



Biological Assessment

of the Geotechnical Investigation

for the Montana Department of Transportation
and Federal Highway Administration

Missouri River - Fort Benton

STPB STWD(749)

UPN 9319001

Chouteau County, Montana

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Prepared for:



Prepared by:



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1 Introduction

The purpose of this Biological Assessment (BA) is to assess the effects of a proposed geotechnical investigation proposed by the Montana Department of Transportation (MDT) on federally listed, proposed, and candidate species in compliance with Section 7(c) of the Endangered Species Act (ESA) of 1973, as amended.

1.1 Federal Nexus

Section 7 of the ESA of 1973 (as amended) directs federal agencies to ensure that actions they authorize, fund, and/or conduct are not likely to jeopardize the continued existence of any federally proposed or listed species or result in destruction or adverse modification of critical habitat for such species. Section 7(c) of the ESA requires that federal agencies contact the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) before beginning any construction activity to determine if federally listed threatened and endangered (T&E) species or designated critical habitat may be present in the vicinity of a proposed project. A BA must be prepared if actions by a federal agency, or permits issued by a federal agency, will result in effects to T&E species that occur in the vicinity of a proposed project. With respect to the proposed action, the Federal Highway Administration (FHWA) is the federal agency funding the project. The proposed action is anticipated to require a Clean Water Act (CWA) Section 404 permit.

1.2 Project Description and Location

The proposed action evaluated in this BA involves a proposed geotechnical investigation in the vicinity of MDT Structure 06193 (NBI structure P00080002+04331), which carries Montana State Highway 80 (MT-80) over the Missouri River (referred to herein as the MT-80 bridge). MDT contractors are proposing to drill 15 borings within MDT right-of-way (ROW) near the MT-80 bridge to ascertain geotechnical information that will inform the design of a future bridge replacement project. Two of the proposed borings (B-108 and B-109) are within the Missouri River and would be conducted from the MT-80 bridge by drilling through the bridge deck.

The project area is centered on the MT-80 bridge and includes a portion of downtown Fort Benton at the north end of the bridge and a segment of MT-80 extending to Secondary Highway 228. The project is located within Choteau County and within Sections 23 and 26 of Township 24 North, Range 8 East, Montana Principal Meridian. The bridge is located at approximately reference post (RP) 2.37 on MT-80. The project area is shown in Figure 1-1.



Figure 1-1. Project Area and Vicinity Map

1.3 Proposed Action

The proposed action includes a geotechnical investigation of the area immediately surrounding the MT-80 bridge. MDT contractors are proposing to drill 15 borings within MDT right-of-way (ROW) near and on top of the MT-80 bridge to ascertain geotechnical information that will inform the design of a future bridge replacement project (see Figure 1-2). Two of the proposed borings (B-108 and B-109) are within the Missouri River and would be conducted from the MT-80 bridge by drilling through the bridge deck. A boring will also be performed on the east bank of the river and west bank of the river near the existing bridge piers but will not be within the river. The casing diameters will be around 8 inches and boring diameters will be around 6 inches, and depths will range from 60 to 90 feet below the ground surface.

During drilling soil and rock samples will be collected for testing of engineering properties. After drilling, drill casing will be removed, and dry land borings be backfilled with drill cuttings to the existing ground surface. The borings within the river will self-backfill with natural sediments upon withdraw of the drill rod and no permanent change to water flow or the riverbed will occur. Any cored asphalt or concrete pavement, including through existing MT-80 bridge deck, will be patched immediately upon completion.

The geotechnical investigation is planned to occur in November or December of 2023 and the beginning date will be dependent on when the necessary water quality permits are received and driller availability. Each boring will take approximately one day to complete; the drilling of all 15 borings is anticipated to take 10 to 14 days, depending on drilling conditions. The proposed borings

B-108 and B-109 within the Missouri River are anticipated to each take a single day to complete. Daily hours of operation will likely be from 8am to 5pm unless otherwise specified by MDT or others.



Figure 1-2. Proposed Geotechnical Boring Locations

The river borings will be drilled by setting an 8-inch diameter conductor casing from the bridge deck to the river bottom and advancing an approximately 6-inch diameter drill casing to the bedrock surface, then coring approximately 50 feet into bedrock. It is anticipated that approximately 30-40 feet of gravels will be encountered followed by approximately 50 feet of bedrock. Prior to coring, the use of fluids to drill is not anticipated and any cuttings returned to the surface will be captured and containerized. During coring of bedrock, water will be used to flush cuttings up and out of the casing and drilling will be performed through a mud tub, which will capture these drill cuttings and fluids returned to the surface, preventing them from entering the waterway. This material will be containerized in 50-gallon drums and transported offsite for disposal. The borings performed on the riverbank will be drilled in a similar manner to the river borings, except the use of 8-inch diameter conductor casing is not anticipated.

All drill cuttings will be containerized when drilling through the bridge deck and all equipment entering the water (drill bits and rods) will be cleaned before and after drilling. Silt fences will be erected around the borings when drilling on the riverbanks to ensure no drill cuttings enter the waterway. Care will be taken to minimize disturbance to site vegetation during drilling including possible placement of rubber mats or tarps to protect vegetation. If necessary, disturbed areas will be reseeded with a seed mix as specified by the MDT reclamation specialist.

