FHWA National BA Template

Project Name: Sun River Bridge Replacement MT FLAP BOR 2980(1)

Date: December 12, 2023

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Executive Summary

The proposed Sun River Bridge Replacement project consists of replacing the existing single lane bridge spanning the Sun River. The existing bridge provides access to private and public lands and is used by Greenfields Irrigation District to maintain irrigation facilities. The bridge was constructed in 1916 and is in poor condition, and its outdated design poses safety hazards and limitations to users. The bridge and approach roads will be constructed on a new alignment. Approach roads will place the bridge at the top edges of the river canyon about 300 feet downstream of the existing bridge. The new bridge is a proposed single lane three span concrete bridge with piers above the ordinary high-water mark. The existing bridge may be removed or left in place, contingent upon available funding.

The proposed project is located 73 miles west of Great Falls, Montana, 19 miles northwest of Augusta, Montana, and 0.75 miles downstream from Sun River Diversion Dam near Gibson Reservoir. The project spans the county lines of Lewis and Clark County and Teton County, Montana. The bridge is accessed via Sun Canyon Road west of Sun River and Pishkun Canal Road east of the river. The Sun River bridge crossing is located within the Lewis and Clark National Forest and is near the Sun River Wildlife Management Area (WMA) and Bob Marshall Wilderness (Figure 1).

Vegetation clearing and grubbing, earthwork including excavation (with some areas of potential rock blasting), embankment construction on the east side of the river, grading of the roadbed, connection to private roads and construction of bridge abutments and mechanically stabilized earth (MSE) wall on the east side of the canyon will occur in spring and summer 2025. Concrete foundation and bridge pier installations will occur in fall 2025. Bridge girder splicing (if needed) and bridge girder placement will occur in spring and summer 2026. Road obliteration, existing bridge removal (if pursued), and revegetation will occur in fall 2026.

Based on reviews of federally listed species, designated critical habitat, and species that are proposed for listing that have the potential to be present within the project Action Area, the Endangered Species Act determinations for this project are summarized in Table ES-1. There is no critical habitat with the Action Area.

Table ES-1. Summary of Effect Determinations for the Proposed Action

Species	Federal Status	Effect Determination
Grizzly bear	Threatened	May affect, not likely to adversely affect
Canada lynx	Threatened	May affect, not likely to adversely affect
Whitebark pine	Threatened	No effect
Wolverine	Threatened	May affect, not likely to adversely affect
Monarch butterfly	Candidate	Not applicable. Effect determinations are not required for candidate species.

Contents

Chapter 1 — Project Overview

1.1. Federal Nexus

This BA, prepared by the Federal Highway Administration (FHWA), addresses the proposed action in compliance with Section 7(c) of the Endangered Species Act (ESA) of 1973, as amended. Section 7 of the ESA requires that, through consultation (or conferencing for proposed species) with the U.S. Fish and Wildlife Service (FWS) and/or the National Marine Fisheries Service (NMFS), federal actions do not jeopardize the continued existence of any threatened, endangered, or proposed species or result in the destruction or adverse modification of critical habitat. The Partner Agencies consist of FHWA, Bureau of Reclamation (BOR), Bureau of Land Management (BLM), Greenfields Irrigation District (GID), and US Forest Service (USFS).

This BA evaluates the potential effects of the proposed Sun River Bridge Replacement project on species that are federally listed under the ESA. Specific project design elements are identified that avoid or minimize adverse effects of the proposed project on listed species and/or critical habitat.

1.2. Project Description

The proposed project consists of replacing the existing single lane bridge spanning the Sun River (Figure 1). The existing bridge provides access to private and public lands and is used by GID to maintain irrigation facilities. The bridge was constructed in 1916 and is in poor condition, and its outdated design poses safety hazards and limitations to users. The new replacement bridge will meet current design and safety standards and will be constructed following an alignment separate from the existing alignment. The new alignment and approach roads will place the bridge at the top edges of the river canyon about 300 feet downstream of the existing bridge. The new bridge is a proposed single lane three span concrete bridge spanning the canyon with piers above the ordinary high water mark (OHWM). Earthwork will be required to construct approximately 1,300 feet of road needed to tie the new alignment with the existing roads. Following construction, the existing bridge would no longer be needed for vehicular access across the Sun River. The existing bridge may be removed or left in place. The area encompassing all potential project activities is referred to in this report as the Project Area, shown on Figure 2. Project details are provided in Chapter 4.

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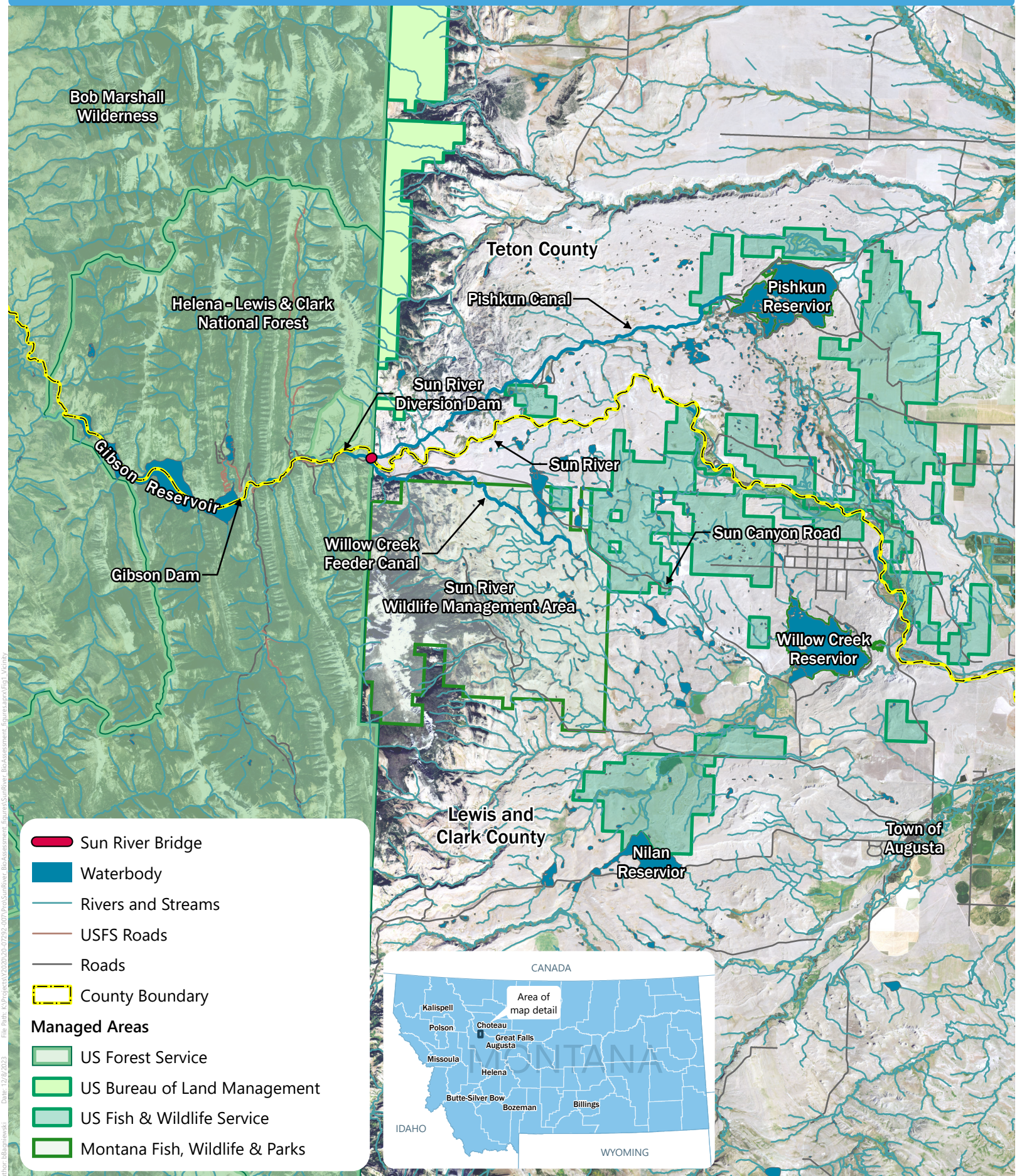
Figure 1. Vicinity Map for the Sun River Bridge Replacement Project.



