

U.S. Department of the Interior

# Draft Environmental Assessment

Beaver Dam Notching

Red Rock Lakes National Wildlife Refuge

Prepared by:

U.S. Fish and Wildlife Service

Red Rock Lakes National Wildlife Refuge

27650B S Valley Road

Lima, MT 59739

And

U.S. Fish and Wildlife Service Region 6, Mountain-Prairie Region

Division of Refuge Planning

134 Union Boulevard, Suite 300

Lakewood, CO 80228

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# Draft Environmental Assessment for Beaver Dam Notching at Red Rock Lakes National Wildlife Refuge

## Executive Summary

This Draft Environmental Assessment (EA) has been prepared by the United States Department of the Interior's U.S. Fish and Wildlife Service, U.S. Fish and Wildlife Service Region 6, and the Mountain-Prairie Region Division of Refuge Planning to evaluate the effects associated with the proposed action. The Draft EA complies with the National Environmental Policy Act (NEPA) in accordance with Council on Environmental Quality regulations (40 Code of Federal Regulations [CFR] 1500– 1508) and U.S. Department of the Interior (43 CFR 46; 516 DM 8) and U.S. Fish and Wildlife Service (550 FW 3) regulations and policies. NEPA requires an examination of the effects of proposed actions on the natural and human environment. Appendix A identifies laws and executive orders not otherwise evaluated within this EA.

## Proposed Action

Arctic grayling (*Thymallus arcticus*; grayling) are a freshwater holarctic species of salmonid that reside in the Upper Missouri River (UMR) drainage in southwestern Montana. The Centennial Valley (CV), located in the UMR, contains one of four remaining populations of Arctic grayling (or grayling) in the contiguous United States still exhibiting the full spectrum of life history behaviors present in historic grayling populations (USFWS 2020). Red Rock Creek (RRC), located upstream of Upper Red Rock Lake (URRL) in the CV of southwestern Montana, is the primary spawning stream for the UMR Arctic grayling population. However, beaver dams have been documented to partially or entirely block grayling movements on RRC, preventing access to spawning habitat.

The proposed action is to improve grayling access to spawning habitat on the RRC. The CV Arctic grayling population is primarily adfluvial, which means they spend non-breeding periods of the year in URRL and move into RRC for spawning each spring.

## Background

Red Rock Lake National Wildlife Refuge (RRLNWR or Refuge) is situated within a mosaic of State, Federal, and private lands in the CV in southwestern Montana. The Refuge was established pursuant to Executive Order 7023 in 1935 as a “refuge and breeding ground for birds and other wildlife species”. The Refuge covers over 53,000 acres, of which 32,350 were designated as Wilderness in 1976 under the Wilderness Act of 1964. The 1976 Wilderness Bill mentioned Arctic grayling as a reason for the designation of the Wilderness area in RRLNWR. A portion of RRC lies within the designated Wilderness.

The cultural, physical, and biological resources on RRLNWR are diverse. Cultural resources include artifacts and outbuildings resulting from its history as a settlement location for prehistoric peoples, Tribes, and more recently, hunters and trappers. The physical resources include 25,000 acres of wetlands, rivers, streams and three lakes. The landscape provides habitat for diverse biological resources, including resident and migratory species such as grizzly bear, black bear, elk, deer, trumpeter swan, eagles, sandhill crane, gray wolf, amphibians, and waterfowl. The Refuge also

provides important habitat for one of the last remaining populations of native Arctic grayling in the lower 48 states (Vincent 1962, Gangloff 1996, USFWS 2020).

Beyond the Refuge's establishing legislation, other acts of Congress that guide resource management decisions include the National Wildlife Refuge System Administration (1966) and Improvement (1997) Acts, Endangered Species Act of 1973, and the Wilderness Act of 1964. In combination, these legislative acts require the Refuge to manage its resources for wildlife-dependent human recreation, conservation of threatened, endangered and other fish and wildlife resources and wetlands (Refuge Recreation Act 1962, Emergency Wetlands Resources Act 1986, Fish and Wildlife Act 1956), and to maintain it as a wilderness area (Wilderness Act 1964). National Wildlife Refuges are guided by the mission and goals of the National Wildlife Refuge System (NWRS), the purposes of an individual refuge, Service policy, and laws and international treaties. The mission of the NWRS, as outlined by the National Wildlife Refuge System Administration Act (NWRSA), as amended by the National Wildlife Refuge System Improvement Act (16 U.S.C. 668dd et seq.), is:

*"... to administer a national network of lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans"*

The 2009 Comprehensive Conservation Plan (CCP) for RRLNWR outlines the following resource management goals:

- Lake, Pond, and Marsh Habitat – Provide habitat for breeding and staging migratory birds, native fishes, and resident wildlife that maintains the biological diversity and integrity of montane wetland systems.
- Riparian Habitat – Maintain the processes necessary to sustain the biological diversity and integrity of native riparian vegetation for migratory breeding birds, native fishes, and wintering ungulates.
- Wet Meadow, Grassland, and Shrub-Steppe Habitat – Provide structurally complex native meadow, grassland, and shrub-steppe habitats, within a watershed context, for upland-nesting migratory birds, sagebrush-dependent species, rare plant species, and other resident wildlife.
- Aspen Forest, Mixed Coniferous Forest, and Woodland Habitat Goal – Create and maintain aspen stands of various age classes within a mosaic of coniferous forest and shrubland for cavity-nesting birds and other migratory and resident wildlife.
- Visitor Services and Cultural Resources – Provide quality wildlife-dependent recreation, environmental education, interpretation, and outreach opportunities that nurture an appreciation and understanding of the unique natural and cultural resources of the Centennial Valley, for visitors and local community members of all abilities, while maintaining the primitive and remote experience unique to the Refuge.
- Refuge Operations Goal – Prioritize for wildlife first and emphasize the protection of trust resources in the utilization of staff, funding, and volunteer programs.

## **Purpose and Need for the Proposed Action**

The purpose of the proposed action is to provide Arctic grayling unimpeded access to spawning habitat within RRC, which will in turn increase the chance of long-term persistence of the CV grayling population by allowing all grayling access to high quality spawning habitats, thereby increasing reproductive success. Immediate action is needed to ensure all grayling can access spawning habitats to prevent further loss of genetic variation and reduce the risk of extirpation due

to the critically low population size. Because spawning typically begins in May (Mogen 1996), action must be taken in early-mid April to ensure grayling have unimpeded access to spawning habitat.

