

Corcoran Grant Report

MY WATERSHED IS SPECIAL: CANDY DARTER *ETHEOSTOMA OSBURNI* AND NATIVE FISHES OF THE MONONGAHELA NATIONAL FOREST, WEST VIRGINIA

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INTRODUCTION: CHAD LANDRESS

Increasing the awareness of the beauty, sensitivity, and uniqueness of aquatic communities within local human communities is a strong professional and personal objective. With the listing of Candy Darter *Etheostoma osburni* as federally endangered in 2018, this objective was ever more urgent. As is typically the case with most small fish, people outside our community of native fish aficionados are seldom aware of the magnificence of nature beneath the surface of their local streams and rivers. While water is the most important resource to us and the fishes we admire and love, our ability to permeate our society with an appreciation for this resource and its inhabitants is limited by the all-too-familiar constraints of capacity, funding, and time. Nevertheless, we should tirelessly strive to engage, mentor, and foster greater communities of practice that understand and appreciate the special place that life in our freshwater ecosystems holds. Our watersheds are a reflection of us: sometimes healthy and vibrant; other times impaired and weakened. The amazing beauty of the Candy Darter (Figure 1) is a reminder of what we can have as we strive to protect imperiled aquatic fauna.

The Gerald C. Corcoran Education Grant provided the capacity to support Watershed AmeriCorps member, Rachel Geiger, in efforts focusing on the development and distribution of outreach materials centered on Candy Darter and other unique aquatic biota of the Monongahela National Forest in eastern West Virginia. Upon completing her term with us in 2020, I am proud that Rachel was selected as a fish biologist trainee with the Arapaho and Roosevelt National Forest near Denver, Colorado! Our cur-

rent AmeriCorps member, Sydney Calton, has continued the good work by rapidly distributing Candy Darter materials to all the local communities, installing Candy Darter signs, filming native fishes for future outreach efforts, and leading our freshwater snorkeling program this year. Without the support of NANFA and the Corcoran Grant, our ability to reach strategic groups in this critical time in the conservation of Candy Darter would have been limited. I'll defer now to Rachel's own words (below) about her time with our program, the Monongahela National Forest, and the use of the Corcoran Grant funds. The project would not have been a success without her passion, creativity, and tireless efforts.



Figure 1. A vibrant male Candy Darter collected as part of a multi-agency effort to establish refuge populations for the species. (Photo by Chad Landress)

Rachel Geiger is a Fish Biologist Trainee with the US Forest Service Arapaho & Roosevelt National Forests and Pawnee National Grasslands in Colorado. Spending a year immersed in Candy Darter outreach and education, she is applying some of those skills while working with the largest native trout restoration project in Colorado: restoring Greenback Cutthroat Trout *Oncorhynchus clarkia stomias* to their historical habitat in the South Platte River Basin. Rachel is currently collaborating with a diverse array of federal, state, and nonprofit partners to tell the story of recovery for Greenback Cutthroat Trout.

Chad Landress is the Forest Fisheries Biologist for the Monongahela National Forest in West Virginia. His passion is freshwater snorkeling and teaching the uninitiated about the beauty that lies beneath the surface of America's freshwater rivers. His day job as fisheries biologist is focused on the restoration and monitoring of the diverse aquatic communities across the million acres of public land encompassed by the Monongahela National Forest, which includes the headwaters of five major river systems draining to both the Atlantic Ocean and Gulf of Mexico.

RACHEL GEIGER

Frost could have still been on the ground when I saw my first Candy Darter. Having been working indoors for most of the winter, I was eager to relive my memories of summer and start swimming in the rivers. Mid-April was on the very early end of this dream nevertheless, we donned our wetsuits and waded out into the crisp riffles of the Greenbrier River in West Virginia. Lying on our stomachs, our face masks in the water, I marveled at the gravel bouncing in the currents and the fishes swimming by my head. Between two rocks we spotted the five dark saddle stripes of a female Candy Darter. Found exclusively in the watersheds of the Greenbrier, Gauley, and New rivers, this colorful fish is federally endangered due to habitat impairment and threats of hybridization from the closely related Variegated Darter *Etheostoma variatum*.

