

MONTANA FISH, WILDLIFE & PARKS

FISHERIES DIVISION

**Supplemental Environmental Assessment Arctic Grayling Restoration North Fork Grayling Creek,  
Gallatin River Drainage**

**Part 1. Project Background**

Montana Fish Wildlife and Parks (FWP), the Custer-Gallatin National Forest, and a private landowner are restoring westslope cutthroat trout (WCT) *Oncorhynchus clarkii lewisi* using a constructed fish barrier and the removal of nonnative brook trout, brown trout, rainbow trout, Yellowstone cutthroat trout, and hybrid cutthroat trout. Restoration efforts will reestablish WCT to 17 miles of North Fork Spanish Creek and Big Brother Lake (Figure 1). Two years of rotenone treatments have been completed with a final treatment scheduled in the lower reaches of the project area in August 2021. The new population will nearly double the number of WCT occupied miles of stream in the Gallatin River drainage. WCT used for recolonization will be sourced from appropriate upper Missouri River conservation populations. Additional details of the project can be found in the original environment assessment titled “Environmental Assessment of Westslope Cutthroat Trout Restoration in North Fork Spanish Creek Gallatin River Drainage”, which was open for public comment from April 25, 2017 to May 25, 2017.

**Part 2. Need for Supplemental Environmental Assessment**

FWP is required by law (§87-1-201(9)(a) Montana Code Annotated [MCA]) to implement programs that manage sensitive fish species in a manner that assists in the maintenance or recovery of those species, and that prevents the need to list the species under § 87-5-107 MCA or the federal Endangered Species Act. Section 87-1-201(9)(a), M.C.A. The primary goal of restoration efforts in the North Fork Spanish Creek remains establishing a conservation population of WCT that will help secure the long-term viability of the species in the Gallatin and upper Missouri river basins. However, Chiquita Lake, a 3.5-acre lake in the headwaters of North Fork Spanish Creek (Figure 1), provides an opportunity to also establish a new Arctic grayling *Thymallus arcticus* (hereafter referred to as “grayling”) population. The following environmental assessment provides justification and a description of the proposed actions to introduce grayling within the project area.

Grayling, which were historically common throughout the upper Missouri River basin including the Gallatin River, now only occupy about 5% of their historical range. Remaining populations in the upper Missouri River basin are limited to the Big Hole and Ruby rivers, the Centennial Valley, and 19 mountain lakes. The declining status of grayling has led to its designation as a *Species of Special Concern* by the State of Montana and a *Sensitive Species* by the U.S. Forest Service (USFS). Numerous petitions have been submitted to the U.S. Fish and Wildlife Service (USFWS) to list grayling as endangered or threatened under the *Endangered Species Act* (ESA). However, USFWS status reviews found that grayling were “not warranted” for ESA listing (U.S. Office of Federal Register [USOFR] 2014). The decision to list grayling under the ESA was made, in part, because “15 of the 19 population in the DPS are currently in lake habitats that will likely not be affected significantly by climate change due to their high elevation, intact riparian areas, and cool inputs of tributary water (USOFR 2020).”

FWP proposes to introduce juvenile grayling into Chiquita Lake via helicopter in the late summer or early fall of 2021, 2022, and 2023. Chiquita Lake provides suitable habitat for a new grayling population that would be resilient to long-term climate change. Although it is unlikely that grayling would establish self-sustaining populations downstream of Chiquita Lake, dispersal of grayling would permit the colonization of habitats in Spanish Creek and possibly the Gallatin River. Although WCT were proposed in Chiquita Lake in the original environmental assessment, grayling can be established in Chiquita Lake without compromising the overall goal of establishing a large, self-sustaining WCT population throughout the project area. Grayling would occupy a similar niche as WCT, so no adverse ecological effects are expected with the proposed action. The process of introducing grayling or WCT to Chiquita Lake would be the same, so disturbances during those efforts will not differ from what was proposed in the original environmental assessment. Existing grayling populations in the Gallatin River drainage receive similar angling pressure as nearby mountain lakes (Selby and Skaar 2019), so FWP does not anticipate the proposed action will diminish the wilderness character of Chiquita Lake or the surrounding area.