The CV grayling population is primarily adfluvial, which means they spend non-breeding periods of the year in Upper Red Rock Lake (URRL) and move into RRC for spawning each spring. Consequently, access to spawning habitat in RRC is critically important to the continued existence of the population, which has undergone significant declines in abundance in recent years (Leary et al. 2015, USFWS 2020, Kovach et al. 2019, Warren et al. 2022). The current (2023) estimated spawning population of 188 individuals (95% CI = 47-340) (Warren et al. 2023) is significantly lower than the CV population goal of 1,000 fish (Montana Arctic Grayling Workgroup 2022). Metrics of genetic diversity have similarly declined to historic lows, demonstrating the population is experiencing an increasingly severe genetic bottleneck. CV grayling face an increased risk of inbreeding depression that would likely lead to extirpation if their population continues to decline and remains at low levels for three consecutive years (Cook et al. 2023).

The current decline of the CV grayling population is driven by multiple contributing factors. Despite previous research, scientific uncertainty around several hypotheses made it difficult to identify which factors were most important to address and which actions would be most likely to reverse the population decline. In 2017, the Service and Montana Fish, Wildlife & Parks (MFWP) agreed to collaborate on an adaptive management plan (AMP) to better understand population drivers and identify management actions for improving grayling population (USFWS and MFWP 2017). The purpose of the AMP was to embrace existing uncertainty regarding drivers of the CV grayling population, provide further understanding of important limiting factors, and help guide management actions toward those that would have the most direct benefit to grayling (USFWS and MFWP 2017). Guided by the AMP, a series of management experiments were undertaken to test three competing hypotheses of grayling population declines (USFWS and MFWP 2017):

1. Quality and quantity of spawning habitat
2. Predation by, and competition with, adult non-native Yellowstone cutthroat trout
3. Quality and quantity of overwinter habitat in URRL

A mathematical model was created for each hypothesized driver of grayling population, resulting in three competing models that are used to annually predict grayling abundance in response to 1) amount of spawning habitat, 2) abundance of Yellowstone cutthroat trout, and 3) area of suitable winter habitat. Hypotheses 1 and 2 were further tested using active management and gauging system response (USFWS and MFWP 2017). Modeling indicated lack of dissolved oxygen during winter is the largest limiting factor, with spawning habitat quality and quantity being a secondary driver.

The proposed action of maximizing access to quality spawning habitat addresses the secondary population driver of CV grayling and influences their future persistence (Warren et al. 2022, Kovach et al. 2021). Spawning habitat has been improved with stream restoration projects and establishment of a landscape-scale program that rewards landowners for taking conservation actions for grayling on private land (Candidate Conservation Agreement with Assurances), in which most landowners along grayling spawning streams are enrolled. However, access to and quality of spawning habitats within these streams can be greatly reduced by beaver dams blocking migrations and inundating or causing siltation of spawning gravels.

Alternatives to meet the purpose and need of the proposed action must be consistent with the purposes and goals of the Refuge, the mission of the NWRS, and all applicable laws, including the Wilderness Act.

## Alternatives

### Alternative A – No Action Alternative

Under Alternative A (the No Action Alternative), no action would be taken and beaver dams along Red Rock Creek would not be notched.

### Alternative B – Beaver Dam Notching on Red Rock Creek

Under Alternative B, notching beaver dams would occur on RRC between URRL and Corral Creek each spring hereafter prior to grayling spawning. Notching removes a portion of each beaver dam with primitive hand tools to ensure grayling have access to upstream spawning areas. Beavers will typically rebuild these dams over the course of the following summer. No ground disturbance would occur.

Although probability of a grayling passing a RRC beaver dam is modeled to be relatively high on average (88%), some dams, even those predicted to allow passage are complete barriers (Cutting et al. 2018). Moreover, cumulative passage probability beyond all RRC dams to upstream spawning habitat is low even though average passage probability for individual dams is high. It is predicted that only 8% to 28% of grayling are able to pass the 10-20 dams that typically occur on RRC. Truncating or altering spawning distribution and reproductive success is especially harmful at low abundances and can lead to rapid demographic and genetic losses and increases the likelihood of extirpation. Beaver dams have been documented to partially or entirely block grayling movements on Red Rock Creek and prevent access to spawning habitats (Warren et al. 2018, Cutting et al. 2018).

Beaver dam notching would only occur in years when the population size of spawning grayling was below 1,000 fish. Areas along RRC where dams have been present in previous years can be seen in Figure 1 below. Notching removes a portion of existing beaver dams with primitive hand tools to ensure grayling have access to upstream spawning areas. Typically, between  $\frac{1}{4}$  and  $\frac{1}{3}$  of the width of a beaver dam is removed in late April or early May before grayling begin their spawning run (Figure 2). Notching or removing beaver dams has been used as a management tool to improve the grayling population in Red Rock Creek sporadically since 1951, including within areas presently designated as wilderness.

**Fig 1. Map of Beaver Dam Locations on Red Rock Creek observed in 2022 and 2023. In 2022, eight of 14 dams were located within the wilderness and in 2023, all eight dams were upstream of the wilderness boundary.**



**Fig. 2. Photo of beaver dam on Fishtrap Creek in the Big Hole River drainage before and after notching. Access provided by notching dams greatly increased grayling abundance in the stream.**



### **Alternative(s) Considered, but Dismissed from Further Consideration**

**Complete Removal of Dams:** The complete removal of beaver dams was discussed as an alternative but was dismissed from consideration because notching caused less Wilderness and habitat disturbance while providing adequate passage for spawning grayling. During most times of the year, a notched beaver dam will quickly be rebuilt and little improvements in fish passage will be realized. However, when dams are notched during high water in the spring coincident with the grayling spawning period, they are usually not rebuilt until high flows recede in the summer. The objective of notching beaver dams is to provide access to spawning habitat for migratory grayling during a discrete period in early to mid-May. Ultimately, notching dams was the minimum tool required to allow access for grayling at a critical time and caused the least amount of disturbance to other wildlife species within the refuge. Complete removal of dams would achieve the project's objective of providing access for grayling but was not the minimum tool required to achieve that goal.



**Trapping Beavers:** Trapping beavers was considered but ultimately dismissed for being inconsistent with Refuge purpose and goals and the Wilderness Act. Beavers provide many important ecosystem benefits and are an important component of the Wildlife Refuge and the Wilderness. Access can be provided for spawning grayling RRC beaver dams without beaver removal.

## Affected Environment and Environmental Consequences

This section is organized by affected resource categories and for each affected resource discusses: (1) the existing environmental and socioeconomic baseline in the action area for each resource, and (2) the effects and impacts of the proposed action and any alternatives on each resource.

The effects and impacts of the proposed action considered here are changes to the human environment, whether adverse or beneficial, that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives. This EA includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an “affected resource.” Any resources that would not be affected by the action have been dismissed from further analyses.

