

**Draft Response to Project Abstracts and Public
Comments on the
2023 Update to the UCFRB Aquatic and
Terrestrial Resources Restoration Plans**

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May 3, 2023

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SECTION I. INTRODUCTION

On January 24, 2023, the Montana Natural Resource Damage Program (NRDP) released the Solicitation of New Restoration Action Concepts and Potential Revisions for the 2023 Update of the Upper Clark Fork River Basin (UCFRB) Aquatic and Terrestrial Resources Restoration Plans (hereafter referred to collectively as “Restoration Plans”) to solicit project abstracts for conceptual restoration proposals specific to aquatic and terrestrial resource priority areas, recreation projects that provide natural resource benefits, revisions to the Restoration Plans, and concerns about any impacts to the human environment from the implementation of restoration projects. The public solicitation and comment period ran through March 3, 2023. NRDP sent notices of this opportunity to 300 individual/entities on its mailing lists. NRDP also summarized this public solicitation for project abstracts/comment process at the UCFRB Remediation and Restoration Advisory Council (Advisory Council) meeting (December 7, 2022), the Trustee Restoration Council meeting (December 13, 2022), and the Upper Clark Fork Working Group (February 9, 2023), and held a solicitation workshop on February 16, 2023.

NRDP received a total of 15 letters that contained 23 conceptual restoration proposals and comments during the public solicitation / comment period proposing revisions to the Restoration Plans. See Appendix 1 for a list of letters received during this comment period, identified by a specific number that serves as a reference to the letter throughout this document. Appendix 2 provides copies of the conceptual restoration proposals and copies of comment letters, which are also available on the NRDP website at: <https://dojmt.gov/lands/nrdp-public-notice/notice-of-public-comment/>. Comments #1 and #2 were solicitation procedural questions addressed during the solicitation and are not mentioned in this document.

This document further summarizes the conceptual restoration proposals and comments received and provides the State’s responses. The State’s responses provide which conceptual restoration proposals and revisions to the Restoration Plans are eligible to incorporate in draft revision or why the conceptual restoration proposals or suggested changes are not eligible to incorporate.

The State’s draft 2023 Revision to the Restoration Plan will be subject to public comment during a 30-day public comment period in June/July 2023 and presented at the meeting of the Advisory Council and a meeting of the Trustee Restoration Council. Following consideration of public comment and the recommendations of these two councils, the Governor will make the final decision on the 2023 Update to the Restoration Plans.

SECTION II. CONCEPTUAL RESTORATION PROJECT PROPOSALS AND RESPONSES

1. Aquatic Projects

Enhance the ecological functions of lower Cottonwood Creek within the town of Deer Lodge, MT (#7)

This project abstract (#7) proposes to improve riparian habitat and instream habitat, both of which are listed as priorities in the *Restoration Plans*, for Cottonwood Creek. The restoration concept being proposed is the development and implementation of riparian and instream habitat

improvements in a one-mile section of Cottonwood Creek that runs through the City of Deer Lodge. The specific project goals include improve instream habitat diversity to support all native aquatic organisms, provide thermal refugia for aquatic organisms from the Clark Fork River, improve riparian habitat by increasing native vegetative cover, reduce noxious weeds and improve soil conditions, improve the natural aesthetics of the Cottonwood Creek corridor, provide educational opportunities for local students and residents of Deer Lodge, and maintain or improve flood conveyance. A total of \$500,000 is requested and the project partners are committed to seeking an outside match of up to \$100,000.

Response: Cottonwood Creek is listed as a priority 2 stream in the *Aquatic Resources Prioritization* document¹ and the Restoration Plans, section 3.2.2.5. The *Process Plan*² states the State will focus restoration alternatives in the Priority 1 or 2 areas, consistent with the sequential approach to restoration work advocated in the prioritization plans, and in the aquatic and terrestrial injured resource areas for which the State made restoration claims. The Restoration Plans indicate flow augmentation, improving fish passage and reducing fish entrainment are priority actions. This project is already included in the Restoration Plans and may be addressed after higher priority projects are completed. The existing Cottonwood Creek fund allocation balance of \$1.5 million could be used to implement these actions per the Restoration Plans.

Kohrs Manning Ditch, Cottonwood Creek (#4B)

This project (#4b) would involve improving fish passage and reducing fish entrainment by installing a fish screen with an overpass or similar structure for Kohrs Manning Ditch. This irrigation diversion is located near the confluence of Cottonwood Creek and the Clark Fork River on the north side of the City of Deer Lodge. A total of \$640,000 is requested for this project.

Response: As stated above, Cottonwood Creek is listed as a priority 2 stream in the Aquatic Resources Prioritization document and the Restoration Plans, section 3.2.2.5. The Kohrs Manning Ditch project was originally included in the 2012 Restoration Plans and project design work initiated. The project was delayed at the request of the water users on the Kohrs Manning Ditch. Recently in 2023, discussions with water users have been reinitiated and the water users are willing to discuss possible approaches to this project. This project is already included in the Restoration Plans. These restoration actions were prioritized with the other restoration actions previously included in the Restoration Plans. NRDP, working with project partners, has been addressing other priority projects. The existing Cottonwood Creek fund allocation balance of \$1.5 million will be used to implement these actions per the Restoration Plans.

Baggs Creek, Cottonwood Creek (#4A)

This project (#4a) would eliminate a diversion on Baggs Creek and provide a screened intake for a 91-acre pivot project operating on gravity pressure. The benefits include water savings (almost

¹ UCFRB Prioritization of Areas in the UCFRB for Fishery Enhancement, jointly prepared by FWP and NRDP, Final (dated January 2018) are available from the NRDP website at <https://dojmt.gov/wp-content/uploads/Aquatic-Prioritization-Plan-2018-FINAL.pdf>

² Final UCFRB Interim Restoration Process Plan, prepared by NRDP (dated May 2012). Available from the NRDP website at: <https://dojmt.gov/wp-content/uploads/2012/05/051512-Final-Complete-Process-Plan.pdf>

3 cubic feet per second (CFS) water savings by reducing the 4.5 CFS flood water diversion to 1.6 CFS), a fish screen for this pipeline, and elimination of the surface water diversion on Baggs Creek at Emery Road. Baggs Creek has a robust westslope cutthroat population and tagged cutthroat have ascended the new Baggs Creek step-pool system installed in 2019 after installation of the new Cottonwood fish screen and canal bypassed Baggs Creek.

Response: As stated above, Cottonwood Creek, including Baggs Creek, is listed as a priority 2 stream in the Aquatic Resources Prioritization document and the Restoration Plans, section 3.2.2.5. The Baggs Creek project is already included in the Restoration Plans. This project may be addressed after NRDP works with project partners to address other higher priority projects. The existing Cottonwood Creek fund allocation balance of \$1.5 million could be used to implement these actions per the Restoration Plans.

Dippold Diversion, Cottonwood Creek (#4C)

This project (#4c) would replace an existing diversion on Cottonwood Creek with a new diversion and fish screen. This diversion is the most senior water right on Cottonwood Creek and at times dries up the creek. The canal has entrained westslope cutthroat trout and other fish. A total of \$400,000 is requested for this project.

Response: As stated above, Cottonwood Creek is listed as a priority 2 stream in the Aquatic Resources Prioritization document and the Restoration Plans, section 3.2.2.5. NRDP has already developed a conceptual design for this diversion. Further design implementation progress is on hold pending coordination with the Dippold's who do not want a fish screen on their diversion. This project may be addressed after NRDP works with project partners to address other higher priority projects. The existing Cottonwood Creek fund allocation balance of \$1.5 million could be used to implement these actions per the Restoration Plans.

Browns Gulch (#4D - #4J)

These projects (#4D, 4E, 4F, 4G, 4H, 4I, and 4J) were submitted by the Watershed Restoration Coalition and are all within the Browns Gulch drainage. Projects include improving fish passage and reducing entrainment by replacing existing diversions (#4D, #4E, #4F, and #4I); maintaining and expanding beaver mimicry projects that enhance late season flows and riparian vegetation (#4G); reducing livestock damage replacing non-hardened stream crossings to reduce bank erosion and improve fish habitat (#4H); and relocating and restoring a stream reach to reduce erosion (#4J).

Response: The Browns Gulch drainage is listed as a priority 1 stream in the Aquatic Resources Prioritization document and in the Restoration Plans, section 3.2.2.4. Some of these Browns Gulch projects are already included in the Restoration Plans. The Browns Gulch allocation has been exhausted implementing other higher priority projects. The State will evaluate whether to allocate funding to Browns Gulch in the 2023 Revision if funding is available. If funding becomes available these projects will be prioritized per the Restoration Plans and considered for implementation.

Little Blackfoot River (#13)

The commentator requested the current funding allocation to the Little Blackfoot River be maintained for restoration actions within this watershed (#13).

Response: The Little Blackfoot River is listed as a priority 1 stream in the Aquatic Resources Prioritization document and included in the Restoration Plans, section 3.2.2.10. A total of \$3,036,482 has been allocated to this watershed and approximately \$325,000 has been spent on restoration project prioritization, development, and implementation since 2012. The State will consider this comment during the allocation of funding to priority projects. The 2023 Revision may propose to allocate a portion of the Little Blackfoot River funding to other priorities.

Warm Springs Creek (#13)

In 2022, Trout Unlimited (TU) was successful on funding proposals in partnership with NRDP, the Beaverhead-Deer Lodge National Forest, and the US Fish & Wildlife Service to provide approximately half of the estimated \$1.5 million needed to complete the remaining priority fish passage and entrainment projects in the Warm Springs Creek watershed over the next four years. The commenter (#13) recommends the completion of a riparian and instream habitat assessment of Warm Springs Creek to evaluate habitat condition, limiting factors, and site constraints. That assessment will allow NRDP and partners to prioritize potential future habitat restoration work in the watershed.

Response: The Warm Springs Creek watershed is listed as a priority 1 stream in the Aquatic Resources Prioritization document and included in the Restoration Plans, section 3.2.2.14. In 2012, the priority restoration projects were identified by Montana Fish, Wildlife & Parks (FWP) and partners for this watershed. The State agrees that with the completion of priority passage projects an evaluation of resources and prioritization of future restoration actions in the watershed will be helpful to most effectively allocate the remaining funding.

Rock Creek (#13)

Comment (#13) notes Rock Creek is a Priority 2 tributary and included in the Restoration Plans, section 3.2.2.18. Rock Creek is a priority tributary of the Clark Fork River due to its recreational value, importance for native fish, and for its contribution to the Clark Fork River fishery in Reach C. Following the prioritization of Rock Creek in the 2019 Restoration Plan, TU has worked with NRDP and partners to reconnect 20 miles of migratory habitat in mainstem Rock Creek and priority spawning tributaries in addition to completing an inventory and prioritization of fish entrainment and passage barriers in the watershed. TU is working with several partners and agencies to develop and implement a suite of fish passage projects in Rock Creek over the next five years. In total, these projects to remove barriers and screen ditches on upper Rock Creek and key spawning tributaries are estimated to cost between \$2-3 million to complete. An additional \$500,000-\$750,000 in UCFRB Restoration Funds dedicated to Rock Creek for aquatic restoration will enhance the ability to leverage the remaining funding required to complete these projects to reconnect up to 35 miles of migratory and spawning habitat and further increase recruitment to the Clark Fork River.

Response: The Rock Creek watershed is listed as a priority 2 stream in the Aquatic Resources Prioritization document and included in the Restoration Plans, section 3.2.2.18. FWP has determined Rock Creek is the most important recruitment tributary for the Clark Fork River above Milltown to Flint Creek. Also, Rock Creek is an important native trout watershed, goal 3 of the Aquatic Restoration Plan is to maintain or improve native trout populations in the UCFRB to preserve rare and diverse gene pools and improve the diversity and resiliency of the trout fishery. The State recognizes that TU has brought significant matching funds to the work in this watershed. The State will consider allocating additional funding to the Rock Creek watershed.

Flow Projects: Silver Lake (#12) and German Gulch (#13) Flow Projects

Two flow projects were proposed in comment letters (#12 and #13). One comment (#12) stated Silver Lake Water System present valuable opportunities to ensure the Upper Clark Fork River and main tributaries have water in low flow periods and this opportunity should continue to be pursued. Another comment (#13) submitted a proposal for the relocation of a large German Gulch irrigation diversion to Silver Bow Creek.

Response: Flow projects to improve the flow in the Clark Fork River between Galen and Deer Lodge are the highest priority, Section 3.2 of the Restoration Plans. Second in priority are injured areas that are also priority 1 or 2 watersheds, which includes Silver Bow Creek. The projects the commenters referenced are already included in the current Restoration Plans and NRDP and its partners are already working on them. The Silver Lake Water System is owned by Butte-Silver Bow and NRDP has been in discussion as to how water can be supplied to the Clark Fork River between Galen and Deer Lodge during low water years from Silver Lake. NRDP will continue to pursue this opportunity for cold, clean water. The German Gulch project is located at the confluence of German Gulch and Silver Bow Creek. This project is located in a priority area for flow and is also being developed in coordination with TU.

Upper Clark Fork River, Silver Bow Creek, and Blacktail Creek Geochemical and Microbial Study (#9)

This project (#9) proposes to produce an integrated geochemical and metagenomic model of microbial community structure and functionality in the Upper Clark Fork Basin. This project would involve an intensive multiyear study of water quality and water chemistry in Blacktail Creek, Silver Bow Creek, and the Upper Clark Fork River. The researchers would also sample the microbial community living in the sediments of these waters. The objectives of this project include 1) determine microbial community structure in the sediments and waters of the Upper Clark Fork, 2) determine microbial activities (how microbes are transforming the surrounding environment), and 3) integrate microbial identifications and activities with concurrently collected geochemical data. Total funding requested is \$221,124.

Response: NRDP agrees that ecological studies such as the one in this proposal may provide insight into biotic and abiotic factors affecting the trout fisheries in the study areas, see Section IV comment 4. Restoration funds have helped fund other ecological monitoring and research in Silver Bow Creek and the Clark Fork River, but we agree that the microbial community remains largely unstudied. NRDP will continue to work with our partners on high priority monitoring and

research projects. As the State develops its monitoring/research of the Silver Bow Creek and Clark Fork River fish populations, consideration will be given to this study.

2. Terrestrial Projects

Timber Butte Terrestrial Resources (#12)

One commenter (#12) requested that the State reconsider the lost terrestrial resources in Butte-Silver Bow area, particularly the Timber Butte area. Timber Butte has been substantially damaged, and it is suggested that NRDP reconsider this area for a terrestrial project.

Response: The Timber Butte area was not identified as a priority landscape area in the 2011 Terrestrial Prioritization Plan; as such, it is not included in the Restoration Plans. The factors that resulted in not identifying lands south of Butte as high priority for terrestrial projects in 2011 have not changed in the subsequent decade. High priority landscapes had greater ecological function and less habitat fragmentation.

If the State updates the 2011 Terrestrial Prioritization Plan, it will evaluate whether the Timber Butte area should be considered a priority area where restoration actions could help meet the goals of the Terrestrial Restoration Plan.

Conservation Options - Stucky foothills, Fifer Gulch, Blue-eyed Nellie (#5 and #15)

Two commenters (#5 and #15) support conservation work and focus of NRDP in Anaconda. They are interested in conservation options for lands near Stucky Ridge, Fifer Gulch and Blue-eyed Nellie Gulch.

Response: These types of projects meet the criteria to be considered for funding from the Restoration Plans, section 4.2.4.7, the Anaconda Priority Landscape and are already included in the current Restoration Plans. NRDP, working with partners, considers these projects on a case-by-case basis as they become available.

3. Recreation Projects

Inventory and identify potential linkages between the recreational assets, opportunities, and river access points within the Upper Clark Fork River watershed (#8)

Project abstract (#8): Powell and Granite counties have partnered on a project that would inventory and identify potential linkages between the recreational assets, opportunities, and river access points within the Upper Clark Fork River watershed from Warm Springs to Drummond. This inventory would be presented in the form of a feasibility study. The inventory would identify existing facilities and/or access points, those currently in development, and those that have the potential to be developed in conjunction with restoration activities. The goal of the inventory would be to enhance and connect recreational assets in the watershed. The requested funds, \$210,900, would match a \$602,609 grant from federal sources.

Response: This project meets the criteria to be considered for funding from the Restoration Plans, section 5.2.1. Previous Advisory Councils have voiced their desire to develop a plan for

public recreational access within the Upper Clark Fork River Basin. In 2018, recreational-based projects were not funded because the NRDP, Advisory Council, Trustee Restoration Council, and the Trustee allocated available funds to injured aquatic and terrestrial resources. The State will consider this comment and evaluate it in the context of other priorities for funding to address the injured aquatic and terrestrial resources.

Silver Bow Creek Greenway Project Completion Funding (#10)

The purpose of this project (#10), submitted by the Greenway Service District (GSD), is to complete the Silver Bow Creek Greenway, the 26-mile corridor between Butte and Opportunity. The commenter referenced the CERCLA Record of Decision and the CERCLA remedy. Completion will provide the controlled, managed access needed to replace the lost recreational opportunities to the public, protect the investment in remediation and restoration, ensure ongoing protection of the restored habitats during recovery, and support educational opportunities for future generations. The applicant is requesting \$9.2 million from the Upper Clark Fork River Basin Restoration Fund as part of the 2023 Restoration Plans revision. This additional funding will complete construction of four trail segments, provide administrative fees and future operations and maintenance. Recent discussions with the GSD indicate they are preparing a revised proposal to present to the UCFRB Advisory Council and NRDP reducing the amount of funding requested focusing on needs for the next 3 to 4 years. Comment #12 supported continued funding of the Silver Bow Creek Greenway.

Response: This project meets the criteria to be considered for funding, although the GSD in 2012 was funded as a restoration action from the 2012 UCFRB Final Process Plan, and not the Restoration Plans, section 5.2.1. Although the commenter refers to the CERCLA remedy, this scoping and solicitation and response to comments does not address the CERCLA remedy being implemented by the Montana Department of Environmental Quality, which is outlined in the Explanation of Significant Difference and Record of Decision. This comment and response are solely related to restoration. As the applicant notes in their request, the GSD was previously allocated \$23.5 million from the UCFRB Restoration Fund for land acquisition, ecological restoration enhancements, and access feature construction. NRDP estimates approximately \$13 million of the \$23.5 million was specifically for trail land acquisition and access feature construction. In 2012, it was determined that \$8 million was needed for the GSD to complete the trail system, this funding was provided in the Final Process Plan. In 2022, GSD presented a budget to the UCFRB Advisory Council indicating a need of \$3.2 million to finish the trail system. Discussions with GSD and evaluation of the 2023 proposal suggests GSD's estimate of \$9.2 million is for the funding of all future costs including 4 segments of trail construction and amenities', land acquisition, inflation, administration and operation and maintenance costs. The State will consider this comment and evaluate it in the context of other priorities for funding to address the injured aquatic and terrestrial resources.

Milltown State Park (#14)

FWP (#14) requests \$425,000 for capital improvements (\$225,000) and support for operations (\$200,000) for the Milltown State Park. For more than a decade, the Overlook trail at Milltown State Park has been a popular destination to view and learn about the restored confluence of the Clark Fork and Blackfoot rivers. Following a geotechnical study to assess geologic conditions

FWP recently closed the Overlook trail due to signs of geologic instability in the form of cracks and small slides. The requested funds for capital improvements (\$225,000) would be used to relocate the Overlook trail to a safe location, close the old railroad tunnel, and replace the interpretive display at the Overlook. FWP has tracked visitation since 2020 and the Overlook has averaged 15,000 to 20,000 annual visits. The Clark Fork Watershed Education Program (CFWEP) alone has brought more 5,000 5th graders from Missoula County schools since 2014 to study remediation and restoration at the site. Also, FWP requests \$200,000 for additional operational support. FWP notes that the Milltown State Park is not funded by FWP's general fund allocations from the Legislature.

Response: This project meets the criteria to be considered for funding from the Restoration Plans, section 5.2.1. FWP has been allocated approximately \$5 million to develop and maintain the Milltown State Park, \$2.5 million in 2009 and \$2.5 million in 2012. Approximately \$600,000 of this funding remains. FWP has raised approximately \$1 million in matching funds from a variety of sources. The State will consider this project and evaluate it in the context of other priorities for funding to address the injured aquatic and terrestrial resources.

4. Education Projects

Clark Fork Watershed Education Program (#3)

This project (#3) proposed additional funding for the Clark Fork Watershed Education Program (CFWEP). CFWEP has been educating students within the UCFRB since 2004 about the restoration activities that have been occurring. Commenter requests \$2.2 million for four years of funding to allow the education programs to continue serving 2,000 students in the basin each year and give CFWEP time to carry out their funding diversification strategy. This funding will also ensure that another generation of students will be connected directly to the restoration process and will give CFWEP the foundation needed to secure the legacy of NRDP work. CFWEP has met past match requirements and this funding will give CFWEP time to become financially independent of funding from the restoration program. Comment #12 supported continued funding of CFWEP.

Response: This project meets the criteria to be considered for funding, although it has not previously been funded as part of the Restoration Plans. Previously, UCFRB Restoration Funds (\$2,021,5613 award/\$1,931,052 spent) were allocated to the CFWEP through the grants program (2008 – 2011). In the 2012 UCFRB Final Process Plan, \$4 million was placed in an Education Fund with Montana Board of Investments “earmarked for the long-term funding of CFWEP for at least 10 years, beginning in fiscal year 2014, and for no longer than 20 years.” In 2020, an additional \$1 million for funding was requested and awarded by the Trustee to fund the program through the 2023/2024 school year. This funding was provided as an amendment to the 2012 UCFRB Final Process Plan. CFWEP has received a total of approximately \$7 million from the UCFRB Restoration Fund to conduct educational services for the UCFRB. CFWEP has been required to provide a 50% match for the implementation of their program, which they have achieved. The State will consider this comment and evaluate it in the context of other priorities for funding to address the injured aquatic and terrestrial resources.

SECTION III. COMMENT SUMMARY AND RESPONSE BY CATEGORY

1. General support for Aquatic and Terrestrial Resources Restoration Plans (#5, #6, #12, #13, #15)

Five comments (#5, 6, 12, 13, 15) were submitted generally supporting the current Restoration Plans and how the plans are being implemented. One comment (#6) urged all involved to pull together for a healthy whole river and watershed. Two comments (#6 and #12) suggested NRDP move on implementation of projects faster, while two other comments (#5 and #15) supported the investments in the terrestrial resources near Anaconda. One commenter (#6) expressed concern about the impression that funding one restoration action deprives another restoration action and urged a holistic viewpoint that all impacted communities should be united by effective restoration actions.

Response: The State appreciates the comments. The NRDP agrees moving forward with projects is vital to restoring the injured resources; however, the pace of the projects is determined by many variables (landowners, permitting, prioritization, monitoring, etc.). NRDP has and will continue to work with landowners and partners to complete as many projects as possible as quickly as possible while ensuring high cost-benefit and cost-effectiveness. NRDP appreciates and agrees with a holistic viewpoint towards implementing restoration actions in the UCFRB.

2. Comment about integrating Remediation and Restoration (#12)

One comment (#12) was submitted asking for a commitment to integrating remediation and restoration specifically in relation to Butte Area One.

Response: NRDP agrees with the commenter about the benefits of integrating remediation and restoration. Specific to the commenter's reference to Butte Area One, NRDP is participating in the remedial action process with the intention of integrating restoration per the Butte Area One Restoration Plan and subsequent amendments, including the 2020 Butte Area One Restoration Plan Amendment. NRDP will continue that work consistent with the Butte Area One Restoration Plan and amendments.

3. Comments about the Clark Fork River Operable Unit (#6 and #11)

Two comments (#6 and 11) were received about the Clark Fork River Operable Unit. One specifically urging the State to complete the project as quickly as possible (#6) and the second comment (#11) asking for synergy between the UCFRB Aquatic and Terrestrial Resources Restoration Plans and the Clark Fork River remediation and restoration.

Response: The State has recently completed a Strategic Plan for the Clark Fork River Operable Unit. This plan provides details of the integration of remediation and restoration as well as a sequence and schedule of remediation and restoration activities. The State is moving this project forward on a schedule that is prudent considering the scope and size of the project.

