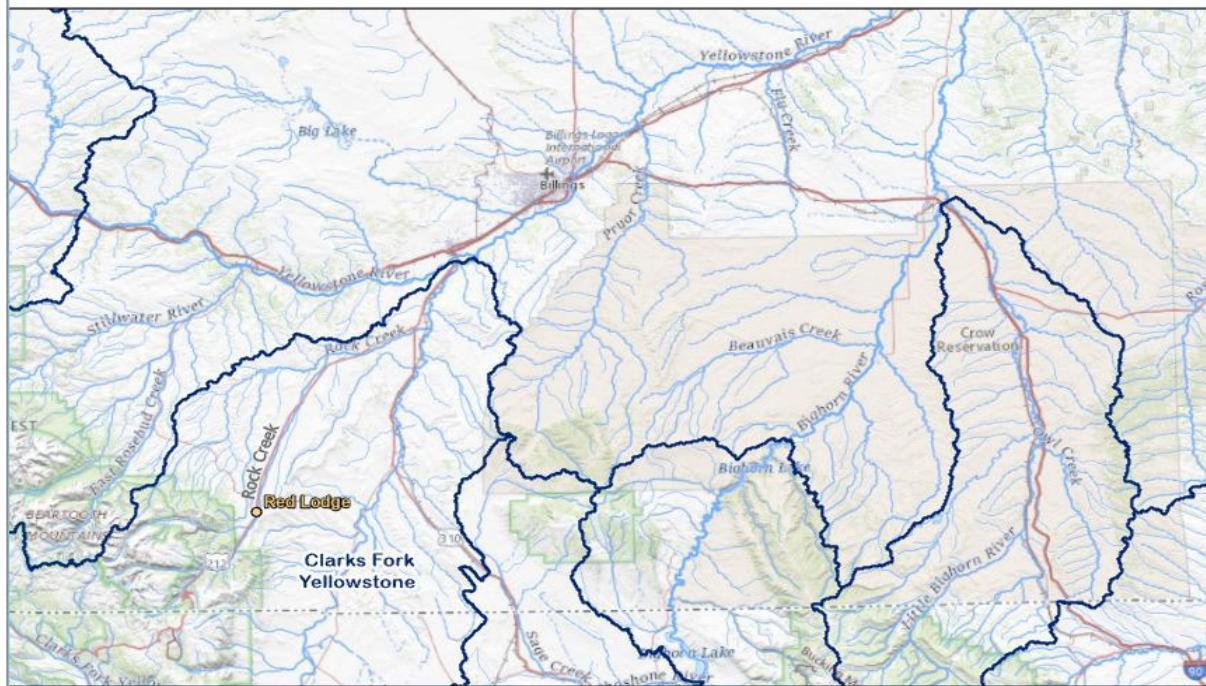


Figure 4 Clarks Fork Yellowstone watershed

Vegetation

The Montana Natural Heritage Program classifies the project area as developed open space, and the area surrounding the site as Great Plains riparian and Great Plains mixed grass prairie. As part of the 1993 AML reclamation project, the site was reseeded with thickspike wheatgrass, *Agropyron dasystachyum*; western wheatgrass, *Agropyron smithii*; slender wheatgrass, *Agropyron trachycaulum*; green needle grass, *Stipa viridula* spp; and beardless wildrye, *Elymus tricoides*. Although the project is adjacent to Rock Creek, the streamside vegetation is dominated by developed open space instead of a riparian zone vegetation suite. During the flooding event Rock Creek migrated eastward removing trees and other vegetation that had stabilized the repository. Once the vegetation was removed large portions of the repository were eroded into the creek resulting in a dangerous highwall.

Fish and Wildlife

In consultation with Montana Natural Heritage Program and U.S. Fish and Wildlife Service, it was determined that there are three threatened or proposed threatened mammal species may occur within the vicinity of project area. This includes Canada Lynx, *Lynx canadensis*; grizzly bear, *Ursus arctos horribilis*; and North American wolverine, *Gulo gulo luscus*. The monarch butterfly, *Danaus plexippus*, a candidate for threatened species status; might also occur near the project site. The USFWS Birds of Conservation Concern list include bald eagle, *Haliaeetus leucocephalus*; bobolink, *Dolichonyx oryzivorus*, and pinyon jay, *Gymnorhinus cyanocephalus*, as having been observed within 10 kilometers of the project site.

No critical habitats, refuge lands, or fish hatcheries are within the project area. The project site lies within exempt community boundaries of sage grouse general habitat designated by the Montana Sage Grouse Habitat Conservation Program. It does not lie within core sage grouse habitat (Figure 5).

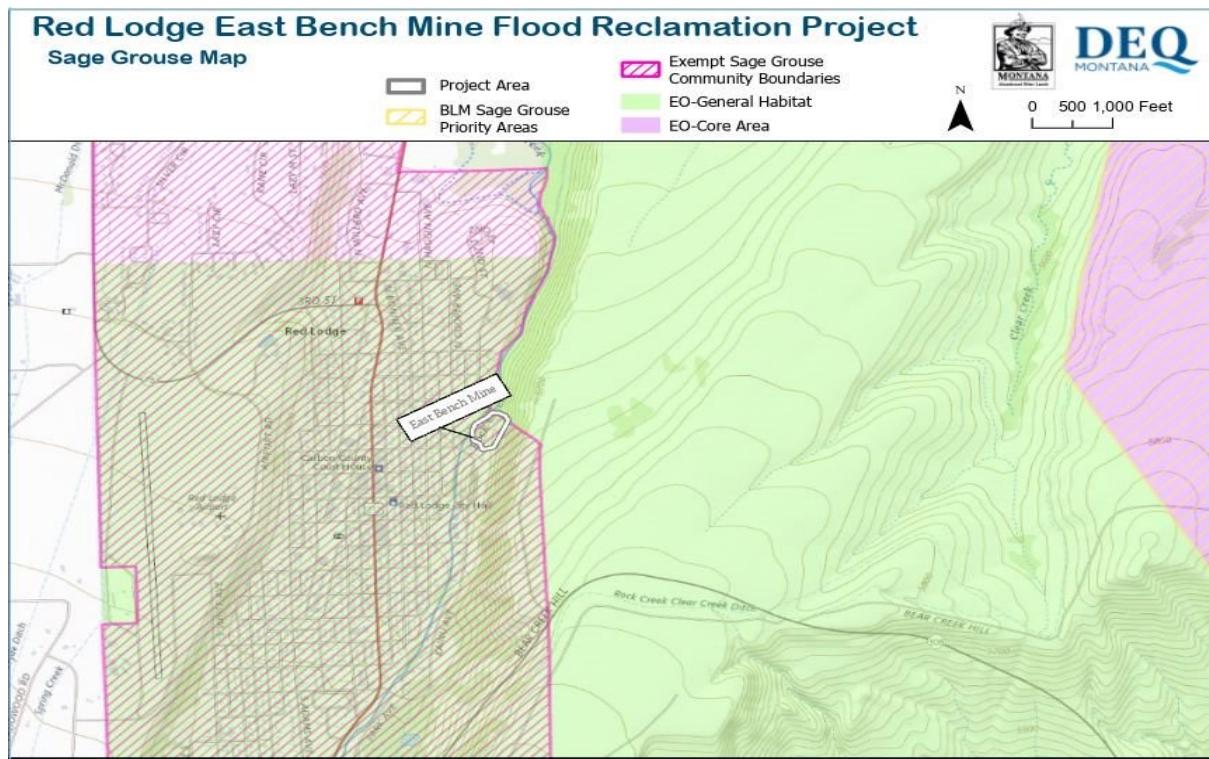


Figure 5 Sage Grouse map.

Historic or Archeologically Significant Features

The Project site is in a developed area with no evidence of historic or archeologically significant features. The site was investigated by DEQ archeologist, and the findings were confirmed by the Montana State Historic Preservation Office. The concurrence letter is included in Attachment B.

Soils

The project site is located on (Map Unit Symbol Ce) Charles stony loam 0 to 4 percent slopes (Figure 6). The Charles series consists of deep, nearly level to gently sloping, well-drained soil that formed in loamy alluvium overlying sands and gravels on high out-wash terraces. The natural vegetation is mixed meadow grasses, forbs, and shrubs. Willows line the drainageways and irrigation ditches. The Charles stony loam 0 to 4 percent is on high outwash terraces with some large stones on the surface layer.