Tables 1 through 5 provide the following for each effected resource surrounding the URRL in RRLNWR:

1. A brief description of the relevant general features of the affected environment
2. A description of relevant environmental trends and planned actions
3. A brief description of the affected resources in the proposed action area
4. Impacts of the proposed action and any alternatives on those resources, including direct and indirect effect

**Table 1. Natural Resources**

<b>Arctic Grayling</b>
<p><b><i>Affected Environment Description</i></b></p> <p>The distribution of Arctic grayling stretches from eastern Siberia to Western Russia, and in North America from Alaska through northern Canada to the Hudson Bay (Vincent 1962). In the contiguous United States, the only native populations of this fish were in the UMR Basin of southwest Montana and Michigan (extinct in Michigan since 1936) (Vincent 1962). The Montana populations, which are genetically distinct from Canadian and Alaskan populations (USFWS 2020), were patchily distributed but widespread throughout the UMR drainage, and isolated as a relict population after the retreat of Pleistocene glaciation. Grayling have declined across much of their range in the UMR drainage over the past century and now occupy less than 5% of their historic distribution (USFWS 2020).</p> <p>UMR grayling are considered a distinct population segment (DPS) and have drawn attention for potential</p>

listing under the Endangered Species Act. In 2014, the Service determined that Arctic grayling did not warrant listing. That decision was litigated and, subsequently, remanded back to the Service. In 2020, the Service made a second determination that listing was not warranted. The existence of the population in the CV was a significant factor in that decision. However, in 2022 a notice of intent to sue the Service over their 2020 decision was submitted, and the Service is currently in active litigation over the 2020 finding. UMR grayling currently persist in 19 populations; however, the grayling population in the CV is one of four populations in the UMR that exhibits the full spectrum of life history behaviors and high genetic variation (USFWS 2020). The grayling population in URRL is a discrete genetic group even among native UMR grayling populations (Peterson & Ardren 2009) and are considered vital to long-term conservation of Arctic grayling genetic variation in Montana (USFWS 2020, Montana Arctic Grayling Workgroup 2022).

### ***Environmental Trends and Planned Actions Description***

Monitoring has documented hypoxic conditions in URRL during some winters that led to high grayling mortality (i.e., winterkill). Factors that likely lead to hypoxic conditions in URRL include prolonged snow and ice cover and macrophyte abundance. While grayling have seemingly persisted in the CV under persistent risk of winterkill in Upper Lake, the relative significance of winterkill may currently be greater due to lack of connectivity with other UMR grayling populations, which prevents geneflow and a refounding source for the population (USFWS and MFWP 2017).

### ***Anticipated Impacts***

**Alternative A:** Under the No Action Alternative, spawning access for grayling would be restricted in most years. Grayling would be limited to spawning below the uppermost beaver dam which hindered access. Impacts to the grayling could range from decline in genetic variation to loss of an entire year class, eventually resulting in extirpation of grayling from the CV.

**Alternatives B:** Under Alternative B, Arctic grayling would have access to the full 17.4 km of spawning habitat in Red Rock Creek between URRL and Corral Creek. Notching or removing beaver dams has resulted in increased grayling abundances and distributions within and outside of the CV. In 1951, the presence of beaver dams had reduced grayling spawning distribution to 5 tributaries and precluded access to most of RRC. Following dam removal, successful spawning and recruitment was observed in entirety of RRC and three additional streams (Nelson 1954). Notching a single RRC dam in 2011 resulted in 194 grayling moving to upstream spawning areas within two days compared to only 35 being able to access that reach prior to notching. By comparison, 148 grayling were captured in the remaining 3 miles of stream between the dam and Elk Lake Road, underscoring the importance of providing access to preferred upstream spawning habitat. Between 2016 and 2017, accessible suitable spawning habitat for grayling in RRC was increased from 0.38 ha to 4.04 ha following the notching of about 50 beaver dams (Warren and Jaeger 2018). Accessible spawning habitat was further increased to 6.98 ha in 2019 following continued notching and spawning habitat reconnection and restoration (Warren and Jaeger 2020.) Similar results have been observed outside of the CV. Notching beaver dams on spawning tributaries in the Big Hole River resulted in increased use of and distribution of grayling in tributaries. In Fishtrap Creek, notching beaver dams resulted in successful grayling spawning being documented for the first time in 14 years. In Steel Creek, age-0 grayling abundance and distribution increased five-fold following beaver dam notching to expand spawning distribution. Fragmentation by beaver dams caused a sharp grayling decline in an Alaska stream and a three-year study documented a return to previous abundances and distributions following removal of dams (Wuttig 2000). This study also documented a notable increase in age-0 grayling abundance in riffle-run habitat reclaimed following beaver dam removal.

Providing passage at beaver dams additionally reduces direct mortality on adult grayling. Grayling and other fishes become trapped in and die while trying to negotiate beaver dams. Grayling, Yellowstone cutthroat trout, and white suckers are regularly found dead within RRC beaver dams or exhibit significant scarring and abrasions while attempting to pass them. Notching beaver dams to improve access to spawning habitat is the only action that can be taken until the primary limiting factor, improving winter conditions in URRL, is addressed.

## Wildlife and Other Aquatic Species

### ***Affected Environment Description***

Native fishes found in the project area include Arctic grayling, mountain whitefish, Westslope cutthroat trout, burbot, white sucker, longnose sucker, and mottled sculpin. Nonnative fishes introduced to Refuge lakes and their tributaries include rainbow, brook, and Yellowstone cutthroat trout (Randall

1978). Most species are believed to seasonally use Red Rock Creek for spawning and thermal refuge in the summer.

Waterbird species primarily which utilize Upper and Lower Red Rock Lake for breeding and foraging may occasionally use Red Rock Creek. However, most species are migratory and will not be present when beaver dam notching is proposed to occur (late-April/early-May.) Species include trumpeter swan, canvasback, redhead, lesser scaup, coot, yellow-headed blackbirds, ruddy duck, mallard, northern shoveler, blue-winged and cinnamon teal, gadwall, northern pintail, sandhill crane, Wilson's snipe, sora, Virginia rail, American avocet, yellow warbler, song sparrow, common yellowthroat, white-crowned and Lincoln's sparrows, and northern harrier. American white pelicans are commonly seen on the Refuge, although no breeding colony exists. Other birds common to the project area include willet, Wilson's phalarope, spotted sandpiper, and killdeer.

Mammals common to the project area include muskrat, mink, river otter, and meadow and montane voles. Striped skunk, moose, elk, white-tailed deer, long-tailed weasel, coyote, and red fox also commonly forage in these habitats. Additionally, little brown bats commonly forage over lacustrine habitats at night.

