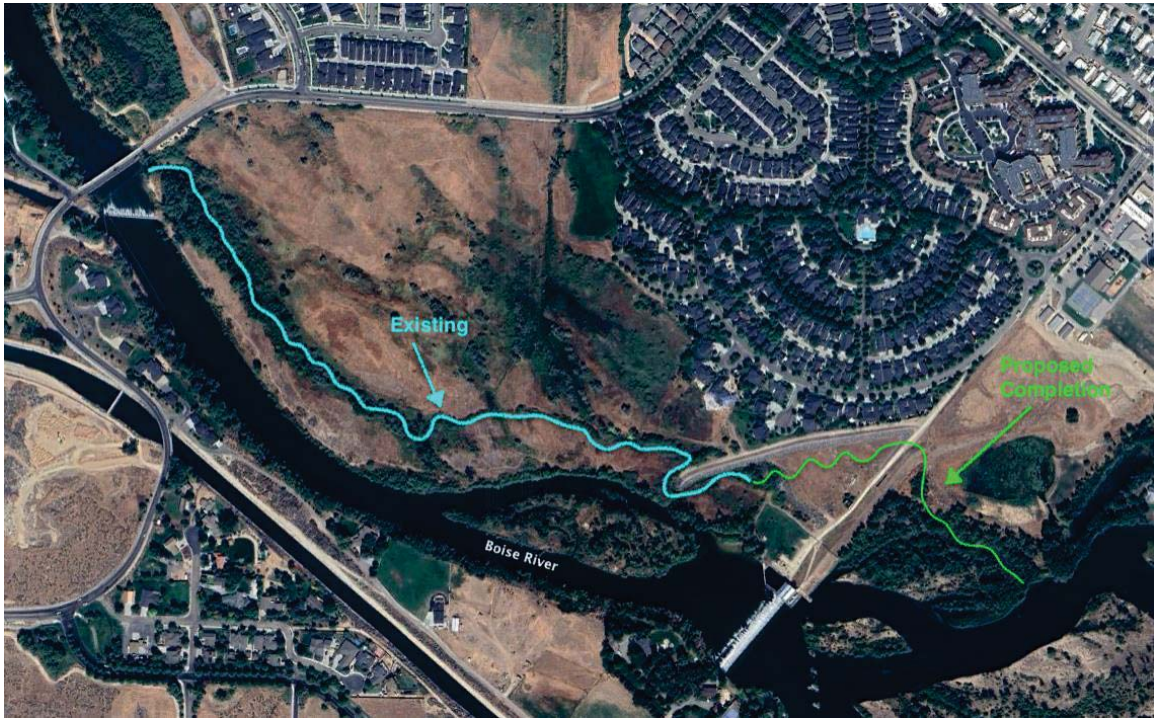


Completion of the

Alta Harris Creek Boise River Side Channel and Fish Passage Project



WaterSMART Environmental Water Resources Project



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Executive Summary

Date: March 27, 2023

Applicant: Trout Unlimited

City, County, State: Boise, Ada County, Idaho

Completion of Alta Harris Creek Boise River Side Channel and Fish Passage Project

Trout Unlimited and partners propose to complete the Alta Harris Creek Boise River Side Channel Project (Project) that will improve aquatic habitat in the Boise River by restoring spawning and rearing habitat for salmonid fishes and provide fish passage connecting the lower Boise River to Barber Pool. The Project will restore connectivity between these two reaches of the river that have been disconnected for a century. The Barber Pool is a 2 ½ mile reach of the Boise River at the east end of the city bounded at the upstream end by the Bureau of Reclamation's Diversion Dam. Lack of habitat diversity, such as side channels, has long been recognized as a need for the river and the local wild trout fishery that has grown in popularity as population continues to increase in the Treasure Valley. The project will construct 1,600 feet of side channel and a fish passage facility sourcing water from Barber Pool to bring year round water flows into an already-existing half mile long section of Alta Harris Creek side channel.

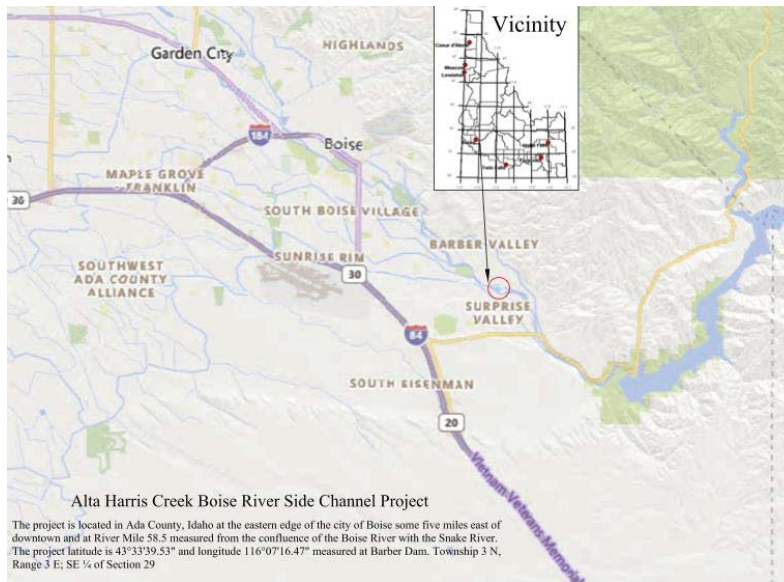
This first phase was a cooperative undertaking of the Ted Trueblood Chapter of Trout Unlimited, Harris Ranch, Idaho Fish and Game, City of Boise Parks and Recreation, and then owners of Barber Dam, Enel, N.A. and Ada County, along with numerous schools and volunteer groups.

While lack of funds prevented completion of the Project over the last decade, the side channel has been in custodial status with monitoring the growth of the riparian vegetation along the side channel which has partial year – or seasonal – water flows. With significant matching funds from the Bonneville Environmental Foundation the project can be completed with a Reclamation WaterSMART grant; Trout Unlimited is making great progress to reenlist the support of the entities who were part of the first phase to join in this endeavor as well as building support with new partners. The Project is recognized in the *Boise River Enhancement Plan* developed by the Boise River Enhancement Network through a Reclamation Comprehensive Watershed Program planning effort, the City of Boise's *Boise River Resource Management and Master Plan*, and the City-approved *Harris Ranch Comprehensive Plan* among others.

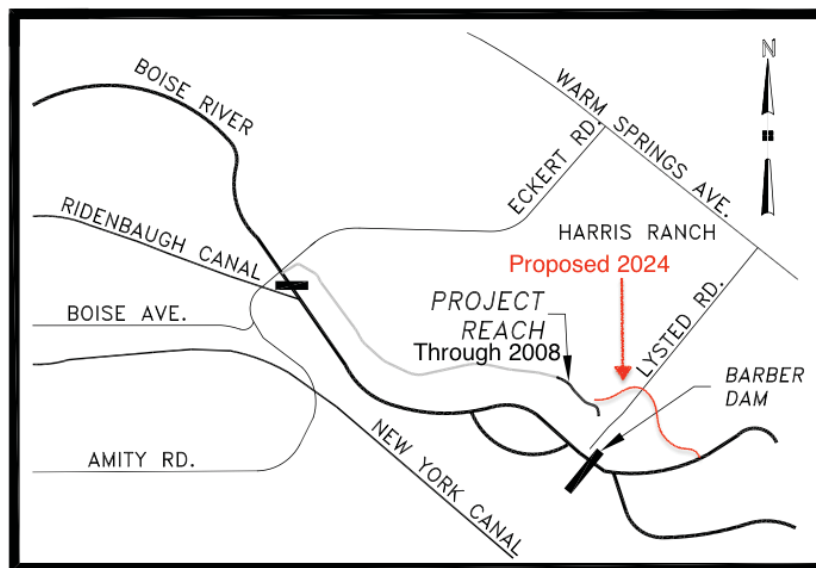
Completion of the Project construction is anticipated to be Spring 2025, depending on the completion of the NEPA decisions in 2024. The design and initial permits can be obtained in early to mid 2024. Construction can commence Fall 2024 with Winter 2024-25 for completing construction.

There is no Federal facility or Federal land involved in the Project.

Project Location



The Project is located in Ada County, Idaho at the eastern edge of the City of Boise, some five miles east of downtown and at River Mile 58.5 measured from the confluence of the Boise River with the Snake River. The project latitude is 43°33'39.53" and longitude 116°07'16.47" measured at Barber Dam. Township 3 N, Range 3 E; SE ¼ of Section 29.



Technical Project Description

- The project description should describe the work, including specific activities that will be accomplished. This section provides an opportunity for you to provide a clear description of the technical nature of the project and to address any aspects of the project that reviewers may need additional information to understand.

The Alta Harris Creek Boise River Side Channel Project (Project) will improve aquatic habitat in the Boise River by restoring spawning and rearing habitat for salmonid fishes and also provide fish passage connecting the lower Boise River to Barber Pool. The Project entails construction of 1,600 feet of side channel and a fish passage facility sourcing water from Barber Pool.

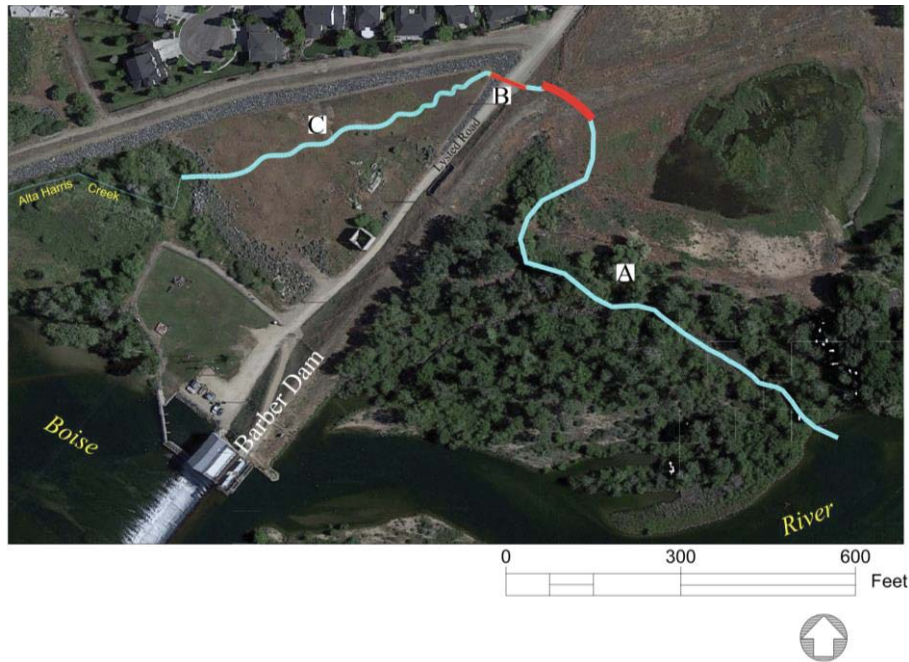
The results will include nearly 2 ½ miles of additional river habitat between Barber Dam to Diversion Dam will be reconnected with the lower Boise River. The Barber Pool reach of the Boise River is surrounded by the 700 acre Barber Pool Conservation Area that is protected habitat along the Boise River. Secondly, there will be more than one mile of new side channel to the Boise River with year around flows with new spawning and rearing habitat. The flows from Barber Pool will enhance 3,800 feet of existing side channel and 1,600 feet of new side channel. Five acres of riparian habitat will be established or enhanced along the one-mile side channel. Downstream of Barber Dam the existing Alta Harris Creek side channel anchors a 17 acre area along the Boise River that is protected in conservation easements held by Trout Unlimited, Land Trust of the Treasure Valley and the Idaho Foundation for Parks and Lands.

Construction: The illustration on the next page shows the areas of stream construction and the fish passage (fishway) and box culvert under Lysted Road.

Starting at the upstream end of the Project and moving westward (right to left), the general direction of the flow of the Boise River, the construction work will begin with a stream channel excavated from the shoreline of Barber Pool at the northern and western end of the pool.

