Willard Bay Settlement Request for Proposals

The Division of Water Quality is soliciting project proposals that will enhance and protect waterways and environmental areas that may have been affected or related to the March 2013 release of diesel in the Willard Bay State Park. Examples of acceptable mitigation projects include but are not limited to: environmental projects, infrastructure improvements, and studies or educational activities/events which serve the purpose of protecting or improving water quality and/or the ecology of natural systems. Proposals must include a detailed description of the mitigation project, a cost breakdown showing how the funds will be used, and a plan for implementation of the project. The implementation plan shall include a timeline for implementation, completion of the project, and submission of final document(s) verifying completion of the project.

A two phase process will be used to evaluate proposals and select projects for funding. The first phase will evaluate proposals submitted on the form included below and select projects for funding. Initial proposals should be limited to a six (6) page maximum. Supplemental documents such as letters of support, information to demonstrate previous project implementation and other relative supportive documents may be submitted in addition to the six (6) page application form. Successful applicants will then be notified to submit detailed project plans in the second phase. Upon approval of the detailed project implementation plans, funding will be authorized by the Director of the Utah Division of Water Quality.

The deadlines for proposal submission, detailed project plans and funding authorization are provided here:

- May 5, 2014, 5:00 p.m.: Submission Deadline for project proposals
- May 28, 2014: Projects selected, funds allocated, & Proposers notified (Accepted proposals will be posted on DWQ website.)
- January 1, 2018: Completion of project and final reports due

The following criteria must be met by each funded project:

1. Proposed project must enhance the natural environment by improving conditions for one or more of the following: wildlife, habitat, native vegetation, water quality or emergency response or provide scientific and/or educational enhancements to the citizens of Utah in the context of the above named environmental areas.
2. Proposed project must benefit Utah citizens by providing one or more of the following: enhancements of infrastructure, educational opportunity, environmental benefit or recreational opportunity.
3. Proposer must have either an interest in any land directly involved in the project (e.g., fee title, easement, or other legal agreement that gives all needed rights to enhance the land involved in the project) or written permission/contract to conduct project activity on property.
4. Proposed project must be capable of being completed within 4 years.
5. Proposer must be capable of implementing the proposed project.

Proposals will be scored based upon the following criteria:

Strength of the Project

1. Project benefits the area within Willard Bay State Park or the ecosystems in close proximity.
2. Project benefits the natural environment.
3. Project increases the ecosystem services being provided by the enhanced waterway.
4. Project has social benefits.
5. Project size – how large is the total area that will be directly enhanced by the proposed project?
6. Project connectivity – how does the proposed enhanced project area connect to other natural areas or projects.
7. Project proposer can leverage additional funds.
8. Project cost-effectiveness.
9. Administrative expenses.

Strength of the project team

10. The proposer has the ability to carry out the project as shown by successful past experience in carrying out similar projects.
11. The proposer can ensure, through contract or other written agreement, long term maintenance (if applicable) will sustain the project into the future.
12. The project has multi-agency support and collaboration.

A completed proposal form, no more than six (6) pages, plus supplemental documents, must be submitted in hard copy or emailed electronically (preferred) by May 5, 2014 to the Division of Water Quality to the attention of:

Emily Bartusek
Division of Water Quality
PO Box 144870
Salt Lake City, UT 84114
ebartusek@utah.gov

UTAH DIVISION OF WATER QUALITY
195 North 1950 West
PO Box 144870
Salt Lake City, Utah 84114-4870

Willard Bay Project Proposal Form

NOTE: Proposal must be no longer than 6 pages. Supplemental documents such as letters of support, information to demonstrate previous project implementation and other relative supportive documents may be submitted in addition to this form.

