

Hatchery Highlights

U.S. Fish & Wildlife Service Warm Springs NFH News and Updates

October – December 2015



Lake Sturgeon Restoration

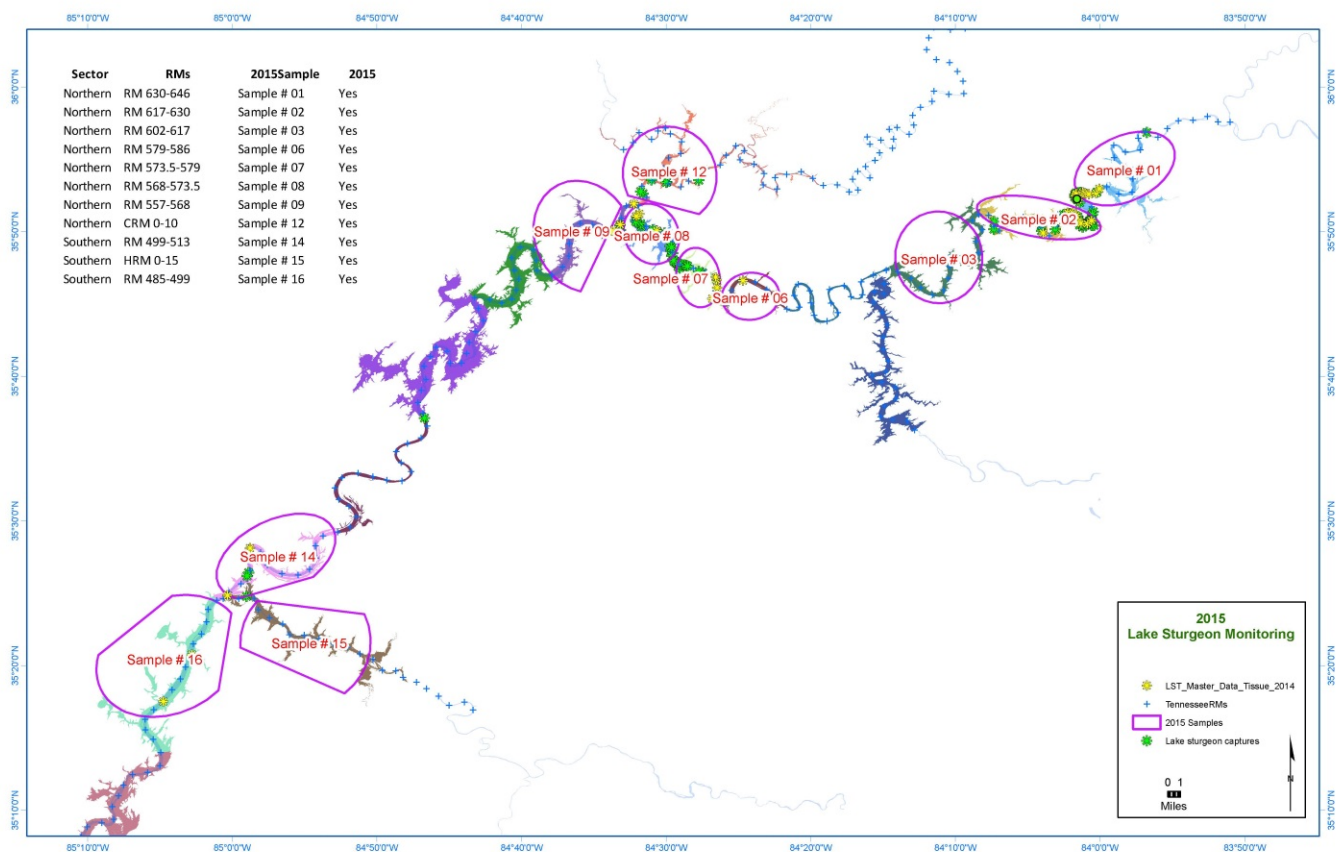
Warm Springs NFH worked cooperatively with numerous state and federal partners to rear and distribute lake sturgeon. Warm Springs NFH works at the southern end of their historical range. We conduct habitat and population surveys on sections of the Lower French Broad River and Holston River in Tennessee to assess effectiveness of the stocking program. Assessment work also continued for a fourth year on sections of the Coosa River, assisting with surveys for lake sturgeon stocked by Georgia Department of Natural Resources (GDNR).



