

WESTERN NATIVE TROUT INITIATIVE

2016 Small Grants Program Grant Application Cover Sheet

Applicant Information

Lead Organization: Colorado Trout Unlimited
Contact Name: Stephanie Scott
City, State, Zip: Denver, CO, 80202
Telephone: 720-354-2647

Address: 1536 Wynkoop St. Suite 320
Email: sscott@tu.org
Website Address: www.coloradotru.org

Project Information

Project Title: **Restoration of Colorado's State Fish, The Greenback Cutthroat Trout**
Native Trout Species Benefitted by Project: **Greenback Cutthroat Trout**
Total Project Budget: \$18,900 Total Amount Requested: \$3,000.00
Total Matching Funds or In-Kind Support Secured: \$15,900
Project GPS Coordinates: 38.545694, -106.014965
Project Start Date: June 27, 2016 Project End Date: December 31, 2016

Is your project listed in the U.S. Fish and Wildlife FONS system? **No**
Please indicate FONS Project Number (if applicable): _____

Project Components (select all that apply)

- | | |
|--|--|
| <input type="checkbox"/> Riparian or In-Stream Habitat Restoration | <input type="checkbox"/> Land/Conservation Easement |
| <input type="checkbox"/> Barrier Removal or Construction | <input checked="" type="checkbox"/> Monitoring |
| <input checked="" type="checkbox"/> Watershed or Population Assessment | <input checked="" type="checkbox"/> Education/Outreach |
| <input type="checkbox"/> In-Stream Flow Acquisition | <input type="checkbox"/> Watershed Planning |

Anticipated Outcomes (fill in values applicable to project)

- | | |
|--|-------------------------------------|
| ___ # Stream Miles Restored or Enhanced | ___ # Watersheds or Rivers Assessed |
| ___ # Stream Miles Reconnected or Reopened | ___ # Stream Miles Assessed |
| ___ # Acres of Lake/Wetlands Restored/Enhanced | ___ # Populations Assessed |
| ___ # Barriers Removed or Constructed | |
- ☒ Other (i.e. number of individuals reached by an educational program, number of presentations given, number of posters produced, etc.):
- Our tanks will help to increase the current survival rate of Greenbacks from 5% to an estimated 20% or higher. Last year 1% (less than 100 trout that survived).

- 5 signs produced to be placed at hatcheries and trailheads.
- 45,000+ people will be exposed to our signage.
- An average of 100 people visit Colorado Trout Unlimited's website per day (12,000) per year. These eyes will be directed to our Greenback Recovery pages created through this project.

Project Partners (list all Project Partners and Contributions)

Partner Organization: Colorado Trout Unlimited

Contact Name: David Nickum

Email: dnickum@tu.org

Position: Executive Director

Telephone: 720-581-8589

Matching Funds Provided to Project: \$500

In-Kind Support Provided to Project: \$3,400 for CTU Staff time for coordination across participating TU chapters, integration into education and outreach programs aimed at school-age children, and information technology infrastructure.

Partner Organization: The Greenbacks

Contact Name: Heather Sees

Email: hmsees79@gmail.com

Position: President

Telephone: 610-420-8752

Matching Funds Provided to Project: N/A

In-Kind Support Provided to Project: \$4000 in labor from summer intern, volunteers @ \$23/hr., and educational Materials

Partner Organization: Various Colorado Chapters of Trout Unlimited

Contact Name: Bob Garrett

Email: bob.garrett.80908@gmail.com

Position: member/volunteer

Telephone: 719-494-2491

Matching Funds Provided to Project: N/A

In-Kind Support Provided to Project: \$6500 in labor from summer intern, volunteer labor @ \$23/hr. and educational Materials

Partner Organization: Mt Shavano Hatchery, Colorado Parks and Wildlife

Contact Name: Bryan Johnson

Email: bryan.johnson@state.co.us

Position: Manager

Telephone: 719-539-2996

Matching Funds Provided to Project: N/A

In-Kind Support Provided to Project: \$2000 in labor to install equipment and signage

Partner Organization:

Contact Name:

Position:

Email:

Telephone:

Matching Funds Provided to Project: *list any cash contribution*

In-Kind Support Provided to Project: *list support provided and estimated value*

Partner Organization:

Contact Name:

Position:

Email:

Telephone:

Matching Funds Provided to Project: *list any cash contribution*

In-Kind Support Provided to Project: *list support provided and estimated value*

Proposal Summary

This project will enable an increase survival of **Greenback Cutthroat Trout** raised in state and federal hatcheries, and provide an awareness of the efforts to restore the Greenback Cutthroat to the South Platte River Basin. There are three objectives to this proposal:

- **Restoration-** Buy small rearing tanks for the development of Greenback Fry at Colorado Parks and Wildlife's, (CPW), Mt. Shavano Hatchery in Salida, Colorado. These tanks will allow for monitoring survival of various Greenback family groups spawned at the hatchery for reintroduction into the wild. (e.g., Zimmerman Lake eggs with Zimmerman Lake milt, Zimmerman Lake eggs with Bear Creek milt, etc.) Once the fry get large enough to PIT tag they are then moved to larger tanks and race-ways prior to stocking.
- **Education and Outreach-** Create signage based on the lifecycle of the Greenback Cutthroat Trout and restoration efforts going on up and down the Colorado Front Range. This signage will be based on content, i.e., photos, video and personal accounts, from collaborative efforts in 2016 to include Greenback spawning at Zimmerman lake and the re-introduction of Greenbacks into both Rock Creek and Herman Gulch.
- **Communication-** Create an information technology infrastructure at the Colorado Trout Unlimited, CTU, level to collect, store, analyze, re-use data, photographs and videos, and coordinate volunteer efforts in support of Greenback restoration. This will include integrating Greenback restoration efforts between CTU and collaboration chapters available to the greater public, a website for Trout Unlimited, TU, and collaborating state and federal organizations for detailed data, posts and a blog, and a cloud-based data storage for all the stream and habitat monitoring data, photos and video.

These project objects are aligned with the WNTI strategic goals of **restoring** the Greenbacks by enabling increase hatchery recruitment, developing **collaborative approaches** between Trout Unlimited volunteer efforts and those of state (CPW) and federal (National Forest Service, NFS, and US Fish and Wildlife Service, USF&W), and implement **communication, education and outreach** programs.

Proposal Background

In Bear Creek, a small stream just outside Colorado Springs, resides a 100-year-old population of Colorado's State fish, the Greenback Cutthroat Trout, consisting only of about 600 individual fish.

In addition to Bear Creek, there are four sites that contain genetically pure Greenbacks; Bear Creek, two hatcheries (CPW's Mt Shavano Hatchery and the USF&W Leadville National Hatchery), and Zimmerman Lake within in the South Platte Basin. Zimmerman Lake was stocked with Greenbacks in 2014 and 2015 with fish from both hatcheries. These fish will be spawned in 2016 by CPW. It is hoped that this population can become self-sustaining within the next several years.



The population of Greenbacks in Bear Creek is still the most genetically diverse, and thus remains an essential source of genetic material used each year during spawning. It turns out these Greenbacks, unlike their cousins the Rainbow Trout, are extremely difficult to raise in captivity. Colorado Parks and Wildlife plan on a survival rate for Greenbacks based on recent empirical data for only 5% compared to 95% for rainbow trout. The reasons behind these low survival numbers remain a mystery.

The hatchery and lake fish are all offspring from 66 fish taken from Bear Creek in 2009 of which only 13 females successfully spawned. Genetic diversity has been added to the population by fertilizing Leadville Hatchery eggs with milt collected from wild Bear Creek milt. As Greenbacks become distributed back to their

home range it will be important to track survival of their progeny with detailed knowledge of the lineage of each fish/family group.

After 7 years of hatchery rearing and stream preparation there are now sufficient trout for stocking. 2016 marks the beginning of Greenbacks restoration back into their native tributaries of the South Platte in beginning with restoration of Rock Creek (Park County) and Herman Gulch (Clear Creek County).

The Need for Our Efforts

Restoration:

While the Leadville National Hatchery continues to conduct genetic experiments around its Bear Creek Brood Stock, the Mt Shavano Hatchery will be responsible for rearing young Greenbacks from restored fish populations starting in 2016 with Zimmerman Lake fish. First, it is important to realize that every fish capable of spawning this year was raised and individually identified by a PIT tag at a hatchery prior to release. This results in Zimmerman Lake fish having different age classes; having been fathered by fish from both Leadville Hatchery and Bear Creek, and were raised at either Leadville or Mt. Shavano. It will be important to track the lineage of these fish and the subsequent survival rates for various family groups. This requires raising fry from each family group separately and monitoring these groups until they are large enough to tag. The hatcheries are in need of additional rearing tanks so they can raise additional families of trout.