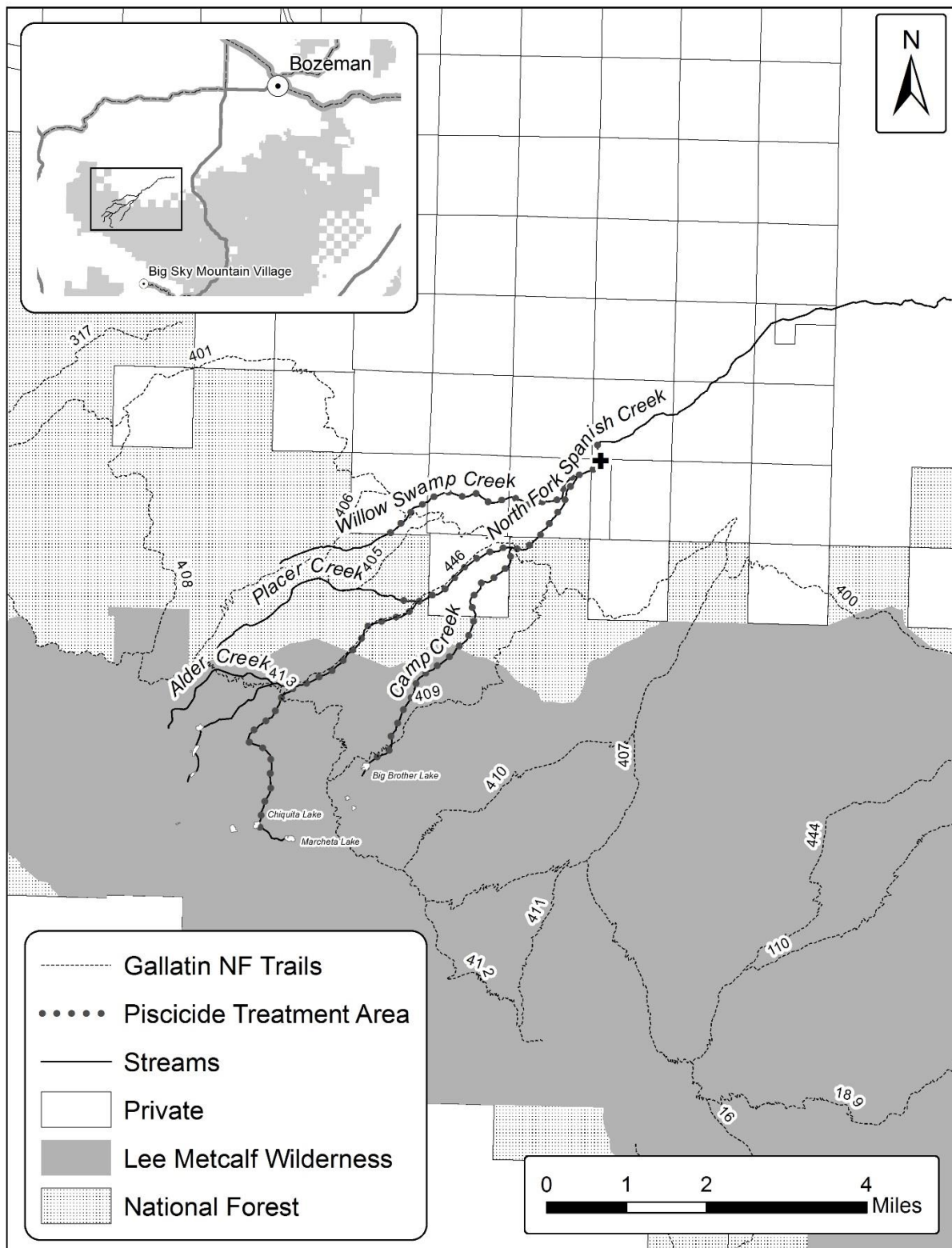


Figure 1. Map of North Fork Spanish Creek project location.

