

Hatchery Highlights

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



July - September 2015

Alligator Gar Program Updates

Warm Springs NFH is helping restore and enhance alligator gar populations within their historic range, focusing efforts within the Mississippi and Mobile River Drainage Basins. Tasks undertaken include conducting research to improve culture techniques and producing tagged juvenile fish for distribution. This year, due to a lack of available fry from Mississippi River drainage fish, we obtained fry from Mobile Basin broodstock spawned at Marion State Fish Hatchery, AL. The Mobile Basin encompasses a number of major rivers and accounts for 63 % of the drainage basin in AL. Marion SFH supplied us with 4,650 fry on May 18, 2015.

Alligator gar is a top level predator, capable of consuming non-native species such as Asian carp and is also considered a valued sport fish.



Juvenile alligator gar are acclimated to natural forage prior to release

In July forage ponds were harvested to ensure alligator gar are acclimated to a natural diet and produce rapid growth during the final weeks of culture. Goldfish were harvested, graded and then used to supplement the commercial Silver Cup steelhead ration in use through June and July.

On July 29th, 1,347 gar averaging 8.99 inches in length and weighing 186 lbs. were tagged with coded wire and distributed to the upper end of Lake Claiborne, an impoundment on the Alabama River. A few gar were held back for research purposes. As of September we are retaining 19 twelve inch long alligator gar for a columnaris vaccine study in collaboration with the Warm Springs Fish Heath Center and Dr. Cova Arias of Auburn University. A summary alligator gar production report for 2015 was completed in September.



WSNFH staff tagging alligator gar with coded wire tags prior to distribution.

For further information on alligator gar, visit the website: <http://www.sdafs.org/alligar/index.html>

Lake Sturgeon Production News

Warm Springs NFH works collectively with numerous NGO's, universities, state and federal agencies to meet restoration goals for this species. Annually hatchery personnel undertake tasks ranging from spawning, rearing and marking fish prior to distribution by scute removal, to assisting in post stocking assessments and evaluation of habitat used by stocked lake sturgeon. Working at the southern end of their historical range, Warm Springs NFH produces lake sturgeon for distribution into headwaters of the Tennessee River, typically near the confluence of the Lower French Broad River and Holston River in Tennessee. Warm Springs NFH also transferred eggs to Georgia Department of Natural Resources earlier in the year for culture and future distribution of fingerlings into the Coosa River of Georgia. Propagation and care of lake sturgeon while at Warm Springs follows genetic management and quarantine protocols established for the species.



Tagging anesthetized 2015 year class lake sturgeon by removal of # 5 & 6 scutes on the fishes left side

Throughout this quarter, lake sturgeon were fed multiple times daily with a combination of high energy soft moist commercial diet and natural feeds; frozen krill and midge larvae (bloodworms). The fish were also provided the soft moist commercial feed at night through use of belt feeders. The rearing tanks were provided with supplemental oxygen and water temperatures were optimized for rapid growth. The lake sturgeon fingerlings were also continually graded to reduce competition and maintain uniform growth.

On Sept. 23rd, Chad Shirey distributed 1,250 tagged LSN, averaging 8.66" and weighing 114 lbs. to the Nances Ferry Access on the French Broad River, TN. These fish were marked the previous day by removing their left side 5th & 6th scutes. WSNFH staff continues to culture an additional 2,185 lake sturgeon averaging 7.5 inches in length at the end of September for later marking and distribution.

Sicklefin Redhorse Production

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 to rear fingerling Sicklefin redhorse in addressing 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.

WSNFH continues culture of 2014 year class sicklefin for future research including: telemetry, tagging and assessment work. Larger sized fish are needed for telemetry using internal transmitting tags. Currently there are 145 fish from two watersheds averaging approximately 5.5 to 6.0 inches in length.

Trent Mitchell, a undergraduate student at Columbus State University and volunteer at WSNFH, concluded a study with FY 2015 year class sicklefin in September. Working with hatchery and fish health staff he is evaluating three diets for use with sicklefin redhorse.



