

Hatchery Highlights

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



January – March 2018

Aquatic At-Risk Species Recovery:

Gopher Frogs

We've engaged in a multi-year project with our partners to establish a self-sustaining breeding population on protected lands at the Nature Conservancy's Williams Bluff Preserve in Early County, GA. Gopher frogs are native to upland habitat, particularly longleaf pine ecosystems in Georgia and elsewhere in the southeast. Loss of longleaf pine habitat is the primary threat for this species. They are currently limited to fewer than 10 sites in Georgia. This rare species is currently under review for formal listing by USFWS, and Georgia documents the species as vulnerable.

Staff improved the culture system set up last year for transitioning tadpoles to juvenile gopher frogs. A framed sand base was laid down to provide even support for the plastic 6 ft. diameter plastic tanks. The previously set up with an uneven base led to out of round shaped tanks and ill-fitting tank covers. New custom made tank covers were purchased providing better predator protection for the developing tadpoles and contamination from other frog species entering the tanks.



Expanded gopher frog tadpole culture area with leveled base improvements; Josh harvesting dried maidencane, photo by Trent Mitchell

Josh Simmons and Trent Mitchell collected dried maidencane in January from an empty pond at Fall Line Sand Hills WMA. When added to spring water, the detritus formed in the tanks will establish a food chain for the gopher frog tadpoles.

Information received from Dr. John Maerz, professor of vertebrate ecology at UGA reported the metamorphosis from tadpole to juvenile frog usually takes 95-100 days.



Gopher Tortoise

Warm Springs NFH initiated work supporting conservation efforts for Georgia's gopher tortoises. Gopher tortoises *Gopherus polyphemus* are a federally listed "candidate species" for populations east of the Mobile and Tombigbee Rivers; they are also state listed by Georgia as "threatened." Gopher tortoises are considered an indicator of longleaf pine ecosystem health; their burrows provide vital habitat and shelter to other imperiled species such as gopher frogs and indigo snakes.

Our conservation strategy will establish a head-starting program to raise larger juveniles through their first two years before marking and releasing them within known Georgia habitats. Partners in this expanding effort currently include GADNR, The Georgia Conservancy, and Zoo Atlanta.

WSNFH shifted site development plans to the unused quarantine building for the time being, due to delays in starting a holding house reconstruction project. Eventually, the existing lake sturgeon building will be converted for use with gopher tortoise and indigo snakes. Carlos submitted an initial propagation, hatching, and head starting an outline for gopher tortoises Feb. 27th. He also presented information at the annual Fish & Aquatic Conservation Project Leaders meeting held in Orlando, FL this spring. Staff developed a gopher tortoise work plan for incorporating into the budgeting process this year.

An unused room in the quarantine building was retrofitted for use with both gopher tortoise and indigo snakes. Shelves were built to support the weight of trays filled with sandy soil, PVC pipe burrows, food and water dishes for head-starting juvenile tortoises. Electrical upgrades included installing dual timer controlled relays for light: dark cycle lighting, basking and temperature regulation. Two temperature and humidity controlled egg incubators were also purchased for the program. A standby generator was serviced and stationed nearby for program support if needed.



Shelves, photoperiod, basking lights layout, and incubator for the gopher tortoise rearing area.

Indigo Snakes

Developed culture facilities as described for gopher tortoises.

Freshwater Mussels Research

Staff maintained juvenile lake sturgeon, largemouth bass and other species for use as host fish ahead of propagation trials this spring with purple bankclimbers, *Elliptoideus soatanus*. Trent Mitchell is guiding a Columbus State University student's development of a production orientated juvenile mussel research plan. Culture systems were de-winterized and restarted in the mussel building.

A new Nikon DS-Fi3+L4 microscope camera was purchased for documentation and recording juvenile mussel propagation efforts.

Pollinator Habitat Project

Volunteer Marilyn Kircus wholehearted undertook to research replacement native plant species, more beneficial to pollinators, for use on the habitat islands located in the wetland demonstration pond. These islands are currently crisscrossed with roots and stems of plants to be removed ahead of replanting. She worked hard removing the unwanted vegetation and roots ahead of replanting in April. Plants scheduled for replanting include lizard tail, swamp rose, choke cherry, blue mist flower, copper iris, cardinal flower, Texas star hibiscus, pickerelweed and swamp sunflower.



Once unwanted vegetation was removed, fertilizer and topsoil were added ahead of replanting.

Additional wildflower seeds were ordered for use in the pollinator habitat area. Unwanted grasses and plants were sprayed ahead of replanting later in the year. Staff landscaped around existing milkweed and other desired plants ahead of regrowth this year. Marilyn began putting together a forward-looking development plan for the habitat pond for the years ahead.



Trent Mitchell cleaned up the carnivorous plant display and assisted Marilyn with reconditioning the islands within our wetland demonstration pond.

