FINDING OF NO SIGNIFICANT IMPACT
AND DECISION TO IMPLEMENT BEAVER DAM NOTCHING IN RED ROCK CREEK

RED ROCK LAKES NATIONAL WILDLIFE REFUGE

Lima, Montana

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 drainage, contains one of four remaining populations of Arctic grayling in the contiguous United States still exhibiting the full spectrum of life history behaviors present in historic grayling populations (USFWS 2020). Access to quality spawning habitat has been identified as a secondary population driver of UMR grayling and influences their future persistence (Warren et al. 2022, Kovach et al. 2021). 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 partially or entirely block grayling movements on RRC, preventing access to spawning habitat (Warren et al. 2018, Cutting et al. 2018).

The proposed action is for the U.S. Fish and Wildlife Service (Service) to conduct beaver dam notching on RRC 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. Actions to provide grayling with unimpeded access to quality spawning habitat within RRC, will in turn increase the chance of long-term persistence of the CV grayling population through increased reproductive success.

Selected Action

Alternative B—Beaver Dam Notching on Red Rock Creek

Under Alternative B, beaver dams would be notched on the portion of RRC between URRL and Corral Creek during April and May each spring hereafter prior to grayling spawning. Notching removes portions of beaver dams using 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 grayling and beavers historically coexisted across much of the UMR watershed, grayling spawning was widely distributed among many interconnected tributaries which reduced reliance on access to any one stream in a given year (Nelson 1954, Vincent 1962, Kaya 1992). However, the present CV grayling population spawns almost exclusively in RRC and blocking their access, especially when abundances are low, could have potentially irreversible population and genetic consequences. Beaver dams have been documented partially or entirely blocking grayling movements on RRC and preventing access to spawning habitats (Warren et al. 2018, Cutting et al. 2018). Although probability of a grayling passing an individual 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, even though average passage probability for individual dams is high, the cumulative passage probability beyond all RRC dams to upstream spawning habitat is low. It is predicted that only 8% to 28% of grayling can pass the 10-40 dams that typically occur on RRC. Given the current population of grayling (188 fish), the assumption of a 50/50 male-female ratio (94 females), and an average probability of passage of individual dams of 0.88, it would be expected that only six females would reach the lower end of naturally suitable spawning habitat, and only a single female would reach the primary spawning area near Corral Creek in years with high beaver dam density (e.g., 2018).

Beaver dam notching would only occur in years when surveys demonstrate the population size of spawning grayling is below 1,000 fish. Areas along RRC where dams have been present in

previous years can be seen in Figure 1 on page 8 of the Environmental Assessment (EA). Notching removes a portion of existing beaver dams using primitive hand tools to improve grayling access to upstream spawning areas. Typically, between 1/4 and 1/3 of the width of a beaver dam is removed in late April or early May before grayling begin their spawning run (see Figure 2 on page 8 of the EA).

This alternative was selected over the other alternatives due to the following:

- Alternative B meets both the purpose and need of the proposed action without causing any significant impacts to the analyzed resources.
- Alternative B will contribute to the preservation of the naturalness characteristic of the Wilderness through improving persistence of the native CV grayling population by improving access to quality spawning habitat, which will increase reproductive success.

Other Alternatives Considered and Analyzed

Alternative A—No Action Alternative

Under Alternative A (the No Action Alternative), no action would be taken and beaver dams along RRC would not be notched. This alternative was not selected because it would not meet the purpose and need of the proposed action and would not improve access to spawning habitat for Arctic grayling.

Summary of Effects of the Selected Action

An Environmental Assessment (EA) was prepared in compliance with the National Environmental Policy Act (NEPA) to provide decision-making framework that (1) explored a reasonable range of alternatives to meet project objectives; (2) evaluated potential issues and impacts to the Refuge, resources, and values; and (3) identified mitigation measures to lessen the degree or extent of these impacts. The EA evaluated the impacts associated with the proposed action and the other alternative. It is incorporated as part of this finding.