Brian Hixson, FHC & Trent Mitchell evaluating sicklefin in the diet study. FY 2014 year class sicklefin redhorse

Freshwater Mussel, Darter Propagation and Research

Warm Springs NFH continues to hold 10 mussel species from the ACF – *Lampsilis straminea* (Southern fatmucket), *Lampsilis floridensis* (Florida sandshell), *Elliptio crassidens* (Elephantear), *E. pullata* (Gulf spike), *Elliptoideus sloatianus* (Purple bankclimber), *Megaloniais nervosa* (Washboard), *Quadrula infucata* (Sculptured pigtoe), *Toxolasma paulum* (Iridescent lilliput), *Villosa lienosa* (Little spectaclecase), and *V. vibex* (Southern rainbow), and four mussel species from the Altamaha River Basin – *Alasmodonta arcuata* (Altamaha arc mussel), *Elliptio dariensis* (Georgia elephantear), *E. icterina* (Variable spike), *Lampsilis splendid* (Rayed pink fatmucket).

Some of these mussels have been in refugia for up to 12 years or more. Mussels are surviving and continue doing well. Most of the bankclimbers were found to be gravid and were used for the propagation study. A propagation trial with purple bank climbers initiated earlier in the year was concluded on July 29th. Carlos Echevarria and Chad Shirey returned six purple bankclimber mussels back to the Flint River site where they were collected from on July 29, 2015.



Purple bankclimber releasing conglutinates

Staff responded during the quarter to a request from Dr. Robert Bringolf, Univ. of Georgia, to provide fish to a student working on a mussel-host fish project. However the fish were not needed.

The hatchery is also holding several native small ACF riverine fish species – *Percina nigrofasciata* (Black banded darter), *Noturus leptacanthus* (Speckled madtom), in addition to largemouth bass and bluegill for future host fish studies.

Fish Passage & Habitat Assessment

Bill Bouthillier participated in a scoping meeting to address development of a study plan related to habitat and population monitoring for the endangered watercress darter in AL. The meeting was held at Mountain Longleaf NWR on July 16th covering collaborative efforts to trap darters and conduct water quality monitoring in critical habitat on Watercress Darter NWR in Bessemer, AL.



Watercress darter, Photo credit from: riversofalabama.org

Maintenance and Operations

A variety of maintenance and construction projects were undertaken at Warm Springs this Quarter.

This summer provided the long stretches of dry weather required to seal, prime and paint the block walls of the Cold Spring Building. Staff had removed the old paint earlier in the year. Chad used a pressure roller applicator to apply the multiple layers required.



Newly Painted Spring House

Staff added wiring to the vehicle building to accommodate a new emergency disconnect switch for the above ground bulk fuel pumps in September.

Purchased replacement pH control equipment that is responsible for metering sodium hydroxide (NaOH) solutions to South Spring water flows. The NaOH solution reacts with CO₂ in the water and raises the pH of raw spring water to desired levels. The existing equipment is obsolete and repair components are no longer available.

Work also includes maintaining water treatment equipment for the entire complex. The bulk limestone storage tower used to treat the water from Cold Spring was refilled with 25 tons of high calcium content limestone in July. Additionally a pallet of baking soda was purchased for use with treatment system (alkalinity control) for South Spring. The liquid chemical storage tanks located at the wetlab were recharged periodically.

Water transfer pumps and equipment was maintained on a regular schedule. Two new variable speed controlled water pumps were installed in the Wetlab, replacing two existing pumps without variable speed control. We are expecting energy saving on one unit which runs continuously to be in excess of 40%.



Variable speed water pump

Staff dedicated time for preventative maintenance of roads, pond levees, buildings and equipment. This includes the time required for setup, operation and maintenance of intensive culture systems required for high priority work with lake sturgeon, alligator gar, mussels and sicklefin redbone.

Chad provided heavy equipment assistance at Eufaula NWR Sept. 24th assisting with installation of a pipe and aluminum riser at the refuge.



Assistance was provided installing a new aluminum pipe and riser at Eufaula NWR.

Working with financial assistance from the Environmental Compliance Branch, A pesticide locker/ building was ordered. This metal building will allow separation of agricultural chemicals from either flammables in our paint/oil building or feed products in the feed building.

Chad repaired an underground PVC potable water supply line in September.

WSNFH replaced existing shoe disinfection stations with more effective SaniStride mats using Virkon as a disinfectant this summer. Staff has reviewed biosecurity plans with reference to the use of disinfectants.

Outreach

Warm Springs NFH is a valued asset and venue to demonstrate the Service's commitment to environmental leadership. To that end, the station provides facilities, kiosks, public access and scheduled events that demonstrate our accomplishments and communicate our goals to the general public. In addition to facilitating onsite professional tours, staff also volunteered time for occasional off-site programs.

