

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: South Fork Chalk Creek Watershed 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:

Replacement of 4 Diversions	<u>\$190,000</u>
Grazing Mgmt Changes Upstream of Fish Creek	<u>\$65,000</u>
Channel Reconstruction Downstream of Fish Creek	<u>\$180,000</u>
Culvert Replacement at Winter Quarters Creek	<u>\$28,000</u>
Culvert Improvement at Elkhorn Canyon	<u>\$25,000</u>
Admin	<u>\$10,000</u>

TOTAL \$ 498,000

Other sources of project funding:

Funding Source	Amount
NRCS	\$95,000
Grazing Improvement Program	\$45,000
TU (Admin)	\$10,000
USFWS Fish Passage	\$80,000
Willard Bay Mitigation	\$268,000
Total	\$498,000

Total project cost including other sources of funding: \$ 498,000

(please include bids for labor, equipment, rentals, etc.)

2. Describe the purpose and need of the project: _

The critical need for both aquatic habitat and water quality in the South Fork of Chalk Creek is a reduction in the summer stream temperatures and fine sediment loads entering Chalk Creek and to improve habitat connectivity for Bonneville Cutthroat Trout. The primary purpose of this project is to:

- Improve irrigation diversion efficiency
- Remove key fish migration barriers
- Improve livestock grazing
- Restore key riparian areas
- Increase stream channel shading
- Reduce sediment loads from the watershed

The Weber River, which supplies water to the Willard Bay Ecosystem, provides a wide diversity of values to the people of Utah. It is the second-most popular stream fishery in Utah, it provides drinking water to approximately 21% of Utah's population and it is a critical landscape for thousands of agricultural producers. The Weber River is one of the most at-risk river basins in the state, due to current land and water demands and past habitat impacts. Many of the tributaries have also been highly degraded in the past, either through land management actions or direct stream channel impacts caused by flood control and the construction of transportation infrastructure. Chalk Creek is major tributary watershed in the Weber River Basin with a long history of agricultural land use, flooding and flood control, restoration through several partnerships, and a slow recovery. The trajectory of Chalk Creek has moved in the positive direction in recent years; nevertheless an overwhelming amount of work still needs to be done.

This major tributary system supports one of the last remaining Bonneville cutthroat trout strongholds in the state. The Chalk Creek Watershed is a unique aquatic system in that it is almost entirely free of nonnative fish, and the South Fork of Chalk Creek is critical habitat for cutthroat in the watershed. Native fish strongholds like Chalk Creek and its tributaries are rare and special places that we can't ignore. Protecting the health of these watersheds has cascading beneficial effects downstream into the popular fisheries of the Weber River.

Although critical in importance to the native fish in the Weber River, habitat conditions in the South Fork of Chalk Creek are degraded primarily from past and present land management. Based on visual stream assessments, over half of the approximately 14 miles of the South Fork have little to no riparian vegetation cover. In addition to the degraded habitat conditions throughout much of the South Fork subwatershed, several fish migration barriers exist, fragmenting habitat and limiting the availability of high quality areas to a large component of the Bonneville cutthroat trout population. Project partners have made significant progress towards improving habitat connectivity in the South Fork through the implementation of 4 fish passage projects over the past 5 years. Although these fish passage projects have been completed to the benefit of the South Fork of Chalk Creek, several ecologically significant barriers still exist. Many of these barriers are irrigation diversions, while others are problematic road crossings. A recent Coordinated Resource Management Planning (CRMP) effort coordinated by the Summit Conservation District and involving the majority of the landowners has highlighted the need for strategic, large scale restoration actions in the South Fork. The important agricultural interests coupled with high-value fish populations, presents a great opportunity to improve water quality, fish habitat, and land productivity within this subwatershed.

3. Estimated time frame of the project with significant milestones (Note: Project must be completed with final reports filed by January 1, 2018): _____
 - June 2014: Secure necessary funding
 - August 2014: Scope projects with landowners
 - October 2014: Complete stream surveys for selected projects
 - August 2015: Begin implementing selected habitat projects
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 map showing the fish migration barriers on the South Fork of Chalk Creek. Red marks indicate complete barriers, yellow marks indicate partial barriers and green marks indicate passable structure. Squares are water diversions, triangles are road crossings and pentagons are impoundments. The primary areas of focus on this project will be the diversions on the South Fork. Approximately 4 miles of habitat upstream of Fish Creek will be restored through changes in livestock management. The two miles of habitat downstream of Fish Creek are the site of channel reconstruction and floodplain restoration.

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.

Chalk Creek and all of its tributaries are currently listed as impaired waters by the Utah Division of Water Quality for elevated levels of Phosphorus, fine sediment and physical habitat degradation. In addition to the listed impairments, sections of Chalk Creek reach elevated temperatures during the summer, sometimes exceeding the known lethal limit for Bonneville cutthroat trout. Nevertheless the strong cutthroat trout population is sustained through a partially connected network of habitat with thermal refugia throughout the watershed. The South Fork of Chalk Creek has the potential to be a significant coldwater refuge for Bonneville cutthroat trout, however past and current land management patterns result in significant heating along the longitudinal gradient of the creek and its tributaries during the summer. This is partially due to unmanaged livestock grazing in riparian areas and to irrigation water withdrawals.