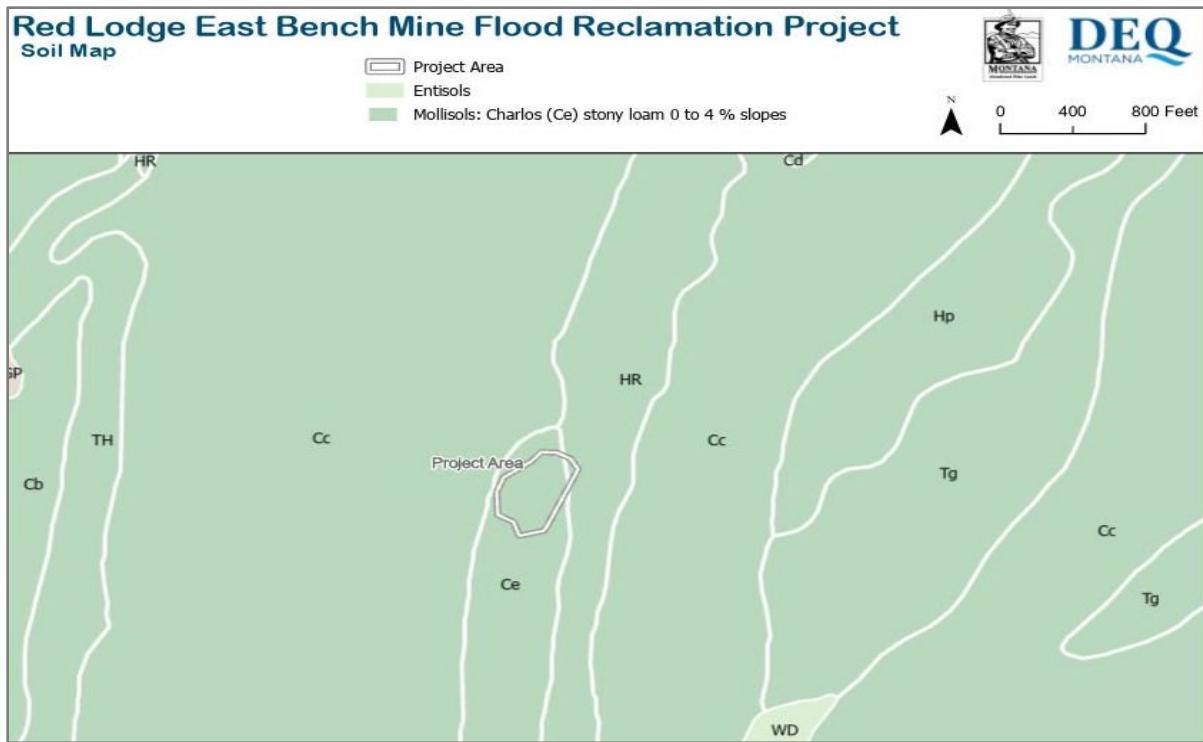


Figure 6 Soils at East Bench Mine.

Recreational Resource Values

The current land use of the eastern portion of site is residential, while the Rock Creek western edge is recreational.

Air Quality

The Air Quality Index for Richland County has ranged from 42 to 47 between 1999 and 2009. This places it in the good category of 0 to 50, during the period from 1999 to 2009 (Air Quality Data).

Noise

This site is situated in the City of Red Lodge. Noise in the area is limited to the traffic noise associated with Copper Avenue which parallels Rock Creek.

Topography

The 13th Street Bridge provides access to the area, since the 2022 flood event washed out the 9th Street Bridge. The site is approximately 5,530 ft above mean sea level. Total relief within the proposed reclamation area is approximately 20 ft. The area has been maintained as Island at Rock Creek Subdivision.

Social and Economic Values

The East Bench Mine is on private property bounded to the east by private land and the west by Rock Creek. The land is used for recreational and residential purposes. Rock Creek is used for recreation and is also the primary source of irrigation water for ranches throughout its drainage area.

Conformance with Federal, State, Regional, and/or Local Land Use Plans, Programs and Policies

Reclamation construction activities associated with Alternative 1 would comply with Montana's Abandoned Mine Reclamation State Plan. A storm water pollution prevent plan permit will be required for completion of this project. In addition, the Joint Application Permit will be completed. DEQ AML and its contractors will adhere to the applicable statutory or regulatory requirements for the project.

Environmental Justice

Based on U.S. Census data 2016-2020 figures, the median household income in Carbon County in 2020 was \$61,209. The dominant race in Carbon County is white with 95.5% of the population.

ENVIRONMENTAL IMPACTS OF THE PROPOSED ALTERNATIVES

Alternative 1 – Approval of the Proposed Red Lodge East Bench Flooding Reclamation (The “Preferred Alternative”)

Alternative 1 will include a geotechnical site investigation, stability assessment, and hydraulic modeling to evaluate current site conditions. This data will be used to develop a design to stabilize the highwall and the floodplain and limit impacts to the drainage up and downstream of the site. This work will have a direct impact human health and aquatic life in the area by reducing the potential for injury and reducing sediment addition into the creek.

Resource Values

a. *Cultural or Historic*

The Red Lodge East Bench Mine is not listed in the National Register of Historic Places. After consultation with Montana State Historic Preservation Office, it was determined that the proposed alternatives will have no adverse effect on historic properties (SHPO, 2022).

b. *Hydrology*

Rock Creek forms the western border of the site and flows into the Clarks Fork Yellowstone River approximately 50 miles downstream near the town of Rockvale, MT. Stabilizing the highwall will prevent sediment from additional erosion from entering the creek. Short-term impacts include disturbing existing soil and vegetation. The site will be revegetated as part of the reclamation, and best management practices required by the Montana Pollutant Discharge Elimination System Stormwater Construction General Permit will address impact on surface water from the construction activities. Alternative 1 could have a minor, short-term, local negative impact to Rock Creek, but would have a long-term, regional positive impact to water and land use quality once the reclamation is complete.

Alternative 2, No Action, will allow sediment to continue to enter Rock Creek, presenting a long-term impact.

c. *Fish and Wildlife*

Based on consultations with the Montana Natural Heritage Program, Montana Sage Grouse Conservation Program, and U.S. Fish and Wildlife Service, no impact to federally listed species, designated critical habitat, or sage grouse habitat would occur with completion of either considered alternative. Under Alternative 1, stabilizing the highwall will improve vegetation and aquatic life by reducing erosion from the site and limiting sediment entering Rock Creek. Therefore, there will be no negative impact to wildlife species because of the project. Any impacts to the species in the area by disturbance from construction will be minor and short term.

d. *Grazing*

The site is in a developed subdivision within Red Lodge city limits. No impacts to grazing are expected.

e. *Soils and Vegetation*

The site borders Rock Creek, but streamside vegetation has been displaced by development and the June 2022 flood event. The project site is located within the Northwestern Great Plains ecoregion but is located on reclaimed coal mine waste. Alternative 1 will reduce erosion by stabilizing the high wall and re-establishing vegetation. This reclamation will result in long-term improvement to soils and vegetation in the project area. The negative impacts to soils and vegetation in the project area will be minor, local, and short term. Once revegetation is completed, the soils will be placed on a trajectory to restore the natural soil properties.

f. *Recreational Resource Values*

Alternative 1 would have a long-term benefit on public recreational resources. Public safety will be preserved as the stabilizing the highwall will reduce danger of falling or cave-in. The project is on privately owned property, but there is potential for public access since it is adjacent to Rock Creek. Short-term, local, and temporary impacts include increased traffic and construction noise.

g. Air Quality

Alternative 1 is not expected to impact air quality through the implementation of construction. Best Management Practices such as water application for dust control during reclamation activities would be implemented. Impacts would be minor, local, and short term.

h. Noise

Alternative 1 would result in a slight increase in noise during construction. This impact would be minor, local, and short-term. Noise increase will be a result of heavy equipment operation. Work will be limited to daylight hours.

i. Topography

Alternative 1 will impact topography as the steep and deeply eroded highwall will be stabilized and revegetated. The long-term benefit of this project will be improvement in public safety and sediment reduction into Rock Creek.

j. Social and Economic Values

Alternative 1 would mitigate impacts to public health and safety hazards by reclaiming the dangerous highwall. Jobs related to the construction project will provide a short-term economic boost to the local economy and prevent further loss of private property.

k. Environmental Compliance with Federal, State, Regional, and/or Local Land Use Programs

Completion of Alternative 1 would be in accordance with the Montana Abandoned Mine Reclamation Plan. In addition, the preferred alternative will be completed in accordance with applicable federal, state, and local permitting.

l. Environmental Justice

Neither of the proposed alternatives at the East Bench Mine will have a disproportionate effect on any demographic population regarding either income level or minority status.

Due to the current COVID19 pandemic, DEQ AML has provided the public with the opportunity for meaningful participation through an electronic public participation and comment process. An electronic copy of the report is available at <https://deq.mt.gov/Land/abandonedmines>. Any questions or comments may be sent to the DEQ Abandoned Mine Lands Program at DEQMontanaAML@mt.gov. Electronic copies of reclamation project reports, studies and work plans will be available for public inspection at [Montana Abandoned Mine Lands](#).

Cumulative Impacts Alternative 1

For each of the resource values identified in the section above, cumulative impacts are considered. Each activity is evaluated to determine its short and long-term impacts to associated resources. There are planned and/or ongoing projects near the East Bench Mine. The resource values are considered in the following section.

Stabilizing and revegetating the highwall will mitigate impacts from sediment entering Rock Creek and remove a physical hazard. Allowing the highwall to remain unstable would increase the potential for further erosion into Rock Creek and further contribute sedimentation and leave a physical hazard in place.

Alternative 2 – Disapproval of the Proposed Abandoned Mine Construction Project (The “No Action Alternative”)

Under the No-Action Alternative, DEQ AML would not reclaim the unstable highwall as described under Alternative 1. Presence of the pre-SMCRA mine and the highwall in the repository exacerbates erosion and presents a risk to public safety.

