

ENVIRONMENTAL ASSESSMENT CHECKLIST

Westslope Cutthroat Trout Enhancement Through Rainbow and Hybrid Trout Removal

February 3, 2023



Table of Contents

| | | |
|-------|---|----|
| I. | Compliance with the Montana Environmental Policy Act..... | 3 |
| II. | Background and Description of Proposed Project | 4 |
| III. | Purpose and Need | 8 |
| IV. | Other Agency Regulatory Responsibilities | 9 |
| V. | List of Mitigations, Stipulations | 9 |
| VI. | Alternatives Considered | 10 |
| VII. | Summary of Potential Impacts of the Proposed Project on the Physical Environment and Human Population | 11 |
| VIII. | Private Property Impact Analysis (Takings)..... | 23 |
| IX. | Public Participation | 24 |
| X. | Recommendation for Further Environmental Analysis | 25 |
| XI. | EA Preparation and Review | 25 |
| | Attachment A | 26 |
| | Relevant Resources | 26 |
| | Attachment B..... | 28 |
| | Supplemental Information..... | 28 |

I. Compliance with the Montana Environmental Policy Act

Before a proposed *project* may be approved, environmental review must be conducted to identify and consider potential impacts of the proposed project on the human and physical environment affected by the project. The Montana Environmental Policy Act (MEPA) and its implementing rules and regulations require different levels of environmental review, depending on the proposed project, significance of potential impacts, and the review timeline. § 75-1-201, Montana Code Annotated (“MCA”), and the Administrative Rules of Montana (“ARM”) 12.2.430, General Requirements of the Environmental Review Process.

FWP must prepare an EA when:

- It is considering a “state-proposed project,” which is defined in § 75-1-220(8)(a) as:
 - (i) a project, program, or activity initiated and directly undertaken by a state agency;
 - (ii) ... a project or activity supported through a contract, grant, subsidy, loan, or other form of funding assistance from a state agency, either singly or in combination with one or more other state agencies; or
 - (iii) ... a project or activity authorized by a state agency acting in a land management capacity for a lease, easement, license, or other authorization to act.
- It is not clear without preparation of an EA whether the proposed project is a major one significantly affecting the quality of the human environment. ARM 12.2.430(3)(a));
- FWP has not otherwise implemented the interdisciplinary analysis and public review purposes listed in ARM 12.2.430(2) (a) and (d) through a similar planning and decision-making process (ARM 12.2.430(3)(b));
- Statutory requirements do not allow sufficient time for the FWP to prepare an EIS (ARM 12.2.430(3)(c));
- The project is not specifically excluded from MEPA review according to § 75-1-220(8)(b) or ARM 12.2.430(5); or
- As an alternative to preparing an EIS, prepare an EA whenever the project is one that might normally require an EIS, but effects which might otherwise be deemed significant appear to be mitigable below the level of significance through design, or enforceable controls or stipulations or both imposed by the agency or other government agencies. For an EA to suffice in this instance, the agency must determine that all the impacts of the proposed project have been accurately identified, that they will be mitigated below the level of significance, and that no significant impact is likely to occur. The agency may not consider compensation for purposes of determining that impacts have been mitigated below the level of significance (ARM 12.2.430(4)).

MEPA is procedural; its intent is to ensure that impacts to the environment associated with a proposed project are fully considered and the public is informed of potential impacts resulting from the project.

II. Background and Description of Proposed Project

This section includes a short description of the proposed project including the project sponsor/applicant/responsible party, the type of proposed action and the anticipated schedule of the proposed project.

Name of Project: Westslope Cutthroat Trout Enhancement Through Rainbow and Hybrid Trout Removal

Background and Description of Proposed Project:

Westslope cutthroat trout are one of the handful of native fish species that has adapted over thousands of years to conditions in the Flathead River system. However, the relatively recent introduction of non-native species like rainbow trout seriously threaten the persistence of native cutthroat trout through hybridization (interbreeding) and competition for resources.

Currently, genetically unaltered westslope cutthroat trout exist in less than 10% of their historic range in the United States and less than 20% of their historic range in Canada. In response to these significant population declines, Montana Fish, Wildlife & Parks (FWP) and the American Fisheries Society classified westslope cutthroat trout as a species of special concern, and the U.S. Forest Service and Bureau of Land Management classified them as a sensitive species. Additionally, a collaborative agreement between resource management agencies, tribes, private organizations, user groups, and landowners was developed to provide guidance on conservation of westslope cutthroat trout throughout its range (FWP 2007).

Within Montana, the South Fork of the Flathead River drainage upstream of Hungry Horse Dam makes up about half of the remaining large, interconnected habitat for genetically unaltered westslope cutthroat trout. The North and Middle forks of the Flathead represent a substantial portion of remaining populations in the state. The proposed project and this Draft EA address management of only those populations of westslope cutthroat trout found in the mainstem, Middle Fork, and North Fork of the Flathead River, and certain tributaries to these rivers, through removal of non-native rainbow and hybrid cutthroat-rainbow trout (referred to as hybrids hereafter).

FWP acknowledges that hybridization will always exist within the mainstem, Middle Fork, and North Fork of the Flathead River, and certain tributaries to these rivers. However, FWP believes that slowing the spread of hybridization and reducing its impacts to remaining genetically unaltered westslope cutthroat trout as well as low-level (less than 10%) hybridized populations is a realistic and important goal in the long-term effort to protect this native species.

To address this goal, FWP identified success measures in the 2013 EA for this work to inform future westslope cutthroat trout conservation strategies in the affected river system. These measures included slowing the spread of hybridization and reducing hybrid and rainbow trout at targeted sources. In evaluating these metrics, FWP used research that it and its partners have conducted to better understand how hybridization spreads in the affected river system. By tracking fish to their spawning areas using radio telemetry and by studying the genetic structure of fish across the drainage, FWP has learned how to be most efficient and effective in stemming

the loss of westslope cutthroat trout populations. Since that research was first conducted in the early 2000s, FWP has removed hybrid and rainbow trout by electrofishing and trapping in five key spawning streams that have largely contributed to their spread. These tributaries include Third, Ivy, Rabe, Sekokini, and Abbot creeks. A reference list of all prior studies on the subject within the affected river system is included as Attachment A to this Draft EA.

