

To: Western Native Trout Initiative
Attn: Therese Thompson

Re: Final Report – “**Support for the Restoration of Colorado’s State Fish, The Greenback Cutthroat Trout**”



July 3, 2018

We are pleased to report on final results from our WNTI small grant for this project. The project included three core deliverables benefiting Greenback cutthroat trout: purchase and installation of circular tanks to enhance rearing capacity for Greenbacks at Mt. Shavano state fish hatchery; development of materials (photo/video) for use with greenback outreach; and design and installation of interpretive signs at five key locations.

Rearing tanks – Mt. Shavano Hatchery Isolation Unit. Colorado TU purchased four 24” circular tanks (plus the accompanying tank skirts and Glassed coupling drains) from Gemini Fiberglass and had them shipped to the Colorado Parks and Wildlife Mt. Shavano Hatchery. Colorado Parks and Wildlife then installed the tanks and have used them in rearing greenbacks spawned from Zimmerman Lake for stocking in restoration waters.



CPW’s Bryan Johnson, manager of the Mt. Shavano unit, reported: “The circular tanks purchased through the WNTI Grant are working out great! The small circular tanks purchased by Trout Unlimited have played an important role in the continued broodstock development and restoration work being done on the greenback cutthroat trout. These



small circular tanks have allowed us the ability to keep additional groups of cutthroats separate during their time at the Salida Isolation Unit (SIU). We have had them up and running since early this spring and have utilized them to raise 2016 greenback cutthroat offspring from Lake Zimmerman. These 2016 cutthroats were stocked in July and August 2017 into newly reclaimed Dry Gulch and will be evaluated sometime this fall in their new home.” In 2017, there were eight different spawn pairings produced by the greenback broodstocks. The offspring were kept separate in the small circulars for nearly a year until they were ready to be marked for broodstock or stocked into

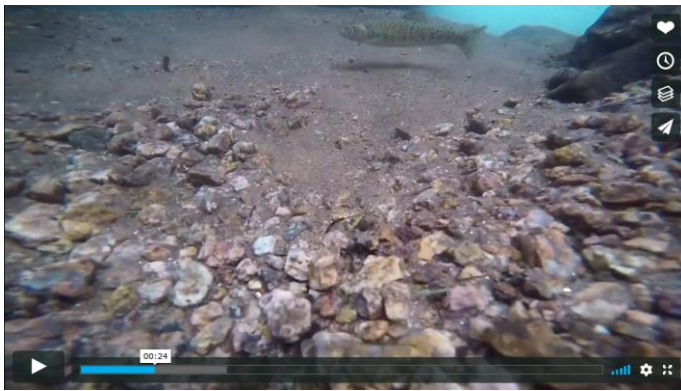
Trout Unlimited: America’s Leading Coldwater Fisheries Conservation Organization

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reclamation waters. In the next few weeks, the remaining greenbacks from the 2017 spawn will be released as 1-year old fish into several reclamation waters in their historic range. Total production will be around 5,000 1-year old fish that were held in the new circulars during their time at the hatchery.

Collecting/creating content for Greenback outreach; communication networks. The Pikes Peak Chapter of TU helped supervise a summer intern (over two summers), Colton Gully, who – alongside chapter volunteers – helped to generate a range of content for use with greenback outreach. Available products include photographs, video, and audio podcasts. These materials have been used by Colorado TU and the Pikes Peak Chapter, as well as made available to our agency partners and to WNTI, for use in public outreach and education.



A video – “Dream of Greenbacks” – features some of the Bear Creek footage that was captured and can be viewed at:

<https://vimeo.com/141689484>

We have provided Google docs access to other materials assembled by the Pikes Peak Chapter to WNTI Coordinator Therese Thompson.

In addition, Colorado TU has included a native trout page – with subpages for Colorado’s subspecies of cutthroat trout – as part of our recent launch of an updated website platform. The page includes links to relevant partners, agency reports, media coverage, video clips, and volunteer opportunities. The pages can be visited at: <https://coloradotu.org/native-trout/> and specific to this project and greenback restoration at: <https://coloradotu.org/greenback-cutthroat-recovery-efforts>.

To help tell the story of specific projects – and serve as a location from which to educate prospective donors – Colorado TU also has established some project specific websites for the Rock Creek and Poudre Headwaters restoration areas. These pages can be seen at: <https://coloradotu.org/rockcreek> & <https://coloradotu.org/poudre-headwaters-restoration>. We also produced a hard-copy brochure for the Rock Creek restoration work (downloadable in digital format from the page link) which is being shared with customers of Basin + Bend, which is donating 11% of its sales proceeds from July – September 2018 to that project. The brochure is available for distribution to other interested parties.

To facilitate ongoing volunteer communication and coordination, Colorado TU launched a TU Greenback Working Group, with participation/representation from chapters throughout the Greenback’s range from the Pikes Peak Chapter to the Rocky Mountain Flycasters in Ft. Collins. The group has 1-2 in person meetings each year along with periodic phone conferences to ensure ongoing communication about upcoming projects, funding and volunteer needs. Apart from assisting us with better internal coordination for

TU, the effort has simplified engagement for our agency partners by enabling them to work through a single central point of contact and have information distributed out through the TU network. The Working Group has helped coordinate manpower for efforts from backpacking fish in for stocking in Herman Gulch, to assisting with beaver dam removal work on Black Canyon (tributary to Rock Creek).

Interpretive signs. Working with Jeremy Carlson (who previously designed posters for other native trout outreach with the Rio Grande cutthroat, Apache and Gila trout), and in partnership with the US Forest Service, Colorado Parks and Wildlife, and US Fish and Wildlife Service, we developed a series of interpretive signs for use at the Leadville National Fish Hatchery, Mt. Shavano Hatchery, and at four (one more than in our proposal) trailheads by restoration locations – Rock Creek, Square Top Lakes, Herman Gulch, and Zimmerman Lake. Each sign has basic design elements in common, but features a central panel specific to its location.