We have begun developing kiosks and a viewing platform dedicated to the new Monarch Butterfly and other pollinator habitat initiative that got underway here in 2015. Planning and coordination for building a 16 x 16 foot observation deck with the assistance of our Friends Group and the Benning Bass Club, a dedicated group of volunteers is currently underway. The project is planned for Oct. 24, 2015

Carlos met with Gavin Shire, Chief of Public Affairs in HQ on Wed. July 8th and provided a tour of the station and programs underway at Warm Springs.

During the Quarter the following groups scheduled visits to the station. These are in addition to many unscheduled groups who also visited the station.

Aug 6th – Meriwether County Extension Office – 15 kids /4 completed Biologist in Training.

Sep 11th Children House, a Montessori school serving children from age 3 through grade 6 – 17 kids/ 5 adults toured the hatchery.

Volunteers



During the summer months, we usually have a few high school and college students who helped out in a range of projects such as care of lake sturgeon, alligator gar, sicklefin redhorse, monitoring water quality, pond management and maintenance tasks.

In August, we had a young man named Justin Chang come down from Wisconsin for a family vacation in August and volunteered at the hatchery for two days. Justin isn't new to the hatchery staff he and his family volunteered back in May with lake sturgeon spawning on the Wolfe River in Wisconsin.

Justin Chang

Trent Mitchell volunteered up to three days a week through the summer and into fall working on his undergraduate study with sicklefin redhorse and also helping with other ongoing programs at WSNFH.

WSNFH staff submitted an application for Haile Macurdy and Elizabeth Shields, a member of Friends of Warm Springs National Fish Hatchery, to participate in training for partnership mentoring at NCTC this winter.

Staff discussed opportunities for partnership with our Friends Group involving the "Hands-On-The-Land" grant.

Staff began preparing for the annual open house at WSNFH, scheduled for October, 10th. This involved coordination with the friends group, posting flyers and development of a work plan for the day's activities.

Administrative, Training & Meetings

Annual input within the Fisheries Information System (FIS) such as FY 2015 accomplishment reporting and the Volunteer Services Report were completed prior to the August deadline. Work began on input of performance targets and distribution data. Work continued through the Quarter on year-end purchasing, budget planning, annual updates to EMS and safety plans for FY-15. Carlos dedicated considerable time working with the budget in FBMS as the 2015 Fiscal Year ended.

Staff participated in conference calls dealing with budget projections, allocations, watershed prioritization and the draft fisheries strategic plan in July and August. Project Leader conference calls were participated in on Aug. 5th, Sept. 8th and Sept. 29th.

Staff completed budgeting and FY 2015 budget allocations per instructions in the Omnibus Budget Template merging WBS funding, FIS Accomplishment projects and fish distribution information by the July 31st deadline.

The Third Quarter Report was completed on July 6th. The staff provided updates to the FBMS budgeting and accounting process that included monthly utility bills.

Haile, Bill, Josh, and Brian took online refresher heavy equipment training courses in September and took a Fork Lift training class conducted by Chad Shirey on Sept. 16th. Chad also setup a second forklift training course for additional Tech Center staff for Oct. 1st, 2015. Haile took refresher Private Pesticide Applicator training in September.



Staff participating in fork lift training

Staff reviewed disaster preparedness plans going into this year's typical hurricane season.

The station submitted information relevant to the July 8th compliance deadline for reporting on wireless internet connections as part of a Cybersecurity Data Collection data call.

Conducted EMS related activities through the Quarter such as recycling scrap metal Aug. 11th, and paper recycling on Sept. 15th. Staff updated the EFCATS database on EMS related issues Sept. 14th. Haile reviewed new regulations in the FWS manual on non-hazardous solid waste.

Staff completed the NFHS Water Resources Survey on Sept. 8th prior to the Sept. 15 deadline. Staff also submitted information on potential drought impacts on programs at WSNFH prior to the August deadline.

Staff completed ECOS Accomplishment Reporting for FY 2015 prior to the Aug. 28th deadline which included the Volunteer Service Report and station outreach report. Staff completed fish distribution input for FIS on Sept. 23rd.

Submitted a summary of Monarch butterfly and other pollinator program activities for the Monarch Challenge Report in August and included the information in an ECOS accomplishment project. Staff also submitted a database with updated fishing event logs and environmental outreach activities for the station during FY 2015.

Staff submitted three monthly fleet management reports prior to the due dates and completed the R4 Vehicle Fleet Equipment Record Data Call on Aug. 26th due Sept. 11th.



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