Since 2013, FWP repeated radio telemetry research and updated the genetic information gained during the early 2000s to evaluate progress associated with removing hybrids from source streams. Results of these studies address success measures identified in the 2013 EA for this work, with the following observations in the affected river system as compared to pre-2013 (supporting data and detailed summaries of each bullet below can be found in Attachment B to this Draft EA):

- A slower rate of hybrid trout expansion from downstream sources (Table 1, Attachment B).
- A reduced number of spawning adults in suppressed hybrid source streams (Figures 1 and 2, Attachment B).
- An increase in the number of westslope cutthroat trout encountered at suppressed hybrid source streams (Figure 3, Attachment B).
- An increase in the proportion of westslope cutthroat trout genetic composition in targeted hybrid source streams (Table 2, Attachment B).
- 53% fewer hybrids and rainbow trout spawning in tributaries targeted for suppression, with more fish spawning in the mainstem Flathead River (Figure 4, Attachment B).
- A 19% average increase in angler catch rates for westslope cutthroat trout during 2015 and 2016 as compared to 2002 and 2003 (Tables 4 and 5, Attachment B).
- A more than doubling of the average proportion of anglers specifically targeting westslope cutthroat trout over rainbow trout upstream of the Stillwater River confluence during 2015 and 2016 as compared to 2002-2003 (Tables 6 and 7, Attachment B).

The proposed project would incorporate lessons learned from past similar actions in FWP's ongoing effort to conserve native westslope cutthroat trout by reducing negative impacts from non-native rainbow and hybrid trout in the affected river system. FWP will continue to monitor the efficacy of the proposed project by tracking the rate at which hybridization continues to spread in the affected river system, the population genetic structure in streams targeted for suppression, and the relative number of spawning hybrid and rainbow trout captured at targeted sources.

Affected Area / Location of Proposed Project

- Legal Description
 - Latitude/Longitude:
 - Abbot Creek: 48.39303,-114.04624
 - Ivy Creek: 48.42847,-114.06203
 - Sekokini Springs: 48.45663,-114.05528
 - Rabe Creek: 48.46074,-114.07058

- Third Creek: 48.48945,-114.10858
 - Section, Township, and Range:
 - Abbot Creek: 30N19W5
 - Ivy Creek: 31N19W29
 - Sekokini Springs: 31N19W17
 - Rabe Creek: 31N19W7
 - Third Creek: 32N20W36
 - Town/City, County, Montana: Vicinity of Coram, Flathead County, Montana
- Location Map (see next page)

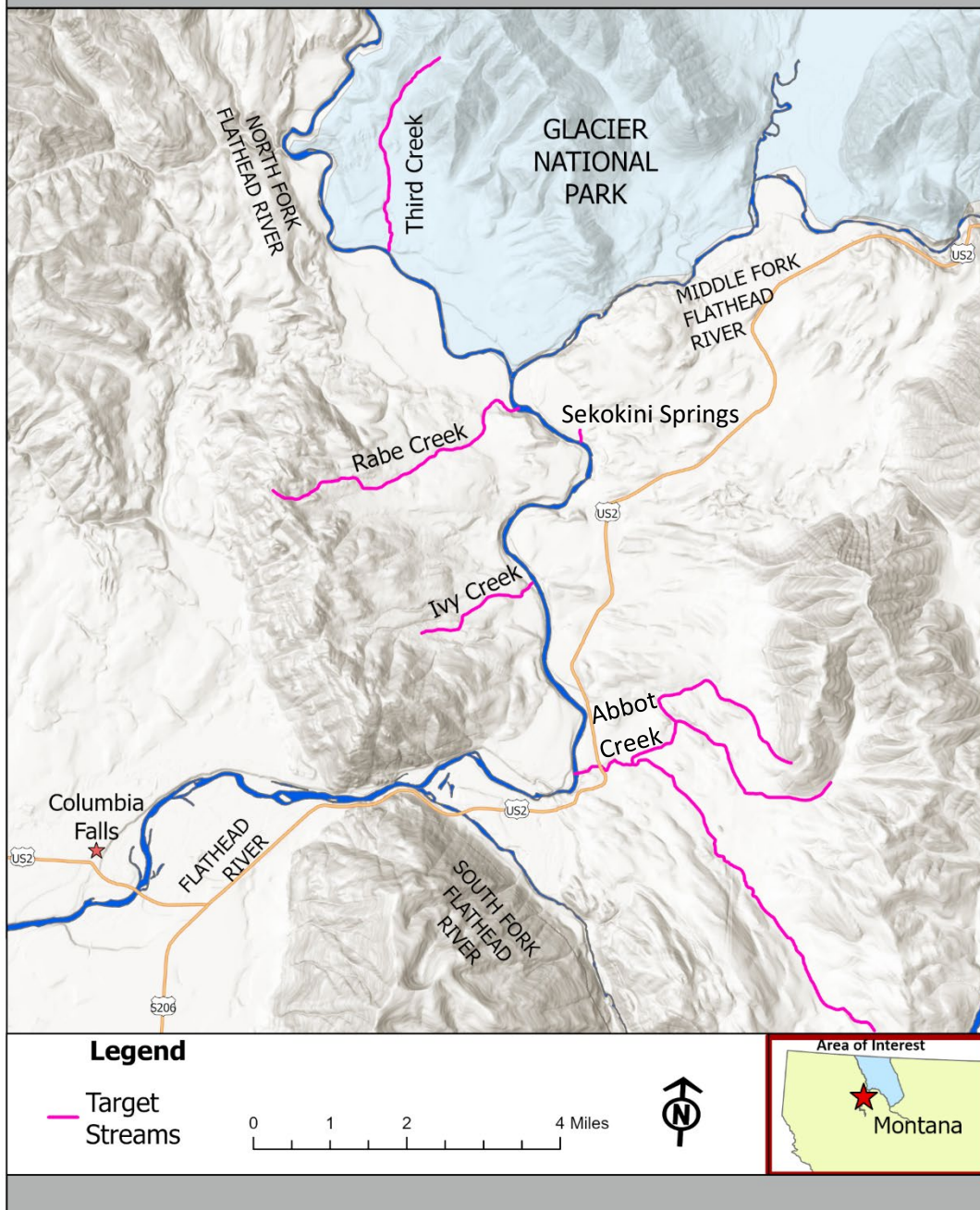


Figure 1.—Locations of tributaries in the Middle and North forks of the Flathead River where hybridization between westslope cutthroat trout and rainbow trout has been documented and subsequent rainbow and hybrid trout removal and relocation has been conducted by Montana Fish, Wildlife and Parks.

