
Small Impoundments Technical Committee American Fisheries Society – Southern Division

State Report Format

State Reporting: Alabama

Name of Representative to Technical Committee: Graves Lovell

Co-Authors:

Email: graves.lovell@dcnr.alabama.gov

Phone: 334-850-1769

Date Submitted: February 1, 2021

Project Name or Description of Activities: Alabama Public Fishing Lake (PFL) Update

Of our 23 PFLs, we have continued to manage most for maximum yield of bass, bream, catfish and crappie. A few lakes are operated by the city and only advised by our agency. Most, however, have a contracted lake manager on site that manages the anglers, fertilizes the lake, and keeps grass cut and litter picked up. They are also responsible for collecting all harvest data. Since our goal for most lakes has been to maximize yield of multiple species, they typically result in a predator-crowded system and often become stagnant within 10 years. Draining and renovation is often done on a much longer rotation due to costs and other issues.

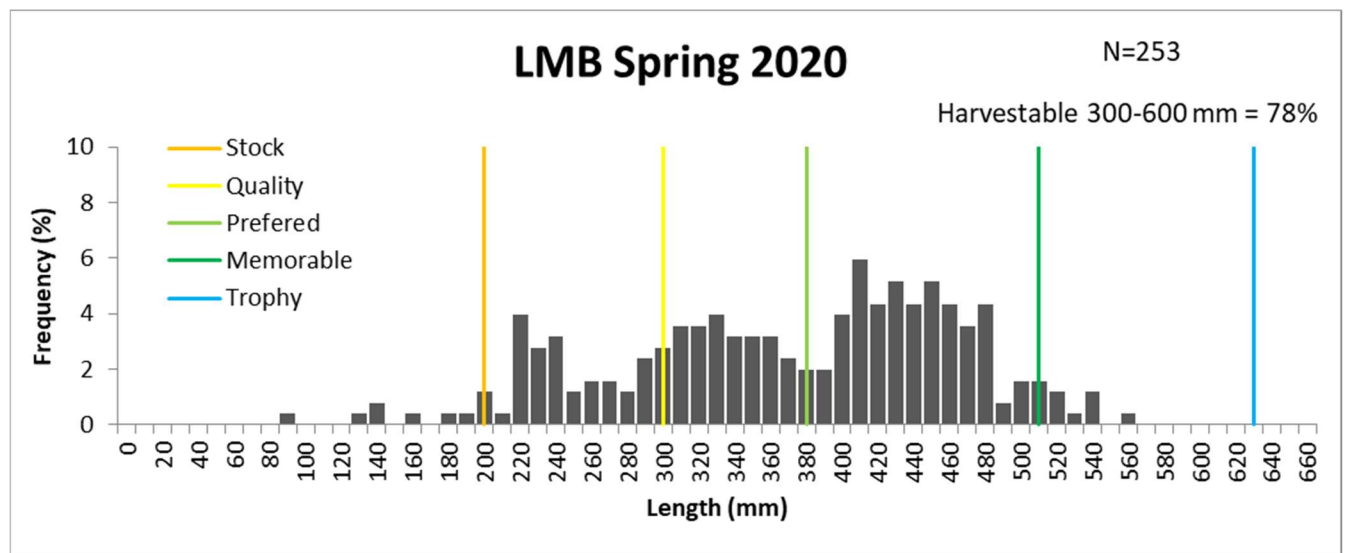
Fish habitat is deployed in most of the lakes, some offshore and some in reach of the bank, to provide concentrations of fish for anglers and to increase sampling efficacy. We have deployed all types of attractors, including artificial and natural. The natural reefs with seem to be the most attractive to fish by far. Natural materials with high surface area, such as cedar trees and recycled douglas fir seem to be the best. Each lake on average probably receives 1 tree per acre annually, often bunched in clusters in several areas around the lake. These fish reefs are marked and utilized heavily by anglers. The same reefs are supplemented annually.

For years, we have been battling the predator-crowding issue. Attempts to correct this have included, more liberal predator harvest by anglers, increased electrofishing harvest, shoreline rotenone of YOY LMB, supplemental forage, etc. We have found that turning around a PFL in Alabama from a stagnant, predator-crowded condition is nearly impossible. Therefore, upon renovation of lakes, we have begun several strategies to reduce or post-pone this predator-crowded condition. The stocking strategies include, stocking bass relative to the littoral habitat in the lake rather than surface area, increased bluegill stocking rate, and establishing supplemental forage.