Produced by Herrera Environmental Consultants (herrerainc.com) | Sources: USGS, MNHP, MDT, Montana NAIP (Aerial, 2021)

0 1.25 2.5 5 Miles

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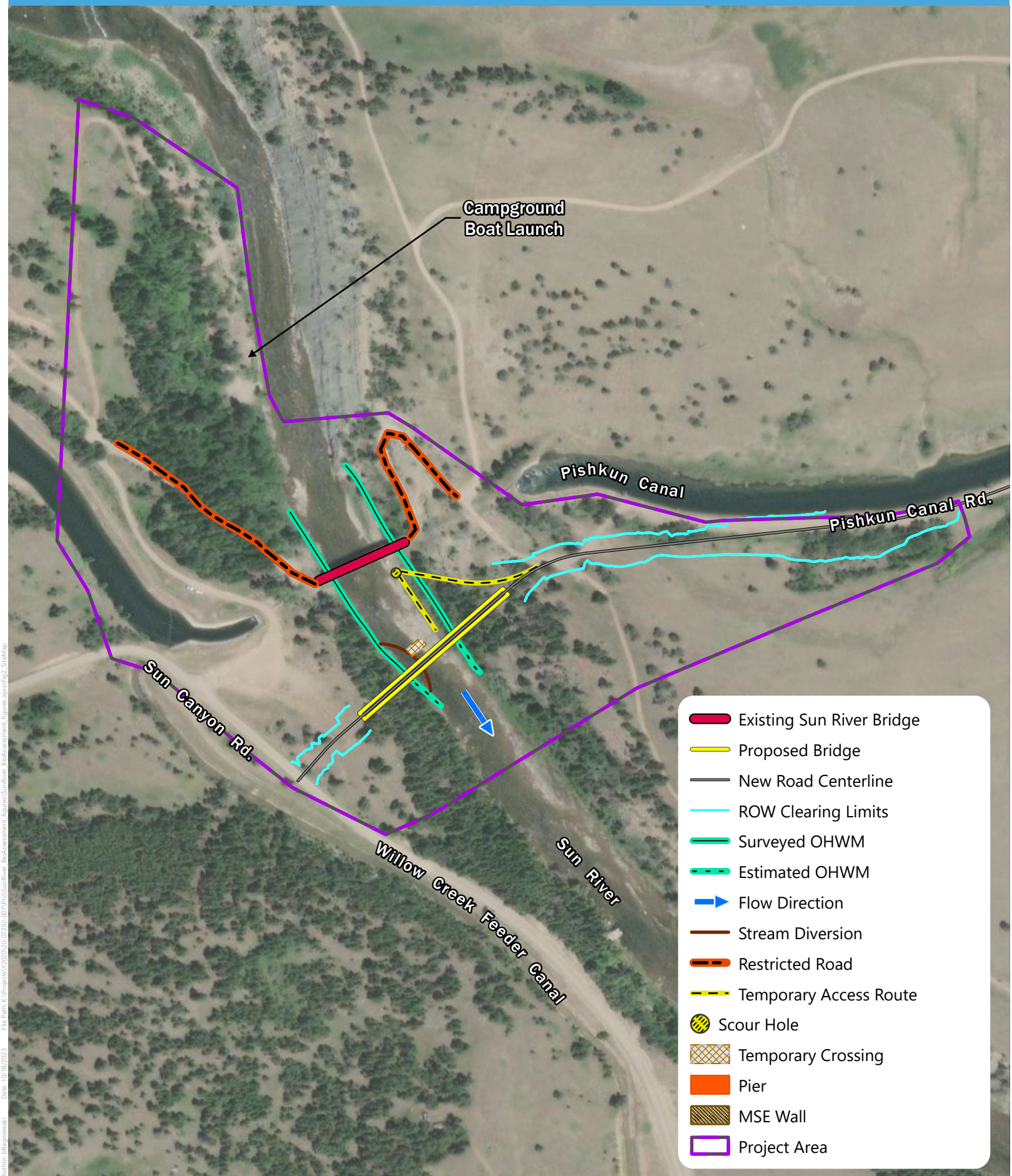
Figure 2.
Site Map for the Sun River Bridge Replacement Project.



Produced by Herrera Environmental Consultants (herrerainc.com) | Sources: Esri Imagery

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Date: 10/18/2023
Author: bBagniewski

1.3. Project Location and Setting

The proposed project is located 73 miles west of Great Falls, Montana, 19 miles northwest of Augusta, Montana, and 0.75 miles downstream from Sun River Diversion Dam (Diversion Dam) near Gibson Reservoir. Sun River Bridge crosses the Sun River and spans the county lines of Lewis and Clark County and Teton County, Montana. The Sun River bridge crossing is located within the Lewis and Clark National Forest and is near the Sun River Wildlife Management Area (WMA) and Bob Marshall Wilderness (Figure 1). The bridge is accessed via Sun Canyon Road west of Sun River and Pishkun Canal Road east of the river. The approximate latitude and longitude coordinates for the project are N 47°37'06" and W 112°41'32" in Section 36 of Township 22 North and Range 9 West.

1.4. Consultation and Coordination History

Prior to conducting field work, the following agency representatives were contacted for information on biological resources in the Project Area and recommended measures to minimize impacts on those resources.

- David Kemp, Wildlife Biologist, Helena-Lewis and Clark National Forest, Rocky Mountain Ranger District, Lincoln Ranger District, Forest Service (Personal communication [Email] on May 18, 2023). Phone: (406) 466-5341. Email: david.kemp@usda.gov
- Matt Comer, Wildlife Biologist, BLM Lewistown Field Office (Personal communication [Email] May 22, 2023). Phone: 406-538-1925. Email: mcomer@blm.gov
- Katie Vivian, Fisheries Biologist with the Montana Fish, Wildlife & Parks, Region 4. (Personal communication [e-mails] May 23, 2023 and July 24, 2023). Phone 406-466-5621. Email: KVivian@mt.gov
- Mike McGrath, Montana Ecological Services Office, U.S. Fish and Wildlife Service. (Personal communication [email and telephone] January 25, 2023; July 24, 2023, September 5, 2023 and September 20, 2023. Phone 406.430.9009. Email: mike_mcgrath@fws.gov

1.5. Conservation Measures

Conservation measures for the project will follow practices outlined in FHWA's Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects.

To minimize potential impacts to grizzly bears during project activities, the following grizzly bear specific conservation measures will be followed as part of the project:

- Do not conduct blasting operations during November and from March 1 through May 15.
- Store all food and other potential bear attractants (e.g., petroleum products, antifreeze, personal hygiene items) in bear-proof containers.
- Dispose of trash in a bear-proof garbage container.
- Do not feed bears.

- Report grizzly bear sightings or incidents to the Contracting Officer (CO) as soon as possible. The CO will notify the nearest Montana Fish, Wildlife and Parks Bear Specialist of any nuisance or aggressive bears.
- No construction-related activities will be conducted at night (9 PM - 6 AM).
- Secure portable bathrooms from wildlife and wind. Clean up any portable bathroom spills immediately should they occur.
- Any wildlife carcasses in the project area will be removed within 24 hours.

Chapter 2 — Federally Proposed and Listed Species and Designated Critical Habitat

The USFWS Information for Planning and Consultation (IPaC) query identified three federally listed threatened or endangered species, one proposed threatened species, and one candidate species with the potential to occur in or near the Action Area of the Project (USFWS 2023a). The Action Area, encompassing approximately 2 miles around the Project Area, is defined in Chapter 5. Listed species include:

- Grizzly bear (*Ursus arctos horribilis*) – Threatened
- Canada lynx (*Lynx canadensis*) – Threatened
- White bark pine (*Pinus albicaulis*) – Threatened
- North American wolverine (*Gulo gulo luscus*) –Threatened
- Monarch butterfly (*Danaus plexippus*) – Candidate

There are no critical habitats and no federally listed aquatic species in the Action Area, therefore this BA will address terrestrial habitats and species. The Official Species list is included in Appendix A.