III. Purpose and Need

The EA must include a description of the benefits and purpose of the proposed project. ARM 12.2.432(3)(b). Benefits of the proposed project refer to benefits to the resource, public, department, state, and/or other.

Project Purpose and Benefits:

FWP proposes to protect and benefit native westslope cutthroat trout by continuing to remove hybrid and rainbow trout from the mouths and channels of Abbot, Sekokini, Rabe, Ivy, and Third creeks in the Middle and the North forks of the Flathead River. Trapping and electrofishing would be used to catch fish during their spawning season (April-May), with subsequent relocation to a nearby community fishing pond, conditions permitting. Trapping would begin in March when stream flows are low and trap installation is most feasible and safe. Electrofishing would begin when river flows permit safe and effective operation of a jet boat, typically during April. Hybrid and rainbow trout captured on the final night of a multi-night winter (February/March) population estimate would also be relocated to a nearby community fishing pond. Further, FWP would electrofish between July and September to remove hybrid and rainbow trout offspring from identified target tributaries.

Within the affected area, the proposed work would benefit westslope cutthroat trout, any person who enjoys fishing for them or otherwise values their existence, the State of Montana, and the ecosystem in which they reside by helping to:

- Mitigate the loss of traits that have evolved locally in westslope cutthroat trout. These traits have helped native cutthroat thrive in the affected environment for thousands of years.
- Retain the ecosystem role served by westslope cutthroat trout, potentially avoiding adverse impacts to other organisms including insects, other fish, birds, and mammals that may result if hybrids and rainbow trout replace cutthroat completely.
- Maintain westslope cutthroat trout as a valued sportfish in the area affected by the proposed project, avoiding unacceptable social and economic impacts associated with losing the opportunity to fish for them.
- Reduce the likelihood of federal Endangered Species Act (ESA) listing and protection of westslope cutthroat trout. ESA listing could limit public opportunity to fish for and otherwise interact with and enjoy this native fish species.
- Protect Montana's state-designated fish, preventing further adverse impact to the affected populations and safeguarding against adverse impact to Montana's cultural values associated with the species.

If FWP prepared a cost/benefit analysis before completion of the EA, the EA must contain the cost/benefit analysis or a reference to it. ARM 12.2.432(3)(b).

| | Yes* | No |
|--|--------------------------|-------------------------------------|
| Was a cost/benefit analysis prepared for the proposed project? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

* If yes, a copy of the cost/benefit analysis prepared for the proposed project is included in Attachment A to this Draft

IV. Other Agency Regulatory Responsibilities

FWP must list any federal, state, and/or local agencies that have overlapping or additional jurisdiction, or environmental review responsibility for the proposed project, as well as permits, licenses, and other required authorizations. ARM 12.2.432(3)(c).

A list of other required local, state, and federal approvals, such as permits, certificates, and/or licenses from affected agencies is included in **Table 2** below. **Table 2** provides a summary of state requirements but does not necessarily represent a complete and comprehensive list of all permits, certificates, or approvals needed. Rather, **Table 2** lists the primary state agencies with regulatory responsibilities, the applicable regulation(s) and the purpose of the regulation(s). Agency decision-making is governed by state and federal laws, including statutes, rules, and regulations, that form the legal basis for the conditions the proposed project must meet to obtain necessary permits, certificates, licenses, or other approvals. Further, these laws set forth the conditions under which each agency could deny the necessary approvals.

Table 2: Federal, State, and/or Local Regulatory Responsibilities

| Agency | Type of Authorization (permit, license, stipulation, other) | Purpose |
|-----------------------|--|--|
| National Park Service | Permit | Electrofishing Third Creek in Glacier National Park |
| U.S. Forest Service | Permit | Operate a jet boat in portions of the Wild and Scenic Flathead River |
| U.S. Forest Service | Permit | Operate seasonal fish traps in Abbot, Ivy, and Rabe creeks in Flathead National Forest |

V. List of Mitigations, Stipulations

Mitigations, stipulations, and other *enforceable* controls required by FWP, or another agency, may be relied upon to limit potential impacts associated with a proposed Project. The table below lists and evaluates enforceable conditions FWP may rely on to limit potential impacts associated with the proposed Project. ARM 12.2.432(3)(g).

Table 3: Listing and Evaluation of Enforceable Mitigations Limiting Impacts

| <i>Are enforceable controls limiting potential impacts of the proposed action? If not, no further evaluation is needed.</i> | | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
|---|--------------------|--|---|
| <i>If yes, are these controls being relied upon to limit impacts below the level of significance? If yes, list the enforceable control(s) below</i> | | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Enforceable Control | Responsible Agency | Authority (Rule, Permit, Stipulation, Other) | Effect of Enforceable Control on Proposed Project |
| | | | |

VI. Alternatives Considered

In addition to the proposed Project, and as required by MEPA, FWP analyzes the "no-action" alternative in this EA. Under the "no action" alternative, the proposed project would not occur. Therefore, no additional impacts to the physical environment or human population in the analysis area would occur. The "no action" alternative forms the baseline from which the potential impacts of the proposed Project can be measured.

Rainbow trout and hybrids would not be removed from known tributary source populations within the affected area of the Flathead River system. Over time, the likely result of the "no-action" alternative would be a more rapid increase in rainbow trout hybridization and further loss of westslope cutthroat trout conservation populations (those less than 10% genetically altered) resulting from the expansion of hybrid trout from source populations. A resulting reduction in the range of westslope cutthroat trout could lead to listing under the Endangered Species Act, changing state management of the species and likely limiting public opportunity to fish for and otherwise interact with and enjoy this native fish species. It is possible that under this alternative, nonhybridized westslope cutthroat trout would eventually become locally extinct (extirpated) in the connected portions of the North Fork, Middle Fork, and mainstem of the Flathead River system altogether.