We have also found that it is very difficult to encourage anglers to remove small bass and return the larger ones. Even when length limits are in place, larger fish are often removed. When these larger fish are removed regularly on a popular lake, it doesn't take long for the bass distribution to become skewed toward smaller fish. With fewer large bass to control YOY production, recruitment just continues to increase.

Below is a summary of the management of DeKalb PFL using these new strategies following renovation (summarized by Nathan Aycock):

Dekalb County Public Fishing Lake is a 120 acre impoundment located in the northeast corner of Alabama. This lake is now in its fifth year after being renovated and restocked in 2015. Initial stocking of bass was lowered to 30 fish/ac because stocking was based on acres of summertime littoral habitat instead of total surface acres. Bream were stocked at traditional rates (bluegill were stocked at 900 fish/ac and redear at 100 fish/ac). After reopening in 2016, bass harvest was prohibited while bream, catfish and crappie harvest remained open. The innovative stocking strategies coupled with the prohibition of LMB harvest has adequately protected the initial cohort of bass and has produced an excellent bass fishery. Spring electrofishing in 2020 found a bass PSD of 80 and bluegill PSD of 24. Catch rates for bluegill were 379 fish/hr, while catch rates of bass were 159 fish/hr. Catch rates of sub-stock and stock sized bass remained low (4 fish/hr and 31 fish/hr), while catch rates for preferred and memorable sized fish increased to 76 fish/hr and 8 fish/hr. Fall electrofishing in 2020 indicated a continued increase in the number of memorable sized fish, including 20 fish \geq 5 pounds in weight and one fish that was 9.2 pounds. In 2020, the regulations were changed to allow anglers to harvest up to 5 bass less than 13 inches per day. Based on length frequency analysis, this should allow the harvest of all age-1 bass and the slower growing age-2 fish while protecting the faster growing age-2 fish and all preferred and memorable sized fish. Anglers have been very supportive of the management strategies thus far, and angler use of Dekalb County Lake is one of the highest in the Alabama Public Fishing Lake program.



Small Impoundments Technical Committee
American Fisheries Society – Southern Division
State Report Format

State Reporting: Arkansas

Name of Representative to Technical Committee: Brett Timmons

Date Submitted: January 29, 2021

Project Name or Description: Overview of 2020 Small Impoundment work completed in Arkansas.

South Central AR – Upper White Oak Lake 600 acres, Biologists placed 15 artificial stake beds, 50 Christmas trees, and 20 pallet pyramids to enhance the current 28 habitat sites. All fish attractor

Central AR – Habitat Biologists treated two acres of Alligatorweed in Lake Cargile. Lake Cargile is a 125-acre AGFC-owned lake located in the Ed Gordon Point Remove WMA, near the town of Hattiesville, in Conway County. Since its discovering in 2017, it has spread around the entire shoreline of the lake. Each year, biologists inspect the shoreline and treat all Alligatorweed with EPA approved aquatic herbicides to help control the spread of the invasive plant.

West Central AR - Sugar Loaf Lake – Sebastian County - 334 Acres: Spring Black Bass Electrofishing, Nutrient Analysis monitoring, fertilized lake 3 times.

Lake Jack Nolen - Sebastian County - 208 Acres: Spring Black Bass Electrofishing, Nutrient Analysis monitoring, fertilized lake 2 times, Community mini-fyke netting, Community Electrofishing sample.

Horsehead Lake – Johnson County - 100 Acres: Spring Black Bass Electrofishing, Channel Catfish Tandem-baited hoop netting.

Ludwig Lake - Johnson County - 300 Acres: Spring Black Bass Electrofishing, Channel Catfish Tandem-baited hoop netting, Community Electrofishing sample.

Small Impoundments Technical Committee
American Fisheries Society – Southern Division
State Report Format

State Reporting: Arkansas

Name of Representative to Technical Committee: Brett Timmons

Date Submitted: January 29, 2021

Project Name or Description: Swepeco Fish Habitat Project

Email: brett.timmons@agfc.ar.gov

Phone: 870-972-5438 ex1616

Objective: Improve wildlife habitat on SWEPCO property by thinning trees and utilize the trees for fish habitat in the lake

Current Status: Completed

Abbreviated abstract:

SWEPCO Lake is a 494-acre lake in Benton County. The Southwestern Power Administration operates the reservoir for electric power generation. Surface temperatures generally range from 43° C (109° F) during the summer to about 18° C (65° F) during winter. During the two-week period that the plant is shut down during mid-winter, temps as low as 6° C (43° F) have been noted. In December 2019, AGFC staff created 63 new habitat sites in SWEPCO Lake with each site having an average of six trees. The total project cost was \$33,501, with the majority of expenditures coming from staff salaries.