This project will enhance the South Fork Chalk Creek in the following 3 ways:

- Improved irrigation efficiency will increase water volumes in the South Fork, lowering temperatures
- Grazing enhancements will improve riparian conditions, improving stability and shading
- Removing barriers at road crossings and diversions will improve habitat connectivity

During the summer, the water temperature warms by over 6 Degrees Celsius over a 10 mile distance along the South Fork of Chalk Creek. This heated water flows into Chalk Creek providing additional thermal pollution to the system. Restoration actions within the South Fork will be focused on reducing the heating rate of water as it flows downstream. Taking actions such as reducing grazing pressure on the riparian zones will allow riparian vegetation to reestablish along the waterways and reduce the rate of heating. A fish migration barrier inventory has been recently completed for the South Fork subwatershed. We will

use the data from the barrier inventory to identify the highest priority barriers for removal. High priority barriers are those that increase the resiliency of the Bonneville cutthroat trout population by increasing the available habitat and providing access to cold water refugia.

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

This proposed project is complimentary to other conservation actions within Chalk Creek, and in many respects, it is a continuation of past restoration efforts. The first major restoration effort occurred throughout the mainstem with the development of the Chalk Creek TMDL during the mid-1990's. Groundbreaking stream restoration occurred during this period. The primary focus was on bank stabilization and fine sediment reduction. Over time large patches of the riparian area have recovered on the mainstem, improving water quality, and adding to the resiliency of the Bonneville cutthroat trout population. During the first phase of restoration, little work was completed in the South Fork. During recent years, a renewed focus has been placed on the South Fork of Chalk Creek. Because of the high-value and genetically pure Bonneville cutthroat trout population located in the South Fork, the primary focus has been on habitat reconnection. Reconnection projects were completed on the lower South Fork, Fish Creek and two headwater on-channel ponds. Through the partnerships created with these recent projects, watershed partners have observed larger scale challenges and potential actions to address these challenges within the South Fork. This led to the development of a Coordinated Resource Management Plan (CRMP). The CRMP is currently under development and review by the landowner and agency partners. We anticipate that the CRMP will highlight, fish passage, irrigation efficiency and physical habitat conditions. We expect to utilize the priorities developed through the CRMP to guide specific project actions throughout the South Fork.

This project also supports priorities in the recently-completed Weber River Watershed Plan. 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 the watershed. The genetically pure and intact populations of cutthroat trout in Chalk Creek were highlighted as a conservation target in a key ecological system. Habitat reconnection and working with livestock producers to improve grazing strategies were specified as important conservation actions.

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

The primary social benefits that will be realized by implementing this project is that, the fisheries and angling community can come to support actions on property owned by private landowners. Although broad public recreational access has not been granted in the South Fork of Chalk Creek, we believe that through developing working relationships with landowners, a constructive social dialogue can begin about the mutual benefits that can be realized through a broad and diverse partnership. Additionally, the improvement of the water quality of headwater streams through projects that positively affect the long term potential for watershed recovery will transfer these benefits to downstream water users.

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

Project plans are currently very preliminary. We have begun initial discussions with many of the landowners and we have outlined general priority actions and areas:

- Upgrade four main diversions on South Fork Chalk Creek
- Grazing management upstream of Fish Creek (4 miles of riparian habitat)
- Grazing management and reconstruction downstream of Fish Creek (2 miles of riparian habitat)
- Culvert replacement at the mouth of Winter Quarters Creek (2 miles of habitat reconnected)
- Culvert modification at the mouth of Elkhorn Canyon (~1 mile of habitat upstream to the next

barrier)

Currently the majority of the landowners are engaged in the CRM planning process. This process has created a renewed sense of stewardship and cooperation amongst the landowners. The planning process is currently identifying issues and developing solutions with the landowners taking charge. This type of planning has allowed landowners to recognize and discuss concerns and restoration options on their property with resource professionals. Currently most of the landowners are willing work with us on developing conceptual strategies to improve stream habitat on their properties. Riparian habitat restoration in association with irrigation diversion upgrades in the middle South Fork of Chalk Creek likely is the area where we plan to focus. Four irrigation diversions represent partial barriers to fish passage, and through consolidation and structural upgrades, we will reduce the number of diversions, improve their usability and facilitate fish passage around them. Upstream of the confluence with Fish Creek, riparian restoration would be made possible primarily through changes in grazing management. Stream habitat is much more degraded downstream of Fish Creek. Channel straightening and old car bodies have greatly degraded habitat within this reach. We foresee channel and floodplain reconstruction as the primary restoration strategy in this highly degraded and straightened reach.

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 West. 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 in restoration across Utah with projects that improve water delivery systems while simultaneously improving habitat quality and connectivity 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:

Long term maintenance of infrastructure is always a challenge. The current plan is to enter into agreements with the landowners in which they will undertake the maintenance burdens of the irrigation

diversions. The reach that is reconstructed should have no channel maintenance because our goal is to restore natural channel dynamics. The primary challenge will be finding a way to secure riparian fencing if it is constructed. We currently rely upon the landowners to do this. If the fence is large enough, we would likely enter into a maintenance agreement with the landowners and provide them nominal compensation for undertaking the maintenance.

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

Upper Weber Watershed Coordinator Jake Powell	P.O. Box 744 Coalville, Utah 84017	801-367-7628
<u>Name/Company</u>	<u>Address</u>	<u>Phone</u>
Natural Resource Conservation Service Craig McKnight	30 S. Main St. Coalville, UT 84017	435-336-5853 x 105
<u>Name/Company</u>	<u>Address</u>	<u>Phone</u>
Summit Conservation District Colby Pace	P.O. Box 744 Coalville, UT 84017	435-640-1563
<u>Name/Company</u>	<u>Address</u>	<u>Phone</u>
Utah Division of Wildlife Resources Ben Nadolski	515 E 5300 S, Ogden, UT	801-643-4953
<u>Name/Company</u>	<u>Address</u>	<u>Phone</u>

Signature  Date 5/5/2014
 Applicant

Signature _____ Date _____
 Co-Applicant (if applicable)