2.1 Grizzly Bear

Grizzly bears were listed as threatened in the lower 48 states under the ESA on July 28, 1975. Critical habitat for grizzly bears was proposed in 1976 but has not been designated.

Grizzly bears are large, long-lived mammals that are highly mobile and use a variety of habitats. They are usually solitary except when breeding or raising cubs, but territories will often overlap. Grizzlies breed in spring and early summer, and cubs will stay with their mothers as dependent young until they are around two years old. They usually live into their mid- to late-20s but can grow as old as 35 in the wild.

Grizzly bears select individual habitats based on their need and search for food, water, mates, cover, security, and den sites. They require complex habitat with a mix of open areas for feeding and vegetative cover for bedding. They are omnivorous, and their diets vary depending on their habitat and available foods. In the fall, grizzly bears go through a period called hyperphagia, where they greatly increase their food intake in preparation for hibernation.

In winter, they enter hibernation in dens, which are typically located at higher elevations on steep slopes, for four to six months. They can be disturbed or woken during hibernation by seismic or mining activity, or other human activities (USFWS 2023b). In Montana, bears typically den for 5 to 6 months during wintertime (approximately November to March) (MFWP 2023). Typically, the first to den are pregnant females, with almost all having entered dens by the end of November. Males enter dens later than females. In spring, males (particularly sub-adult males) begin emerging as early as February while females begin emerging from late March through April. Females with newborn cubs tend to be last to emerge from late April through early May (MFWP 2022). Security at den sites can be affected if human disturbance occurs near the time of den entry or when newly emerged females with cubs are still confined to the vicinity of the den (Dood et al. 2006).

Grizzly bear range is expanding in Montana. They use a variety of habitats including meadows, seeps riparian zones, forests snow chutes, and alpine rockslides. The Action Area is within the year-round range of grizzly bears and they have been documented in the Action Area as recently as March 2023 (MNHP 2023a; MNHP 2023b). Grizzlies could be present at any time during the project. Grizzly bears would be most likely to use the area at night when human use declines, using darkness for cover (personal communication David Kemp, Wildlife Biologist, Helena-Lewis and Clark National Forest).

2.2 Canada lynx

Canada lynx were designated as a distinct population segment and listed as threatened under the Endangered Species Act in 2000. Lynx are primarily dispersed throughout Canada and Alaska, but a small percentage of their population exists in the contiguous U.S. Lynx may be found in northern Maine, northeastern Minnesota, northwestern Montana, northern Idaho, and north-central Washington. Population distribution of lynx are closely tied to areas with dense populations of snowshoe hares, and where continuous snow cover lasts at least four months. These habitats are often in moist, cool, boreal spruce-fir forests. Lynx hunt their prey primarily at night. (USFWS 2023c).

The Action Area is within the year-round range of Canada lynx. Canada Lynx east of the Continental Divide occupy subalpine forests often at higher elevations (5,400 to 7,900 feet) composed mostly of subalpine fir (*Abies lasiocarpa*). Secondary habitat is intermixed Engelmann spruce (*Picea engelmannii*) and Douglas-fir (*Pseudotsuga menziesii*). The Action Area contains minor (5 percent cover) amounts of secondary habitat. Lynx avoid large open areas, such as the grassland habitats prevalent in the Project Area but may use shrub-steppe habitats to move between their primary habitat types (MNHP 2023a). There have been no documented occurrences of Canada lynx within the Action Area (MNHP 2023b).

2.3 Whitebark pine

On December 15, 2022, the U.S. Fish and Wildlife Service published a final rule (87 FR 76882) to list the whitebark pine as a threatened species under the Endangered Species Act. Critical habitat has not been designated for this species.

Whitebark pine is found at alpine and subalpine elevations. Trees are typically 16 to 66 feet tall with a rounded or irregularly spreading crown. They may grow as tall, single-stemmed or multi-stemmed trees. Above tree line, they grow in a stunted, shrub-like growth form (krummholz). (USFWS 2023d). Whitebark pine is distinguished from the similar limber pine by the fact that it holds onto its cones after they open, whereas limber pine cones

open, drop their seeds, and fall on the ground (Lesica 2012). A portion of the Action Area overlaps the mapped range of whitebark pine (USFWS 2023d). No individual whitebark pine trees or suitable habitat were observed by Herrera biologists within the Project Area. BLM conducted a site visit on August 1, 2023, within the clearing limits for the planned approach roads. No whitebark pine was observed within the surveyed area (personal communication Andrew Oestreich, wildlife biologist, BLM Lewistown Field Office).

2.4 North American wolverine

In 2013, the USFWS proposed to list the North American wolverine as threatened due to habitat loss stemming from increasing temperatures and reduced late spring snowpack as a result of climate change (78 FR 7864). In November 2023 the U.S. Fish and Wildlife Service announced its final rule to list the distinct population segment of the North American wolverine in the contiguous U.S. as a threatened species under the Endangered Species Act (88 FR 83726).

The wolverine is the largest terrestrial member of the weasel family (Mustelidae). It resembles a small bear with a bushy tail and round, broad head; short, rounded ears; and small eyes. They are opportunistic feeders with a strong sense of smell that allows them to find food beneath deep snow. They are solitary and nocturnal hunters that scavenge carrion and may prey on small animals and birds. They also consume fruit, berries, and insects (USFWS 2023e). The species' historical range included Colorado, Idaho, Minnesota, Montana, Nevada, North Dakota, Utah, and Wyoming. Wolverines are generally solitary and wide-ranging. In Montana, wolverine habitat is primarily large, mountainous, and essentially roadless areas (MNHP 2023a). The Action Area is within the current known range of the wolverine in Montana and there is a confirmed occurrence of wolverine in the Action Area documented in March 2023 (MNHP 2023b).

2.5 Monarch butterfly

The monarch butterfly is a candidate for listing under the ESA. USFWS determined in December 2020 that listing the monarch under the ESA is warranted but precluded by higher priority listing actions. No critical habitat has been designated for this species. Monarchs overwinter in aggregations in coastal California and Mexico. In early spring individuals move northward to summer range, moving south to overwintering sites in the fall (MNHP field guide). Monarch habitat is tied to availability of nectar plants, primarily milkweed species. Threats to monarchs include land conversion, herbicide use, and mowing or vegetation maintenance activities (USFWS 2023f). No monarch butterflies or milkweed was observed in the Project Area during the site visit on May 24 and 25, 2023.

Chapter 3 — Environmental Baseline

3.1. Terrestrial Habitats

The Sun River WMA is an important winter range and migration corridor for the Sun River elk herd. The Project Area and vicinity encompass a wide range of highly productive habitats that support a variety of plants and numerous wildlife species. These include grasslands dominated by perennial bunch grasses and mixed forbs, montane forests dominated by Douglas-fir (*Pseudotsuga menzies*ii) and lodgepole pine (*Pinus contorta*), shrublands with a mix of species including species include rusty leaf menziesia (*Menziesia ferruginea*), black twinberry (*Lonicera involucrata*), alder buckthorn (*Rhamnus alnifolia*), prickly currant (*Ribes lacustre*), thimbleberry (*Rubus parviflorus*), Sitka alder (*Alnus viridis*), cascade mountain ash (*Sorbus scopulina*), Sitka mountain ash (*Sorbus sitchensis*), and thinleaf huckleberry (*Vaccinium membranaceum*). Engelmann spruce

(*Picea engelmannii*) and subalpine fir (*Abies lasiocarpa)* forests occur at higher elevation, and sparsely vegetated cliff faces, narrow canyons, rock outcrops, and scree and talus slopes occur west of the Project Area.