NRDP is involved in implementing the restoration plans for both the UCFRB and the Clark Fork River. NRDP has and will continue to coordinate restoration actions from both restoration plans to benefit the resources of the UCFRB and the Clark Fork River. For instance, UCFRB Terrestrial projects have provided trees from conifer encroachment projects for use in constructing streambanks on the Clark Fork River project. Also, UCFRB flow projects have been integrated with the Clark Fork River construction project to maximize the use of available funds while providing the greatest resource benefit. NRDP plans to continue this integration.

4. Comment about development of restoration projects – Blacktail Creek and Basin Creek (#12)

One comment (#12) noted projects on Blacktail Creek and Basin Creek have taken several years to develop and should be a priority going forward. Building these faster will produce restoration benefits sooner.

Response: NRDP agrees building projects sooner will restore the natural resources sooner. NRDP utilizes various resources and methods to develop, design, and construct projects. Working with our project partners, contract engineers and scientists, and landowners we strive to complete projects as quickly as possible. For some projects there are complicated permitting and/or landowner issues that need to be addressed such as the Blacktail Creek projects. On other projects, landowners change their opinion on project implementation or timing after the project has been developed. These are risks NRDP takes; it is our goal to complete the highest priority projects as quickly and efficiently as possible.

SECTION IV. RECOMMENDED UPDATES AND REVISIONS TO THE RESTORATION PLANS

1. Revising process for Aquatic Flow projects (#6 and #13)

Two comments (#6 and #13) support the investment in the flow process in the Restoration Plans but suggest a revision to the flow approval process to allow greater flexibility in the development and completion of these projects. Both comments recommended revising the flow project framework to allow projects to proceed before or without formal leases or water rights changes. One comment (#6) supported maintaining the Aquatic Flow funding structure due to the critical need to improve flows in the Clark Fork River mainstem. One comment (#13) suggested authorizing a two-phased funding model for flow projects to allow partial upfront investments to fund infrastructure improvements that result in long-term water conservation, followed by final payments to water-user partners upon final authorization of water rights changes. This comment also supported NRDP's role within the Upper Clark Fork Stream Flow Group and the funding of the facilitator for this group.

Response: NRDP agrees that there are still numerous high-impact flow projects in development and maintaining the existing funding structure is essential to ensure there is funding available to restore critical flows to the dewater segments of the Clark Fork River and its tributaries. NRDP also agrees the process for development, approval, and implementation of Aquatic Flow projects needs to be updated to reflect current circumstances. NRDP, working with partners, will propose revisions to the Restoration Plans, section 3.2.1, allowing flow project to proceed before or in

some cases without a DNRC Change Authorization. The proposed process will continue to ensure appropriate due diligence and that UCFRB Restoration Funds secure flow benefits and achieve the appropriate cost- benefit analysis.

NRDP agrees with continued funding of the facilitator for the Upper Clark Fork Stream Flow Group and agrees that this workgroup provided a valuable forum for unifying multi-partner efforts to restore stream flows in the watershed.

2. Allocating funding to mainstem irrigation diversion projects (#6 and #13)

Two comments (#6 and #13) requested funding be allocated to projects that improve fish passage, reduce entrainment, and provide recreational boat passage on mainstem diversion dams. One comment (#6) stated that match funding is available for mainstem irrigation diversion projects.

Response: NRDP agrees that mainstem diversion projects that restore fish passage, reduce entrainment, and provide recreational boat passage are important. NRDP greatly appreciates the match funding partners have brought for these projects. NRDP will continue to work with landowners, water users and our project partners on these projects. To the extent practical these projects will be coordinated with remediation/restoration work to maximize use of available funds and provide the greatest resource benefits.

3. Focusing unallocated Aquatic and Terrestrial funds on the Clark Fork River upstream of Garrison (#6)

One comment (#6) proposes allocating available funding to priority tributaries and terrestrial priorities within Reach A of the Clark Fork River (above Garrison). Many excellent projects have been identified in these priority areas, but – to move them from concept to reality and realize their ecological and community benefits – they will require additional funding.

Response: NRDP will consider this comment when proposing the allocation of available funding. After consulting recently with FWP, the prioritization documents for aquatic and terrestrial resources for the UCFRB are still accurate. For instance, Gold Creek and Rock Creek are still very important tributaries to the Clark Fork River. NRDP and FWP plan to continue to monitor aquatic and terrestrial resources and propose allocations that will best meet the goals of the Restoration Plans.

4. Encouraging match funding (#13)

One comment (#13) stated that the restoration needs in the Upper Clark Fork exceed NRDP's available funding and NRDP should build strategies to include additional funding partners to meet the goals of the Plans.

Response: NRDP agrees the need for restoration funding exceeds the funds in the UCFRB Restoration Fund. NRDP is considering the best methods and steps needed to increase the amount of matching funds for projects while ensuring the highest priority projects are implemented in a timely manner, cost-effectively, and with the greatest cost benefit.

5. Fishery investigations and monitoring (#11 and #13)

Two comments (#11 and #13) supported the fish monitoring and investigations being funded by UCFRB Restoration Funds. These investigations should ensure limiting factors for the recovery of the aquatic ecosystem within Reach A of the Clark Fork River mainstem are understood and cost-effective implementation of on the ground projects focus restoration actions on meeting the primary goals of the aquatic restoration plan.

Response: Fishery monitoring meets the criteria to be considered for funding from the Restoration Plans, sections 3.2.2.1 and 3.2.3. NRDP and FWP appreciate this support, recognizing and understanding the limiting factors affecting the fish populations in the mainstems of the Clark Fork River and Silver Bow Creek are essential if we are to meet the goals of the Restoration Plans.

Appendix 1

List of Comments

List of Comments

No.	Individual/Association	City/Area
1	Steve Hill/Pintler's Portal Hostel	Anaconda, MT
2	Joanne Lee/Office of Sponsored Programs/MT Tech	Butte, MT
3	Rayelynn Brandl/Clark Fork Watershed Education Program	Butte, MT
4	Ted Dodge/Watershed Restoration Coalition	Deer Lodge, MT
5	Gary Ouldhouse/Anaconda Sportmen's Club President	Anaconda, MT
6	Karen Knudsen/ Clark Fork Coalition	Missoula, MT
7	Andy Fischer/Clark Fork Coalition	Missoula, MT
8	Amanda Cooley/Powell County Planning Director	Deer Lodge, MT
9	Dr. Alysia Cox/Montana Technological University	Butte, MT
10	Dori Skrukrud/Silver Bow Creek Greenway Project Manager	Butte, MT
11	Alex Leone/CFRTAC	Anaconda, MT
12	Jon Sesso	Butte, MT
13	Casey Hackathorn/Trout Unlimited	Missoula, MT
14	Michael Kustudia/Montana FWP Region 2 Recreation Manager	Missoula, MT
15	Bill Everett, Anaconda Deer Lodge County	Anaconda, MT

Appendix 2

Conceptual Restoration Project Proposals and Public Comment Letters

Comment #1

From: [Steve Hill](#)
To: [Natural Resource Damage Program](#)
Cc: [Martin, Douglas](#); [Ricci, Erin](#); [Unruh, Jody](#)
Subject: [EXTERNAL] Re: PUBLIC NOTICE: 2023 UCFRB Restoration Plans Revision/Scoping
Date: Monday, February 13, 2023 9:30:10 AM
Attachments: [1D062C62-2CD3-4D24-94DE-65043F486B76.png](#)

Thank you for the notice.

Can you please tell me how much unobligated funds are being considered during the revision process.

Thanks

Steve Hill

Steve Hill

Owner | Pintler's Portal Hostel



406-563-4555

steve@pintlersportal.com

pintlersportal.com

218 W. Park St, Anaconda, MT 59711



Your Base Camp

On Feb 10, 2023, at 8:47 PM, Natural Resource Damage Program
<nrdp@mt.gov> wrote:

Hello,

The State of Montana Natural Resource Damage Program (NRDP) has added a document to assist you with developing project proposals for the Upper Clark Fork River Basin Aquatic and Terrestrial Resources Restoration Plans (Restoration Plans). This document, *Aquatic & Terrestrial Priority Area Allocation Budget Summaries*, is located on the NRDP website: <https://dojmt.gov/lands/sites/upper-clark-fork-river-basin/> [dojmt.gov] under the tab LINKS, DOCUMENTS, & REPORTS.

Please remember, NRDP will be holding a public workshop to discuss the solicitation process and assist anyone interested in submitting a project. The workshop will be held virtually:

6:00 pm to 7:30 pm on Thursday, February 16, 2023

The to attend the meeting via Microsoft Teams. Refer to the memorandum for

information about the virtual meeting.

Thank you,

Meranda Flugge

Administrative Specialist, NRDP

From: Flugge, Meranda **On Behalf Of** Natural Resource Damage Program

Sent: Thursday, January 26, 2023 2:15 PM

To: Natural Resource Damage Program <nrdp@mt.gov>; Martin, Douglas <dougmartin@mt.gov>

Cc: Ricci, Erin <Erin.Ricci@mt.gov>; Unruh, Jody <Jody.Unruh@mt.gov>

Subject: PUBLIC NOTICE: 2023 UCFRB Restoration Plans Revision/Scoping

Hello,

The State of Montana Natural Resource Damage Program (NRDP) is preparing a revision to the Upper Clark Fork River Aquatic and Terrestrial Resources Restoration Plans (Restoration Plans). NRDP, acting on behalf of the Governor, is seeking public input from interested individuals and entities on the preparation of the restoration plan revision for priority aquatic and terrestrial restoration projects by soliciting proposals that will address the injury to the natural resources and help achieve the goals of the Restoration Plans. In addition, NRDP is scoping the issues that may be associated with implementation of any proposed restoration projects to ensure that all potential impacts on the human environment associated with the restoration plan are identified.

NRDP has prepared a memorandum that summarizes the project solicitation process, scope of the restoration plan revision, available resources to assist submitting project ideas, and describes how the public can participate in the presentation of the plan.

The memorandum is available on NRDP's website:

<https://dojmt.gov/lands/nrdp-public-notices/notices-of-public-comment/> [dojmt.gov]

Please send proposals, questions, and concerns to:

Montana Natural Resource Damage Program

1720 9th Ave.

P.O. Box 201425

Helena, MT 59620-1425

(406) 444-0205

nrdp@mt.gov

Please put "2023 UCFRB Restoration Plans Revision/Scoping" in the subject line.

Proposals must be submitted by March 3, 2023, at 11:59 pm.

In addition, NRDP will be holding a public workshop to discuss the solicitation process and assist anyone interested in submitting a project. The workshop will be held virtually:

6:00 pm to 7:30 pm on Thursday, February 16, 2023

The to attend the meeting via Microsoft Teams. Refer to the memorandum for information about the virtual meeting.

Meranda Flugge
Administrative Specialist
<image001.jpg>

1720 9th Ave.
Helena, MT 59601
406-444-0229 | 406-444-0236 (fax)
Meranda.Flugge@mt.gov
[NRDP Home - Montana DOJ \(dojmt.gov\)](#)
[\[DOJMT.SDR\]](#)

Comment #2

From: [Lee, Joanne](#)
To: [Natural Resource Damage Program](#)
Subject: [EXTERNAL] 2023 UCFRB Restoration Plans Revision/Scoping
Date: Thursday, February 23, 2023 8:03:46 AM

Good Morning,

We have some employees interested in submitting a proposal for the 2023 UCFRB Restoration Plans Revision/Scoping.

I just have a couple of quick questions on the budgets.

1. Is cost share required?
2. If MT Tech were selected for funding would this fall under our current Master Agreement 700146? Specifically I want to make sure we are using the correct IDC rate as well allow for tuition per the agreement.

Thank you,
Joanne

JOANNE LEE

Director, Office of Sponsored Programs

406.496.4769 | jlee@mtech.edu

Montana Tech



[\[mtech.edu\]](http://mtech.edu)



Clark Fork Watershed Education Program

Project Contact
Rayelynn Brandl, Executive Director
406-496-4898
rbrandl@mtech.edu

Project Purpose and Benefits

The Clark Fork Watershed Education Program (CFWEP) and our partner program, the Bird's Eye View Education Program request \$2.2m in funding be allocated to the education fund. This allocation will allow the programs to continue serving 2,000 students in the basin each year and give us room to carry out our funding diversification strategy. Our strategies are in play currently but take time to develop fully. We have met our match requirements, but have not met the dollar amount required to replace NRDP funds, which represents 50% of our operating budget. Our Development Plan includes developing fee-based curriculum products; building relationships with large donors through sponsorship and giving; completing and funding large-scale national grants; and designing fee-for-service program offerings. Without continued funding, the program is at risk of ending in 2024, ending the NRDP's legacy programming for students.

Why is CFWEP important? The story of restoration within the Clark Fork Watershed needs to be shared for generations. When the program first began, the parties of the time recognized that we need a functioning ecosystem, and we need industry. CFWEP illustrates the impacts, restoration, and resilience of both. Our curriculum focuses on the science of restoration and the importance of partnering with industry leaders, engineers, and scientists to avoid future environmental issues. CFWEP serves communities throughout the Clark Fork Watershed and has expanded across Montana. We focus on place-based environmental education through student programs, teacher professional development, and public engagement and outreach. We honor the legacy of our great basin and its role in the development of the nation, engaging students in understanding their history while participating in the monitoring of restored waters and landscapes. Our role is that of educators and scientists, as such, we are non-advocational and support both industry and the conservation of natural resources. We need both for strong communities. In 2012, both councils recognized the value of CFWEP, citing that in terms of the legacy that would be left behind, CFWEP was likely the most important. **In 2012, the Trustee Restoration Council, made an amendment to the process plan, stating:**

"The TRC recommends that Section 7.2 of 2012 Final Interim UCFRB Restoration Process Plan be amended to provide for a \$4 million allocation from the interest earnings of the UCFRB Restoration Fund to a separate account, in the nature of an annuity, earmarked for the long-term funding of CFWEP for at least the next 10 years, beginning in fiscal year 2014, and for no longer than 20 years. This interest allocation would be allocated in \$2 million increments over two years and be split between three resource funding categories in the same proportions as specified for CFWEP funding in the 2012 Process Plan. This education account would accrue interest." (UCFRB Aquatic and Terrestrial Resources Restoration Plan Jan. 2019)

CFWEP was specifically cited within the process plans and granted the credibility and stature of providing education and outreach within the basin on behalf of the NRDP councils. CFWEP was also tasked with providing evaluation results and outcomes to the councils every two years to ensure that the program was meeting the milestones set forth, updating and refreshing curriculum as restoration progressed, and meeting the 50% match requirements for the programming. CFWEP has met or exceeded all deliverables each contract year since the formal adoption into the 2012 plan, a feat that is remarkable in both traditional contractual relationships and large-scale national grants. Regardless of obstacles, including the challenges COVID-19, CFWEP has delivered.

CFWEP is about to pass the ten-year mark of minimal funding as set in the quoted process plan amendment. We are requesting \$2.2m in funding currently. This funding will ensure that another generation of students will be connected directly to the restoration process. In addition, this funding will give us the foundation we need to secure the legacy of NRDP work and become financially independent of funding from the restoration program.

Since inception, CFWEP has built a legacy of place-based education reaching 76,069 students through 291,746 direct contact hours. In addition, we have trained 901 teachers and served 43 Montana communities. Our work has been recognized at the state, the regional, and the national levels. We employ a Fulbright scholar, a two-time presidential awardee in education, and a nationally recognized leader in informal education. In total, CFWEP has accrued 22 national and regional awards. This additional funding request will help CFWEP position to create legacy curricula and pipeline programming that will serve the basin for generations.

The benefits of an educated, active, and informed citizenry extend far into the long-term. Because of the magnificent work of the NRDP, many students do not know the yellow hills or slickens areas of the past, rather they are privileged to see restored and functioning riparian areas. CFWEP's legacy programming is likened to the Greek proverb, "Society grows great when old men plant trees whose shade they know they shall never sit in." Without CFWEP helping the next generation understand how hard-fought this restoration was, will they step into the shoes of those of us who have spent our careers ensuring that those trees are there, providing that shade? Or will those future generations take for granted all that has been provided? Our goal is to make sure that our shoes are filled by active and informed citizens. We have evidence that our efforts toward this goal have worked and that we are attaining this vision.

Many of our former students are now working as restoration ecologists, environmental engineers, conservation leaders, and civic leaders. These citizens use the model of the Clark Fork to inform their work, citing that the knowledge and experiences gained in the outdoor laboratory of the Clark Fork were transformational. Others are citizens of the basin and retain the wisdom of our history, the processes of our present, and the resiliency of our future. Students retain CFWEP curriculum knowledge and outperform students without CFWEP exposure in place-based knowledge and understandings (Brandl, et al., 2019).

In Clark Fork basin schools, our principals and teachers cite that without CFWEP's services, they are ill-prepared to continue the programming at the level currently provided. Montana school budgets are strained beyond capacity and costs for busing, supplies, and the technical equipment needed to carry out the streamside experiments are prohibitive. CFWEP also provides robust teacher professional development. Without high-quality professional development, teachers are unlikely to develop programming of their own accord. In contrast, many teachers who have left CFWEP target schools, have carried this information and knowledge to other river systems, implementing CFWEP-like programming in other areas of the state. Currently, many basin schools, like schools around the nation, are experiencing high turn-over in their teaching ranks. Amongst the CFWEP target schools, six core teachers have changed roles or left the profession. In 2023, two of our legacy teachers, Kathy Foley (Butte), and Darcy Schindler (Drummond), who have both been champions of CFWEP in their communities and have been with the program since inception will retire. Both teachers are concerned that without CFWEP service in the classrooms, future students will not be educated about what has happened in the Clark Fork Watershed. Kathy Foley reflected on the legacy of her teaching and CFWEP at her last field trip this fall, citing:

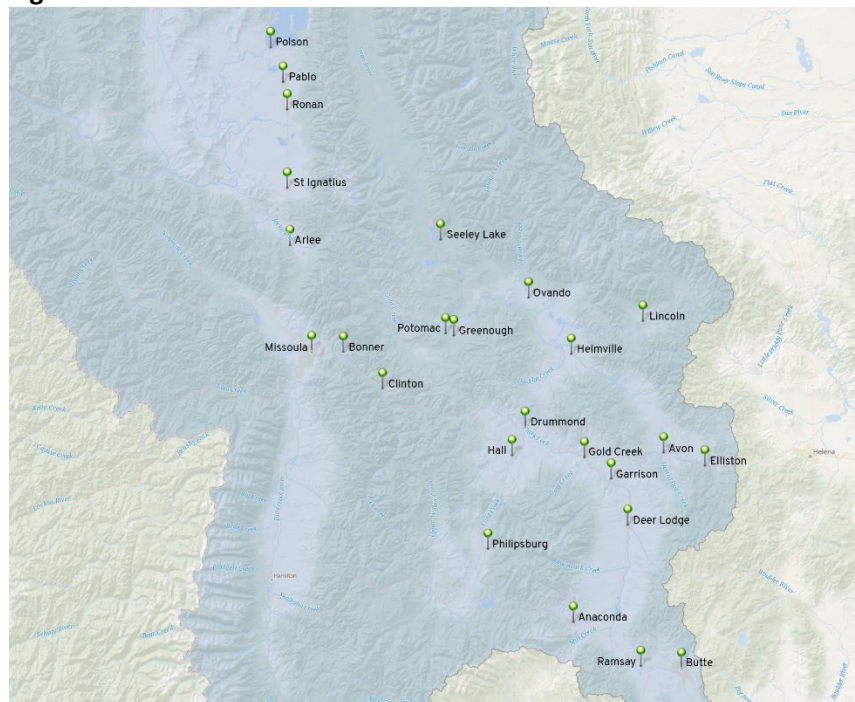
"I have seen many of my students go on to pursue careers in science, like Chris Doyle, who spent years working for CFWEP and is now at the Rocky Mountain Elk Foundation, and Kerrie Berger, who is a Fish Culture Specialist with Montana Fish, Wildlife, and Parks. You're hoping it wasn't just because of you, but the curriculum you taught touched them enough to want to say. 'You know, I'd like to go into this. I think this is worthwhile, and I understand what this all means,'" CFWEP will provide targeted professional development in 2023, but without continued funding, there will not be follow-up years for the new teachers who fill these teaching positions.

Project Location

The funds from the NRDP councils will be utilized exclusively within the basin within the communities mapped in Figure 2. However, through the partnership grants and match funding, the program partners have successfully helped teachers throughout the state create place-based programming utilizing the Clark Fork Basin model.

The program has used match funds as a resource to support the core NRDP projects and to expand to other school districts in Montana. This expansion has led members of the council to question if NRDP funds are being spent in other areas, which they are not. Rather, the match funds enable CFWEP staff members to provide professional development for basin teachers and other school district teachers.

Figure 2



Teachers within the basin and outside the basin utilize the story of the Clark Fork as the driving motivation for their students to learn about and help ensure the healthy balance of industry and ecology within their local landscape. For example, teachers in Livingston School District now study Butte history as part of their integrated science and social studies curriculum. Students clean up the town's Fleshman Creek as a tributary of the Yellowstone River with Butte as the model of resilience. The Clark Fork clean-up is an example of citizens

collaboratively innovating environmentally sound economic solutions for all Montanans with industry intact.

CFWEP has created a robust and diverse model of education. **As the program makes this next request, the program partners and leaders are willing to co-create new deliverables and expectations with the NRDP councils, including development of a pipeline project for CFWEP K-12 students to college and technical careers.** CFWEP has pieces of this pipeline in place at both University of Montana (UM) and Montana Technological University (Montana Tech). The program partners would like to see more robust high school and undergraduate research projects become part of the program offerings. Pairing with engineers and scientists currently working within the Clark Fork could provide an excellent addition to the program and meet the goals of workforce development and authentic engagement with the restoration. Our partnerships with UM Bird Ecology Lab (UMBEL) and Raptor View Research are ripe for authentic research experiences during the Birds Eye View and Osprey programming days. The pipeline programming would further the council's goals of ensuring monitoring of newly restored areas is on-going too. Graduate and Undergraduate students could be employed through Montana Tech's Restoration Ecology Program and be fully supervised by CFWEP scientific mentors.

Long-term teacher training has historically been funded through national grant partnerships which have reproduced the restoration story. We are pursuing two national grants for K-12 education and teacher professional development. One grant pursuit is a partnership with the National Lab of Idaho, the University of Alaska, and the engineering department of Montana Tech. The heart of the grant is Butte's story of ingenuity in the environment for a healthy ecosystem and economy. The second grant pursues K-12 curriculum modules that will feature the Clark Fork story as the backbone of the curriculum, utilizing the science of the Clark Fork Watershed restoration, osprey monitoring, and wildlife management/migration as tools to motivate students in science and math. We have partners in the US Forest Service, Fish, Wildlife and Parks, Butte Public Schools, Missoula Public Schools, Livingston Public Schools, Montana Tech, University of Montana, and Montana State University. The goal of the grant is to create modules that are sustained by contracted services with forever scholarships to Clark Fork Watershed schools.

Project Schedule

The program will continue to operate twelve months per year, offering both summer and school-year programming as currently outlined. The two-year cycle for contracting, evaluation overview and assessment of program priorities is proposed to continue as currently implemented. Should the councils determine that funding for CFWEP programming continue, the partners request that funds be allocated to the education fund as soon as possible to maximize interest earnings. However, the partners are amenable to the councils' schedule and funding needs.

General Cost Information:

We initiated our Development Plan to completely replace NRDP funding in 2020. The plan includes creating a sustainable funding portfolio of private donors, private foundations, contract-based services, and fee for service offerings. During the pandemic years, the program was able to grow from 1% of total funding from private donors to 6% from private donors. Although this number is certainly not enough to replace the NRDP funding, it is indicative that the program can continue to build out this piece of the funding portfolio, especially given that this growth happened when the program partners were not able to meet with funders one-on-one, nor host events to generate donations. Our detailed plan is available for council members and NRD staff to review upon request. In summary, we have completed the following tasks: 1) created a Leadership Giving Society for donor recruitment and recognition; 2) secured a \$60,000 match grant for development from the Dennis and Phyllis Washington Foundation; 3) partnered with the Montana Tech Foundation to increase visibility and participation in our annual auction and Day One Giving events; 4) elevated our clean up days to be a sponsored event called Earth Month; and 5) enlisted an Executive Leadership Team composed of Montana business leaders who are invested in the continuity of CFWEP programming. The national grant and pipeline projects described above are part of our development plan as well. Although there is much work to be done, we are confident we can attain our funding goals given additional support from NRDP. With restoration projects projected into 2035, it is critically important that CFWEP continue its work within the basin. As such, our advisory board, executive leadership team, and staff team are committed to meeting our funding targets beyond 2024.