This excavated channel would be some 900 feet in length in the direction towards the earthen embankment of Barber Dam. This is the blue line noted as “A” on the illustration. Approximately 450 feet of the channel would be a clean out of an existing back channel. The remaining 450 feet would be excavated on land. The channel would be excavated to the northern end of the earthen embankment at Lysted Road. The alignment shown on the illustration is subject to change after survey and design and involvement of other parties.

The area noted with “B” is where a portion of the embankment will be excavated and a fishway with water control head gate and a trash rack will be constructed on the upstream side.



The fishway will be designed to accommodate a fluctuating river flow and water surface elevation of Barber Pool. The gate provides a method to shut off flow in the ladder for maintenance. A trash rack is provided upstream of the gate to prevent debris from entering. The walls and floors of this structure will be constructed of precast reinforced concrete. The top of the structure would be metal grate in some locations, or reinforced concrete. The structure would be roughly 50 feet in length. The portions of the fishway through the embankment would be covered in embankment material to restore the same elevation of the embankment.

Downstream of the fishway the channel will be open and a resting pool for fish will transition to from a pool and open channel to a box culvert made of reinforced concrete and sufficient to handle vehicles on Lysted Road, an unpaved driveway to the Barber Dam powerhouse. A portion of Lysted Road will be excavated, the box culvert installed, and covered in compacted road grade materials.

West of the box culvert, the construction will transition to a nature-like channel that will be excavated in a westerly direction for some 700 feet to the point where it connects to the existing Alta Harris Creek side channel. This section of channel (labeled “C” in the illustration) will include a series of pools and steps featuring larger rocks, wood and boulders and these habitat features will allow for resting areas for fish that may be migrating upstream in this section because it will be higher gradient than any other portion of the side channel. The stream bed materials, including the size of rock and any large wood will need to be procured if such materials are not available on site. We anticipate adding an interpretive site with signage about the Project and historic Barber Dam along this section of channel.

After the construction of the channel and the fishway are ready for operation we anticipate that water flows will be controlled and conservatively managed with the headgate to control flows and mitigate any risks of erosion while the vegetation becomes established.

Both sections of the created nature-like channel will be planted with vegetation, which over time will help stabilize the stream banks. These riparian areas will also be important to establish to ensure growth of vegetation like willow and cottonwood trees that are adequate to provide shade over the stream and provide a setback of vegetation from the stream to help filter or stop overland erosion from adding sediment to the channel. Other construction best management practices will also be incorporated into the construction site as outlined in the construction permit documents required from local authorities.

The staging area will probably be located south of the channel in section “C”. This is a large area of fill that has been in place for twenty years and has been the location for materials that were used in construction of the earlier phase of the side channel project. Items like large rocks, trees and root wads, and heavy equipment can be staged at this location.

The existing 3,800 feet of stream channel will be monitored and managed as part of this Project. This will include removal of invasive species such as Russian olive trees and replacement with native species like willow and cottonwood.

Planning, Design, Permits: The construction described above will be supported by numerous planning and design steps as well as the acquisition of necessary permits for the Project. The Pre-Design Memorandum Barber Dam Fish Protection Facilities, prepared by the Bureau of Reclamation PN Region in 2008, forms the basis for development of design for the Project. Trout Unlimited will work with interested and directly affected parties on the design elements (e.g., Idaho Fish and Game, Barber Dam owners, City of Boise, Ada County).

While subject to change as a final design is developed in the coming months of 2023 for this phase of the Project, here is the general approach outline for the Project design and construction components of this Project; a full detailed timeline is in a later section that includes a schedule and milestones. The approach for this Project is similar and based in part on Trout Unlimited experience with past habitat restoration projects in southwest Idaho, including the earlier phase of this side channel project (2003-2010,) Julia Creek Daylighting Project (2007), Heron Creek (2009) and Pierce Creek reconnection on the South Fork of the Boise River (2011):

- Review 2008 Bureau of Reclamation conceptual design and examine alternatives based on projects implemented in recent years.
- Develop agreements with Barber Dam owners, Idaho Fish and Game, Idaho Foundation for Parks and Lands and others on passage facility design and future management; develop permit and environmental review plans (this will involve coordination with Bureau of Reclamation and Federal Energy Regulatory Commission on NEPA compliance), NHPA Section 106 coordination (Barbar Dam spillway, powerhouse and a portion of the embankment is listed on the National Register of Historic Places), 404 and stream channel permits and water rights.
- Complete Project design of fishway and side channel sections. This will entail some site assessment activity (e.g., test pits) to inform the design.
- Complete the environmental review and permit activities.
- Bid and selection of construction contractor.

- Mobilization and construction of fish passage facility. Excavation of stream channel from passage facility upstream to connect to the Barber Pool. Similar creation of channel to connect passage facility downstream to existing Alta Harris Creek side channel.
- Stabilization of stream banks using riparian vegetation and other bank stabilization materials.
- Controlled flow releases from passage facility into created channel.
- Constructing a viewing area of the side channel stream with interpretive signs.

A Brief Background and Context: The technical proposal in this application is based on work that was already completed creating the first phase of the Alta Harris Creek side channel to the Boise River. The Project was originally conceptualized in the late 1990s from discussions among the Ted Trueblood Chapter of Trout Unlimited and Harris Ranch family (the side channel is named in honor of the family matriarch Alta Harris) when the planned community was first announced and being designed, and both partners agreed there was an opportunity for a significant conservation accomplishment for the area. Fundraising began in 2001, as did field survey and project planning. Construction permits were obtained starting in 2003, a conservation easement to protect the area was donated by Harris Ranch in 2005, and these actions were followed by construction of the first phases of the side channel. Additional sections of the side channel were created 2006-2010, totaling 3,800 feet in length, and riparian plants and trees were planted involving hundreds of volunteer hours. Seasonal water flows have allowed for establishment and vigorous growth of the riparian plants and trees and brush have grown for more than 15 years and achieved a functioning area for fish and wildlife habitat.

The Bureau of Reclamation, Pacific Northwest office, in 2008 developed a preliminary design and cost estimate for the fish passage facilities. Trout Unlimited cooperated with the Barber Dam owners – Ada County and ENEL N.A. - in 2010 in requesting funds from the State of Idaho to help fund the fish passage facilities. Attempts to fund the project fell short.

In the ensuing years the project has been in custodial status. We monitor riparian growth and issues with invasive weeds and act when warranted.

Now, in 2023, with matching funds through the Bonneville Environmental Foundation, Trout Unlimited and partners seek to complete the Project with additional channel creation and connection to a year-around water source from Barber Pool.

A grant from the Bureau of Reclamation will leverage non-federal matching funds to obtain a contract to have a final design of a fish passage facility, design for the additional side channel that will connect the passage facility upstream to Barber Pool and downstream to the existing Alta Harris Creek side channel, and funding to pay for construction.

Applicant Category and Eligibility of Applicant

Trout Unlimited is a Category B Partner and has worked with the City of Boise on a number of Boise River enhancement projects over the past twenty years, including stream and riparian restoration along the river in the City of Boise. Trout Unlimited qualifies as Category B because we are partnering with the City of Boise, a Category A applicant. The attached letter from the City of Boise describes its role in this project and the long-standing relationship between the two parties. Trout Unlimited will be including City of Boise in the activities developing a design of the Project and ensure the City will have the opportunity to review “and approve the final design before implementation to ensure the project is in alignment with broader city objectives and river restoration activities.”

Performance Measures

All applicants are required to provide a brief summary describing the performance measure that will be used to quantify actual benefits upon completion of the project. Quantifying project benefits is an important means to determine the relative effectiveness of various water management efforts as well as the overall effectiveness of the project.

Our monitoring plan includes several performance measures. Past monitoring efforts on the first phase of the side channel creation included monitoring the growth of riparian species that were planted along the stream channel and measuring seasonal water entering and routing through the channel and whether adjustments were needed to the channel to maintain water elevations.

Monitoring after the Project construction is complete and water is flowing in the channel will include several variables summarized in the table below. Additional details on these variables are found in section E.1.5 of this proposal.

Table of Monitoring Activities:

Element	Frequency	
Temperature	Continuous	Place temperature monitoring devices at points along the Project and downstream.
Macroinvertebrates	Annual	Identify 3-5 sites for annual sampling
Fish spawning	Semi-annual	Walk stream in fall (brown trout) and spring (rainbow trout) to identify spawning redds
Fry monitoring	Annual	Work with Idaho Fish and Game to identify locations for annual monitoring
Fish passage	Continuous	Observe aquatic species use of the fishway with an underwater camera.
Riparian	Semi annual	Measure establishment of new riparian plants, plant growth and expansion of riparian vegetation over time.

Monitoring after the Project construction is complete and water is flowing in the channel will include monitoring of aquatic species as they colonize the side channel. One example of such

monitoring programs exists by Idaho Fish and Game where they monitor fry in the Boise River and side channels with backpack electrofishing equipment and netting of fish to measure abundance and densities.

Evaluation Criteria

Criterion A: Project Benefits (25 Points) Up to 25 points may be awarded based on the evaluation of the benefits that are expected to result from the proposed project. This criterion evaluates the extent to which the project will benefit ecological values and watershed health that have a nexus to water resources or water resources management. Proposals containing a well-supported description and quantification of project benefits will receive more points under this criterion.

The main Project benefits are reconnecting 2.5 miles of main Boise River habitat for aquatic species and more than one mile of side channel habitat for spawning and rearing of young of year fish, and an associated riparian area of approximately five acres.

The Project will increase water supply reliability for ecological values by establishing a year-round flow from Barber Pool through the side channel, and to the Boise River. Side channels are ecologically important for rivers as areas with lower stream velocities compared to the main channel, and increased cover provides habitat for aquatic species, in particular young of year salmonids. The flows are planned to be approximately 10 cfs. Currently only seasonal waters are collected in the side channel from April until October and are typically 0.5 to 1.0 cfs.

Riparian cover of the side channel will help moderate higher temperatures that occur from solar exposure. This will contrast with the main Boise River impounded by the Ridenbaugh Diversion during hot summer days where shade is very limited. Vegetation cover in winter months should moderate cold air temperatures that can lead to ice forming on the banks of the main channel Boise River during cold snaps where the waters are exposed.

Consistent flows will improve stream and riparian conditions in the 3,800 feet of already completed side channel and will provide water infiltration into adjacent banks thus promoting growth of riparian vegetation beyond that already existing along the channel. Numerous bird and mammal species of wildlife are evident in the riparian area along the side channel that has grown for the past fifteen years. Russian olive trees will be removed starting in 2023 and will be replaced with willow and cottonwood plantings.

In the sections of stream channel to be created in this final phase of the Project – channel sections both upstream and downstream of the fish passage facility – the riparian plantings will start off on an empty palate and the water will be crucial to the success of the plantings. Successful establishment on the additional 1,600 feet of channel will also provide long term benefits to wildlife habitat, as mentioned above where nesting and perching will be available to birds, and small mammals and the local deer population will find more browse as trees and brush grow along the side channel.

The first benefit to aquatic habitat and aquatic species is a water flow through the side channel year-round will create off-channel habitat for fishes, in particular young of year fish species such as rainbow trout, brown trout and whitefish. Idaho Fish and Game have found “tributary/side

channel sites had three times the densities of age-0 Rainbow Trout and nine times the densities of age-0 Brown Trout than mainstem sites. Because the lower Boise River has been extensively developed and channelized, these habitat types are relatively rare compared to a more naturally functioning river.”¹ Note that the existing 3,800 foot section of Alta Harris Creek side channel will provide “instant habitat” when a year around water flow commences because the riparian vegetation is in place and channel complexity will provide numerous locations of holding water for aquatic species. Young of year fish will grow and then migrate to the main river and enhance the fish population. This in turn will improve the wild trout fishery with concomitant economic and social benefits.