3.2. Aquatic Habitats

The Sun River originates at the confluence of the North and South Forks of the Sun River at Gibson Reservoir in the Helena-Lewis and Clark National Forest. Downstream of Gibson Dam the river flows three miles through a mountainous canyon to the Diversion Dam. Below the Diversion Dam the river is entrenched in a narrow valley for about 12 miles, then the valley broadens as the river flows out onto the prairie. Sun River joins the Missouri River at Great Falls, 97 miles downstream of the Diversion Dam (MFWP 2019).

The Sun River supplies irrigation water for the GID. Water stored in Gibson Reservoir is released into the river for diversion downstream at Diversion Dam into the Pishkun Supply Canal (Pishkun Canal). Pishkun Canal conveys water to Pishkun Reservoir or to the Willow Creek Reservoir (GID 2023). A concrete siphon buried parallel to the existing bridge conveys the Pishkun Supply Canal under and across the Sun River. The Willow Creek Feeder Canal is diverted off the Pishkun Canal just upstream from the siphon. The canal feeds the Willow Creek Reservoir, approximately 11 miles southeast of the diversion point. Water from the reservoir flows back into the Sun River (BOR 2023).

The river in the Project Area is located in a steep canyon with a narrow strip of riparian vegetation along the river edge. The Sun River's banks feature multiple gravel bars vegetated with silverberry (*Elaeagnus commutata*), willows (*Salix spp.*), and red-osier dogwood (*Cornus sericea*).

There are no wetlands in the Project Area.

Chapter 4 — Project Details

4.1. Construction

4.1.1. Project Timeline and Sequencing

Table 1. Project Timeline for the Sun River Bridge Project.

Timeframe	Activity
Spring/Summer 2025	Vegetation clearing and grubbing Earthwork including excavation (with some areas of potential rock blasting), embankment construction on the east side of the river, and grading of the roadbed Connection to private roads on the east side of the canyon Construction of bridge abutments and MSE wall
Fall 2025	Concrete foundation and bridge pier installation
Spring/Summer 2026	Bridge girder splicing (if needed) Bridge girder placement
Fall 2026	Road restriction or obliteration (if pursued) Existing bridge removal (if pursued) Revegetation

4.1.2. Bridge Details

The new bridge ends would be placed at the top of the river canyon on the west side and slightly below the top edge of the river canyon on the east side. The bridge length is estimated at approximately 455 feet and would consist of three bridge fitted with curbing and guardrail. The forecasted main span crossing the river would be 175 feet long, and the two side spans would each be 140 feet long. The bridge deck would be approximately 85 feet above the water surface, with the bottom chord elevation of the proposed bridge located above the lowest elevation of the existing bridge, resulting in result in a hydraulic opening greater than the existing opening. The bridge site plans are included in Appendix B and Project Area photos are included in Appendix C.

4.1.3. Approach Roads

Two new approach roadways totaling approximately 1,300 feet in length and 22 feet in width would connect the new bridge to tie into existing roadways on either side of the Sun River. The grades of the new road would range from 0% to approximately 3%. The approaches would require approximately 20,000 cubic yards of earthwork along with approximately 3.6 acres right-of-way acquisition to allow for the new road connection through public and private property. The gravel-surfaced roadway would be located within a variable right-of-way corridor to encompass the proposed side slopes and roadway drainage ditches. Fill material would be imported to create the roadbed.

4.1.4. Construction Access and River Diversion

On the east side of the river, construction access would be provided via an existing access route leading from the upper east side of the canyon down to the existing siphon at the east riverbank. Currently, this existing access route is infrequently used by GID to access a siphon release valve on the east bank and provide siphon maintenance. The route would be improved to facilitate construction access and left in place following completion of the project.

From the existing siphon on the east bank of the river, construction access is anticipated across an existing scour hole and along a gravel bar on the eastern shoreline. Reshaping of these features may be required to create a drivable surface for tracked equipment. Access would then need to be developed from the eastern shoreline up the river embankment to the foundation site approximately 10 feet above the OHWM.

To enable construction of the bridge foundation and pier on the western bank of the river, construction access across the river channel would be required since the steep topography of the western canyon walls prevents access. Coordination with GID would be conducted time construction activities based on operation of the dam. The normal operating season of the siphon is May through September. No project-related alterations to Sun River flows will occur.

The contractor may elect to divert river water to one side or the other using temporary diversion techniques which could be constructed from river gravels or other stream diversion materials such as super sacks, water bladders, or shoring to control the river. Diversion would enable a temporary work bridge to be placed across a narrowed river channel for access from the east to the west side of the river. Additionally, a diversion may be used to provide a dry work area on the west riverbank. After access across the river is no longer needed, river diversion and temporary crossing materials would be removed and streambed materials would be restored to pre-existing conditions.

4.1.5. Vegetation Clearing

Vegetation, consisting of upland habitat, would be cleared within the footprint of the new roadway alignment. Trees on both slopes of the river canyon would be topped to 10 feet vertical distance below the level of the new bridge and 10 feet horizontal distance on each side of the bridge. Vegetation would be flush cut on the existing GID access road on the east bank. A 40- by 60-foot square of vegetation would be removed for each of the bridge pier foundations. An additional 30-foot by 50-foot laydown area would be temporarily cleared to use for drilled shaft and column construction equipment and materials.

4.1.6. Bridge Foundations

It is currently anticipated that foundations for the proposed bridge piers would consist of either drilled 10 to 12-foot diameter shafts or driven piles. The two proposed bridge pier foundations would be located approximately 5 to 15 feet outside of the OHWM of the active channel. The anticipated foundation type and layout would be determined based on the results of subsurface investigations and geotechnical site analysis.

MSE wall-supported spread footings would be used for the east abutment to reduce the length of the bridge, reduce the earthwork required, and reduce the area of ground disturbance. The MSE wall will be constructed from compacted backfill, soil reinforcements, and facing components (such as wire faced or gabion basket systems) at the top of the slope at the east abutment. Excavation would be required to create a level foundation for the wall, and minor blasting is unlikely but may be required to construct the bridge abutments due to the presence of shallow bedrock.

4.1.7. Bridge Superstructure

Bridge spans between the abutments and piers would be either a single span or spliced sections. If spliced sections are used, it would be necessary to place temporary shoring towers during construction to support the girders during the splicing operation. Proposed splice locations may be 30 feet towards the river on either side of the intermediate bridge piers. Shoring towers would be created by installing four piles using pile driving or vibratory equipment and placing a cap on top of the piles.

4.1.8. Existing Bridge

Following construction of the Preferred Alternative, the existing bridge would no longer be needed for vehicular access across the Sun River. Removal of the existing bridge is therefore desired by partner agencies to minimize ongoing maintenance needs and eliminate risks associated with the aging structure.

A Determination of Eligibility (DOE) for listing the existing bridge on the National Register of Historic Places (NRHP) was issued in 1985 by the Keeper of the National Register. Since that time, changes to the bridge have led the bridge owner, USBR, to determine that the bridge no longer retains sufficient integrity to convey its significance. The Montana State Historic Preservation Office (SHPO) does not concur with this determination, and USBR intends to pursue a final determination with the Keeper of the National Register.

Two options are under consideration for the existing bridge. An option will be chosen based on final determination of NRHP eligibility and funding availability.

Option 1 – Close the Existing Bridge to Vehicular Access and Maintain in Place

Under this option, the existing bridge and access roadways would remain in place under the ownership of USBR. Concrete barriers and signage would be used to block vehicular access across the bridge due to safety concerns and weight limitations. Routine maintenance would be required to preserve the bridge in place.

Access roadways would continue to be maintained by GID to enable administrative and maintenance access to the existing bridge. However, jersey barrier, boulders, a gate, or some other measure would be used to prevent public vehicular access to the bridge.

Option 2 – Remove the Existing Bridge (Preferred)

If the existing bridge is determined to not be eligible for listing on the NRHP and sufficient funding is available, the steel superstructure would be removed. To minimize impacts to the river and the existing siphon buried below the streambed directly under the bridge, the existing concrete piers would be allowed to remain standing in their current locations and would continue to be maintained in place.