The overall budget is provided in Appendix A. A detailed budget with individual line items for each category can be provided should this abstract be put forth for funding. CFWEP proposes to utilize the same contract schedule (every 2 years) as currently in place, with the first contract from new funding coming in 2024. CFWEP has maintained 50% match funds since our inception. Currently, NRDP funding makes up 48% of our total operating budget, and we propose to continue this arrangement.

Although we would like to request another ten years of funding at our current contract rate, we acknowledge that funds for the restoration work are diminishing, and interest earnings in the current market have not been as robust as in years past. **At this time, we are requesting four years of funding, totaling \$2,200,076 which represents an overall cost reduction of 3.4% from the current contract,** with anticipated inflationary and cost of living increases incorporated into the new budget forecast. We do not intend to cut programming currently offered, rather we intend to provide additional match to ensure current levels of programming.

CFWEP is required per the existing contract to provide service for 2,000 students. We have exceeded this deliverable each year of programming. In 2022, we served 3,043 students in the basin. The total number of direct service hours provided for outreach activities in the basin for 2022 was 13,469 hours. The costs associated for direct service, including travel, supplies, and administrative costs, amount to approximately \$27.81 per hour. Without administrative costs, the rate is \$23.11/hour. To give context, educational professional consultants charge an average of \$50/hour. The Montana Office of Public Instruction has contracted with CFWEP historically and offered the program a rate of \$44.07/hour for services.

Through our extensive partnerships, CFWEP has also recruited professional scientists as volunteers for the field trips, ensuring that students can connect with role models and practicing experts. These volunteers include persons from Fish Wildlife and Parks, Northwestern Energy, MONTANA TECH's departments of Geology, Biology, Restoration Ecology, and Bureau of Mines, the University of Montana Bird Ecology Lab, Raptor View Research, the Washoe Fish Hatchery, the Department of Environmental Quality, and the Natural Resource Damage Program. These scientists and engineers volunteer their time, providing approximately 329 hours of service in 2022. Using the federal volunteer rate of \$24 per hour, this service alone amounts to \$7,900 in cost savings for the program. As an example of the true value of these services, Northwestern Energy's rate for bucket trucks provided during our Osprey programming is \$200/hour for the truck, plus an additional \$58/hour for each lineman. This service is offered in-kind to the programming, for at least six outreach days during the summer.

The proposed budget replicates the existing contract structure and requests cost of living adjustments (COLA) in year one only. The Bird's Eye View Education Program subcontract remains as proposed in the current 22-24 contract with no adjustments for salary or other increased costs. CFWEP employs seven full-time employees. The budget reflects the following FTE allocation for **salary and benefits**: Executive Director, 0.45, Partnership and Evaluation Director, 0.45; Field Coordinators (Missoula and Butte), 0.75; Communications Coordinator, 0.7; and budget analyst/administrative, 0.55. There is no FTE for CFWEP's Development Director, as that position will be exclusively funded from private donations and grants. **Contracted services** include fees for busing, substitute costs, printing, lab fees for blood and feather analysis for osprey program, and the osprey sub-contract. **Supplies and Materials** includes costs for upgrading water quality monitoring equipment over the proposed four years, minor classroom and field trip supplies, and osprey program consumables. **Travel** costs are calculated for field trips, classroom visits, osprey nest monitoring days, and partnership meetings with principals and school districts. There is no out-of-state or conference travel planned with this budget. **Communications** includes fees for postage and minor media outreach for public events. The **Other/Miscellaneous** category includes minor costs for maintenance of the CFWEP website, fees for hosting a Watershed Corps Member, and some staff educational fees. **Indirect Costs** for Montana Tech are 33.5%. The university will forgo their allowed indirect costs of 33.5%, instead offering a negotiated rate of 12.5% on direct costs for Montana Tech, and 5% on the UM Subcontract. These unrecovered indirect costs represent savings of \$340,772 over the four years requested.

Appendix A: Proposed Budget for FY 25-28

Expense Category	Expense	Notes	FY 25	FY 26	FY 27	FY 28	BEVEP 25	BEVEP 26	BEVEP 27	BEVEP 28
Salary & Wages		3.65 FTE	\$ 225,236	\$ 236,625	\$ 236,625	\$ 236,625				
Fringe Benefits		Health ins.+withholding	\$ 111,610	\$ 115,849	\$ 115,849	\$ 115,849				
Contracted Services		Buses, substitues,Osprey program costs	\$ 23,550	\$ 23,550	\$ 23,550	\$ 23,550				
	Contract to Missoula BEVEP						\$ 89,170	\$ 89,170	\$ 89,170	\$ 89,170
Supplies & Materials			\$ 9,000	\$ 9,000	\$ 9,000	\$ 9,000				
Commuications			\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500				
Travel		Travel to schools	\$ 14,314	\$ 14,314	\$ 14,314	\$ 14,314				
Other/Miscellaneous		Watershed Corps member	\$ 8,750	\$ 8,750	\$ 8,750	\$ 8,750				
Total Direct Costs - Butte CFWEP			\$ 393,960	\$ 409,588	\$ 409,588	\$ 409,588				
Total Direct Costs - Missoula CFWEP							\$ 89,170	\$ 89,170	\$ 89,170	\$ 89,170
MT Tech Indirect Costs		12.5% of direct costs	\$ 49,245	\$ 51,199	\$ 51,199	\$ 51,199				
MT Tech Indirect Costs on the U of M subcontract		5% of direct costs					\$ 4,459	\$ 4,459	\$ 4,459	\$ 4,459
TOTAL			\$ 443,205	\$ 460,787	\$ 460,787	\$ 460,787	\$ 93,629	\$ 93,629	\$ 93,629	\$ 93,629
Total Request		\$ 2,200,079								

Baggs Creek pivot and pipeline (McQueary).

Project Applicant: Ted Dodge, WRC Executive Director

406-579-3762

ted.dodge516@gmail.com

1109 Main Street Deer Lodge, Montana 59722.

Project Purpose and Benefits:

The Project would eliminate another diversion on Baggs Creek and provide a screened intake for a 91-acre pivot project operating on gravity pressure. This project has always been a NRDP high priority project for Cottonwood Creek drainage. The benefits include water savings --reduction from 4.5 CFS flood water diversion to 1.6 CFS pipeline (3 CFS water savings), a fish screen for this pipeline, and elimination of the surface water diversion on Baggs Creek at Emery Road. Baggs Creek is a robust westslope cutthroat population, and tagged cutthroat have ascended the new Baggs Creek step-pool system installed in 2019 when the new Cottonwood fish screen and canal bypassed Baggs Creek.

Project Location: less than $\frac{3}{4}$ of a mile above the Baggs creek confluence with Cottonwood creek. See attached map.

Project Description: Project would eliminate another diversion on Baggs Creek, and provide a screened intake for a 91-acre pivot project operating on gravity pressure.

Integration/Coordination with Restoration Plans: This project has always been a NRDP high priority project for Cottonwood Creek drainage.

Project Schedule: The project will require two years to design contract & completion from the date of the NRDP approval to its completion.

General Cost Information: Requires 4200 ft. of 10" pipeline, and two pivots, for a total estimated construction cost of \$217,000 (Watson Irrigation, January 2021). is estimated that the entire project from design project management, oversite & construction will be \$30,000 /CFC for an estimated Total cost of (\$60,000.00)

Kohrs Manning Ditch passage

Project Applicant: Ted Dodge, WRC Executive Director

406-579-3762

ted.dodge516@gmail.com

1109 Main Street Deer Lodge, Montana 59722.

Project Purpose and Benefits:

This project would involve passing the ditch (25 CFS) by Cottonwood Creek, then screening the ditch and any supplemental Cottonwood Creek water diverted (3-8 CFS, may be negotiable).

Project Location

At the confluence of Cottonwood Creek with the Clark Fork River. **See attached map.**

Project Description:

The project would involve a screen with a siphon or overpass for KM Ditch. Any work on KM diversion in river should definitely not be billed to Cottonwood Creek, as that is a separate issue.

Integration/Coordination with Restoration Plans: This project has been a proposed NRDP project for Cottonwood Creek drainage.

Project Schedule: The project will require two years to design contract & completion from the date of the NRDP approval to its completion.

General Cost Information:

The screen would be approximately \$400,000, while a siphon or overpass for KM Ditch would be at least \$100,000. Additional diversion work on Cottonwood would be another \$40,000. Engineering costs: \$100,000, for a total of \$640,000.

RC Dippold Diversion Project

Project Applicant: Ted Dodge, WRC Executive Director

406-579-3762

ted.dodge516@gmail.com

1109 Main Street Deer Lodge, Montana 59722.

Project Purpose and Benefits:

This diversion takes up to 30 CFS at high water, and is the most senior water right on Cottonwood, taking at least 3 CFS all summer, even in low water, sometimes drying up the creek. This canal has entrained westslope cutthroat trout and other fish according to FWP.

Project Location

Three miles upstream of Deer Lodge on Cottonwood Creek just upstream of Sherm Anderson driveway. See attached map.

Project Description: Confluence/NRDP have a conceptual design for a new diversion and fish screen.

Integration/Coordination with Restoration Plans: This project has been a proposed NRDP project for Cottonwood Creek drainage.

Project Schedule: The project will require two years to design contract & completion from the date of the NRDP approval to its completion.

General Cost Information: Base on the conceptual plan would cost more or less \$400,000 depending on options selected.

Cottonwood Creek Project Map

Kohrs-Manning Irrigation Diversion
RC Dippold Irrigation Diversion
McQueary Baggs Creek Irrigation Diversion
March 1, 2023




Kohrs-Manning Diversion

Deer Lodge

RC Dippold Diversion

McQueary Baggs Creek Diversion

Legend

-  Deer Lodge Golf Course (aka Deer Park?)
-  Diversion Sites
-  Grant-Kohrs Ranch National Historic Site

Dallaserra, Cote-Myers Bull Run Diversion Structure #6 Project

Project Applicant: Ted Dodge, WRC Executive Director

406-579-3762

ted.dodge516@gmail.com

1109 Main Street Deer Lodge, Montana 59722.

Project Purpose and Benefits

The proposed project is a continuation by the WRC, & Mile High CD to improve fish passage, and reduce entrainment in the Browns Gulch watershed. The public benefit will be the increased improvement in the Browns Gulch fishery for environmental & recreational benefits.

Project Location: See attached map

Project Description:

The Project involves replacing the existing diversion(s) with a pin-and-plank structure. The structure will allow check boards to be removed during non-irrigation season, allowing the channel to flow freely through the structure with no obstructions or backwater that may hinder fish passage. A corrugated water screen (CWS) was selected as an alternative because of the passive nature of the design and minimal head requirements needed for screening. WRC will be the lead entity in partnership with the landowners, Mile High CD, FWP & NRDP. Other than identifying the [potential project in conjunction with the landowners & Mile High CD no other progress has been made at this time.

Integration/Coordination with Restoration Plans:

Project Schedule: The project will require two years to design contract & completion from the date of the NRDP approval to its completion.

General Cost Information:

The estimated project costs are derived from past completed & planned similar diversion projects in the upper Clark Fork. It is estimated that the entire project from design project management, oversight & construction will be \$20,000 /CFC for an estimated Total cost of \$40,000.00

Dallaserra, Cote Stream Diversion Structure # 5 Project

Project Applicant: Ted Dodge, WRC Executive Director

406-579-3762

ted.dodge516@gmail.com

1109 Main Street Deer Lodge, Montana 59722.

Project Purpose and Benefits The proposed project is a continuation by the WRC & Mile High CD to improve fish passage and reduce entrainment in the Browns Gulch watershed. The public benefit will be the increased improvement in the Browns Gulch fishery for environmental & recreational benefits.

Project Location. See attached map.

Project Description: The Project involves replacing the existing diversion(s) with a pin-and-plank structure. The structure will allow check boards to be removed during non-irrigation season, allowing the channel to flow freely through the structure with no obstructions or backwater that may hinder fish passage. A corrugated water screen (CWS) was selected as an alternative because of the passive nature of the design and minimal head requirements needed for screening. WRC will be the lead entity in partnership with the landowners Mile High CD, FWP & NRDP. Other than identifying the [potential project in conjunction with the landowners & Mile High CD no other progress has been made at this time.

Integration/Coordination with Restoration Plans: The proposed project will keep the ongoing effort to improve fish passage & reduce entrainment in the Browns Gulch watershed. With completion of this project and the other similar projects being proposed by the WRC, Mile High CD and the landowners a majority of the diversions on Browns Gulch will be improved.

Project Schedule: The project will require two years to design contract & completion from the date of the NRDP approval to its completion.

General Cost Information: The estimated project costs are +derived from past completed & planned similar diversion projects in the upper Clark Fork. It is estimated that the entire project from design project management, oversight & construction will be \$30,000 /CFC for an estimated Total cost of (\$30,000.00)

Duhame, Malyevac Structure #3 Project

Project Applicant: Ted Dodge, WRC Executive Director

406-579-3762

ted.dodge516@gmail.com

1109 Main Street Deer Lodge, Montana 59722.

Project Purpose and Benefits:

The proposed project is a continuation by the WRC & Mile High CD to improve fish passage, and reduce entrainment in the Browns Gulch watershed. The public benefit will be the increased improvement in the Browns Gulch fishery for environmental & recreational benefits.

Project Location: See attached map.

Project Description: The Project involves replacing the existing diversion(s) with a pin-and-plank structure. The structure will allow check boards to be removed during non-irrigation season, allowing the channel to flow freely through the structure with no obstructions or backwater that may hinder fish passage. A corrugated water screen (CWS) was selected as an alternative because of the passive nature of the design and minimal head requirements needed for screening. WRC will be the lead entity in partnership with the landowners Mile High CD, FWP & NRDP. Other than identifying the [potential project in conjunction with the landowners & Mile High CD no other progress has been made at this time.

Integration/Coordination with Restoration Plans: The proposed project will keep the ongoing effort to improve fish passage & reduce entrainment in the Browns Gulch watershed. With completion of this project and the other similar projects being proposed by the WRC, Mile High CD and the landowners the majority of the diversions on Browns Gulch will be improved.

Project Schedule: The project will require two years to design contract & completion from the date of the NRDP approval to its completion.

General Cost Information: The estimated project costs are +derived from past completed & planned similar diversion projects in the upper Clark Fork. It is estimated that the entire project from design project management, oversight & construction will be \$30,000 /CFC for an estimated Total cost of (\$60,000.00)

Middle Browns Gulch Project Map

Irrigation Diversion Structures
March 1, 2023

Duhamel-Malyevac Diversion Structure #3

Hail Columbia Gulch

Dallaserra-Cole Diversion Structure #5

Browns Gulch


Dallaserra-Cote-Myers Diversion Structure #6

Bull Run Creek

Hail Columbia Gulch Rd

Hail Columbia Gulch Rd

Legend

 Diversion Structures

Google Earth



2000 ft

Pizanti Beaver Mimicry Projects

Project Applicant: Ted Dodge, WRC Executive Director

406-579-3762

ted.dodge516@gmail.com

1109 Main Street Deer Lodge, Montana 59722.

Project Purpose and Benefits

The original Beaver Mimicry projects (BDA's) were established in 2017. The landowner now wishes to expand the projects while also performing maintenance on the original projects. The projects have had a beneficial impact on late season flows in Browns Gulch, as well as enhanced riparian vegetation in the project area due to increased groundwater. With expansion of the project the landowner wishes to expand the project into another branch of Browns Gulch just downstream of the original projects. The NRCS has placed a life expectancy of 5 years on BDA's. Recent field review of past NRDP funded BDA's also point to the need to perform maintenance after a five year period to continue the beneficial impact of the BDA's. Improvement to late summer flows and the enhanced riparian habitat in the project area will improve the environmental and recreational value to the public.

Project Location: See attached map.

Project Description:

The project involves the maintenance and expansion of Beaver mimicry projects in the upper Browns Gulch reach of the watershed.

Integration/Coordination with Restoration Plans:

The project continues the ongoing restoration work in Browns Gulch to improve the fishery, riparian areas and improve late season flows.

Project Schedule: The project will require one field season to carry out a wetland determination for Army Corp 404 permits as well as planning and design. Construction could begin in late summer of the second year.



General Cost Information:

Project cost estimates were derived from researching costs of recent Beaver mimicry projects in the upper Clark Fork Basin. The estimated cost per foot for the wetland determination securing the Army Corp 404 permits, bidding, contracting, project management, oversight & construction is \$22 / foot of stream for a total project cost of 2,500 ;linear ft. @ \$22/ft. \$55,000.00

Browns Gulch Project Map


Pizanti Beaver Mimicry - 2,500 feet
Location: Lat. - 46.08.53 Long. - 112.33.25
March 1, 2023

Legend

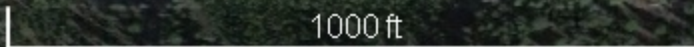
-  Beaver Mimicry - Pizanti
-  Feature 1

Pizanti Beaver Mimicry - 2,500 ft

Browns Gulch



N



1000 ft

Ueland Hardened Stream Crossings Projects

Project Applicant: Ted Dodge, WRC Executive Director

406-579-3762

ted.dodge516@gmail.com

1109 Main Street Deer Lodge, Montana 59722.

Project Purpose and Benefits:

The projects are being proposed to reduce livestock damage at existing non-hardened stream crossings. The goal of the projects is to reduce bank erosion and sediment into Browns Gulch watershed. Reduction of sediment will improve the browns gulch watershed and improve fish habitat.

Describe how the project or revision would benefit aquatic or terrestrial resources within the Upper Clark Fork River Basin (UCFRB), and/or benefit the public's use and enjoyment of those resources.

Project Location:

Project Description: Describe the components of the project and how it will be implemented. Also indicate any suggested lead entity and project partners for implementing the project. Indicate what progress, if any, has been accomplished to date on the project.

The four (4) hardened stream crossings will be built to NRCS practice standards The Ueland Ranches will build the projects

Example project



Integration/Coordination with Restoration Plans:

The proposed projects are located in the lower reach of Browns Gulch. The increased stream bed and bank protection afforded by the projects will have a direct beneficial impact on both the lower reach of Browns Gulch but also reduce the sediment transported to Silver Bow Creek.

Project Schedule:

The projects can be constructed in the summer or early fall 2024 or 2025 upon NRDP approval.

General Cost Information:

Total Project costs including project management oversight and construction are estimated to be \$28,800.00. These costs are based on actual construction costs at other upper Clark Fork Basin projects in the last three years.

Ueland Stream Diversion/Fish Passage Projects

Project Applicant: Ted Dodge, WRC Executive Director

406-579-3762

ted.dodge516@gmail.com

1109 Main Street Deer Lodge, Montana 59722.

Project Purpose and Benefits:

The proposed project is a continuation by the WRC & Mile High CD to improve fish passage, and reduce entrainment in the Browns Gulch watershed. The public benefit will be the increased improvement in the Browns Gulch fishery for environmental & recreational benefits.

Project Location: See attached map for the location of the 3 diversion structures.

Project Description: The Projects involves replacing the existing diversion(s) with a pin-and-plank structure. The structure will allow check boards to be removed during non-irrigation season, allowing the channel to flow freely through the structure with no obstructions or backwater that may hinder fish passage. A corrugated water screen (CWS) was selected as an alternative because of the passive nature of the design and minimal head requirements needed for screening. WRC will be the lead entity in partnership with the landowners Mile High CD, FWP & NRDP. Other than identifying the potential project in conjunction with the landowners & Mile High CD no other progress has been made at this time.

Integration/Coordination with Restoration Plans: The proposed projects will keep the ongoing effort to improve fish passage & reduce entrainment in the Browns Gulch watershed. With completion of this project and the other similar projects being proposed by the WRC, Mile High CD, and the landowners a majority of the diversions on Browns Gulch will be improved.

Project Schedule: The projects can be completed by 2025 if design work is started in 2024. Uelands are capable to build the project.

General Cost Information: The estimated project costs are derived from past completed & planned similar diversion projects in the upper Clark Fork. It is estimated that the entire project from design project management, oversight & construction will be \$20,000 /CFC for an estimated Total cost of \$80,000.00

Provide an estimate of total project costs. If possible, provide a categorical breakdown of the costs for the following categories: salaries/benefits; contracted & services; supplies and materials; travel and communication; equipment; or other (specify). Indicate committed or anticipated matching funds. Send Information no later than Friday March 3, 2023, to

Ueland Stream Relocation Project

Project Applicant: Ted Dodge, WRC Executive Director

406-579-3762

ted.dodge516@gmail.com

1109 Main Street Deer Lodge, Montana 59722.

Project Purpose and Benefits: The proposed project is the continuation of a stream restoration project on the mainstem of Brown Gulch. The first phase was completed using Montana Department of Environment funds and landowner match. The remaining reach (400 yards) is deeply incised with eroding banks that contribute an excessive sediment load to lower Browns Gulch,

Project Location: See attached map.

Project Description: The project would consist of relocation of the second reach with willow and shrub plantings on the reestablished stream banks. The landowner constructed the phase project & is capable of completing the second phase as well.

Integration/Coordination with Restoration Plans: The proposed project reach is the most incised and eroding stream reach on the entire length of Browns Gulch watershed. The restoration would eliminate the largest sediment load currently existing in lower Brown Gulch.

Project Schedule: The project could be accomplished in late summer of 2025 if planning was initiated in 2024.

General Cost Information: The project costs are based on the earlier project costs with an increased cost for inflation added. Project Total Estimated cost \$100/ /linear ft. for a total of \$500,000.00

Comment #5

From: [garrett ouldhouse](#)
To: [Natural Resource Damage Program](#)
Subject: [EXTERNAL] NRD Restoration Plan Revision
Date: Thursday, March 2, 2023 2:50:52 PM

Natural Resource Damage Program – Restoration Plan Revision

We recently learned of the opportunity to comment on your update to the Upper Clark Fork River Basin Aquatic and Terrestrial Resources Restoration Plans. Anaconda Sportsmen have been active cooperators with NRDP since the beginning of your work in the Anaconda area and have supported the purchase of Garrity Wildlife Management Area and multiple additions to it as well as the Blue-eyed Nellie and Stucky Ridge WMAs.

We strongly support prior conservation work and focus of the NRDP in Anaconda. We are interested in conservation options for lands near Stucky Ridge, Fifer Gulch and near Blue-eyed Nellie Gulch. We would like the opportunity to meet with our members as well as conservation groups in the area, like Trout Unlimited, to discuss these and other priority areas for future NRDP expenditures.

If possible, we would like to provide comments on the Restoration Plan updates after our next sportsmen meeting on March 22nd. Please let us know if that is possible or how else to be best engaged in the process?

Thank you!

Gary Ouldhouse Anaconda Sportsmen's Club President



Comment #6

March 3, 2023

Natural Resource Damage Program
1720 9th Ave
P.O. Box 201425
Helena, MT 59620-1425
E-mail: nrdp@mt.gov

RE: Proposed changes to the 2023 Updates of the UCFRB *Aquatic and Terrestrial Resources Restoration Plans*

Dear Mr. Martin,

Thank you for the opportunity to comment on the UCFRB *Aquatic and Terrestrial Resources Restoration Plans* 2023 Update. We appreciate the fact that the State is preserving the current structure of the Restoration Plans. These were developed using significant amounts of data and public input and have resulted in substantial progress over the years to improve aquatic and terrestrial resources in the Upper Clark Fork River Basin. We look forward to continued collaboration with NRDP to carry out shared priorities under these Plans and leverage outside resources whenever possible.

Based on our observations and experiences with project development and implementation in the Basin during the last several years, the Clark Fork Coalition (CFC) offers the following suggestions that are aimed at helping improve the effectiveness of the *Plans* going forward:

1. We recommend that NRDP revise the framework of the restoration plans to allow flow projects to proceed before (or in some cases without) a DNRC Change Authorization. This will allow greater flexibility to complete a variety of flow projects and accelerate the timelines for implementing projects. We also support maintaining the existing funding structure in the Aquatic Flow Fund. Numerous high-impact flow projects have been completed and many more are coming online that have the potential to restore critical flows to dewatered segments of the Clark Fork River and its tributaries. Chronic dewatering remains one of the biggest factors limiting the healthy ecological functioning of the Clark Fork, to the detriment of aquatic resources in the basin.
2. Mainstem irrigation diversion projects need a dedicated allocation of funding, especially given the fact that matching funds are available for these projects. Please refer to the abstract submitted in 2018 that details project opportunities at eight mainstem diversions, three of which have received upgrades in the past four years. These projects address fish passage and entrainment issues on the mainstem Clark Fork River between Deer Lodge and Warm Springs and in some cases involve crucial water savings with instream flow benefits. The CFC has secured long-term match funding from private sources to carry out improvements at several mainstem diversion locations and these funders are eager to work with NRDP, CFC, TU, and other partners to address these barriers.

