

A NANFA EDUCATION GRANT REPORT

Teens Promoting Native Fish Awareness Through Research and Teaching

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hen faced with issues affecting the entire community, the Okanagan tribe of Native Americans used a group decision-making process that considered the ideas of all individuals, and related these ideas to each person's role in society. The "youth" segment of the group was not defined solely on age, but rather on outlook. Young people were those persons sharing a creative energy and a vision of change leading to a brighter future. The Okanagans knew that to foster positive societal change, they must include the input of "youth" at all levels of the change process. In today's era this approach is sometimes described as "Community Youth Development," a process that seeks to draw on the tremendous creative energy of our young people to help our communities grow and prosper. Thanks to a generous award from the North American Native Fishes Association's Gerald C. Corcoran Education Grant Program, native fish conservation in central North Carolina will benefit from this same creative energy and drive.

Teen Youth Partners of the Museum of Life and Science in Durham, North Carolina, hone their scientific investigative skills, build an interest and understanding of issues affecting the survival of native stream fishes in their home region, and spread the "gospel of fish conservation" to thousands of Museum visitors through their participation in this unique NANFA-supported project. *Teens Promoting Native Fish Awareness Through Research and Teaching* sends Youth Partners into local streams to conduct original fish conservation research and to translate their new knowledge and enthusiasm into hands-on educational programs for museum visitors of all ages.

The upper Neuse River drainage of North Carolina, geographic center of the project, is home to almost 70 species of native stream fishes and contains a wide variety of riverine

NANFA's
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habitats, ranging from clear, mountain-like streams of the "Slate Belt" to sluggish, sandy Piedmont streams. Listed by the conservation organization American Rivers as one of the top 20 most-threatened streams in the United States, the upper Neuse is also the home of a burgeoning human population. By 2020, some estimates predict that over 600,000 new residents will settle in the region, taking advantage of the area's economic opportunities and putting additional pressures on already over-burdened aquatic resources. Opportunities for proactive conservation of the Neuse's native fishes are rapidly slipping away.

Entering this scene in September 2001, Youth Partners began conducting research in three upper Neuse streams: Ellerbe Creek, Upper Barton Creek, and Newlight Creek. The streams vary from heavily urbanized settings to more natural rural habitats. Youth Partners' research examined the relationship between sampling effort (amount of time seining a 200 meter stream reach) and capture rates for fish species and individuals. The Youth Partners seined each stream reach for 60 minutes and recorded the cumulative numbers of species and individuals captured after 10-minute intervals. They then graphed seining time (x-axis) versus number of species and individuals (y-axis) for each stream. The graphical analysis (performed during the bumpy van ride home from the stream) allowed the Youth Partners to examine trends in capture rates. The main question posited by this research was, "How long should a 200-meter stream reach be seined to accurately estimate fish species composition at the site?" Local fish conservationists will use the answer to this question as they catalog and monitor fish populations in the upper Neuse drainage.

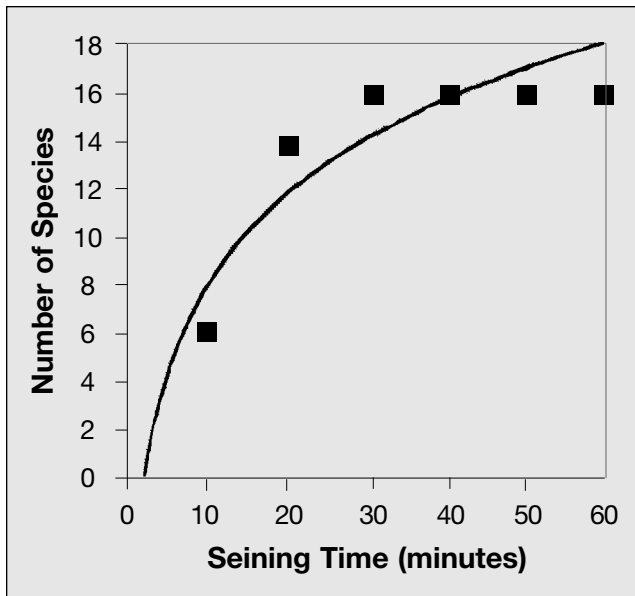


Fig. 1.
Sampling Time vs. Species Captured in three
upper Neuse River drainage (NC) streams:
Ellerbe Creek, Upper Barton Creek, and Newlight Creek.

What did the Youth Partners discover? Fig. 1 shows a typical relationship between sampling effort and capture rates for the streams. The “plateau” reached in number of species captured led the Youth Partners to conclude that 60 minutes of seining resulted in the capture of the majority of fish species found in the stream reach. Comparison of their collection results with independent survey findings supported this conclusion. While very rare species and those with cryptic or nocturnal habits (e.g., catfishes) were rarely captured, the Youth Partners concluded that a one-hour seining session in a 200-meter stream reach served as an effective protocol for accurately surveying stream fish populations.

After concluding field research, the Youth Partners’ next job was to spread the word of their findings. To this end, the teens worked as a team to develop and deliver a presentation of their findings at the 2002 annual meeting of the American Fisheries Society’s North Carolina chapter. Leading off the two-day conference, the Youth Partners received a warm welcome from the over 50 fisheries scientists and graduate students in attendance, and scored highly in the “Best Student Paper” competition. Youth Partners also got a first-hand look at the issues facing the world of fisheries and aquatic conservation.

To continue their project, the Youth Partners work to spread general knowledge about fishes and fish conservation to visitors at the Museum of Life and Science. They lead

visitors of all ages through fun, hands-on activities exploring fish morphology, diversity, and conservation issues. They’re even developing a “Super Science Show” that will introduce visitors to native fish diversity through a theatrical presentation and additional hands-on activities. Overall, the Youth Partners expect to engage over 10,000 museum visitors each year in learning about native stream fishes. This wonderful educational opportunity would not have been possible without the support of NANFA, its members, and the family of the late Gerald C. Corcoran.

I could say much more about the positive, quantifiable outcomes of this project and others like it, but I prefer to end by pointing your thoughts to an outcome that, if less concrete, is just as important. By supporting the youth in our communities, we see in their enthusiasm and optimism the kinds of people that we would like to be, and that we have so often strayed from. As Homer so eloquently voiced in *The Iliad*, “So was I then, if that was I and not a dream . . .”.

The programs supported by NANFA’s Gerald C. Corcoran Education Grant Program seek to direct the vitality of youth to create a world that is a better place. In so doing, these programs can help to keep our own lives on track as we foster the voices that will speak for all of our futures. 🐟

2002 NANFA Education Grant Awarded to Two Oklahoma Professors

NANFA’s Corcoran Education Grant committee is pleased to announce the recipients of this year’s education grant: David L. McNeely (Langston University) and William Caire (University of Central Oklahoma) for their project proposal, “Fishes of Streams in Proximity to the Selman Living Laboratory of NW Oklahoma, Survey and Public Education.” The project will involve students from the two aforementioned universities in documenting the little-known fish fauna inhabiting gypsum springs and their confluent hardwater streams in northwest Oklahoma. The students will also create a poster, interpretive signage, and a website describing the fishes of the Southern Plains and the conservation challenges that face them. The total cash award for this grant is \$992.00.

“I am very appreciative of NANFA for this program,” Dr. McNeely said when he learned that he and his partner, Dr. Caire, were awarded the grant. “There is a lot more that can be done with small amounts of money than most people realize—especially where public education is concerned. And every little bit that is done helps.”