This action would not achieve a primary goal of FWP's Fisheries Division, which is "to protect, maintain, and restore native fish populations and their genetic diversity." This goal is backed by FWP policy and state law, which require FWP to "implement programs that manage sensitive species in a manner that assists in the maintenance or recovery of those species, and that prevents the need to list the species under ESA" (FWP 2018).

This alternative also would not meet the primary goals of the collaboratively-developed Memorandum of Understanding for Yellowstone Cutthroat Trout and Westslope Cutthroat Trout in Montana (FWP 2007), which include: 1) ensuring the long-term, self-sustaining persistence of each subspecies distributed across their historical ranges as identified in recent status reviews (Shepard et al. 2003; Shepard et al. 2005; May et al. 2003), 2) maintaining the genetic integrity and diversity of nonhybridized populations, as well as the diversity of life histories, represented by remaining cutthroat trout populations, and 3) protecting the ecological, recreational, and economic values associated with each subspecies.

Further, it is unknown exactly how hybrids and rainbow trout perform compared to the westslope cutthroat trout populations that evolved within the local environmental conditions of the Flathead River system. However, numerous studies have documented a range of negative impacts resulting from an increase in the amount of rainbow trout hybridization, including a decline in the number of offspring produced (Muhlfeld et al. 2009a, 2009b, 2009c; Kovach et al. 2015, 2016; Strait et al. 2021).

| | Yes* | No |
|--|--------------------------|-------------------------------------|
| Were any additional alternatives considered and dismissed? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

* If yes, a list and description of the other alternatives considered, but not carried forward for detailed review is included below

VII. Summary of Potential Impacts of the Proposed Project on the Physical Environment and Human Population

The impacts analysis identifies and evaluates **direct**, **secondary**, and **cumulative impacts**.

- **Direct impacts** are those that occur at the same time and place as the action that triggers the effect.
- **Secondary impacts** “are further impacts to the human environment that may be stimulated or induced by or otherwise result from a direct impact of the action.” ARM 12.2.429(18).
- **Cumulative impacts** “means the collective impacts on the human environment of the proposed action when considered in conjunction with other past and present actions related to the proposed action by location or generic type. Related future actions must also be considered when these actions are under concurrent consideration by any state agency through pre-impact statement studies, separate impact statement evaluation, or permit processing procedures.” ARM 12.2.429(7).

Where impacts are expected to occur, the impact analysis estimates the **extent, duration, frequency, and severity** of the impact. The duration of an impact is quantified as follows:

- **Short-Term:** impacts that would not last longer than the proposed project.
- **Long-Term:** impacts that would remain or occur following the proposed project.

The severity of an impact is measured using the following:

- **No Impact:** there would be no change from current conditions.
- **Negligible:** an adverse or beneficial effect would occur but would be at the lowest levels of detection.
- **Minor:** the effect would be noticeable but would be relatively small and would not affect the function or integrity of the resource.
- **Moderate:** the effect would be easily identifiable and would change the function or integrity of the resource.
- **Major:** the effect would irretrievably alter the resource.

Some impacts may require mitigation. As defined in ARM 12.2.429, mitigation means:

- Avoiding an impact by not taking a certain action or parts of a project;
- Minimizing impacts by limiting the degree or magnitude of a project and its implementation;
- Rectifying an impact by repairing, rehabilitating, or restoring the affected environment; or

- Reducing or eliminating an impact over time by preservation and maintenance operations during the life of a project or the time period thereafter that an impact continues.

A list of any mitigation strategies including, but not limited to, design, enforceable controls or stipulations, or both, as applicable to the proposed project is included in **Section VI** above.

FWP must analyze impacts to the physical and human environment for each alternative considered. The proposed project considered the following alternatives:

- Alternative 1: No Action; and
- Alternative 2: Proposed Project

Table 4: Impacts to the Physical Environment – Alternative 2: Proposed Project

| PHYSICAL ENVIRONMENT | Duration of Impact | | | Severity of Impact | | | | | Summary of Potential Direct, Secondary, and Cumulative Impacts and Mitigation Measures |
|---|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|---|
| | None | Short-Term | Long-Term | None | Negligible | Minor | Moderate | Major | |
| Terrestrial, avian, and aquatic life and habitats | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <p>Potential direct impacts include:</p> <ul style="list-style-type: none"> Fewer rainbow and hybrid trout in the affected portions of the river system <ul style="list-style-type: none"> Mitigation measure: <ul style="list-style-type: none"> Trout removed will be transported to a local community fishing pond, conditions permitting. <p>The intent of the proposed project is to sustain native westslope cutthroat trout by reducing non-native rainbow and hybrid trout. Therefore, impacts to native westslope cutthroat trout would be long-term, beneficial, and moderate. Impacts to non-native rainbow and hybrid trout would be long-term, adverse, and moderate.</p> <ul style="list-style-type: none"> Temporary disturbance of terrestrial and avian life in proximity to jet boat operation during electrofishing <ul style="list-style-type: none"> Mitigation measure: <ul style="list-style-type: none"> Jet boat use will be restricted to fewer than 5 trips per week during spring, with intentional avoidance of birds and wildlife. <p>Any impacts to other terrestrial and avian life (non-aquatic species) and habitats in the affected area would be short-term, adverse, and minor.</p> <p>Potential secondary impacts include:</p> <ul style="list-style-type: none"> Improved survival, condition, and genetic integrity of westslope cutthroat trout due to reduced competition and hybridization with rainbow trout and hybrids |

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| | | | | | | | | | <p>Any secondary impacts would be long-term, beneficial and moderate.</p> <p>Potential cumulative impacts include impacts from the proposed project with consideration for prior fish removal projects conducted for the same purpose and in the same area affected by the proposed project. These projects include a 2013 fish removal project and planned future fish removal projects in the same affected area.</p> <p>Cumulative impacts from the proposed project with consideration for past, present, and future related projects would include the following:</p> <ul style="list-style-type: none"> • Long-term increase in the proportion of westslope cutthroat trout relative to all trout within the affected river system • Long-term decrease in the proportion of rainbow trout and hybrids relative to all trout within the affected river system • Preservation of traits that have evolved locally in westslope cutthroat trout. These traits have helped native cutthroat thrive in the affected environment for thousands of years. • Retention of the ecosystem role served by westslope cutthroat trout, potentially avoiding adverse impacts to other organisms including insects, other fish, birds, and wildlife that may result if rainbow and hybrid trout replace cutthroat completely. <p>Any cumulative impacts would be long-term, beneficial, and moderate.</p> |
| Water quality, quantity, and distribution | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <p>No significant impacts to water quality, quantity, and distribution would be expected because of the proposed project. No water use is proposed; therefore, the proposed project would not impact water quantity or distribution. Further, fish would be removed using electroshocking and traps. Once shocking and trapping are</p> |