3. Focus the distribution of unallocated Aquatic and Terrestrial funds on the most injured areas, specifically on existing tributary and terrestrial priorities within Reach A of the Clark Fork River (above Garrison). Many excellent projects have been identified in these lynchpin Tier 1 and Tier 2 tributary priorities, but – to move them from concept to reality and realize their ecological and community benefits – they will require additional funding.

The NRDP has been working successfully to restore injured landscapes in the Upper Clark Fork Basin for close to two decades. However, much work remains and dollars are tight. As a result, it's critical to invest remaining settlement funds in the most injured areas and in projects that have the greatest potential for long-term impact. Moreover, it's vitally important that NRDP accelerates the work to augment aquatic and floodplain habitat needs on the mainstem of the Clark Fork River. With over 30 miles of mainstem cleanup remaining, it's essential that the State dedicates sufficient funding to meet these habitat goals and ensure that the river and floodplain are fully restored.

Finally, we are concerned about the zero-sum situation that gets put into play every few years when it comes time to allocate money in a Basin where the restoration needs far outstrip the funding supplies. The idea that "a dollar more for one project is a dollar less for another" only pits communities against one another. We are all Montanans. And those of us who live in the Clark Fork Basin are united by the river that flows through it, from its headwaters in Butte, through the Deer Lodge Valley, downstream to Missoula and beyond. We urge all of those involved to pull together toward a healthy and whole river and watershed.

Sincerely,



Karen Knudsen
Executive Director

2023 RESTORATION CONCEPT ABSTRACT SUBMITTAL FORM

1. PROJECT TITLE: Lower Cottonwood Creek Restoration

2. ORGANIZATION AND CONTACT:

Contact/Entity	Address:	Phone/Email:
Andy Fischer Project Manager, Clark Fork Coalition (CFC)	PO Box 7593 Missoula, MT 59807	(406) 552-7513 andy@clarkfork.org

3. PROJECT PURPOSE AND BENEFITS:

The purpose of this restoration concept proposal is to enhance the ecological functions of Cottonwood Creek within the town of Deer Lodge, MT. Cottonwood Creek experienced a 100-year flood event in 2011, which resulted in significant damage to the riparian habitat through Deer Lodge. This large flood event caused massive erosion in places and resulted in significant damage to the existing vegetation and bank stability. The City of Deer Lodge and Powell County have spent the past decade building new bridges, revising their floodplain maps, and acquiring flood-prone lands along the urban creek corridor. The City and County now own nine vacant properties along the floodplain. This creates an excellent opportunity to improve riparian functions, water quality, and aquatic habitat in the Upper Clark Fork watershed by enhancing habitat along Cottonwood Creek (a priority 2 stream area).

4. PROJECT LOCATION:

The Project focuses on a one-mile section of Cottonwood Creek than runs through the City of Deer Lodge, MT (below I-90) that is in need of improvement and restoration and will benefit trout, riparian habitat, and riparian-obligate species. The lowest one mile of the stream runs through downtown Deer Lodge for about one mile, where stream habitat is degraded due to encroachment, channelization, urban runoff, and associated water quality issues, such as elevated water temperature, nutrients, and sediment.



5. PROJECT DESCRIPTION:

This restoration concept proposes improvements to the riparian and instream habitat improvements in the lower 1 mile of Cottonwood Creek. The purpose of this concept is to improve fishery habitat in this degraded section of creek. The specific project goals include:

- Improve instream habitat diversity to support all state of native aquatic organisms
- Provide thermal refugia for aquatic organisms from the Clark Fork River
- Improve riparian habitat by increasing native vegetative cover
- Reduce noxious weeds and improve soil conditions
- Provide educational opportunities for students and residents of Deer Lodge

The initial steps for advancing this effort would be reviewing existing data and completing a full site inventory of Cottonwood Creek below I-90 which may include, but is not limited to inventory structures, storm water and drainage features, bed and bank instability, instream habitat and beforms, channel bed substrates, macroinvertebrate sampling and temperature monitoring. The project partners would work with an environmental engineer to complete this assessment and discuss known constraints, project goals and objectives. Initial restoration concepts and conceptual designs will be developed based upon the site assessment and shared with the project partners for input. Public outreach will be conducted through at least one public workshop to effectively communicate the potential design options and shape future design options. The components necessary to construct a project would likely vary depending on the nature of the project type. Construction of specific portions of the creek could be designed and bid separately depending on the geographic proximity and available budget. Construction activities may include but are not limited to stream bank reconstruction, instream habitat/wetland features, planting and seeding.

The City of Deer Lodge has formalized their interest in moving this proposal forward through a City Council resolution in support of the project (see attached). Powell County through their planning office, has expressed their support for the project. We plan to work in partnership with the City, County and interested members of the public as we develop design concepts for restoring portions of Cottonwood Creek through Deer Lodge. In addition, we intend to involve the Powell County High School science classes in hands-on learning experiences about the restoration techniques. The project partners are committed to seeking outside matching funding of up to \$100,000 to make the best use of limited public resources.

6. Integration/Coordination with Restoration Plans:

Cottonwood Creek is a priority 2 tributary for restoration according to *the 2018 Aquatic Prioritization Plan* and supports populations of westslope cutthroat and brown trout. Currently a combination of low flows, elevated temperatures and degraded riparian and instream habitat conditions limit fish productivity in this lower 1 mile of Cottonwood Creek. During the summer of 2017, there was documented fish mortality in lower Cottonwood Creek through Deer Lodge likely due to poor habitat conditions (Silver State Post). This project seeks to improve riparian and instream habitat conditions in key areas of Lower Cottonwood Creek through Deer Lodge. Extensive work has been completed upstream to improve flows and reduce fish entrainment in major irrigation ditches and the proposed work would extend the habitat and benefits of this prior work. This project will complement those efforts by improving habitat conditions downstream to support all life stages of aquatic organisms. Specifically, the project seeks to improve fish habitat by increasing woody vegetation along the banks, improving shading and overhead cover and adding more stream complexity in the form of pools, riffles and side channels. This project will improve riparian habitat and instream habitat, both of which are listed as priorities in *the 2019 Upper Clark Fork Basin Aquatic and Terrestrial Resource Plans* for Cottonwood Creek. A similar abstract was previously submitted in 2018 (#82) and the Plan stated that

the proposed restoration actions were to be implemented; however little progress has been made to date towards implementing this effort. We are pleased to submit a revised abstract to reiterate that there is continued interest in restoring lower Cottonwood Creek in partnership with NRDP.

7. PROJECT SCHEDULE:

Item:	2024	2025	2026
Data Collection, Planning and Preliminary Design			
Design and Permitting			
Construction			
Post-Project Monitoring and Maintenance			

8. DRAFT BUDGET:

*Item:	Quantity:	Unit Cost:	Total Cost:	Anticipated Match:
Stream bank treatments/habitat improvements	5,000 LF	\$100	\$500,000	\$100,000
Total:			\$500,000	\$100,000

*All items are general estimates and subject to change.

RESOLUTION 2023-R-1

A RESOLUTION BY THE DEER LODGE CITY COUNCIL SUPPORTING THE SUBMISSION OF AN ABSTRACT BY THE CLARK FORK COALITION FOR COTTONWOOD CREEK TO THE 2023 UPDATE OF THE UPPER CLARK FORK RIVER BASIN AQUATIC AND TERRESTRIAL RESOURCES RESTORATION PLANS AS OVERSEEN BY THE MONTANA NATURAL RESOURCES DAMAGE PROGRAM.

WHEREAS, the Deer Lodge City Council is aware of the importance of Cottonwood Creek as a waterway for the community; and

WHEREAS, Cottonwood Creek is a Priority Two Tributary of the Clark Fork River as described in the 2012 Final Upper Clark Fork River Basin Aquatic and Terrestrial Resources Restoration Plans; and

WHEREAS, the Deer Lodge City Council recognizes the need for a comprehensive effort that identifies restoration opportunities and recommends policies to reestablish naturalistic elements to Cottonwood Creek; and

WHEREAS, the Deer Lodge City Council acknowledges the effort of the Clark Fork Coalition and their willingness to assist with the preparation and submission of an abstract to the Montana Natural Resources Damage Program; and

WHEREAS, the abstract would examine various themes including restoring natural habitats, promoting aesthetic values, and increasing hydrologic capacity; and

NOW, THEREFORE, BE IT RESOLVED, the Deer Lodge City Council deems it is in the best interest of the Deer Lodge Community as well as for the ecological health of Cottonwood Creek to support the effort of the Clark Fork Coalition to submit an abstract to the Montana Natural Resources Damage Program.

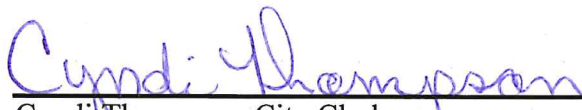
Passed and approved by the City Council of the City of Deer Lodge, Montana on first and final reading at a Council meeting this 27th day of February, 2023.

The effective date of Resolution 2023-R-1 is February 27, 2023.

Council Member	Yea	Nay	Abstain/Present	Absent
Dick Bauman	X			
Joseph Callahan	X			
Curt Fjelstad	X			
Jackie Greenwood	X			
John Henderson	X			
Robert Kersch	X			
John Molendyke	X			
Gordon Pierson				X
James Jess Mayor				


James Jess, Mayor

Attest:


Cyndi Thompson, City Clerk



Comment #8

Name and Contact Information:

Amanda Cooley, Powell County Planning Director, 409 Missouri Ave. Suite 114, 406-846-9729,
acooley@powellcountymt.gov

Project Purpose and Benefits: Indicate why the project or revisions is being proposed. Include the expected goals, objectives, and outcome of the project or revision. Describe how the project or revision would benefit aquatic or terrestrial resources within the Upper Clark Fork River Basin (UCFRB), and/or benefit the public's use and enjoyment of those resources.

The project would inventory and identify potential linkages between the recreational assets, opportunities, and river access points within the Upper Clark Fork River watershed, from Warm Springs to Drummond. This inventory would be presented in the form of a feasibility study. The inventory would identify existing facilities and/or access points, those currently in development, and those that have the potential to be developed in conjuncture with restoration activities. The inventory would be meant to enhance and connect recreational assets in the watershed.

The watershed contains many completed and ongoing recreational projects. A formal planning effort to identify and align these projects would provide an overall vision and guidance to recreational projects (and the recreational component of restoration projects) in the Upper Clark Fork. Analyzing the status of existing recreational opportunities and identifying potential projects would help the Advisory Council and NRDP prioritize the allocation of future restoration and recreation dollars in an efficient and logical manner.

Members of the Advisory Council have previously voiced their desire to see public recreational access and connectivity emphasized in future projects that provide access to the injured areas of the Clark Fork River Basin. Conducting an inventory of what exists and identifying potential linkages would produce a guiding document that would assist the Advisory Council and NRDP with future Restoration Plan updates and project prioritization. As part of assessment, for each specific project, it would be crucial to analyze feasibility to inform project prioritization and improve the likelihood of on-the-ground success.

Project Location:

Provide a short description of the project location, along with a project map.

The scope of this planning project encompasses recreational assets and opportunities from Warm Springs to Drummond within the Upper Clark Fork River Basin.

Project Description: Describe the components of the project and how it will be implemented. Also indicate any suggested lead entity and project partners for implementing the project. Indicate what progress, if any, has been accomplished to date on the project.

Powell County is proposing to be the lead entity on the project. The County would hire a contractor to manage the project across the tri-county region. The contractor would analyze existing recreational-focused master plans, interview stakeholders and potential partners, conduct an inventory of current developments and proposed restoration activities to produce a visionary document with different options and alternatives to enhance existing recreational projects. The final document would highlight

the potential linkages and high-priority areas as well as increase coordination and dialogue between partners and stakeholders.

Granite County and Powell County are already formally partnered in this mutual objective through an Interlocal Agreement signed by both parties. Letters of support for this project have been secured from over fifty supporters, including the Anaconda Trails Society, the Powell County Parks Board, Montana DNRC, FWP, Adventure Cycling, the City of Deer Lodge, Granite County's Flint Creek Trails Association, Headwaters Economics, the Heart of the Rockies Initiative, Montana Department of Transportation, and the Montana Department of Commerce.

Integration/Coordination with Restoration Plans: Describe how the components of the project or revision will integrate and coordinate with current projects being implemented as part of the Restoration Plans.

Substantial investments have been made to remediate and restore sections of the Clark Fork River below Warm Springs, although improvements to restore recreational opportunities to these areas have been on a case by case basis with no formal integration into a larger recreational or access plan. This proposal will take a coordinated approach to inventory existing facilities and access points and future routes or access points. This proposal seeks to prioritize recreational opportunities by focusing on those that

1. Minimize or reduce user impacts to the resource through designated access points or travel corridors
2. Improve the use of existing sites, projects, or access points through linkages
3. Develop access to hunting, fishing, and other forms of recreation in the injured areas that ensure sufficient protection to the habitat and resource

Coordination between partners and integration of ongoing and proposed restoration/recreation projects is the overarching goal of the abstract proposal. Producing such an overall planning and coordination document would bring cohesion to the ongoing efforts of NRDP, DEQ and other agencies such as FWP and help direct future efforts and allocations. Ultimately, this effort will assist with prioritizing future investments in recreational projects by identifying where access or facilities are needed most within the injured area along the Clark Fork between Warm Springs and Drummond.

Project Schedule: Indicate the timeframe needed to complete the project and any specific completion deadlines that would apply.

The planning effort and development of the final feasibility study will take place over a one-year due to the level of public outreach and stakeholders involved.

General Cost Information: Provide an estimate of total project costs. If possible, provide a categorical breakdown of the costs for the following categories: salaries/benefits; contracted services; supplies and materials; travel and communication; equipment; or other (specify). Indicate committed or anticipated matching funds.

Powell County has a proven track record of bringing in match funding to plan and construction connections to these resources. The recently completed 10 miles of the Old Yellowstone Trail, a continuous trail from Garrison to Deer Lodge, is evidence of this capacity.

Powell County and Granite County recently applied for \$602,609 to pursue this feasibility study through the federal Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant program. Powell County is the lead applicant for the grant, and while additional funding was requested for four other city and county regions, the \$602,609 is the budget requested specifically for the project area between Racetrack and Drummond. The cost between Racetrack and Warm Springs was not a part of this cost estimate, and would add approximately 7 miles to the budget needed for the feasibility study.

Powell County is requesting **\$210,900** to cover a 35% match to the RAISE funding request for unmet planning work needs, including costs and additional restoration and habitat considerations for the feasibility study. It would also cover costs incurred for the seven miles between Racetrack and Warm Springs. Should the RAISE funding not be awarded, this amount would be applied to start the feasibility study while additional funds are pursued. This funding is critical foundation work for the Counties to secure additional funding for construction of the projects identified within the feasibility study.

Additional in-kind support will be supplied by Powell County's Planning Department through grant administration and coordination.

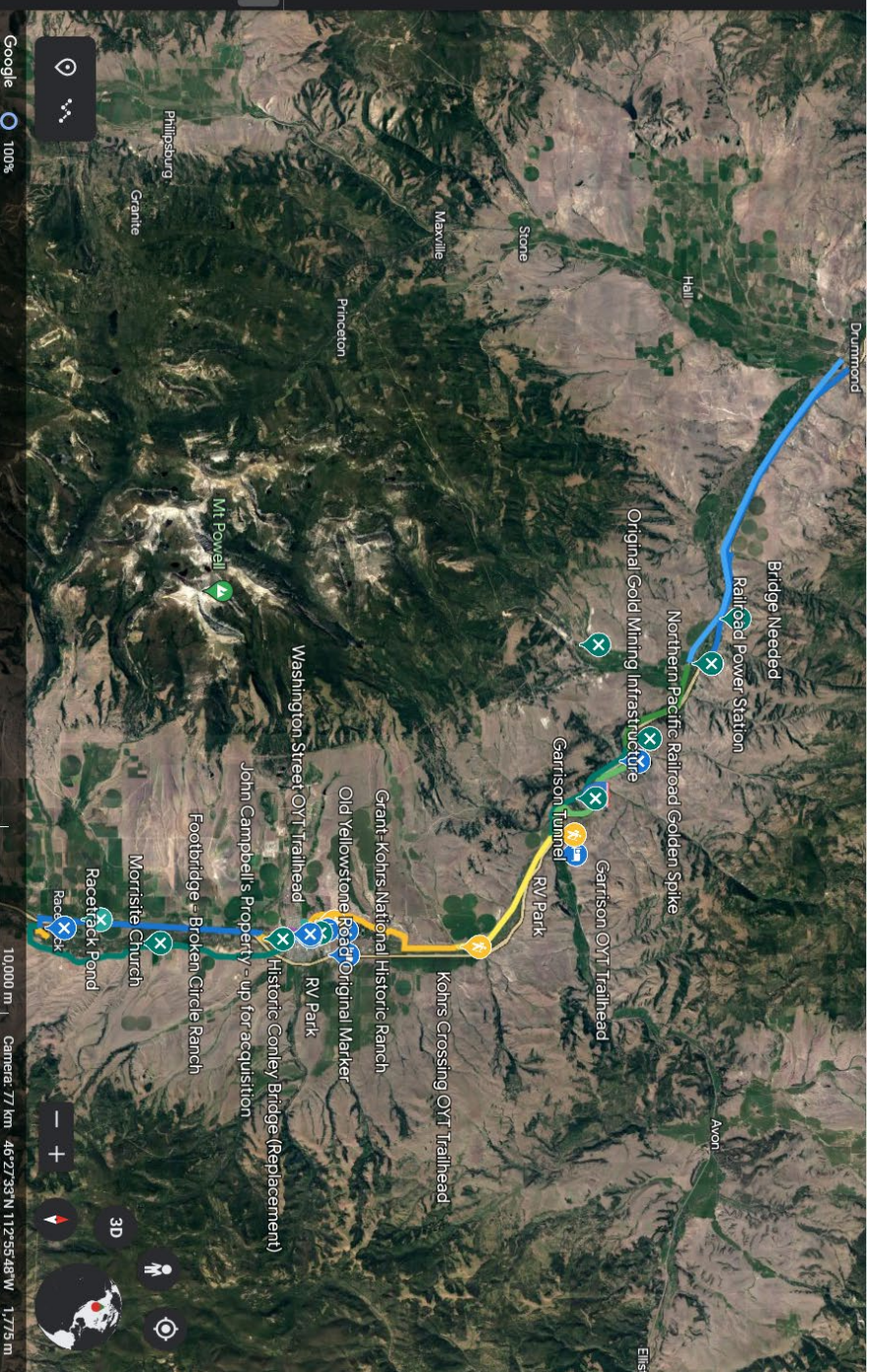
Task	RAISE funding	NRDP funding
Project Management	\$ 79,419.49	
Environmental Risk Assessment	\$ 49,922.10	
Community Engagement/Communication	\$ 272,422.96	
Data Collection & Narrative Development	\$ 147,231.58	
Development of Sections & Alignments	\$ 53,613.72	
35% match: funding requested to cover additional planning		\$ 210,900.00
RAISE funding total	\$ 602,609.84	
Project Total		\$ 813,509.84



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Proposed Restoration Action Concept Abstract Form *Integrated Geochemical and Microbial Modeling for the Improvement of Salmonid Habitat*



A. NAME AND CONTACT INFORMATION

Dr. Alysia Cox, Assoc. Professor, Faculty Director Earth Science & Engineering PhD Program
(406) 496-4185

acox@mtech.edu

Laboratory Exploring Geobiochemical Engineering and Natural Dynamics (LEGEND)

Department of Chemistry & Geochemistry

Montana Tech of the University of Montana

1300 W. Park St.

Butte, MT 59701

<https://www.mtech.edu/chemistry/faculty/alysia-cox/index.html>

<http://mtechlegend.weebly.com/>

B. PROJECT PURPOSE AND BENEFITS

This project aims to augment the monitoring restoration efforts currently underway in the Upper Clark Fork Watershed using extensive, top of the line, integrated geochemical/biological monitoring across a large spatial and temporal scale. We aim to inform future restoration actions in the area using insights into the microbial community structure and activity in the sediments and waters of the Upper Clark Fork in order link microbial processes with the geochemistry of restoration so future decisions can integrate “bottom up” restoration, using information about the most fundamental aspects of the ecosystem to best support, protect, and enhance the watershed’s fisheries. This will be achieved using an intensive field sampling, followed by a high quality technical report and presentation to the NRDP, an Earth Science and Engineering PhD Dissertation with a focus on Geochemistry at Montana Tech, and at least two published manuscripts in journals such as Environmental Science and Technology or Frontiers in Microbiology. This project will yield new information about microbial identity and activity in the Upper Clark Fork that we will link to the geochemistry of restoration with changing seasons and degree of restoration.

This project will achieve the goals of 1) providing much-needed microbial identification and activity information to the NRDP and the Upper Clark Fork Watershed communities in order to help improve holistic Upper Clark Fork restoration practices for the enhancement of the fishery and 2) integrate corresponding geochemical data with microbial results and give a comprehensive view of the watershed encompassing the Upper Clark Fork.

Project implementation will occur over a two-year period while accomplishing the following objectives to evaluate and improve fish habitat: 1) determine microbial community structure (identification) in the sediments and waters of the Upper Clark Fork, 2) determine microbial activities (how microbes are transforming the surrounding environment), and 3) integrate microbial identifications and activities with concurrently collected geochemical data.

This research is a necessary part of the future of the Upper Clark Fork River, as the microbial community of the area is largely unknown and holds enormous potential for comprehensive ecosystem restoration to improve the conditions of the stream for salmonid

success (Benner *et al.*, 1995; Gammons *et al.*, 2005; Mason *et al.*, 2012). Microbes act as ecosystem engineers in all riverine areas through the regulation of stressful conditions including eutrophication and metal toxicity, as well as providing food source of nutrient flow to higher trophic levels. As such, understanding the effects of human activity on the microbes of the creek is paramount to restoring the river (Falkowski *et al.*, 2008). Microbial-informed restoration practice will lay the foundation for the recovery of all levels in the Upper Clark Fork River, ranging from macroinvertebrates to predatory fish.

The focus of this project will be to produce an integrated geochemical and metagenomic model of microbial community structure and functionality in the Upper Clark Fork in order to inform fishery resource improvement decisions. This study will provide groundbreaking information on the microbial community present in the river and provide the first insights into how geochemistry has shaped the local microbial ecosystem through the comparison of impacted sites to an unimpacted control site on Blacktail Creek across a large spatial and temporal scale. The integrated model will provide data on the interaction between local biota and stressful conditions, which should allow site managers to set data driven restoration goals to help restore the baseline biogeochemical drivers of riverine functionality, the microbes.

C. PROJECT LOCATION

Biological and geochemical sampling activity sampling will occur at fourteen sites along the Upper Clark Fork, Silver Bow Creek, and Blacktail Creeks, with analyses being performed at Montana Tech. A fifteenth site on upper Blacktail Creek will serve as a control.

Map: Fourteen sites and a control site on Upper Blacktail Creek where microbial identification and activity will be determined at four different times of year (May, August, November, February) over multiple years (Figure 1). Sites were chosen in consultation with Joe Griffin, retired DEQ contaminant hydrogeologist. The chosen sites bracket the most the area's most pertinent to the restoration of the Upper Clark Fork River including the epicenter of contaminated near Butte, the relatively uncontaminated German Gulch tributary, the Warm Springs Ponds, and Flint Creek.

