

CHECKLIST ENVIRONMENTAL ASSESSMENT

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| Project Name: | Reservoir Creek Restoration Project |
| Proposed Implementation Date: | Fall 2020 |
| Proponent: | The Nature Conservancy and Southwest MT Sagebrush Partnership |
| Location: | Section 18, T8S R12W, Sections 13 & 14, T8S R13W |
| County: | Beaverhead County |
| Trust: | Common Schools |

I. TYPE AND PURPOSE OF ACTION

Reservoir Creek is a first-order, headwater stream that is currently in a degraded condition due to historic land use practices, including mining, grazing and the extirpation of beaver. Riparian vegetation is limited in Reservoir Creek due to channel incision that has resulted in disconnection between the channel and floodplain. Instream complexity is limited by the low numbers of structural elements, specifically beaver dams and large woody debris. Reservoir Creek is an important stream for native West Slope Cutthroat Trout.

This proposal intendeds to improve riparian health and increase instream habitat complexity using low-tech process-based restoration structures, specifically beaver dam analogues and woody debris structures. Over the next 3 years 70- 120 structures will be built and maintained by hand using on-site woody material and sediment. Each year up to 50 structures will be built. Over the entire project reach that equates to approximately one structure every 90-130 feet. Structures density may be tighter in places and there may also be longer reaches without structures. Structure count and density will be dependent on-site specific stream conditions as well as the streams response as structures are built and monitored.

Stream response to the previous year's structures will be evaluated annually by the proponent with consultation of the DNRC and MT FWP to determine changes and response to the individual structures. After the evaluation process decisions to install additional structures will be determined. In the event an individual structure is not meeting objectives, or it is inhibiting the overall project reach from meeting objectives, that structure would be removed with hand tools.

The proposal is designed to increase channel-floodplain connectivity, incision recovery, and habitat creation for beaver expansion. The design is intended to provide immediate benefits to Reservoir Creek, however long-term restoration of Reservoir Creek to its historic condition will likely require additional restoration treatments, and natural beaver dam activity.

Fencing of the riparian area along portions of the stream on DNRC land may be required to control the amount of grazing that occurs adjacent to the stream to protect willow establishment. Other grazing modifications might include the implementation of a rotational grazing plan or changing use of the pasture into the fall. Staking of willow trees may also be incorporated into the proposal during the life of the project. All grazing changes will be approved of by the DNRC with consultation of the lessee.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Provide a brief chronology of the scoping and ongoing involvement for this project.

Montana Sage Grouse Habitat Conservation Program
MT DNRC Archeologist Patrick Rennie
Beaverhead County Commissioners
Montana Fish Wildlife & Parks Fisheries and Wildlife Biologists
MT DNRC Fisheries Biologist, Mike Anderson
MT DNRC Hydrologist, Jeff Schmalenberg
Bannack Grazing Association, Lessee

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

124-Permit from Montana Fish Wildlife & Parks
NWP 27 Authorization from US Army Corps of Engineers
Approval from the Montana Sage Grouse Habitat Conservation Program

3. ALTERNATIVES CONSIDERED:

Alternative A: Action Alternative, Allow the Southwest Montana Sagebrush Partnership to install low-tech structures in Reservoir Creek to meet restoration objectives including increased channel-floodplain connectivity, incision recovery, and habitat creation for beaver expansion.

Alternative B: No Action Alternative, Deny Southwest Montana Sagebrush Partnership the right to install low-tech structures in Reservoir Creek to meet restoration objectives including increased channel-floodplain connectivity, incision recovery, and habitat creation for beaver expansion.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" if no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.

The Natural Resources Conservation Service classifies the soils in the project area as 43C- Redfish, occasionally flooded -Shewag-Slagamelt complex. These soils are found in flood plains and come from alluvium parent materials. A typical profile 0-4inches, peat, 4-11 inches, sandy loam, 11-16 inches, very gravelly loam and 16-60 inches, extremely gravelly loamy coarse sand. Available water storage in the profile is low, about 5 inches. Land capability classification is 6w and the vegetative classification is wet meadow.

The proposal will not cause much soil disturbance. Most of the work will occur within the stream channel. Restoration work will be installing approximately 90 low tech structures made of woody debris from trees and shrubs along with rock boulders across the stream channel.