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| | | | | | | | | | completed, no additional impacts would occur; therefore, no impacts to water quality would be expected because of the proposed project. |
| Geology | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | The proposed project would not destroy, cover, or otherwise modify any unique geologic or physical feature in the proposed project area. Therefore, no impacts to geology are expected because of the proposed project. |
| Soil quality, stability, and moisture | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | No significant impacts to soil quality, stability, and moisture would be expected because of the proposed project. Installation of temporary fish traps would result in minor disturbance of soil by installing stabilizing T-posts. However, any impacts to soil stability would be short-term and minor, occurring only during seasonal trap removal. |
| Vegetation cover, quantity, and quality | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | The proposed project would not disturb or otherwise affect vegetation in the affected area; therefore, no impacts to vegetation cover, quantity, and quality would be expected because of the proposed project. |
| Aesthetics | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <p>Potential direct impacts include:</p> <ul style="list-style-type: none"> • Jet boat visibility during use <ul style="list-style-type: none"> ○ Mitigation measures: <ul style="list-style-type: none"> ▪ Jet boat use will be restricted to fewer than 5 trips per week and only on weekdays, non-holidays, and between the hours of 9am and 4pm. • Fish trap visibility during use <ul style="list-style-type: none"> ○ Mitigation measure: <ul style="list-style-type: none"> ▪ Trap locations are selected where they are unlikely to be encountered or otherwise seen by the public. <p>The annual duration of the anticipated aesthetic impacts of the proposed project occurs primarily during the spawning period of rainbow and hybrid trout (i.e., spring). Recreational river use is typically reduced during this time of year when water levels are higher and weather is cooler</p> |

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| | | | | | | | | | and wetter. Therefore, potential direct impacts to aesthetics would be short-term and negligible. |
| Air quality | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | No significant impacts to air quality would be expected because of the proposed project. The proposed project would employ the use of fuel to operate boats conducting electrofishing, which would result in limited fossil fuel emissions and associated air pollution; however, any impacts to air quality would be short-term and minor, lasting only as long as the proposed project. |
| Unique, endangered, fragile, or limited environmental resources | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | FWP and the American Fisheries Society have classified westslope cutthroat trout as a species of special concern, and the U.S. Forest Service and Bureau of Land Management have classified them as a sensitive species. The intent of the proposed project is to sustain native westslope cutthroat trout by reducing non-native rainbow and hybrid trout. Any impacts to native westslope cutthroat trout would be long-term, beneficial, and moderate. FWP is unaware of any other unique, endangered, fragile, or limited environmental resources in the affected area that would be impacted by removal or reduction of non-native fish species. |
| Historical and archaeological sites | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | The proposed project would not disturb or otherwise impact any land-based resources, including any historical or archaeological sites that may be located in the area affected by the proposed project. |
| Demands on environmental resources of land, water, air, and energy | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | No significant impacts to demands on environmental resources of land, water, air, and energy would be expected because of the proposed project. The proposed project would employ the use of fuel to operate boats conducting electrofishing; however, any impacts on energy would be short-term and negligible, lasting only as long as the proposed project. |

Table 5: Impacts to the Human Population

| HUMAN POPULATION | | Duration of Impact | | | Severity of Impact | | | | | Summary of Potential Direct, Secondary, and Cumulative Impacts and Mitigation Measures |
|-----------------------------|--|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|--|
| Resource | | None | Short-Term | Long-Term | None | Negligible | Minor | Moderate | Major | |
| Social structures and mores | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <p>Westslope cutthroat trout is one of two subspecies of native cutthroat native to Montana and together, they have been designated Montana's state fish. Many Montanans and visitors hold high regard for westslope cutthroat trout as an angling resource, an icon of the state, and a valuable component of the ecosystems in which it resides. As such, the westslope cutthroat trout is deeply engrained in the customs and lifestyles of residents and visitors of Montana. The intent of the proposed project is to sustain native westslope cutthroat trout by eliminating or reducing threats posed by competing non-native species including rainbow and hybrid trout. Therefore, the proposed project would benefit any person who enjoys fishing for westslope cutthroat trout or otherwise values the species' existence, the State of Montana, and the ecosystem in which they reside. An increase in rainbow trout hybridization and further loss of westslope cutthroat trout conservation populations (those less than 10% genetically altered) resulting from the expansion of hybrid trout from source populations would likely result in a reduction in the range of westslope cutthroat trout and could lead to listing under the Endangered Species Act, changing state management of the species and likely limiting public opportunity to fish for and otherwise interact with and enjoy this native fish species. It is also possible that nonhybridized westslope cutthroat trout would eventually become locally extinct (extirpated) in the connected portions of the North Fork, Middle Fork, and mainstem of the Flathead River system altogether, thereby forever altering this valued species.</p> |

| | | | | | | | | | |
|---|--------------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|---|
| | | | | | | | | | Any impacts from the proposed project would be long-term, beneficial, and moderate. |
| Cultural uniqueness and diversity | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | The proposed project would reduce local non-native rainbow and hybrid trout in an effort to increase native westslope cutthroat trout populations. The proposed project would, in part, further the ongoing objective to conserve this native species for the enjoyment of current and future fishing recreation; therefore, it would cause a long-term, moderate, and beneficial impact the cultural uniqueness and diversity of the affected area. |
| Access to and quality of recreational and wilderness activities | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <p>No significant impacts to access to recreational and wilderness activities would be expected because of the proposed project.</p> <p>Potential direct impacts to recreational quality include:</p> <ul style="list-style-type: none"> • Jet boat use may disturb the experience of river users. <ul style="list-style-type: none"> ○ Mitigation measures: <ul style="list-style-type: none"> ▪ Jet boat driver will reduce power and maximize the distance from recreational users when encountered, as safety conditions permit. ▪ Jet boat use will be restricted to fewer than 5 trips per week and only on weekdays, non-holidays, and between the hours of 9am and 4pm. • Fish traps may be visible during use. <ul style="list-style-type: none"> ○ Mitigation measure: <ul style="list-style-type: none"> ▪ Trap locations are selected where they are unlikely to be encountered or seen by the public. |

| | | | | | | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|---|
| | | | | | | | | | <ul style="list-style-type: none"> Traps are used only during March-June when recreational river use is low. <p>The annual duration of the anticipated recreational quality impacts of the proposed project occurs primarily during the spawning period of rainbow and hybrid trout (i.e., spring). Recreational river use is typically reduced during this time of year when water levels are higher and weather is cooler and wetter. Therefore, potential direct impacts to the access to and quality of recreational and wilderness activities would be short-term and negligible.</p> |
| Local and state tax base and tax revenues | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <p>No significant impacts to the local and state tax base and tax revenue would be expected because of the proposed project. The proposed project does not involve the acquisition of land or property, production of any products, or displacement of any existing businesses. Local businesses rely largely on recreation as a staple source of income and many people visiting the area to recreate currently seek opportunities to fish for Montana's native westslope cutthroat trout. The proposed project would, in part, further the ongoing objective to conserve this native species for the enjoyment of current and future fishing recreation. Any impacts to the local and state tax base and tax revenue would be long-term, minor, and beneficial.</p> |
| Agricultural or Industrial production | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <p>The proposed project would not disturb or otherwise impact any agricultural or industrial land; therefore, no impacts to agricultural or industrial production would be expected because of the proposed project.</p> |
| Human health and safety | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <p>No significant impacts to human health and safety would be expected because of the proposed project. The proposed project would employ the use of jet boats to conduct electrofishing, which can be dangerous if not done in a safe manner. Affected staff conducting the activity may realize increased risk to human health and safety; however, FWP requires staff to operate in a safe manner and utilize available safety precautions.</p> |

| | | | | | | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|--|
| | | | | | | | | | Therefore, any potential impacts to human health and safety would be short-term and negligible, lasting only as long as the proposed project. |
| Quantity and distribution of employment | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | The proposed project would utilize existing FWP staff to conduct activities; therefore, no impacts to the quantity and distribution of employment in the area affected by the proposed project would be expected because of the proposed project. |
| Distribution and density of population and housing | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | The proposed project would use existing FWP staff to accomplish the proposed project and would not otherwise require or result in the movement of existing or new population into or out of the affected area. Therefore, no impacts to the distribution and density of population and housing in the area affected by the proposed project would be expected because of the proposed project. |
| Demands for government services | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | The proposed project would use existing FWP staff. No additional demands for government services would be expected as a result of the proposed project because activities of this nature are included in the roles of affected staff. Any impacts would be short-term, consistent, and negligible, lasting only as long as the proposed project. |
| Industrial, agricultural, and commercial activity | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | The proposed project would not disturb or otherwise impact any industrial, agricultural, or commercial properties or operations; therefore, no impacts to industrial, agricultural, or commercial activity would be expected because of the proposed project. |
| Locally adopted environmental plans and goals | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | FWP is unaware of any locally adopted environmental plans or goals that may be impacted by the proposed project. |
| Other appropriate social and economic circumstances | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Potential direct impacts include: <ul style="list-style-type: none"> Fewer rainbow and hybrid trout available to anglers and those who generate income from them in the affected portions of the river system <ul style="list-style-type: none"> Mitigation measures: |

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | <ul style="list-style-type: none"> ▪ Westslope cutthroat trout will likely continue to increase in both prevalence and desirability, as evidenced by angler and electrofishing data shared in Attachment B. ▪ Trout removed will be transported to a local community fishing pond, conditions permitting. <ul style="list-style-type: none"> • Increased prevalence of westslope cutthroat trout available to anglers, those who generate income from them, and others who value the species in the affected portions of the river system <p>The intent of the proposed project is to sustain native westslope cutthroat trout by reducing the threats posed by competing non-native species including rainbow and hybrid trout. Therefore, impacts to those who value native westslope cutthroat trout would be long-term, beneficial, and moderate in the affected area. Impacts to those who value non-native rainbow and hybrid trout would be long-term, adverse, and moderate in the affected area.</p> |
|--|--|--|--|--|--|--|--|--|--|

Table 6: Determining the Significance of Impacts on the Quality of the Human Environment

If the EA identifies impacts associated with the proposed project FWP must determine the significance of the impacts. ARM 12.2.431. This determination forms the basis for FWP's decision as to whether it is necessary to prepare an environmental impact statement.

According to the applicable requirements of ARM 12.2.431, FWP must consider the criteria identified in this table to determine the significance of each impact on the quality of the human environment. The significance determination is made by giving weight to these criteria in their totality. For example, impacts identified as moderate or major in severity may not be significant if the duration is short-term. However, moderate or major impacts of short-term duration may be significant if the quantity and quality of the resource is limited and/or the resource is unique or fragile. Further, moderate or major impacts to a resource may not be significant if the quantity of that resource is high or the quality of the resource is not unique or fragile.

Criteria Used to Determine Significance

| | |
|---|---|
| 1 | <p>The severity, duration, geographic extent, and frequency of the occurrence of the impact</p> <p>“Severity” describes the density of the potential impact, while “extent” describes the area where the impact will likely occur, e.g., a project may propagate ten noxious weeds on a surface area of 1 square foot. Here, the impact may be high in severity, but over a low extent. In contrast, if ten noxious weeds were distributed over ten acres, there may be low severity over a larger extent.</p> <p>“Duration” describes the time period during which an impact may occur, while “frequency” describes how often the impact may occur, e.g., an operation that uses lights to mine at night may have frequent lighting impacts during one season (duration).</p> |
| 2 | The probability that the impact will occur if the proposed project occurs; or conversely, reasonable assurance in keeping with the potential severity of an impact that the impact will not occur |
| 3 | Growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative impacts |
| 4 | The quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources and values |
| 5 | The importance to the state and to society of each environmental resource or value that would be affected |
| 6 | Any precedent that would be set as a result of an impact of the proposed project that would commit FWP to future actions with significant impacts or a decision in principle about such future actions |
| 7 | Potential conflict with local, state, or federal laws, requirements, or formal plans |

VIII. Private Property Impact Analysis (Takings)

The 54th Montana Legislature enacted the Private Property Assessment Act, now found at § 2-10-101. The intent was to establish an orderly and consistent process by which state agencies evaluate their proposed projects under the "Takings Clauses" of the United States and Montana Constitutions. The Takings Clause of the Fifth Amendment of the United States Constitution provides: "nor shall private property be taken for public use, without just compensation." Similarly, Article II, Section 29 of the Montana Constitution provides: "Private property shall not be taken or damaged for public use without just compensation..."