The last of our FY 2015 year class lake sturgeon were distributed at Seven Islands Refuge Landing on the Lower French Broad River October 17th, 2015. A total of 1,978 fish weighing 163.24 lbs., averaging 8.5 inches in length and marked by removing the 5th and 6th scutes from the left side of the body were distributed. Chad Shirey transported and stocked the fish this year in conjunction with the annual Lake Sturgeon Festival outreach event sponsored by the Tennessee Clean Water Network (TCWN). The purpose of this event is to educate the public on our expanding efforts in the region, and to promote the cooperative restoration efforts underway for lake sturgeon in the Upper Tennessee River.

Josh Simons transported an additional 200 marked sturgeon October 22nd, transferring the fish to Tennessee Wildlife Resource Agency for research purposes.

Lake sturgeon sampling and habitat assessment was conducted in the Upper TN River during November and in December on the Coosa River.



Upper Tennessee River Sample Locations for 2015 Graph by Mark Cantrell

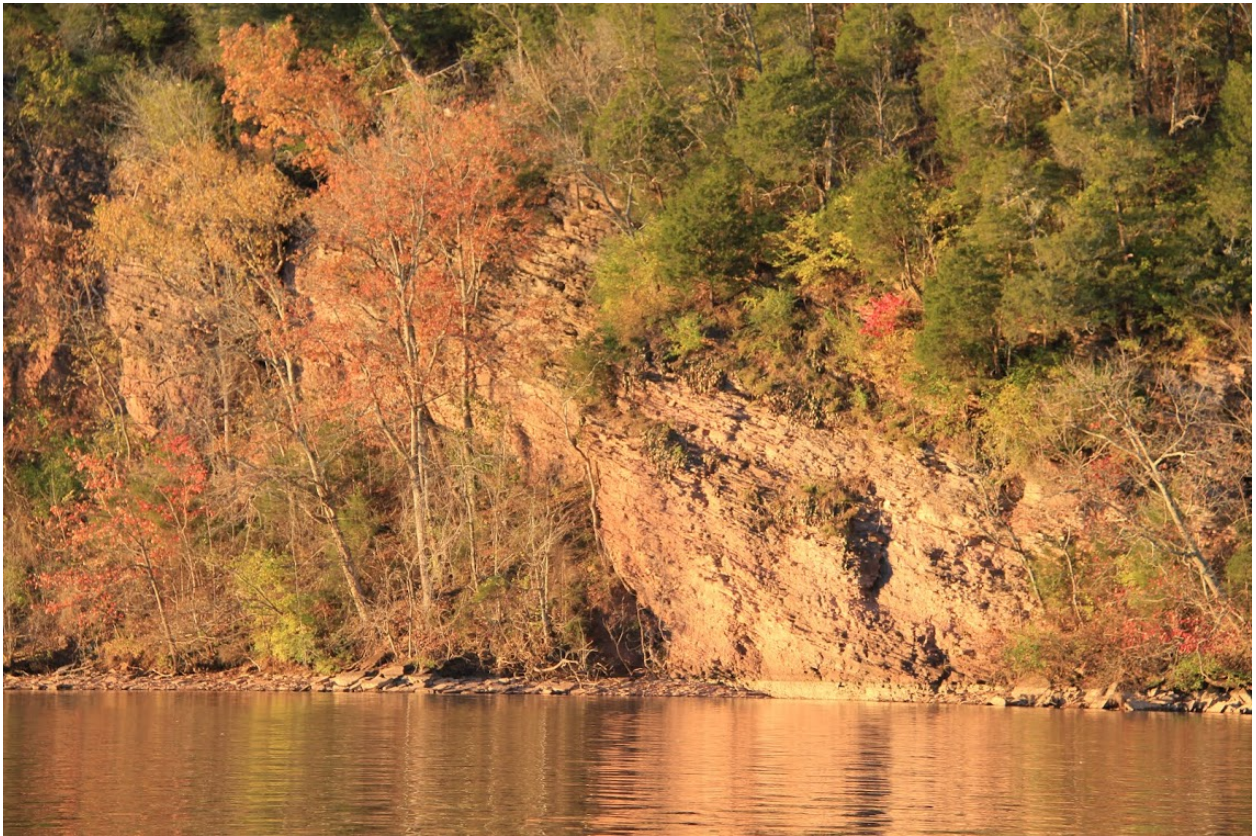
Chad Shirey and Carlos Echevarria worked with other boat crews during annual sampling efforts undertaken along the Upper Tennessee River, November 16th through the 20th. Boat crews on the TN River consisted of staff and volunteers from Tennessee Wildlife Resource Agency (TWRA), Tennessee Valley Authority (TVA), University of Tennessee (UT), Tennessee Technological University, and FWS personnel from Warm Springs NFH, Panama City FWCO, Erwin NFH and Warm Springs Fish Health Center. Data collected during the sampling included substrate and habitat information at the collection sites. Tissue samples for genetic analyses were collected and all fish were scanned for or tagged with Passive Integrated Transponders (PIT) tags. A total of 79 lake sturgeon were collected by the seven boat crews sampling this year. Twelve of these lake sturgeon were also implanted with acoustic transmitters for continued tracking and habitat selection studies.