The drilling will be conducted using a sonic drill rig. The rig is a rubber tracked rig that will be transported to and from the site on a flatbed trailer or other trailer/rollback style vehicle. Figure 1-3 shows a picture of the model of drill rig that would be used. Benefits of using sonic drilling technology are further described in Section 1.4.

Traffic control will be in place when the drillers are working on or near the roadway. A traffic control plan will be submitted to MDT for review and approval prior to conducting the work. While conducting the drilling from the bridge deck, the drillers would maintain a single lane of traffic allowing traffic to alternate crossing the bridge in the open lane.



Figure 1-3. Typical Sonic Drill Rig

1.4 Conservation Measures

The following conservation measures and construction Best Management Practices (BMPs) will be implemented for the project:

- No instream work will occur during the pallid sturgeon spawning and migratory window, which occurs between May 1st to July 15th.
- The proposed drilling will be conducted using sonic drilling technology, which provides several environmental benefits over conventional hollow stem auger drilling, such as:
 - Reduction in drill cuttings and waste. Sonic drilling can substantially reduce investigative derived waste (IDW) (up to 80 percent reduction). Sonic drilling does not require the use of water or bentonite mud while drilling and the IDW is often limited to the volume of the core samples. This technique will substantially reduce the potential for sedimentation in the Missouri River.
 - Sonic drilling is substantially faster than conventional hollow stem auger drilling (estimated 3 to 10 times faster). The amount of time that drilling will occur within the Missouri River would be reduced to the greatest extent possible.

- When performing the two river borings, drilling will be performed through a mud tub, which will capture drill cuttings and fluids returned to the surface, preventing them from entering the waterway.
- All drill cuttings within the Missouri River will be containerized in 50-gallon drums and transported offsite for disposal.
- All drill equipment (i.e., drill bits and rods) entering the river will be cleaned before and after drillings.
- The drilling operations will not require pumping water from the river. Water used during drilling to flush cuttings will be sourced from groundwater or from a known AIS-free water source.
- As an added BMP, the deck drains on the bridge will be temporarily plugged to prevent any excess water from entering the river in the unlikely scenario that drill cuttings overflow the mud tub or the 50-gallon containers.
- Silt fences (or other appropriate BMPs) will be erected around boring operations when drilling is conducted on the riverbank where sediments/cuttings have potential to enter the Missouri River or adjacent aquatic resources.
- A spill kit will be kept on-site during drilling operations.
- Site disturbance will be kept to the minimum area necessary to conduct the work. Vegetation impacts will be minimized to the extent possible through potential use of laydown rubber mats to protect existing vegetation. To the greatest extent possible, trees or shrubs would be trimmed (not removed) to allow for safe drill rig access.

The following conservation measures are proposed to avoid project impacts on migratory bird species:

- Standard specification Section 208.03.4(A)(1) – Migratory Bird Treaty Act – Vegetation Removal, will be implemented to avoid and minimize potential impacts on migratory birds resulting from any unforeseen requirement for vegetation removal. This specification includes the following construction requirements:
 - Perform any required cutting of trees or shrubs between August 16 and April 15, and when no active nests are present;
 - Remove only those trees and shrubs in direct conflict with the permanent construction limits; and
 - Where possible, do not remove, but trim trees and shrubs as necessary for equipment access and construction activities.

The following conservation measures are proposed to avoid project impacts on bears in general:

- Standard Specification 208.03.4(E) – Bear Habitat applies to this project. The following requirements are included:
 - Promptly clean up any project related spills or debris.
 - Camping is allowed in designated camping areas only.
 - Store all food, food related items, petroleum products, antifreeze, garbage, and personal hygiene items inside a closed, hard-sided vehicle or commercially manufactured bear resistant container.
 - Remove garbage from the project site daily and dispose of it in accordance with all applicable regulations.
 - Notify the Project Manager of any animal carcasses found in the area.
 - Notify the Project Manager of any bears observed in the vicinity of the project.

2 Action Area and Environmental Baseline

2.1 Action Area

The action area for the proposed project is defined as “all areas to be affected directly or indirectly by the proposed action and not merely the immediate area directly adjacent to the action” (50 CFR §402.02). Project components that pose potential effects include potential sedimentation and underwater noise associated with drilling within the Missouri River, minor ground disturbances within the ROW, and noise generated from the drill rig.

Topography and site characteristics affect the propagation of sound, and the forested riparian area on the east bank would likely reduce the extent of noise. The proposed borings are occurring along a highway with an existing level of traffic noise. For this analysis, a simplified uniform distance of one-quarter mile is used as the action area to assess potential impacts from the proposed geotechnical investigation. The aquatic action area for the Missouri River is also defined to include the same general one-quarter mile distance both upstream and downstream of the MT-80 bridge. The action area is shown in Figure 2-1.