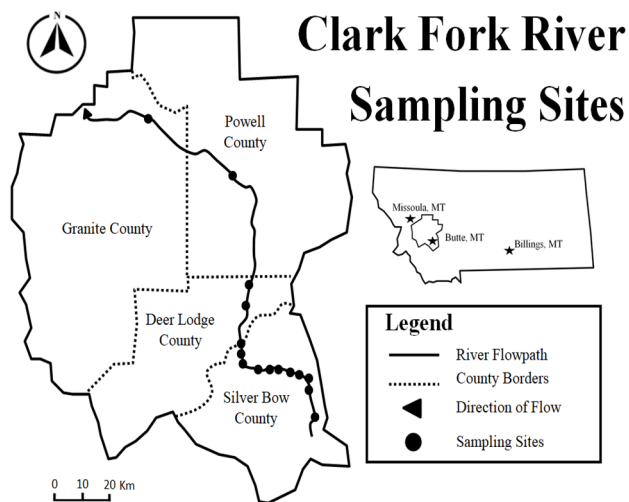


Figure 1. Map of the Upper Clark Fork River, Silver Bow Creek, and Blacktail Creek showing sampling locations from Thompson Park to Drummond, below Flint Creek.

D. PROJECT DESCRIPTION

This project investigates and integrates two baseline aspects of the Upper Clark Fork River ecosystem; the geochemical characteristics of the stream and the microbial communities that help shape habitat for larger organisms. The first step to determine and monitor river geochemistry is to collect water samples and parameters for chemical concentration and speciation analysis. We will survey each site four times throughout the year and collect information on stream temperature, pH, conductivity, dissolved oxygen,

alkalinity and dissolved silica in the field; as well as collecting samples for dissolved inorganic carbon, dissolved organic carbon, major cations, major anions, and trace element analysis, greater than 70 geochemical parameters in all. All geochemical surveys will be accompanied by simultaneous collection of microbes living in the river's sediments and suspended in the water column. We will conduct all geochemical measurements using equipment housed in our lab or at the Montana Bureau of Mines and Geology on campus. Following sample analysis, we will use the EQ3 equilibrium speciation software to calculate chemical speciation.

We will then carry out metagenomic analysis to determine the identity and functionality of microbes collected from the river. We will extract DNA from each biological sample and send it to Molecular Research in Shallowater, TX for sequencing. Sequences will then be analyzed using The Department of Energy Systems Biology Knowledgebase (KBase) to generate a database of community and functional characteristics. Principal component analysis and a multivariate regression model will be used to integrate the biological and geochemical variables and determine the geochemical characteristics that drive community and functional variability across space and time. Using the integrated geochemical and biological model we will make recommendations to the NRDP on differences between the microbial communities of each site and on possible geochemical parameters that are limiting the success of the microbial ecosystem. Insight into the microbial communities of the river will provide the basis for further holistic restoration goals, including improving fishery resources.

We have been sampling the creek concurrently for full aqueous geochemistry and collected and preserved microbial samples from 14 locations every three months since May 2016 at all sampling sites. As such, our lab archives hold an immense amount of both geochemical and biological historic data that can be used to explore the evolution of the Upper Clark Fork's recovery. To begin linking geochemistry and biology, we have 16 shotgun metagenomes averaging 6.6 gigabases in hand from six Silver Bow Creek locations from November 2015, February 2016, May 2016, and August 2016, the samples that have concurrent full aqueous geochemistry analyzed and modeled (Feldman*, 2019; Helfrich* *et al.*, in prep, * = Cox lab graduate student). We are actively analyzing the paired end libraries using the Kbase platform for microbial community composition using the Kaiju and GOTCHA2 algorithms and are just beginning to scratch the surface of the data contained in the metagenomes (Figure 2; Arkin *et al.*, 2018). We are highly motivated to expand our metagenomic exploration in the context of the Upper Clark Fork River restoration through the processing of more metagenomes using the analytical pipelines currently implemented in LEGEND (the Cox lab).

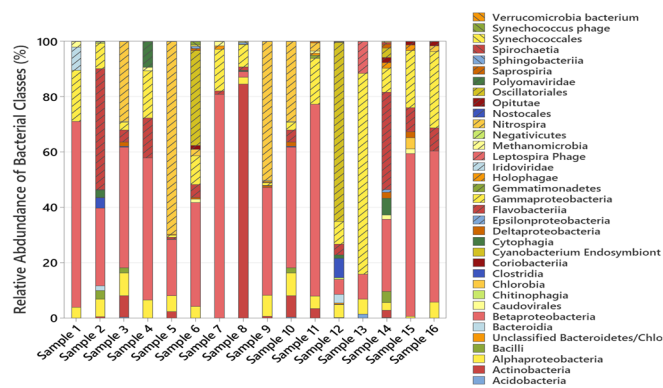


Figure 2. The relative abundance of bacterial classes in metagenomes collected from the Upper Clark Fork River.

E. INTEGRATION/COORDINATION WITH RESTORATION PLANS

The assessment of the intersection between microbial activity and geochemistry will augment the preexisting projects currently being carried out on the Upper Clark Fork River. Specifically, our objectives will provide geochemical and microbial context to ongoing restoration and

monitoring of the Upper Clark Fork River stretching from Butte to Drummond. Specifically, we will provide data to augment the ongoing monitoring actions outlined in Restoration of Priority 1 and 2 stream areas including the Clark Fork River Mainstem Restoration section 3.2.2.1, as well as sections 3.2.2.3 (Blacktail Creek Watershed), 3.2.2.7 (Flint Creek Watershed), 3.2.2.8 (German Gulch Watershed), and 3.2.2.10 (Little Blackfoot Watershed). Our previous sampling and sample/data archive comprehensively encompasses above and below, before and after the discharge of the treated Berkeley Pit water to Silver Bow Creek. Furthermore, our trace element analysis will provide further information on a variety of biologically relevant metals in the Upper Clark Fork Watershed to existing projects including the mercury monitoring project in the Flint Creek Watershed. In addition to our extensive geochemical analyses including chemical speciation, the integrated microbial identification and metabolic analysis will help to determine the effects of ongoing flow augmentation interventions have helped to improve the microbial foundations of the watershed, and by extension, the improvement of salmonid niches. Finally, we will provide information on strontium abundance and potential sources to Nathan Cook and fisheries managers that will help them in their ongoing studies of otolith chemistry across watersheds. The strontium measurements we provide as part of our geochemical analyses will characterize strontium sources that will be used to track changes to the natal origins of fish and help to answer lingering questions about historic lows in trout populations between Warm Springs and Deer Lodge.

F. PROJECT SCHEDULE

The project will begin in November 2023 with the onset of funding. LEGEND has already begun sampling for this project starting in November of 2015 (sampling campaigns every Feb, May, Aug, and Nov have been completed to date). Geochemical analyses have been completed for many of these sampling collection days (everything that we can do in house, including major cations and anions by our new NSF funded three channel ion chromatography system) and microbial analyses for select locations and dates are currently underway, including 16 completed metagenomes (Helfrich* *et al.*, in prep). Please see the following table for the project timeline. Continued sampling for microbial identification and activity linked to geochemistry will be carried out throughout the project. Analyses will occur concurrently. We will coordinate with other restoration projects throughout and report to the NRDP regularly. A final report will be completed by October 2025 and a final presentation to the NRDP will be made at that time.

	Project Timeline																			
	2023		2024												2025					
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Sampling	■			■			■			■			■			■			■	
Analysis			■	■	■	■	■		■	■	■	■	■	■		■	■	■	■	■
ESE Ph.D. Dissertation Defense																				■
Final Report																			■	■

G. GENERAL COST INFORMATION

Total dollar amount: LEGEND requests \$221,124 over a two-year period for microbial identification, function, and activity analysis, correlated geochemistry combined with microbial and geochemical modeling to inform restoration practices and decisions about fisheries.

The budget narrative below shows the details and calculations for the budget with Montana Tech. In addition, many samples have already been collected and analyzed that will contribute to the products produced by this project. They are not officially included here as match through Montana Tech at this time.

Budget Narrative:

Integrated Geochemical and Microbial Modeling for the Improvement of Salmonid Habitat

A. SALARIES AND WAGES

Organization, Supervision, Writing, Presenting, Coordinating with other restoration projects - Dr. Cox, 1.8 month x \$7,773/month = \$13,991 requested; Dr. Cox, 1.8 month x \$8,084/month = \$14,551 requested

Sampling, Analyses, DNA Extraction, Metagenome Analysis, Modeling, and Writing - Earth Science and Engineering PhD student Paul Helfrich, 18 months academic year 20hr/wk salary x \$1760/month = \$31,680 requested; 6 months summer 40hr/wk salary x \$3520/month = \$21,120 requested

Subtotal = \$81,342 requested

B. FRINGE BENEFITS - 46% Faculty, 10% Students Summer, 3% Students Academic Year
Faculty - \$13,130 requested; Students Summer - \$2,112 requested; Students Academic Year - \$950 requested

Subtotal = \$16,192 requested

C. EQUIPMENT - none requested

D. CONTRACTED SERVICES

Geochemical Analytical Services – Everything else done in the Cox lab but water samples brought to the Montana Bureau of Mines and Geology for trace element inductively coupled plasma – mass spectrometry analyses (ICP-MS) 534 samples x \$30 = \$16,020

DNA Sequencing Services - LEGEND extracted DNA sent to MRDNA for metagenomic sequencing (78 samples x \$500) = \$39,000

Subtotal = \$55,020 requested

E. SUPPLIES

Chemicals and reagents - DNA extraction reagents - \$4,000 requested; Lab supplies and consumables - sampling vials, sampling materials, dry ice or liquid nitrogen, DNA extraction consumables - \$4,000 requested

Subtotal = \$8,000 requested

F. TRAVEL

Ground travel - Drummond to Thompson Park sampling locations 8 times -\$900 requested; Per Diem - food for the sampling team (usually pizza for 6-8 students), one meal 8 times - \$400 requested

Subtotal = \$2,200 requested

G. OTHER/PARTICIPANT SUPPORT COSTS

4 semesters of graduate tuition at \$9,000/semester = \$36,000 requested

Subtotal = \$36,000 requested

H. OTHER

Publishing Costs - an open access manuscript for \$1,800 (Frontiers in Microbiology or Environmental Science and Technology)

Subtotal = \$1,800 requested

I. TOTAL DIRECT COSTS

\$200,554 requested

J. INDIRECT COSTS (12.5% of MTDC, as previously negotiated btw. NRDP and Montana Tech)

\$20,569 requested

K. TOTAL PROJECT COST

\$221,124 requested

PROJECT Silver Bow Creek Greenway Project Completion Funding
APPLICANT Greenway Service District of Anaconda-Deer Lodge County and Butte-Silver Bow County
CONTACT Dori Skrukud, Silver Bow Creek Greenway Project Manager
155 W. Granite Street, Room 115
Butte, MT 59701
406-497-6469
dskrukrud@bsb.mt.gov

PROJECT PURPOSE AND BENEFITS

The purpose of this project is to complete the Silver Bow Creek Greenway, the 26-mile corridor between Butte and Opportunity (see attached map). Completion will provide the controlled, managed access needed to replace the lost recreational opportunities to the public, protect the investment in remediation and restoration, ensure ongoing protection of the restored habitats during recovery, and support educational opportunities for future generations.

The applicant is requesting that the Upper Clark Fork River Basin (UCFRB) 2023 Aquatic and Terrestrial Resources Restoration Plans include the recommendation to provide additional funds in the amount of \$9,240,834 to complete construction and future operations and maintenance of the Silver Bow Creek Greenway project in the Streamside Tailings Operable Unit (SST OU) in Deer Lodge County and Silver Bow County. Completion of the Greenway requires construction of the four remaining unconstructed segments, and associated project management, remaining land acquisition, and ongoing operations and maintenance. At year-end 2022, the Greenway Service District (GSD) had \$1.4M remaining from previous Natural Resource Damage Program (NRDP) grant funds, which will allow GSD to complete one segment of the Greenway in 2023. The GSD estimates it will have approximately \$664,700 at year-end 2023 after completion of the 2023 trail construction and other GSD costs incurred in 2023. The requested additional funds are needed to complete the four remaining segments. The requested additional funding is to complete the Greenway as originally planned and does not include any new or enhanced features.

Starting in 2000, the GSD has submitted seven grant applications to the UCFRB Restoration Grant program, administered by NRDP and initially received \$15.6M in funding. The Greenway project was the top-rated project in every application cycle. In 2011, additional NRDP funding, a set-aside of \$8M, was received by the GSD bringing the total project funding to \$23.6M for land acquisition, ecological restoration enhancements, and access feature construction. At that time the Montana Department of Environmental Quality (DEQ) predicted that the SST OU remedial work would be completed in a few years, and GSD thought the Greenway could be completed soon afterwards.

However, the completion of the Greenway project and the adequacy of funding was impacted by the remedial cleanup schedule that was extended nearly 10 years to complete “mop up” work which is still ongoing in some areas, complicated and time-consuming access negotiations with remaining private landholdings and State agencies, and still-to-be resolved land transfers.

Because of the delays in constructing the project beyond the control of the GSD and the significant impacts of inflation on the buying power of the original funding, the originally allocated funding is no longer sufficient to complete construction of the four remaining segments.

It is imperative that this project see completion – the development of the Silver Bow Creek Corridor was described in the SS TOU Record of Decision (ROD), on page 113 as follows:

“Provided that the final design of the SSTOU remedy can attain the cleanup criteria and performance standards, it should to the degree possible incorporate components consistent with the following environmental and community improvement actions in the project area:

- *A Silver Bow Creek recreational corridor land use as designated and adopted by the Butte-Silver Bow and Anaconda-Deer Lodge County governments;*
- *Preservation and enhancement of significant historical and pre-historical resources in accordance with the Regional Historic Preservation Plan; and*
- *Coordination with pertinent restoration actions implemented as part of the Upper Clark Fork River Basin natural resource damage restoration plan.”*

The Greenway was also addressed in a DEQ overview of the Silver Bow Creek/Butte Area NPL Site Streamside Tailings Operable Unit ([Silver Bow Creek Greenway Page In the DEQ SSTOU Story Map](#)) as follows:

“In 2000, the Montana Department of Justice, Natural Resource Damage Program and the Greenway Service District formed a partnership with DEQ to integrate SST OU restoration activities with the remediation (cleanup) required under Superfund. Restoration enhanced the environmental cleanup, improved the aesthetics of the SST OU and created recreational opportunities along Silver Bow Creek.”

And:

*“Over a period of 20 years, starting in 1999, the cleanup in the SST OU restored a healthy functioning 1900-acre riparian corridor from west of Butte to the Warm Springs Ponds. The successful integration of remedy and restoration, funded by the Greenway Service District’s Restoration Grants resulted in a project that not only saved time and money but added an **additional 2.5 miles of length** to Silver Bow Creek and created more than **10 times the wetland acreage** than existed before cleanup.”*

The benefit of the completion of the Silver Bow Creek Greenway is preservation of a continuous corridor, from Butte to Opportunity, along the restored Silver Bow Creek Corridor. Over two decades, the GSD has invested millions in restoration activities that were coordinated with remedial work, including the additional removal of 336,000 cubic yards of tailings in the Ramsay Flats area; the fish barrier, below German Gulch; and riparian, floodplain, and uplands habitat enhancements to contribute to the healing of this corridor. Protecting and providing access to the corridor benefits everyone.

The Silver Bow Creek Greenway trail protects these investments as an institutional control mechanism, managing use of the corridor for passive recreation while decreasing the risks of damage or neglect and the risk of activity adversely impacting the corridor’s vegetative cover and improved habitat.

Furthermore, the GSD has secured access to properties not in State ownership. Substantial acreage was transferred to DEQ, from Arco Environmental Remediation, LLC (ARCO), as a part of the SST OU settlement requirements. However, 4 key private landowners in the corridor were resistant to selling, or providing access to, their property. Despite this, the GSD has successfully negotiated and purchased over 438 acres of privately owned property and spearheaded the transfer of over 350 acres of privately owned property to Butte-Silver Bow (BSB) with BSB then granting easements to the GSD. Without these acquisitions, land management of the remediated and restored areas along Silver Bow Creek would not be successful. Checkered private ownership would restrict access to Silver Bow Creek and potentially allow land uses inconsistent with the risk scenarios identified in the SSTOU ROD.

Additionally, the GSD applied for and received an NRDP grant to purchase 1800 acres of Duhamel Property south of Durant Canyon. Of these, 1500 acres were transferred to FWP to augment the Mount Haggin/Fleecer Wildlife Management area, and 300 acres with existing environmental covenants along Silver Bow Creek belong to the GSD and are managed by FWP. This \$1.64M purchase was separate from the above referenced \$23.6M GSD grants. The Duhamel lands provide expansive wildlife habitat and public open space for outdoor recreation directly connected to the Greenway and Silver Bow Creek Corridor.

PROJECT LOCATION

The post-2023 unfinished segments of the Greenway in Anaconda-Deer Lodge and Butte-Silver Bow are as follows:

- Project 1** Durant Canyon – Miles Crossing to German Gulch Bridge
- Project 2** Highway 1 Underpass to Stewart Street
- Project 3** Ramsay Flats to Miles Crossing
- Project 4** Lower Area One to Whiskey Gulch Station

The Project Schedule section below shows that the GSD aims to complete one project each year, starting in 2024. Attached is a map showing the entire Greenway corridor and the location of each remaining segment.

PROJECT DESCRIPTION

The uncompleted segments of the Silver Bow Creek Greenway between Butte and Opportunity are described as follows:

Project 1 (scheduled for 2024) Durant Canyon Segment – The 4-mile segment, located in Butte-Silver Bow, accesses the canyon corridor from Miles Crossing Road, a public road, and continues through the canyon to the German Gulch bridge and the Greenway Reach O trail. A parking area at Miles Crossing will serve users of Project 1 and Project 3, and the trail will primarily be located on the abandoned Chicago, Milwaukee, and Saint Paul Railroad right-of-way (also known as the “Milwaukee Road”).

Some work has already been completed in this segment that demonstrate the direct coordination of Greenway and remediation activities. In 2010, to allow relocating a segment of Silver Bow Creek near Miles Crossing that was confined between two railroad corridors, the GSD installed two precast culverts through the Rarus Railway Company (Rarus) rail embankment. The first culvert, a dual cell precast concrete box, conveys the realigned Silver Bow Creek and allows expansion of the floodplain to the north. The second culvert, adjacent to the dual culvert, provides a pedestrian tunnel on the future Greenway trail. DEQ also used GSD funds to relocate and retrofit one railroad bridge as a pedestrian bridge for the Greenway Trail and the GSD constructed the future trail embankment from Miles Crossing Road to the pedestrian tunnel, and DEQ constructed a new access road alignment along the toe of the Rarus RR embankment into the east end of Durant Canyon. These elements address the most difficult access issues in this segment and greatly simplify future trail development efforts.

Construction to complete this segment within the corridor will require two pedestrian bridges and one improved underpass. The trail segment from Miles Crossing to the culverts will be asphalt; the trail transitions to a soft surface at the pedestrian tunnel for the remainder of the segment, tying into the existing German Gulch Bridge on Silver Bow Creek. An agreement between the GSD and Rarus is in place for the use of the Milwaukee Road property owned by Rarus.

The GSD has applied for a \$75K grant for this segment from Montana Fish, Wildlife and Parks' Trail Stewardship Program. Other project 'partners' for this segment include the GSD, DEQ, NRDP, Butte-Silver Bow, and Rarus.

Project 2 (2025) Highway 1 Underpass to Stewart Street – This trail segment, located in Anaconda-Deer Lodge, will connect the existing Tailings Observation Area to Stewart Street in Opportunity. The 2-mile asphalt surfaced trail is proposed to connect through an underpass under Highway 1 and includes construction of secondary trail loops in the creek corridor north of Stewart Street. Many discussions have already taken place between the GSD, the Montana Department of Transportation (MDT), Burlington Northern and Santa Fe Railroad (BNSF), and DEQ. When complete, the trail will provide an uninterrupted connection from Opportunity to German Gulch and Miles Crossing. Project 'partners' for this segment include the GSD, DEQ, MDT, NRDP, Anaconda-Deer Lodge, and BNSF.

Project 3 (2026) Ramsay Flats to Miles Crossing – This 4-mile trail segment, located in Butte-Silver Bow, begins with a railroad underpass just northwest of the Port of Montana. The BNSF and Rarus railroads, as well as a maintenance road (formerly part of the Milwaukee Road) cross over Silver Bow Creek at this location. The 4-mile trail will meander on the south side of Silver Bow Creek to Miles Crossing. In 2022, the GSD installed a cattle bridge in this segment (pursuant to an easement with Ueland Ranches obtained in May 2021 that allowed the GSD to cross a substantial portion of this segment), to ensure that cattle would not cross through Silver Bow Creek and adversely impact the remediated stream channel, stream banks and riparian vegetation. When completed, this trail will provide an uninterrupted connection from Whiskey Gulch to Opportunity, and via the Greenway's connection to the Butte Hill Trail will create an uninterrupted connection from Opportunity to the Granite Mountain Memorial.

Approximately 2 miles of this 4-mile trail falls within property still owned by ARCO. DEQ and ARCO continue to work on the transfer of this property pursuant to the SST OU Consent Decree (CD) that includes a provision for the transfer of \$2 million worth of ARCO property to the State of Montana. Four DEQ easements will be required for construction, and a private easement will be required at the west end of the trail.

The GSD has secured a \$400K infrastructure grant from the Montana Connections Business Park, which is managed by Butte-Silver Bow, to aid in construction of the underpass. Other project 'partners' include the GSD, DEQ, NRDP, and Butte-Silver Bow.

Project 4 (2028*) Whiskey Gulch to Butte (Lower Area One) - This 0.8-mile segment of trail will tie the east end of the Greenway to the Lower Area One cleanup area in Butte. DEQ installed the trail footprint between Whiskey Gulch Station (the current far east end of the Greenway) and the west side of the nearby interstate bridges during Reach A construction in 2000. The GSD worked with the MDT, when the interstate bridges were recently reconstructed, to leave a footprint for the trail under the bridges to connect to the future Lower Area One trail.

Project 4 is scheduled last because of unresolved decisions about the final remedial design plans for Lower Area One, which is in the Butte Priority Soils Operable Unit. Project 'partners' include the GSD, NRDP, ARCO, MDT and Butte-Silver Bow.

INTEGRATION/COORDINATION WITH RESTORATION PLANS

These proposed projects are already an integral part of the NRDP restoration plans. NRDP seeks to restore and protect the natural resources of the State as recognized by the Greenway trail system's number one ranking during previous grant cycles. These projects are an important part of achieving the

2023 PROPOSED RESTORATION ACTION CONCEPT ABSTRACT

NRDP's goals. The Greenway creates a safe and enjoyable recreational experience for the public by providing access to the creek and its natural resources, allowing visitors to enjoy the beauty and ecological benefits of the restored area. It will also provide educational opportunities for the public to learn more about the natural environment and the importance of these restoration efforts. Most importantly, the Greenway will extend and complete the managed and controlled access through the entire corridor, therefore protecting the investment made in remediation and restoration of the aquatic, riparian, and terrestrial habitats. This will ensure attainment of the remediation requirements and restoration goals now and for future generations.

Previous NRDP documents recognize the importance of the Greenway trail system. They include this goal from the 2011 terrestrial prioritization plan: *"Restore ... associated ecological and recreational services (lost hunting, wildlife viewing, bird watching and other wildlife-related outdoor recreation) ..."*

Also, Appendix B of the 2011 plan recognized the Greenway Service District's contribution to restoration activities, with NRDP grants, by enhancing fish and wildlife habitat, and:

"The development of a passive-use recreational corridor along Silver Bow Creek that will enhance the public's viewing and enjoyment of wildlife resources."

The importance of the Greenway was also mentioned in the Prioritization of Areas in the Upper Clark Fork River Basin for Fishery Enhancement, MTFWP and NRDP, January 2018. In addition to recognizing the contributions to aquatic habitat, Section A states:

"The Greenway project also involved the development of a passive-use recreational corridor along Silver Bow Creek that will enhance public fishing access."

The NRDP recognizes the importance of the completed project on their website ([Silver Bow Creek - Montana Department of Justice \(dojmt.gov\)](https://dojmt.gov)):

"Because most of the SBC floodplain will be owned by the public and will have a trail along SBC, the public will be able to enjoy the successful cleanup work along this restored and impressive 25-mile corridor."

These references show that the proposed projects are an integral part of the ongoing remediation and restoration plans. Completing the Greenway is necessary to provide the controlled, managed access needed to replace the lost recreational opportunities to the public, protect the investment in remediation and restoration, to ensure ongoing protection of the restored habitats during recovery, and support educational opportunities for future generations.