**Part 3. ENVIRONMENTAL REVIEW****A. PHYSICAL ENVIRONMENT**

1. LAND RESOURCES	Impact Unknown	No Impact	Impact Minor	Impact Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Soil instability or changes in geologic substructure?		X				
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil which would reduce productivity or fertility?		X				
c. Destruction, covering or modification of any unique geologic or physical features?		X				
d. Changes in siltation, deposition or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?		X				
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		X				

2. WATER	Impact Unknown	No Impact	Impact Minor	Impact Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity?		X				
b. Changes in drainage patterns or the rate and amount of surface runoff?		X				
c. Alteration of the course or magnitude of flood water or other flows?		X				
d. Changes in the amount of surface water in any water body or creation of a new water body?		X				
e. Exposure of people or property to water related hazards such as flooding?		X				
f. Changes in the quality of groundwater?		X				
g. Changes in the quantity of groundwater?		X				
h. Increase in risk of contamination of surface or groundwater?		X				
i. Effects on any existing water right or reservation?		X				
j. Effects on other water users as a result of any alteration in surface or groundwater quality?		X				
k. Effects on other users as a result of any alteration in surface or groundwater quantity?		X				
l. Will the project affect a designated floodplain?		X				
m. Will the project result in any discharge that will affect federal or state water quality regulations? (Also see 2a)		X				

3. <u>AIR</u>	Impact Unknown	No Impact	Impact Minor	Impact Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Emission of air pollutants or deterioration of ambient air quality? (also see 13 (c))		X				
b. Creation of objectionable odors?		X				
c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally?		X				
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?		X				
e. Will the project result in any discharge which will conflict with federal or state air quality regs?		X				

4. <u>VEGETATION</u>	Impact Unknown	No Impact	Impact Minor	Impact Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Changes in the diversity, productivity or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)?		X				
b. Alteration of a plant community?		X				
c. Adverse effects on any unique, rare, threatened, or endangered species?		X				
d. Reduction in acreage or productivity of any agricultural land?		X				
e. Establishment or spread of noxious weeds?		X				
f. Will the project affect wetlands, or prime and unique farmland?		X				

5. FISH/WILDLIFE	Impact Unknown	No Impact	Impact Minor	Impact Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Deterioration of critical fish or wildlife habitat?		X				
b. Changes in the diversity or abundance of game animals or bird species?		X				
c. Changes in the diversity or abundance of nongame species?		X				5c
d. Introduction of new species into an area?		X				5d
e. Creation of a barrier to the migration or movement of animals?		X				
f. Adverse effects on any unique, rare, threatened, or endangered species?		X				5f
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)?		X				
h. Will the project be performed in any area in which TE&S species are present, and will the project affect any TE&S species or their habitat? (Also see 5f)		X				
i. Will the project introduce or export any species not presently or historically occurring in the receiving location? (Also see 5d)		X				

**Comment 5c:** Grayling and WCT occupy similar niches, so the macroinvertebrate assemblage of Chiquita Lake and surrounding streams will be similar regardless of which species is present.

**Comment 5d:** Grayling are native to the Gallatin River and lower reaches of Spanish Creek. However, grayling occurrence within the project area was probably limited to rare occasions near the constructed barrier. Chiquita Lake was originally fishless. Therefore, the proposed action would not affect the native/nonnative status of the reestablished fish population in Chiquita Lake.

**Comment 5f:** Grayling are considered a sensitive species and a species of special concern in Montana. The proposed action will help conserve grayling by expanding their distribution in the upper Missouri Basin. Mountain lakes have been identified as a critical component of the long-term viability of grayling

in the upper Missouri River basin. Therefore, the expected outcome of the proposed project would aid in the long-term conservation of grayling in Montana.