The Private Property Assessment Act applies to proposed agency projects pertaining to land or water management or to some other environmental matter that, if adopted and enforced without due process of law and just compensation, would constitute a deprivation of private property in violation of the United States or Montana Constitutions.

The Montana State Attorney General's Office has developed guidelines for use by state agencies to assess the impact of a proposed agency project on private property. The assessment process includes a careful review of all issues identified in the Attorney General's guidance document (Montana Department of Justice 1997). If the use of the guidelines and checklist indicates that a proposed agency project has taking or damaging implications, the agency must prepare an impact assessment in accordance with Section 5 of the Private Property Assessment Act.

Table 7: Private Property Assessment (Takings)

| | Yes | No | |
|---|--------------------------|-------------------------------------|-------------------------------------|
| <i>Is FWP regulating the use of private property under a regulatory statute adopted pursuant to the police power of the state? (Property management, grants of financial assistance, and the exercise of the power of eminent domain are not within this category.) If not, no further analysis is required</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| <i>Does the proposed regulatory action restrict the use of the regulated person's private property? If not, no further analysis is required.</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| <i>Does FWP have legal discretion to impose or not impose the proposed restriction or discretion as to how the restriction will be imposed? If not, no further analysis is required</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| <i>If so, FWP must determine if there are alternatives that would reduce, minimize, or eliminate the restriction on the use of private property, and analyze such alternatives. Have alternatives been considered and/or analyzed? If so, describe below:</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| PRIVATE PROPERTY ASSESMENT ACT (PPAA) | | | |
| Does the Proposed Action Have Takings Implications under the PPAA? | Question # | Yes | No |
| Does the project pertain to land or water management or environmental regulations affecting private property or water rights? | 1 | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Does the action result in either a permanent or an indefinite physical occupation of private property? | 2 | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Does the action deprive the owner of all economically viable uses of the property? | 3 | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Does the action require a property owner to dedicate a portion of property or to grant an easement? (If answer is NO, skip questions 4a and 4b and continue with question 5.) | 4 | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Is there a reasonable, specific connection between the government requirement and legitimate state interest? | 4a | <input type="checkbox"/> | <input type="checkbox"/> |
| Is the government requirement roughly proportional to the impact of the proposed use of the property? | 4b | <input type="checkbox"/> | <input type="checkbox"/> |

| | | | |
|--|----|--------------------------|-------------------------------------|
| Does the action deny a fundamental attribute of ownership? | 5 | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Does the action have a severe impact of the value of the property? | 6 | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public general? (If the answer is NO, skip questions 7a-7c.) | 7 | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Is the impact of government action direct, peculiar, and significant? | 7a | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Has the government action resulted in the property becoming practically inaccessible, waterlogged, or flooded? | 7b | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Has the government action diminished property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question? | 7c | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Does the proposed action result in taking or damaging implications? | | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Taking or damaging implications exist if YES is checked in response to Question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to question 4a or 4b. | | | |
| If taking or damaging implications exist, the agency must comply with MCA § 2-10-105 of the PPAA, to include the preparation of a taking or damaging impact assessment. Normally, the preparation of an impact assessment will require consultation with agency legal staff. | | | |
| Alternatives: The analysis under the Private Property Assessment Act, §§ 2-10-101 through -112, MCA, indicates no impact. FWP does not plan to impose conditions that would restrict the regulated person's use of private property to constitute a taking. | | | |

IX. Public Participation

The level of analysis in an EA will vary with the complexity and seriousness of environmental issues associated with a proposed action. The level of public interest will also vary. FWP is responsible for adjusting public review to match these factors (ARM 12.2.433(1)). Because FWP determines the proposed action will result in limited environmental impact, and little public interest has been expressed, FWP determines the following public notice strategy will provide an appropriate level of public review:

- An EA is a public document and may be inspected upon request. Any person may obtain a copy of an EA by making a request to FWP. If the document is out-of-print, a copying charge may be levied (ARM 12.2.433(2)).
- Public notice will be served on the Montana Fish, Wildlife and Parks website at:
<https://fwp.mt.gov/aboutfwp/public-comment-opportunities>
- Copies will be distributed to neighboring landowners to ensure their knowledge of the proposed project and opportunity for review and comment on the proposed action.
- FWP maintains a mailing list of persons interested in a particular action or type of action. FWP will notify all interested persons and distribute copies of the EA to those persons for review and comment (ARM 12.2.433(3)).
- FWP will issue public notice in the following newspaper periodical(s) on the date(s) indicated.

| Newspaper / Periodical | Date(s) Public Notice Issued |
|------------------------|------------------------------|
| Hungry Horse News | 02/08/2023 |
| Flathead Beacon | 02/08/2023 |

- Public notice will announce the availability of the EA, summarize its content, and solicit public comment.
 - **Duration of Public Comment Period:** The public comment period begins on the date of publication of legal notice in area newspapers (see above). Written or e-mailed comments will be accepted until 5:00 p.m., MST, on the last day of public comment, as listed below:

Length of Public Comment Period: 15 days

Public Comment Period Begins: 02/03/2023

Public Comment Period Ends: 02/17/2023

Comments must be addressed to the FWP contact, as listed below.