Applicant Name: Paul Burnett

Co-Applicant Name(s) (if applicable): _____ Project Title: Weber Dam Fish Passage Restoration

Agency or Business Name (if applicable): Trout Unlimited

Mailing Address: 5279 S 150 E City: Ogden State: UT Zip: 84405

Phone: (801)781-7180 E-mail: pburnett@tu.org

☐ Individual ☒ Non-Profit ☐ Govt. Agency ☐ Academic ☐ Commercial ☐ Other

1. Estimated Project Costs:

Design and Permitting	$ 36,000
Materials	$ 12,000
Construction	$ 312,000
Travel	$1,500
TOTAL	$ 361,500

Other sources of project funding:

Funding Source	Amount
US Fish and Wildlife Service Fish Passage	$85,000
PacifiCorp	$75,000
Willard Bay Mitigation	$201,500
Total	**$361,500**

Total project cost including other sources of funding: $ 361,500
(please include bids for labor, equipment, rentals, etc.)

2. Describe the purpose and need of the project:

The critical need in this segment of the Weber River is to restore fish passage on mainstem diversion structures. The primary purpose of this project is to:

- Reconnect priority habitats for imperiled native fish in the Weber River
- Build population resiliency to unforeseen human caused and/or environmental disturbances
- Stabilize native fish population dynamics
- Promote stewardship of our rivers through education

The Weber River is the second-most popular stream fishery in Utah, it provides drinking and irrigation water to approximately 21% of Utah's population and it is one of the most at-risk river basins in the state due to current land and water demands and past habitat impacts. Despite the great demand on its resources and past impacts, the Weber River supports populations of two species of imperiled fish, the bluehead sucker and the Bonneville cutthroat trout. Bluehead sucker are mainstem-dwelling fish that require complex and dynamic habitats. Bluehead sucker populations have declined dramatically in recent years. One of the primary sources of the decline both species is mainstem river habitat fragmentation. Bonneville cutthroat trout in the Weber River have been largely relegated to headwater tributary streams, primarily due to the presence of exotic fish species, habitat degradation and fragmentation.

During recent years, a rare fluvial population of Bonneville cutthroat trout has been discovered in the lower Weber River. These fish grow to a large size and migrate into the tributaries for spawning and rearing of juvenile fish. Because these fluvial fish grow large and move long distances between habitats at different times during their lives, they are a unique and critical component of the overall fish assemblage in the Weber River and are both ecologically and recreationally important. The large seasonal influx of fish and eggs can drive energy cycling in smaller tributary systems. These large fish are also highly sought after by anglers, making them economically and recreationally valuable. Only two other large-river fluvial populations of Bonneville cutthroat trout exist within the range of the subspecies, both occurring in the Bear River basin, highlighting the ecological and economic importance of this Bonneville cutthroat trout population and life history. These Bonneville cutthroat trout and bluehead sucker populations co-occur within the middle Weber River, from Ogden upstream to the Stoddard Diversion, near Morgan.

As described above, the native fish populations in the Weber River face many threats to their long term persistence, but habitat fragmentation represents a universal threat. Several mainstem and tributary fish migration barriers prevent a large number of the fish in these populations from accessing critical spawning, rearing and refuge habitats that are needed at different stages of their lives. The most important fish migration barrier within the Middle Weber River is the dam known as the Weber Dam. This dam is located at the top of Weber Canyon and is used by Pacificorp to generate hydropower. When generating hydropower, this dam creates a complete fish migration barrier. Approximately 2 miles of mainstem habitat occurs below this dam to the next barrier (Davis and Weber Canal Diversion) and approximately 10 miles of connected mainstem habitat occur upstream of Weber Dam.

Recent fish population surveys have revealed that the two miles of habitat below Weber Dam supports nearly half of the Bonneville cutthroat trout in the middle Weber River, but no tributary spawning habitat exists below the dam. Based on our current understanding of the population dynamics of cutthroat trout in the Middle Weber River, any Bonneville cutthroat trout below this diversion cannot spawn, representing a large population sink. During the past two years, the radial gates for this dam have been opened, allowing for upstream fish passage, for a total of approximately 80 days due to low flows. The UDWR has documented fish moving upstream of this dam during those times.