Resource Values

a. Cultural or Historic

Alternative 2 will result in no changes and have no effect on historic properties (SHPO 2022). The highwall created by the exposed repository will continue to present a risk to public safety.

b. Hydrology

Alternative 2 will result in continued erosion of the exposed coal waste into Rock Creek. The no-action alternative could have negative impacts on aquatic life.

c. Fish and Wildlife

While the no-action alternative would not create any temporary disturbance from construction, it would not improve aquatic life or wildlife habitat.

d. Grazing

Alternative 2 would result in no significant changes in grazing uses of the property

e. Soils and Vegetation

The no action alternative will leave the highwall unstable and unvegetated. Existing soil and vegetation would be impacted by further erosion.

f. Recreational Resource Values

Alternative 2 would have a long-term negative impact on public recreational resources. Public safety will be at risk as the unstable highwall increases danger of falling or cave-in. The project is on privately owned property, but there is potential for public access since it is adjacent to Rock Creek.

g. Air Quality

Alternative 2 would have no impact to air quality.

h. Noise

Alternative 2 would have no impact to noise values.

i. Topography

Alternative 2 would result in continued impacts from erosion.

j. Social and Economic Values

Alternative 2 would not improve social or economic values in Carbon County.

k. Environmental Compliance with Federal, State, Regional and/or Local Land Use Programs

Alternative 2 would not be in accordance with the goals of the Montana Abandoned Mine Reclamation Plan.

l. Environmental Justice

Neither of the proposed alternatives at the East Bench Mine will have a disproportionate effect on any demographic population regarding either income level or minority status.

Cumulative Impacts

Alternative 2

Alternative 2 will potentially result in further erosion of the exposed repository into Rock Creek and further incision of the unstable highwall.

SUMMARY

The purpose of the Red Lodge East Bench Mine Reclamation Project is to restore a repository at a former mine reclamation project. The repository was impacted by a severe flooding event that occurred in June 2022. During the flooding Rock Creek migrated eastward removing trees and other vegetation that had stabilized the repository. Once the vegetation was removed large portions of the repository were eroded into the creek resulting in a dangerous highwall. The highwall continues to erode into the creek and is also a potential physical hazard. The project will include a geotechnical site investigation and stability assessment, floodplain design, reduction and stabilization of the highwall, floodplain design, and re-seeding of the project area. The project will be limited to a single construction season which will minimize the impacts described above. Any other potential negative impacts will be mitigated through the implementation of BMPs (e.g., sediment and dust) and therefore, will be local, short-term and

minor. The outcome of the project is expected to have a positive, long-term impact by eliminating the hazard from the unstable highwall and its sediment contribution into Rock Creek.

Alternative 2, No Action, will result in no disturbance to wildlife or the public. No Action will result in continued impacts public safety, aquatic life, and Rock Creek. Alternative 2 represents potential long-term, negative impacts.

In preparing this assessment the Montana Department of Environmental Quality Remediation Division consulted with the following agencies:

Property Owners

Montana National Heritage Program, Montana Sage Grouse Conservation Program, and USFWS on issues related to federally listed threatened and endangered species (Appendix B).

Montana State Historic Preservation Office on issues related to cultural resources and the eligibility of properties for listing on the National Register of Historic Places (Appendix C).

REFERENCES

CityData.com, 2019. [Red Lodge, Montana](#)

Department of Natural Resources Conservation, 2018. [Stream Permitting Joint Application](#).

GMC Services, Inc., 1983. Cultural Resource Inventory and Evaluation: Red Lodge East Bench, Washoe, Highway, Burns, Smith Mines.

Huntingdon Engineering & Environmental, Inc., 1995. Phase I and Phase II Environmental Site Assessment of Tracts A and B, Certificate of Survey 1552 Red Lodge, Montana.

Montana Sage Grouse Habitat Conservation Program, 2022.

USA.com, 2020. [Air Quality Data](#).

U.S. Census Bureau, 2020. U.S. Census Data. [Red Lodge, Montana](#)

U.S. Department of Agriculture Soil Conservation Service, 1975. Soil Survey of Carbon County, Montana.

U.S. Environmental Protection Agency, 2001. Ambient Water Quality Criteria Recommendations, Lakes and Reservoirs in Nutrient Ecoregion IV.

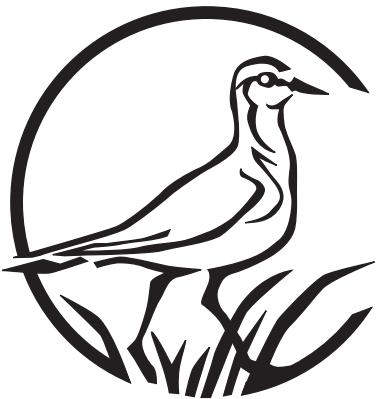
U.S. Geologic Survey, 1914. Coal Resources of Montana.

U.S. Geologic Survey, 2020. [Mineral Resources of Carbon County, Montana](#).

U.S. National Landcover Database, 2020. [USA National Landcover](#).

Attachment A

Fish and Wildlife



MONTANA Natural Heritage Program

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



Latitude Longitude
45.17455 -109.22903
45.19227 -109.25272

Summarized by:
MTNHP Environmental Summary
(Custom Area of Interest)



Suggested Citation

Montana Natural Heritage Program. Environmental Summary Report.
for Latitude 45.17455 to 45.19227 and Longitude -109.22903 to -109.25272. Retrieved on 7/21/2022.

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



Environmental Summary

Table of Contents

- [Species Report](#)
- [Structured Surveys](#)
- [Land Cover](#)
- [Wetland and Riparian](#)
- [Land Management](#)
- [Biological Reports](#)
- [Invasive and Pest Species](#)
- [Introduction to Montana Natural Heritage Program](#)
- [Data Use Terms and Conditions](#)
- [Suggested Contacts for Natural Resource Agencies](#)
- [Introduction to Native Species](#)
- [Introduction to Land Cover](#)
- [Introduction to Wetland and Riparian](#)
- [Introduction to Land Management](#)
- [Introduction to Invasive and Pest Species](#)
- [Additional Information Resources](#)

Introduction to Environmental Summary Report

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

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

Delineation Criteria Species Occurrence polygons represent areas delineated by the U.S. Fish and Wildlife Service (USFWS) that encompass both home ranges and potential transitory movements based on verified sightings. Within these areas, the USFWS wants project proponents to consider whether the species may be present when evaluating the potential impacts of a project and to work with the USFWS to develop and implement best management practices to minimize or eliminate project effects on the species. (Last Updated: Jan 25, 2022)

Predicted Models:  100% Low (inductive)

<input type="checkbox"/> B - Clark's Nutcracker (<i>Nucifraga columbiana</i>) SOC		 	
---	---	---	---

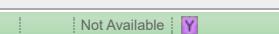
Delineation Criteria Observations with direct evidence of breeding activity or indirect evidence of breeding activity between early March and mid-July within forested habitats containing Whitebark Pine (*Pinus albicaulis*), Limber Pine (*Pinus flexilis*), or Ponderosa Pine (*Pinus ponderosa*). Observations are buffered by a minimum distance of 1,000 meters in order to encompass the spring/summer breeding territory size reported for the species or the locational uncertainty of the observation to a maximum distance of 10,000 meters. (Last Updated: Apr 13, 2022)

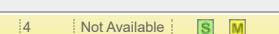
Predicted Models:  100% Low (inductive)

<input type="checkbox"/> R - Western Milksnake (<i>Lampropeltis gentilis</i>) SOC		 	
---	---	---	---

Delineation Criteria Confirmed breeding area based on the presence of a resident animal of any age. Point observation location is buffered by a minimum distance of 300 meters in order to encompass the maximum summer home range size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Apr 09, 2021)

Predicted Models:  100% Low (inductive)

<input type="checkbox"/> V - Lilium philadelphicum (<i>Wood Lily</i>) SOC			Not Available	
---	---	---	---------------	---

<input type="checkbox"/> B - Brewer's Sparrow (<i>Spizella breweri</i>) SOC		 	Not Available	 
---	---	---	---------------	---

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 100 meters in order to encompass the maximum territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Apr 14, 2022)

<input type="checkbox"/> I - Danaus plexippus (<i>Monarch</i>) SOC		 	Not Available	
--	---	---	---------------	---

Delineation Criteria Confirmed breeding area based on the presence of a resident animal of any age/stage. Point observation location is buffered by a minimum distance of 2,000 meters in order to encompass documented travel distances of some butterfly species as well as adjacent habitat likely to support other individuals and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jun 28, 2022)



Legend

Model Icons	Habitat Icons	Range Icons	Num Obs
■ Suitable (native range)	■ Common	■ Native / Year-round	Count of obs with 'good precision' (<=100m)
■ Optimal Suitability	■ Occasional	■ Summer	
■ Moderate Suitability		■ Winter	+ indicates additional 'poor precision' obs (1001m-10,000m)
■ Low Suitability		■ Migratory	
■ Suitable (introduced range)		■ Non-native	
		■ Historic	