The Cheyenne Mountain Chapter and the Colligate Peaks Chapters of TU have previously donated 6 tanks to the hatchery. These tanks will be used to raise fry spawned from Zimmerman Lake Greenback eggs. This proposal will increase the number of tanks for the 2017 spawn season to 10. ***This will allow CPW biologists to better track survival of family groups... in hopes of increasing the survival rate from 5% to hopefully 20% or higher in the next 5 years.***

Education and Outreach:

Education and awareness of efforts are needed to support Greenback restoration. It has become clear that many in Colorado are not aware of the Bear Creek Greenbacks and the continuing genetic data that these fish are in fact the Colorado State Fish. Many still believe that the “greenbacks” have been successfully brought back by virtue of their fishing experiences in Rocky Mountain National Park and the legacy of obsolete signage left across the South Platte Basin as a result of budget shortfalls through the recession and budgetary cutbacks since the Metcalf, et.al. studies of 2009.

TU members in collaboration with CPW will continue to document and monitor the progress toward Greenback restoration. In 2016 this content will be used as the basis for articles and video documenting the need to restore the Greenbacks and the positive news of the initial restoration efforts. An example produced in collaboration between Colorado Trout Unlimited chapters created in 2015 is the video *Dream of Greenbacks* (<https://vimeo.com/137998082>), and the Colton Gully Article *Home on the Range* published in the winter 2016 edition of High Country Angler (http://hcamagazine.com/ezone/winter_16/#p=38).

In addition to broad public outreach, there is a need to replace the outdated Greenback signage from 1995 that was based on the hybrid Colorado River Cutthroats to engage the public with current factual information about Greenback Cutthroat Restoration. These signs will be placed where there are Greenbacks populations in the wild and in hatcheries. Western Native Trout Initiative will be acknowledged on these signs.

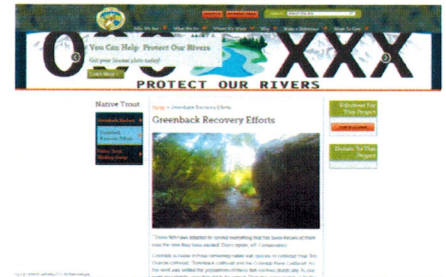
Mt. Shavano Hatchery will use their relationship with Colorado Correctional Industries to make signage at below market rates.

Signage will be placed at where the Greenbacks are:

- 5,000 people visit Mt Shavano Hatchery every year
- 40,000 people visit Leadville National Fish Hatchery every year
- Hundreds of tourist visit and fish at Zimmerman Lake annually.
- Herman Gulch and Rock Creek are both popular destinations for hikers and anglers, receiving hundreds of visitors annually at each location.

Communication:

The IT Infrastructure will begin with the current CTU website Greenback Recovery webpage (<http://coloradotu.org/greenback-recovery-efforts/>) open to the public. This webpage will be linked to individual TU chapters and partnering agencies, where the public can be a part of the greater collaboration on the Greenback Recovery effort between partners. This website will create a platform to store and review preliminary data and content, plus coordinate volunteers with stakeholder needs.



Reporting and Metrics:

The project will be completed on or before December 31, 2016. We will provide a report with a narrative of the project successes that is complete with photos and testimonials from participants, within 2 months of completing our work. We will measure the success of our project by the following metrics:

- Number of Greenback Cutthroat that are reared from the tanks that we purchase.
- The report from Mt. Shavano Hatchery on what genetic crosses were reared in our tanks, and how those breeding samples advanced the restoration efforts of the Greenback Cutthroat.
- The number of visitor to our Colorado Trout Unlimited website, and re-direct numbers to all other partner websites from the content we have created.
- We plan to produce 5 signs to be placed at the hatcheries and trailheads.
- The number of visitors to Mt. Shavano Hatchery, Leadville Hatchery, Zimmerman Lake, Herman Gulch, and Rock Creek, where our signage with WNTI acknowledged on them.

Letters of Support:

I would like to support Trout Unlimited (TU) in applying for funding through Western Native Trout Initiative's (WNTI) Small Grants Program, to purchase small circulars for Colorado Parks and Wildlife's (CPW) Salida Isolation Unit.