Alternative A: Action Alternative: Some minor disturbance of soils will occur during the installation phase of the project however long term or cumulative impacts would not be anticipated. Reclamation work may include planting willow stocks along portions of the stream to help stream bank stability.

Alternative B: No Action Alternative: No soil disturbance would occur under this alternative.

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.

Reservoir Creek is a first-order perennial stream and a tributary to Grasshopper Creek located approximately 25 miles west of Dillon, MT. The stream provides important habitat for Cutthroat Trout. The Creek has a history of grazing, mining and beaver extirpation which has resulted in the stream being in a degraded condition. This is characterized by a single thread channel, low instream geomorphic complexity, limited deep pool habitat,

reduced channel-floodplain connectivity, and reduced riparian areas. The goal of this restoration proposal is to improve instream habitat for native cutthroat trout and improve riparian conditions of the stream. There are no perennial tributaries to Reservoir Creek, and flows do not reach Grasshopper Creek.

Alternative A: Action Alternative: Low Tech Process-Based Restoration (LTPBR) relies on the addition of structural elements (trees, boulders and sediment) to mimic, promote, and sustain the processes of wood accumulation and beaver dam activity to initiate geomorphic and hydrologic processes that maintain riverscape health. The absence of structural elements from many riverscapes is referred to as *structural starvation*, indicating that many riverscapes currently lack structural elements, relative to historic, or reference conditions. Reservoir Creek lacks structural elements (i.e., beaver dams and wood accumulations) that can force instream geomorphic and hydrologic processes to create more complex habitats. Woody debris is nearly absent (currently there are only 1-5 LWD jams in the project area) and there are two intact beaver dams, but the stream and riparian conditions suggest the project area can currently support occasional (1-5 dams/km) to frequent (5-15 dams/km) beaver dams, and the historic capacity was likely pervasive (16 – 30 dams/km) beaver dams based on the Beaver Restoration Assessment Tool (Macfarlane, et al., 2019). Therefore, LTPBR methods specifically those that mimic beaver dams are an appropriate restoration tool to meet restoration goals in Reservoir Creek. This proposal will install approximately 90 LTPBR structures in the 1.6 miles stretch of state land that the creek passes through. This work will be monitored over the coming years to modify the structures that are installed to assure that they are working properly. Over time the proposal should help improve the riparian habitat and water quality.

Alternative B: No Action Alternative: Under this alternative no changes to Reservoir Creek would occur and a degraded stream channel would remain in its current condition.

6. AIR QUALITY:

What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

The proposal is in an isolated area of Beaverhead County that is devoid of population. Neither of the proposed alternatives will have any impacts on the air quality in the surrounding area. The area does not currently have any known identifiable air quality problems and is not in a Class 1 air shed or non-attainment zone. Neither proposal will produce any significant air quality pollutants or particulates.

7. VEGETATION COVER, QUANTITY AND QUALITY:

What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.

Vegetation along the creek is mostly sedge, and blue grass, with mixed willows, sage brush, forbs and the occasional aspen tree. Due to the incised nature of the stream most of the small flood plains along the creek are no longer functioning and are not being flooded during peak runoff in the spring. Sage brush has invaded these areas indicating that they haven't been flooded in some time. In addition, spotted knapweed and Canada thistle is present in portions of the proposed project area. There are several areas that have patches of spotted knapweed, and Canadian and Bull thistle.

Alternative A: Action Alternative: The proposal will hopefully raise the level of the stream so it can flood the low areas along the stream, (flood plain) and make it difficult for the sagebrush to survive. This will also help regenerate the coniferous woodland species, willows, aspen and dogwoods that should be present and thrive within these riparian areas. This will also help create water storage for the riparian areas along the creek to remain lush later in the year providing critical habitat to riparian species of flora and fauna. The cumulative effect over the next 10 years will be that the riparian area along the creek will be restored to a better functioning stream course. The project will not cause ground disturbance and should not increase the spread of noxious weeds.

Alternative B; No Action Alternative: Under this alternative there will be no changes in vegetation along Reservoir Creek. The stream will remain in a degraded condition.

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.

A variety of big game, small mammals, raptors, coyotes, upland birds, songbirds, fish, reptiles, and amphibians use the riparian area along Reservoir Creek. The stream is perennial and provides a water source for these species year-round.