Habitat Management

SWEPCO Lake is a 215-hectare (494 acres) lake in Benton County. This reservoir is an impoundment of Little Flint Creek located just outside of Gentry, and is operated by the Southwestern Power Administration for electric power generation. It is unique among Arkansas lakes in that surface temperatures remain high all year due to heated effluent from a coal-burning power plant. Fisheries habitat primarily includes flooded terrestrial vegetation, standing and downed timber, rocky shorelines and very limited aquatic vegetation.

Surface temperatures generally range from 43° C (109° F) during the summer to about 18° C (65° F) during winter. During the two-week period that the plant is shut down during mid-winter, temps as low as 6° C (43° F) have been noted. Initial stocking of the lake and operation of the

power plant was in 1978. Spillway elevation is 347.6 m (1140 ft.) msl. It has an average depth of 9.8m (32 ft.) and a maximum depth of 27.5 m (90 ft.).

A large-scale fish habitat project took place on SWEPCO Lake during December 2-5, 2019, and 29 Arkansas Game and Fish employees from both Fisheries and Wildlife Divisions worked on the project. SWEPCO Lake Power Plant also provided 12 employees to assist in the project. The goals of the project were to improve wildlife habitat on SWEPCO property by thinning trees and utilize the trees for fish habitat in the lake. A private lands biologist for AGFC (Hugh Lumpkin) determined the number trees that needed to be removed to improve forest habitat and crews worked 2 ½ full days to cut and sink trees in the lake.

The first day (December 2) was set aside for travel and safety orientation. On the second day, three different crews worked to cut hardwood trees from the shoreline to place in the lake. A fourth crew cut trees from an area near the dam and utilized a tractor to stage the trees along the shoreline. AGFC and SWEPCO employees tied blocks and District 2 barge placed the trees in the lake. A fifth crew cut trees from plant property and utilized two mini-excavators and a skid steer to position trees for loading onto barges.

The second and third days of the project, one crew directly cut trees from the shoreline and the rest worked in the main area. This large crew of five barges had trees loaded onto the boats and motored to habitat sites located throughout the lake. AGFC staff created 63 new habitat sites in SWEPCO Lake with each site having an average of six trees (Figure 1). The project cost was \$33,501, with the majority of expenditures coming from staff salaries (Table 1.). The project was a great success and has been very popular with local anglers.

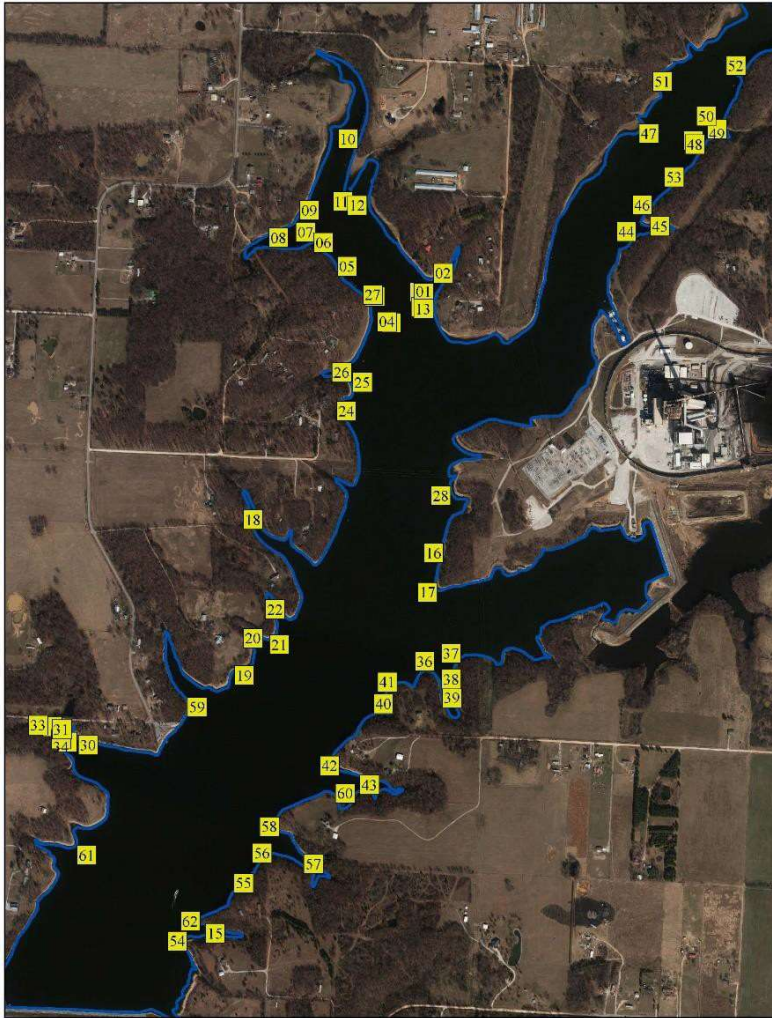


Figure 1. SWEPCO Lake fish habitat sites from December 2-5, 2019 large-scale project.