PROJECT SCHEDULE

- | | |
|------------------|---|
| Project 1 | Durant Canyon – Miles Crossing to German Gulch Bridge - 2024 |
| Project 2 | Highway 1 Underpass to Stewart Street - 2025 |
| Project 3 | Ramsay Flats to Miles Crossing - 2026 |
| Project 4 | Lower Area One to Whiskey Gulch Station –2028 (dependent on other activities occurring in Butte's Lower Area One) |

GENERAL COST INFORMATION

Attached is the cost estimate for each Project. Table 1 Provides a summary of the costs for the remaining projects. Tables 2-7 provide supporting detail for the cost estimate.

SILVER BOW CREEK GREENWAY FINAL PROJECT PHASES

LEGEND

- COMPLETED TRAIL SEGMENTS
- EXISTING BA&P AND GRANITE MOUNTAIN TRAILS
- TRAIL UNDER CONSTRUCTION 2023
- PROJECT 1 (2024)
- PROJECT 2 (2025)
- PROJECT 3 (2026)
- PROJECT 4 (~2028)

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Miles

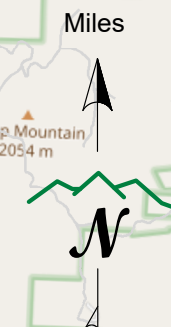


Table 1 - Remaining Costs Estimate vs Remaining Budget - With Anticipated Outside Funding Sources**Silver Bow Creek Greenway**

3/3/2023

Project / Category	Estimated Cost 2023 Dollars	Estimated Cost With Inflation (1)	NRDP Budget After 2023 (2)	Outside Funding (3)	Funding Gap
Project 1 - Durant Canyon, Miles Crossing to German Gulch (2024)	\$ 2,200,435	\$ 2,299,454		\$ (75,000)	\$ 2,224,454
Project 2 - Highway 1 to Stewart Street (2025)	\$ 1,424,359	\$ 1,555,436			\$ 1,555,436
Project 3 - Ramsay Flats to Miles Crossing (2026)	\$ 2,180,429	\$ 2,488,231		\$ (400,000)	\$ 2,088,231
Project 4 - Lower Area One to Whiskey Gulch (2028)	\$ 469,632	\$ 585,247			\$ 585,247
Total Estimated Remaining Construction Contractor Costs (1)	\$ 6,274,855	\$ 6,928,369			\$ 6,453,369
Engineering Design and Oversight (10% of Contractor Costs) (4)	\$ 627,486	\$ 692,837			
Design Level Contingency (15% of Contractor Costs) (5)	\$ 941,228	\$ 1,039,255			
TOTAL ESTIMATED 2024+ ACCESS FEATURE (CONSTRUCTION) COSTS	\$ 7,843,569	\$ 8,660,462			
Access Features (Construction)		\$ 8,660,462	\$ 286,936	\$ (475,000)	\$ 7,898,526
Land Acquisition		\$ 312,950	\$ (451,702)		\$ 764,652
Ecological		\$ -	\$ 680,199		\$ (680,199)
Operations and Maintenance (6)		\$ 722,702	\$ 322,226		\$ 400,476
Administration (7)		\$ 684,435	\$ (172,945)		\$ 857,379
TOTAL ADDITIONAL FUNDING REQUEST		\$ 10,380,548	\$ 664,714	\$ (475,000)	\$ 9,240,834

(1) Future construction-year dollars based on a 4.5% annual inflation rate.

(2) Estimated remaining NRDP Budget after completion of Reach Q & R Construction in 2023 and including anticipated 2023 Administration, Operations and Maintenance Costs.

(3) Includes a committed grant of \$400,000 from Montana Business Connections Park for Reach F/G Tunnel and pending \$75,000 FWP funding for Durant Canyon trail.

(4) Reduced industry standard 15-20% to 10% for known or advanced current design status.

(5) Design and Planning Level Contingency to address potential unknown construction elements or needs.

(6) 10 Years of Operations and Maintenance Costs based on actual expenditures from 2018-2022. Operations and Maintenance costs may include scheduled maintenance items such as sweeping trails, walks and parking areas, snow removal, trash removal, vault toilet pumping, toilet cleaning and restocking, painting, potable water testing, utilities, landscape maintenance, mowing, weed control, irrigation system maintenance and repair, pavement repair and patching, trail subsidence repairs, pavement marking repair and patching, drainage structure cleanout, grading and sealing aggregate trail surfaces as well as remedial maintenance items such as light and fixture replacements, signage replacement and repair, painting, and other miscellaneous repairs.

(7) 10 Years of Greenway Project Manager costs to administer and coordinate the project based on actual costs from 2018-2022.

2023 PROPOSED RESTORATION ACTION CONCEPT ABSTRACT

Table 2 - Project 1 Estimated Costs

Silver Bow Creek Greenway
Updated Estimate of Remaining Quantities and Cost
Project 1 - Durant Canyon, Miles Crossing to German Gulch (2024)
SSTOU Subarea 3
3/3/2023

2023 Grant Year
2024 Anticipated Construction Year
4.5% Annual Inflation Rate

Area / Item Description	2023 Unit Price (1)	Adjusted Unit Price	Quantity	Unit	Cost 2023 Dollars	Cost Construction Year Dollars	Notes
TRAILS (costs include clearing, grading average 1' deep, minor drainage structures such as culverts, reestablishment of side slopes grades and edge revegetation)							
Aggregate Base Course, 12" wide, 6" depth (no geotextile)	\$ 22.05	\$ 23.04	21,120	LF	\$ 465,696.00	\$ 486,652.32	Reach K - N Miles Crossing TH to Reach O Trail At German Gulch
Aggregate Base Course, 4" wide (Secondary Trail)	\$ 7.35	\$ 7.68	6,703	LF	\$ 49,267.05	\$ 51,484.07	
Culverts with end sections	\$ 3,825.00	\$ 3,997.13	6	EA	\$ 22,950.00	\$ 23,982.75	
Trailside picnic tables	\$ 3,500.00	\$ 3,657.50	5	EA	\$ 17,500.00	\$ 18,287.50	
Trailside benches and pads	\$ 3,000.00	\$ 3,135.00	5	EA	\$ 15,000.00	\$ 15,675.00	
Misc. access control and signage	\$ 10,000.00	\$ 10,450.00	4.0	miles	\$ 40,000.00	\$ 41,800.00	Hazard Area Signage, etc.
Construct Type 4SSW Fence and Gate	\$ 6.35	\$ 6.64	21,120	LF	\$ 134,112.00	\$ 140,147.04	General allowance as needed, fencing assumed to equal the length of the primary trail
Trail Entrance Gates	\$ 9,074.00	\$ 9,482.33	2.0	EA	\$ 18,148.00	\$ 18,964.66	Reach O and Miles crossing
PREFAB. BRIDGES (costs include site preparation, foundation, and installation of prefabricated 12" wide steel bridge with concrete decking and light vehicle weight capacity, typical sandy soil conditions)							
75' span	\$ 310,000.00	\$ 323,950.00	2	EA	\$ 620,000.00	\$ 647,900.00	1 at Miles Crossing, 1 at former Relocated RR bridge location
RR Underpass Improvements	\$ 100,000.00	\$ 104,500.00	1	EA	\$ 100,000.00	\$ 104,500.00	Safety Measures Milwaukee Road / BA&P Line Underpass
MILES CROSSING STATION							
Trailhead Grading	\$ 0.28	\$ 0.29	15,000	SF	\$ 4,200.00	\$ 4,389.00	150' x 100'
8" Road base W/Geotextile	\$ 2.08	\$ 2.17	15,000	SF	\$ 31,200.00	\$ 32,604.00	150' x 100'
Asphalt Paving	\$ 2.61	\$ 2.73	15,000	SF	\$ 39,133.33	\$ 40,894.33	150' x 100'
Concrete Wheel Blocks	\$ 172.50	\$ 180.26	10	EA	\$ 1,725.00	\$ 1,802.63	
Concrete Curb	\$ 45.00	\$ 47.03	825	LF	\$ 37,125.00	\$ 38,795.63	
Miscellaneous Concrete Paving	\$ 12.00	\$ 12.54	5,000	SF	\$ 60,000.00	\$ 62,700.00	
Special Concrete Paving	\$ 15.00	\$ 15.68	1,000	SF	\$ 15,000.00	\$ 15,675.00	
Restroom Building Type V	\$ 100,000.00	\$ 104,500.00	1	EA	\$ 100,000.00	\$ 104,500.00	
Parking Lot Lighting	\$ 13,000.00	\$ 13,585.00	1	EA	\$ 13,000.00	\$ 13,585.00	Lighting Request from Initial Public Meetings
Miscellaneous Utilities	\$ 10,000.00	\$ 10,450.00	1	LS	\$ 10,000.00	\$ 10,450.00	
Picnic Tables and Pads	\$ 3,500.00	\$ 3,657.50	3	EA	\$ 10,500.00	\$ 10,972.50	
Misc. Fencing and Regulatory Signs	\$ 10,000.00	\$ 10,450.00	1	LS	\$ 10,000.00	\$ 10,450.00	
Directional/information Signage	\$ 5,000.00	\$ 5,225.00	1	LS	\$ 5,000.00	\$ 5,225.00	
Landscape Boulders	\$ 500.00	\$ 522.50	8	EA	\$ 4,000.00	\$ 4,180.00	
Benches	\$ 2,850.00	\$ 2,978.25	2	EA	\$ 5,700.00	\$ 5,956.50	
Bike Racks	\$ 675.00	\$ 705.38	2	EA	\$ 1,350.00	\$ 1,410.75	
Trash Receptacle	\$ 985.00	\$ 1,029.33	1	EA	\$ 985.00	\$ 1,029.33	
Directional/informational signage	\$ 12,500.00	\$ 13,062.50	1	EA	\$ 12,500.00	\$ 13,062.50	
Dryland Turf	\$ 0.12	\$ 0.13	80,600	SF	\$ 9,672.00	\$ 10,107.24	
Trees, Ornamental 1 1/2" cal.	\$ 51.00	\$ 53.30	8	EA	\$ 408.00	\$ 426.36	
Trees, Deciduous Shade 1 1/2" cal.	\$ 51.00	\$ 53.30	24	EA	\$ 1,224.00	\$ 1,279.08	
INTERPRETIVE AREAS							
Greenway Trail Secondary	\$ 10,000.00	\$ 10,450.00	5	L.S.	\$ 50,000.00	\$ 52,250.00	
Miles Crossing Trailhead Secondary	\$ 25,000.00	\$ 26,125.00	1	L.S.	\$ 25,000.00	\$ 26,125.00	
DURANT CANYON CAMPGROUND							
Campground Allowance	\$ 50,000.00	\$ 52,250.00	1	L.S.	\$ 50,000.00	\$ 52,250.00	primitive hike / bike campsites near German Gulch
MISC. TRAIL CROSSINGS							
Existing At-Grade Railroad Crossings	\$ 20,000.00	\$ 20,900.00	1	EA	\$ 20,000.00	\$ 20,900.00	Peterson Track Crossing

Line Items Subtotal	\$ 2,000,395.38	\$ 2,090,413.18	Estimated Constructed Elements
MBI @10%	\$ 200,039.54	\$ 209,041.32	Typical Mobilization Bonding and Insurance Costs
Construction Subcontractor Total	\$ 2,200,434.92	\$ 2,299,454.49	Total Estimated Construction Costs
Design @10%	\$ 220,043.49	\$ 229,945.45	Industry Standard / Typical / Reduced for Existing Design Status
Contingency @ 15%	\$ 330,065.24	\$ 344,918.17	Design Level Contingency to Address Unknowns and Estimate Level
ESTIMATED TOTAL COST	\$ 2,750,543.65	\$ 2,874,318.12	Estimated Total Costs in Construction Year Dollars

(1) 2023 Unit Prices based on Average Bid Prices from the Reach O Trail Project (2022) and Bids Received for the Reach Q and R Project (2023)

2023 PROPOSED RESTORATION ACTION CONCEPT ABSTRACT

Table 3 - Project 2 Estimated Costs

Silver Bow Creek Greenway
Updated Estimate of Remaining Quantities and Cost
Project 2 - Highway 1 to Stewart Street (2025)
SSTOU Subarea 4
3/3/2023

2023 Grant Year
2025 Anticipated Construction Year
4.5% Annual Inflation Rate

Area / Item Description	2023 Unit Price (1)	Adjusted Unit Price	Quantity	Unit	Cost 2023 Dollars	Cost Construction Year Dollars	Notes
TRAILS (costs include clearing, grading average 1' deep, minor drainage structures such as culverts, reestablishment of side slopes grades and edge revegetation)							
Aggregate Base Course, 12' wide, 6" depth (no geotextile)	\$ 22.05	\$ 24.08	5,250	LF	\$ 115,762.50	\$ 126,415.54	Highway 1 to Stewart Street
Base Course, 12' wide, 8" depth w/geotextile	\$ 30.00	\$ 32.76	2,500	LF	\$ 75,000.00	\$ 81,901.88	Wet subgrade areas near Stewart Street
Asphalt, 10' wide, 3" thick	\$ 30.00	\$ 32.76	7,750	LF	\$ 232,500.00	\$ 253,895.81	Highway 1 to Stewart Street
Aggregate Base Course, 4' wide (Secondary Trail)	\$ 7.35	\$ 8.03	10,500	LF	\$ 77,175.00	\$ 84,277.03	Optional North of Stewart Street
Culverts with end sections	\$ 3,825.00	\$ 4,177.00	6	EA	\$ 22,950.00	\$ 25,061.97	
Trailside picnic tables	\$ 3,500.00	\$ 3,822.09	3	EA	\$ 10,500.00	\$ 11,466.26	
Trailside benches and pads	\$ 2,850.00	\$ 3,112.27	3	EA	\$ 8,550.00	\$ 9,336.81	
Misc. access control and signage	\$ 10,000.00	\$ 10,920.25	1.8	miles	\$ 17,500.00	\$ 19,110.44	
Trail entrance Gates	\$ 9,074.00	\$ 9,909.03	3	EA	\$ 27,222.00	\$ 29,727.10	2x @ County Road 10A, 1 @ Stewart Street
Fencing, chain link	\$ 65.00	\$ 70.98	400	LF	\$ 26,000.00	\$ 28,392.65	
Fencing, 4-SSW Farm Fencing	\$ 6.35	\$ 6.93	7,750	LF	\$ 49,212.50	\$ 53,741.28	General allowance as needed, fencing assumed to equal the length of the primary trail
Misc. Safety, BMPs, Reveg.	\$ 60,000.00	\$ 65,521.50	1.0	LS	\$ 60,000.00	\$ 65,521.50	
PREFAB. BRIDGES/UNDERPASS (costs include site preparation, foundation, and installation of prefabricated 12' wide steel bridge with concrete decking and light vehicle weight capacity, typical sandy soil conditions)							
75' span bridge	\$ 310,000.00	\$ 338,527.75	1	EA	\$ 310,000.00	\$ 338,527.75	Reach S Between Highway 1 and Stewart Street
MISC. BRIDGE IMPROVEMENTS							
BNSF Highway 1 Underpass	\$ 225,000.00	\$ 245,705.63	1	L.S.	\$ 225,000.00	\$ 245,705.63	
INTERPRETIVE AREAS							
Greenway Trail Secondary	\$ 10,000.00	\$ 10,920.25	2	L.S.	\$ 20,000.00	\$ 21,840.50	
MISC. TRAIL CROSSINGS / ENTRANCES							
County Road 10A	\$ 10,000.00	\$ 10,920.25	1	EA	\$ 10,000.00	\$ 10,920.25	Pedestrian Crossing signs, bollards, etc.
Stewart Street Connection	\$ 7,500.00	\$ 8,190.19	1	EA	\$ 7,500.00	\$ 8,190.19	County Road 10A

Line Items Subtotal	\$	1,294,872.00	\$	1,414,032.60	Estimated Constructed Elements
MBI @10%	\$	129,487.20	\$	141,403.26	Typical Mobilization Bonding and Insurance Costs
Construction Subcontractor Total	\$	1,424,359.20	\$	1,555,435.86	Total Estimated Construction Costs
Design @10%	\$	142,435.92	\$	155,543.59	Industry Standard / Typical / Reduced for Existing Design Status
Contingency @ 15%	\$	213,653.88	\$	233,315.38	Design Level Contingency to Address Unknowns and Estimate Level
ESTIMATED TOTAL COST	\$	1,780,449.00	\$	1,944,294.82	Estimated Total Costs in Construction Year Dollars

(1) 2023 Unit Prices based on Average Bid Prices from the Reach O Trail Project (2022) and Bids Received for the Reach Q and R Project (2023)

2023 PROPOSED RESTORATION ACTION CONCEPT ABSTRACT

Table 4 - Project 3 Estimated Costs

Silver Bow Creek Greenway
Updated Estimate of Remaining Quantities and Cost
Project 3 - Ramsay Flats to Miles Crossing (2026)
SSTOU Subarea 2
3/3/2023

2023 Grant Year
2026 Anticipated Construction Year
4.5% Annual Inflation Rate

Area / Item Description	2023 Unit Price (1)	Adjusted Unit Price	Quantity	Unit	Cost 2023 Dollars	Cost Construction Year Dollars	Notes
TRAILS (costs include clearing, grading average 1' deep, minor drainage structures such as culverts, reestablishment of side slopes grades and edge revegetation)							
Asphalt, 10' wide, 3" thick	\$ 30.00	\$ 34.23	17,500	LF	\$ 525,000.00	\$ 599,112.22	Reach G Underpass to Reach J at Miles Crossing
Base Course, 12' wide, 8" depth w/geotextile	\$ 30.00	\$ 34.23	7,000	LF	\$ 210,000.00	\$ 239,644.89	Reach G Underpass to Reach J at Miles Crossing / 40% of length
Aggregate Base Course, 12' wide, 6" depth (no geotextile)	\$ 22.05	\$ 25.16	10,500	LF	\$ 231,525.00	\$ 264,208.49	Reach G Underpass to Reach J at Miles Crossing / 60% of length
Aggregate Base Course, 4' wide (Secondary Trail)	\$ 7.35	\$ 8.39	4,000	LF	\$ 29,400.00	\$ 33,550.28	Optional
Culverts with end sections	\$ 3,825.00	\$ 4,364.96	12	EA	\$ 45,900.00	\$ 52,379.53	A few local drainage issues
Trailside picnic tables	\$ 3,500.00	\$ 3,994.08	5	EA	\$ 17,500.00	\$ 19,970.41	Optional
Trailside benches and Pads	\$ 2,850.00	\$ 3,252.32	7	EA	\$ 19,950.00	\$ 22,766.26	Optional
Misc. access control and signage	\$ 10,000.00	\$ 11,411.66	3.5	miles	\$ 35,000.00	\$ 39,940.81	
Construct Type 4SSW Fence and Gate	\$ 6.35	\$ 7.25	17,500.0	LF	\$ 111,125.00	\$ 126,812.09	General allowance as needed, fencing assumed to equal the length of the primary trail
Trail Entrance Gates	\$ 9,074.00	\$ 10,354.94	1.0	EA	\$ 9,074.00	\$ 10,354.94	Miles Crossing End
Misc. Safety, Dewatering, BMPs, Reveg.	\$ 60,000.00	\$ 68,469.97	1.0	LS	\$ 60,000.00	\$ 68,469.97	
GERMAN GULCH ROAD PARKING AREA							
Trailhead Grading	\$ 0.50	\$ 0.57	15,000	SF	\$ 7,500.00	\$ 8,558.75	
8" Road base W/Geotextile	\$ 2.08	\$ 2.37	15,000	SF	\$ 31,200.00	\$ 35,604.38	
Concrete Wheel Blocks	\$ 172.50	\$ 196.85	10	EA	\$ 1,725.00	\$ 1,968.51	
Misc. Fencing and Regulatory Signs	\$ 10,000.00	\$ 11,411.66	1	LS	\$ 10,000.00	\$ 11,411.66	
Directional/Information Signage	\$ 5,000.00	\$ 5,705.83	1	LS	\$ 5,000.00	\$ 5,705.83	
Landscape Boulders	\$ 375.00	\$ 427.94	6	EA	\$ 2,250.00	\$ 2,567.62	
Trash Receptacle	\$ 985.00	\$ 1,124.05	1	EA	\$ 985.00	\$ 1,124.05	
Trail Entrance Gate	\$ 9,074.00	\$ 10,354.94	1	EA	\$ 9,074.00	\$ 10,354.94	
INTERPRETIVE AREAS							
Greenway Trail Secondary	\$ 10,000.00	\$ 11,411.66	3	L.S.	\$ 30,000.00	\$ 34,234.98	
REACH G RR UNDERPASS							
Rarus, CMSTP, BNSF Underpass	\$ 550,000.00	\$ 627,641.37	1	L.S.	\$ 550,000.00	\$ 627,641.37	Crosses under three lines (2 Active, 1 Abandoned)
MISC. TRAIL CROSSINGS							
Railroad Crossings	\$ 20,000.00	\$ 22,823.32	2	EA	\$ 40,000.00	\$ 45,646.65	BNSF and Rarus at Miles Crossing

Line Items Subtotal	\$ 1,982,208.00	\$ 2,262,028.62	Estimated Constructed Elements
MBI @10%	\$ 198,220.80	\$ 226,202.86	Typical Mobilization Bonding and Insurance Costs
Construction Subcontractor Total	\$ 2,180,428.80	\$ 2,488,231.48	Total Estimated Construction Costs
Design @10%	\$ 218,042.88	\$ 248,823.15	Industry Standard / Typical / Reduced for Existing Design Status
Contingency @ 15%	\$ 327,064.32	\$ 373,234.72	Design Level Contingency to Address Unknowns and Estimate Level
ESTIMATED TOTAL COST	\$ 2,725,536.00	\$ 3,110,289.36	Estimated Total Costs in Construction Year Dollars

(1) 2023 Unit Prices based on Average Bid Prices from the Reach O Trail Project (2022) and Bids Received for the Reach Q and R Project (2023)

2023 PROPOSED RESTORATION ACTION CONCEPT ABSTRACT

Table 5 - Project 4 Estimated Costs

Silver Bow Creek Greenway
Updated Estimate of Remaining Quantities and Cost
Project 4 - Lower Area One to Whiskey Gulch (2028)
SSTOU Subarea 1
3/3/2023

2023 Grant Year
2028 Anticipated Construction Year
4.5% Annual Inflation Rate

Area / Item Description	2023 Unit Price (1)	Adjusted Unit Price	Quantity	Unit	Cost 2023 Dollars	Cost Construction Year Dollars	Notes
TRAILS (costs include clearing, grading average 1' deep, minor drainage structures such as culverts, reestablishment of side slopes grades and edge revegetation)							
Asphalt, 10' wide, 4" thick	\$ 36.70	\$ 45.73	3,950	LF	\$ 144,965.00	\$ 180,652.76	Whiskey Gulch East to I15/90 Underpass (Includes Sub-base Mat.)
Aggregate Base Course, 12' wide, 6" depth (no geotextile)	\$ 22.05	\$ 27.48	1,200	LF	\$ 26,460.00	\$ 32,973.97	
Aggregate Base Course, 4' wide (Secondary Trail)	\$ 7.35	\$ 9.16	4,500	LF	\$ 33,075.00	\$ 41,217.47	Optional \$40/cy (Procure, Haul, Spread, Compact)
Culverts with end sections	\$ 3,825.00	\$ 4,766.65	3	EA	\$ 11,475.00	\$ 14,299.94	Limited other drainage issues in this area
Trailside picnic tables and pads	\$ 3,500.00	\$ 4,361.64	3	EA	\$ 10,500.00	\$ 13,084.91	Optional
Trailside benches and pads	\$ 2,850.00	\$ 3,551.62	4	EA	\$ 11,400.00	\$ 14,206.47	Optional
Construct Type 4SSW Fence and Gate	\$ 6.35	\$ 7.91	3,950.0	LF	\$ 25,082.50	\$ 31,257.36	General allowance as needed, fencing assumed to equal the length of the primary trail
Misc. access control and signage	\$ 10,000.00	\$ 12,461.82	0.7	miles	\$ 7,481.06	\$ 9,322.76	Whiskey Gulch East to I15/90 Underpass
Trail Entrance Gates	\$ 14,000.00	\$ 17,446.55	1	EA	\$ 14,000.00	\$ 17,446.55	Whiskey Gulch East to I15/90 Underpass
INTERPRETIVE AREAS							
Greenway Trail Secondary	\$ 10,000.00	\$ 12,461.82	6	L.S.	\$ 60,000.00	\$ 74,770.92	Optional
MISC. BRIDGE IMPROVEMENTS							
Greenway Trail @ I-15/90 West	\$ 30,000.00	\$ 37,385.46	1	L.S.	\$ 30,000.00	\$ 37,385.46	Simplified by MDT Bridge Replacement, fencing only
Greenway Trail @ I-15/90 East	\$ 45,000.00	\$ 56,078.19	1	L.S.	\$ 45,000.00	\$ 56,078.19	Simplified by MDT Bridge Replacement, fencing only
MISC. TRAIL CROSSINGS							
Road Crossings	\$ 7,500.00	\$ 9,346.36	1	EA	\$ 7,500.00	\$ 9,346.36	East From Whiskey Gulch Station

Line Items Subtotal	\$	426,938.56	\$	532,043.12	Estimated Constructed Elements
MBI @10%	\$	42,693.86	\$	53,204.31	Typical Mobilization Bonding and Insurance Costs
Construction Subcontractor Total	\$	469,632.42	\$	585,247.43	Total Estimated Construction Costs
Design @10%	\$	46,963.24	\$	58,524.74	Industry Standard / Typical / Reduced for Existing Design Status
Contingency @ 15%	\$	70,444.86	\$	87,787.12	Design Level Contingency to Address Unknowns and Estimate Level
ESTIMATED TOTAL COST	\$	587,040.52	\$	731,559.29	Estimated Total Costs in Construction Year Dollars

(1) 2023 Unit Prices based on Average Bid Prices from the Reach O Trail Project (2022) and Bids Received for the Reach Q and R Project (2023)

Table 6 - In-Kind Donations and Matching Funds

Donation or Matching Fund	Amount
Greenway Board Donated Services (1)	\$ 90,449.00
Atlantic Richfield Company (ARCO) Preliminary Design (2)	\$ 500,000.00
Community Transportation Enhancement Funds - MDT (3)	\$ 266,000.00
Crackerville Road Tunnel Installation - MDT (4)	\$ 105,000.00
Highway 1 Trailhead / Parking - MDT (5)	\$ 1,000,000.00
Montana Connections Business Park Infrastructure Grant (6)	\$ 400,000.00
TOTAL	\$ 2,361,449.00

(1) The Greenway Service District has met monthly since 1998. This multi-jurisdictional service district representing Butte-Silver Bow and Anaconda-Deer Lodge Counties has nine members – five of them are volunteers. An estimate of their in-kind hours is based on 1 meeting/month/aver. 2.0 hours since 1998 - 3020 hours @ 29.95/hour (Independent Sector - Current Estimated Value of Volunteer Hours.) These hours do not include local government Council or Commissioner meetings, public meetings, and other consultation outside of regularly scheduled meetings.