Latitude 45.17455
Longitude -109.22903
45.19227 -109.25272

Native Species

Summarized by: MTNHP Environmental Summary (Custom Area of Interest)

All Species (not filtered by Status)

Other Observed Species

		USFWS Sec7	# Obs	Predicted Model	Range
<input type="checkbox"/> B - Broad-tailed Hummingbird (<i>Selasphorus platycercus</i>) PSOC	View in Field Guide View Predicted Models View Range Maps		11	■	■ ■
Potential Species of Concern - Native Species		Global: G5 State: S4B	USFWS: MBTA; BCC10 FWP SWAP: SGIN		
Predicted Models: ■ 100% Optimal (inductive)					
<input type="checkbox"/> B - Evening Grosbeak (<i>Coccothraustes vespertinus</i>) SOC	View in Field Guide View Predicted Models View Range Maps		3	■	■ ■
Species of Concern - Native Species		Global: G5	State: S3 USFWS: MBTA; BCC10 FWP SWAP: SGCN3		
Predicted Models: ■ 100% Moderate (inductive)					
<input type="checkbox"/> B - American White Pelican (<i>Pelecanus erythrorhynchos</i>) SOC	View in Field Guide View Predicted Models View Range Maps		1	■	■ ■
Species of Concern - Native Species		Global: G4	State: S3B USFWS: MBTA FWP SWAP: SGCN3 PIF: 3		
Predicted Models: ■ 100% Moderate (inductive)					
<input type="checkbox"/> B - Ovenbird (<i>Seiurus aurocapilla</i>) PSOC	View in Field Guide View Predicted Models View Range Maps		2	■	■ ■
Potential Species of Concern - Native Species		Global: G5	State: S4B USFWS: MBTA PIF: 3		
Predicted Models: ■ 100% Moderate (inductive)					
<input type="checkbox"/> B - Rufous Hummingbird (<i>Selasphorus rufus</i>) PSOC	View in Field Guide View Predicted Models View Range Maps		2	■	■ ■
Potential Species of Concern - Native Species		Global: G4	State: S4B USFWS: MBTA; BCC10 PIF: 3		
Predicted Models: ■ 100% Moderate (inductive)					
<input type="checkbox"/> B - Great Blue Heron (<i>Ardea herodias</i>) SOC	View in Field Guide View Predicted Models View Range Maps		3	■	■ ■ ■
Species of Concern - Native Species		Global: G5	State: S3 USFWS: MBTA FWP SWAP: SGCN3		
Predicted Models: ■ 100% Low (inductive)					
<input type="checkbox"/> B - Common Poorwill (<i>Phalaenoptilus nuttallii</i>) PSOC	View in Field Guide View Predicted Models View Range Maps		1	■	■ ■
Potential Species of Concern - Native Species		Global: G5	State: S4B USFWS: MBTA PIF: 3		
Predicted Models: ■ 100% Low (inductive)					
<input type="checkbox"/> B - Ferruginous Hawk (<i>Buteo regalis</i>) SOC	View in Field Guide View Predicted Models View Range Maps		+	■	■ ■
Species of Concern - Native Species		Global: G4	State: S3B USFWS: MBTA; BCC17 BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2		
Predicted Models: ■ 100% Low (inductive)					
<input type="checkbox"/> B - Bald Eagle (<i>Haliaeetus leucocephalus</i>) SSS	View in Field Guide View Range Maps		51	Not Available	■
Special Status Species - Native Species		Global: G5	State: S4 USFWS: BGEPA; MBTA USFS: Sensitive - Known in Forests (BD, BRT, KOOT, LOLO) BLM: SENSITIVE		
PIF: 2					
<input type="checkbox"/> B - Black Rosy-Finch (<i>Leucosticte atrata</i>) SOC	View in Field Guide View Range Maps		6	Not Available	■ ■ ■
Species of Concern - Native Species		Global: G4	State: S2 USFWS: MBTA; BCC10 FWP SWAP: SGCN2, SGIN PIF: 2		
<input type="checkbox"/> B - Golden Eagle (<i>Aquila chrysaetos</i>) SOC	View in Field Guide View Range Maps		23	Not Available	■
Species of Concern - Native Species		Global: G5	State: S3 USFWS: BGEPA; MBTA BLM: SENSITIVE FWP SWAP: SGCN3		
<input type="checkbox"/> B - Great Gray Owl (<i>Strix nebulosa</i>) SOC	View in Field Guide View Range Maps		+	Not Available	■
Species of Concern - Native Species		Global: G5	State: S3 USFWS: MBTA BLM: SENSITIVE FWP SWAP: SGCN3, SGIN PIF: 3		
<input type="checkbox"/> B - Greater Sage-Grouse (<i>Centrocercus urophasianus</i>) SOC	View in Field Guide View Range Maps		1	Not Available	■
Species of Concern - Native Species		Global: G3G4	State: S2 USFS: Sensitive - Known in Forests (BD) Species of Conservation Concern in Forests (CG) BLM: SENSITIVE FWP SWAP: SGCN2 PIF: 1		
<input type="checkbox"/> B - Northern Goshawk (<i>Accipiter gentilis</i>) SOC	View in Field Guide View Range Maps		2	Not Available	■ ■ ■
Species of Concern - Native Species		Global: G5	State: S3 USFWS: MBTA FWP SWAP: SGCN3 PIF: 2		
<input type="checkbox"/> F - Yellowstone Cutthroat Trout (<i>Oncorhynchus clarkii bouvieri</i>) SOC	View in Field Guide View Range Maps		+	Not Available	■
Species of Concern - Native/Non-native Species - (depends on location or taxa)		Global: G5T4	State: S2 BLM: SENSITIVE FWP SWAP: SGCN2		
<input type="checkbox"/> B - Franklin's Gull (<i>Leucophaeus pipixcan</i>) SOC	View in Field Guide View Range Maps		1	Not Available	■ ■

B - Loggerhead Shrike (*Lanius ludovicianus*) **SOC**

2

Not Available

  **B - Plumbeous Vireo** (*Vireo plumbeus*) **PSOC**

1

Not Available

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

2

Not Available

  **B - Chimney Swift** (*Chaetura pelasgica*) **PSOC**

1

Not Available



Legend

Model Icons
■ Suitable (native range)
■ Optimal Suitability
■ Moderate Suitability
■ Low Suitability
■ Suitable (introduced range)

Habitat Icons
■ Common
■ Occasional

Range Icons
■ Native / Year-round
■ Summer
■ Winter
■ Migratory
■ Non-native
■ Historic

Num Obs
 Count of obs with
 'good precision'
 (<=100m)
 + indicates
 additional 'poor
 precision' obs
 (1001m-
 10,000m)



Latitude
45.17455
45.19227

Longitude
-109.22903
-109.25272

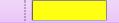
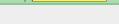
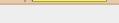
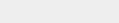
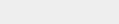
Native Species

Summarized by: **MTNHP Environmental Summary (Custom Area of Interest)**

All Species (not filtered by Status)