Sicklefin Redhorse

Sicklefin Redhorse are currently listed by USFWS as a candidate species. We work in cooperation with partners to meet conservation goals established by the Sicklefin Redhorse Conservation Committee.

Staff participated in a conference call January 12th with members of the Sicklefin Redhorse Conservation Committee to discuss 2018 goals. Haile also participated in a conference call with members during their annual meeting Feb. 13-14. Manuel Uibarri, director of the Southwestern Native Aquatic Resources and Recovery Center, Dexter, NW agreed to provide us with a supply of the custom-made razorback sucker ration this year. He has provided this diet to us each year for use in producing larger sized sicklefin redhorse.

Haile prepared a graphic overlay of stream flows and river temperatures for the committee's use that shows successful dates of egg collections.

Carlos worked with committee members on a work plan to restore Sicklefin redhorse at the Oconaluftee River in partnership with the Eastern Band of Cherokee Indian Tribe. The project includes habitat assessment and restoration. Previous efforts to re-establish these fish in their native range have not been successful. Monitoring efforts have not re-located any sicklefin stocked as fry in the Oconaluftee River, therefore we propose to stock 1 year older fish with stronger swimming capability and larger in size that can avoid predation. These fish would be marked with OTC and coded wire tags for future distributions within the Tuckasegee River watershed. We proposed to continue, and to increase post-stocking evaluations to determine contributions of hatchery fish to overall population assessment.

Aquatic Species Restoration Programs:

Alligator Gar Restoration Program

All forage goldfish ponds were harvested ahead of the holding house demolition. Empty forage ponds were seeded with ryegrass prior to refilling and restocking with broodstock later in the year. Production of smaller sized forage goldfish will be timed for their use with alligator gar.

Portable tank systems previously used in the holding house for alligator gar production were moved across the street this year. Additional containment measures were put in place, and a smaller number of fish are planned for production this year. Cooler water supplied from the springs are also expected to limit growth somewhat as warmer pond water supplies will not be available for this production year.

Outreach information on alligator gar biology and management was sent to an aquarium focus group in Japan.

Gulf Coast Striped Bass Restoration

Josh Simmons participated in the 2018 Morone conservation committee meeting held February 7th & 8th at Lake Point State Park, Eufaula, AL. Biologists from southeastern state and federal conservation agencies met to review 2017 striped bass management accomplishments and set stocking priorities for 2018. Conservation efforts throughout the Southeast help ensure striped bass continue to provide great angling experiences.



Twenty-foot raceway setup temporarily for processing harvested striped bass ponds.

A temporary setup to sort and process striped bass fingerlings scheduled for later in the spring this year was accomplished by moving a raceway to where it would be accessible. This raceway will be used for pond harvesting and striped bass distributions rather than the now unavailable concrete raceways of the holding house.

Organic fertilizers were purchased ahead of their use in fertilizing ponds.



Trent Mitchell cleaning diffusers ahead of their placement in ponds used for striped bass production

Lake Sturgeon Restoration

Carlos participated in the Tennessee Lake Sturgeon Reintroduction Working Group's regional meeting at Knoxville, TN, March 21st and 22nd. Participants simplified data collection sheets for the coming year, and the group agreed to submit an agency collection application for sampling in AL. Discussions on methodology were conducted in light of implications of herpes virus being found in WI among lake sturgeon. Tissue sampling methodology used for genetic analysis was also discussed. Haile began work on a review of lake sturgeon conservation efforts which is currently a priority propagation program for Southeastern FACs.

Carlos made arrangements with Dr. Janet Genz, University of West Georgia, to supply 1,400 to 1,500 fertile eggs for a study comparing growth and larval development to the different water chemistry of hatchery versus natural riverine environments.

A new portable diesel generator was purchased for use with the egg incubation transport trailer. Staff provided information for assembling automatic brine shrimp feeders to folks interested in using them. They also de-winterized culture equipment and started up egg incubation system biofilters. A supply pond dedicated to the lake sturgeon programs was filled with spring water after freezing weather had passed.

Two new custom made Duraframe dip nets were purchased for use with lake sturgeon sampling efforts.

Smallmouth Bass Restoration Program in Georgia

We are entering our third year working with Georgia and Tennessee to produce fish for Blue Ridge and Chatuge reservoirs. Native populations of smallmouth bass have been affected by introducing spotted bass throughout the region.

Adult and subadult smallmouth bass were fed goldfish to promote growth and good egg formation ahead of the spring spawning season. Thirty-four adult smallmouth bass held in a pond gained on average 1.5 lbs. per fish from last year feeding on goldfish. These brooders were recaptured at the end of February and held in spring water supplied raceways until March 28th. Eleven tagged females and 7 male smallmouth bass were transferred to a spawning raceway located in the lake sturgeon building, while another 9 females and 7 males were placed in another secured covered raceway.