3. Estimated time frame of the project with significant milestones (Note: Project must be completed with final reports filed by January 1, 2018): _____

- June 2015: Survey and Design Criteria Developed
- June 2016: Final Design
- June 2017: Construction Complete

4. Describe the location of the project with attached location map, including details on the total area that will be directly enhanced by the project: _____

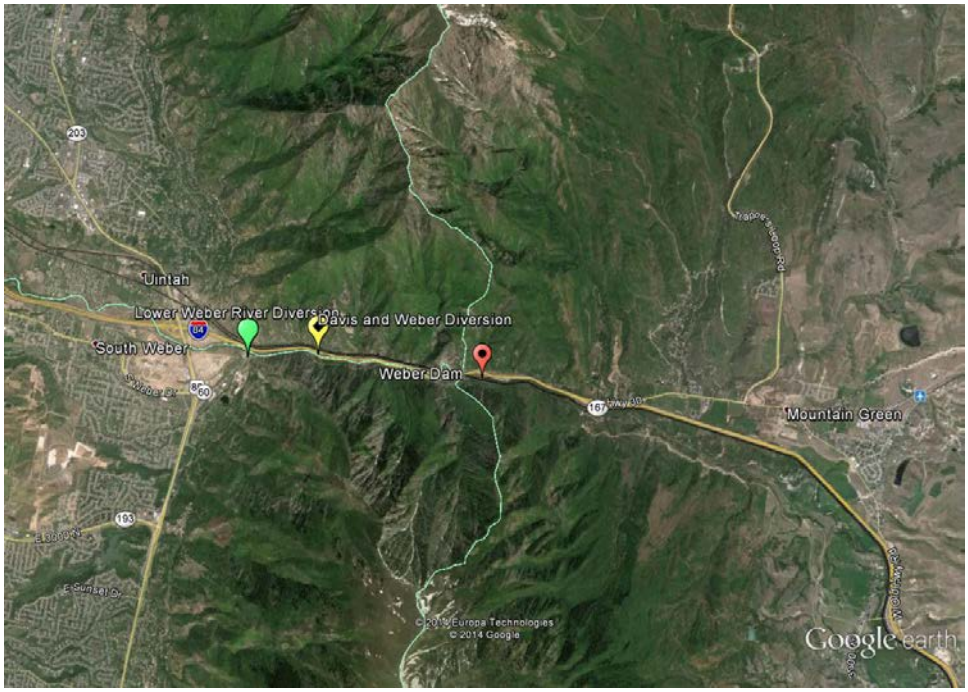

Figure 1: A site map showing the three dams in Weber Canyon. Dams are represented by different colors based on their passability, Green (passable), Yellow (partially passable) and Red (completely impassable). The three dams are shown to highlight the strategic nature of this specific proposal. Passage was restored at the lowest dam in 2011, future work will focus on the middle dam

Figure 2: A site map of Weber Dam showing the general project location and approach.

5. Describe how the project will specifically enhance and protect waterways affected by the Willard Bay diesel release and improve the conditions of one or more of the following: wildlife, habitat, natural vegetation, water quality or emergency response.

The Weber River, the primary source of water to the Willard Bay Ecosystem, is crossed by several pipelines each representing a ubiquitous threat to the entire river system throughout most of the mainstem and most of its tributaries. Currently if a spill were to happen within the Weber River, the native fish populations would be considered to be at a high risk of losing a large proportion of their individuals

because habitat fragmentation has chopped the habitat into smaller isolated patches, which both precludes the remaining fish from moving into refuge habitats during a disturbance and hinders recolonization of habitat after the disturbance is over. Although it is essentially impossible to stop new pipelines or fully mitigate the threat of spills from the existing pipelines, the general approach of the Weber River Partnership is to build resiliency in the native fish populations that currently occupy the river. This means that if a spill were to occur, a suitable diversity of habitats would be available and occupied by the native fish. This would also increase the potential for fish to occupy spatially diverse refuge habitats to allow the fish populations to naturally recover in the event a spill or other event. In order to build resiliency in these populations, one of our primary strategies is to reconnect priority fish habitats by removing fish migration barriers, both in the mainstem of the Weber River and in the tributaries.