Other Potential Species

		USFWS Sec7	Predicted Model	Range
<input type="checkbox"/> M - Canada Lynx (<i>Lynx canadensis</i>) SOC	View in Field Guide View Predicted Models View Range Maps		■	■
	Species of Concern - Native Species	Global: G5	State: S3	USFWS: LT; CH BLM: THREATENED FWP SWAP: SGCN3
	Predicted Models:	■ 100% Moderate (inductive)		
<input type="checkbox"/> M - Dwarf Shrew (<i>Sorex nanus</i>) SOC	View in Field Guide View Predicted Models View Range Maps		■	■
	Species of Concern - Native Species	Global: G4	State: S2S3	FWP SWAP: SGCN2-3
	Predicted Models:	■ 100% Moderate (inductive)		
<input type="checkbox"/> M - Merriam's Shrew (<i>Sorex merriami</i>) SOC	View in Field Guide View Predicted Models View Range Maps		■	■
	Species of Concern - Native Species	Global: G4	State: S3	FWP SWAP: SGCN3
	Predicted Models:	■ 100% Moderate (inductive)		
<input type="checkbox"/> I - Bombus suckleyi (Suckley Cuckoo Bumble Bee) SOC	View in Field Guide View Predicted Models View Range Maps		■	■
	Species of Concern - Native Species	Global: G2G3	State: S1	
	Predicted Models:	■ 100% Moderate (inductive)		
<input type="checkbox"/> V - Carex cratensis (Cratensis Sedge) SOC	View in Field Guide View Predicted Models View Range Maps		■	■
	Species of Concern - Native Species	Global: G5	State: S2S3	MNPS: 3
	Predicted Models:	■ 100% Moderate (inductive)		
<input type="checkbox"/> V - Castilleja gracillima (Slender Indian Paintbrush) SOC	View in Field Guide View Predicted Models View Range Maps		■	■
	Species of Concern - Native Species	Global: G3G4	State: S2	MNPS: 3
	Predicted Models:	■ 100% Moderate (inductive)		
<input type="checkbox"/> V - Potentilla plattensis (Platte Cinquefoil) SOC	View in Field Guide View Predicted Models View Range Maps		■	■
	Species of Concern - Native Species	Global: G4	State: S3	MNPS: 4
	Predicted Models:	■ 100% Moderate (inductive)		
<input type="checkbox"/> B - Yellow-billed Cuckoo (<i>Coccyzus americanus</i>) SOC	View in Field Guide View Predicted Models View Range Maps		■	■ ■
	Species of Concern - Native Species	Global: G5	State: S3B	USFWS: PS: LT; MBTA BLM: THREATENED FWP SWAP: SGCN3, SGIN PIF: 2
	Predicted Models:	■ 100% Moderate (inductive)		
<input type="checkbox"/> M - Hayden's Shrew (<i>Sorex haydeni</i>) PSOC	View in Field Guide View Predicted Models View Range Maps		■	■
	Potential Species of Concern - Native Species	Global: G5	State: S3S4	
	Predicted Models:	■ 100% Low (inductive)		
<input type="checkbox"/> M - Little Brown Myotis (<i>Myotis lucifugus</i>) SOC	View in Field Guide View Predicted Models View Range Maps		■	■
	Species of Concern - Native Species	Global: G3G4	State: S3	FWP SWAP: SGCN3
	Predicted Models:	■ 100% Low (inductive)		
<input type="checkbox"/> M - Long-eared Myotis (<i>Myotis evotis</i>) SOC	View in Field Guide View Predicted Models View Range Maps		■	■
	Species of Concern - Native Species	Global: G5	State: S3	
	Predicted Models:	■ 100% Low (inductive)		
<input type="checkbox"/> M - Long-legged Myotis (<i>Myotis volans</i>) SOC	View in Field Guide View Predicted Models View Range Maps		■	■
	Species of Concern - Native Species	Global: G4G5	State: S3	
	Predicted Models:	■ 100% Low (inductive)		
<input type="checkbox"/> M - North American Porcupine (<i>Erethizon dorsatum</i>) PSOC	View in Field Guide View Predicted Models View Range Maps		■	■
	Potential Species of Concern - Native Species	Global: G5	State: S3S4	FWP SWAP: SGIN
	Predicted Models:	■ 100% Low (inductive)		
<input type="checkbox"/> M - Preble's Shrew (<i>Sorex preblei</i>) SOC	View in Field Guide View Predicted Models View Range Maps		■	■
	Species of Concern - Native Species	Global: G4	State: S3	FWP SWAP: SGCN3
	Predicted Models:	■ 100% Low (inductive)		

<input type="checkbox"/> M - Silver-haired Bat (<i>Lasionycteris noctivagans</i>) PSOC	View in Field Guide	View Predicted Models	View Range Maps	Global: G3G4 State: S4	 
<input type="checkbox"/> M - White-footed Mouse (<i>Peromyscus leucopus</i>) PSOC	View in Field Guide	View Predicted Models	View Range Maps	Global: G5 State: S4	 
<input type="checkbox"/> M - White-tailed Prairie Dog (<i>Cynomys leucurus</i>) SOC	View in Field Guide	View Predicted Models	View Range Maps	Species of Concern - Native Species Global: G4 State: S1 USFS: Species of Conservation Concern in Forests (CG) BLM: SENSITIVE FWP SWAP: SGCN1	 
<input type="checkbox"/> B - Barrow's Goldeneye (<i>Bucephala islandica</i>) PSOC	View in Field Guide	View Predicted Models	View Range Maps	Potential Species of Concern - Native Species Global: G5 State: S4 USFWS: MBTA FWP SWAP: SGIN PIF: 2	  
<input type="checkbox"/> B - Hooded Merganser (<i>Lophodytes cucullatus</i>) PSOC	View in Field Guide	View Predicted Models	View Range Maps	Potential Species of Concern - Native Species Global: G5 State: S4 USFWS: MBTA FWP SWAP: SGIN PIF: 2	  
<input type="checkbox"/> B - Short-eared Owl (<i>Asio flammeus</i>) PSOC	View in Field Guide	View Predicted Models	View Range Maps	Potential Species of Concern - Native Species Global: G5 State: S4 USFWS: MBTA; BCC11; BCC17 PIF: 3	 
<input type="checkbox"/> A - Northern Leopard Frog (<i>Lithobates pipiens</i>) SOC	View in Field Guide	View Predicted Models	View Range Maps	Species of Concern - Native Species Global: G5 State: S1,S4 USFS: Sensitive - Known in Forests (KOOT) BLM: SENSITIVE FWP SWAP: SGCN1	 
<input type="checkbox"/> V - Castilleja nivea (Snow Indian Paintbrush) SOC	View in Field Guide	View Predicted Models	View Range Maps	Species of Concern - Native Species Global: G3 State: S3 MNPS: 3	 
<input type="checkbox"/> V - Dichanthelium acuminatum (Panic Grass) SOC	View in Field Guide	View Predicted Models	View Range Maps	Species of Concern - Native Species Global: G5 State: S2S3 MNPS: 2	 
<input type="checkbox"/> V - Erigeron flabellifolius (Fan-leaved Fleabane) SOC	View in Field Guide	View Predicted Models	View Range Maps	Species of Concern - Native Species Global: G3 State: S3 USFS: Species of Conservation Concern in Forests (HLC) MNPS: 3	 
<input type="checkbox"/> V - Ranunculus hyperboreus (High Northern Buttercup) PSOC	View in Field Guide	View Predicted Models	View Range Maps	Potential Species of Concern - Native Species Global: G5 State: S3S4	 
<input type="checkbox"/> V - Stellaria crassifolia (Fleshy Stitchwort) SOC	View in Field Guide	View Predicted Models	View Range Maps	Species of Concern - Native Species Global: G5 State: S2 MNPS: 3	 
<input type="checkbox"/> M - Eastern Red Bat (<i>Lasionycteris borealis</i>) SOC	View in Field Guide	View Predicted Models	View Range Maps	Species of Concern - Native Species Global: G3G4 State: S3 BLM: SENSITIVE	  
<input type="checkbox"/> M - Hoary Bat (<i>Lasionycteris cinereus</i>) SOC	View in Field Guide	View Predicted Models	View Range Maps	Species of Concern - Native Species Global: G3G4 State: S3 BLM: SENSITIVE FWP SWAP: SGCN3	  
<input type="checkbox"/> M - Spotted Bat (<i>Euderma maculatum</i>) SOC	View in Field Guide	View Predicted Models	View Range Maps	Species of Concern - Native Species Global: G4 State: S3 USFS: Sensitive - Known in Forests (BD) BLM: SENSITIVE FWP SWAP: SGCN3, SGIN	  
<input type="checkbox"/> B - Dickcissel (<i>Spiza americana</i>) PSOC	View in Field Guide	View Predicted Models	View Range Maps	Potential Species of Concern - Native Species Global: G5 State: S4B USFWS: MBTA	  
<input type="checkbox"/> B - Eastern Bluebird (<i>Sialia sialis</i>) PSOC	View in Field Guide	View Predicted Models	View Range Maps	Potential Species of Concern - Native Species Global: G5 State: S4B USFWS: MBTA	  
<input type="checkbox"/> B - Long-billed Curlew (<i>Numenius americanus</i>) SOC	View in Field Guide	View Predicted Models	View Range Maps	Potential Species of Concern - Native Species Global: G5 State: S4B USFWS: MBTA	  

B - Sprague's Pipit (*Anthus spragueii*) **SOC** M - Wolverine (*Gulo gulo*) **SOC**



Structured Surveys

Summarized by: **MTNHP Environmental Summary (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-Hummingbird Trapping (*Hummingbird Trapping Survey*)

Survey Count: 11 Obs Count: 12 Recent Survey: 2007

E-Eastern Heath Snail (*Eastern Heath Snail Survey*)

