Warm Springs Fish Technology Center

November/December 2009 Activity Report

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Sifting through substrate to find juvenile mussels. 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.

Hatching pallid sturgeon eggs. 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

Partnering in Freshwater Mussel Research

Greg Moyer and Nicole Rankin visited Dr. Jim Stoekel at Auburn University to assist with an ongoing mussel ecology experiment on November 3 and 5, 2009. Dr. Stoekel is collaborating with Dr. Wendell Hagg from the **USDA Forest Service Center for Bottomland Hardwoods Research** on a project examining relationships between host-fish density and mussel recruitment. Biologists, from these groups, met during this week-long sampling event to help collect juvenile mussels from experimental ponds with small dredges and timed hand searches. The Conservation Genetics Lab is also providing genetics support for this project.

Using a dredge to collect mussels.
Credit: USFWS Photo.

St. Marys Fisheries Restoration

William Wayman participated in the annual meeting of the St. Marys Fisheries Restoration Committee at the White Oak Plantation near Yulee, FL on November 18 –19, 2009. The meeting brought together various parties, comprised of GA and FL state agencies, non-governmental organizations, and federal agencies, acting to restore the habitat and species of the St. Marys River. This meeting focused on inclusion of the St. Marys as a sub-unit of the Southeastern Aquatic Resources Partnership, reporting of ongoing restoration studies and efforts, development of new research studies, promotion of outreach plans, and the change in chair of the executive committee.

Leadership in Science and Technology

Amphibian Culture and Conservation

Axolotl, *Ambystoma mexicanum.*
Credit: USFWS Photo.

Chester Figiel, Jr. traveled to Lexington, KY on December 14 –15, 2009 to meet with biologists at the *Ambystoma* Genetic Stock Center located at the Department of Biology, University of Kentucky. Chester gained information regarding the culture of Axolotls and discussed the reproductive biology of these animals with faculty and staff. This meeting will help develop protocols for cryopreservation of spermatozoa, especially for amphibian species of concern.

NFSR Reporting Requirements

The National Fish Strain Registry (NFSR) application in the USFWS's IT Investment Portfolio was reviewed and validated in the DOI Enterprise Architecture Repository. This meets our reporting requirement for the FY 2010 DOI Internal E-Gov Scorecard. The NFSR was also updated in the Investment Performance Profile; this profile includes a brief description, manager contact information, level of compliance with the FWS enterprise architecture, security and privacy certifications, customer base information, performance metrics, and other types of project compliance.

Leadership in Science and Technology

NFSR and Imperiled Fishes

Nicole Rankin visited and presented the **National Fish Strain Registry** (NFSR) to Patrick Rakes and J.R. Shute, directors of **Conservation Fisheries, Inc**, (CFI) in Knoxville, TN on December 9 and 10, 2009. Conservation Fisheries, Inc. is a non-profit organization dedicated to the preservation of aquatic biodiversity, and they are leaders in propagating imperiled fishes from the southeast region. Nicole provided a demonstration of the NFSR to CFI, and then, they discussed the relevance of the NFSR incorporating captive propagation and translocation data of imperiled fishes such as smoky madtom, slackwater darter, and diamond darter.

What is New Media?

You may have heard the term *New Media*. And I am sure you are asking yourself, "What is all this talk about *New Media*?" Well, a simple definition of *new media* is the emergence of interactive electronic technologies used for communicating. Some examples of *new media* are social networking sites (Facebook), microblogging (Twitter), instant messaging, RSS feeds, podcasting, and communities of practice.

The New Media Working Group was developed in April 2008 to help transition and provide guidance to the U.S. Fish and Wildlife Service (USFWS) on the use of *new media* as another form of communicating with audiences. The mission of the New Media Working Group (NMWG) is to identify *new media* likely to advance the USFWS's communication efforts, identify the situations where they would be most applicable, then help establish pilot programs for those media.

Nicole Rankin joined the NMWG, the Facebook Sub-Team, and the Twitter Sub-Team on December 4, 2009. She hopes to provide a field station perspective as the groups are developing management plans for these communication tools. Tools, like Facebook and Twitter, will help share activities, research, events, and other happenings at the field, regional, and national level.

To learn more about the NMWG, please visit **https://intranet.fws.gov/newmedia/**. Also follow the USFWS Southeast Region on Twitter at **http://www.twitter.com/usfwssoutheast**.

Public Use

Aquatic Story Time at St. Anne's School

In November, Bill Bouthillier visited St. Anne's school in Columbus, GA to teach over 200 children and 16 teachers about the importance of protecting our aquatic resources and the animals that inhabit them. He read stories about aquatic animals and then introduced the students and teachers, from pre-K to second grade, to alligators, tadpoles, crayfish and turtles. The second grade classes recently learned about different aquatic animals and habitats, so this visit provided a great opportunity for the children to learn about stream and river ecosystems.

St. Anne's teacher holding juvenile alligator. Credit: USFWS Photo.

Public Use

Warm Springs Candlelight Festival

Warm Springs RFC staff and Friends of the Warm Springs National Fish Hatchery (Friends') participated in the Warm Springs Candlelight Festival Township on November 21, 2009. This annual festival begins the holiday celebration in Warm Springs, GA and includes candlelit streets and shops, a township parade, a candlelight tour run, and other holiday events. Staff, volunteers, and Friends' walked, rode on a decorated electrofishing boat, and drove a USFWS truck in the Township Parade. Over two hundred children and parents watched the parade, were given Fish Tattoos, and encouraged to visit the facility.

Following the parade at the aquarium, fifteen children and five adults created holiday ornaments for wildlife with help from staff and volunteers. Participants covered pine cones with peanut butter, rolled them in birdseed, and took the ornament home to hang on a tree. The Friends' group also provided free hot chocolate, cookies, and chips to the public. This event was a great opportunity for the public to interact and meet staff.

USFWS decorated truck.
Credit: USFWS Photo.

Chester Figiel and son, James Figiel.
Credit: USFWS Photo.

Twin girls showing pine cone ornaments. Credit: USFWS Photo.

Christmas Bird Count

Sara Bouthillier identifying birds.
Credit: USFWS Photo.

Throughout the Americas, thousands of volunteers support the annual Audubon Christmas Bird Count. Over the holidays, Bill Bouthillier introduced his children to this annual tradition and the family participated in the 110th Christmas Bird Count. Despite the cold weather, the Bouthillier family was awake before dawn and ready to search for birds. They started by listening and identifying owls, and by 7:30 am, the family spotted a red-shouldered hawk. They sighted over 50 species of birds in seven hours. Bill asked his daughters what they enjoyed best about the day. His oldest daughter enjoyed seeing over 200 crows while his youngest daughter enjoyed the hot chocolate!

Chester R. Figiel, Jr. gave a brown-bag presentation to personnel at the Warm Springs RFC on November 17, 2009. His talk was entitled "Bringing Climate Change into the National Fish Hatchery System."

Nicole Rankin gave a presentation titled "Warm Springs Regional Fisheries Center- More Than A Hatchery" to the Harris County Rotary Club in Pine Mountain, GA on November 18, 2009.