These habitats also support all the amphibian and reptile species that occur on the Refuge: western toad, boreal chorus and Columbia spotted frogs; blotched tiger salamander; and western terrestrial garter snake.

For a full list of species inhabiting RRLNWR see Appendix G of the RRLNWR CCP.

### ***Environmental Trends and Planned Actions Description***

There are no known environmental trends or planned actions that would affect wildlife and aquatic species in the project area beyond the impacts associated with this project. The proposed project site is surrounded by fee title land owned by the Service.

### ***Anticipated Impacts***

**Alternative A:** Under the No Action Alternative, beavers would be unaffected but spawning access for grayling would be restricted in most years.

**Alternatives B:** Impacts to beavers are not expected beyond some short-term, negligible impacts within the project area because beavers are abundant within the Refuge and throughout western Montana. Notching beaver dams in the spring mimics natural process and is not expected to affect survival on an individual or population level in Red Rock Creek, given the resources available there. Beaver dam damage in the spring, including breaching and complete blow out of dams, commonly occurs as part of natural process in most streams; if the ponds remain functioning (i.e., they have not sedimented in or there is still building material present) beaver will immediately plug them once flows recede. This type of low-level maintenance is common; beavers fix their dams. Beavers typically have multiple dens and den entrances at different elevations to be resilient to this occurrence and avoid potential negative consequences of dam breaching, which is primarily increased risk of predation. If the existing habitat no longer supports beaver dams (i.e., it has naturally filled with sediment) they typically naturally move to other suitable locations during spring. Notching in the fall would be more detrimental than the proposed springtime notching.

The surrounding watersheds and can be presently characterized as healthy. Notching is not expected to affect population viability in Red Rock Creek or the CV. No impacts to other wildlife and aquatic species are expected.

## **Threatened and Endangered Species and Other Special Status Species**

### ***Affected Environment Description***

Multiple Endangered Species Act-threatened species are known to occur near the Project Area, including grizzly bears, Canada lynx and wolverine. Grizzly bears use the shore of URRL (including Red Rock Creek) from April through October and this area appears to be a focal area for feeding after emerging from hibernation. Individual bears or a sow with cubs are typically sited, and as many as three bears may be feeding on a single carcass at a time around URRL. Canada lynx and wolverine are not expected to be in the riparian area next to Red Rock Creek, as willow-dominated habitats and palustrine wetlands are not preferred by either species. Arctic grayling and Westslope cutthroat trout have been listed as species of concern by the state of Montana. Arctic grayling spawn in Red Rock Creek and spend the non-breeding part of the year in Upper Red Rock Lake. A number of adult grayling spend the summer in Red Rock and Odell Creeks where they are caught and released by anglers. Westslope cutthroat trout in Upper Red Rock Lake are primarily hybrids with Yellowstone cutthroat trout and rainbow trout (Mogen 1996).

### ***Environmental Trends and Planned Actions Description***

Climate change or warming in Montana, whether it results from anthropogenic or natural sources, is expected to affect a variety of natural processes and associated resources in the future. The complexity of ecological systems means there is significant uncertainty about the potential magnitude of climate change impacts, and localized effects are still a matter of debate. Climate change has reduced annual precipitation and snowpack levels, diminished the magnitude of spring runoff, and increased water temperatures in Montana (Lohr et al. 1996; Gillilan and Boyd 2009; Vatland 2015). A warming climate could have negative consequences for grayling through increasing water temperatures (Vincent 1962). However, there is no definitive information on how exactly changes in climate would impact species or populations. Potential impacts could include earlier stop overs in bird migration patterns, increased frequency of wildfires, habitat conversion, and decreased or increased water availability.

There are no planned actions in the area that, when combined with the likely effects of the proposed project, would have a negative compounding impact on the quality or availability of habitat to T&E species. Moreover, the proposed project site is surrounded by fee title land owned by the Service.

**Anticipated Impacts**

**Alternative A:** Under Alternative A, beaver dams would be left intact. No impacts to threatened or endangered species would be expected. However, Arctic grayling have been considered for listing under the Endangered Species Act several times, and beaver dams restrict access to quality spawning habitat. This alternative would likely have a negative impact on grayling.

**Alternative B:** No impacts to threatened or endangered species are expected under this alternative due to the use of primitive hand tools to notch beaver dams and general lack of noise associated with this method. Alternative B is expected to have a beneficial impact on Arctic grayling by increasing access to quality spawning habitat.

**Habitat and Vegetation****Affected Environment Description**

Red Rock Creek flows through various land ownership and riparian vegetation before entering Upper Red Rock Lake. Red Rock Creek originates in timbered National Forest, flows through state land, and then private property where riparian vegetation is primarily sage *Artemisia* spp. The project area begins at the confluence of Corral Creek where riparian vegetation is dominated by willow *Salix* spp. As Red Rock Creek nears Upper Red Rock Lake, willows remain common, but the habitat type shifts to a palustrine emergent wetland. Relatively homogenous stands of beaked sedge represent over 80% of palustrine emergent wetlands on the Refuge. Moving upslope, much of the sedge dominated habitat is surrounded by the second most common palustrine emergent wetland vegetation on the Refuge, Baltic rush.

**Environmental Trends and Planned Actions Description**

Climate change or warming, whether it results from anthropogenic or natural sources, is expected to affect a variety of natural processes and associated resources in the future in Montana. The complexity of ecological systems means there is significant uncertainty about the potential magnitude of climate change impacts, and localized effects are still a matter of debate. Climate change has reduced annual precipitation and snowpack levels, diminished the magnitude of spring runoff, and increased water temperatures in Montana (Lohr et al. 1996; Gillilan and Boyd 2009; Vatland 2015). A warming climate could have negative consequences for grayling through increasing water temperatures (Vincent 1962). However, there is no definitive information on how exactly changes in climate will impact species or populations. Potential impacts could include earlier stop overs in bird migration patterns, increased frequency of wildfires, habitat conversion, and decreased or increased water availability.

There are no planned actions in the area that, when combined with the likely effects of the proposed project, would have a negative compounding impact on the quality or availability of habitat and vegetation. Moreover, the proposed project site is surrounded by fee title land owned by the Service.

**Anticipated Impacts**

**Alternative A:** Under Alternative A, no impacts to riparian vegetation are anticipated.

**Alternative B:** Notching beaver dams is anticipated to have no impact on wetland or upland habitats within Red Rock Lakes Wildlife Refuge (Cook et al. 2023). Beaver dams and beaver have three main feedbacks on willow stands: 1) raise water levels behind the dam giving roots easier access to water allowing for increased growth and expansion in some instances or to kill willows by creating prolonged inundation that create anaerobic and anoxic soil conditions in others; 2) increase over bank flooding, a disturbance required for willow reproduction, that can also increase growth and expansion of existing willows; 3) increased cutting and herbivory of stems that can encourage the root system to develop or thicken and encourages new growth from the base, although extensive cutting, combined with herbivory by ungulates

can have the opposite effect.