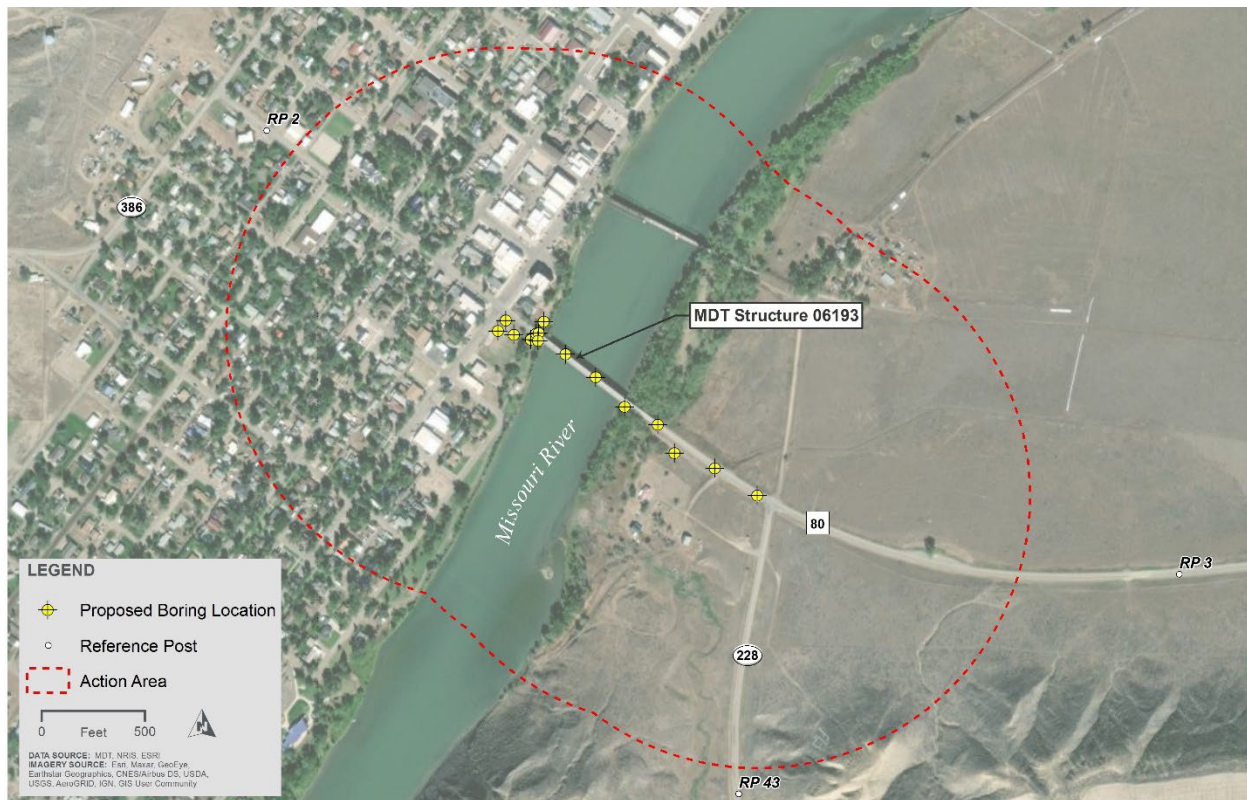


Figure 2-1. Project Action Area

2.2 Environmental Baseline

Regulations implementing the ESA (50 CFR 402.02) define the environmental baseline as the past and present impacts of all Federal, State, or private actions and other human activities in the action area.

2.2.1 Project Setting

Information reported within the following sections were obtained from a combination of literature and database searches and on-site field investigation conducted on September 15, 2022, as reported in the final Biological Resource Report (BRR) dated December 6, 2022.

Land Use and Land Ownership

Land use in the vicinity of the bridge transitions from commercial and residential on the west side (within the city limits of Fort Benton) to rural residential and agriculture on the east side of the Missouri River. With the exception of roadway rights-of-way, land ownership within the project area is entirely privately owned. A pedestrian trail passes under the bridge at the west abutment. The trail, referred to as the Steamboat Levee Walk, is part of an historic interpretive trail with historic landmarks described along its length through downtown.

Existing Vegetation

In general, three distinct areas exist within the project area and include the area on the west side of the Missouri River within Fort Benton city limits, the forested riparian fringe on the east side of the river, and the roadside environment segment extending southeast from the east bridge abutment to the junction with S-228. On the west side of the river, the project area is more urban and includes parkland and a shared-use path (levee trail) that travels along the west bank of the Missouri River underneath the MT-80 bridge.

A narrow riparian fringe (averaging approximately 10 feet wide) exists between the levee trail and the Missouri River on a steep embankment that includes mature trees and shrubs comprised mostly of black cottonwood (*Populus balsamifera*) and green alder (*Alnus viridis*). Riparian grasses include smooth brome (*Bromus inermis*), reed canarygrass (*Phalaris arundinacea*) along the river's edge, as well as interspersed other weeds and forbs. The vegetation immediately adjacent to the trail is mowed.