Netting would be placed under the bridge for fall protection and to catch large debris during removal of the steel superstructure. A crane would be used to lift bridge sections as they are cut, and sections would be hauled offsite. A crane would access the work area by driving on the existing campsite access road on the west bank, then driving south along the riverbank. It may be necessary to divert the river to the east to create a drivable surface for the crane. Diversion methods would be the same as the options described for the west bank pier construction.

Following removal of the existing bridge's steel superstructure, the section of road on the west bank between the bridge and the hairpin turn and the section on the east bank between the bridge and the intersection with the private road at the top of the slope would be obliterated. These road sections would be ripped and seeded with a government-approved native seed mix and blocked to prevent vehicle access.

4.1.9. Staging

All activities associated with construction, including access and staging, would take place within the Project Area (Figures 2a and 2b).

4.2. Operations and Maintenance

The new bridge will be owned by BOR and will be inspected by BOR every two years. GID will be responsible for the overall maintenance of the Sun River Bridge, the Sun River Siphon, and the Pishkun Supply Canal. The major users of the bridge include Federal and State land managers, GID maintenance crews, emergency response and law enforcement personnel, recreationalists, lessees of Federal and State lands, and private landowners.

Chapter 5 — Project Action Area

5.1. Action Area Definition

The action area is all areas that are affected directly or indirectly by the action and not merely the immediate area involved in the action (50 CFR 402.02).

5.2. Action Area Limits

The action area for analysis of effect on Canada lynx, wolverine and whitebark pine is based on the reasonable extent of potential noise and construction related impacts. Construction equipment noise has the farthest-reaching potential impact and therefore it determined the extent of the Action Area for these species. The limit of construction-generated air-borne noise associated with the project is the distance at which noise generated from construction activities is undistinguishable from background or ambient conditions. Project-related terrestrial noise was calculated following the noise assessment protocol in the WSDOT Biological Assessment Preparation Manual (WSDOT 2020). Anticipated construction activities include possible blasting (94 dBA) and use of heavy equipment including a pile driver (95 dBA) and a crane (85 dBA) (FHWA 2023). Using rules for decibel addition, the combined maximum noise estimate for construction activities is 98 dBA at a distance of 50 feet from the work zone. Background noise in the Project Area is estimated to be 40 dBA based on a grassland and forest site. Using a scenario including blasting, project-related noise is expected to extend approximately 2 miles over land before attenuating to the background sound level. This distance was established to include all areas of conceivable impact associated with the proposed project, however the cliffs west of the Project Area would likely block transmission of noise in that direction.

Stream diversion and equipment access routes could cause temporary hydraulic and sediment impacts in the Sun River but these effects would be localized and are captured within the 2-mile radius of the Action Area. The Action Area for Canada lynx, wolverine and whitebark pine is illustrated on Figure 3.

The Action Area for analysis of effect on grizzly bear is based on bear management sub-units. Grizzly bear management units (BMUs) and sub-units are used for summarizing, analysis and mapping by wildlife biologists and managers. The Grizzly Bear Recovery Program (USFWS 2021) contains standards, guidelines and goals for each BMU. The Sun River bridge is at the boundary between the Deep Creek and West Fork Beaver subunits (Figure 4). The two subunits constitute the Action Area for grizzly bear.

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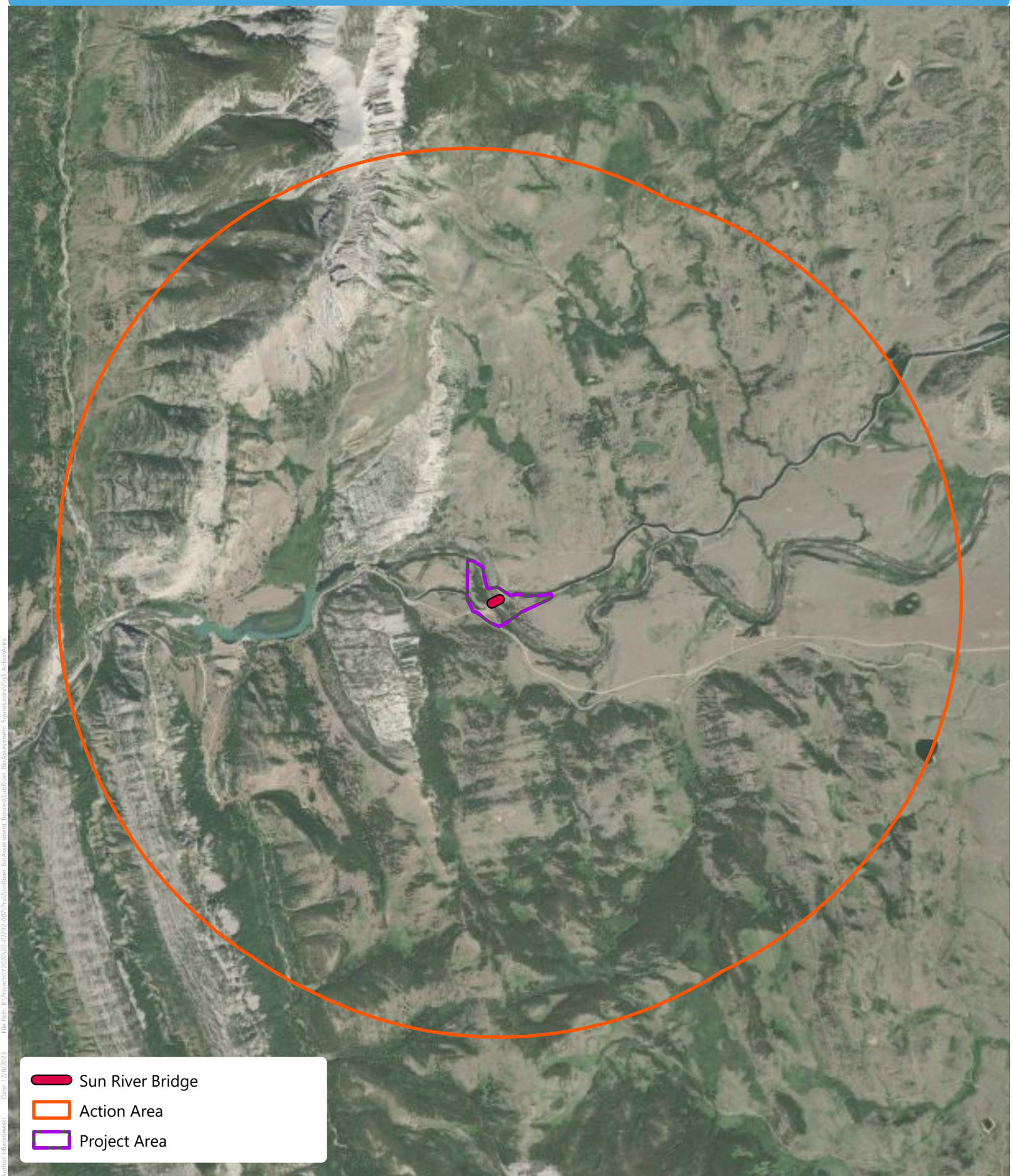
Figure 3. Canada Lynx, Whitebark Pine, and Wolverine Action Area for the Sun River Bridge Replacement Project.