The extent and influence of these feedbacks is highly variable on the landscape. Willows are highly adapted to water table fluctuations and capable of rapidly elongating roots in response to prolonged drought or lower water tables. While elevated water tables can increase growth and expansion rates of willows, as long as the channel does not actively incise below its current elevation in response to beaver dam removal or notching there is very little short-term effect to existing willow stands. This would be the case even if notching occurred for several years. Pulses of water and brief periods of inundation are good for willows, but lengthy periods of inundation will kill them by creating anoxic soil conditions. In the short-term beavers can promote willow growth via hormone release from trimming.

Notching beaver dams could reduce the lateral extent of over bank flooding which could affect long-term expansion of the willow stand and establishment of young willows. However, this process is driven by deposition and scour processes that occur during high flows and will still occur as long as there is a natural hydrograph and connected, fairly topographically diverse floodplain. Beaver activity is more important to future willow expansion following dam failure by inducing disturbance, redepositing and creating areas of bare mineral soil, and from distributing cuttings and material in caches to downstream areas suitable for willow colonization. Because colonization of young willows occurs on exposed sediments after a dam naturally blows out, notching dams will mimic natural disturbance processes and increase young willow colonization in some areas. This process is highly variable and naturally patchy. All cuttings removed during dam notching will be placed in the channel so they can be naturally distributed in depositional areas. As long as the floodplain remains connected during annual high flows, notching dams will not have a long-term effect on the extent or cover of willows. Depending on the nature of these specific willow stands and beaver dam complexes, there may be some degradation of individual plants on the outer edges of the stands, but that would take at least 10 years and stands are highly capable of re-invigorating themselves upon the return of beaver dam complexes. There may be local shifts in understory species composition after a few years of notching dams. Willows will die in areas of prolonged inundation as described above. If beaver dams persist and cause inundation the willows would eventually die and there would be a shift from facultative to obligate wetlands species.

## **Water Resources**

### ***Affected Environment Description***

The Refuge is in the upper end of the Red Rock River watershed. This watershed is the headwaters of the Missouri River. The Refuge encompasses approximately 25,000 ac. of natural, enhanced, and created wetlands. Red Rock Creek is one of the major sources of input unto URRL. Red Rock Creek begins at an elevation of about 8,400 ft mean sea level (here this creek is known as Hell Roaring Creek) and flows north and west about 13 miles to the eastern shore of URRL. The stream is characterized by a snowmelt-dominated hydrograph with peak discharges (mean = 4.2 m<sup>3</sup>/s; range = 1.9–8.3 m<sup>3</sup>/s; data 1994–2017) occurring between 15 May and 2 July. Upper Red Rock Creek is a sinuous, meandering pool-riffle stream that flows through a willow dominated floodplain supporting abundant populations of mammal, bird, amphibian, and fish species, including endemic Arctic grayling.

### ***Environmental Trends and Planned Actions Description***

There are no known environmental trends or planned actions that would affect water resources, including water quality and wetlands in the project area. The proposed project site is surrounded by fee title land owned by the Service.

**Anticipated Impacts**

**Alternative A:** Under Alternative A, dams would be left in-tact and no impacts to water quality would be expected. However, access to and quality of spawning habitat for salmonids would be reduced.

**Alternative B:** Under Alternative B, a temporary increase in sediment can be expected for 1-2 hours following each dam being notched. However, the flushing of sediments is a natural process during runoff, which is when dam notching would occur, and is beneficial for spawning salmonids. Trout and grayling require spawning substrate to contain minimal amounts of fine sediment (<10%). Beaver dams trap fine sediment and inundate suitable spawning habitat which reduces successful recruitment. Because this activity would occur prior to high run-off, no long-term impacts to water quality are expected.

**Table 2. Affected Visitor Use and Experience**

<b>Visitor Use and Experiences</b>
<p><b>Affected Environment Description</b></p> <p>Visitor opportunities within the project area at RRLNWR are available for hunting, wildlife observation, photography, canoeing and kayaking, camping, environmental education, and interpretation. The annual number of visits to the Refuge in 2009 was estimated at 12,000. In 2020, Red Rock and Odell creeks supported approximately 1,935 angler days. Around URRL, the land to the north and west are open to deer, elk, and pronghorn hunting, and the land to the south and east are within the designated moose hunting area. Hunting season can begin as early as August and last through the end of November.</p> <p>A visitor center and two primitive campgrounds are available at RRLNWR. River Marsh Campground is at the northwest end of Lower Red Rock Lake. The Upper Lake Campground is accessible via South Valley Road, which runs along the south side of the lake. Both campgrounds feature a fire ring and toilets. The Upper Lake Campground has picnic tables, potable spring water, and a boat launch. Canoeing and kayaking opportunities area available at URRL. Both campgrounds are available for public use year-round.</p>
<p><b>Environmental Trends and Planned Actions Description</b></p> <p>There has been no trend in angler use near the project area (Red Rock Creek) over the past 10 years, although use has varied considerably among years (489 to 3290 angler days per year). We expect patterns of angler use to be similar in the future.</p>
<p><b>Anticipated Impacts</b></p> <p><b>Alternative A:</b> Fishing for Yellowstone cutthroat trout (YCT) in Red Rock Creek is a popular activity during spring when snow level allows access prior to May 1 (Red Rock Creek closes on May 1 to protect spawning grayling). Leaving dams in-tact would not disturb these visitors, but certain dams do prohibit access to upstream portions of the creek for both grayling and YCT. Because YCT spawn before grayling, large groups are typically observed in large concentrations below large dams. Notching dams allows fish to access all portions of the stream and therefore helps to spread out angling pressure. Under alternative A, YCT targeted by anglers would likely be concentrated in areas below large dams and not fully distributed throughout the stream.</p> <p><b>Alternative B:</b> In some years, the notching of dams coincides with the early-season fishery in Red Rock Creek prior to May 1. Notching dams creates a temporary disturbance in the creek through increased turbidity which can last for 1-2 hours. This may cause a disturbance to anglers, however at least one angler in 2022 commented that fish were easier to catch once the turbidity increased as they were less wary of</p>

anglers. The overlap of notching activities and angling will not occur in all years. In 2023, notching did not take place until May 11 due to persistent snowpack which was after the river was closed to protect grayling.