○ **Where to Mail or Email Comments on the Draft EA:**

Name: AMBER STEED

Email: asteed@mt.gov

Mailing Address:

490 N Meridian Rd.

Kalispell, MT 59901

X. Recommendation for Further Environmental Analysis

| | |
|--|-------------------------------------|
| NO further analysis is needed for the proposed action | <input checked="" type="checkbox"/> |
| FWP must conduct EIS level review for the proposed action | <input type="checkbox"/> |

XI. EA Preparation and Review

| | Name | Title |
|------------------------|---------------|---------------------|
| EA prepared by: | Amber Steed | Fisheries Biologist |
| EA reviewed by: | Eric Merchant | MEPA Specialist |

Attachment A

Relevant Resources

- Al-Chokhachy R, Muhlfeld CC, Boyer MC, Jones LA, Steed AC, Kershner JL. 2014. Quantifying the effectiveness of conservation measures to control the spread of anthropogenic hybridization in stream salmonids: a climate adaptation case study. *N. Am. J. Fish. Manag.* 34, 642–652. (doi:10.1080/02755947.2014.901259)
- Bourret SL, RP Kovach, TJ Cline, JT Strait, CC Muhlfeld. 2022. High dispersal rates in hybrids drive expansion of maladaptive hybridization. *Proc. R. Soc. B* 289, 20221813. (doi:10.1098/rspb.2022.1813)
- Boyer MC, Muhlfeld CC, Allendorf FW. 2008. Rainbow trout (*Oncorhynchus mykiss*) invasion and the spread of hybridization with native westslope cutthroat trout (*Oncorhynchus clarkia lewisi*). *Can. J. Fish. Aquat. Sci.* 65, 658–669. (doi:10.1139/f08-001)
- Dangora AJ. 2022. Evaluating the management and consequences of hybridization between rainbow trout and native westslope cutthroat trout. Master's Thesis. University of Montana, Missoula.
- Delaray M. 2004. Flathead River angler creel report 2002-2003: Mainstem river and slough. Report of Montana Fish, Wildlife & Parks, Kalispell.
- Drinan DP, Webb MAH, Naish KA, Kalinowski ST, Boyer MC, Steed AC, Shepard BB, Muhlfeld CC. 2015. Effects of hybridization between nonnative Rainbow Trout and native Westslope Cutthroat Trout on fitness-related traits. *Trans. Am. Fish. Soc.* 144(6), 1275-1291. (doi:10.1080/00028487.2015.1064475)
- Hitt NP, Frissell CA, Muhlfeld CC, Allendorf FW. 2003. Spread of hybridization between native westslope cutthroat trout, *Oncorhynchus clarkii lewisi*, and nonnative rainbow trout, *Oncorhynchus mykiss*. *Can. J. Fish. Aquat. Sci.* 60, 1440–1451. (doi:10.1139/f03-125)
- Kovach RP, Muhlfeld CC, Boyer MC, Lowe WH, Allendorf FW, Luikart G. 2015. Dispersal and selection mediate hybridization between a native and invasive species. *Proc. R. Soc. B* 282, 20142454. (doi:10.1098/rspb.2014.2454)
- Kovach RP et al. 2016. Vive la résistance: genomewide selection against introduced alleles in invasive hybrid zones. *Proc. R. Soc. B* 283, 20161380. (doi:10.1098/rspb.2016.1380)
- Kovach RP, Leary RF, Bell D, Painter S, Lodmell A, Whiteley AR. 2022. Genetic variation in westslope cutthroat trout reveals that widespread genetic rescue is warranted. *Can. J. Fish. Aquat. Sci.* 79, 936–946. (doi:10.1139/cjfas-2021-0102)
- Lowe WH, Muhlfeld CC, Allendorf FW. 2015. Spatial sorting promotes the spread of maladaptive hybridization. *Trends Ecol. Evol.* 30, 456–462. (doi:10.1016/j.tree.2015.05.008)
- Montana Fish, Wildlife & Parks. 2007. Memorandum of understanding and conservation agreement for westslope cutthroat trout and Yellowstone cutthroat trout in Montana. Helena, Montana.
- Muhlfeld CC, Kalinowski ST, McMahon TE, Taper ML, Painter S, Leary RF, Allendorf FW. 2009a. Hybridization rapidly reduces fitness of a native trout in the wild. *Biol. Lett.* 5, 328–331. (doi:10.1098/rsbl.2009.0033)
- Muhlfeld CC, McMahon TE, Belcer D, Kershner JL. 2009b. Spatial and temporal spawning dynamics of native westslope cutthroat trout, *Oncorhynchus clarkii lewisi*, introduced rainbow trout, *Oncorhynchus mykiss*, and their hybrids. *Can. J. Fish. Aquat. Sci.* 66, 1153–1168. (doi:10.1139/F09-073)

- Muhlfeld CC, McMahon TE, Boyer MC, Gresswell RE. 2009. Local habitat, watershed, and biotic factors influencing the spread of hybridization between native westslope cutthroat trout and introduced rainbow trout. *Trans. Am. Fish. Soc.* 138, 1036–1051. (doi:10.1577/T08-235.1)
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- Muhlfeld CC, Kovach RP, Jones LA, Al-Chokhachy R, Boyer MC, Leary RF, Lowe WH, Luikart G, Allendorf FW. 2014. Invasive hybridization in a threatened species is accelerated by climate change. *Nat. Clim. Change* 4, 620–624. (doi:10.1038/nclimate2252)
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- Muhlfeld CC et al. 2017. Legacy introductions and climatic variation explain spatiotemporal patterns of invasive hybridization in a native trout. *Glob. Change Biol.* 23, 4663–4674. (doi:10.1111/gcb. 13681)
- Shepard BB, May BE, Urie W. 2005. Status and conservation of Westslope Cutthroat Trout within the Western United States. *N. Am. J. Fish. Manag.* 25, 1426–1440. (doi:10.1577/M05-004.1)
- Steed AC, Hunt R. 2020. Mainstem Flathead River angler survey 2015-2016. Report of Montana Fish, Wildlife & Parks, Kalispell.
- Steed AC, Bourret S, Ingelfinger F, Hunt R, Lamont A, Fried L, Schnee M, Deraleau J, Boyer M. 2021. Annual report of the Hungry Horse Mitigation Program, 1/1/2020-12/31/2020 Annual Report, 1991-019-03.
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Attachment B

Supplemental Information

(See link to Attachment B under the subject Draft Environmental Assessment on the Montana Fish, Wildlife & Parks News and Public Notice webpage at <https://fwp.mt.gov/news/public-notices>)