## B. HUMAN ENVIRONMENT

6. NOISE/ELECTRICAL EFFECTS	Impact Unknown	No Impact	Impact Minor	Impact Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Increases in existing noise levels?		X				
b. Exposure of people to serve or nuisance noise levels?		X				
c. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property?		X				
d. Interference with radio or television reception and operation?		X				

7. LAND USE	Impact Unknown	No Impact	Impact Minor	Impact Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?		X				
b. Conflicted with a designated natural area or area of unusual scientific or educational importance?		X				7b
c. Conflict with any existing land use whose presence would constrain or potentially prohibit the proposed action?		X				
d. Adverse effects on or relocation of residences?		X				

**Comment 7b:** Chiquita Lake lies within the designated Lee Metcalf Wilderness Area, which is part of the National Wilderness Preservation System. This system of lands provides clean air, water, and habitat



critical for rare and endangered plants and animals. This project restores native WCT and grayling to existing critical habitat through removal of non-native fish. Wilderness Areas are congressionally designated and have specific mandates governing their management to maintain their wilderness qualities (e.g., no mechanized equipment, no roads, etc.). The pillars of wilderness include areas that are: natural, undeveloped, provide outstanding opportunities for solitude, primitiveness, and unconfined recreation, or have special features or values associated with them. The designation and management of wilderness areas are evaluated based upon these pillars. The restoration of grayling in Chiquita Lake as proposed in this document would not affect the long-term natural state of the area.

There would be no long-term effects on the solitude of the area or the primitiveness or opportunities for unconfined recreation relative to the original proposed action of establishing a WCT population in Chiquita Lake. Similar stocking efforts are needed to establish WCT and grayling in Chiquita Lake. Other fisheries within the wilderness area, particularly in alpine lakes, attract anglers. However, based on angler use estimates at neighboring lakes (Selby and Skaar 2019), it is unlikely that Chiquita Lake will lead to increased angling relative to what would be expected if FWP pursued the originally approved action of establishing WCT.

Traditional stocking efforts (e.g., horseback) would require cutting a trail, which would diminish the wilderness aesthetic of the area for many years while increasing the cost of stocking efforts. Therefore, the USFS prefers the use of a helicopter for reintroduction efforts despite the temporary effects of noise on the wilderness character of Chiquita Lake and the surrounding area.

8. RISK/HEALTH HAZARDS	Impact Unknown	No Impact	Impact Minor	Impact Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Risk of an explosion or release of hazardous substances (including, but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption?		X				
b. Affect an existing emergency response or emergency evacuation plan or create a need for a new plan?		X				
c. Creation of any human health hazard or potential hazard?		X				
d. Will any chemical toxicants be used?		X				

9. COMMUNITY IMPACT	Impact Unknown	No Impact	Impact Minor	Impact Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?		X				
b. Alteration of the social structure of a community?		X				
c. Alteration of the level or distribution of employment or community or personal income?		X				
d. Changes in industrial or commercial activity?		X				
e. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?		X				

10. PUBLIC SERVICES/TAXES/UTILITIES	Impact Unknown	No Impact	Impact Minor	Impact Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Will the proposed action have an effect upon or result in a need for new or altered governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services? If any, specify: _____		X				
b. Will the proposed action have an effect upon the local or state tax base and revenues?		X				
c. Will the proposed action result in a need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?		X				
d. Will the proposed action result in increased used of any energy source?		X				
e. Define projected revenue sources		X				
f. Define projected maintenance costs		X				

11. AESTHETICS/RECREATION	Impact Unknown	No Impact	Impact Minor	Impact Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?		X				
b. Alteration of the aesthetic character of a community or neighborhood?		X				
c. Alteration of the quality or quantity of recreational/tourism opportunities and settings? (Attach Tourism Report)		X				11c
d. Will any designated or proposed wild or scenic rivers, trails or wilderness areas be impacted? (Also see 11a, 11c)		X				
e. impacts to wilderness character?		X				11e

**Comment 11c:** Harvest of grayling from lakes falls within the standard creel limit in the Central District (5 daily and 10 in possession), so a change from WCT to grayling will not limit anglers' ability to harvest fish.