Weber Dam represents one of the most significant barriers to native fish migration on the Weber River because of its proximity to the Bonneville cutthroat trout and bluehead sucker populations. Restoring fish passage at this site would essentially double the reproductively viable Bonneville cutthroat trout population in the Weber River, making it more robust and stable. A more stable fish population translates to consistent and valuable recreational opportunities which are critically important to our quality of life and the economic vitality of our communities.

Although the fish passage options are preliminary at this point, we have conceptualized a fish passage facility adjacent to the I-84 rest area. The two primary fish passage options include, (1) a fishway constructed as a hardened, naturalized channel similar to the facility at the diversion located at the mouth of Weber Canyon, and (2) a vertical-notch concrete fish ladder. We expect that either facility would include interpretive displays that share a message about the importance of fish passage.

6. Describe project's connectivity to other natural areas or projects that further enhance wildlife, habitat, natural vegetation, water quality or emergency response:

This project compliments other conservation actions in this reach of the Weber River in the following ways:

- It supports the goals of the Conservation Targets (Bonneville cutthroat trout and bluehead sucker) identified in the Weber River Watershed Plan, 2014
- It supports a key action of restoring fish passage identified in the Weber River Watershed Plan, 2014
- It advances the educational strategies identified in the Weber River Watershed Plan, 2014
- It supports multi-state conservation agreements for Bluhead Sucker (Three Species Conservation Agreement) and Bonneville cutthroat trout
- It compliments 4 tributary fish passage actions within 4 miles of this site

Over the past year a broad collaborative partnership representing fish, water quality, water user, agricultural and hydropower interests came together to develop the 2014 Weber River Watershed Plan. The goal of this plan was to update the Weber River Watershed Restoration Action Strategy, which was developed in 2003. The 2014 Weber River Watershed Plan highlighted several specific priority areas and actions needed in watershed. The cutthroat trout and bluehead population coexisting in the middle Weber River was highlighted as a critical area of focus, and fish passage restoration was highlighted as a key action.

This proposed project is also complimentary to several conservation actions taken by various watershed partners in this segment of the Weber River. Trout Unlimited recently received a grant from the National Fish and Wildlife Foundation to provide capacity support for project development in the middle Weber River. This has translated into several conservation actions in the area. For example, through a broad partnership, we were able to reconstruct an irrigation diversion, restore fish passage and construct fish screens on the diversion at the mouth of Weber Canyon (Figure 1). This lower diversion is the first of three mainstem fish migration barriers that fragment mainstem habitat in the Middle Weber River; this

proposal is to restore fish passage at the third dam. Other examples of complimentary conservation actions in the area include a partnership between UDWR, TU and Questar Gas in November 2013 to restore fish passage at a road crossing on Jacobs Creek, which flows into the Weber River just 2 river miles away. TU and the UDWR are about to break ground on a fish passage restoration project in Gordon Creek, which flows into the Weber River just 2.19 river miles away. Monitoring by the UDWR and TU continue to highlight the need for strategic fish passage restoration actions within this segment of the Weber Rive and its tributaries.

7. Describe any additional social benefits of implementing this project:

The primary social benefits derived from this project include improved recreational and educational opportunities. By improving the resilience and stability of the Bonneville cutthroat trout population this project will improve recreational opportunities for the local community and for visitors and tourists. This is critically important within the Weber River Basin because it is such an important fishery in the state. Secondly, the Weber River Watershed Plan highlighted the need to improve outreach within the watershed to help sustain restoration actions and protect the existing habitat and water quality within the Weber River. By integrating interpretive features into the fish passage facility, watershed partners will have a new forum to share the message of water quality, fish passage and conservation within the watershed.