**Table 3. Cultural Resources**

<b>Cultural Resources</b>
<p><b><i>Affected Environment Description</i></b></p> <p>Cultural resources are defined as the non-renewable remnants of past human activities that have cultural or historical value or meaning to a group of people or a society. The term “cultural resource” includes historic properties as defined in the National Historic Preservation Act of 1966, as amended (NHPA); archaeological resources as defined in the Archaeological Resources Protection Act of 1979; cultural items as defined in the Native American Graves Protection and Repatriation Act of 1990; sacred sites as defined in Executive Order 13007; and collections as defined in 36 CFR Part 79.</p> <p>Section 106 of NHPA (54 U.S.C. § 306108) and its implementing regulations (see 36 CFR 800) require federal agencies to consider the potential effects their actions may have on historic properties and provide the Advisory Council on Historic Preservation, State Historic Preservation Officer (SHPO), Tribes, and other consulting parties an opportunity to review and comment on those actions. The Refuge has conducted limited inventories for cultural resources, primarily to comply with Section 106 of the NHPA.</p> <p>Due to its unique location offering access to wetland and mountain ecotones, the CV has supported indigenous cultures for thousands of years. The area has abundant natural springs and game, as well as materials suitable for tool manufacture, including obsidian, ignimbrite, cherts, and Quadrant quartzite. The east-to-west trending valley and low pass over the Continental Divide would also have been a natural travel route.</p> <p>The Refuge’s Administrative Headquarters Area, which includes the Refuge office, staff housing, and maintenance facilities constructed by the Works Progress Administration (WPA) in the 1930s, is eligible for inclusion in the National Register of Historic Places. Other historical buildings and structures, some of which were constructed by the WPA, are present on the Refuge and are still in use. Other known cultural resources on the Refuge include the Shambow Homestead, remnants of the Shambow Stage Station, potential ruts associated with the M-Y Stage Route, and archaeological resources associated with the indigenous cultures and Euro-Americans who settled in the CV.</p>
<p><b><i>Environmental Trends and Planned Actions Description</i></b></p> <p>There are no known actions being planned that would be likely to impact cultural resources in the project area beyond the impacts associated with the project.</p>



***Anticipated Impacts***

**Alternative A:** No impacts to cultural resources are expected under this alternative.

**Alternative B:** Beaver dams are ephemeral structures built in the active floodplain. All proposed notching would remove a portion of the willow cuttings and other dam materials that were placed by beaver within the past 12 months and would not cause any disturbance to the stream bed or banks. Additionally, there would be no disturbance or impacts outside the active stream channel. The notching of the beaver dams may increase the rate of flow in the stream. This increase would be minimal and impacts from secondary erosion are not anticipated. As such, there are no expected impacts to cultural resources under this alternative. However, consultation with the SHPO, Tribes, and other consulting parties, as relevant, in accordance with NHPA Section 106 will be completed prior to notching. As with all FWS actions, if any cultural resources are discovered, actions would cease immediately, and the appropriate notifications and protections be initiated.



**Table 4. Wilderness**

<b>Wilderness Value</b>
<p><b><i>Affected Environment Description</i></b></p> <p>In 1964, the Wilderness Act was signed into law, which established the National Wilderness Preservation System. The legislation set aside certain federal lands as wilderness areas. Wilderness, as defined by the Wilderness Act, is untrammeled, undeveloped, and natural, and offers outstanding opportunities for solitude and primitive recreation. The Refuge System manages wilderness to secure an enduring resource of wilderness and to accomplish Refuge purposes in a way that preserves wilderness character. People value wilderness for its wildlife, scenery, clean air and water, opportunities for solitude, and a sense of connection with nature.</p> <p>Congress designated 32,350 acres of the Refuge as Red Rock Lakes Wilderness in 1976. The wilderness is one of seventy-one such areas managed by the Service. The purpose of the Refuge is to conserve fish, wildlife, and plants, including Arctic grayling which are an inherent part of the Red Rock Lakes Wilderness and described in its enacting legislation. Arctic grayling were specifically mentioned in the 1976 Wilderness Bill as reason for the designation of the Wilderness area in RRLNWR.</p> <p>A portion of Red Rock Creek lies within the designated Wilderness area.</p> <p>Section 4(c) of the Wilderness Act of 1964 prohibits ten uses in wilderness. While the law strictly prohibits permanent roads and commercial enterprise, the other eight may be used only if they are necessary to meet minimum requirements to administer the area as wilderness: temporary roads, motor vehicles, motorized equipment, motorboats, mechanical transport, landing of aircraft, structures, and installations. Wilderness managers prepare a Minimum Requirements Analysis Framework (MRAF) to evaluate whether a prohibited use that they propose to use in wilderness is the minimum requirement. The MRAF is intended to help managers evaluate actions proposed in wilderness involving a use otherwise prohibited by the Wilderness Act; and consider appropriate choices about administrative actions they might take.</p>
<p><b><i>Environmental Trends and Planned Actions Description</i></b></p> <p>There are no known environmental trends or planned actions that would affect Wilderness in the project area beyond the impacts associated with this project.</p>
<p><b><i>Anticipated Impacts</i></b></p> <p><b>Alternative A:</b> Under the No Action Alternative, there would no effect on wilderness character.</p> <p><b>Alternative B:</b> Notching of beaver dams would be considered a trammeling. If beaver dams are notched in the spring, there will be a short-term disturbance to the Wilderness natural character. This disturbance would be positive for Arctic grayling by providing them access to spawning grounds, while it would have negligible negative impacts to beavers. However, dams are commonly naturally breached or notched by high flow during spring and there would be negligible impacts to beaver or riparian health. All dams would be accessed on foot and only primitive hand tools would be utilized for notching. As flows recede in the summer, active beaver dams are immediately rebuilt. Likelihood of persistence of Arctic grayling, which are an inherent and explicitly described part of the wilderness and Refuge, would be improved.</p> <p>None of the ten prohibited uses described in Section 4(c) of the Wilderness Act of 1964 would be authorized under this alternative. However, an MRAF was completed to describe and analyze how this alternative is the minimum action necessary for the preservation of wilderness character.</p>