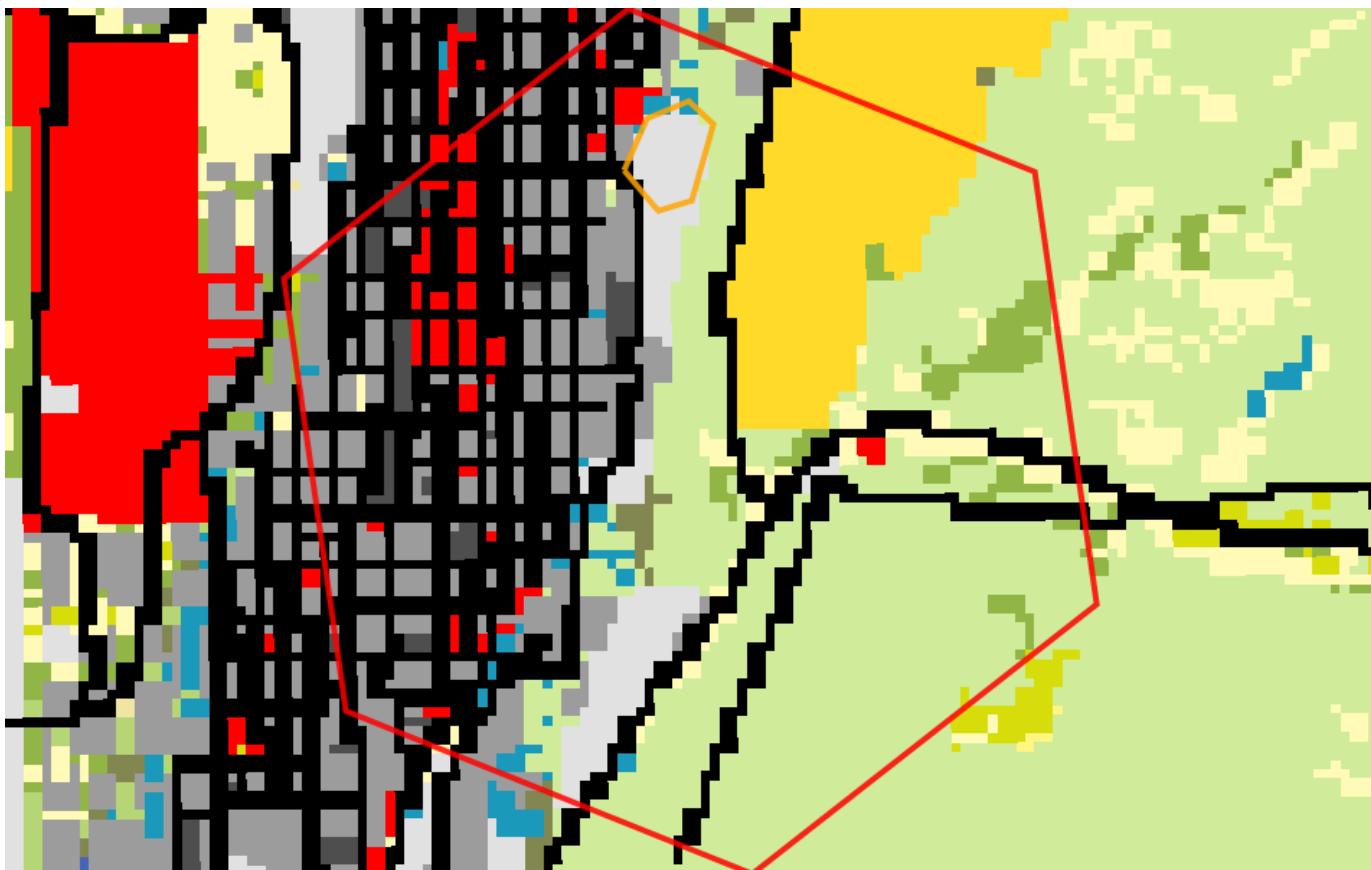
Survey Count: 1 Obs Count: Recent Survey: 2012

E-Noxious Weed, Road-based (*Noxious Weed Road-based Visual Surveys*)

Survey Count: 5 Obs Count: 5 Recent Survey: 2003

Land Cover

Summarized by: **MTNHP Environmental Summary (Custom Area of Interest)**

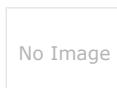


Grassland Systems Lowland/Prairie Grassland

Great Plains Mixedgrass Prairie

34% (220 Acres)

The system covers much of the eastern two-thirds of Montana, occurring continuously for hundreds of square kilometers, interrupted only by wetland/riparian areas or sand prairies. Soils are primarily fine and medium-textured. The growing season averages 115 days, ranging from 100 days on the Canadian border to 130 days on the Wyoming border. Climate is typical of mid-continent regions with long severe winters and hot summers. Grasses typically comprise the greatest canopy cover, and western wheatgrass (*Pascopyrum smithii*) is usually dominant. Other species include thickspike wheatgrass (*Elymus lanceolatus*), green needlegrass (*Nassella viridula*), blue grama (*Bouteloua gracilis*), and needle and thread (*Hesperostipa comata*). Near the Canadian border in north-central Montana, this system grades into rough fescue (*Festuca campestris*) and Idaho fescue (*Festuca idahoensis*) grasslands. Remnants of shortbristle needle and thread (*Hesperostipa curtiseta*) dominated vegetation are found in northernmost Montana and North Dakota, and are associated with productive sites, now mostly converted to farmland. Forb diversity is typically high. In areas of southeastern and central Montana where sagebrush steppe borders the mixed grass prairie, common plant associations include Wyoming big sagebrush-western wheatgrass (*Artemesia tridentata* ssp. *wyomingensis*/ *Pascopyrum smithii*). Fire and grazing are the primary drivers of this system. Drought can also impact it, in general favoring the shortgrass component at the expense of the mid-height grasses. With intensive grazing, cool season exotics such as Kentucky bluegrass (*Poa pratensis*), smooth brome (*Bromus inermis*), and Japanese brome (*Bromus japonicus*) increase in dominance; both of these rhizomatous species have been shown to markedly decrease species diversity. Previously cultivated acres that have been re-vegetated with non-native plants have been transformed into associations such as Kentucky bluegrass (*Poa pratensis*)/western wheatgrass (*Pascopyrum smithii*) or into pure crested wheatgrass (*Agropyron cristatum*) stands.



Human Land Use Developed

Other Roads

24% (151 Acres)

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



Human Land Use Developed

Low Intensity Residential

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



Human Land Use Agriculture

Cultivated Crops

10% (66 Acres)

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

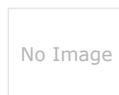


Human Land Use Developed

Developed, Open Space

5% (34 Acres)

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

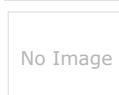


Human Land Use Developed

Major Roads

4% (26 Acres)

U.S. and State Highways that are not part of the National Highway System (NHS) Interstate network. This category includes entrance and exit ramps to NHS Interstate highways.

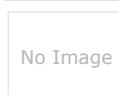


Shrubland, Steppe and Savanna Systems Deciduous Shrubland

Rocky Mountain Montane-Foothill Deciduous Shrubland

3% (18 Acres)

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.



Human Land Use Developed

Commercial / Industrial

2% (14 Acres)

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



Shrubland, Steppe and Savanna Systems Sagebrush Steppe

Big Sagebrush Steppe

2% (12 Acres)

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



Human Land Use Developed

High Intensity Residential

2% (10 Acres)

Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50-80% of the total cover. These areas most commonly include single-family housing units in urban areas. Paved roadways, parking lots, and other large impervious surfaces may be classified into this category.

Additional Limited Land Cover

1% (7 Acres)  Great Plains Riparian

1% (4 Acres)  Aspen Forest and Woodland

<1% (1 Acres)  Rocky Mountain Lower Montane-Foothill Shrubland

Wetland and Riparian

Summarized by: **MTNHP Environmental Summary (Custom Area of Interest)**



Wetland and Riparian Mapping

[Explain !\[\]\(43c95d78c31334a179428700d39030ee_img.jpg\)](#)

P - Palustrine

 AB - Aquatic Bed	
 F - Semipermanently Flooded	2 Acres
h - Diked/Impounded	2 Acres  PABFh

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

R - Riverine (Rivers)

3 - Upper Perennial

 UB - Unconsolidated Bottom	
 G - Intermittently Exposed (no modifier)	6 Acres

R - Riverine (Rivers), 3 - Upper Perennial, UB - Unconsolidated Bottom
Stream channels where the substrate is at least 25% mud, silt or other fine particles.

