Warm Springs Fish Technology Center

September/October 2010 Activity Report

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Snail darter found during fish surveys at Jones Mill Crossing. Credit: USFWS Photo.

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Warm Springs Fish Technology Center

The Fish Technology Center (FTC) is a component of the Warm Springs Regional Fisheries Center (RFC) and was developed to improve and enhance fisheries management. We provide consolidated technical operational support to regional fisheries operations and technical assistance to the public. The Fish Technology Center is comprised of a cryopreservation laboratory, conservation genetics laboratory, and the National Fish Strain Registry at Warm Springs, Georgia, and a field station in Wadmalaw Island, South Carolina.

Goals:

- Provide management support of interjurisdictional coastal and riverine fishes such as robust redhorse, shortnose sturgeon, Gulf sturgeon, and Gulf striped bass.
- Provide conservation genetics support for regional fishery programs.
- Maintain the National Fish Strain Registry for dissemination of information and support of private, state and federal broodstocks.
- Develop cryopreservation techniques for imperiled fish and mussels.
- Develop hatchery product evaluation techniques.

Cryopreservation

Cryopreservation is a process in which a living cell is frozen, stored, and thawed and remains viable. Cryopreserved sperm assists reproductive efforts by allowing spawning to take place whenever females are ready, reduces the need to hold males, and can increase flexibility and genetic diversity in spawning protocols.

Currently, the Warm Springs FTC is working on numerous species of fish, including threatened or endangered species. In the near future, the FTC will expand cryopreservation research to include other aquatic species (e.g., freshwater mussels, amphibians) for conservation efforts.

Bill Bouthillier showing Cody Meshes, Youth Ambassador, about tank spawning striped bass. Credit: USFWS Photo.

Conservation Genetics

The Conservation Genetics lab primarily works with biologists and managers of the region to design and implement genetic research on imperiled aquatic organisms.

Current Projects include estimating genetic diversity from: alligator gar, Gulf Coast striped bass, robust redhorse, freshwater mussels, and threatened and endangered species such as spotfin chub.

National Fish Strain Registry

The National Fish Strain Registry (NFSR) is an internet -based program that assembles information on life history, genetics, reproduction, and behavior of wild populations and domestic fish strains throughout the United States. The NFSR database is available for use by public and private producers as well as resource managers of federal, state, and tribal governments through a registration process. Once registered, users are able to search, create new records, edit records, and request information. The NFSR's vision is to provide a broad collaborative program that provides access to data and information on our Nation's aquatic resources. You must be a registered user to access the NFSR website; please contact chester_figiel@fws.gov or nicole_rankin@fws.gov to become a registered user.

Partnerships and Accountability

Fisheries Program Trains Partners

Bill Bouthillier held a two-day training session on assessing stream crossings for the partners of the Paint Rock River Working Group (PRRWG) during August 17 and 18, 2010. The PRRWG is a partnership of eleven organizations brought together to protect the aquatic resources of the Paint Rock River Watershed in northern Alabama. The main focus is to identify culverts and road crossings that potentially create barriers and restrict or prevent movement and migration of aquatic organisms. Bill trained the group using the U.S. Forest Service protocol: National Inventory and Assessment Procedure - For Identifying Barriers to Aquatic Organism Passage at Road-Stream Crossings. They were instructed on use of equipment needed to conduct a survey and what crucial data needs to be collected from each site.

Bill explaining proper culvert installation.
Credit: USFWS Photo.

Fish Surveys on the Paint Rock River

Bill Bouthillier, Devin Chappell (Fish Health Center), and Allison Hernandez (Fish Health Center) conducted fish surveys over a three-day period in September 2010. Over 21 people from eleven agencies assisted in these surveys that are another step to determine if road crossings are passable by aquatic organisms. Fish surveys were conducted at 18 different sites including road crossings and stream bank restoration projects. Of these, three survey sites were determined to be barriers and two sites were classified as indeterminate. The surveys documented the presence of approximately 48 fish species and reported new or slight range extensions for blotchside logperch, flame chub, and snail darter. Also, an Alabama lampmussel was located in Hurricane Creek at the Bell-Collins site.

Snail darter found at Jones Mill.
Credit: USFWS Photo.

Survey crew backpack shocking.
Credit: USFWS Photo.

Leadership in Science and Technology

Amblema neislerii Tagging

A. neislerii collected from the Apalachicola River. Credit: USFWS Photo.

Nicole Rankin and Karen Herrington, Panama City Ecological Services Office, surveyed for *Amblema neislerii* (fat threeridge) on the Apalachicola River on October 27 and 28, 2010. A total of 96 *A. neislerii* were collected from the Apalachicola River, notched using a triangular file, and tagged with numbered and passive integrated transponder tags. Mussels were replaced at the site and will be recovered one-year later to determine and validate age. Mussel shells were notched to create a known reference mark for validation. If a single annuli is examined beyond the notch mark, annual ring deposition will be considered validated for *A. neislerii.* In January 2010, Nicole and Greg Moyer completed sectioning and aging of 168 endangered *A. neislerii* samples. The oldest individual was aged to 24 years, and 83% of the individuals sampled were under age 10.