The second benefit to aquatic species will be the reconnection of Barber Pool (Diversion Dam to Barber Dam) to the Boise River through this side channel and fishway. This project will make more than 2 1/2 miles of Boise River accessible to fish that has not been available for more than 100 years. Added to this is the nearly one mile of side channel habitat connecting the Boise River to Barber Pool, plus the ancillary benefit that fish can avoid the Boise River between Barber Dam and the Ridenbaugh Diversion where during the irrigation season approximately one-third of river flows are diverted into the unscreened Ridenbaugh Canal. Hundreds of fish are entrained into the canal during the irrigation season annually and several years ago Trout Unlimited and Idaho Fish and Game cooperated on a fish rescue at a site in the canal one mile downstream of the diversion.

- Will the project improve watershed health in a river basin that is adversely impacted by a Reclamation water project?

The Project improves watershed health in the lower Boise River basin that has been adversely impacted by Reclamation water projects dating from early in the 20th century with Diversion Dam (1909) and Arrowrock Dam (1914) first affecting natural river processes by disrupting movement of river gravels and diversion of water from the river. These factors simplified the river’s aquatic habitat. Arrowrock, and later Anderson Ranch (1954), removed the natural hydrograph where spring flooding fostered lateral movement of the Boise River (this was coupled with levees and river channelization by local authorities, and the diversion of water and its timing affected natural processes). Side channels were lost as a result, with negative impacts to fish habitat. Restoration and improvement of side channels is cited in long-standing Boise River habitat studies such as Asbridge and Bjornn (1988)² that recommended, “Begin a habitat improvement program in the Boise River to increase the amount of summer and winter rearing habitat ... Concentrate spawning habitat improvements in Loggers Creek and side channels of the

¹ Cassinelli, J. D., M. P. Peterson, J. R. Kozfkay, D. Hardy, and W. “CJ” Earl. 2018. 2017 Fisheries Management Annual Report Southwest Region. Boise. P. 86.

² Asbridge, G., and T.C.Bjornn. 1988. Survey of potential and available salmonid habitat in the Boise River. Idaho Department of Fish and Game Job Completion Report, Project F-71-R-12, Subproject III, Job No. 3. Idaho Cooperative Fish and Wildlife Research Unit. University of Idaho, Moscow, Idaho, 71 p.

Boise River.” Water diversions also block fish from moving up and down river. This Project addresses both adverse impacts.

- Is the project for the purpose of meeting existing environmental mitigation or compliance obligations under Federal or State law?

This Project was conceived as a community-based habitat restoration project and therefore does not have a purpose of meeting environmental mitigation or compliance obligations under Federal or State law. The project is recognized as a voluntary habitat restoration project in the wildlife plan for the Harris Ranch planned community adopted in 2007 (HRWMA 2007, p. 4-4).

- If the project will benefit aquatic or riparian ecosystems within the watershed (e.g., by reducing flood risk, reducing bank erosion, increasing biodiversity, or preserving native species), explain the extent of those benefits (i.e., magnitude and geographic extent). Estimate expected project benefits to ecosystems and provide documentation and support for this estimate, including a detailed explanation of how the estimate was determined.

The aquatic and riparian ecosystem proposed changes include the following benefits:

- Nearly 2 ½ miles of river habitat between Barber Dam to Diversion Dam reconnected with the lower Boise River;
- More than one mile of new side channel to the Boise River with year around flows (3,800 feet enhanced, 1,600 feet new side channel) with new spawning and rearing habitat;
- Five acres of riparian habitat established or enhanced along the one-mile side channel;
- A half mile of Boise River where risk of fish entrainment into an irrigation canal will be bypassed by the side channel;
- An extra outlet from Barber Dam will provide some assurance of flows to the lower Boise River when hydropower operations are interrupted and in turn disrupt river flows.

This Project is the single largest fish habitat enhancement to the lower Boise River. Other projects of riparian and wetland establishment and aquatic habitat improvement have not exceeded more than a quarter mile along the Boise River. The side channel riparian area is based on 5,400 linear feet of channel with riparian creation or enhancement 20 feet on each side for 216,000 square feet or five acres. The 2 1/2 miles of reconnected river habitat, one mile of side channel, and half mile of bypassed river reach with fish entrainment risk are based on map and survey of the areas that will be created or reconnected to the Boise River. The Project will anchor the 17 acres of protected conservation easement along the north bank of the Boise River.



- If the project will benefit specific species and habitats, describe the species and/or type of habitat that will benefit and the status of the species or habitat (e.g., native species, game species, federally threatened or endangered, State listed, or designated critical habitat). Describe the extent (i.e., magnitude and geographic extent) to which the project will benefit the species or habitat, including an estimate of expected project benefits and documentation and support for the estimate.

Wild rainbow trout, brown trout, and mountain whitefish are three primary fish species of interest that will benefit from the Project, as will other fish and aquatic species. All three are game fish species managed by Idaho Fish and Game. Wild rainbow trout in the lower Boise River are a legacy of the native redband trout and planted coastal rainbow that have interbred for decades, but in the past ten years the limited plantings at specific sites are sterile triploid rainbows so the wild rainbows are self-sustaining.

The Project benefits can be placed in the context of comments from Idaho Fish and Game regarding Barber Dam and the Boise River where the agency states:

“...surveys indicate the river’s trout populations, especially wild rainbow trout, increased substantially from the 1990s through 2010, coinciding with the institution of stable winter flow maintenance. Since then, abundances have plateaued. Department monitoring indicates that wild trout populations, while overall healthy, likely reached carrying capacity based on the river’s habitat limitations. Because the lower Boise River is habitat limited, the Department is continually looking for opportunities to improve existing habitat.”³

³ See *Pre-Application Document for the Barber Dam Hydroelectric Project; Project No. 4881*, Idaho Department of Fish and Game to FERC, May 20, 2019, p.2.

This Project will improve the existing aquatic habitat in two ways. First, the addition of the 2 ½ miles of river habitat from Diversion Dam to Barber Dam, plus the one-mile of side channel habitat is significant, because the current unobstructed habitat is six miles from Settlers Diversion (a migration barrier) at River Mile (RM) 52.2 to Ridenbaugh Diversion at RM 58.2. This Project therefore contributes a 50 percent increase in habitat to the current six miles between Settlers and Ridenbaugh diversions.

The second way the Project will improve aquatic habitat is the side channel will add spawning and rearing habitat for reproduction and young offspring. This is an important component to the fishery demonstrated by monitoring by Idaho Fish and Game since 2015 where densities of juvenile fish are three times that along the shoreline of the mainstem. Some examples:

“During the survey, tributary/side channel sites had three times the densities of age-0 Rainbow Trout and nine times the densities of age-0 Brown Trout than mainstem sites. Because the Lower Boise River has been extensively developed and channelized, these habitat types are relatively rare compared to a more naturally functioning river. The Heron Creek tributary, where the highest densities of age-0 Rainbow Trout were sampled, is approximately 35-40 m in total length. A habitat improvement project was completed by the Ted Trueblood chapter of Trout Unlimited at this location during 2009. Members removed 6 yards of accumulated sand and fine sediment and placed appropriately sized gravel for spawning substrate.”⁴

And in its report two years later:

“...the Lower Boise River has been extensively developed and channelized, making these habitat types relatively rare when compared to a more naturally functioning river. Previous studies have emphasized greater fish production in tributary and lateral river habitat. Protecting these types of habitats and finding additional opportunities to improve larger sections of existing side channel or tributary habitat remains one of the most important wild trout-specific management components on the Lower Boise River.”⁵

The 2020 monitoring of juvenile fish finds, “Mainstem sites typically had lower densities than tributary/side channel sites” and that average density of juvenile Rainbow Trout was 0.11 fish/m² ± 0.05 while tributary/side channel sites had a mean density of 0.58 fish/m² ± 0.81. The mean density for juvenile Brown Trout was 0.07 fish/m² ± 0.04 in mainstem sites and 0.54 fish/m² ± 0.42 in tributary/side channel sites.⁶

- If the proposed project will benefit federally listed threatened or endangered species, address the following:

⁴ Butts, A. E., M. P. Peterson, J. R. Kozfkay, N. Porter, and L. Work. 2017. 2015 Fisheries Management Annual Report Southwest Region. Boise, ID.

⁵ Cassinelli, J. D., M. P. Peterson, J. R. Kozfkay, D. Hardy, and W. “CJ” Earl. 2018. 2017 Fisheries Management Annual Report Southwest Region. Boise. P. 86.

⁶ Nau, C. I., T. D’Amico, J. D. Cassinelli, and C. Creson. 2021. 2020 Fisheries Management Annual Report Southwest Region. Boise, ID.

- Is the species subject to a recovery plan or conservation plan under the ESA?
- What is the relationship of the species to water supply?
- What is the extent of the proposed project that would reduce the likelihood of listing or would otherwise improve the status of the species?
- Is the species adversely affected by a Reclamation project?

An environmental assessment for a Reclamation-funded project⁷ three miles downstream of this site, discussed two federally listed species:

- Slickspot peppergrass (*Lepidium papilliferum*)
- Yellow-billed cuckoo (*Coccyzus americanus*)

Slickspot peppergrass is very unlikely to occur in or near the Project area because it requires undisturbed sites in a sagebrush steppe landscape and the Project site is a former sawmill and pasture and earthen dam embankment. Yellow-billed cuckoo may have habitat available in the Barber Pool area because of its sustained canopy of cottonwood trees with an understory of willow. It is possible this Project will in the long-term increase the area of cottonwood and willow near the Boise River as the trees and brush along the side channel grow and mature.

- How will this project help build resilience to drought?

This project helps build aquatic ecosystem resilience to drought on the occasions where conditions affect Boise River flow regimes in the fall and winter seasons. When water supplies have run short (usually after successive drought years) the October to March flows outside the irrigation season, which are typically 240 cfs, may be lower, such as 150 cfs or even as low as 80 cfs in the most extreme case the 1992-93 winter. In extreme cases the Alta Harris Creek side channel will provide additional resilience to drought through a side channel flow that provides overwinter habitat for aquatic species where there will be improved vegetation cover and other habitat elements not available in the mainstem of the Boise River.

- If the project will result in long-term improvements to water quality (e.g., decrease sediment or nutrient pollution, improve water temperature, or mitigate impacts from floods or drought), explain the extent of those benefits (i.e., magnitude and geographic extent). Estimate the expected project benefits to water quality and provide documentation and support for this estimate, including a detailed explanation of how the estimate was determined.

This Project has the potential to improve water quality through temperature reduction with water flowing through the side channel that is protected from solar heating in the summer and where cover in the winter months will moderate or insulate the waters in the side channel from the colder temperatures. The amount of change is unknown at this time. Other water quality variables or measurable constituents of water pollution like sediment, turbidity and nutrients will be very minor and not a principal focus of this Project.

⁷ Finding of No Significant Impact, Final Environmental Assessment: Cottonwood Creek Daylighting Project. Bureau of Reclamation, Pacific Northwest Region. February 2019. Project terminated by City of Boise October 2021.

- Are there project benefits not addressed in the preceding questions? If so, what are these benefits?

The Project addresses two policy issues related to state law and water quality plans. First, the Boise River is listed as a “water quality limited” water body under Section 303 of the Clean Water Act for lack of support of salmonid spawning. The water quality improvement plan, known as a TMDL, recognized the problem was not water pollution so much as the loss of habitat. The Project is located along the Boise River where the 303(d) listing was put in place due to hydrologic modification caused by the successive dams and diversions from Lucky Peak Dam, Diversion Dam, Barber Dam and Ridenbaugh Diversion. The side channel will address fish passage for two of the four projects and will create spawning and rearing habitat in the side channel.

The second policy is a state law that requires dams have facilities for fish passage. See Idaho Code 36-906. We believe a case can be made that this Project will bring two dams (Barber Dam and Ridenbaugh Diversion Dam) into compliance with this section of Idaho Code because the side channel and fish passage facility will allow the “free and uninterrupted passage of fish” as the law requires.

- E.1.1.1.3 Water Management and Infrastructure Improvements Benefits
 - If the proposed project includes a water management or infrastructure improvement project component, address the following question, as applicable to your project, in addition to addressing the general questions above. Proposals containing a well-supported description and quantification of benefits will receive more points.