Table 1. Expenditures for large-scale fish habitat project on SWEPCO Lake.

Items	Hours	Expense
Salary	1010.50 x \$24/hr.	\$24,252
Meals and Lodging		\$3,753.80
M&O		\$3,507.50
Fuel		\$1,987.80
TOTAL		\$33,501.10

Small Impoundments Technical Committee

American Fisheries Society – Southern Division

State Report Format

State Reporting: Arkansas

Name of Representative to Technical Committee: Brett Timmons

Date Submitted: January 29, 2021

Project Name or Description: Lake Poinsett Renovation Project

Contact Information:

Email: brett.timmons@agfc.ar.gov

Phone: 870-972-5438 ex 1616

Objective: Repair Lake Poinsett Infrastructure, and Create Fish Attractor Sites

Current Status: Completed

Abbreviated abstract: A multi-million dollar renovation project was completed on December 1, 2020. The project repaired and improved infrastructure critical to maintaining a constant water level in the lake. The construction included replacing the water control structure, repairing the outflow pipe and headwall, widening & regrading auxiliary spillway, and repaired over 10,000 linear feet of shoreline erosion. Additional construction included improving lake access by lengthening Decklemen Access Boat Ramp. Construction plans also increased angler access along the shoreline by creating five new bank-fishing areas totaling 1,365 linear feet of access.

To improve and add to the degraded natural habitat 105 new fish attractor sites were created using artificial habitat and 65 fish attractor sites were established using trees removed from shoreline areas and anchored to lakebed.

Project Outline

Lake Poinsett is a watershed-type lake in Poinsett County formed by building a dam across Distress Creek on Crowley's Ridge. The 450-acre lake is owned and managed by the Arkansas Game and Fish Commission for providing sport fishing opportunities. Lake Poinsett has numerous coves radiating from the lake's north/south axis. The lake has an average depth of 2.6 meters (8.5 ft.) with the deepest water being 9.8 meters (32.2 ft.). Distress Creek enters Lake Poinsett from the northeast side and meanders through the middle portion of the lake. The creek channel is lined with flooded timber while many of the coves hold large amounts of flooded timber. Most of the shoreline gently slopes to deeper water and is made up of clay or a clay/gravel combination.

District Fisheries Biologists and AGFC staff completed a large-scale fish habitat project to rejuvenate the 59-year old lake. Assisted by Arkansas State Parks Staff the habitat project created 105 new fish attractor sites using mossback habitat structures (figure 1), spider buckets, pallet towers, and reinforced concrete culvert pipes (figure 2). Each of the new fish attractor sites contained on average eight spider buckets, three pallet towers, and one reinforced concrete culvert pipe. The placement of the fish attractor sites utilizing the reinforced concrete culvert pipes, pallet towers, spider buckets structures, and woody debris removed from shoreline were used to enhance natural features of the lake such as confluence of creek channels, natural lake cove points, drop offs, and existing standing timber. The goal of the habitat project was to place natural and artificial habitat along transition areas from deep creek channels to shallow water, creating corridors for fish movement.

The artificial habitat introduced to the lake focused on using donated recycled materials (pallets and scrap ABS pipe) from local industry to gain community involvement, support, and help lessen the overall costs of the habitat project. Total costs of habitat materials over the three-year project was \$30,435. Total cost of materials donated to the project without accounting for logistics of hauling and labor was approximately \$8,400.

The 65 fish attractor sites utilizing trees removed and anchored to the lakebed helps to restore the existing flooded timber that was present along the coves and creek channels when the lake was first flooded. Additions of brush and tree piles along the lakebed allow fish movement from the deep creek channel flooded timber to shallow water areas creating corridors for fish movement through natural materials.

AGFC staff also worked with EAST (Education Accelerated by Service and Technology) at Harrisburg Middle School to build spider buckets and assist with designing the placement of the structures using GIS.