(2) ARCO funded the development of the preliminary design for the Silver Bow Creek Greenway.

(3) Funds were used to construct the first segment of the Silver Bow Creek Greenway.

(4) MDT installed a tunnel purchased by GSD with NRDP funds as part of the Crackerville Road Bridge Replacement Project.

(5) MDT Constructed the Highway 1 Rest Area in close consultation with the GSD and includes a separate Greenway Trail parking area. Installation of the rest area by MDT eliminated the need for the GSD to use NRDP funds to construct the Highway 1 Trailhead (included in the original project plans).

(6) These funds will connect the trail to MT Connections through an underpass.

Table 7 - Estimated Administration, Land Planning, and Operations & Maintenance Costs

Category	Period	Periods Per Year	Cost Per Period	Cost Per Year	Scale Adjustment	Scaled Annual Costs
Administration (1)	Quarter	4	\$ 13,312.34	\$ 53,300.00	1	\$ 53,300.00
Land Planning Costs (2)	Quarter	4	\$ 17,500.00	\$ 70,000.00	1	\$ 70,000.00
Operations and Maintenance (3)	Quarter	4	\$ 10,035.82	\$ 40,200.00	1.4	\$ 56,280.00

(1) Based on actual expenditures for partial Greenway Director Salary 2018-2022.

(2) Based on actual expenditures for surveying, planning, legal, and appraisal services for land acquisition efforts from 2018-2022.

(3) Based on Actual O&M costs from 2018-2022 for the portions of the Greenway already constructed. Estimated future O&M costs were scaled by an additional 40% to include the increased O&M costs for the full completed project.



Comment #11

March 1, 2023

Montana Natural Resource Damage Program
Doug Martin, Restoration Program Chief
P.O. Box 201425
Helena, MT 59620

RE: 2023 UCFRB Aquatic and Terrestrial Resources Restoration Plans Update

Dear Mr. Martin,

Thank you for the opportunity to comment on the update of the Upper Clark Fork River Basin Aquatic and Terrestrial Restoration Plans. As you know, the Clark Fork River Technical Assistance Committee has been engaged in advocacy and community engagement on the Upper Clark Fork River Superfund Site for over two decades. Our board is highly invested in engaging with NRDP, DEQ, EPA and community stakeholders to ensure that the highest-possible resource and community health outcomes are achieved in the Deer Lodge Valley under the remaining remediation and restoration work. We appreciate the complexity of this challenge and the effort that your staff has invested to date.

Given community concerns around habitat restoration outcomes on the Clark Fork River following combined remediation and restoration work to date and the lack of positive fisheries response in these reaches, we encourage NRDP to consider the synergy between restoration work under the UCFRB Aquatic and Terrestrial Restoration Plans and the ongoing work on the Clark Fork River Operable Unit. We encourage NRDP to continue targeted monitoring and investigation of restoration outcomes to ensure that limiting factors for recovery of the aquatic ecosystem are understood. If habitat conditions are determined to be limiting recovery of the Clark Fork River fishery, we suggest that NRDP consider investing funds from the UCFRB settlement to further enhance and restore habitat conditions in the affected reaches.

Sincerely,

Alex Leone

507 Walnut Street
Anaconda, MT 59711
406-396-5284
CFRTAC Vice President
www.cfrtac.org

Comment #12

MEMO

3/3/23

TO: Doug Martin, NRDP Director

FROM: Jon Sesso

RE: Comments on Aquatic/Terrestrial Restoration Plan Update (the Plan)

Thanks for the opportunity to comment on the Plan. I don't have a specific project to propose or present but wanted to offer some general observations to guide investments in restoration and replacement projects going forward.

First of all, I agree with NRDP, as stated in your solicitation, that no substantial changes or redirections are needed in the Plan as part of this update. I believe the original, approved and adopted document has held up well over the passage of time. The goals and objectives set forth, the categories for investment, the allocations, etc., were all well-conceived, deliberated and eventually adopted at that time. I agree that the focus now should be on identifying more good projects that meet the goals set forth in the Plan.

The only policy-related comment on the Plan I'd offer to is to reaffirm the commitment to integration of remedial and restoration investments. Nothing has proven more rewarding and effective than to ensure restoration projects are implemented in concert with remedial actions. Although this objective is not directly pertinent to the Plan update, we should still be vigilant to take advantage of the opportunities to pursue in front of us. For example, in the first mile of Silver Bow Creek and on Blacktail Creek, where substantial remedial actions (as stipulated under the Butte Priority Soils Operable Unit Consent Decree) will be implemented in the next five years, restoration enhancements should be built at the same time, to give the "greatest bang for the bucks."

Further, I understand that all projects that have already been approved will carry forward in the updated Plan. My sincere hope is that those projects can still be fully implemented and that project sponsors are still around and motivated to complete them. If necessary, NRDP should consider providing additional assistance and incentive that would see that the projects get done.

Along these same lines, I would strongly endorse sustaining restoration investments from the Aquatic fund category in the CFWEP and the Silver Bow Creek Greenway projects. The long-term educational benefits derived through the CFWEP have been impressive this past decade and a continued commitment to that Program is warranted. This Program is a keeper, and NRDP, in this Plan update, should reaffirm its commitment to the long-term implementation of CFWEP.

Likewise, the Silver Bow Creek Greenway is a stellar, premier project sponsored by the NRDP. Please stay the course on that project, and help the sponsors (Greenway Service District) complete the construction, as originally planned 20 years ago; we are so close, let's give that project a final push to get done. In addition, NRDP, in conjunction with the MDEQ, should ensure there are adequate funds set aside to help the sponsors operate and maintain the Greenway perpetually. Of course, the recreational benefits will continue to pay direct dividends for the communities of Butte and Anaconda.

But also, as has been stated often, there is no better institutional control to protect the remedial actions implemented on Silver Bow Creek than the Greenway, which, though its public use and appreciation will provide the incentive to make sure the restored natural resource that is the Silver Bow Creek corridor stays as good as it is now.

The tributary projects that have also been on the drawing board for several years should also be priorities going forward. Projects on Blacktail, and Basin Creeks are meritorious. Let's get them built and producing the restoration benefits envisioned sooner than later. Flow projects involving the Silver Lake Water System, in my mind, present the most valuable opportunities to make sure the Upper Clark Fork River and main tributaries have enough water in low flow periods (drought).

One final point: I would renew the request to reconsider the lost terrestrial resources in the Butte-Silver Bow area. In particular, the adverse effects of mining on the Timber Butte area need to be replaced. I am aware of NDRP's position – that the State did not include damaged terrestrial resources in the Butte area in the original claims. However, I am also aware that Timber Butte was substantially damaged, and the NRDP should reconsider a terrestrial project in that area. Let's get it right.

Thank you.



March 3, 2023

Montana Natural Resource Damage Program
Doug Martin, Restoration Program Chief
P.O. Box 201425
Helena, MT 59620

RE: *2023 UCFRB Aquatic and Terrestrial Resources Restoration Plans Update*

Dear Mr. Martin,

Thank you for the opportunity to participate in the 2023 update of the Upper Clark Fork River Basin Aquatic and Terrestrial Resources Restoration Plans. Trout Unlimited has appreciated our collaboration with NRDP and the framework that the Plans have provided in successfully implementing aquatic and terrestrial restoration priorities in the Upper Clark Fork over the last decade. Over this time, it has become increasingly apparent that the identified restoration needs in the Upper Clark Fork will exceed the NRDP funding available to complete them and that building strategies to include additional funding partners will be necessary to meet the goals of the Plans. TU is invested in improving Upper Clark Fork fisheries and committed to assist NRDP to leverage their funding as much as possible to meet these goals.

TU supports plan revisions that improve NRDP and partner efforts to restore aquatic and terrestrial resources to their full potential including leveraging partner funding. To assist in that effort, we offer the following suggestions:

1. Section 3.2.1. Flow Restoration.

The 2018 plan revision authorized short-term agreements to encourage data gathering for more permanent flow projects. This was a substantial improvement for recruiting willing water-user partners and developing long-term projects. TU suggests that NRDP consider similarly authorizing a two-phased funding model for flow projects to allow partial upfront investments to fund infrastructure improvements that result in long-term water conservation, followed by final payments to water-user partners upon final authorization of water right changes. Formal agreements negotiated before project implementation should secure landowner interest and improve flows during the long change application process, while providing assurances that NRDP investments secure flow benefits.

Similarly, some flow projects are not suited to complex change processes among many water users. TU suggests that NRDP consider authorizing application of long-term water management agreements for flow projects that will result in physical flow benefits in priority reaches without the need for formal leases, water right changes or potential water calls. For example, drought response plans or contractual agreements engaging all water

right owners on a given tributary or priority reach could reduce diversions at a specific flow target to maintain minimum flows without requiring a formal lease or change.

In addition, TU supports continued NRDP funding support of a facilitator for the Upper Clark Fork Stream Flow Group. The workgroup has provided a valuable forum for unifying multi-partner efforts to restore stream flows in the watershed. NRDP support of the position will maintain the neutral role of the facilitator with a focus on implementing NRDP flow priorities in the basin while providing leverage for securing outside funding to support the group.

2. **Section 3.2.2.10 Little Blackfoot River.** The Little Blackfoot River is a Priority 1 tributary to the Clark Fork River and Dog Creek, Snowshoe, and Spotted Dog Creek are Priority 2 tributaries to the Little Blackfoot River. The Little Blackfoot hosts important native trout habitat, a popular recreational fishery, and is an important spawning tributary of the Clark Fork River. TU and partners have invested significant time in project development on the mainstem Little Blackfoot River, as well as Snowshoe Creek and Spotted Dog Creek—having inventoried fish passage barriers, flow limitations, and identified fish entrainment problems. Projects currently in development in the lower Little Blackfoot River and Spotted Dog Creek would complete actions currently established in the Plans related to improving fish passage, fish entrainment, water quantity and streambank and riparian habitat. TU is looking forward to the opportunity to review the watershed goals established in the plan with NRD, FWP, and other partners and establishing a timeline and action steps for implementation. TU recommends maintaining existing funding levels for the watershed and is committed to leveraging matching funds for future project implementation.
3. **Section 3.2.2.14 Warm Springs Creek.** Warm Springs Creek is a Priority 1 tributary to the Clark Fork River recognized for its importance to native fish, value as a recreational resource and for its contribution to the Clark Fork River. In 2022, TU was successful on funding proposals in partnership with NRDP, the Beaverhead-Deerlodge National Forest, and the US Fish and Wildlife Service to provide approximately half of the estimated \$1.5 million needed to complete the remaining priority fish passage and entrainment projects in the Warm Springs Creek watershed over the next four years. The outside funding generated in support of this work will free up some of the remaining NRDP funding to complete other priority projects in the watershed. Over the last few years, several potential habitat restoration projects on Warm Springs Creek have been suggested by partners but there is limited data available on current habitat condition to prioritize them. TU suggests that NRDP consider funding a riparian and instream habitat assessment of Warm Spring Creek to evaluate habitat condition, limiting factors, site constraints to allow NRDP and partners to prioritize potential future habitat restoration work in the watershed.
4. **Section 3.2.2.18 Rock Creek.** Rock Creek is a Priority 2 tributary of the Clark Fork River due to its recreational value, importance for native fish, and for its contribution to the Clark Fork River fishery in Reach C. Following the prioritization of Rock Creek in the 2019 Plan update, TU has worked with NRDP and partners to reconnect 20 miles of migratory habitat in mainstem Rock Creek and priority spawning tributaries in addition to completing an inventory and prioritization of fish entrainment and passage barriers in the watershed. TU is working with several partners and agencies to develop and implement a suite of fish passage projects in Rock Creek over the next five years. In total, these projects

to remove barriers and screen ditches on upper Rock Creek and key spawning tributaries are estimated to cost between \$2-3 million to complete. An additional \$500-750 thousand in NRDP funding dedicated to Rock Creek for aquatic restoration will enhance our ability to leverage the remaining funding required to complete these projects to reconnect up to 35 miles of migratory and spawning habitat and further increase recruitment to the Clark Fork River.

- 5. Section 3.3.2.1. Clark Fork River Mainstem.** TU supports continued investment in targeted investigation to answer critical fisheries and aquatic habitat questions and guide the cost-effective implementation of on-the-ground projects to focus restoration actions on meeting the primary goals of the aquatic restoration funds. Funding was set aside in the original 2012 Plans to investigate limiting factors for the extremely low fish densities in Reach C between Flint and Rock Creeks. While some valuable research has been completed, questions remain about limiting factors and the restoration actions necessary to improve fish populations in this reach. In the meantime, fish populations have declined in upper Reach A despite the significant remedial and restoration actions in this reach over the last ten years. Additional investigation is required to understand the current trends and what can be done to address them to ensure that the fisheries goals of the Plans can be realized in the future.

TU also suggests that some funding be allocated to projects to restore fish passage, reduce entrainment, and provide recreational boat passage on mainstem diversion dams on the mainstem Clark Fork River in Reach A. Given the magnitude of investment targeted to improve Clark Fork habitat and water quality, we see an opportunity to integrate activities to reconnect fragmented habitat and improve recreational opportunity diminished by hazardous diversion dams into the Plans so that the Clark Fork fishery can reap the benefits of fully reconnected and restored habitat by the end of the overall project.

In addition, we offer the attached Proposed Restoration Action Concept Abstract Form in support of a potential project to advance NRDP's Upper Clark Fork aquatic restoration goals.

Thank you for your effort to develop an update and for considering public input in revision of the Restoration Plans. We look forward to working with NRDP to implement the updated Plans to restore the aquatic and terrestrial resources of Upper Clark Fork River Basin.

Sincerely,



Casey Hackathorn

Upper Clark Fork Program Manager

PROPOSED RESTORATION ACTION CONCEPT ABSTRACT FORM

Your Name and Contact Information:

Morgan Case
Trout Unlimited
PO Box 412
Helena, MT 59624
Morgan.case@tu.org

Project Purpose and Benefits: German Gulch, a tributary of Silver Bow Creek between Butte and Anaconda, is the primary source of recruitment of pure-strain Westslope Cutthroat Trout in the Silver Bow Creek drainage. A previous project completed by George Grant Chapter TU and TU in 2012 with support from NRDP's grant program protected 1-2 cfs in German Gulch, installed a fish screen and improved upstream fish passage to improve connectivity with Silver Bow Creek. Recent monitoring in Silver Bow Creek has documented water temperatures above 20 °C (Figures 1 and 2) and dissolved oxygen levels below 6 mg/L (Figure 3), both beyond thresholds that support native trout survival. While water temperatures in German Gulch are usually low enough to support native trout (Figure 4), the 1-2 cfs instream during drought years is only providing a small plume of thermal refuge in Silver Bow Creek, as documented by Raja Nagisetty (Montana Tech) using a drone with thermal imaging capabilities (Figure 5).

This project would relocate a large irrigation diversion from German Gulch to Silver Bow Creek, returning up to 7.5 cfs of cold, clean water to Silver Bow Creek. The project is anticipated to decrease water temperatures and increase dissolved oxygen in Silver Bow Creek, improving conditions for native trout. In addition, the project will fully reconnect German Gulch with mainstem Silver Bow Creek and remove the only barrier to fish migration on German Gulch improving access to spawning habitat and thermal refuge. These improved habitat conditions are anticipated to improve fish populations in both Silver Bow Creek and German Gulch enhancing public enjoyment of these resources.

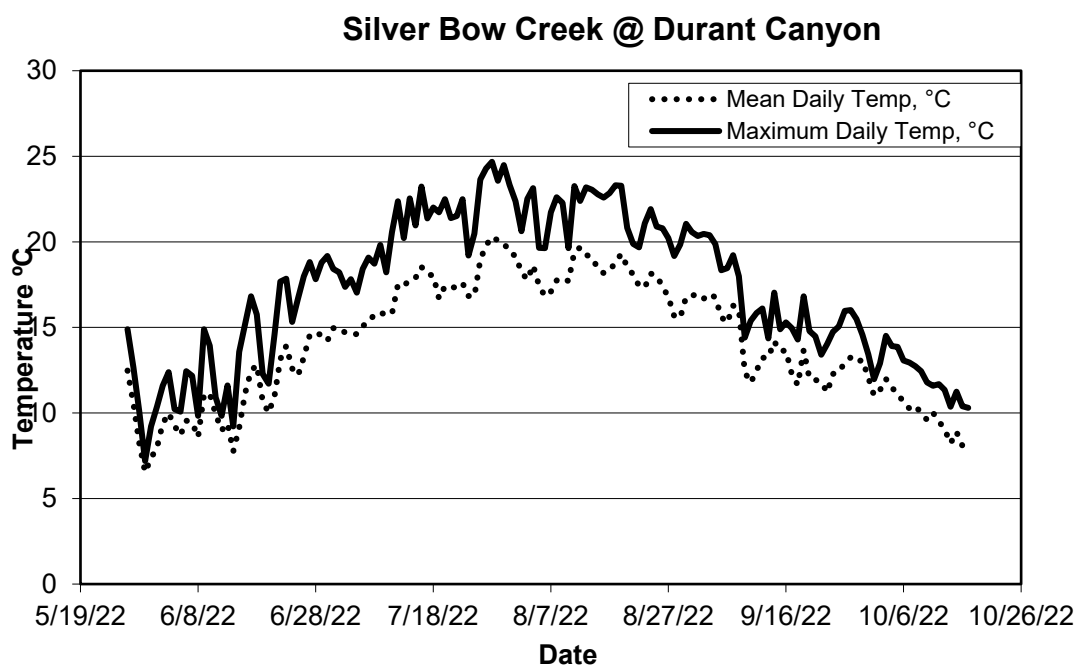


Figure 1. Mean daily and maximum daily water temperature (°C) of Silver Bow Creek at Durant Canyon from May 19 to October 26, 2022, as collected by the Montana Department of Fish, Wildlife and Parks.

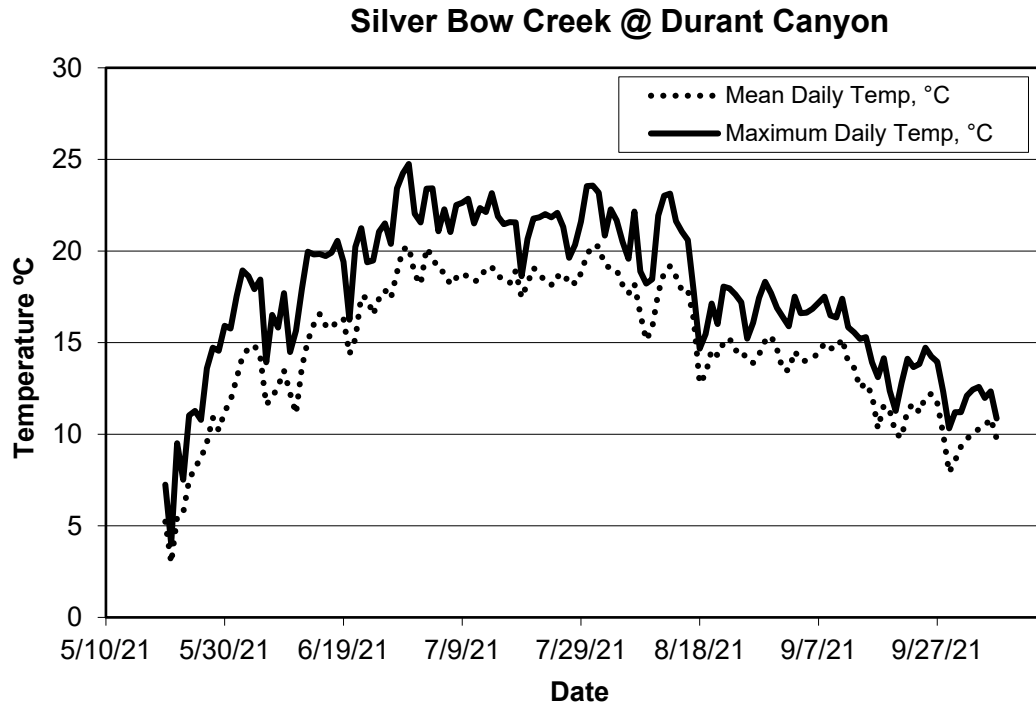


Figure 2. Mean daily and maximum daily water temperature (°C) of Silver Bow Creek at Durant Canyon from May 10 to October 7, 2021, as collected by the Montana Department of Fish, Wildlife and Parks.