Implementation of the agency's decision would be expected to result in the following environmental, social, and economic impacts:

- Long-term positive impacts to grayling as they will have access to the full 10.8 mi of spawning habitat in RRC between URRL and Corral Creek.
- Short-term negligible impacts to beavers along RRC; however, notching mimics natural processes and is not expected to affect survival on an individual or population level in RRC.
- Short-term negligible impact to water resources. A temporary increase in sedimentation can be expected for 1-2 hours following each dam being notched. However, flushing of sediments is a natural process during runoff when notching would occur.
- Potential for some short-term negligible disturbance to anglers through increased turbidity for 1-2 hours following notching on RRC if notching and angling activities overlap.
- Short-term negligible negative impacts to the untrammeled character of the Wilderness during beaver dam notching. Notching of beaver dams would be considered a trammeling as it would temporarily alter beaver dams and have short-term negligible negative impacts to beavers.
- Long-term positive impacts to natural wilderness character as grayling populations have improved access to spawning habitat.

Measures to mitigate and/or minimize impacts have been incorporated into the selected action. These measures include:

- Use of primitive hand tools only to notch beaver dams and the associated lack of noise to ensure no impacts to endangered species and negligible impacts to wilderness character.
- Beaver dam notching would only occur in years when the population size of spawning grayling was below 1,000 fish, the threshold above which demographic and genetic viability and persistence can be expected, to minimize impacts to beavers and trammeling of the Wilderness.

Public Review

A Draft EA was made available for a 30-day public review and comment period, from February 1-March 1, 2024. A total of 4,860 comments were received during this period. The proposal has been thoroughly coordinated with all interested and/or affected parties. Parties contacted include:

- Montana Fish, Wildlife and Parks
- Montana Trout Unlimited
- Wilderness Watch
- Wild Montana
- Greater Yellowstone Coordinating Committee
- U.S. Geological Service
- Wilderness Society
- Friends of RRL & CV
- The Nature Conservancy
- Earth Concerns
- Centennial Valley Association
- The Trumpeter Swan Society

Additionally, 10 Tribal affiliations were identified as having ancestral connections to Beaverhead County, Montana, where the Refuge is located. The 10 Tribes were as follows:

- Apache Tribe of Oklahoma
- Confederated Salish and Kootenai Tribes of the Flathead Reservation
- Confederated Tribes of the Umatilla Indian Reservation
- Eastern Shoshone Tribe of the Wind River Reservation
- Fort Belknap Indian Community of the Fort Belknap Reservation of Montana
- Nez Perce Tribe
- Shoshone-Bannock Tribes
- Lac Vieux Desert Band of Lake Superior Chippewa Indians of Michigan
- Keweenaw Bay Indian Community
- Blackfeet Tribe of the Blackfeet Indian Reservation of Montana

On January 31, 2024, leadership of each Tribe were notified of and invited to consult on the EA and associated documents. On April 19, 2024, we notified the State Historic Preservation office in accordance with Section 106 of the National Historical Preservation Act (NHPA) (54 USC § 306108) and its implementing regulations (36 CFR Part 800). To date, no concerns were communicated by any Tribe.

The Service conducted a biological evaluation (EA Appendix B) in compliance with Section 7 of the Endangered Species Act on December 15, 2023, and determined the proposed action would have no effect on the listed threatened and endangered species or candidate species that may exist in the area.

Finding of No Significant Impact

Based upon a review and evaluation of the information contained in the EA as well as other

documents and actions of record affiliated with this proposal, the Service has determined that the proposal to conduct beaver dam notching on Red Rock Lakes National Wildlife Refuge does not constitute a major federal action significantly affecting the quality of the human environment under the meaning of section 102 (2) (c) of the NEPA Act of 1969 (as amended), the Council on Environmental Quality's NEPA Implementing Regulations (40 CFR Parts 1500-1508), Department of Interior Regulations (43 CFR. Part 46), Department of the Interior Policy (516 DM 1-4; 516 DM 8), and the Service's Policy (550 FW 3). As such, an environmental impact statement is not required.

Decision

The Service has decided to proceed Alternative B to improve grayling access to spawning habitat.

The action is consistent with applicable laws and policies.

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Assistant Regional Director Date