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Date: 12/8/2023
Author: bBagniewski

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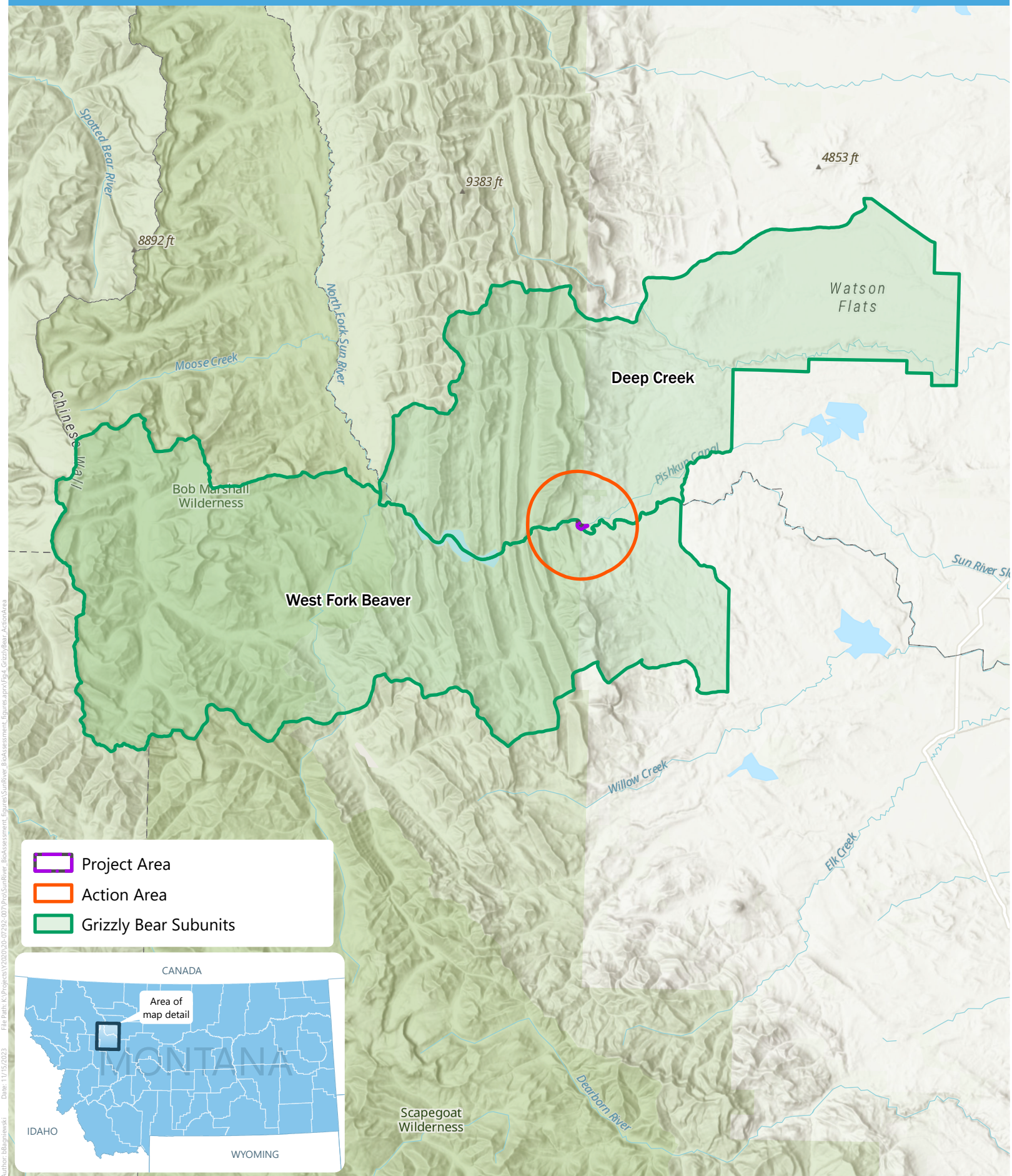
Figure 4. Grizzly Bear Action Area for the Sun River Bridge Replacement Project.



File Path: K:\Projects\Y2020\20-07292-007\Pro\SunRiver_BioAssessment_figures\SunRiver_BioAssessment_figures.aprx\Fig4_GrizzlyBear_ActionArea
Date: 11/15/2023
Author: bBagniewski

Chapter 6 — Effects Analysis

6.1. Construction Generated Noise and Disturbance

The project activities with the potential to affect lynx, grizzly bear and wolverine are noise and disturbance from construction equipment for approximately six months each year in 2025 and 2026. Construction noise could cause grizzly bear, Canada lynx and wolverine to alter behavior through avoidance. The increase in traffic during construction could increase the risk of collision with wildlife.

The risk of impacts on grizzly bear, Canada lynx and wolverine will be reduced by limiting the duration of the project to the shortest time feasible and limiting road work to daytime hours between 6:00 am and 9:00 pm.

Grizzly Bear: Grizzly bears have been observed in the Action Area, and some bears travelling through the area could be temporarily disturbed or displaced by noise and human activity from the proposed actions. Foraging efficiency may be reduced for grizzly bear as they may be using the Action Area for foraging. If blasting occurs during sensitive periods when grizzly bears are denning in fall or emerging from dens in spring, the noise could disrupt normal behavior. During construction activities, unnatural food sources or attractants may become available and attract grizzly bears which could lead to individuals becoming nuisance bears that require management intervention.

Canada Lynx: Canada lynx may be present in the Action Area as they travel between patches of boreal forest foraging habitat. They are solitary hunters that are more active at night than in the day. Primary threats to Canada lynx are by habitat destruction and fragmentation (NWF 2023). Lynx are most susceptible to noise and other disturbances during the denning period and while newborns are developing (May through August) (Claar et al. 1999). There are no known dens in the Action Area.

Wolverine: There is only one report of a wolverine occurrence in the Action Area (MNHP 2023b), and wolverines are therefore not likely to be exposed to effects from the project. If a wolverine were to occur in the action area during construction, the project could cause a behavioral response (avoidance). However, wolverines are highly mobile, wide-ranging carnivores that could easily avoid the action area, and impacts from noise and disturbance are unlikely to result in adverse effects.

6.2. Vegetation Impacts

The bridge approach road segments would permanently remove upland habitat, but this habitat would likely only be used by grizzly bear, Canada lynx and wolverine for transitory movement.

Topping of trees beneath the new bridge, and within 10 feet on each side of the new bridge would not affect habitat suitability for grizzly bear, Canada lynx and wolverine because understory vegetation would remain and continue to provide foraging habitat.

Additional potential effects on vegetation during construction include effects on pollinators and dust covering leaves thereby reducing photosynthesis.

Vegetation clearing and construction would not affect whitebark pine because this species is not present in the Project Area.

6.3. Potential Impacts on Water Quality

The project work will implement construction best management practices (BMPs) to reduce the potential for erosion and turbid run-off from the project site activities to impact adjacent aquatic habitat. Containment measures will be installed between the work area and river to prevent disturbed soils from entering the river during construction. Other representative BMPs that may be implemented may include, but are not exclusive of, the following: marking the construction area limits or boundaries to avoid inadvertent clearing or grading, conducting work during dry conditions, and fueling equipment at upland locations away from the river.

There are no ESA listed fish species in the Action Area.

6.4. Operational Effects

During operation, the new road approaches could affect grizzly bears. The effects of human access via roads on female grizzly bears has been well documented. Roads are significant factors in displacement, mortality risk and habitat fragmentation (Dood et al. 2006; NCDE Subcommittee 2019). Motorized access is one of the most influential elements affecting habitat security for grizzly bears. Open road density, total motorized access and presence of secure core areas are important aspects of management of human access in grizzly bear recovery zones (IGBC 1998).

Analysis of road density and secure core areas in the grizzly bear Action Area was performed for the Deep Creek and West Fork Beaver BMU subunits according to the *Conservation Strategy for the Grizzly Bear in the Northern Continental Divide Ecosystem* (NCDE Subcommittee 2019). Table 2 provides results of the analysis, indicating that the new road approaches will not cause an increase in road density that would affect grizzly bears.

Table 2. Road Density Analysis for the Sun River Bridge Replacement Project

Grizzly Bear Management Subunit	Open Motorized Road Density		Total Motorized Road Density		Grizzly Bear Core Area	
	Existing	**Proposed**	**Existing**	**Proposed**	**Existing**	**Proposed**
Deep Creek	10	10	3	3	67	67
West Fork Beaver	17	17	5	5	78	78

Source: Kathy Ake, GIS Specialist, Forest Service Flathead National Forest

The new approach roadways will enable use by semi-tractor trailers and other GID maintenance equipment, as well as large RVs, livestock trailers, and towed recreational units which are currently precluded from using the existing crossing. This could potentially increase traffic on the approach roads and bridge, but it would not enable any new types of uses because there are other routes that large vehicle currently use to access sites in the Action Area. Grizzly bears, Canada lynx and wolverine generally avoid areas near roads during daylight hours so they would be unlikely to be at higher risk of disturbance or injury.