Signs for both hatcheries have been produced and delivered for installation on site; signs for locations on the Pike-San Isabel National Forests have been completed as well, while the signs for the two Arapaho-Roosevelt National Forest locations are currently in production and will be delivered for installation later this year. A copy of the Leadville sign is included on the following page.

The design and content development for these signs will also provide a starting point for a modified poster design that we hope to complete and print later this year, for broader distribution through agency information centers, fly shops, and other local partners within the Greenback’s range (present and historic).

Final Project Expenditures:

Description of Service or Activity	Match Dollars	WNTI Grant Dollars
Purchase 4 circular tanks for Mt Shavano Hatchery	\$104	\$2,000
Install tanks at the Mt Shavano Hatchery Isolation unit	\$1,000 (estimated in-kind)	0
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 (estimated in-kind; includes summer intern & volunteer labor)	0
Design and build IT infrastructure to include new and updated websites and cloud storage	\$1,900 (estimated in-kind)	0
Design signage from Greenback content	\$3,065	
Produce signage	\$2,038	\$1,000
Install signage	Pending (in-kind)	

Budget Totals	\$5,207 (cash) plus \$10,900 (in-kind)	\$3,000
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Get to Know Your Native GREENBACK CUTTHROAT TROUT

Oncorhynchus clarkii stomias



From the Brink of Extinction

Greenback cutthroat trout, Colorado's official state fish, is the only trout subspecies native to the South Platte River basin. Widespread introduction of non-native trout following European settlement resulted in displacement and hybridization of native cutthroats. Unregulated fishing and extensive habitat alteration caused by mining, logging, road construction, water diversion, and other development also contributed to their decline. By 1937, the subspecies was believed to be extinct.

In 2012, geneticists discovered that fish in Bear Creek of the Arkansas River basin were the last surviving population of greenback cutthroat trout. This population, found outside the greenback's native range, was likely created from fish stocking efforts in the 1800s. Today the greenback cutthroat trout is listed as threatened under the Endangered Species Act.

What Are the Threats?

Ongoing contact to greenback cutthroat trout populations include hybridization and competition with non-native trout, harmful pathogens like whirling disease, and increasingly variable stream temperatures and water flows in a changing climate.

How Can You Help?

Anglers and recreationists can help protect greenback cutthroat trout:

- Never move fish from one part of a stream to another
- Carefully release any caught fish
- Clean boots, waders and gear to prevent movement of fish pathogens

* CLEAN Your GEAR *

First, visually inspect and scrub boots, waders and gear to remove all mud, plants, and organic materials.

Then do one of the following:

- Option 1**
10 MIN
Immerse waders/gear in a 6% quaternary ammonium solution (a mixture of a quaternary ammonium-based cleaner, such as Super HDQ Neutral or 40% per gallon of clean water) for at least 10 minutes. Rinse with clean water and dispose of chemicals properly, away from water bodies.
- Option 2**
10 MIN
Spray boot waders/gear with clean hot water (at least 140°F) for at least 10 minutes, and away from water bodies.
- Option 3**
10 DAYS
Dry waders/gear completely for at least 10 days.

With your help in protecting greenback cutthroat trout, we are conserving an important part of Colorado's natural heritage for future generations to enjoy!

Why are Hatcheries Important?

In 2008, 86 adult greenbacks were brought from Bear Creek to the Salside Isolation Unit to establish a broodstock to produce more greenbacks for restoration. Broodstocks now exist at Colorado State Hatcheries, Leadville National Fish Hatchery and Zimmerman Lake. Each year fertilized eggs from these broodstocks are hatched and raised in hatcheries to fry (1-2 inches) or fingerling (6-8 inches) size. These fish are then stocked in restoration projects, or used to replenish the broodstocks.

After Leadville National Fish Hatchery 4-1912. Photo: Al Smith (in the hatchery)



Restoring Greenback Cutthroat Trout

Government agencies and non-profit groups are collaborating to restore the greenback cutthroat trout to its native home in the South Platte River basin. To achieve this, biologists locate a suitable lake or stream and then secure a physical barrier to upstream fish migration—an existing waterfall or a newly installed fish barrier—to isolate the habitat and prevent invasion by downstream non-native trout. If needed, they apply a short-duration chemical to remove non-native fish from the lake or stream above the barrier. Native greenbacks raised in hatcheries are then stocked into the unoccupied portion of stream to establish a new, wild population.



ATTENTION ANGLERS!

* Put Them Back Alive *

Tips on releasing fish so they survive:

- Land fish quickly. Do not play fish to exhaustion.
- Keep fish in the water while removing the hook. Always wet your hands prior to handling the fish.
- Use forceps or needle nose pliers to remove the hook.
- If the fish is hooked deeply (in the throat or gills) do not try to remove the hook. Instead, cut the line as close to the hook as possible without pulling or yanking.
- Carefully help fish to remain upright by holding it gently in the water until it is able to swim from your hands. Never throw a fish back into the water.

— FISHING REGULATIONS —

- Flies and lures only
- All greenback cutthroat trout must be returned to the water immediately

A Species in Time

Cutthroat trout are the only trout species native to the Southern Rocky Mountains. Different subspecies and strains of cutthroat trout evolved through millions of years of geographic isolation. In Colorado, this has resulted in four distinct cutthroat trout sub-species as we understand it today: (1) Four Gulches, (2) Colorado River, (3) yellowfin (Arkansas River basin, likely extinct), and (4) greenback (South Platte River basin).

A photograph of the completed Leadville NFH sign.