One component of this Project includes a water infrastructure improvement with a fish passage facility at Barber Dam for fish and other aquatic species, which will benefit aquatic life by opening access to 2 1/2 miles of habitat upstream of Barber Dam.

A secondary benefit is the fish passage facility will provide another outlet for Barber Dam which will improve water flow dependability in the lower Boise River. In recent years, hydropower interruptions have disrupted river flows from Barber Dam. The Dam is operated only when Barber Pool is “full” or at a specific level; if the pool is not full and hydropower operations cease, the dam can cut off flows downstream. One significant case was in January 2015 when operations stopped and zero flows were released from Barber Dam for several hours, which dried up the Boise River, causing emergency fish stranding operations by IDFG and volunteers. Flows through the proposed side channel should help keep water flowing in the Boise River even when the dam is inoperable.

- E.1.1.1.4 Restoration Project Benefits If the proposed project includes a restoration project component, address the following questions, as applicable to your project, in addition to addressing the general questions above. Proposals containing a well-supported description and quantification of benefits will receive more points.
 - Invasive Species – Vegetation: For projects that include removal of invasive vegetation, will the project include revegetation with native species at the removal site? If not, explain why revegetation is not necessary for the specific ecosystem in which the project

is located. In addition, describe how removal of invasive vegetation will benefit water resources or water resource management. Provide references and citations.

Removal of Russian olive trees along Alta Harris Creek side channel will be an early action item in 2023 and native species of willow and cottonwood will be planted to replace the invasive Russian olive trees. The stream environment will benefit from removal of the Russian olive trees which change the conditions of riparian and aquatic environments and deprive the aquatic ecosystem of a food source.⁸ The removal of the invasive Russian olive is identified as an in-kind contribution and discussed as a pre-award cost.

- E.1.1.2 Subcriterion A.2: Multiple Benefits Explain how and to what extent the project will benefit multiple water uses. Address the following:
 - If the project will benefit multiple water uses (e.g., benefits to ecological values AND benefits to other water uses, including municipal; agricultural; Tribal; commercial, recreational, subsistence, or Tribal ceremonial fishing; and river-based recreation), explain how and to what extent the project will benefit multiple water uses.

The Project will benefit multiple water uses through enhanced ecological values of a Boise River with a functioning side channel that improves fish habitat and fish passage to connect an additional 2 ½ mile reach of the river. The newly created habitat will foster improved survival of young trout that will contribute to the wild trout population in the Boise River. The enhanced population will further support the wild trout fishery, and from that, the outdoor recreation uses of the Boise River will be improved for river users who like to fish for wild trout and recreating on or nearby the river. Additional economic benefits will accrue to the licensed outfitting businesses providing fishing services on the lower Boise River.

The ecological values of a restored riparian area along Alta Harris Creek will provide habitat for birds (e.g., nesting, roosting), and creation of riparian corridor from Barber Pool along Alta Harris Creek side channel will provide habitat connectivity for wildlife species along the river. This area directly connects to another local habitat project known as the Boise River ReWild Project presented by the Golden Eagle Audubon Society; this project's goal is to create "wild" spaces within the urban, Boise River stream for birds, fish, and other wildlife to safely exist within the city limits. Combined, these two projects would enhance roughly 55 acres of habitat for wildlife.

The side channel and riparian area will create a visual and water barrier that will protect the main Boise River's banks, Barber Dam hydroelectric project, and Nampa Meridian Irrigation District's Ridenbaugh diversion works on the north side of the Boise River from undue incursions from people attracted to explore along the river.

- If the project will provide multiple restoration benefits (e.g., benefits to ecological values or watershed health; fish and wildlife habitat; protection against invasive species;

⁸ For more information why Russian olive trees are a menace to aquatic ecosystems see Mineau, M. M., Baxter, C. V., & Marcarelli, A. (2011). A Non-native riparian tree (*Elaeagnus angustifolia*) changes nutrient dynamics in streams. *Ecosystems*, 14(3), 353-365.

enhancement to commercial, recreational, subsistence, or Tribal ceremonial fishing; enhancement of river-based recreation), explain how.

The Project will provide multiple restoration benefits to fish and wildlife habitat with reconnection of the Barber Pool to the Boise River; fish habitat improvement through the side channel habitat that will support habitat for juvenile or young of year trout and other fishes as demonstrated by recent IDFG monitoring of side channels to the Boise River harboring higher densities of fry compared to the main river are possible. Removing the invasive Russian olive trees and planting native willow and cottonwood along the side channel will help protect the riparian area of the Boise River environment from spread of invasive vegetation. The fish passage and side channel habitat of Alta Harris Creek will improve the fish population and the wild trout fishery, which should in turn provide more recreation opportunities for recreation and the outfitting businesses that have been established on the lower Boise River.

Criterion B: Collaborative Planning (20 Points) Up to 20 points may be awarded based on the extent to which the proposed project was developed as part of a collaborative process and advances an existing plan or strategy. Priority under this criterion will be given to proposed projects that are supported by a collaboratively developed strategy or plan. Attach a copy of the applicable strategy or plan as an appendix to your application, or provide a link, and identify the sections relevant to the project within your application narrative.

This Project is supported by or adopted into four planning documents. The plans were developed with different levels of collaboration, at different times and are presented starting with the most recent (and most collaborative) first:

Boise River Enhancement Plan (2014-2015): The *Boise River Enhancement Plan (Enhancement Plan)*, was developed by the Boise River Enhancement Network in 2014-2015 as part of a Bureau of Reclamation grant under the Comprehensive Watershed Management Program (CWMP). An extensive literature review and stakeholder engagement process resulted in a watershed-scale integrated plan to address widely recognized problems with river ecosystem function in the lower Boise River from Lucky Peak Dam to the confluence with the Snake River.

The *Enhancement Plan* describes the current state of the river; the key issues and enhancement opportunities for Geomorphology, Fisheries and Aquatic Habitat, Wetland and Riparian Habitat, and Water Quality; priority enhancement concepts; and collaborative enhancement examples and approaches. The *Enhancement Plan* is an educational and practical resource and is widely supported by numerous agencies and stakeholder groups and recognized by the Bureau of Reclamation on its website at

<https://www.usbr.gov/watersmart/cwmp/docs/plans/LandTrustoftheTreasureValleyWRP.pdf>.

The Alta Harris Creek side channel project is listed on page 35 of the *Enhancement Plan*. Side channel enhancement opportunities are a recommended priority in the *Enhancement Plan* at pages 16, 17, 20 and 21, as well as fish passage projects on page 21. This Project contributes strongly to that plan goal.

The *Enhancement Plan* followed Reclamation's CWMP ideals and is truly a community-generated plan, involving a diverse group of stakeholders including but not limited to: elected

officials from the 14 cities within the lower Boise Watershed; parks, planning and public works departments from six cities along the River; Parks departments, soil conservation districts and Commissioners from Ada and Canyon Counties; Idaho State agencies (Environmental Quality, Fish and Game, Water Resources); Federal agencies (U.S. Army Corp of Engineers, USFWS, USGS, and NRCS); Commissioners of the Upper Snake River Tribes Foundation; representatives from Ada County Highway District and Flood Control District #10; representatives from five canal companies and irrigation districts; professionals from Boise State University, University of Idaho and the College of Idaho; representatives of 19 development, engineering and environmental consulting firms; and representatives of 20 non-profit groups.⁹

Boise River Master Plan (1999, 2014): The *Boise River Resource Management and Master Plan (Master Plan)*, was developed in 1999 by the City of Boise under the leadership of Boise Parks and Recreation and addresses the ten miles of the Boise River that runs directly through the city, from Barber Dam to Glenwood Bridge. The purpose and goal of the plan was to develop policies and identify projects along the river to support recreation, public safety, and protect and improve natural resources including fish and wildlife habitat. Boise Parks’ advisory committee had a wide range of interests including major landowners, water users, and conservation and recreation interests like Trout Unlimited. The 1999 plan is at <https://tedtruebloodtu.org/wp-content/uploads/2023/02/Boise-River-1999-Master-Plan.pdf>

Recommendations in the *Master Plan* include a side channel project at Harris Ranch: “Several groups and interests including local property owners and conservationists have discussed building side channels through part of the Harris Ranch property to create fish habitat or flood channels. Side channels are important to some species of fish as places to spawn and to rear young fish.” This is followed with “Recommended Action: ... Enhance riparian buffers ... Create side channel if possible” at page 51/135 of the pdf. The project is a recommended action at page 74/135 and in the appendix at page 122/135. The importance of side channels is discussed on pages. 20/135, 34/135 and 38-39/135.

The 2014 *Master Plan* has a nearly identical goal: “... to protect and enhance public safety and health, to provide recreational opportunities, and to protect natural resource values of the river corridor. Over-arching strategies that apply to all areas of this plan include cooperating with other agencies, including irrigators, and creating partnerships with public and private entities.” The plan calls out the Alta Harris Creek on page 37 as one project to potentially be part of the city’s wetland mitigation program, and the *Master Plan* continues its support for side channels mentioning, “Side channels and tributaries of the river provide habitat for fish spawning and nursery areas. Habitat improvement projects may include placing spawning gravel in the streams and revegetating the banks with willows. Volunteers from Ted Trueblood Chapter of Trout Unlimited completed this type of project at Heron Cove.” The 2014 *Master Plan* is available at

⁹ Golden Eagle Audubon Society, Boise River Trails Coalition, Boise WaterShed, Ducks Unlimited, Foundation for Ada/Canyon Trail Systems, Fly Fishers of Idaho; Foothills Learning Center; Idaho Conservation League; Idaho Foundation for Parks & Lands, Idaho Shakespeare Theater, Idaho Smart Growth, Idaho Water Association, Idaho Wildlife Federation, Idaho Section American Water Resources Association, Intermountain Bird Observatory, Lower Boise Watershed Council; Nat. Fish & Wildlife Foundation, Peregrine Fund, Trout Unlimited, Urban Land Institute.

https://www.cityofboise.org/media/6890/boise-river-resource-management-and-master-plan_final-12-29-14.pdf.

Both the 1999 and 2014 *Master Plan* used an advisory committee of a wide range of different interests across the Boise area. And the 2014 plan update is more “collaborative” compared to the 1999 plan in that advisory committee members made presentations and helped draft the policy recommendations rather than just react and edit staff papers. Trout Unlimited was a member of the advisory committee for both the 1999 plan and the 2014 update.

Harris Ranch Specific Plan (2007): The Harris Ranch Specific Plan (*Specific Plan*) was adopted by the Boise City Council into the City Code Zoning Ordinance in 2007. This was the first planned community in the City of Boise. The urban development components were adopted in the city code and city comprehensive plan documents, as were natural resource conservation and preservation of open space and the Alta Harris Creek project. While the main focus was urban development and design issues, the fish and wildlife components were very important too and the side channel was one element in that process. The picture below shows the side channel as part of the proposed park and conservation area, labeled “Proposed Trueblood Creek,” this was prior to the Alta Harris Creek name, in the 2007 document.

The *Specific Plan* is at <https://www.cityofboise.org/departments/planning-and-development-services/planning-and-zoning/comprehensive-planning/master-plans/harris-ranch-specific-plan/> and in Chapter 2 the side channel is at page 138 regarding the Boise River corridor which states, “Components of the corridor include . . . Alta Harris Creek (Trout Unlimited constructed trout stream),” and also page 154 map noting the location of the side channel in the public amenities build out plan where the first phase of the side channel was created in 2005
<https://www.cityofboise.org/media/9156/chapter-2-landscape-community-service-plans.pdf>.




 HARRIS RANCH SPECIFIC PLAN 2007 (WITH 2010 AMENDMENTS)
 Page 140

Adopted as part of the *Specific Plan* in 2007 is a *Harris Ranch Wildlife Mitigation Plan (Wildlife Plan)*. The *Wildlife Plan* adopts the Alta Harris Creek side channel at page 55: “Two key features are the Alta Harris Creek associated with the Land Trust of Treasure Valley reserve and the Marianne Williams Park. Measures to maintain or enhance habitat and forage resources for bald eagles, which will allow them to still use the Boise River after the Harris Ranch Development and MWP are completed.” The *Wildlife Plan* is at <https://hrwma.org/resources/Documents/HRWIAMP,%20pgs%201-120.pdf> where reference to Alta Harris Creek side channel can be found on pages 55, 66 and 113 of the pdf.