**Comment 11e:** See Comment 7b for clarification.

12. HISTORICAL RESOURCES	Impact Unknown	No Impact	Impact Minor	Impact Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action result in:						
a. Destruction or alteration of any site, structure or object of prehistoric historic, or paleontological importance?		X				
b. Physical change that would affect unique cultural values?		X				
c. Effects on existing religious or sacred uses of a site or area?		X				
d. Will the project affect historic or cultural resources?		X				

13. SUMMARY EVALUATION OF SIGNIFICANCE	Impact Unknown	No Impact	Impact Minor	Impact Potentially Significant	Can Impact Be Mitigated	Comment Index
Will the proposed action, considered as a whole:						
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources which create a significant effect when considered together or in total.)		X				
b. Involve potential risks or adverse effects which are uncertain but extremely hazardous if they were to occur?		X				
c. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard or formal plan?		X				
d. Establish a precedent or likelihood that future actions with significant environmental impacts will be proposed?		X				
e. Generate substantial debate or controversy about the nature of the impacts that would be created?		X				13e
f. Is the project expected to have organized opposition or generate substantial public controversy? (Also, see 13e)		X				13f
g. List any federal or state permits required.		X				

**Comment 13e:** See Comments 5d and 7b for clarification.

**Comment 13f:** No opposition to the establishment of a grayling population in Chiquita Lake has been expressed by local wilderness groups (e.g., Montana Wilderness Association, Greater Yellowstone Coalition) that Montana Fish, Wildlife & Parks has contacted about the proposed action.

#### **Part 4. OVERLAPPING AGENCY JURISDICTION**

##### *Name of Agency and Responsibility*

US Forest Service, Custer Gallatin National Forest, Bozeman Ranger – authorization of motorized/mechanized equipment in the Lee Metcalf Wilderness.

#### **Part 5. AGENCIES THAT HAVE CONTRIBUTED OR BEEN CONTACTED**

Montana Fish, Wildlife & Parks

US Forest Service, Custer Gallatin National Forest, Bozeman Ranger

#### **Part 6. ENVIRONMENTAL IMPACT STATEMENT REQUIRED?**

After considering the potential impacts of the proposed action and possible mitigation measures, Montana Fish, Wildlife & Parks has determined that an Environmental Impact Statement is not warranted. We do not anticipate any negative impacts associated with establishing Arctic grayling in Chiquita Lake. Conflicts with a designated wilderness area, effects of angling pressure, and predation on the aquatic invertebrate assemblage would be similar as to what would be expected with the introduction of WCT that was originally proposed.

#### **Part 7. PUBLIC PARTICIPATION**

##### *Public Involvement*

Public notification of the EA release and opportunities will be through the following media:

- Legal Notice posted in the *Bozeman Daily Chronicle* and the *Helena Independent Record*
- Public notification via MFWP's webpage ([Public Notices](#) | [Montana FWP \(mt.gov\)](#))

##### *Public Comment Period*

Written comments will be accepted until 5:00 p.m. on July 28, 2021, which is 30 days following the publication of this notice.

Send comments to:

Mike Duncan  
Fisheries Biologist  
1400 S 19<sup>th</sup> Avenue  
Bozeman, MT 59718

Or via email to: [mike.duncan@mt.gov](mailto:mike.duncan@mt.gov)

Written comments are those submitted to the responsible official or designee during a designated opportunity for public participation provided for a proposed project. In order to have standing to file an Objection, specific written comments should be within the scope of the proposed action, have a direct relationship to the proposed action, and must include supporting reasons for the responsible official to consider.

Prepared by: Mike Duncan, Fisheries Biologist Date: 6/29/2021

#### **Part 8. Literature Cited**

Selby, C., and D. Skaar. 2019. Montana statewide angling pressure 2017. Montana Fish, Wildlife & Parks, Helena.

USOFR. 2014. Endangered and threatened wildlife and plants; revised 12-month finding on a petition to list the upper Missouri River distinct population segment of Arctic grayling as an endangered or threatened species; proposed rule. Federal Register 79:161 (20 August 2014):49384-49422.

USOFR. 2020. Endangered and threatened wildlife and plants; four species not warranted for listing as endangered or threatened species. Federal Register 85:142 (23 July 2020):44478-44483.