On the east side of the river MT-80 spans over a forested riparian area dominated by a black cottonwood overstory. The understory is comprised of grasses, forbs, and interspersed weeds. Plant species include smooth brome, clasp-leaf dogbane (*Apocynum cannabinum*), Canada goldenrod (*Solidago canadensis*), leafy spurge (*Euphorbia virgata*), western virgin's-bower (*Clematis ligusticifolia*), and showy milkweed (*Asclepias speciosa*). The riparian fringe adjacent to the river is dominated by reed canarygrass, common beaked sedge (*Carex utriculata*), field horsetail (*Equisetum arvense*), and Drummond's willow (*Salix drummondiana*).

On the east side of the Missouri River, paralleling MT-80, roadside grasses consist primarily of crested wheatgrass (*Agropyron cristatum*), thickspike wheatgrass (*Elymus lanceolatus*), and smooth brome. Common weeds observed include Canada thistle (*Cirsium arvense*) and common kochia (*Kochia scoparia*). Other forbs observed include curlycup gumweed (*Grindelia squarrosa*) and showy milkweed, and intermittent shrubs include big sagebrush (*Artemisia tridentata*) and common Juniper (*Juniperus communis*).

Aquatic Resources

The Missouri River is the single and only waterway located within the project limits. It is the longest river in the United States, flowing more than 2,500 miles from its source on the eastern slope of the Rockies near Three Forks to its confluence with the Mississippi River at St. Louis, Missouri. At the

MT-80 bridge site the river is a single channel and is approximately 460 feet wide. Some channel complexity in the form of side channels and islands exists approximately 0.5 mile upstream and 0.65 mile downstream. The project area is within the Town of Fort Benton-Missouri River 12-digit hydrologic unit 100301021602 (HUC 12; subwatershed).

Wetlands and streams were mapped during a field investigation that occurred in September 2022. Two distinct wetlands were identified and delineated within the project area limits. The wetlands are located on the east side of the Missouri River. An intermittent stream channel was observed and mapped within the project area boundary. This feature originates to the south of the project and appears to capture drainage from a narrow canyon that parallels S-228. The channel resembles a vegetated swale and lacks a defined bed or bank and is vegetated across the bottom of the channel. The channel ranges between two and four feet wide. Figure 2-3 shows the results from the on-site field investigation.



Figure 2-2. Aquatic Resources within the Project Area

3 Threatened and Endangered Species Biological Assessment

Section 7 of the ESA [16 U.S.C. 1531 *et seq.*] outlines the procedures for Federal interagency cooperation to protect federally listed species and conserve designated critical habitats. Section 7 requires Federal agencies to determine the effects of the proposed action on threatened, endangered, and proposed species and to consult with the USFWS for concurrence on the determination of effect. This section provides the BA of the proposed action's effect on federally listed species and designated critical habitats.

3.1 Methods

Information reported within this section has been taken and adapted from the Biological Resource Report/Preliminary Biological Assessment that was completed on December 6, 2022. The list of federally listed endangered, threatened, proposed, and candidate species to be considered in this BA was generated for the project area based on the USFWS data obtained through the Information for Planning and Consultation (IPaC) web tool (see Table 5-1) searched on August 29, 2023. Federally listed species potentially occurring in the project action area vicinity are listed in Table 3-1 along with their respective federal status.

Table 3-1. Federally Listed Species Potentially Occurring in the Action Area

Common Name	Scientific Name	Status ^a
Grizzly Bear	<i>Ursus arctos horribilis</i>	LT
Pallid Sturgeon	<i>Scaphirhynchus albus</i>	LE
Monarch Butterfly	<i>Danaus plexippus</i>	C
Sources: USFWS 2023a		
^a LE = Listed Endangered; LT = Listed Threatened; C = Candidate		

3.2 Previous Effect Determinations in the Preliminary Biological Assessment

A Preliminary Biological Assessment (PBA) was completed for the proposed bridge replacement project on December 6, 2022. The PBA assessed the bridge replacement project’s potential effects on the species listed in Table 3-1 above. Based on the analysis presented in the PBA, a **may affect** determination was rendered for grizzly bear and pallid sturgeon. Based on this preliminary determination, it was determined that the proposed bridge replacement project develop a final BA to further evaluate potential effects to grizzly bear and pallid sturgeon based on the most current project design details. Consistent with this approach, this BA evaluates the potential effects from the proposed geotechnical investigation on these two species.

The PBA also determined that the project is **not likely to jeopardize the continued existence** of the monarch butterfly. This determination remains valid for the proposed action and therefore monarch butterfly is not addressed in this BA.

3.3 Potential Cumulative Effects Analysis

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this preliminary biological assessment (USFWS 1998). Future federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to Section 7 of the ESA (USFWS 1998). A cumulative impacts analysis examines the additive effect of the proposed action’s residual impact (i.e., impacts remaining after applying avoidance and minimization measures) in relation to the residual impacts generated by past, present, and reasonably foreseeable actions within the cumulative analysis area.

Although not identified by the MDT Tentative Construction Projects 2023-2027 web application, MDT is planning to replace the MT-80 bridge (the parent project for which this geotechnical evaluation is

occurring) with an anticipated letting in October 2026. Section 7 consultation for the overall project will take place once project details are identified through the design process.