6.5. Indirect Effects

6.5.1. Altered Predator-Prey Relationships

Construction noise could potentially displace prey species; however, effects are not likely to occur and would not be significant due to the small construction footprint and short duration of the work.

6.5.2. Long-Term Habitat Alteration

Roads can indirectly affect wildlife by fragmenting habitat. However, the project would only result in a shift of the bridge alignment and existing bridge access roads and would not add new roads; therefore, fragmentation of habitat is not anticipated.

6.5.3. Indirect Land Use Impacts

The new approach roadways and bridge will not induce any land use changes. Land management surrounding the Project Area will continue to be primarily in public ownership.

6.5.4. Conflicts with recreational users

The ability for larger vehicles to cross the bridge could cause an increase in numbers of visitors to the recreation sites in the Action Area, thus increasing the potential for conflicts with wildlife. However, measures currently in place, such as bear-proof garbage containers (refer to Section 1.5) and warning signs would minimize the potential for adverse effects.

6.6. Interrelated and Interdependent Actions and Activities

The proposed project will not promote future construction or other activities that would not otherwise occur without the completion of the project.

Chapter 7 — Effect Determinations

7.1. No Effect Determinations for Listed Species

7.1.1. Whitebark pine

The proposed project will have **no effect** on whitebark pine because no whitebark pine trees are present in the Action Area.

7.2. Effect Determination for Listed species

7.2.1. Grizzly Bear

Based on the findings provided in this report, the project **may affect** grizzly bears because:

- Grizzly bear presence is documented within the Action Area.
- Construction activity and noise has the potential for temporary disturbances to grizzly bear activities and denning behavior,
- Increased human activity during project work may create unnatural attractants for grizzly bears, increasing the risk of individual bears becoming habituated to human activity and requiring management intervention.
- New road approaches could affect grizzly bears through displacement, mortality risk and habitat fragmentation.

The project is **not likely to adversely affect** grizzly bears because:

- Due to the limited scope of the project, which is restricted to the bridge replacement and access roads, loss of grizzly bear habitat is not anticipated.
- Habitat fragmentation is not anticipated given that the project would only result in a shift of the bridge alignment and existing bridge access roads would be closed to vehicle traffic.
- The project will implement measures to minimize the availability of project-related attractants.
- The project will implement timing restrictions that would minimize direct conflict with grizzly bears.
- Blasting, if needed, would not occur during the month of November and from March 1 through May 15 when grizzly bears enter and emerge from dens.
- The new road approaches will not cause an increase in road density that would affect grizzly bears.

7.2.2. Canada lynx

The proposed project **may affect** Canada lynx because:

- Canada lynx may be present in the Action Area as they travel between patches of boreal forest foraging habitat.

The proposed project is **not likely to adversely affect** Canada lynx because:

- There is no suitable foraging or denning habitat in the Project Area
- The project will implement timing restrictions that would minimize direct conflict with Canada lynx.

7.2.3. Wolverine

The proposed project **may affect** wolverine for the following reasons:

- Wolverine have been documented in the action area and could occur in the project footprint during construction.
- Wolverine may be displaced by noise and disturbance associated with construction.

The proposed project is **not likely to adversely affect** wolverine because:

- The project will result in a negligible loss of habitat.
- The project will implement timing restrictions that would minimize direct conflict with wolverine.

7.3. Effect Determinations for Proposed Species

There are no proposed species associated with the Action Area.

7.4. Effect Determination for Critical Habitat

There is no designated or proposed critical habitat in the Action Area.

7.5. Candidate Species

Monarch butterfly is associated with milkweed habitat. No milkweed was observed in the project vicinity thus no impacts to milkweed populations or individual plants are anticipated. The proposed activities will not result in impacts to this candidate species.

Chapter 8 — References

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Chapter 9 — Appendices

Appendix A — Official Species List

Appendix B — Bridge Plan

Appendix C — Photos

Appendix A — Official Species List

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Montana Ecological Services Field Office
585 Shephard Way, Suite 1
Helena, MT 59601-6287
Phone: (406) 449-5225 Fax: (406) 449-5339

In Reply Refer To:
Project Code: 2024-0025418
Project Name: Sun River Bridge Replacement

December 11, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

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

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

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

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

Attachment(s):

- Official Species List

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:

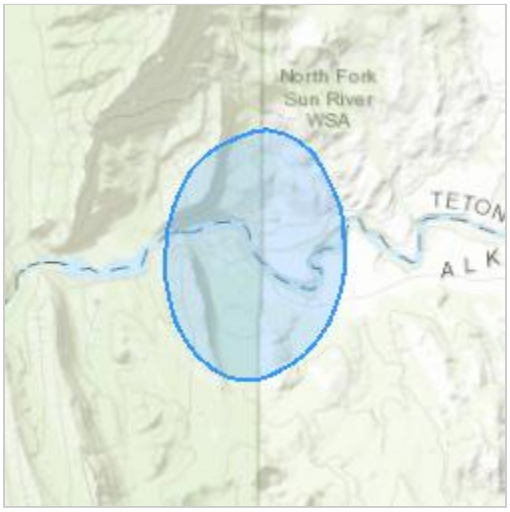
Montana Ecological Services Field Office
585 Shephard Way, Suite 1
Helena, MT 59601-6287
(406) 449-5225

PROJECT SUMMARY

Project Code: 2024-0025418
Project Name: Sun River Bridge Replacement
Project Type: Bridge - Replacement
Project Description: The proposed new bridge crosses the Sun River approximately 17 miles northwest of Augusta, MT. The bridge ends would be placed at the top of the river canyon on the west side and slightly below the top edge of the river canyon on the east side. The bridge length is estimated at approximately 455 feet and would consist of three bridge spans fitted with curbing and guardrailsc. The main span crossing the river would be 175 feet long, and the two side spans would each be 140 feet long.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@47.61813335,-112.69214275,14z



Counties: Lewis and Clark and Teton counties, Montana

ENDANGERED SPECIES ACT SPECIES

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Canada Lynx *Lynx canadensis* Population: Wherever Found in Contiguous U.S. There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3652	Threatened
Grizzly Bear *Ursus arctos horribilis* Population: U.S.A., conterminous (lower 48) States, except where listed as an experimental population There is **proposed** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/7642	Threatened
North American Wolverine *Gulo gulo luscus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5123	Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CONIFERS AND CYCADS

NAME	STATUS
Whitebark Pine *Pinus albicaulis*	Threatened

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/1748

CRITICAL HABITATS

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

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Federal Highway Administration
Name: Susan Wall
Address: 101 East Broadway
City: Missoula
State: MT
Zip: 59802
Email swall@herrerainc.com
Phone: 4067214204

Appendix B — Bridge Plan Sheet

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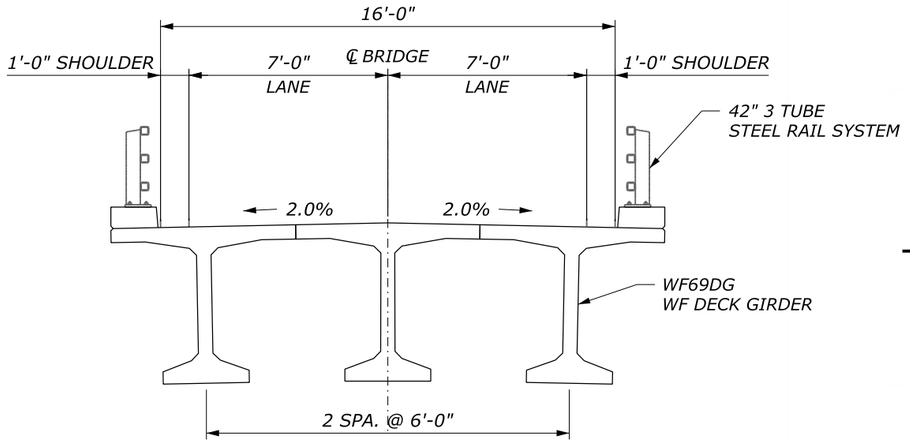
STATE	PROJECT	SHEET NUMBER
MT	MT FLAP BOR 2980(1)	1