The Salida Isolation Unit's construction was completed in 2002 as a hatchery to raise Colorado's native cutthroat trout species. As the years have passed it has become evident that the original rearing containers, 80-gallon troughs, and 235-gallon round tanks, are oversized for the smaller batches of cutthroat eggs that are being brought into the hatchery. In 2016, there will be 10-15 different spawn pairings, on multiple spawning dates. Each pairing may produce only several hundred individual eggs that will need to be kept in separate rearing containers. Due to budget limitations, the purchase of additional rearing containers, will not happen without the help of TU and WNTI's Small Grants Program.

There has been a long history of partnerships between CPW and many different agencies and organizations, these partnerships have been instrumental in working towards the restoration of cutthroat trout. A WNTI Small Grant for the purchase of small circular tanks is an opportunity for CPW to again work with these partners on improving the success of cutthroat trout restoration efforts in Colorado.

Sincerely,

Bryan Johnson
Hatchery Manager

Salida Isolation Unit

Bryan Johnson
Technician V
Mt. Shavano Fish Hatchery



COLORADO

Parks and Wildlife

Department of Natural Resources

P 719.539.6877 | F 719.539.2996

7725 CR 154, Salida, CO 81201

bryan.johnson@state.co.us | cpw.state.co.us

To Whom it May Concern,

I am sending this email in support of the Trout Unlimited (TU) proposal for funding through the Western Native Trout Initiative (WNTI) Small Grants Program, to purchase small circular tanks for Colorado Parks and Wildlife's (CPW) Salida Isolation Unit.

Greenback cutthroat trout recovery has entered an exciting and momentous era, in which great strides are being made to restore Colorado's State Fish throughout its native range in the South Platte Basin of Colorado. Since 2014, three waters have been prepared for reintroduction of greenbacks through chemical renovation, and in 2016 a fourth water will undergo such renovation. The greatest challenge facing these projects, however, is optimizing what little genetic diversity is available in fish that are produced through wild and hatchery spawn operations in support of these reintroduction projects. The small circular tanks, for which funding is requested, will greatly help CPW's Salida Isolation Unit in rearing and tracking separate family groups or lots of produced greenbacks, thereby enabling greater genetic diversity in our broodstocks, which ultimately will result in more genetically diverse wild populations on the landscape.

Strong partnerships have been a cornerstone to the great strides being made toward greenback cutthroat trout recovery. Such a partnership is growing in strength between Trout Unlimited and CPW, as well the other agencies that are signatory to the Greenback Recovery Team. Bringing WNTI in as a partner through the Small Grants Program would be a strong catalyst to our collaborative efforts, which we would hope to build on with future projects.

Thank you,

F. Boyd Wright III
Native Aquatic Species Biologist
Platte River Basin Aquatics



COLORADO

Parks and Wildlife

Department of Natural Resources

P 970. 472. 4366 | F 970. 472. 4458 | C 970. 261. 8912

317 W. Prospect St., Fort Collins, CO 80526

boyd.wright@state.co.us | cpw.state.co.us

Project Timeline**Start Date: June 27, 2016****Completion Date: December 31, 2016****Project Budget Description:**

Description of Service or Activity	Match Dollars	WNTI Grant Dollars
Purchase 4 circular tanks for Mt Shavano Hatchery	0	\$2,000
Collect photo and video content of Green back spawning at Zimmerman Lake, fish rearing at the hatcheries, and restoration efforts at Rock Creek and Herman Gulch	\$8,000	0
Install tanks at the Mt Shavano Hatchery Isolation unit	\$1,000	0
Design and build IT infrastructure to include new and updated websites and cloud storage	\$1,900	0
Design signage from Greenback content	\$1,500	
Produce signage	\$1,500	\$1,000
Install signage at the Mt Shavano Hatchery	\$1,000	0
Install signage at trail heads for Zimmerman Lake, Herman Gulch, Rock Creek and Leadville National Fish Hatchery	\$1,000	0
Budget Totals	\$15,900	\$3,000

Signature of Applicant

I certify that the above information is true and accurate to the best of my knowledge.

Print Individual Name: Stephanie Scott

Organization Name: Colorado Trout Unlimited

Signature: 

Date: 06/17/16