The 2007 adoption of the *Specific Plan* by the City Council was the result of a “15-month design process was conducted in an extremely open fashion and began with a series of charrettes conducted by the design team and attended by seven neighborhood groups and many public agencies and nonprofits.”¹⁰ The *Wildlife Plan* was developed by fish and wildlife specialists and subject to a public review process with the entire Harris Ranch development and was approved by IDFG in correspondence with the City of Boise. Trout Unlimited was not a direct participant in the development of the plan but was consulted by the plan authors who incorporated the Alta Harris Creek side channel into the plan as one of the voluntary projects being implemented.

Barber Pool Master Plan (BPCA) (2002): The *Barber Pool Conservation Area Master Plan (Barber Plan)*, adopted in 2002, addresses the natural resources and habitat of the lands adjoining the pool that have been preserved by the Idaho Foundation for Parks and Lands, the major landowner on this reach of the Boise River. The *Barber Plan* includes policy direction for connecting Barber Pool to the Boise River: “Restore riparian and riverine conditions to enhance

¹⁰ See <http://www.mckibbencooper.com/Urban-Design/Harris-Ranch-Mixed-use-Development,39>

fisheries habitat in the Boise River. Promote the expansion of fish access to Barber Pool from adjacent river reaches downstream” (pages 20-21). The *Barber Plan* notes that “Dams on the Boise River restrict certain aquatic species that are tied to free-flowing streams, and resident fish populations are limited. Enhancement of the aquatic ecosystem for fish habitat will support the wintering bald eagle population at the BPCA. Any effort to tie the reach of the Boise River that runs through the BPCA to upstream and downstream reaches should be encouraged” (page 91). This Project directly addresses the policy in the plan. The *Barber Plan* is at <https://tedtruebloodtu.org/wp-content/uploads/2023/02/BarberPoolMPFinal.pdf>.

The *Barber Plan* involved the landowners around the pool (a 2 ½ mile reach of the Boise River), and a limited set of conservation groups and government agencies so it was not as collaborative or as diverse as the *Enhancement Plan*, *Master Plan* or the *Specific Plan*. Trout Unlimited was not part of the advisory group, but we were able to provide the Army Corps of Engineers information on fish passage where they introduced that topic into the discussions, and eventually the policy results.

Criterion C: Stakeholder Support for Proposed Project (15 Points) Up to 15 points may be provided based on the level of stakeholder support for the proposed project. Applications that demonstrate support for the project from a diverse array of stakeholders will receive the most points under this criterion.

The table below shows stakeholders within the Project area. Their involvement and support of the project is noted in the middle columns for letters for 2023, comments to FERC in 2021-22 supporting fish passage at Barber Dam or its study, and involvement in the project 1998-2016.

The attached letters in Appendix A show diverse support for this project. There are three groups of letters attached. The first group of letters from 2023 result from requests for letters of support for this application. The second group of letters include letters from different interests to FERC asking for consideration or studies of fish passage at Barber Dam in the ongoing FERC process to relicense Barber Dam and ultimately complete the sale of the facilities to Barber Dam Hydro, LLC, a new owner/operator. The third set of support letters are from earlier years 1998-2016 demonstrating support for the side channel project in its earlier stages.

Support key: L= letter; I = involvement such as volunteer time; \$ = funding. Letters are included in Appendix A.

ENTITY	2023	FERC 2021-2022	1998-2016	SECTOR
Trout Unlimited—project applicant			\$	Conservation, Recreation
Ted Trueblood Chapter -Trout Unlimited	L	L	L, I, \$	Environmental Conservation/Recreation
Harris Ranch family – dba Harris Ranch Limited Partnership	L		L, I, \$	Community Members, Land Donation
Barber Dam Hydro, LLC.	L			Dam Owner/Operator
Boise Valley Fly Fishers	L	L		Conservation, Recreation
Boise River Enhancement Network (BREN)	L	L		Environmental Conservation
Eagle Audubon Society (ReWild Project)		L		Environmental Conservation
Idaho Conservation League	L	L		Environmental Conservation
Idaho Whitewater Association		L		Recreation
Idaho Wildlife Federation	L			Environmental Conservation/Recreation
Idaho Rivers United	L	L		Environmental Conservation/Recreation
Land Trust of the Treasure Valley	L			Land Conservancy
Harris Ranch Wildlife Mitigation Association	L	L		Environmental Conservation
Idaho Dept. Environmental Quality			L, I, \$	State Agency
Idaho Dept. Fish and Game		L	L, I, \$	State Agency
Idaho Dept. Water Resources			I	State Agency
City of Boise – project applicant	L	L	L, I	Local Government
Ada County			L	Local Government
Bureau of Reclamation			L, I	Federal Agency
U.S. Fish and Wildlife Service			\$	Federal Agency
Boise State University			I	University/Education
Riverstone International School	L		I	Education (private)
Anglers Fly Shop	L			Retail, Guided Fishing
Vice Outdoors	L			Guided Fishing

- Is the project supported by entities responsible for the management of land, water, fish and wildlife, recreation, or forestry within the project area? Is the project consistent with the policies of those agencies?

Fisheries Management Plan: The Fish and Game Commission adopted the *Fisheries Management Plan 2019-2024* in 2018. As a statewide plan there are not specific projects identified, but types of projects supported. See <https://idfg.idaho.gov/sites/default/files/2019-2024-idaho-fisheries-management-plan-original.pdf?update10-2019>

For the lower Boise River overarching policies include an objective to “seek improved land and water management practices that significantly protect and enhance fish habitat,” and a strategy to, “collaborate with other agencies and private entities for opportunities to protect or improve fish habitat, enhance flows, and remove migration barriers” (pages 269/388).

For the reach of the Boise River from Lucky Peak Dam downstream to the City of Star, the management direction includes a statement to “work with state and federal regulatory agencies and private groups to improve water quality, flow regimes, and habitat conditions,” and to, “foster efforts to improve habitat complexity especially in side channels and tributaries to improve trout recruitment”. The Alta Harris Creek side channel and passage project are consistent with these policies (pages 270/388). IDFG support letters are attached to the application. IDFG has expressed support for the proposal and concept and wants to be involved in the technical aspects of Project design to ensure fish passage will be functional. The work plan has clarified IDFG’s role in the design questions.

Boise River Resource Management Master Plan: As described in the previous section, the City of Boise first adopted a Master Plan for the Boise River to guide the city agencies in management of resources along the Boise River. The first plan was adopted in 1999 and the update was adopted in 2014. The Project is mentioned in both plans and consistent with policies in the City’s Boise River Resource Management and Master Plan.

Harris Ranch Specific Plan (SP-01): As described in the previous section, the Alta Harris Creek side channel and passage project are supported in SP-01 plans and consistent with policies and plans.

- [Is there opposition to the proposed project? If so, describe the opposition and explain how it will be addressed. Opposition will not necessarily result in fewer points.](#)

At time of submittal, opposition to the Project has not been identified. We anticipate some questions, hesitation, or (not likely) opposition from organizations where members or leaders of that organization have changed over the course of this multi-phased project. New leaders may not be aware of the status or outlook of the Project in the years since it has been in custodial status. In some cases, this could include some government agencies and entities that previously supported the Project. Those on the list: Idaho Foundation for Parks and Lands (IFPL), Barber Dam Hydro (recent purchasers of the Barber Dam), Nampa Meridian Irrigation District (NMID), and Ada County (owner and seller of the dam). Our initial outreach to IFPL occurred March 19, 2023 and the plan is to meet with the Barber Pool Action Committee this spring. We will discuss the Project with Barber Dam Hydro on March 27; they have already sent a letter expressing support for the grant proposal and an interest in working with Trout Unlimited on the Project in concert with the FERC relicensing process. We will meet with NMID on March 29. Ada County will transition out of ownership of Barber Dam and we plan to meet with them in the coming weeks. These entities have members who are supportive of the Project, but there are new people who need to be educated and rebuild the support network and partnerships while the grant proposal is under review by the Bureau of Reclamation. Trout Unlimited is prepared to bridge the gap on information to this Project by today’s organizational leaders. We are willing and able

to host informational webinars, in-person meetings, or other requested forums to provide information necessary to decision-making.

Criterion D: Readiness to Proceed (20 points) Describe the implementation plan for the proposed project. Include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates. This may include, but is not limited to, design, environmental and cultural resources compliance, permitting, and construction/installation.

Our schedule and milestones are displayed in the following table. We include milestones for when the Bureau will award a grant based on the 2022 grant cycle for the CWMP Phase 1 grants, which had an application deadline of March 29, 2022, an award announcement by email September 14, 2022, and the final award document March 20, 2023.

Task	Milestone	Completion Date
Submit grant application to Bureau of Reclamation	Application prepared	March 28, 2023
Reconnect and meetings with Project partners (Harris Ranch, Idaho Department of Fish and Game, Barber Dam Hydro LLC, NMID, Ada County, Idaho Foundation for Parks and Lands, City of Boise Parks and Recreation, Boise Public Works, Army Corps of Engineers and Idaho Department of Water Resources)*	Build relationships	May 31, 2023
Remove Russian olive trees along Alta Harris Creek*	Removal complete	July 15, 2023
Hired contractor assessment of Project site soils*	Soils data	Aug 1, 2023
Meetings with partners and affected parties to determine interest and level of involvement, sharing of initial conceptual designs*	Design partners identified	Sept. 1, 2023
Initial notice of grant award from Bureau of Reclamation (based on 2022 CWMP grant application on SF Boise River)**	Award notice**	Sept. 15, 2023
Develop outreach, RFP and interview interested design firms	Select design contractor	Oct. 1, 2023
Develop scoping document	NEPA initiated	Nov 1, 2023
Prepare water rights application and line up supporters and address potential protestants	Water rights filing	Nov 1, 2023
Development of preliminary designs	30% design to partners	Dec. 1, 2023
Incorporate reviews and comments from different interests and develop permit-ready design package for permit agencies	60% design	Feb 15, 2024
Complete cultural resources survey and prepare analysis for Idaho State Historic Preservation Office	Section 106 consultation	March 1, 2024
Reclamation prepares and finalizes award document**	Award**	March 31, 2024

Complete final draft of design & incorporate permit agency reviews and comments	90% design	May 1, 2024
Complete the bid package	Advertise bid opportunity	June 1, 2024
Complete EA, FONSI and MOA for cultural impacts (if any)	NEPA and NHPA complete	July 1, 2024
Advertise bid opportunity and select construction contractor	Bid awarded	Aug. 1, 2024
Complete erosion plan, staking and mobilize equipment.	Construction start	Oct. 1, 2024
Stream excavation, placement of fishway and culvert under Lysted Rd. Stabilize site and late fall planting	Construction complete	Dec. 1, 2024
Additional riparian planting and winter monitoring	Riparian planting complete	Mar. 1, 2025
Performance measure reporting and site monitoring	Project complete	May 31, 2025
* <i>Activities needing approval of pre-award costs (see Pre-Award Cost section below).</i>		
** <i>Assumes initial award announcement in Sept. 2023 is the award date. (Also assumes award date based on 2022 experience with CWMP Phase I grants.)</i>		