Brian and Carlos facilitated an ongoing study of lake sturgeon diet and prey availability and foraging habits, supplying equipment needed to conduct gastric lavage on captured lake sturgeon. This method of sampling stomach contents is non-lethal, cost effective, quick, and relatively safe for use on sturgeon species.

The latest update to the Tennessee Lake Sturgeon Management Plan was received for review. Other lake sturgeon work underway during the Quarter included data analysis for work on the upper TN River and work on the annual production report.

Hatchery Manager Carlos Echevarria participated in the 2015 Annual Meeting of North American Sturgeon and Paddlefish Society (NASPS) at Oshkosh WI, October 18th – October 22nd. Sturgeon and paddlefish researchers and managers got together to discuss new and emerging work geared toward restoration and management. Also, he participated in a one day workshop entitled “Techniques to

Determine Sex and Stage of Maturity in Sturgeons and Paddlefish”. Workshop introduced participants to ultrasound, endoscopy, plasma sex steroid concentrations, and minor biopsy techniques.



Trotline sampling is effective in deeper waters utilized by lake sturgeon as found along pictured TN River shoreline



Deploying trotline sampling gear, TN River Photo(s) credit: Laurel Barnhill



Sampling captured lake sturgeon and surgery to tag with acoustic transmitters on the Upper TN River

Haile obtained scientific collecting permits allowing WSNFH staff to assist with sampling or collection of lake sturgeon in Alabama during 2015-16.

On November 30th through December 4th, Chad, Josh and Carlos traveled to the Coosa River, GA and Lake Weiss, AL to conduct our annual sampling of lake sturgeon in cooperation with GADNR staff John Damer and Mark Bowen. Brian Rhinehard , Hatchery Manager in Eastaboga State Hatchery, Alabama Department of Natural Resources assisted us for a day collecting fish in Lake Weiss. Heavy rain events within the upper watershed resulted in several days of high discharge rates from upstream dams, contributing to a reduced capacity to collect lake sturgeon using trotlines. This year three lake sturgeons were collected during one week effort.



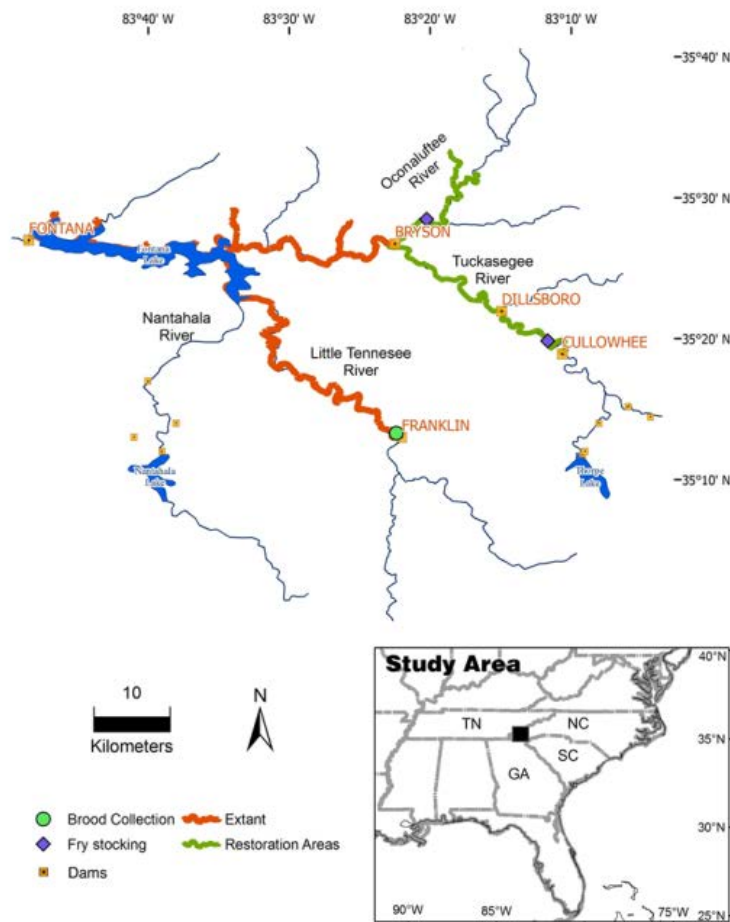
Josh Simon's in-between rain storms on the Coosa River: Photo Credit: Chad Shirey