Because such a charismatic fish is local to the waters of Central Appalachia, many people outside of the watershed and fisheries community have limited knowledge about what a Candy Darter is, bringing to mind a sweet treat as opposed to a small fish. This past year I served as an AmeriCorps member with the Appalachian Forest National Heritage Area and the Monongahela National Forest, leading outreach and education efforts. With the onset of the pandemic, many of the outreach programs I had been working on were put on hold. Rather than get discouraged, I took this opportunity to pursue alternative ways to educate the community about the endangered Candy Darter.

The Gerald C. Corcoran Education Grant provided a vehicle for native fish education across multiple watersheds. In order to reach a large audience, multiple project elements were created from scratch. An interpretative sign (Figure 2) was designed to educate the angling community about the Candy Darter, emphasizing the threat that moving or disposing of nonnative, live bait fish can have on compromised Candy Darter populations. Working with the US Forest Service, these signs were printed on sturdy metal, framed, and installed at local fishing locations and river access points across the Candy Darter's range. Posters of this design were then printed and distributed to science classrooms around the area, providing a colorful introduction to the unique fish in their watershed.

Engaging a young audience presented a fun challenge. The complexities of freshwater ecology can be difficult to convey when you are not actually around a stream. What started as a few take-home activity pages turned into an entire interactive activity book that took the reader on a journey with their new Candy Darter companion to learn about the freshwater habitats in their own backyards. It was important that kids could take what they learned outside, so we included "outdoor challenges" that asked the readers to count, observe, and question what was living just beneath the surface. The Candy Darter Adventure Book has been distributed to schools across the Monongahela National Forest and surrounding areas and has found a place in State Parks Naturalist programs across the state of West Virginia.

Adapting our outreach program to respond to the pandemic, we were able to produce multiple educational videos about the Candy Darter and other native fishes, which have been used in lieu of in-person events and will continue to be incorporated in programming. Realizing that differentiating Candy Darters from other darters may be difficult for regulation and enforcement in an area with limited to no cell service, we created a hand-held guide in the form of a key chain that could be taken to the field



Figure 2. AFNHA AmeriCorps members Sydney Calton and Rachel Geiger proudly display the newly installed Candy Darter sign at a trailhead on a stream that still maintains robust Candy Darter populations. (Photo by Louis D'Andrea)

and used to identify the species.

The outreach supported by this grant has already spanned multiple AmeriCorps service terms and has benefitted from a diverse collaboration with federal, state, and nonprofit partners. A special thanks to NANFA, AFNHA, Chad Landress, and Sydney Calton for making this monumental outreach and education effort possible. These projects will be flowing through the community for many years to come, educating the next generation on the unique native fishes that live in their local streams.

A SUMMARY OF ACCOMPLISHMENTS IN NUMBERS

- 15 metal interpretative signs framed and installed around the Monongahela National Forest and neighboring communities.
- 500 Candy Darter educational posters printed and distributed to local schools and science classrooms.
- 1,000 Candy Darter Adventure Books printed and distributed to schools, discovery centers, and naturalist programs.
- Unlimited digital copies of the Candy Darter Adventure Book available to the public and educators as an open source resource.
- Dozens (and counting) of educational videos about Candy Darters and other native fishes produced and viewed as part of remote and in-person educational events. We are still in the process of collecting and editing footage. NANFA will receive a link to the YouTube channel once all videos are compiled and edited.
- 100 Candy Darter key chains produced and handed out to the land managers and the public to identify the candy darter in the field.

To print out your own Candy Darter Adventure Book, check out this link: <https://static1.squarespace.com/static/5dc428f0a2f25b37dec3f57/t/5f999308b7b7433c4b51efdd/1603900171636/Candy+Darter+Adventure+Book.pdf>