8. Project plans and details, including rights to work on specified piece of land:

Project plans are currently very preliminary. Sufficient bypass flows exist to ensure that, if constructed, the fishway would be passable for fish throughout the year. We have identified the north side of the dam to be the most suitable location for a fishway or fish ladder (Figure 2). The area upon which the fish passage facility would be constructed is owned by PacifiCorp. We have obtained permission from PacifiCorp to design and construct a fish passage facility at this site. They have also shown a willingness to contribute financially to this project. Constructing the facility on the north side of the river will facilitate public access to the fishway, which will enhance the educational and outreach opportunities. The project partners are hoping to integrate a viewing area into the fish passage facility, which would potentially attract additional visitors to the site. With the approval of this grant, we would have the capacity to develop and implement construction of this important fish passage facility.

9. Describe your experience in implementing projects of similar scope and magnitude:

In 1994 TU established an innovative model—the Home Rivers Initiative (HRI)—for conservation of streams and fish. HRI project managers are hired from within local communities to work with and coordinate efforts among resource agencies, scientists, landowners and local partner organizations to restore coldwater fish habitat and populations at the watershed scale. Each project is a collaborative multi-year effort that combines applied scientific and economic research, community outreach, on-the-ground restoration, and the development of long-term conservation and management strategies and tools. Project managers implement restoration and conservation projects in high priority watersheds, and work to build community support and stewardship to carry them forward and sustain the conservation gains into the future. To date we have implemented 25 HRI projects in over a dozen states. Those projects have reconnected and/or restored hundreds of miles habitat and benefitted fish populations, anglers, and local communities.

TU has approximately 1,500 volunteers and four full-time staff in the State of Utah. Our mission is to protect and restore coldwater fisheries and their habitats in Utah and across the country. Consistent with that mission, we strongly support and participate in efforts that improve water quality and aquatic habitat. We have extensive experience working collaboratively with water users, federal and state biologists, and other non-governmental organizations across Utah to implement projects that improve water delivery systems while simultaneously improving habitat quality and connectivity and ensuring the population resiliency of coldwater fish. Local examples of those projects include:

- Lower Weber River Diversion Modernization – Fish passage and screening on a mainstem

irrigation diversion near the mouth of Weber Canyon. Project partners, including TU, provided funding support to the water users to help them rebuild their diversion structure while incorporating critical fish passage and screening components into the system.

- South Fork Chalk Creek Reconnection – TU worked with a broad partnership to develop an irrigation diversion upgrade project near the mouth of the South Fork of Chalk Creek near Coalville, UT. In this case we managed the budgets and construction of diversion structure removal, and the construction of pivots with a screened intake structure.
- Fish Creek Reconnection – Also in the Chalk Creek watershed, TU staff worked with private landowners to remove a culvert, reconstruct the stream channel and hillslopes to restore fish passage and reduce sedimentation into the Chalk Creek watershed.

10. Describe how ongoing maintenance of the project will be funded and carried out:

The overall goal of this project will be to develop a facility that has a very small maintenance burden. TU and Pacificorp will design this project to minimize maintenance. In general, the water is sustained behind the dam at a consistent elevation during hydro operations. This should make flow maintenance through the fishway fairly straightforward. The primary maintenance requirements will be associated with monitoring such as the management of a fish trap, and will be shared among the project partners.

11. List consultants or agency partners that have participated in project development (below):

Utah Division of Wildlife Resources Ben Nadolski	515 E 5300 S, Ogden, UT	801-643-4953
Name/Company	Address	Phone
Pacificorp – Eve Davies	1407 West North Temple, Ste. 110	801-220-2245
Name/Company	Address	Phone
RiverRestoration – Jason Carey	PO Box 248, Carbondale, CO	970-947-9568
Name/Company	Address	Phone

Signature _____ Date 5/5/2014

Applicant

Signature _____ Date _____

Co-Applicant (if applicable)