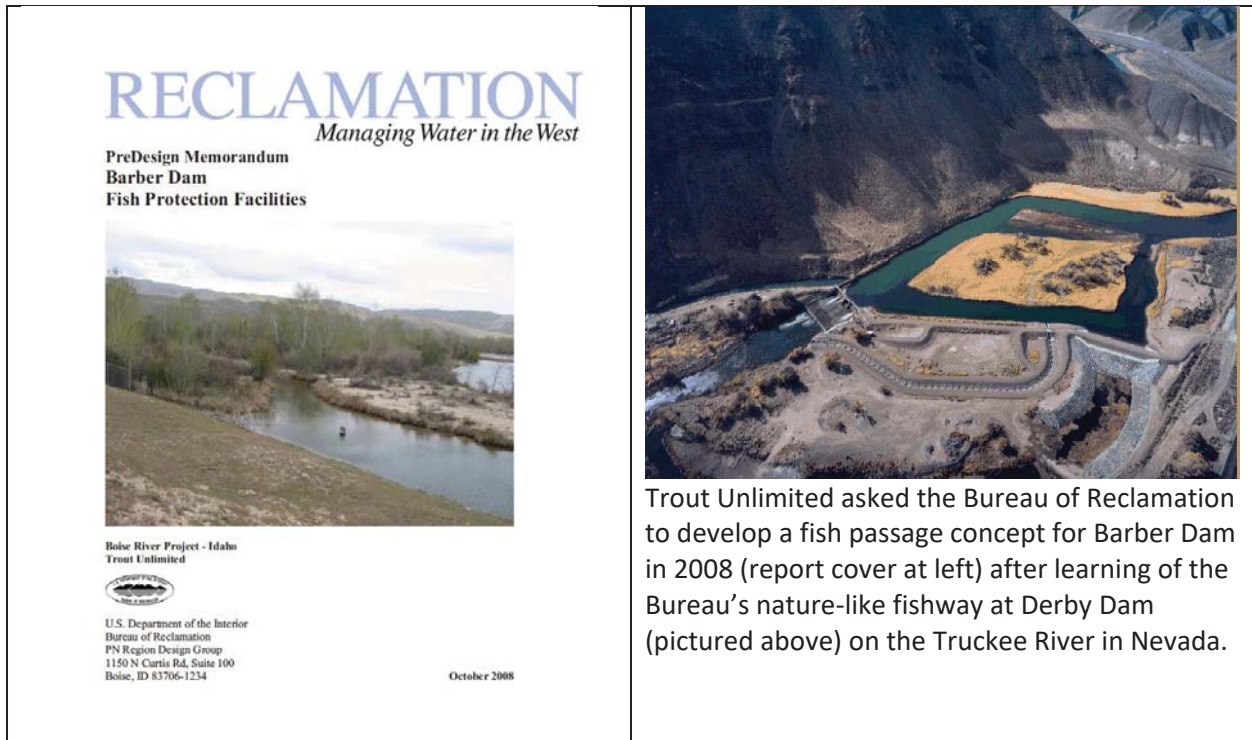
Permits that will be necessary for this project will include the following:

1. Clean Water Act Section 404 permit from the Army Corps of Engineers and associated Section 401 certification from Idaho Department of Environmental Quality. Concurrent with the 404 permit is a Stream Channel alteration permit from the Idaho Department of Water Resources. These permits utilize the same application forms and information and are coordinated.
2. Boise River System Ordinance and floodplain review permits. These permits are required for the project for its location in the City of Boise. These permits were obtained in 2003 for the first phase of the project. The City also requires permits for erosion control, stormwater and other construction related activities.
3. A water right will be needed from the Idaho Department of Water Resources for a non-consumptive use of water for the 10 cfs flow.
4. Approval for the project from the Federal Energy Regulatory Commission will be necessary. The exact form of approval and whether it is part of the Barber Dam relicensing is unknown at this time (March 2023).

Our plan to obtain permits is to develop the Project design information to the point permit applications can be prepared and submitted to agencies. We plan to use some of the non-federal matching funds to undertake these steps starting in 2023 when the grant application is being reviewed, and if funded during the period when the Environmental Assessment is being written.

- Identify and describe any engineering or design work performed specifically in support of the proposed project. If additional design is required, describe the planned process and timeline for completing the design. Priority will be given to projects that are further along in the design process and ready for implementation.

We have a foundation for conceptual design by the Bureau of Reclamation developed for the fishway for Barber Dam at the request of Trout Unlimited in 2008. See https://tedtruebloodtu.org/wp-content/uploads/2023/02/PreDesign_Memorandum-Barber_Dam_FPF_2008-Robust.pdf for the document. This report forms the basis for developing a design for the Project. A second conceptual design has been developed by Resource Systems, Inc., a long-time Boise River habitat design company, that will be used for the meetings with the different parties in the Spring of 2023 (part of attachments to the application). The design work is incorporated into the Project timeline and budget. We propose design can proceed as a pre-award activity with a 30% design milestone by December 2023 which should coincide with the development of the NEPA documents. during July - November 2023 when this grant application is under review.



- Does the applicant have access to the land or water source where the project is located? Has the applicant obtained any easements that are required for the project? If so, provide documentation. If the applicant does not yet have permission to access the project location, describe the process and timeframe for obtaining such permission.

Access is through a conservation easement granted to TU and Land Trust Treasure Valley by the Harris family in 2005 for 3,200 feet of side channel with a 100 wide conservation setback (50

feet on each side of the channel),¹¹ and an easement to TU from Idaho Power Company for 600 feet of side channel.¹² A 2008 land exchange agreement between Ada County and the Harris Family Limited Partnership includes a commitment to provide a conservation easement to TU once FERC signs off on the Project.

5.7 After the Closing Date, and only if the FERC provides prior written approval of concept, engineering and the terms of easement, County agrees to provide an easement to Trout Unlimited to construct a fish passage on County property obtained through this land exchange agreement.

5.8 After the Closing Date, and only if the FERC provides prior written approval of the terms of the easement, County agrees to grant an easement to the Harris Family for Harris Family retention and preservation of the stone block building located on the property described in Exhibit J and access to and from such building located on County property that is acquired through this exchange agreement.

WRITTEN AGREEMENT BETWEEN ADA COUNTY AND HARRIS FAMILY LIMITED PARTNERSHIP AND HARRIS/BRIGHTON, LLC FOR EXCHANGE OF PROPERTY – PAGE 8
g:\kj\greenbelt transactions\harris ranch and brighton\harris and harris-brighton property exchange [10.31.08].doc

Process and timeframe on this execution is anticipated for 2023-24 as the FERC review of Barber Dam relicensing plays out.

- Identify whether the applicant has contacted the local Reclamation office to discuss the potential environmental and cultural resource compliance requirements for the project and the associated costs. Has a line item been included in the budget for costs associated with compliance? If a contractor will need to complete some of the compliance activities, separate line items should be included in the budget for Reclamation's costs and the contractor's costs.

Contact has been made with the local Reclamation office cultural resources staff on February 14, 15, 20 and 21 2023 (J. Rilk, field office archaeologist) to discuss the grant application and the potential effects of the Project on cultural resources. Barber Dam was listed on the National Register of Historic Places in 1978 and according to [https://history.idaho.gov/wp-content/uploads/2018/09/Barber Dam and Lumber Mill Site 78001037.pdf](https://history.idaho.gov/wp-content/uploads/2018/09/Barber_Dam_and_Lumber_Mill_Site_78001037.pdf) it appears much of the earthen embankment was part of the area based on a drawing and the brief text description. There is some ambiguity on the specific area of a polygon identified as "Barber Dam and Lumber Mill Historical Archaeological Site" as the nomination form crosses out the words "... Historical Archaeological Site" and the extent of the earthen embankment included in the submittal. The general area was also subject to a 1996 cultural assessment (SAIC, 1996) to identify other elements of potential historic or cultural significance.

¹¹ See <https://tedtruebloodtu.org/wp-content/uploads/2023/02/Perpetual-Conservation-Easements-3.22.05.pdf> for the conservation easement, and https://tedtruebloodtu.org/wp-content/uploads/2023/02/WATERCOURSE_EXHIBIT_1.pdf for the conservation easement map.

¹² See <https://tedtruebloodtu.org/wp-content/uploads/2023/02/Easement-3.16.05.pdf> for the Idaho Power Co. Easement issued in 2005.

A subsequent cultural assessment in 1999 (SAIC, 1999) *Historical Investigations at Barber Mill and the Penitentiary Canal* says in the summary and conclusion section, “The Barber Mill site is on private land and compliance with NHPA is not required ... An amendment to the Barber Dam and Mill Historical Archaeological Site to Barber Dam Historical Archaeological Site was completed.” The status is therefore uncertain about the site designation. This is further complicated by the fact that some land was conveyed by Harris Ranch to Ada County in 2008 (see excerpt above regarding promise to provide an easement for the side channel). The budget contains funds for a site survey for the channel and fish passage construction area and associated staging to determine potential effects of the Project. If there is an adverse effect on cultural/historic resources, the Section 106 consultation with the State Historic Preservation Office will lead to the development of a memorandum of agreement to mitigate adverse effects.

Trout Unlimited also contacted Reclamation regarding the NEPA compliance for the Project. A detailed document with maps and description was provided on March 2, 2023. Because Barber Dam is entering relicensing from the Federal Energy Regulatory Commission there is a potential for coordinating NEPA analysis for the side channel and fish passage facility with relicensing – or not: that is up to Reclamation. At this point it is premature to determine whether this proposal will be part of the FERC relicensing. We have included a budget line item for Reclamation estimate of NEPA costs.

- Is the project completely or partially located on Federal land or at a Federal facility?

No Federal lands or Federal facilities are affected by the Project. There are no such Federal elements in the vicinity aside from a small parcel of BLM lands along Barber Pool some 0.5 miles upstream of Barber Dam.

Criterion E: Performance Measures (5 Points) Up to 5 points may be awarded based on the extent to which the application describes a plan to monitor the progress and effectiveness of the project once complete. Describe the performance measures that will be used to quantitatively or qualitatively define actual project benefits upon completion of the project. Include support for why the specific performance measures were chosen.

The Project will have both immediate and long-term benefits to aquatic and riparian species and ecosystems, and these benefits will be documented through implementation of a post-Project monitoring plan that contains several performance measures. The monitoring plan will be based on setting up permanent monitoring sites along the existing side channel and the newly created section for at least three years after Project completion (years 2026 through 2028). Selected performance measures will represent water quality, aquatic organisms (macroinvertebrates and salmonid spawning and rearing and use of fishway), and riparian vegetation. These performance measures were chosen as they directly relate to the Project construction activities and the variables can be measured.

Water Quality: The benefits of this Project to water quality will be measured by monitoring water quality parameters prior to Project construction and after Project completion. As the Project is intended to route waters from Barber Pool to the Boise River, water quality monitoring will focus primarily on temperature, as well as other parameters such as suspended sediment,

nutrient concentrations (e.g., phosphorous), bacteria, and dissolved oxygen levels - parameters known to impact aquatic life. These parameters will be measured in accordance with Idaho water quality standards, and monitoring will be conducted in coordination with Project partners such as Idaho Department of Environmental Quality. Temperature monitoring devices will be placed along the stream to record temperature data.

Aquatic Organisms: Benefits to aquatic life will be measured by monitoring aquatic macroinvertebrates and fish. Aquatic macroinvertebrates are expected to colonize the side channel reach from both directions. Adult rainbow trout and possibly brown trout are expected to use the reach for spawning and juvenile rearing.

Macroinvertebrates will be monitored after Project completion using standard rapid bioassessment techniques to document colonization and concomitant increases in macroinvertebrate diversity. Use of the side channel by brown and rainbow trout for spawning will be documented visually assessing the presence of redds during the spawning seasons. Brown trout are fall spawners and rainbow trout are spring spawners and each build redds (nests) in which they deposit eggs. Redds are often easily visible from the streambank and their presence is often used to monitor salmonid spawning activity. Use of Alta Harris Creek side channel for rearing by juvenile salmonids will also be assessed. The presence and numbers of juvenile salmonids can be determined using the same methods (backpack electrofishing and netting) that Idaho Fish and Game has been using along the lower Boise River and side channels since 2015 described earlier in this application. This monitoring will need to be conducted in coordination with, and likely in conjunction with, IDFG staff; we are in discussions with IDFG on adding monitoring sites along the side channel once the Project is constructed and water flowing. Trout Unlimited staff and volunteers also have experience monitoring macroinvertebrates and fish. Finally, monitoring of fish use and passage will be conducted with underwater cameras to document use of the fishway.