CONCRETE GIRDER BRIDGE SECTION
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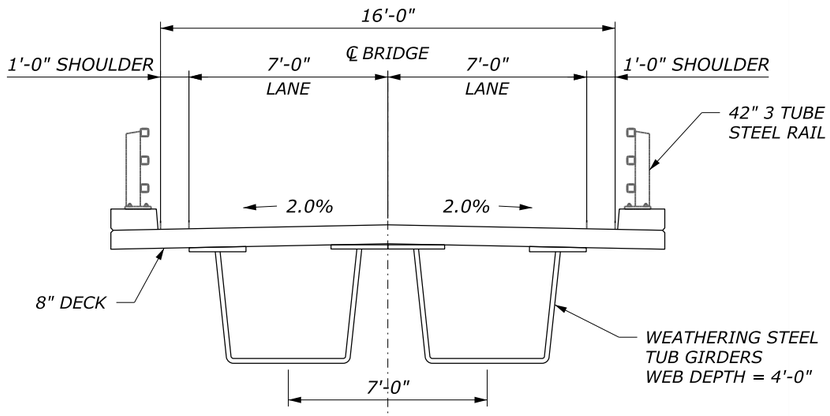

STEEL TUB GIRDER BRIDGE SECTION
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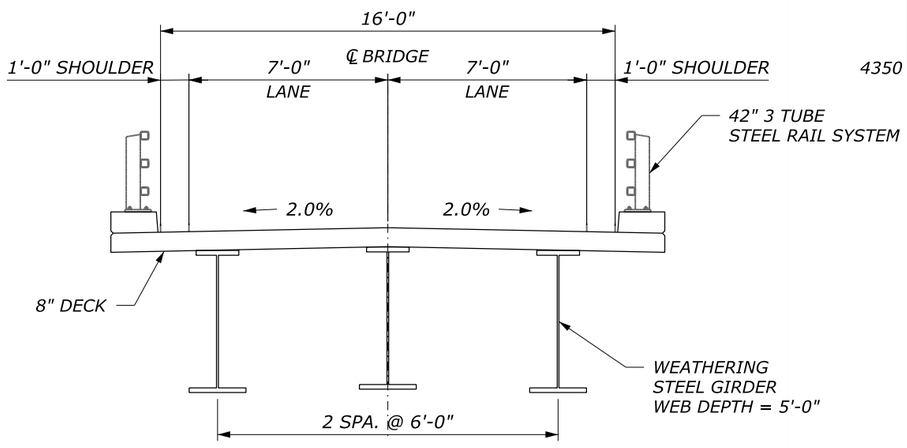

STEEL GIRDER BRIDGE SECTION
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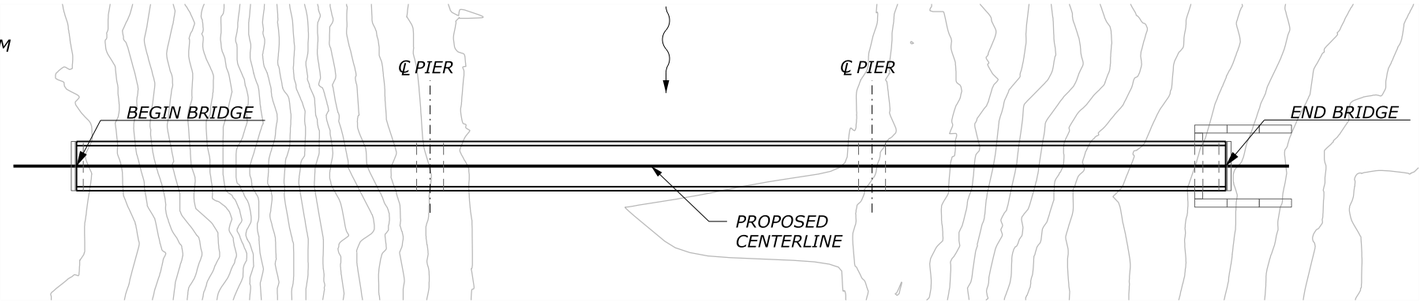

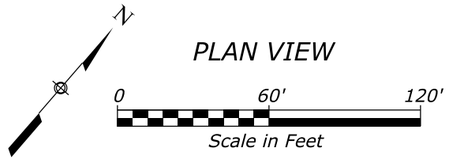

PLAN VIEW
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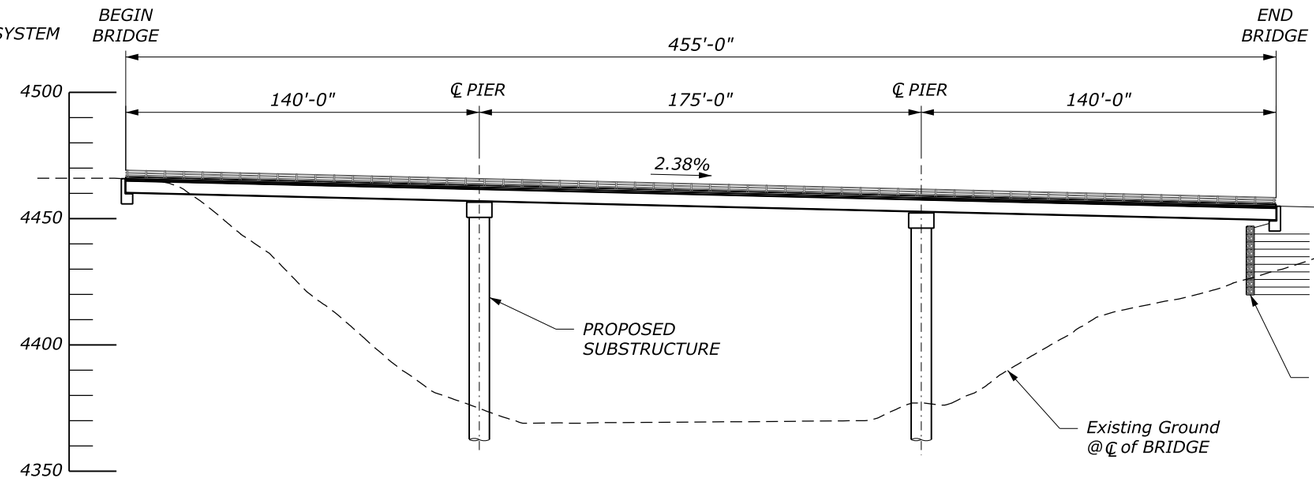
Scale in Feet



ELEVATION
0 60' 120'
Scale in Feet

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
WESTERN FEDERAL LANDS HIGHWAY DIVISION

U.S. CUSTOMARY DETAIL

PRELIMINARY LAYOUT
SUN RIVER BRIDGE

DATE: 06-2023	DETAIL
REVISED:	-

Appendix C — Photos

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Biological Assessment
Sun River Bridge Replacement
Photographic Log

Photo Number	Photo Description
1	Sun River Bridge facing downstream from the left bank
2	Grassland habitat on slope above the left bank
3	Grass and scattered trees along the left bank upstream of the bridge
4	Mixed conifer forest on steep slope along right bank downstream of the bridge
5	Riparian zone along the right bank upstream of the bridge
6	Riparian zone along the left bank downstream of the bridge
7	Pishkun Canal at siphon outlet, facing upstream
8	Willow Creek Feeder Canal, facing downstream (east)


1


2


3


4


5


6


7


8