No additional future federal, state, local, or private actions of regional significance that are reasonably certain to occur have been identified within the vicinity of the proposed project. No long-term cumulative impacts are anticipated with this geotechnical investigation.

3.4 Pallid Sturgeon – Endangered

3.4.1 Species status, distribution, habitat requirements, and occurrence in project area

The pallid sturgeon (*Scaphirhynchus albus*) was federally listed as endangered in 1990 (55 FR 36641 36647). The 1990 listing noted that the species is threatened through habitat modification, apparent lack of natural reproduction, commercial harvest, and hybridization in parts of its range. The construction of dams along the Missouri River and tributaries have negatively affected this species. According to the MTNHP, the pallid sturgeon population has been declining during at least the past 50 years with only about 200 adults remaining in the upper Missouri River and limited natural reproduction (MTNHP 2023a).

Habitat requirements include large, turbid rivers over sand and gravel bottoms, usually in strong current, as well as impoundments of these rivers. Pallid sturgeon are documented to use all channel types, but primarily straight reaches with islands. The MTNHP provides little information on pallid sturgeon eating habits noting only that aquatic insects and minnows have been found in their stomachs.

Pallid sturgeon can be found in Montana inhabiting large, turbid rivers, but are primarily limited to the Missouri and Yellowstone Rivers. Within Montana, the USFWS documents this species range on the Missouri River as extending from the Morony Dam (approximately 30 river miles upstream of the project action area) downstream to (and beyond) the North Dakota border. The population of pallid sturgeon in the Missouri River upstream of the Fort Peck Reservoir is bound by the Morony Dam (upstream limit) to the transition to lacustrine conditions at the headwaters of the Fort Peck Reservoir (Cox et al. 2023). According to the MTNHP Montana Field Guides, pallid sturgeon occur in the upper Missouri River above Fort Peck Reservoir but are scarce (MTNHP 2023a). According to the FWP FishMT mapping application, pallid sturgeon are present (either known or presumed) within the project action area and their abundance is identified as rare (FWP 2023). No critical habitat is designated in Montana for this species.

As previously noted, this species is rare in the Upper Missouri River. The MTNHP Generalized Observations database does, however, include two records of pallid sturgeon within Chouteau County in the vicinity of the project area from 2009 and 2010. The 2009 report occurred at the mouth of the Marias River approximately 20 river miles (11.5 air miles) downstream of the project area and the 2010 report occurred approximately 8 river miles (5 air miles) upstream of the project area (MTNHP 2023b).

According to FWP fisheries biologist, Luke Holmquist, pallid sturgeon are present within the project action area and have been detected with radio telemetry in the vicinity of the MT-80 bridge in 2023 (Holmquist 2023). The USFWS noted that the project stretch of the Missouri River, and also the Marias River downstream, has been used more by reproductive fish recently, and the number of hatchery-origin fish reaching sexual maturity is increasing every year (McGrath 2023).

Pallid sturgeon spawning (and migration period) in the upper reach of the Missouri River typically occurs between May 1st and July 15th (Holmquist 2023). Most spawning occurs in the Fred Robinson Bridge area (approximately 150 river miles downstream of the project action area) over a gravel/sand mixture. However, FWP noted that in high flows years such as 2018 or 2023, they observed mature pallid sturgeon utilizing the upper reaches of the river. In 2018, multiple fish ascended the Marias River (approximately 20 river miles downstream of the project action area) as far as 30 miles and in several other years fish have migrated from Fred Robinson Bridge area to the mouth of the Marias River during elevated discharge but did not ascend very far up the Marias River due to low flow conditions. In 2023, a mature male hatchery-origin fish was documented migrating all the way to Morony Dam during the spawning window and two mature males were tightly grouped in between the MT-80 bridge and the pedestrian bridge at Fort Benton (located approximately 850 feet downstream of the MT-80 bridge) during the spawning window.

3.4.2 Potential Impact Analysis

The proposed geotechnical borings within the Missouri River are not anticipated to have any effect on water temperature, flow regime, habitat or food availability, or effect spawning. Effects from the instream borings would be limited to negligible effects to water quality due to riverbed disturbance and the release of some sediments into the water. The proposed borings located on the riverbanks will have no impact on water quality due to BMPs that will be in place during drilling activities.

The proposed two borings within the Missouri River are likely to cause a temporary, minor increase in localized turbidity as a result of the disturbance of the riverbed and the drill rod spinning in the water column during drilling. This disturbance will be limited to the time of drilling, which is anticipated to be approximately eight hours per hole and, therefore, approximately 16 hours to complete both instream borings. The drill rod diameter is approximately eight inches and the impact to the riverbed and aquatic habitat is anticipated to be negligible. The borings within the river will self-backfill with natural sediments upon withdraw of the drill rod and no permanent change to water flow or the riverbed will occur. No increase in erosion or potential contamination is anticipated as a result of the planned geotechnical activities.