Riparian Vegetation Native riparian vegetation will be planted along the newly created channel (1,000 feet) to provide riparian habitat, and plantings will be photo-point monitored for survival after Project completion. This activity will be very similar to the planting and photo monitoring along the existing 3,800 feet of existing channel. Riparian plantings are easily identified as such, and survival of individual plants can be determined directly. Plant survival monitoring will inform replanting needs after Project completion as well as in the sections where invasive Russian olive trees will be removed. All riparian vegetation monitoring and replanting will be conducted by volunteers from Trout Unlimited and partner organizations. Use of newly created riparian habitat by riparian birds may also be monitored by supportive organizations, such as the Golden Eagle Audubon Society and/or the Intermountain Bird Observatory.

Criterion F: Presidential and DOI Priorities (15 points)

- E.1.6.1 Subcriterion No. E1: Climate Change Points will be awarded based on the extent the project will reduce climate pollution, increase resilience to the impacts of climate change, protect public health, and conserve our lands, waters, oceans, and biodiversity.

TU is uniquely qualified to influence the formulation and implementation of an environmentally sound and responsible climate project at the national, state, and local levels. TU's more than 300,000 members and supporters, most of whom are sportsmen, sportswomen, and anglers, have detailed knowledge of local and regional conditions, and a long and successful history in planning and carrying out drought resilient projects. TU also has a highly qualified and capable professional conservation staff. And TU has a proven track record of science-based analysis using respected tools such as the Conservation Success Index (CSI) for evaluating and mitigating impacts on coldwater fisheries and their watersheds throughout North America.

The Project will include expansion of riparian ecosystems which will include additional vegetation in trees and brush that will grow and sequester carbon for the lifespan of the flora. As mentioned elsewhere we estimate the impact at five acres of riparian habitat created or expanded along the side channel. In extreme cases, the Alta Harris Creek side channel will provide additional resilience to drought through a side channel flow that provides overwinter habitat for aquatic species where there will be improved vegetation cover and other habitat elements not available in the mainstem of the Boise River mentioned on page 15.

- E.1.6.2 Subcriterion No. E2: Disadvantaged or Underserved Communities Points will be awarded based on the extent to which the project serves economically disadvantaged or underserved communities in rural or urban areas.
 - Will the proposed project serve or benefit a disadvantaged or historically underserved community? Benefits can include, but are not limited to, public health and safety by addressing water quality, new water supplies, or economic growth opportunities.

The Project location is in a location that has transitioned from a rural setting to a suburban development. Aside from an existing subdivision of older mobile homes with more than 100 units the rest of the development is twenty years old or less and not a lower income area. As one measure, East Junior High School (within a half mile of the Project site) has 16% of students on free or reduced lunch, which is lower than the entire Boise School District that records 41% of students on reduced or free school lunch. See <https://www.niche.com/k12/d/boise-independent-school-district-id/>.

- E.1.6.3 Subcriterion No. E.3: Tribal Benefits Points will be awarded based on the extent to which the project will honor the Federal Government's commitments to Tribal Nations.

The project is not located on tribal lands, nor does it limit access to or ceremonial use of Indian sacred sites.

Project Budget

Funding Plan and Letters of Commitment

Funding Source	Amount
Non-Federal entities	
Ted Trueblood Chapter of Trout Unlimited – cash, available 3/28/2023	\$75,000.00
Ted Trueblood Chapter of Trout Unlimited* – in-kind, available 3/28/2023	\$25,000.00
Bonneville Environmental Foundation – cash, available 4/1/2023	\$250,000.00
City of Boise* – in-kind, available 3/28/2023	\$20,000.00
Non-Federal subtotal	\$370,000.00
REQUESTED Reclamation funding	\$734,102.92

Funding commitment letters are attached from Ted Trueblood Chapter of Trout Unlimited and from Bonneville Environmental Foundation. The letter from the City of Boise is pending.

Budget Proposal

Total Project Cost Table

Source	Amount
Costs to be reimbursed with the requested Federal funding	\$734,102.92
Costs to be paid by the applicant	\$325,000.00
Value of third-party contributions*	\$45,000.00
TOTAL project cost	\$1,104,102.92

Proposed Budget	Quantities	Unit	Unit Price	Total
Management				
Trout Unlimited Watershed Coordinator Salary	520	Hr	\$30.00	\$15,600.00
TU Watershed Coordinator fringe benefits	520	Hr	\$16.10	\$8,372.00
TU Volunteer Project Management & Advice	200	Hr	\$50.00	\$10,000.00
			Subtotal	\$33,972.00

Supplies and Materials

Monitoring equipment	1	LS	\$2,500.00	\$2,500.00
			Subtotal	\$2,500.00

Design, Permits, Environmental Compliance

Site Characterization	1	LS	\$15,000.00	\$15,000.00
Project Design and engineered drawings	1	LS	\$92,000.00	\$92,000.00
Geotechnical and Structural Support for Design	1	LS	\$50,000.00	\$50,000.00
Construction Staking	1	LS	\$10,000.00	\$10,000.00
Development of permit applications	1	LS	\$25,000.00	\$25,000.00
NEPA (from Bureau of Reclamation)	1	LS	\$50,000.00	\$50,000.00
NHPA Section 106 (from Bureau of Reclamation)	1	LS	\$25,000.00	\$25,000.00
Local Permit application fees	1	LS	\$2,000.00	\$2,000.00
			Subtotal	\$269,000.00

General Conditions

Mobilization/Contractor Overhead	1	LS	\$55,000.00	\$55,000.00
Performance/Payment Bonds	1	LS	\$8,200.00	\$8,200.00
SWPPP Implementation/Maintenance	1	LS	\$5,000.00	\$5,000.00
Security Fencing	3200	LF	\$5.00	\$16,000.00
Site Dewatering	1	LS	\$30,000.00	\$30,000.00
			Subtotal	\$114,200.00

Section A

Clear and Grub	1	LS	\$5,000.00	\$5,000.00
Tree Removal	1	LS	\$10,000.00	\$10,000.00
Channel Excavation/Material Removal	888	ft	\$5.00	\$4,440.00
Excavation of Channel (includes Triplett berm)	1000	CY	\$25.00	\$25,000.00
River Rock for Channel Substrate	250	CY	\$50.00	\$12,500.00
Revegetation	1	LS	\$5,000.00	\$5,000.00
Erosion Control	1800	LF	\$2.00	\$3,600.00
			Subtotal	\$65,540.00

Section B

Excavation for Fishway through berm	200	CY	\$25.00	\$5,000.00
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Box Culvert inside 3-ft x 4-ft height, 45-ft length	45	LF	\$1,000.00	\$45,000.00
Headgate and Associated Structure	1	LS	\$30,000.00	\$30,000.00
Retaining wall - Fishway entrance 65-ft x10-ft h	30	CY	\$1,500.00	\$45,000.00
Retaining wall - Fishway exit 65-ft x10-ft h	30	CY	\$1,500.00	\$45,000.00
Pool Excavation/Material Removal	200	CY	\$25.00	\$5,000.00
Cobble Substrate in Box Culvert	5	CY	\$50.00	\$250.00
River Rock for Pool Substrate	50	CY	\$50.00	\$2,500.00
Lysted Crossing Box Culvert Excavation	50	CY	\$25.00	\$1,250.00
Box Culvert 3 ft span, 4-ft height, 52-ft length	52	LF	\$1,000.00	\$52,000.00
Cobble Substrate in Box Culvert	5	CY	\$50.00	\$250.00
Reinforced Concrete Headgate and Entrance/Exit	1	LS	\$25,000.00	\$25,000.00
Gate	1	EA	\$15,000.00	\$15,000.00
Trash Rack	1	LS	\$7,500.00	\$7,500.00
			Subtotal	\$278,750.00

Section C

Channel Excavation/Material Removal	2125	CY	\$25.00	\$53,125.00
River Rock for Channel Substrate Sides & Bottom	250	CY	\$25.00	\$6,250.00
River Rock for Channel for Step Pools (16)	50	CY	\$150.00	\$7,500.00
Non-Woven Geotextile Filter Fabric	7,600	SF	\$2.00	\$15,200.00
Revegetation	1	LS	\$10,000.00	\$10,000.00
Place fill for pathway to interpretive site	860	CY	\$10.00	\$8,600.00
Excess fill haul and dispose	1265	CY	\$15.00	\$18,975.00
Erosion Control	3100	LF	\$2.00	\$6,200.00
			Subtotal	\$125,850.00

Vegetation

TU Volunteer planting Section A* (in-kind)	200	Hr	\$25.00	\$5,000.00
TU Volunteer planting Section C* (in-kind)	400	Hr	\$25.00	\$10,000.00
Russian olive removal along Alta Harris Creek* (in-kind)	1	LS	\$20,000.00	\$20,000.00
			Subtotal	\$35,000.00

	Estimated Total Construction Cost	\$619,340.00
	Estimated Management, Design, Environmental Compliance, Permitting	\$269,000.00
		\$36,472.00
	Contingency (15%)	\$133,000.00
	Project Total Direct Costs with Contingency	\$1,057,812
	Indirect (per FY24 NICRA) 13.84% excludes in-kind & NEPA/NHPA	\$46,291
	Grand Total with Contingency & in-kind % monitoring	\$1,104,103

Budget Narrative

The budget above was built from estimations of construction materials, contractor costs for engineering and design and construction of similar projects. Staff time needs for similar projects recently completed by Trout Unlimited were also a basis. We have information resources from our own experience with projects and access to information on local construction costs from agencies and other organizations.

Salaries and Wages

The funds from this grant will be used to contribute towards a Trout Unlimited employee Watershed Coordinator that will devote time to project management. We estimate 520 hours are needed, equal to 0.25 FTE for one year at a salary of \$30/hr. We expect this project will be spread over two or more years and the time will vary with the Project activity. The coordinator will spend less time on the project when the NEPA and other studies are being completed by other parties and more time when work on the design and construction is occurring.

We include in-kind value of Trout Unlimited labor from professionals who volunteer with the local chapter and will provide time that supports project management. The 200 hours is valued at \$50.00/hour and contributes \$10,000 of in-kind services. It should be noted the value of the contributed time would exceed \$50.00/hr for similar work on a contracted basis. As with the Trout Unlimited employee we project more time associated with the design and construction effort and less during periods when Bureau of Reclamation is completing NEPA analysis.

Fringe Benefits

TU's current fringe benefit is 53.67% and is included in the budget. These benefits have been approved in previous Bureau of Reclamation contracts. The breakdown is as follows:

- PTO 19.65%
- Health 19.04%
- Taxes 7.59%
- 403b 5.5%
- Workers Comp 1.88%

Travel

We do not include travel costs in this budget because the Project is located in the local area for the majority of Trout Unlimited staff and volunteers.

Equipment

The budget proposes \$2,500 of grant funds for the purchase of monitoring equipment. This would include one underwater camera (\$800) to document migration activity in the fishway. There are also costs budgeted for eight water temperature measuring devices (\$1,700) to record water temperatures in the side channel and in the river upstream and downstream on a continuous basis for the first years following the project. This is based on vendor estimates and shipping costs for the equipment.

Supplies and Materials

Many supplies and materials have costs that are difficult to separate from their installation. And the budget shows installed costs for most supplies. That said, the supplies include:

River rock and cobble, 550 cubic yards (CY) at \$25.00/CY, for stream substrate = \$14,300

Rock for step pools, 50 CY at \$150/CY, for stream grade and migration = \$7,500

Geotextile filter fabric, 7,600 square feet at \$2/SF, for stream bottom membrane = \$15,200

Box culvert, 97 linear feet at \$1,000/LF, for fishway and stream crossing = \$97,000 (this includes installation)

Headgate and associated structure, lump sum, for fishway water control = \$30,000 (this includes installation)

Riparian vegetation, along 1,250 linear feet (LF) of channel at \$12/ft for riparian area establishment (lump sums \$5,000 Section A, & \$10,000 Section C)

Reinforced concrete, 60 CY at \$1,500/CY for retaining wall for fishway = \$90,000 (this includes installation)

Wattles, 4,900 LF at \$2/LF for erosion control = \$9,800

Fencing, 3,200 LF at \$5/LF for security during construction = \$16,000 (from ACHD report)

Costs from reports *Upper Valley Eastern Snake Plain Aquifer Recharge Projects Investigation*, August 2022 and *ACHD Bid Average Report: 9-1-2021 through 3-3-2023*.