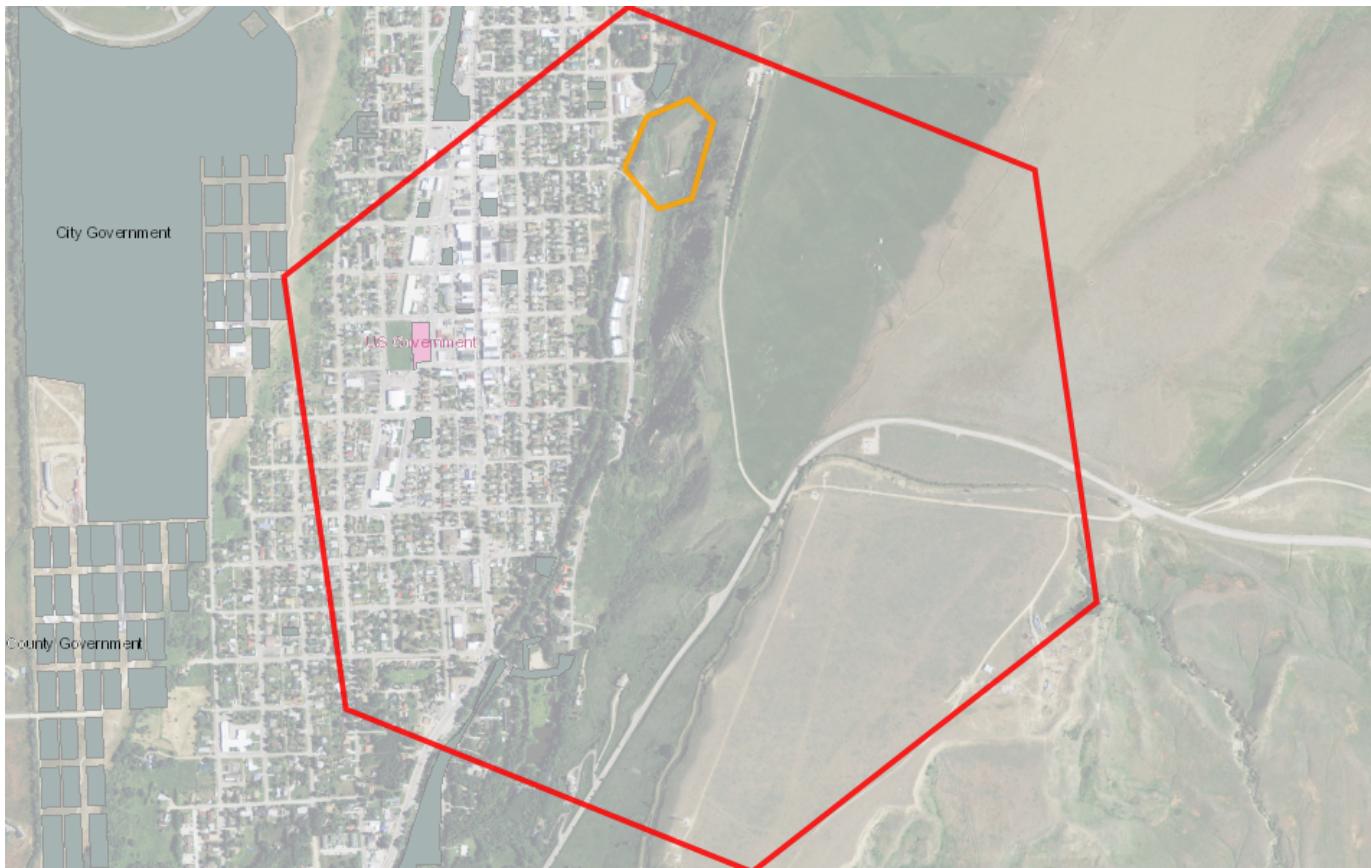
4 - Intermittent

 SB - Stream Bed	
 A - Temporarily Flooded (no modifier)	<1 Acres
 C - Seasonally Flooded x - Excavated	<1 Acres  R4SBA 2 Acres  R4SBCx

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

Land Management

Summarized by: **MTNHP Environmental Summary (Custom Area of Interest)**



Land Management Summary

[Explain !\[\]\(51fa12e9938db9b91c0132320af2b84a_img.jpg\)](#)

Public Lands

-  **Federal**
 -  **US Government**
 -  **US Government Owned**
-  **Local**
 -  **Local Government**
 -  **Local Government Owned**

Ownership

Tribal

Easements

Other Boundaries (possible overlap)

6 Acres (1%)
1 Acres (<1%)
1 Acres (<1%)
1 Acres (<1%)
5 Acres (1%)
5 Acres (1%)
5 Acres (1%)
Private Lands or Unknown Ownership 634 Acres (99%)



MONTANA
Natural Heritage
Program

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



Latitude	Longitude
45.17455	-109.22903
45.19227	-109.25272

Biological Reports

Summarized by: **MTNHP Environmental Summary (Custom Area of Interest)**

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

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

No Biological Reports were found in the selected area

Legend

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



Latitude
45.17455
45.19227
Longitude
-109.22903
-109.25272

Invasive and Pest Species

Summarized by: MTNHP Environmental Summary (Custom Area of Interest)

Aquatic Invasive Species

		# Obs	Predicted Model	Range
<input type="checkbox"/> V - Iris pseudacorus (Yellowflag Iris) N2A/AIS				

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

Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species

Global: GNR State: SNA

Predicted Models: 100% Low (inductive)

		# Obs	Predicted Model	Range
<input type="checkbox"/> V - Nymphaea odorata (American Water-lily) AIS				

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

Aquatic Invasive Species - Non-native Species

Global: G5 State: SNA

Predicted Models: 100% Suitable (introduced range) (deductive)

		# Obs	Predicted Model	Range
<input type="checkbox"/> I - Faxonius virilis (Virile Crayfish) AIS		1		Not Available

[View in Field Guide](#)

Aquatic Invasive Species - Native/Non-native Species - (depends on location or taxa)

Global: G5 State: SS

Noxious Weeds: Priority 1A

		# Obs	Predicted Model	Range
<input type="checkbox"/> V - Isatis tinctoria (Dyer's Woad) N1A				

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

Noxious Weed: Priority 1A - Non-native Species

Global: GNR State: SNA

Predicted Models: 100% Optimal (inductive)

		# Obs	Predicted Model	Range
<input type="checkbox"/> V - Centaurea solstitialis (Yellow Starthistle) N1A				

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

Noxious Weed: Priority 1A - Non-native Species

Global: GNR State: SNA

Predicted Models: 100% Moderate (inductive)

		# Obs	Predicted Model	Range
<input type="checkbox"/> V - Taeniatherum caput-medusae (Medusahead) N1A				

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

Noxious Weed: Priority 1A - Non-native Species

Global: G4G5 State: SNA

Predicted Models: 100% Low (inductive)

		# Obs	Predicted Model	Range
<input type="checkbox"/> V - Polygonum cuspidatum (Japanese Knotweed) N1B				

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

Noxious Weed: Priority 1B - Non-native Species

Global: GNRTRN State: SNA

Predicted Models: 100% Moderate (inductive)

		# Obs	Predicted Model	Range
<input type="checkbox"/> V - Echium vulgare (Blueweed) N1B				

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

Noxious Weed: Priority 1B - Non-native Species

Global: GNR State: SNA

Predicted Models: 100% Low (inductive)

		# Obs	Predicted Model	Range
<input type="checkbox"/> V - Lythrum salicaria (Purple Loosestrife) N1B				

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

Noxious Weed: Priority 1B - Non-native Species

Global: G5 State: SNA

Predicted Models: 100% Low (inductive)

		# Obs	Predicted Model	Range
<input type="checkbox"/> V - Hieracium aurantiacum (Orange Hawkweed) N2A				

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

Noxious Weed: Priority 2A - Non-native Species

Global: GNR State: SNA

Predicted Models: 100% Moderate (inductive)

		# Obs	Predicted Model	Range
<input type="checkbox"/> V - Ranunculus acris (Tall Buttercup) N2A				

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

Noxious Weed: Priority 2A - Non-native Species

Global: G5 State: SNA

Predicted Models: 100% Moderate (inductive)

		# Obs	Predicted Model	Range
<input type="checkbox"/> V - Rhamnus cathartica (Common Buckthorn) N2A				

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

Noxious Weed: Priority 2A - Non-native Species

Global: GNR State: SNA

Predicted Models: 100% Moderate (inductive)

		# Obs	Predicted Model	Range
<input type="checkbox"/> V - Venetaria dubia (Venetaria) N2A				

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

Noxious Weed: Priority 2A - Non-native Species

Global: GNR State: SNA

Predicted Models: 100% Moderate (inductive)

		# Obs	Predicted Model	Range
<input type="checkbox"/> V - Hieracium caespitosum (Meadow Hawkweed) N2A				

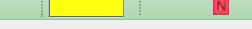
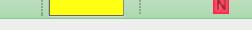
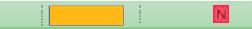
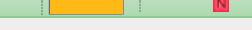
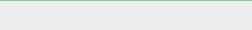
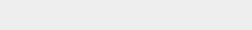
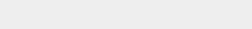
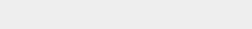
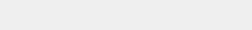
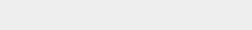
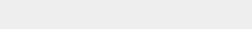
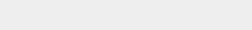
[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)

Noxious Weed: Priority 2A - Non-native Species

Global: GNR State: SNA

Predicted Models: 100% Low (inductive)