Hatchery Manager Carlos and Biologist Josh sampling and transferring smallmouth bass.

Aquatic Habitats:

Nothing to Report

Aquatic Invasive Species:

Nothing to report.

Recreational Fishing and Public Use:

Nothing to report.

Educate and Engage Public & Partners:

Alex and volunteer Marilyn Kircus undertook a project to redo deteriorated and outdated kiosk signs at our public use and display pool area. The updated displays will more closely reflect species held at our public aquariums. Three updated panels were ordered from Fossil Graphics.

An outbreak of a protozoan infection commonly called “Ich” decimated catfish during winter in our two outreach ponds. As a result of this fish loss and the concurrence of limited access and parking brought on by the ongoing holding house reconstruction project, we canceled our annual fishing event in June of this year.

Haile judged Pike County’s 10th grade STEM academic program’s hydroponics and aquaponics exhibits Jan. 4th. Educator resource information was forwarded to several teachers, visitors and provides great online resources students can access to learn more about a variety of conservation and management topics. We also assisted several area teachers developing conservation-themed lesson plans.

Alex submitted information to update our hatchery visitors guide, worked to set up a Facebook account for the station and to improve our website homepage.

We supported Roosevelt State Park staff and volunteers as they sponsored a kids fishing event in late Feb., supplying a few items for the kids.

Facilitated several station tours and group visits during the quarter. Marilyn provided an educational program for a Boy Scout troop in Feb., and for a homeschool group in late March.

A number of replacement bluebird and purple martin houses purchased by Friends of Warm Springs NFH were put up. Other birdhouses were cleaned out ahead of spring breeding season.

We provided a quick station tour and program overview Feb. 6th to Mike Oetker, acting regional director while he was traveling nearby and heading to other appointments.

Volunteers:

Friends of Warm Springs NFH held a planning meeting on March 13th. Topics included updates to organizational topics, incorporation, recruitment and outreach opportunities. At that time we all gathered to honor a milestone achieved by volunteer Marilyn Kircus as she passed the 10,000-hour mark of service donated at multiple locations throughout the USA.



Staff and members of the friend's group gather to honor Marilyn's volunteer contributions to conservation.

Staff coordinated with a number of new volunteers interested in supporting programs at WSNFH. These included students currently in homeschooling, high school, and universality programs.

General Maintenance and Operations:

Water treatment systems at WSNFH were maintained during the 2nd quarter. A 25-ton load of high calcium content limestone was delivered for use with the alkalinity treatment building process equipment. Calcium chloride, baking soda towers were charged as needed to maintain the desired water quality.

Containment systems scheduled for use with alligator gar and smallmouth bass culture were cleaned and put into operation ahead of spring production. Staff assisted the Technology Center to recondition a culture system having 12 ft. and 20 ft. diameter tanks for future studies.

Staff inspected all tires on road vehicles per the new inspection regime and replaced tires on one 5ft. wheel trailer. Station generators were serviced in February and microscopes were serviced March 6th. Numerous ballasts and lamps were replaced in the wet lab ahead of spring production work in the building. Staff and volunteers conducted annual landscaping, limb removal, mowing, trimming and spraying. Pond kettles were cleaned ahead of their use for production of striped bass.

Chad Shirey assisted Pelican Island NWR spread approximately 1200 tons of aggregate on several roadways and parking areas at the refuge during the week of March 4th.-10th. During that time he also provided a heavy equipment refresher course to station personnel.



Reconditioning parking areas and drives at Pelican Island NWR

Carlos presented information on gopher frog and gopher tortoise programs during the annual Fish & Aquatic Conservation Project Leaders meeting held February, 12th-16th 2018 at Orlando, FL. He also participated in conference calls for FAC project leaders on January 11th and March 15th.

Josh Simons participate in the annual GA Warmwater Hatchery meeting February 6th at Georgia's Go Fish Center in Perry.

WSNFH staff participated in a pre-construction meeting March 6th for reconstruction of a new holding house. Participants included Carville (Billy) Edwards and Victor Bowman from the Regional Office, along with contractors and sub-contractors for the project.

Staff took a number of training courses including ORUV refresher courses, MOCC, private pesticide applicator training, CPR, EEO and diversity among others.

Safety plans were reviewed, the hurricane plan was updated January 29th, and annual fire extinguisher inspections were completed in February. The station fire management plan was forwarded for consolidation and revamped into a more concise format.

Several pieces of surplus equipment including a grasshopper lawnmower were sold through GSA.

Alex assisted Fish Health programs conducting periodic triploid grass carp inspections, on February 2nd and March 21st.

Staff submitted IDP's and reviewed performance plans for the upcoming year.

Carlos worked on developing several position descriptions for positions at Warm Springs, submitting equipment purchase lists, updating contracts and managing inventories.



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