Contractual

Contractors will be utilized for engineering and design of the Project and for preparing drawings and final design and engineering, preparation of construction contract bidding documents, and construction oversight and inspection. Also included in this category is environmental compliance, some to be executed by the Bureau of Reclamation and some by contractors for environmental permits. These are budget estimates in lump sum because available data for similar work in the area is presented in lump sum totals.

Site Characterization, Lump Sum (LS), \$15,000.00 (similar work in 2019 on a stream project in Boise was \$8,200 for a site less than 25% the length of this Project but known about site history, so this LS is scaled for a larger area but less intensive sample core drilling or test pits).

Project Design and engineered drawings, LS, \$92,000.00 (design costs for stream projects locally are at 15% of construction. King County, WA costs estimates are 25% or higher. The more complex aspects for the fishway and road crossing are captured in the next item).

Geotechnical and Structural Support for Design, LS, \$50,000.00 (LS for geotechnical investigation of conditions and support for fishway and road crossing and to meet FERC requirements).

Development of permit applications, LS, \$25,000.00 (based on Bureau of Reclamation estimate below for NHPA Section 106 compliance. These would cover local permits such as Boise River System Ordinance, floodway review, erosion & sediment control, Corps of Engineers Section 404, Idaho DEQ 401 certification and Idaho DWR non-consumptive water right).

NEPA (from Bureau of Reclamation), LS, \$50,000.00 (Bureau of Reclamation estimates "For NEPA, as submitted in 2/2023, this project would require an EA. I would roughly estimate it at \$45K and 9-12 months for completion." - March 6 email from M. Jayo. This LS includes a round up for contingencies).

NHPA Section 106 (from Bureau of Reclamation), LS, \$25,000.00 (Bureau of Reclamation estimates, "For cultural clearances, a full cultural resources survey and consultation would likely be required. If Reclamation performs the field work and report writing and consultation, it would take at least 45-60 days and cost about \$25K. If fieldwork and report writing is contracted out and Reclamation is only doing the consultation, it would take at least 45 days and cost about \$5K." - March 6 email from M. Jayo.

Local Permit application fees, LS, \$2,000.00 (the Boise River system Ordinance fee is \$1,440 and floodway review and erosion and sediment control are \$200-\$400. Smaller fees apply to Section 404, stream channel alteration and water rights).

Construction

The construction cost line items are divided into four sections, consistent with the technical description in this application: general conditions for the entire Project, Section A from Barber Pool to the fishway intake, Section B the fishway through the embankment and then the culvert under Lysted Road, and Section C from the culvert to connection with existing the Alta Harris Creek.

General conditions for construction are identified for six line items related to pollution and erosion control as well as mobilization and site security with construction fencing. These are lump sum costs. Many are based on a percentage of the total construction costs; the most significant being mobilization and contractor overhead. These cost estimates are based on recent experience with projects financed or involving Idaho Department of Water Resources, Idaho Fish and Game, and Utah Department of Natural Resources.

A number of line items costs in sections A, B, and C, for excavation or materials costs are the same rate and can reflect both materials and installed costs. Cost coefficients are from the recent compilation of water project construction costs associated with Idaho Department of Water Resources, Idaho Fish and Game, and Utah Department of Natural Resources compiled in a recent report titled *Upper Valley Eastern Snake Plain Aquifer Recharge Projects Investigation* dated August 2022 for the Idaho Water Resource Board (authors volunteered assistance for this Project cost estimate). The work was completed by Quadrant Consulting, Inc. Prices were also compared, and are consistent with, bid data from the Ada County Highway District for road construction projects in Ada County (where the project is located) titled, *ACHD Bid Average Report: 9-1-2021 through 3-3-2023*. See https://www.achdidaho.org/Documents/PlansPrograms/Bid_Averages_Report.pdf

Mobilization/Contractor Overhead, LS, \$55,000.00 (local data shows typically 7.5-10% of construction).

Performance/Payment Bonds, LS, \$8,200.00 (typically 1.5% of construction costs), \$8,200.00

SWPPP Implementation/Maintenance, LS, \$5,000.00 (est. costs for erosion control placement of materials, dewatering filtration)

Security Fencing, \$16,000.00 (also mentioned in supplies)

Site Dewatering, LS, \$30,000.00 (Reclamation estimate was slightly higher in its 2008 PreDesign memorandum cost estimate for Barber Dam fishway)

Construction Staking, LS, \$10,000.00

Clear and Grub, LS, \$5,000.00

Tree Removal, LS, \$10,000.00 (ACHD bid estimates \$1,100 per tree, this would be enough for nine trees)

Channel Excavation/Material Removal, 888 LF, \$5.00/LF, \$4,440.00 (for clean out of back channel)

Excavation of channel, 3,525 CY, \$25/CY, \$88,125 (ACHD estimates rate at \$25/CY when volume exceeds 5,000 CY and higher rates for lower volumes)

River Rock for channel substrate and for step pools are addressed in the materials costs sections since those are delivered and installed costs

Revegetation, 1, LS, \$5,000.00, \$5,000.00

Box Culvert, inside 3-ft x 4-ft height, \$1,000.00/LF installed, one at 45LF second at 52LF (also described in materials)

Installation of Headgate and Associated Structure, LS, \$30,000.00

Retaining wall for fishway, 60 CY at \$1,500.00/CY installed, \$90,000.00 (also described in materials)

Revegetation, 1, LS, \$10,000.00, \$10,000.00

Place fill for pathway to interpretive site, 860 CY, \$10.00/CY, \$8,600.00

Excess fill haul and dispose, 1265, CY, \$15.00, \$18,975.00

Other

There are two components of costs that can be classified in the “other” category. First, there is the contingency cost estimate of 15% applied to the construction cost line items, design costs, and project management. This total of \$133,000 is a well-established practice for cost estimation at this stage of the project.

The second set of costs to describe in this section are third-party and or volunteer contributions. We project there will be \$25,000 of in-kind contributed labor from Trout Unlimited volunteers. We estimate that at a volunteer rate of \$20/hr, there will be 600 hours contributed towards the Project. Much of this will be volunteer planting efforts. Another \$10,000 of Trout Unlimited volunteer time valued at \$50/hr is reported in the salaries and wages category as it is associated with Project management and will be hours donated by highly skilled Trout Unlimited volunteers possessing the knowledge, experience, skills and abilities conducting the type of work that would equal or exceed the \$50/hr rate in the market.

The last set of in-kind contributions is the \$20,000 spent by third parties, mainly the City of Boise, on the removal of invasive Russian olive trees along Alta Harris Creek. This in-kind contribution started after July 1, 2022, which is identified in the NOFO as the earliest date where the value of contributions can be credited to this Project. The \$20,000 is documented in invoices from contractors removing the trees. This work was subject to a public bidding process by the City of Boise in 2022 and all funds are non-federal in origin.

Indirect Costs

Trout Unlimited has a federally approved indirect cost rate of 13.84% approved by the US Department of Interior. The document is attached to this application. For this project the indirect rate total is \$129,793. The indirect cost rate was not applied to the \$75,000 in the budget for the Bureau of Reclamation NEPA and NHPA Section 106.



PUBLIC WORKS DEPARTMENT

MAYOR: Lauren McLean | DIRECTOR: Stephan Burgos

March 20, 2023

Bureau of Reclamation

Attn: Avra Morgan and/or Robin Graber

P.O. Box 25007, MS 86-69200

Denver, CO 80225

RE: WaterSMART Environmental Water Resources Projects – Fiscal Year 2023; Letter of Partnership/Letter of Support

Dear Ms. Morgan and Ms. Graber:

The City of Boise hereby submits this letter demonstrating its partnership with Trout Unlimited on the Alta Harris Creek Boise River Side Channel and Fish Passage Project. The City of Boise is an entity with water delivery authority located in Idaho and as such qualifies as a Category A applicant within the context of the Bureau of Reclamation (Reclamation) Notice of Funding Opportunity No. R23AS00089, WaterSMART Environmental Water Resources Projects for Fiscal Year 2023. The applicant, Trout Unlimited, qualifies as a Category B applicant.

The City of Boise and Trout Unlimited have worked in partnership since 2001 on the creation and implementation of the of Alta Harris Creek project. Permits were obtained beginning in 2004 from the City of Boise (Boise River System Ordinance, Floodplain Review, stormwater and erosional control) for the first phases of the project. Alta Harris Creek was incorporated in the Harris Ranch Specific Plan adopted by the Boise City Council into the city Zoning Ordinance in 2007. The current application is for completion of the final phase of the project. The proposed project is in the City of Boise's Alta Harris Park. The grant application "project milestones" section details that the first phase of the project is to formalize partnerships with cooperatives and permit agencies, which includes the City of Boise. This project was identified as an important project in the city's Enhance the River initiative described in the City of Boise Water Renewal Utility Plan (2020). The enhance the river program focuses on enhancing the Boise River ecosystem health beyond regulatory requirements.

The Alta Harris Creek Boise River Side Channel Project will improve water quality and beneficial uses in the Boise River by reestablishing a functioning riparian corridor, and also restore spawning and rearing habitat for salmonid fishes with an up to one-mile-long side channel to the Boise River. The project will contribute to the restoration of full support of the designated beneficial use of salmonid spawning. Finally, the project will provide fish passage between the Boise River and Barber Pool, restoring connectivity between two areas that have been disconnected for nearly a century.

The City of Boise Public Works and Parks and Recreation Departments retain the right to review and approve final design before implementation to ensure the project is in alignment with broader city objectives and river restoration activities. The City of Boise agrees with the content and supports the Trout Unlimited's submission of this application to Reclamation.

Sincerely,

Stephan Burgos
City of Boise Public Works Director

A handwritten signature in black ink that reads "Heather Buchanan". The signature is written in a cursive, flowing style.

Heather Buchanan, Chief Administrative Office/PW
Acting Director for Steve Burgos
03/21/2023





March 27, 2023

Ted Trueblood Chapter of Trout Unlimited, Inc.
P.O. Box 1971
Boise, ID 83701

Re: Alta Harris Creek Boise River Side Channel Project

Dear Andy Brunelle:

On behalf of the Business for Water Stewardship (BWS) program of the Bonneville Environmental Foundation (BEF), I am pleased to send this support letter to Ted Trueblood Chapter of Trout Unlimited connected to the launch of the Alta Harris Creek Boise River Side Channel Project.

As you know, the Project is a collaboration among partner organizations Land Trust of the Treasure Valley, the University of Idaho, Phillip Williams and Associates, Quadrant Consulting, Inc., the Army Corps of Engineers and Idaho Foundation for Parks and Lands that is intended to connect the Alta Harris Creek Side Channel with the Boise River in order to reestablish a robust riparian corridor, spawning and rearing habitat for salmonid fishes, and provide continuous fish passage from Barber Pool (created by the Barber Dam) to the Boise River.

Under the terms of the BEF Grant to Ted Trueblood Chapter of Trout Unlimited, BEF will provide an amount of \$250,000 USD to Ted Trueblood Chapter of Trout Unlimited in consideration of the support provided to the Project via the participation of Ted Trueblood Chapter of Trout Unlimited staff and consultants.

This funding may be used for general operating purposes associated with the Alta Harris Creek Boise River Side Channel Project, including the payment of any associated



consulting fees, staff time, and other fund development or operating costs and will be made available upon receipt and approval of this grant letter.

We look forward to working with Ted Trueblood Chapter of Trout Unlimited to make this Project a success.

Very truly yours,

A handwritten signature in black ink that reads 'Felicia Phillips'. The signature is written in a cursive, flowing style.

Felicia Phillips, CFO & Vice President of Operations
for Bonneville Environmental Foundation