Alternative A: Action Alternative: The action alternative will restore approximately 1.6 miles of stream habitat improving the riparian area along the creek and provide critical habitat for terrestrial, avian, and aquatic life. This process will take time and occur more naturally using LTPBR processes that will be modified yearly and be enhanced from beaver activity in the stream. The end goal is to have a proper functioning stream that has pools and ripples, functioning flood plains, improved deciduous vegetation and in places multiple channels. The proposal should improve the amount of riparian habitat in this stretch of Reservoir Creek.

Alternative B; No Action Alternative: Under this alternative there will be no changes to the existing stream, and the current riparian habitat will remain the same.

E, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:

Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.

A search was conducted using the Montana Natural Heritage Program (MNHP) database to identify point observations of species of concern in the section of the proposed activity. The following species of concern have been identified or were observed in or near the proposed restoration work proposal.

Greater Sage-Grouse (*Centrocercus urophasianus*)- Greater Sage-Grouse are listed as sensitive by the US Forest Service, BLM and the State of Montana. The project area is in Sage-Grouse core habitat as identified by the Montana Fish, Wildlife and Parks. The proposed project area is located approximately 3 miles from four active Sage-Grouse leks. If the proposal is approved all construction work is planned for late summer and early fall of 2020 and 2021. By that time of the year the young grouse that may be found in the area will be off any nests that may be in adjoining sections where sage brush is present. Measurable direct, indirect, or cumulative effects would not be anticipated as a result of the proposed project.

Westslope Cutthroat Trout (*Oncorhynchus clarkia lewisi*) – Westslope cutthroat trout are listed by both the USFS and BLM as a sensitive species and a Species of Concern within the State of Montana. Current populations are present in the project area. Riparian areas on Reservoir Creek should improve as a result of the proposed project and improve habitat for trout.

Ferruginous Hawk (*Buteo regalis*) Ferruginous hawks have been documented using the general area around the project as nesting and hunting habitat. The state of Montana lists the bird as an S3B species meaning it is at potential risk because of limited and potentially declining numbers, extent or habitat even though it may be abundant in some areas. The low surface impacts resulting from the project would not significantly alter vegetative composition or nesting habitat for the hawks. The primary vegetation on-site is native grass species and they would not be impacted if the project is approved. The project would not cause direct, indirect, or cumulative effects to this species.

Brewer's Sparrow (*Spizella breweri*) – Brewer's sparrow is a BLM sensitive species and is a species of concern within portions of the state of Montana. The proposed project would not significantly alter the current vegetative community and should not alter the vegetation on-site or lead to negative cumulative effects on Brewer's sparrow populations.

Sage Thrasher (*Oreoscoptes montanus*) – Sage thrashers are listed as sensitive by the BLM and State of Montana. The proposed project will not impact sagebrush communities. The project would not cause cumulative impacts to the sage thrasher.

Wolverine (*Gulo gulo*) - Wolverines have relatively continuous habitat within the Beaverhead Mountains. This project falls outside the wolverine range by several miles. The BLM and US Forest Service list the wolverine as a sensitive species. Wolverines could and may pass through the state sections where this project is proposed, however the state sections do not provide the necessary habitat for sustained use by wolverines at this location. Because of this, this project would not cause direct, indirect, or cumulative effects on this species and the area of this proposal is not considered prime habitat for wolverines.

Townsend's Big-eared Bat (*Corynorhinus townsendii*) – Townsend's big-eared bat is a U.S. Forest Service, U.S. BLM, and State of Montana listed sensitive species. Listed habitat on the MNHP site is caves in forested habitat. This project will be in open grassland and will not affect Townsend's big-eared bat habitat

Bitterroot Milkvetch (*Astragalus scaphoides*) – Bitterroot milkvetch is listed as a U.S. Forest Service, BLM, and State of Montana sensitive species. The species is known to occur only in Beaverhead County, Montana and Lemhi County, Idaho. Flowering occurs in late May to early June with seed set in July. The timing of construction for the proposed project is late Summer to early Fall after seed set and plants should be in dormancy. Actual construction on the project will not impact the plant.