A potential short-term, minor increase in turbidity is not anticipated to negatively affect pallid sturgeon because of their evolved adaptation to and natural preference of turbid waters. Moreover, given the scarcity of this species in the Missouri River above Fort Peck Reservoir, individual pallid sturgeon are unlikely to be present during the approximately 16 hours of riverbed core drilling.

Adverse effects on pallid sturgeon from in-air noise from the sonic drilling is not anticipated. Sonic drillers emit a high frequency, single acoustic noise that is more comparable to vibratory driving. Anecdotally, sonic drilling is noted as being slightly louder than conventional hollow stem auger drilling. One drilling company out of the United Kingdom notes that the typical noise output from a sonic drill rig is measured at 81 dBA at 1 meter (Environmental Sampling Ltd 2023).

Underwater noise effects resulting from the drilling has the potential to affect pallid sturgeon. Based on NMFS noise thresholds for harm and injury, peak noise levels at or above 206 dB may harm fish. Cumulative noise levels above 183 dB are considered to put fish less than 2 grams in size at risk of injury or death, while levels above 187 dB may harm fish greater than 2 grams in size (WSDOT 2015). Fish behavior may be modified at about 150 dB (WSDOT 2015). These noise thresholds for harm and behavioral modification are primarily based upon underwater noise levels produced during impact pile driving. Sonic drilling does not approach these dB levels and does not involve the percussion associated with impact pile driving that would cause barotrauma. Further, as previously

described, the potential for pallid sturgeon to be present in the action area during the core drill activities is remote. If a transient pallid sturgeon is present in the area, it will likely flee when the equipment begins to enter the water (Holmquist 2023).

3.4.3 Determination of Effect

The documented presence of pallid sturgeon in the action area is rare and spawning habitat is not documented within the action area. However, due to documented presence of pallid sturgeon in the action area during the spring migration/spawning period, a low possibility remains for a transient fish to be present during drilling activities. It is therefore determined that the proposed action **may affect** pallid sturgeon by:

- Creating a short-term, temporary increase in turbidity during the approximately 16 hours of instream core drilling activities; and
- Creating a short-term, temporary increase in underwater noise that may elicit an avoidance response.

However, the proposed action is **not likely to adversely affect** pallid sturgeon because:

- Pallid sturgeon are rare within the Missouri River upstream of Fort Peck Reservoir and are unlikely to be present during the November-December timeframe when core drilling is planned. Therefore, the potential frequency for occurrence is very low and the chances of disturbance to individuals in the action area is very unlikely. (discountable)
- Instream work will be performed outside of the typical spawning and migratory window, which occurs May 1st to July 15th, when pallid sturgeon are unlikely to be present in the action area. (discountable)
- The potential for short-term increase in turbidity is not anticipated to affect the behavior, physiological processes (e.g., gill function), or prey resources of pallid sturgeon, particularly because the species is adapted to turbid waters. (insignificant)
- The frequency, duration, and intensity of underwater disturbance from noise levels would not rise to the level of harm or harassment that would result in altered behavioral patterns affecting reproduction or survival. (insignificant)

For these reasons, a **may affect, not likely to adversely affect** determination is rendered relative to pallid sturgeon.

3.5 Grizzly Bear – Threatened

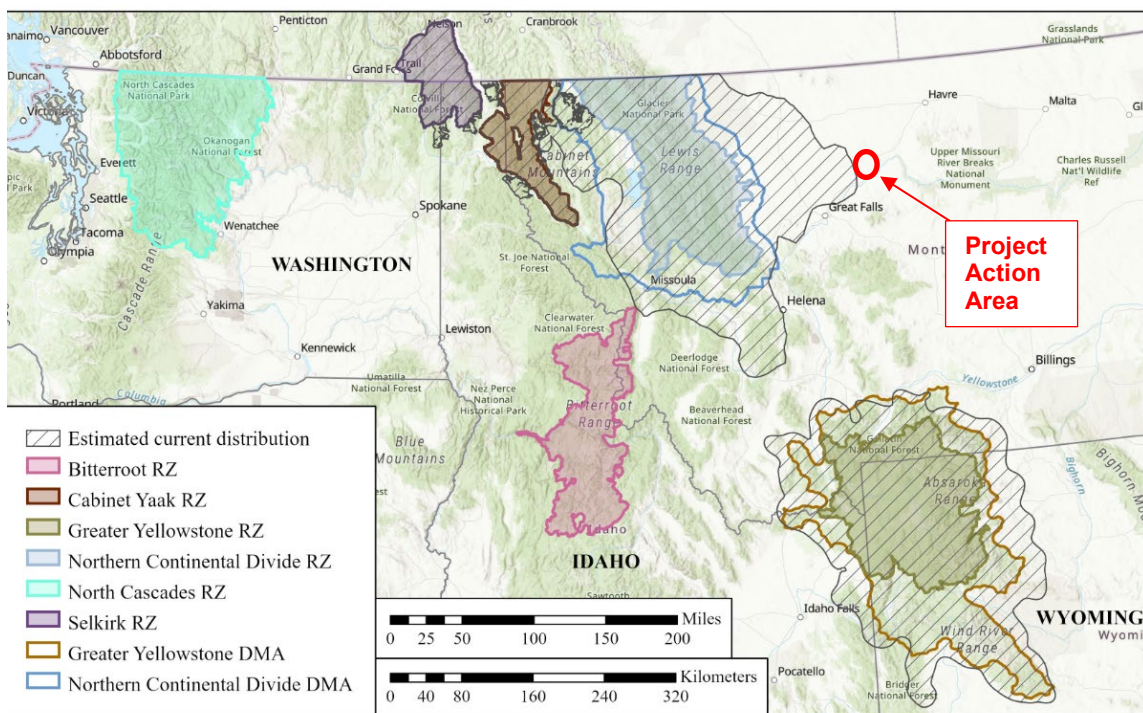
3.5.1 Species status, distribution, habitat requirements, and occurrence in project area