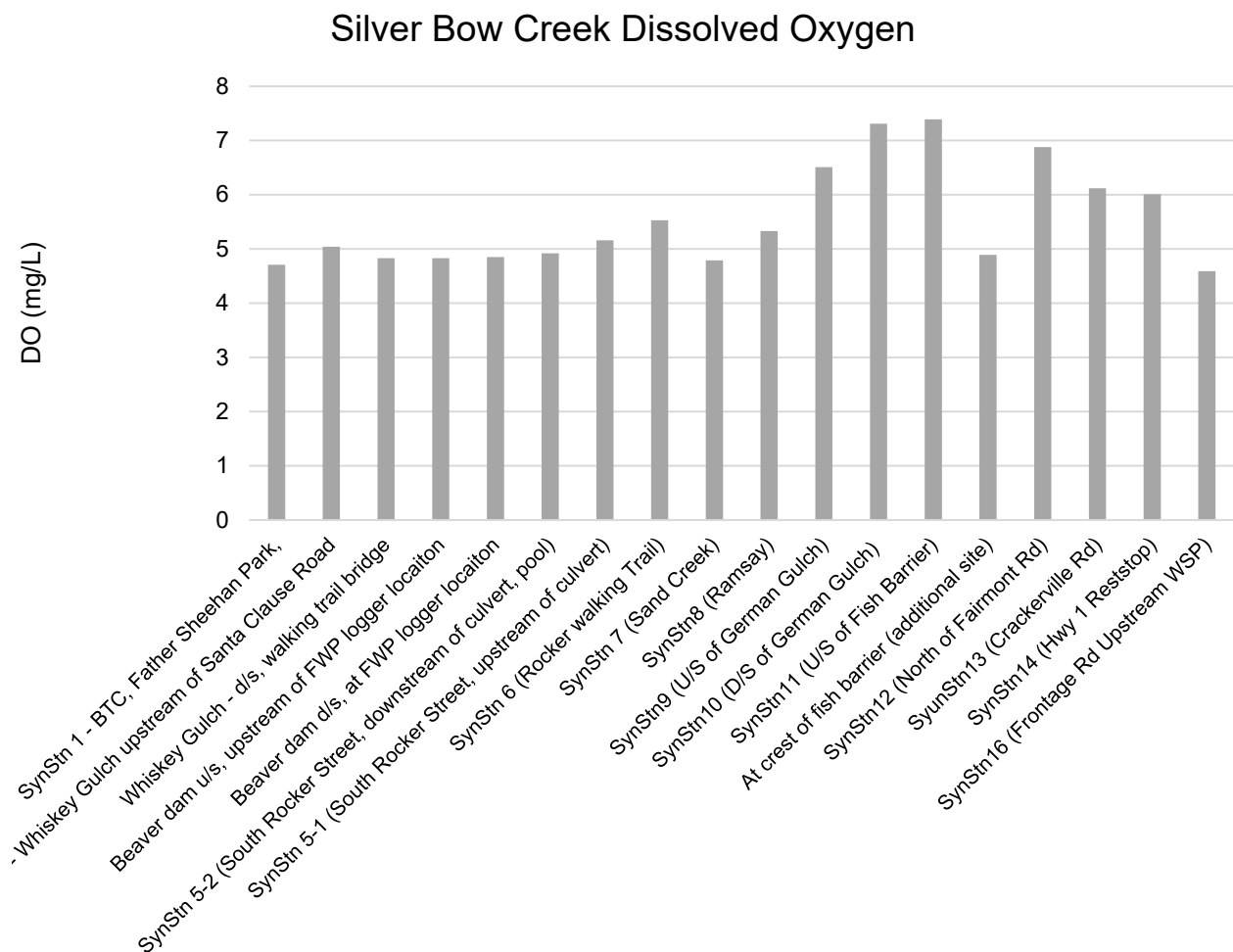


Figure 3. Dissolved oxygen (mg/L) in Silver Bow Creek as collected by Montana Fish, Wildlife and Parks and Raja Nagisetty (Montana Tech) between 3:00 AM and 6:00 AM on August 11, 2022.

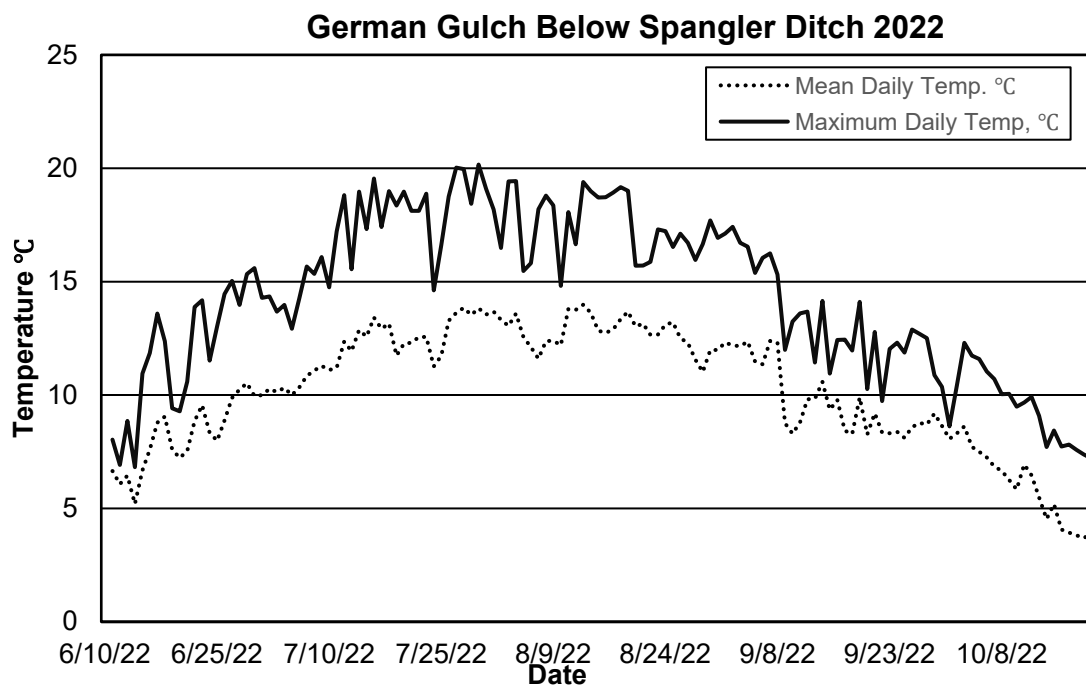


Figure 4. Mean daily and maximum daily water temperature (°C) of German Gulch near mouth from June 20 to October 20, 2022, as collected by Trout Unlimited.

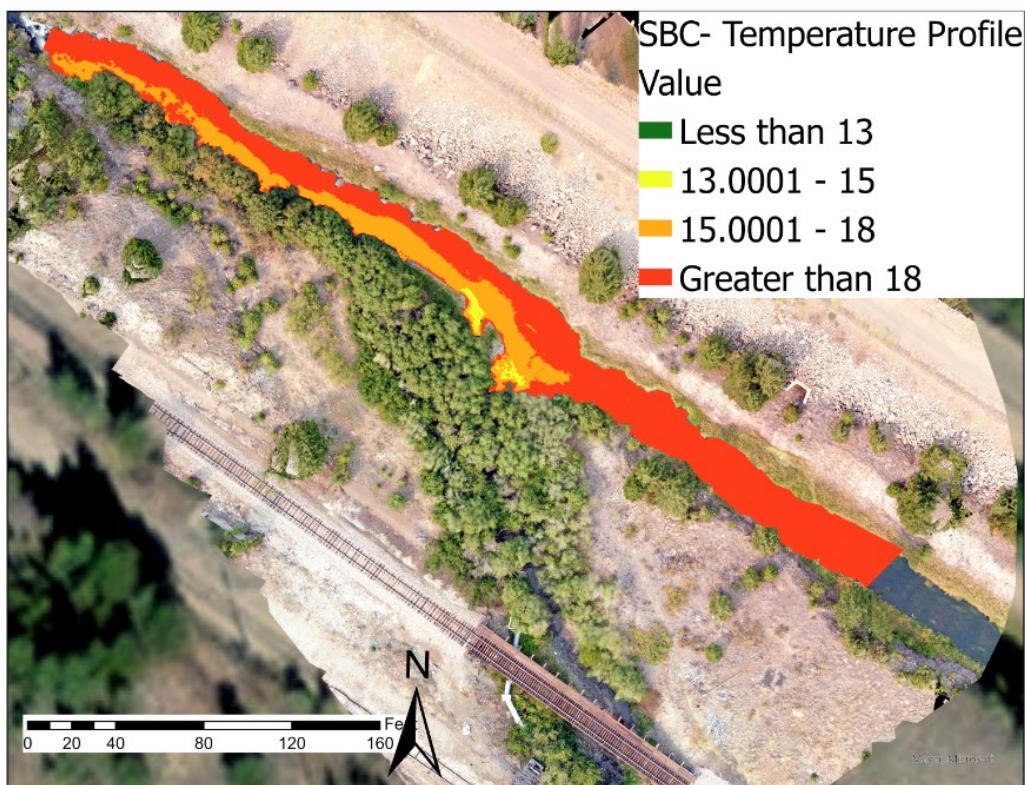


Figure 5. Aerial drone thermal imagery captured by Raja Nagisetty (Montana Tech) showing the cooling effect water from German Gulch entering Silver Bow Creek.

Project Location: The project is located between Butte and Anaconda from German Gulch (RM 0.1) to Silver Bow Creek (~RM 12.5) (Figure 6).

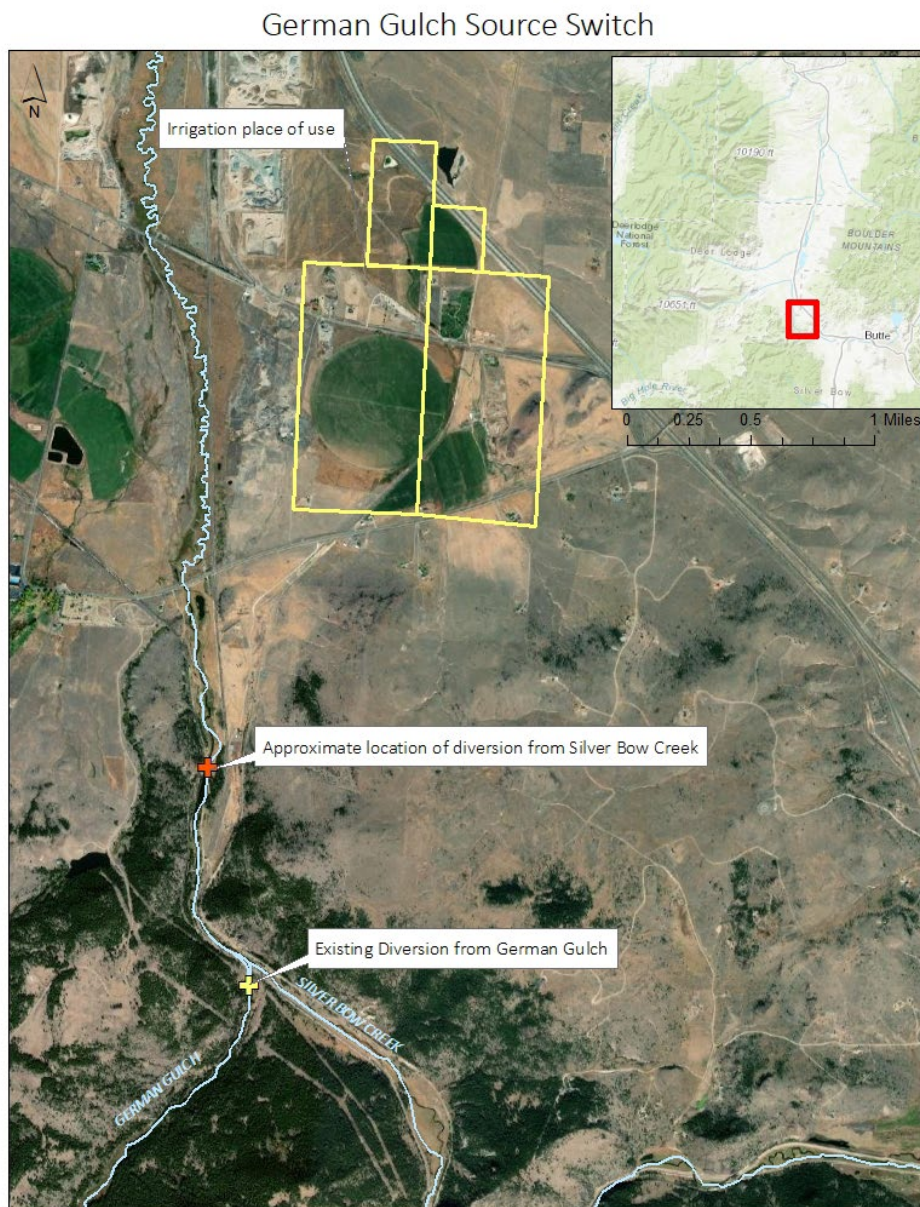


Figure 6. German Gulch source switch project map.

Project Description:

Project development and implementation would include the following:

- Coordination with the landowner and any property owners involved in implementation of the project.
- Agronomist analysis of Silver Bow Creek water quality to determine whether it is suitable for irrigation of the place of use.
- Design and engineering of a new diversion and delivery system.
- Preparation of a water right change to authorize an additional point of diversion.
- Permitting and construction of a new diversion and delivery system.

- Ongoing monitoring to measure water temperature and quality effects of additional flows in Silver Bow Creek.

Trout Unlimited implemented the original water lease with the landowner and is in a good position to be the lead entity on this project. TU has met with the landowner who has indicated that he is open to considering a diversion from Silver Bow Creek.

Integration/Coordination with Restoration Plans:

The project aligns well with the current restoration plans. Additional flow in German Gulch (Priority 1 stream) and improved water quality in Silver Bow Creek (Priority 2 stream) will support all three goals listed in Section 3.1.1 for UCFRB tributaries:

- 1) Restore the mainstem trout fisheries by improving recruitment of fish from tributaries;
- 2) Replace lost trout angling in the mainstem by improving trout populations in tributaries; and
- 3) Maintain or improve native trout populations in the UCFRB to preserve rare and diverse gene pools and improve diversity and resiliency of the trout fishery.

Project Schedule:

Landowner negotiation and project investigation: 2023-2024

Agronomist analysis: 2023-2024

Engineering design and permitting: 2023-2024

Water Right Change: 2023-2024

Construction: 2024-2025

General Cost Information:

Provide an estimate of total project costs. If possible, provide a categorical breakdown of the costs for the following categories: salaries/benefits; contracted services; supplies and materials; travel and communication; equipment; or other (specify). Indicate committed or anticipated matching funds.

It is difficult to predict what the total project costs. The first task will require feasibility analysis including engineering assessment, conceptual designs and implications for agricultural production with changes in water quality. Project implementation costs will depend on the final design. The project lead will pursue cost match for project implementation. The estimated cost of the initial feasibility analysis is \$39,000.

Salaries and Benefits	\$8,000
Contracted Services	
Agronomist	\$10,000
Engineering	\$20,000
Travel and Communications	\$1,000

PROPOSED RESTORATION ACTION CONCEPT ABSTRACT FORM

Your Name and Contact Information:

Michael Kustudia, Recreation Manager
Montana Fish, Wildlife & Parks
3201 Spurgin Rd.
Missoula, MT 59804
406-542-5533
Mkustudia@mt.gov

Project Purpose and Benefits: *Indicate why the project or revisions is being proposed. Include the expected goals, objectives, and outcome of the project or revision. Describe how the project or revision would benefit aquatic or terrestrial resources within the Upper Clark Fork River Basin (UCFRB), and/or benefit the public's use and enjoyment of those resources.*

Public safety and enjoyment of the resource are key elements to this project. The purpose of this project is to ensure that the Milltown State Park Overlook remains a safe and vital asset among the recreational and educational resources of the park. The project also seeks a continuation of support for park operations.

Built in 2011, by the Montana Dept. of Environmental Quality, the Overlook was transferred to Montana Fish, Wildlife & Parks and was the first section of Milltown State Park to open to the public in 2012. For more than a decade, the Overlook has been a popular destination to view and learn about the restored confluence of the Clark Fork and Blackfoot Rivers.

The Overlook sits atop a 200-foot Milltown Bluff, a site known for geologic activity. Recently the Overlook trail has shown increasing signs of geologic instability in the form of cracks and small slides, prompting the closure of Overlook viewpoint and exhibits and trail loop in the summer of 2022. FWP commissioned an engineering firm, Terracon, to conduct a geotechnical study to assess geologic conditions and slope stability and make recommendations.

Building on earlier reports, the report found the tension cracks that appeared on the Overlook Loop were from river erosion from the now undammed Clark Fork was undermining the toe of the "highly fractured bedrock" outcrop that forms the Overlook bluff. Above the north end of the tunnel, large tension crack have appeared in recent decades and the study warned that the northern 100 feet of the tunnel and section of bluff above it could fail catastrophically, and even fall into the Clark Fork River. The consultants strongly recommended permanently closing/sealing off the north segment of Tunnel 16 ½ as it is "unsafe and poses a life hazard." The remainder of the tunnel (600 feet), however, the report noted, is in safe condition and that a small section on the southern end could be left open to historic viewing, provided it was sealed off from the north end. Consultants also recommended:

- Relocating the interpretive panels and park amenities at least 75 feet to the south.
- Adding fencing to block access to the Overlook Loop and additional warning signage.
- Constructing concrete "ecology block" bulkheads and improved fencing to permanently deny access into the north end of the tunnel.

This project seeks NRDP funds to implement those recommendations.

The project would have benefit both aquatic or terrestrial resources within the upper basin and the public's use and enjoyment of those resources. The Milltown State Park Overlook receives steady stream of visitors. FWP has tracked visitation since 2020 and has averaged 15,000 to 20,000 annual visits.

The Overlook features a short ADA-accessible trail to fenced exhibit at the edge of the 200-foot tall Milltown Bluff. The Overlook offers a panoramic view of the confluence of the Clark Fork and Blackfoot rivers and much of Milltown State Parks. Interpretive exhibits feature Salish history and place names, the building of the dam by William A. Clark and the flood of 1908 and the Milltown Superfund Three Rs: remediation, restoration and redevelopment. NRDP funds would be used to update and replace the exhibit's panels. With a dramatic view in the backdrop, these panels have been used in countless presentations before thousands of people – many of them school children. The Clark Fork Watershed Education Program alone has brought more 5,000 5th graders from Missoula County schools since 2014 to study remediation and restoration at the site. The Milltown State Park Overlook also has served as a staging area for numerous volunteer tree planting days.

The Overlook is a trailhead for a network of trails that lead west toward Bandmann Flats (*Eslq'walex* in Salish) and east down the restored confluence of the Clark Fork and Blackfoot Rivers (*Naaycčstm* in Salish). Birders, anglers and dog walkers make regular use of the Overlook and its trails.

Project Location: *Provide a short description of the project location, along with a project map.*
The project would take place at the Milltown State Park Overlook, 1353 Deer Creek Road, Missoula. See attached maps.

Project Description: *Describe the components of the project and how it will be implemented. Also indicate any suggested lead entity and project partners for implementing the project. Indicate what progress, if any, has been accomplished to date on the project.*

The goal of this project is to move the current Overlook exhibit approximately 100 feet to the south of the current location, reusing the existing fence to the extent practicable. The Overlook, with a dramatic view of the Clark Fork and Blackfoot Rivers, will feature updated interpretive panels on the rich history of the restored confluence. Park benches, picnic tables and other amenities will be installed. Extensive signage will warn of cliff hazards and fencing will prevent access to the bluff's edge. The existing paved loop trail would be removed as well as the interpretive signage and park benches. The area will be revegetated with native plants.

A second component of the project will install “entry denial system” as recommended by Terracon, to block off the north end of Tunnel 16 ½ and other hazard mitigation measures, such as fencing and signage.

Work on the relocation will be led by FWP's Design & Construction Bureau with support from field staff. Interpretive exhibit development will be directed by staff but carried out with contracted services.

Integration/Coordination with Restoration Plans: *Describe how the components of the project or revision will integrate and coordinate with current projects being implemented as part of the Restoration Plans.*

This project dovetails with the existing Restoration Plan as it's largely a continuation of the buildout of amenities and services that have been provided at Milltown State Park for last decade. Milltown State Park has funding allocated to it under NRDP's 2012 Restoration Plan for both capital improvements (~\$200,000) and operations and management (~\$400,000).

On the capital side, NRDP funding has been reserved for minor trail and exhibit development along the Blackfoot River, upstream from the old Bonner Dam. That project has been challenged by public access issues but has shown movement in 2022 with new owners and the help of Missoula County. Funds from the 2012 plan are also set aside for modest amenity development on the Clark Fork River's floodplain, including the former Bonner Learning Park, which was acquired in 2020. Access to that parcel is

tentatively slated for later in 2023. And finally, some modest funds remain from the development of the Confluence and Gateway. Possible uses discussed for the funds include picnic shelters and putting it toward a water system or ranger station.

Project Schedule: *Indicate the timeframe needed to complete the project and any specific completion deadlines that would apply.*

Timelines are still tentative. Fencing measures may to block access to the Overlook exhibit may be expedited and done this year. Work on updating the interpretive panels will be rolled into a larger interpretive project underway now and would continue into 2024. Work on relocating the Overlook will depend on the capacity of FWP's Design and Construction and could be pushed into 2025.

General Cost Information: *Provide an estimate of total project costs. If possible, provide a categorical breakdown of the costs for the following categories: salaries/benefits; contracted services; supplies and materials; travel and communication; equipment; or other (specify). Indicate committed or anticipated matching funds.*

With this proposal, FWP requests \$425,000 with \$225,000 of that amount going toward capital expense and an additional \$200,000 in support for operations funding. FWP and Milltown State Park received more than \$1 million in O&M support in the 2012 Restoration plan. This funding has been used judiciously and FWP maintains a balance from the 2012 plan. But needs at Milltown State Park continue to grow with burgeoning numbers of recreationists and the addition of new properties, like the Flats Trailhead and Tunnel 16 ½ Trail. FWP requests an additional \$200,000 for operations to existing staff levels and services. Milltown State Park has yet to transition to FWP's base budget. Additional support would aid that transition and allow Milltown State Park to extend its level of amenities and service through 2028.

Here's a budget breakdown in brief:

Overlook Relocation (\$150,000)

Contracted services \$150,000

Tunnel Closure (\$50,000)

Contracted services \$50,000

Interpretive Development (\$25,000)

Contracted services \$20,000

Supplies and materials \$5,000

Operational Support (\$200,000)

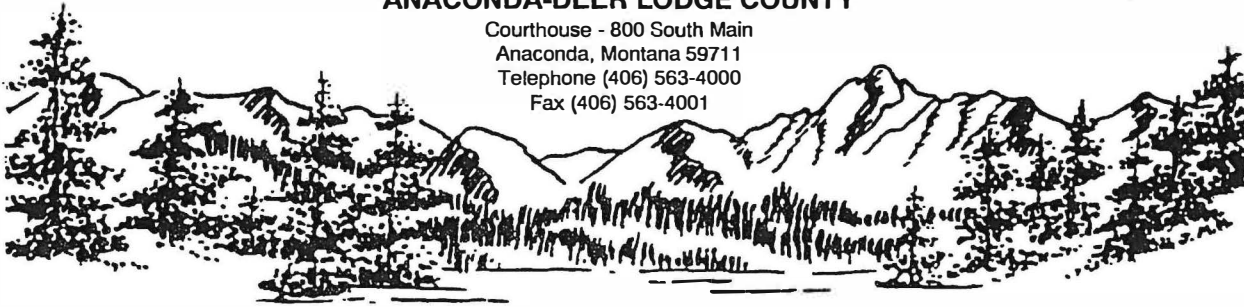
Salaries/benefits: \$165,000

Supplies and materials; travel and communication; equipment: \$35,000

While this effort doesn't have matching funds support, Milltown State Park has been successful in securing outside funding for portions of its development. The Park's Gateway and Confluence had funding from a \$730,000 federal appropriation. The recent Flats Trailhead project brought together \$270,000 in funding from the Recreational Trails Program, the Land & Water Conservation Fund and the Missoula County Park & Trail Bond Program. NRDP funds have been key to leveraging other funds.

ANACONDA-DEER LODGE COUNTY

Courthouse - 800 South Main
Anaconda, Montana 59711
Telephone (406) 563-4000
Fax (406) 563-4001



March 1, 2023

Natural Resource Damage Program
1720 9th Avenue
P.O. Box 201425
Helena, MT 59620-1425

To whom it may concern,

Thank you for the opportunity to comment on the revision of the 2019 Upper Clark Fork River Basin Aquatic and Terrestrial Resources Restoration Plans being conducted in 2023. Anaconda-Deer Lodge County (ADLC) appreciates all the work that has been completed to date and looks forward to future NRDP-funded projects in the watershed.

At this time, ADLC does not have a specific project to propose, but would like to state our broad support for potential habitat and aquatic projects focused on the upper Fifer Creek drainage, lands conservation and habitat improvements surrounding Blue-Eyed Nellie Gulch, and finally, habitat improvement and protection near Stucky Ridge from the 'Red Rocks' to the Blue-eyed Nellie

Western Montana has experienced accelerated and relentless amount of developmental pressure in the past three years, and we welcome much of this investment in our communities, however, there are certain places we believe need protection to promote our outdoor recreation economy as well as provide habitat for our abundant but threatened fish and wildlife. Fifer Creek, Blue-Eyed Nellie, and the foothills below Stucky Ridge are three critical and sensitive areas in which we strive to prevent degradation and minimize over-development.

Please accept this letter as proof of our continued support of State efforts to preserve and protect these vital grounds and waterways.

Thank you for all your efforts and successes in our region and please let us know if you have any questions.

Best Regards,

Bill T. Everett, CEO
Anaconda-Deer Lodge County