Sicklefin Redhorse Restoration



Photo credit: Steve Fraley, North Carolina Wildlife Resources Commission

Our work with Sicklefin redhorse represents a cooperative effort by the fisheries program at Warm Springs NFH, the Eastern Band of Cherokee Indians, USFWS Ecological Services (ES), Asheville, NC, Conservation Fisheries Inc. (CFI), North Carolina Wildlife Resource Commission (NCWRC), and others. Our primary involvement is to rear fingerling Sicklefin redhorse, addressing research and production tasks developed by members of the Sicklefin Redhorse Conservation Committee. The Sicklefin is a redhorse sucker in the *Moxostoma* genus, their status as a distinct species is currently under review. Sicklefin conservation efforts are important not only for the species but for their significant in preserving a part of Cherokee culture.



Site Map of Ongoing Sicklefin Restoration Efforts: Graph by Mark Cantrell

WSNFH continues culture of 2014 year class sicklefin for future telemetry, tagging and assessment work. These larger sized fish are needed for telemetry studies using internal transmitter tags. Currently there are 111 fish from two watersheds averaging approximately 6.5 to 7.0 inches in length. A group of 73, 2015 year class sicklefin now averaging 2.25 inches in length, are also being maintained for an ongoing evaluation of diets.

Smallmouth Bass Restoration



FWS Photo

WSNFH staff met with Allan Brown, Fisheries ARD, John Biagi, GADNR's Chief of Fisheries Management, and Scott Robinson, GADNR Fisheries Biologist on October 29th to discuss working with smallmouth bass propagation and culture.

Historical smallmouth bass populations in their native Georgia drainages are in decline, influenced by widespread hybridization with introduced spotted bass. Pure strain smallmouth bass are reported to be seriously impacted in Chatuge and Blue Ridge Reservoirs, impoundments within the Tennessee River Basin. The reservoirs are state managed by North Carolina and Georgia DNR.

WSNFH biologists have initiated planning to assist in restoration of smallmouth bass in these two reservoirs with an initial five year effort to produce and distribute oxytetracycline marked fingerlings. This cooperative effort involves broodstock collection, transportation, propagation, distribution, assessment and outreach to be conducted by Georgia DNR and Warm Springs NFH staff.

Josh Simons began development of a propagation plan for tank spawning and culture of smallmouth bass this year. Haile created a work template for this work and Carlos is modifying WBS financial codes to reflect our moving forward with this new program at Warm Springs.

Freshwater Mussels Research

The mussel program continues holding mussels and host fish held from previous years for studies, these include eight mussel species from the ACF Basin and four from the Altamaha Basin. Some of these mussels have been in refugia for up to 12 years or more. Mussels are surviving and continue doing well. They are held in tanks using pond water treated via the Alkalinity Enhancement Building and are fed from algae cultures maintained on station and organics present in the pond. The hatchery is also holding several native small ACF riverine fish species in addition to largemouth bass and bluegill for host fish studies. One water supply pond dedicated for the mussel program was drained to stabilize bottom sediments during the winter.

Maintenance and Operations

During the Quarter staff winterized culture systems, water supply lines and buildings to prevent below freezing temperatures from damaging equipment. Forage ponds were harvested to cycle and separate broodfish from forage and provide feed for use in the display pool and aquarium building through the winter. Ponds utilized for striped bass production were drained as a means of removing unwanted aquatic vegetation over the winter and air stones were removed for cleaning. Staff worked on leaf removal from landscaped areas and maintained roads and ditches ahead of fall and winter rains. Those rains did arrive, producing significant amounts of runoff.



Runoff heading for storm drain adjacent to hatchery property following heavy December rains

A new pesticide storage building was received and setup. The new building now allows separation of herbicides and pesticides from flammable materials. Prior to this they were stored in our paint and oil building.



Herbicide and pesticide storage building

Chemical towers at the wetlab were charged with baking soda and calcium chloride on several occasions.

Chad Shirey disked the sides of a dry pond now converted for use as a Monarch Butterfly habitat to serve as a fire break. Our staff began construction of new trotlines and repair of others following their use with lake sturgeon assessment work this Quarter.

Outreach: Connecting People with Nature and Volunteers

Warm Springs NFH works to uphold and demonstrates the Service's commitment to environmental leadership. To that end, the station provides facilities, kiosks, public access and scheduled events that increase the public's awareness of their natural resources, our goals and accomplishments. In addition to facilitating onsite professional tours, staff also provided (volunteered) time for occasional off-site programs as time permitted.