		# Obs	Predicted Model	Range
<input type="checkbox"/> V - Hieracium praealtum (Kingdevil Hawkweed) N2A				

View in Field Guide	View Predicted Models	View Range Maps
Noxious Weed: Priority 2A - Non-native Species	Global: GNR State: SNA	
Predicted Models:  100% Low (inductive)		
<input type="checkbox"/> V - <i>Iris pseudacorus</i> (Yellowflag Iris) N2A/AIS		
View in Field Guide	View Predicted Models	View Range Maps
Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species	Global: GNR State: SNA	
Predicted Models:  100% Low (inductive)		
<input type="checkbox"/> V - <i>Lepidium latifolium</i> (Perennial Pepperweed) N2A		
View in Field Guide	View Predicted Models	View Range Maps
Noxious Weed: Priority 2A - Non-native Species	Global: GNR State: SNA	
Predicted Models:  100% Low (inductive)		
<input type="checkbox"/> V - <i>Senecio jacobaea</i> (Tansy Ragwort) N2A		
View in Field Guide	View Predicted Models	View Range Maps
Noxious Weed: Priority 2A - Non-native Species	Global: GNR State: SNA	
Predicted Models:  100% Low (inductive)		
Noxious Weeds: Priority 2B		
<input type="checkbox"/> V - <i>Cynoglossum officinale</i> (Common Hound's-tongue) N2B		
View in Field Guide	View Predicted Models	View Range Maps
Noxious Weed: Priority 2B - Non-native Species	Global: GNR State: SNA	
Predicted Models:  100% Moderate (inductive)		
<input type="checkbox"/> V - <i>Euphorbia virgata</i> (Leafy Spurge) N2B		
View in Field Guide	View Predicted Models	View Range Maps
Noxious Weed: Priority 2B - Non-native Species	Global: GNR State: SNA	
Predicted Models:  100% Moderate (inductive)		
<input type="checkbox"/> V - <i>Lepidium draba</i> (Whitetop) N2B		
View in Field Guide	View Predicted Models	View Range Maps
Noxious Weed: Priority 2B - Non-native Species	Global: GNR State: SNA	
Predicted Models:  100% Moderate (inductive)		
<input type="checkbox"/> V - <i>Leucanthemum vulgare</i> (Oxeye Daisy) N2B		
View in Field Guide	View Predicted Models	View Range Maps
Noxious Weed: Priority 2B - Non-native Species	Global: GNR State: SNA	
Predicted Models:  100% Moderate (inductive)		
<input type="checkbox"/> V - <i>Linaria dalmatica</i> (Dalmatian Toadflax) N2B		
View in Field Guide	View Predicted Models	View Range Maps
Noxious Weed: Priority 2B - Non-native Species	Global: G5 State: SNA	
Predicted Models:  100% Moderate (inductive)		
<input type="checkbox"/> V - <i>Linaria vulgaris</i> (Yellow Toadflax) N2B		
View in Field Guide	View Predicted Models	View Range Maps
Noxious Weed: Priority 2B - Non-native Species	Global: GNR State: SNA	
Predicted Models:  100% Moderate (inductive)		
<input type="checkbox"/> V - <i>Tanacetum vulgare</i> (Common Tansy) N2B		
View in Field Guide	View Predicted Models	View Range Maps
Noxious Weed: Priority 2B - Non-native Species	Global: GNR State: SNA	
Predicted Models:  100% Moderate (inductive)		
<input type="checkbox"/> V - <i>Acroptilon repens</i> (Russian Knapweed) N2B		
View in Field Guide	View Predicted Models	View Range Maps
Noxious Weed: Priority 2B - Non-native Species	Global: GNR State: SNA	
Predicted Models:  100% Low (inductive)		
<input type="checkbox"/> V - <i>Berteroa incana</i> (Hoary False-alyssum) N2B		
View in Field Guide	View Predicted Models	View Range Maps
Noxious Weed: Priority 2B - Non-native Species	Global: GNR State: SNA	
Predicted Models:  100% Low (inductive)		
<input type="checkbox"/> V - <i>Centaurea diffusa</i> (Diffuse Knapweed) N2B		
View in Field Guide	View Predicted Models	View Range Maps
Noxious Weed: Priority 2B - Non-native Species	Global: GNR State: SNA	
Predicted Models:  100% Low (inductive)		
<input type="checkbox"/> V - <i>Centaurea stoebe</i> (Spotted Knapweed) N2B	3	
View in Field Guide	View Predicted Models	View Range Maps
Noxious Weed: Priority 2B - Non-native Species	Global: GNR State: SNA	
Predicted Models:  100% Low (inductive)		
<input type="checkbox"/> V - <i>Cirsium arvense</i> (Canada Thistle) N2B	2	
View in Field Guide	View Predicted Models	View Range Maps
Noxious Weed: Priority 2B - Non-native Species	Global: G5 State: SNA	
Predicted Models:  100% Low (inductive)		
<input type="checkbox"/> V - <i>Convolvulus arvensis</i> (Field Bindweed) N2B		
View in Field Guide	View Predicted Models	View Range Maps
Noxious Weed: Priority 2B - Non-native Species	Global: GNR State: SNA	
Predicted Models:  100% Low (inductive)		
<input type="checkbox"/> V - <i>Hypericum perforatum</i> (Common St. John's-wort) N2B		



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

<https://fws.gov/office/montana-ecological-services>

In Reply Refer To:

July 21, 2022

Project Code: 2022-0066274

Project Name: Flooding at Red Lodge

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>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Montana Ecological Services Field Office

585 Shephard Way, Suite 1
Helena, MT 59601-6287
(406) 449-5225

Project Summary

Project Code: 2022-0066274
Event Code: None
Project Name: Flooding at Red Lodge
Project Type: Surface Reclamation - Coal
Project Description: AML reclamation on coal waste repository adjacent to Rock Creek that was impacted by flooding. In June 2022, a severe flood eroded the toe of the slope leaving a dangerous high wall and causing additional erosion of repository into Rock Creek.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@45.18944550000005,-109.24139309881627,14z>



Counties: Carbon County, Montana

Endangered Species Act Species

There is a total of 4 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 Fisheries¹, 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.

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 <i>Lynx canadensis</i>	Threatened
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	
Grizzly Bear <i>Ursus arctos horribilis</i>	Threatened
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	

North American Wolverine *Gulo gulo luscus*

No critical habitat has been designated for this species.
Species profile: <https://ecos.fws.gov/ecp/species/5123>

Proposed
Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i>	Candidate

No critical habitat has been designated for this species.
Species profile: <https://ecos.fws.gov/ecp/species/9743>

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

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

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

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

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

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

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

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31

NAME	BREEDING SEASON
Pinyon Jay <i>Gymnorhinus cyanocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9420	Breeds Feb 15 to Jul 15

Probability Of Presence Summary

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

Probability of Presence (■)

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

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

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

Breeding Season (■)

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

Survey Effort (|)

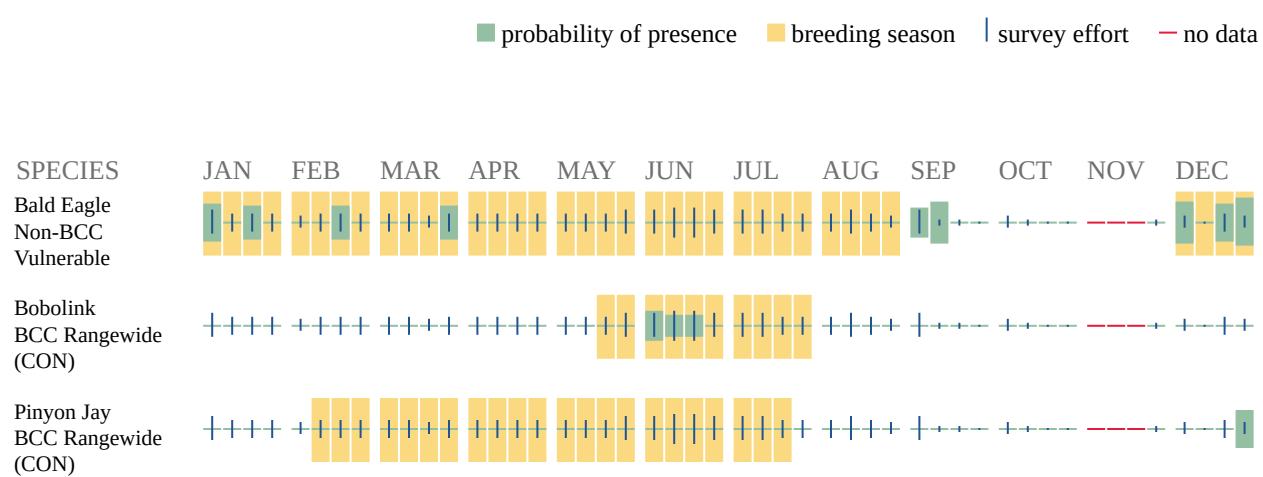
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (-)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

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



Additional information can be found using the following links:

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

Migratory Birds FAQ

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

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

may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

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

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

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

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

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

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

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

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

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);

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

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

Details about birds that are potentially affected by offshore projects

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

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

What if I have eagles on my list?

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

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities,

should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

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

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

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

RIVERINE

- [Riverine](#)

IPaC User Contact Information

Agency: State of Montana
Name: Joanna McLaughlin
Address: 1225 Cedar ST
City: Helena
State: MT
Zip: 59601
Email: joanna.mclaughlin@mt.gov
Phone: 4064446436

Attachment B

Cultural Resources



*Historic Preservation
Museum
Outreach & Interpretation
Publications
Research Center*

October 11, 2022

James Strait
DEQ Tribal and Cultural Resources
P.O. Box 200901
Helena, MT 59620-0901

Re: Red Lodge Flooding of East Bench of Rock Creek

Dear Mr. Strait,

Thank you for your letter (received September 26, 2022) regarding Red Lodge flooding in the east bench of Rock Creek. We concur with your determination of No Historic Properties Affected.

Please note that our concurrence does not substitute for a good faith effort to consult with interested parties, local government authorities, and American Indian tribes. If you receive a comment that substantially relates to a historic property located within or adjacent to the Area of Potential Effect, please submit it to our office for review. Include documentation of how the comment was addressed. If you have any questions or concerns, do not hesitate to contact me at (406) 444-7719 or Laura.Evilsizer@MT.gov. Thank you for consulting with us.

Sincerely,

Laura Evilsizer, M.A.
Compliance Officer, Deputy SHPO
Montana State Historic Preservation Office

Attachment C

Public Comments