The grizzly bear (*Ursus arctos horribilis*) was listed as threatened under the ESA in 1975 in the conterminous 48 states (40 FR 31734). Habitat loss and human encroachment are the primary reasons for decline in grizzly bear populations (Reel et al. 1989). On June 30, 2017, the Greater Yellowstone Ecosystem (GYE) population of grizzly bears was removed from the federal list of endangered and threatened species. The USFWS June 30, 2017, final rule delisting the Greater Yellowstone Ecosystem grizzly bear population was vacated and remanded by the court on

September 24, 2018. Therefore, grizzly bears throughout the lower 48 states are listed as threatened except where designated as an experimental population.

Grizzly bears are wide-ranging mammals requiring large areas of undisturbed habitat and prefer habitat that is forested and provides good cover (USFWS 1993). However, grizzlies will occupy a wide range of habitat types and elevations throughout the year and will opportunistically occupy areas that can best meet their food requirements. Home ranges can vary considerably from approximately 11 to 2,000 square kilometers (7 to 1,245 sq. mi.) and are dependent upon food distribution (Reel et al. 1989).

The MTNHP identifies grizzly bear within the query area results for the SOC report generated previously for the project (MTNHP 2022); however, the MTNHP Generalized Observations database do not have record of grizzly bear occurrence in the project vicinity (MTNHP 2023b). The Species Occurrence polygon in the Environmental Summary Report represents areas delineated by the USFWS that encompass both home ranges and potential transitory movements based on verified sightings. The USFWS “May Be Present” Map and GIS database (USFWS 2022) was reviewed to further evaluate the potential for grizzly bears to occur in or near the project area. The action area is located approximately 100 miles east of the Northern Continental Divide Ecosystem (NCDE) boundary but located near, and potentially within, the easternmost area of estimated current grizzly bear distribution for the NCDE Recovery Zone (see Figure 3-1).



Estimated distributions are current as of 2020 for the Greater Yellowstone and the Northern Continental Divide and are current as of 2019 for the Cabinet-Yaak and Selkirk. There are currently no known populations in the North Cascades and Bitterroot. Current distributions do not include low-density peripheral locations and represent a minimum known area of occupancy, not extent of occurrence. DMA = Demographic Monitoring Area; RZ = Recovery Zone

Figure 3-1. Grizzly Bear Recovery Zones and Estimated Distributions (Source: USFWS 2023)

The 2020 NCDE Annual Report shows grizzly bear incidents from 2020 (Costello and Roberts 2021; see Figure 3-2). In recent years, grizzly bears on the eastern side of the Rocky Mountain Front have increased in numbers and expanded eastward into prairie areas where they haven’t existed for decades (Bolton 2020). An internet search revealed several instances dating back to 2009-2010

when grizzly bears were being observed along the Missouri River in areas near Fort Benton, Loma, and Floweree for the first time in many decades (Outdoor News 2009, Puckett 2010). Although the easternmost incidents shown in Figure 3-2 are not within the project area vicinity or near Fort Benton, the data supports the general trend of grizzly bear eastern expansion and the potential for additional grizzly bear sightings is possible in the vicinity of the town of Fort Benton.