Chicken-Sage – (*Sphaeromeria argentea*) – Chicken-sage is a BLM listed sensitive species. The plant is generally thought to be unpalatable to cattle. Due to the low surface impact of this project, significant impacts to this species are not expected to result from this project.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:

Identify and determine effects to historical, archaeological or paleontological resources.

The DNRC archaeologist conducted a Class III cultural and paleontological resources inventory of the area of potential effect (APE). During the inventory an abandoned homestead, two low-profile cairns, and a lithic scatter were documented. Considering the low-impact nature of the project, proposed developments will result in No Effect to *Antiquities* as defined under the Montana State Antiquities Act. A formal report of findings has been prepared and is on file with the DNRC and the Montana State Historic Preservation Officer.

11. AESTHETICS:

Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.

Alternative A: Action Alternative: The Reservoir Creek Restoration proposal is located along the Reservoir Creek County road. The creek runs within a few hundred feet of the road and in places the work will be visible and may affect aesthetics in the short term. However, over time the increase in vegetation along the creek will shield the project from view of the county road and should improve the aesthetics.

Alternative B; No Action Alternative: Under this alternative there will be no changes to aesthetics of the area.

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:

Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects to environmental resources.

I am unaware of any other demands on environmental resources of land, water, air or energy. During the scoping process, no other activities were identified and no cumulative effects to environmental resources were identified.

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:

List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

No other environmental documents were identified during the scoping for this proposal. No known environmental reviews are currently taking place in the surrounding area.

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES* potentially impacted are listed on the form, followed by common issues that would be considered.
- Explain *POTENTIAL IMPACTS AND MITIGATIONS* following each resource heading.
- Enter "NONE" if no impacts are identified or the resource is not present.

14. HUMAN HEALTH AND SAFETY:

Identify any health and safety risks posed by the project.

Neither of the proposed alternatives will impact human and or health safety risks.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

Identify how the project would add to or alter these activities.

Neither of the proposed alternatives will alter current or future industrial, commercial, and agricultural activities and production.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

Neither of the proposed alternatives will create, move, or eliminate jobs. No changes to employment will occur from either of the proposed alternatives.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:

Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

Neither of the proposed alternatives will change the local or state tax base or tax revenues.

18. DEMAND FOR GOVERNMENT SERVICES:

Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services.

Neither of the proposed alternatives will increase demand for government services.

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:

List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

Neither of the proposed alternatives will affect any locally adopted environmental plans or goals in the surrounding area.

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:

Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.

Neither of the proposed alternatives will affect access to or the quality of recreational use and wilderness activities in the surrounding area.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing.

Neither of the proposed alternatives will affect the density and distribution of human population and demand for housing in Beaverhead County.

22. SOCIAL STRUCTURES AND MORES:

Identify potential disruption of native or traditional lifestyles or communities.

Neither of the proposed alternatives will affect social structures and mores.

23. CULTURAL UNIQUENESS AND DIVERSITY:

How would the action affect any unique quality of the area?

Neither of the proposed alternatives will affect the cultural uniqueness and diversity of the surrounding area.

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.

Alternative A: Action Alternative: This alternative will not generate any additional income for the trust; however, it will improve habitat for native west slope cutthroat trout, improve the riparian habitat along Reservoir Creek and restore the long-term viability of an important headwaters stream.

Alternative B; No Action Alternative: The degraded condition of the stream and riparian area will continue.

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| EA Checklist Prepared By: | Name: Timothy Egan | Date: August 14, 2020 |
| | Title: Dillon Unit Manager | |

V. FINDING

25. ALTERNATIVE SELECTED:

Alternative A: Action Alternative, Allow the Southwest Montana Sagebrush Partnership to install low-tech structures in Reservoir Creek to meet restoration objectives including increased channel-floodplain connectivity, incision recovery, and habitat creation for beaver expansion.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