Carlos Echevarria, Bill Bouthillier, Haile Macurdy and members of the Friends Group participated in the annual "**Help the Hooch**" river cleanup along the Chattahoochee River at Columbus, GA October 3th. Hatchery staff and Friends Group members set up touch tanks featuring turtles, tadpoles and crayfish. This event had over 3,000 children attending the after clean up watershed festival. This event is always well attended with lots of community support.



Staff and Friends Group Members who picked up trash along the river.



Fish and Wildlife Service Station at Chattahoochee Watershed Festival

The **Annual Open House** sponsored by WSNFH, was held for the community Saturday, October 10th. It featured exhibits and demonstrations from all WSNFH programs. Hatchery staff and Friends Group members cooked hotdogs and provided bottle water to the attendees. The food and water was donated by the Friends Group. Over 225 visitors were on hand to view the exhibits and to chat with staff members from the entire Warm Springs Fisheries Complex: Warm Springs NFH, Fish Health Lab and Fish Technology Center. Children who attended the open house had chances of winning door prizes for getting their passports stamp at each station and playing the pollinator game at the kid's activity table.

This year we were honored to host a few members of Outdoor Afro. Outdoor Afro is a community that reconnects African-Americans with natural spaces and one another through recreational activities such as camping, hiking, biking, birding, fishing, gardening, skiing - and more! Outdoor Afro uses social media to create interest communities, events, and to partner with regional and national organizations that support diverse participation in the Great Outdoors.



Carlos Echevarria stamping a child's passport

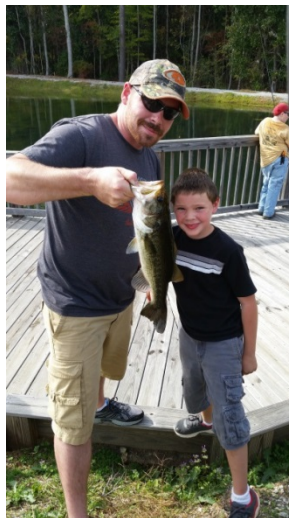


Friends Group Members and Kate Toniolo from Regional Office cooking hotdogs



Members of Outdoor Afro

Cub Scout Pack 106 consisting of 12 boys and 8 adults from Meansville, GA completed an overnight stay at the hatchery on Oct 24th. While on station the boys completed the Biologist-in-Training program and worked on their fishing merit badge. The boys had fun performing water quality testing and collecting aquatic insects in the stream on station. The scouts were allowed to catch and release bluegill and largemouth bass from one the ponds on station.



On Nov 5th: Deerfield Winsor Academy with 40 children and 5 adults toured the aquarium and hatchery.

Volunteers: Butterflies and Fish have Great Partnerships

The Benning Bass Club, friends of the hatchery and staff came together to build an observation deck over the new Monarch butterfly and pollinator garden on October 24th. Lumber was donated by WestRock (formerly MeadWestvaco) and pressured treated by Universal Forest Products Union City, LLC free of charge to support this endeavor. The Benning Bass Club supplied the workers; the Friends Group supplied snacks, coffee and water to the volunteer. In addition, they paid for some of the building supplies need. Hatchery staff assisted in the building of the deck. The Benning Bass Club has worked annually with the Hatchery on environmental projects for the last four years. These partnerships help leverage funds and workloads to benefit both fisheries and other wildlife.



Benning Bass Club members framing the observation deck



Finished deck waiting on new signage

Administrative

Considerable effort was applied towards meeting year end requirements for personnel actions, budgeting and annual reporting requirements. Work included updating staff EPAP's and developing the station's PRS targeted goals in FIS. Annual fish distribution records were completed for FY 2015 in FIS and FONS projects were also updated for 2016. Staff developed new work templates for major FY 2016 fisheries programs and their corresponding budgets for 2016. A 2015 4th Quarter and 2015 Annual Report were submitted. Environmental Management System records were maintained and safety plans were reviewed. A pesticide use report for 2015 and pesticide use proposals (PUPS) for 2016 were prepared and submitted. Monthly vehicle and building energy use data was compiled and submitted for use in FBMS. Staff continued efforts to integrate FBMS guidelines into daily operations.

A pickup truck, two outboard motors and a boat trailer were removed from inventory through GSA auctions during the Quarter and staff updated property management records. Safety plans are currently under review for updating. Staff took required online training during the Quarter that included the Scientific Integrity course and several FBMS module courses. Staff submitted quarterly information on work with pollinators, outreach updates, a negative response to Sikes Acts reporting requirements and submitted a FY 2016 spending request for computer equipment and services. Carlos participated in periodic project leaders conference calls during the Quarter. Staff took "use or lose" vacation time accumulated through the year in November and December.



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