**Table 5. Socioeconomics**

Socioeconomics and Environmental Justice					
<b>Affected Environment Description.</b>					
<p>RRLNWR is in Beaverhead County in southwestern Montana, near the Idaho border. The estimated 2021 population for the county was 9,524, which represented a 3.0% increase compared with the 2010 population (U.S. Census Bureau 2021). According to the Beaverhead County, the county is sparsely populated with an average population density of about 1.7 persons per square mile (Beaverhead County 2023).</p> <p>The population of Beaverhead County in 2021 predominantly identified as White (89.2%), with the remainder of the population identifying as Black (0.5%), American Indian and Alaska Native (2.1%), Asian (0.6%), Native Hawaiian and Other Pacific Islander (0.6%), Hispanic or Latino (5.5%), and Two or More Races (2.3%) (U.S. Census Bureau 2021).</p> <p>The median age of Beaverhead County’s population in 2020 was 42.6, compared to 40.1 for the entire state of Montana (USFWS 2022). In 2020, the male and female populations were evenly split, each making up 50.0% of the total population. Almost 95% of the county’s population were high school graduates and 32.5% have a bachelor’s degree or higher (USFWS 2022).</p> <p>In 2020, the per capita income (\$28,798) and median household income (\$45,819) for Beaverhead County were less than the per capita income (\$32,463) and median household income (\$56,539) for the state of Montana as a whole (USFWS 2022). However, the percentage of persons below the poverty level in Beaverhead County was 7.4%, lower for either Montana (7.7%) or the Nation (11.4%) (USFWS 2022). The unemployment rate for Beaverhead County (3.9%) was also lower than both the state (5.8%) and national rates (6.7%) (USFWS 2022). In 2020, 64% of the population of Beaverhead County were employed, of those jobs, 23.8% were non-services related (farming, forestry, construction, etc.), 57.3% were services related (retail trade, health care and social assistance, accommodations, and food services, etc.), and 17.3% were government related (USFWS 2022).</p> <p>The activities of hunting and angling in Beaverhead County significantly benefit both the county and the state of Montana. These activities produced \$74 million more each year in income received by Montana households, with over \$66.7 million representing after tax income, and \$167 million each year in additional output, or gross receipts to Montana businesses and nonbusiness organizations (University of Montana 2021). The area in proximity to URRL is open to elk, deer, and pronghorn hunting. In Montana, the average daily expenditures for elk hunters are \$94.87 for residents and \$634.74 for non-residents; for deer hunters is \$79.04 for residents and \$527.31 for non-residents; and for pronghorn hunters is \$113.62 for residents and \$727.08 for non-residents (University of Montana 2021).</p> <p>According to the Environmental Protection Agency (EPA), neither National Priorities List superfund sites or hazardous waste treatment, storage and disposable facilities are located within Beaverhead County (EPA 2023). The following table with environmental justice parameters for Beaverhead County was taken from an EPA Environmental Justice (EJSCREEN) Report generated in 2022.</p>					
<b>Table 6. Beaverhead County, Montana averages, and national averages across multiple socioeconomic and environmental justice variables.</b>					
Selected Variables	Values	State Avg.	%ile in State	USA Avg.	%ile in USA
<b>Pollution and Sources</b>					
Particulate Matter 2.5 (µg/m <sup>3</sup> )	4.85	6.84	5	8.67	0

Ozone (ppb)	45.7	42.2	93	42.5	81
Diesel Particulate Matter ( $\mu\text{g}/\text{m}^3$ )	0.0286	0.0761	31	0.294	<50th
Air Toxics Cancer Risk (lifetime risk per million)	10	21	0	28	<50th
Air Toxics Respiratory HI	0.2	0.32	39	0.36	<50th
Traffic Proximity (daily traffic count/distance to road)	16	220	25	760	12
Lead Paint (% Pre-1960 Housing)	0.33	0.27	60	0.27	60
Superfund Proximity (site count/km distance)	0.012	0.15	17	0.13	7
RMP Facility Proximity (facility count/km distance)	0.02	0.49	8	0.77	1
Hazardous Waste Proximity (facility count/km distance)	0.013	0.74	5	2.2	1
Underground Storage Tanks (count/km <sup>2</sup> )	0.83	5.1	50	3.9	45
Wastewater Discharge (toxicity-weighted concentration/m distance)	5.10E-07	2.2	15	12	7
<b>Socioeconomic Indicators</b>					
Demographic Index	25%	24%	64	35%	42
People of Color	10%	14%	54	40%	24
Low Income	40%	32%	70	30%	68
Unemployment Rate	3%	4%	57	5%	46
Limited English-Speaking Households	0%	0%	0	5%	0
Less Than High School Education	5%	6%	51	12%	36
Under Age 5	4%	6%	46	6%	45
Over Age 64	22%	19%	62	16%	74
<b>Environmental Trends and Planned Actions Description</b>					
There are no known actions being planned that would be likely to impact the local and regional economies in the project area.					
<b>Anticipated Impacts</b>					
There would be no socioeconomic impacts associated with implementation of any of the alternatives.					

## **Summary of Analysis**

The purpose of this EA is to briefly provide sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

### **Alternative A – No Action Alternative**

As described above, the No Action Alternative would result in minimal impacts to the environment and to all species except Arctic grayling. Arctic grayling, which are an inherent part of the Refuge and Wilderness, would be negatively impacted through a reduction in access to quality spawning habitat.

### **Alternative B – Beaver Dam Notching**

As described above, Alternative B would result in short-term impacts to the environment and to a few wildlife species which inhabit the Refuge. Beavers would be temporarily impacted, but notching would occur at a time when dams can break down naturally. Dams would be rebuilt over the summer. Arctic grayling will benefit from the implementation of Alternative B by improving access to quality spawning habitat. Currently, most of the CV Arctic grayling population spawns in Red Rock Creek. The population has recently been documented at historically low levels, and allowing as many individuals as possible to spawn successfully reduces the risk of genetic or demographic extinction.

## **List of Preparers**

Elizabeth Tsang, Refuge Planner, U.S. Fish and Wildlife Service

Michael Bryant, Refuge Manager, Red Rock Lake National Wildlife Refuge, U.S. Fish and Wildlife Service

Nick Kaczor, Deputy Refuge Supervisor, U.S. Fish and Wildlife Service

Lisa Talcott, Refuge Supervisor, U.S. Fish and Wildlife Service

Jeffrey Warren, Wildlife Biologist, U.S. Fish and Wildlife Service

Jen Kolise, Regional Historic Preservation Officer, U.S. Fish and Wildlife Service

James Boyd, Fish and Wildlife Biologist, U.S. Fish and Wildlife Service

Marina Yoshioka, Regional Supervisor, Montana Fish Wildlife and Parks

Matt Jaeger, Fisheries Biologist, Montana Fish Wildlife and Parks

Ryan Kreiner, Fisheries Biologist, Montana Fish Wildlife and Parks

## Tribal Consultation

The Service is working with the Tribes on this project and will complete any Tribal consultation requested before finalizing this EA.

## Public Outreach

The Draft EA will be posted on the RRLNWR website (<https://www.fws.gov/refuge/red-rock-lakes>) with instructions on how to provide comments. Comments received on the Draft EA will be identified and responded to in the Final EA.