Aquatic Species Conservation and Management

140th Annual American Fisheries Society Meeting

Chester Figiel, Jr., Greg Moyer, and Ashantye' Williams attended the 140th Annual American Fisheries Society Meeting in Pittsburg, PA on September 12 – 16, 2010. Chester gave an oral presentation titled "Incorporating Climate Change into the U.S. Fish and Wildlife Service Fisheries Program" during the Accounting for Climate Change through Vulnerability Assessments symposium. Ashantye' and Greg presented a talk titled "Assessment and Monitoring of Genetic Diversity in Natural and Augmented American Shad (*Alosa sapidissima*) of the Santee-Cooper Basin of South Carolina" in the Restoration of American Shad and River Herring in Atlantic Coastal Waters symposium.

Lake Sturgeon Scute Removal

Chester Figiel and Nicole Rankin assisted the Warm Springs National Fish Hatchery on October 21 and 22, 2010 with marking juvenile (15-20 cm) lake sturgeon, *Acipenser fulvescens*. Since 2000, the hatchery has been rearing lake sturgeon in an effort to reintroduce the species in the Lower French Broad River in TN and the Coosa River in GA. Fish were marked by removing one or two scutes using a curved scalpel. The scutes are removed in a certain pattern each year, and this pattern is used to determine the year-class of fish when recaptured. These fish were stocked as part of restoration efforts in the Tennessee River watershed in collaboration with the Tennessee Wildlife Resources Agency.

Lake sturgeon are anesthetized before scute removal. Credit: USFWS Photo.

Public Use

Rutledge Center Visit

Nicole Rankin and Jaci Zelko, Warm Springs RFC, visited the Rutledge Center in Newnan, GA on September 16, 2010. Established in 1968, the Rutledge Center is a non-profit organization, and its mission is to serve and promote the general welfare of individuals with developmental disabilities that live in Newnan and Coweta County, GA. Nicole and Jaci shared information with the clients about the importance of aquatic animal and habitat conservation and the role of the Warm Springs Regional Fisheries Center. They talked about the function of healthy rivers and the importance of the freshwater fish and mussels that live in the rivers. Nicole even dressed in her wetsuit, booties, and snorkel gear to demonstrate how biologists sample for freshwater mussels. Everyone was given the opportunity to touch turtles and a juvenile American alligator. Over 70 clients and staff thoroughly enjoyed the visit and have already expressed interest in future events.

Robert holds a turtle.
Credit: USFWS Photo.

The clients and staff gather to learn about aquatic animal and habitat conservation. Credit: USFWS Photo.

Jules touches an alligator.
Credit: USFWS Photo.

Open House 2010

Allison Hernandez, FHC biologist, dissecting a fish. Credit: USFWS Photo.

The FTC participated in the annual Warm Springs National Fish Hatchery Open House on September 25, 2010. This event focused on promoting the USFWS mission and Warm Springs fisheries conservation efforts, improving communication with the local community, and encouraging people to become environmental stewards in their community. FTC staff set up displays and computers to highlight cryopreservation, conservation genetics, and freshwater mussel research efforts. A 50-gallon touch tank with crayfish, salamanders, and turtles and a 50-gallon tank with juvenile American alligators were the most popular attractions. William Wayman, Bill Bouthillier, and Mike Hassett talked to over 250 people about the importance of conservation genetics and cryopreservation. Other participants included staff and volunteers from the Regional Fisheries Center, Fish Health Center, National Fish Hatchery, and Friends of the Warm Springs National Fish Hatchery.

Public Use

Help the Hooch

Staff from the Warm Springs Fish Technology Center and the Fort Benning Ecological Services Office manned a booth at the Chattahoochee Watershed Festival in Columbus, Georgia on October 16, 2010. Bill Bouthillier and Mike Hassett staffed the most popular attraction: a turtle and crayfish touch tank. Several thousand children filtered through the booth, touched or handled crayfish and turtles, and received temporary tattoos. The watershed festival is the finale to the city's annual Help the Hooch day. Over 10,000 volunteers came together to help clean up trash along the banks of the Chattahoochee River and some of its tributaries. Last year volunteers removed over 150,000 pounds of litter.

Large school groups visited the USFWS booth and learned about conservation. Credit: USFWS Photo.

Workforce Management

NRDA Survey

For a third time, Nicole Rankin joined the USFWS effort to help minimize the impact to fish, wildlife, and habitat from the Deepwater Horizon/Mississippi Canyon 252 oil spill. Nicole deployed to serve on a Natural Resource Damage Assessment Beach Bird Survey team during September 21 to October 6, 2010, and she conducted live bird assessments and wildlife surveys along the Louisiana coastline.

Laughing gull perched on drift wood on Rutherford Beach, LA.
Credit: USFWS Photo.

Nicole Rankin attended the training course "Natural Channel Design Review Methodology" at the National Conservation Training Center during October 12 – 15, 2010.

Bill Bouthillier, Chester Figiel, William Wayman, and Greg Moyer attended a financial planning for government employees session on October 13, 2010. This session covered all aspects of retirement planning for all employees within the Federal Employee Retirement System.

Chester Figiel, William Wayman, and Ashantye' Williams attended the American Heart Association's Heartsaver First Aid Course on October 20, 2010.

William Wayman, Greg Moyer, and Chester Figiel completed the mandatory training "Hiring Reform for Supervisors, Managers, and HR Professionals" before the October 29, 2010 deadline.