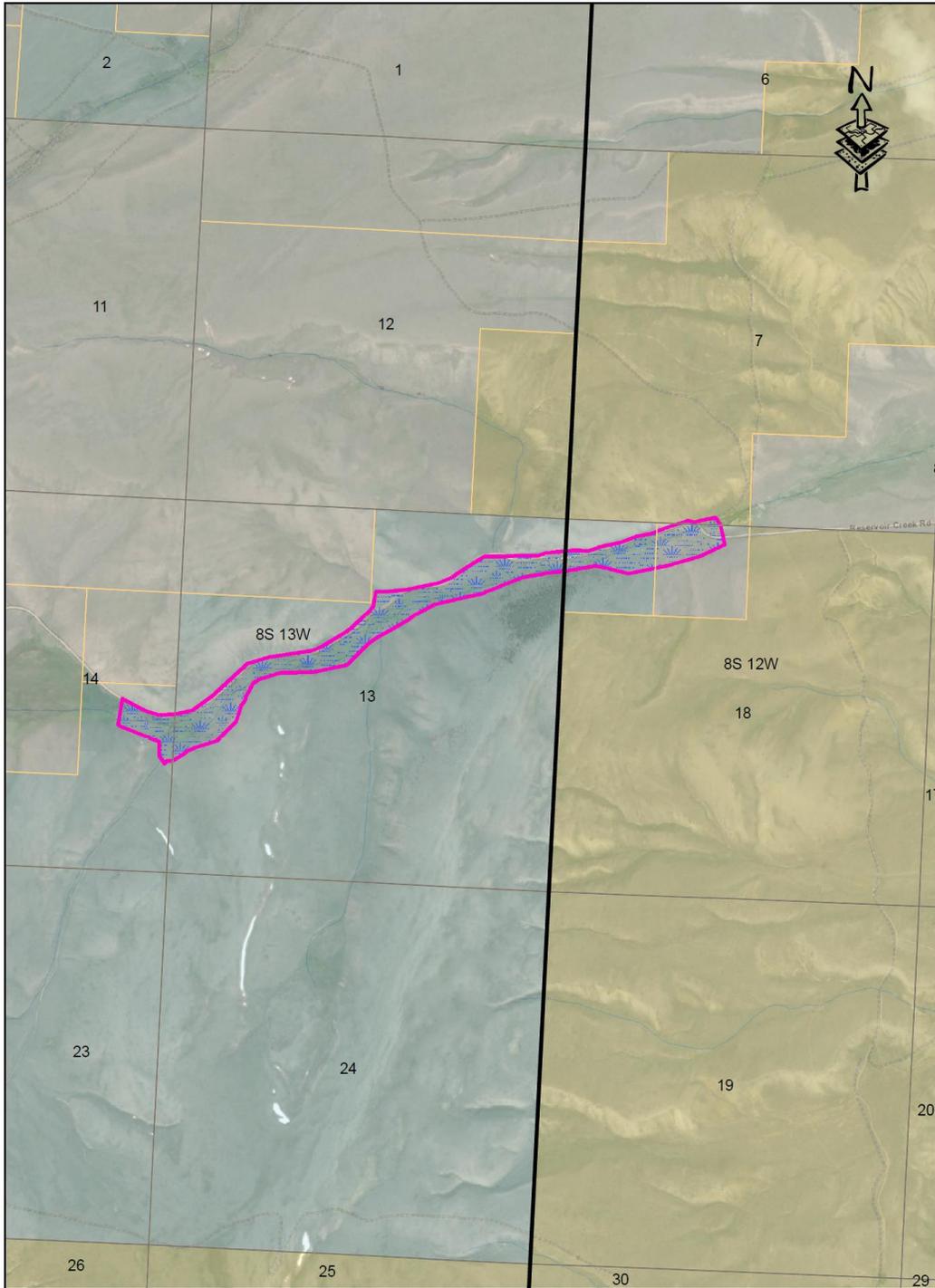
No significant potential impacts are anticipated from the implementation of this stream restoration project. Changes to the stream will occur over a long period of time where managers can modify changes to gain the greatest good for the stream and riparian area around the stream. This proposal has a light on the ground footprint that is easily modified with little to no ground disturbance, letting water flows do most of the work. The only long-term impacts anticipated are an improved and properly functioning stream that improves fish, and wildlife habitat.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

EIS More Detailed EA No Further Analysis

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| EA Checklist Approved By: | Name: Andy Burgoyne Title: CLO Trust Land Program Manager |
| Signature: |  Date: 8/18/20 |

Reservoir Creek Restoration Project
T8S, R13W Sections 13 & 14 & T8S, R12W Section 18
Beaverhead County, Montana



 Project Area

0 0.1 0.2 0.4 0.6 0.8 Miles