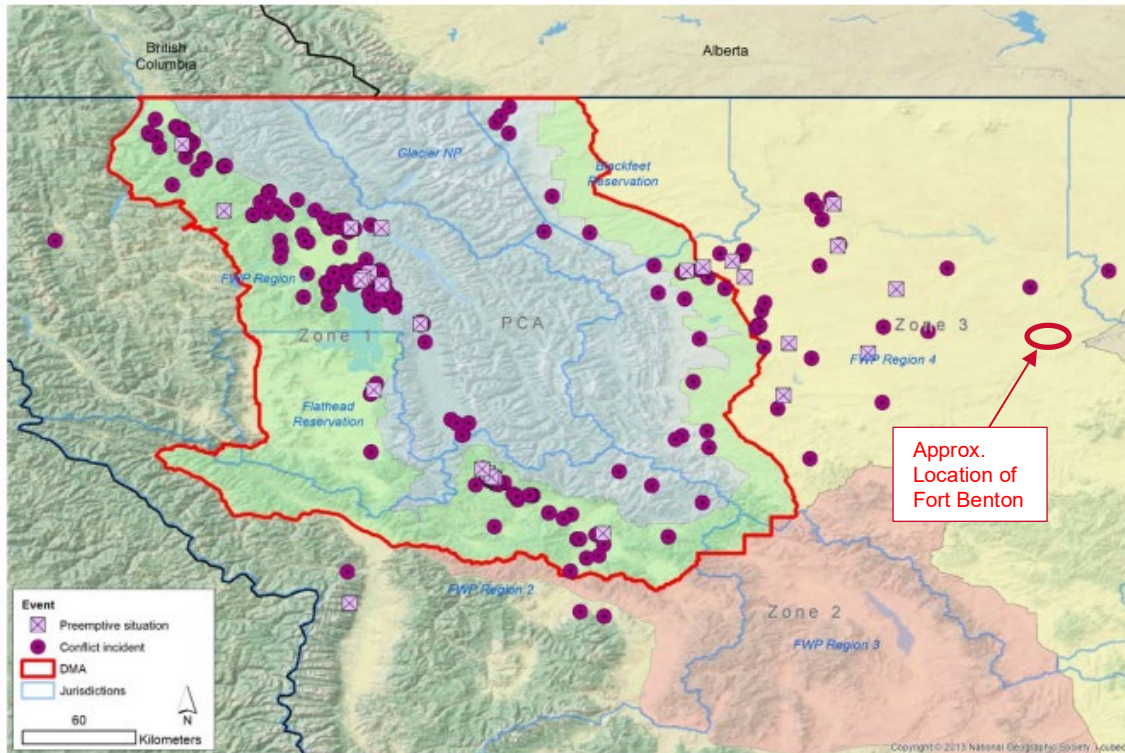


Figure 3-2. Agency Responses to Grizzly Bear Incidents in the NCDE in 2020 (Source Costello and Roberts, 2021).

3.5.2 Potential Impact Analysis

The proposed geotechnical investigation will be conducted from within existing MDT right-of-way by performing 15 borings within the highway shoulders and immediate ditch areas, as well as from on top of the bridge and several within the city limits of Fort Benton at the 13th Street/Front Street intersection, areas that are developed and near human populations and therefore not suitable grizzly bear habitat. The proposed action will not require permanent removal of vegetation or alter the availability of the marginal grizzly bear habitat in the action area.

Potential project effects on grizzly bear would primarily be limited to construction-related noise. Noise levels would increase during the approximate two-week drilling period due to the sonic drill rig onsite as well as other vehicles. The temporary increase in noise is not anticipated to rise to a level that could be harmful to grizzly bears. The work would mostly occur from on or immediately adjacent to the highway but will involve one boring on the east bank within the riparian area fringing the Missouri River. Because work would likely occur during daylight hours only, in the event a grizzly bear encounters project construction, it would be able to move through and around the project area undisturbed during twilight and dark hours when bears are more likely to be travelling between habitats. Bears that may encounter the project during daylight construction times could be discouraged from or avoid the action area altogether. These effects are considered insignificant and

discountable. Standard Specification 208.03.4(E) Bear Habitat will be implemented by the geotechnical team to avoid and minimize potential conflict with bears that may encounter the construction area.

Conservation Measures

The presence of workers and associated bear attractants, such as food, petroleum products, etc., could increase the potential for bear-human conflict to occur. To minimize and avoid impacts to grizzly bear, the following Work in Bear Habitat special provision will be incorporated into the construction design and special provisions:

- Promptly clean up any project related spills, litter, garbage, debris, etc.
- Camping allowed in designated camping areas only (for construction workers).
- Store all food, food related items, petroleum products, antifreeze, garbage, and personal hygiene items inside a closed, hard-sided vehicle or commercially manufactured bear resistant container.
- Remove garbage from the project site daily and dispose of it in accordance with all applicable regulations.
- Notify the District Biologist of any animal carcasses found in the area. The District Biologist will contact the local MDT maintenance Section for removal of the carcass.
- Notify the District Biologist of any bears observed in the vicinity of the project.

Determination of Effect

The documented presence of grizzly bear in the action area is very rare; however, because of the eastern expansion of grizzly bears and historical sightings near the project area, grizzly bear occurrence in the project area during the geotechnical investigation cannot be fully discounted. It is therefore determined that the proposed action **may affect** grizzly bear by:

- Creating a short-term, temporary increase in noise during the approximately two weeks of core drilling activities that may alter the behavior of a grizzly bear should it be passing through the project area during the geotechnical investigation.

However, the proposed action is **not likely to adversely affect** grizzly bear because:

- Grizzly bear are rare within the project action area and are unlikely to be present during the two-week core drilling activities. Therefore, the potential frequency for occurrence is very low and the chances of disturbance to individuals in the action area is very unlikely. (discountable)
- The proposed project is not anticipated to result in the alteration, degradation, or removal of suitable grizzly habitat. (insignificant)
- The frequency, duration, and intensity of in-air noise levels from the drilling operation would not rise to the level of harm or harassment that would result in altered behavioral patterns affecting reproduction or survival. (insignificant)

For these reasons, a **may affect, not likely to adversely affect** determination is rendered relative to grizzly bear.

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