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## **Appendix A: Other Applicable Statutes, Regulations, and Executive Orders**

This appendix lists all applicable statutes, regulations, and executive orders not otherwise addressed in this EA.

### ***Cultural Resources***

American Indian Religious Freedom Act, as amended, 42 U.S.C. 1996–1996a; 43 CFR Part 7

Antiquities Act of 1906, 16 U.S.C. 431–433; 43 CFR Part 3

Archaeological Resources Protection Act of 1979, 16 U.S.C. 470aa–470mm; 18 CFR Part 1312; 32 CFR Part 229; 36 CFR Part 296; 43 CFR Part 7

National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470–470x-6; 36 CFR Parts 60, 63, 78, 79, 800, 801, and 810

Native American Graves Protection and Repatriation Act, 25 U.S.C. 3001–3013; 43 CFR Part 10

Executive Order 11593 – Protection and Enhancement of the Cultural Environment, 36 Fed. Reg. 8921 (1971)

Executive Order 13007 – Indian Sacred Sites, 61 Fed. Reg. 26771 (1996)

### ***Fish and Wildlife***

Bald and Golden Eagle Protection Act, as amended, 16 U.S.C. 668–668c, 50 CFR 22

Endangered Species Act of 1973, as amended, 16 U.S.C. 1531–1544; 36 CFR Part 13; 50 CFR Parts 10, 17, 23, 81, 217, 222, 225, 402, 450

Fish and Wildlife Act of 1956, 16 U.S.C. 742a-m

Migratory Bird Treaty Act, as amended, 16 U.S.C. 703–712; 50 CFR Parts 10, 12, 20, and 21

Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds, 66 Fed. Reg. 3853 (2001)

### ***Natural Resources***

Executive Order 13112 – Invasive Species, 64 Fed.Reg. 6183 (1999)

## Appendix B: Section 7 Report

### Intra-Service Section 7 Biological Evaluation Form – Region 6

Originating Person: Michael J. Bryant

Date Submitted: 12.15.2023

Telephone Number: 406.276.3536 x103

**I. Service Program and Geographic Area or Station Name:** Ecological Services, Montana Field Office

**II. Flexible Funding Program:** N/A

**III. Location:**

The action area includes the current range of the Grizzly Bear (*Ursus arctos horribilis*) in the United States: Upper Red Rock Lake, Red Rock Lakes National Wildlife Refuge, SW Montana.

**IV. Species/Critical Habitat:** List federally endangered, threatened, proposed, and candidate species or designated or proposed critical habitat that may occur within the action area.

Endangered

Threatened – Grizzly bear (*Ursus arctos horribilis*); Canada lynx (*Lynx canadensis*); Wolverine (*Gulo gulo*)

Candidate – Arctic grayling (*Thymallus arcticus*)

Proposed Endangered

Proposed Threatened

**V. Project Description:**

Notch beaver dams to facilitate access to spawning areas for a struggling population of Arctic grayling. This population of Arctic grayling currently numbers approximately 188 spawning individuals, and are one of two endemic populations in the conterminous United States. Notching entails removing approximately 1/3 of the width of a beaver dam across a spawning stream. Hand tools would be used. Access would be by foot travel. This activity would occur immediately before anticipated grayling spawning during April and May of each year. This project would occur between Upper Red Rock Lake and Corral Creek on Red Rock Creek. Beaver dams are found inside and outside designated Wilderness on Fish and Wildlife Service managed land, and on State of Montana managed land.

**VI. Determination of Effects:**

**(A) Description of Effects:**

Grizzly bears are transient in the project area; their use is rare, and it is primarily nocturnal. The project activity will occur during the day and its effects are temporary. This project will not affect grizzly bears or their habitat.

Canada lynx are present at low densities in SW Montana however the project area lies largely outside their preferred habitat-dense forest. This project will not affect Canada lynx or their habitat.

Wolverines are transient in the project area; their use is rare, and it is primarily nocturnal. The project activity will occur during the day and its effects are temporary. The project area lies largely outside their preferred habitat-alpine, sub-alpine forest. This project will not affect wolverines or their habitat.

Arctic grayling are found in the project area, however this activity would occur before most of the spawning fish enter the stream. The project would largely support the stability of the population.

**(B) Determination:** Determine the anticipated effects of the proposed project on species and critical habitat lists in item IV. Check all applicable boxes and list the species (or attach a list) associated with each determination.

**Determination**

*No Effect:* This determination is appropriate when the proposed project will not directly or indirectly affect (neither negatively nor beneficially) individuals of listed/proposed/candidate species or designated/proposed critical habitat of such species. **No concurrence from MT FIELD OFFICE required.**

**X**

**All species and critical habitat identified in section IV.**

*May Affect but Not Likely to Adversely Affect:* This determination is appropriate when the proposed project is likely to cause insignificant, discountable, or wholly beneficial effects, to individuals of listed species and/or designated critical habitat. **Concurrence from MT FIELD OFFICE required.**

*May Affect but Likely to Adversely Affect:* This is determination is appropriate when the proposed project is likely to adversely affect individuals of listed species and/or designated critical habitat. **Formal consultation with MT FIELD OFFICE required.**

*May Affect but Not Likely to Jeopardize candidate or proposed species or*

*adversely modify proposed critical habitat:* This determination is appropriate when the proposed project may affect, but is not expected to jeopardize the continued existence of a species proposed for listing or a candidate species, or adversely modify an area proposed for designation as critical habitat.

**Concurrence from FIELD OFFICE optional. SPECIES NAME**

*Likely to Jeopardize candidate or proposed species/adversely modify critical habitat:* This determination is appropriate when the proposed project is reasonably expected to jeopardize the continued existence of a species proposed for listing or a candidate species, or adversely modify an area proposed for designation as critical habitat. **Concurrence from MT FIELD OFFICE required.**

MICHAEL Digitally signed by MICHAEL  
BRYANT BRYANT  
Date: 2023.12.29 12:13:15 -07'00'



Signature: \_\_\_\_\_  
[Supervisor at originating station]

Date \_\_\_\_\_

**Reviewing Ecological Services Office Evaluation** (check all that apply):

A. Concurrence \_\_\_\_\_ Nonconcurrence \_\_\_\_\_

Explanation of nonconcurrence:

B. Formal Consultation Required \_\_\_\_\_  
List species or critical habitat unit:

C. Effects are addressed in the Programmatic Consultation \_\_\_\_\_ On Region's Recovery Program – no further consultation needed

D. Conference required \_\_\_\_\_  
List species or critical habitat unit:

Name of Reviewing ES Official: \_\_\_\_\_

Signature: \_\_\_\_\_

Date \_\_\_\_\_