Construction and planning of the project started in 2016. In July of 2017, AGFC drained the lake to assess dam and spillway conditions and to finishing developing the plan to fix the infrastructure failures in the system. Construction on the project took approximately 10 months to complete and total construction costs of the project was \$3,234,018. Construction completed on the project included 10,271 linear feet of shoreline erosion repair (figure 3), replacement of the 53ft water control structure, slip lining of the outfall pipe and repair of the outfall headwall, widening and regrading of the auxiliary spillway. Shoreline erosion control encompassed approximately 4 ft. above and below water level of 305 msl. Shoreline erosion control consisted of using two different methods. Shoreline adjacent to the main part of the lake, cove points, and wind-affected locations were hardened using riprap (figure 3). Shoreline erosion control in the back of coves and areas least affected by wind and wave action were hardened using a Flex-a-mat® fabric (figure 4). The Flex-a-mat® fabric consisted of 6-inch concrete pavers embedded into a mess fabric. The graded shoreline is seeded and the Flex-a-mat® fabric placed on the slope allowing grass to grow between concrete pavers creating a vegetated concrete mat. Construction on the project was completed in November 2020. The gate on the water control structure was closed on December 1, 2020 allowing the lake to refill. Provided spring rains are sufficient to refill the lake stocking of prey species will begin in April of 2021.



Figure 1 – Mossback fish attractors and other artificial habitat placed around fishing pier.



Figure 2 – Example of pallet tower, spider bucket and reinforced concrete culvert pipe.



Figure 3 – Shoreline erosion control using rip rap.



Figure 4 – Shoreline erosion control using Flex-a-mat® fabric.

Small Impoundments Technical Committee American Fisheries Society – Southern Division

State Report Format

State Reporting: Georgia

Name of Representative to Technical Committee: Keith Weaver

Co-Authors:

Email: Keith.Weaver@dnr.ga.gov

Phone: 706-557-3340

Date Submitted: February 5, 2021

Project Name or Description of Activities: Georgia Small Impoundments Update

In early 2020, the Georgia Department of Natural Resources, Wildlife Resources Division initiated its Community Fishing Program. The Initiative will be comprised of three components :1.) The Community Fishing Program 2.) Georgia State Parks Gateway to Fishing Program and 3.) Wildlife Resources' Mobile Catch Unit.

The Community Fishing Program: The goal of the Program is to partner with local communities to enhance fishing in metro and suburban parks and other public waters that are easily accessible and close to home for Georgians. The Wildlife Resources Division provides fish and technical assistance and use of mobile catch unit while local partners and volunteers host fishing events and classes, improve access, and promote the program and activities. It is easily to ascertain that WRD are targeting small impoundments around the state to increase fishing opportunities. The Program has been well received by local communities and is expanding rapidly as amenities are opening and local communities are returning to work.

Georgia State Parks: Georgia's state parks are owned and operated by the Georgia Department of Natural Resources. Many of the parks are located on or near a major waterbody and have fishable waters within the park. The Wildlife Resources and the Parks and Historic Sites Divisions of Georgia DNR have partnered to improve fishing and fishing access at state parks across the state. Fifteen state parks are targeted for initial improvements to fisheries. These enhancements include activities such as fish population assessments through sampling, development of fish stocking and management plans, habitat enhancements, installation of automatic fish feeders and feeding stations, fertilization programs, offering beginner fishing programs and Kids Fishing Events, and implementing the rod and reel and tackle loaner programs at each park.

Panola Mountain State Park was chosen as a unique management opportunity. It is in Rockdale/Dekalb counties and many visiting the area all live in the metro area. So fortunately, these folks will not have to drive far as Panola will be managed as female largemouth bass only catch and release lakes. The two lakes (16 and 19 acres) have recently been renovated and continue to receive fingerling bluegill stockings. Female bass stockings will start continue this spring and the lakes are now open to fishing. The section is excited about the area's trophy potential, so look for Panola Mountain to produce some trophy fish soon.

Mobile Catch Unit: This is an enclosed trailer provided through a grant from Recreational Boating and Fishing Foundation, full of fishing equipment and supplies needed to host fishing events or classes. The trailer is currently being assembled. WRD staff and partners can use this trailer and equipment to host kids fishing events or fishing classes in the Atlanta metro area.

Small Impoundments Technical Committee American Fisheries Society – Southern Division

State Report Format

State Reporting: Kentucky

Name of Representative to Technical Committee: Dane Balsman

Date Submitted: December 29, 2020

Project Name or Description of Activities: Overview of the Fishing in Neighborhoods (FINs) Program

Co-Authors: Dane Balsman

Email: dane.balsman@ky.gov

Phone: 502-892-4480

Objective: To develop high quality urban fisheries in Kentucky that lead to high angler use, catch rates, and satisfaction.

Current Status: Ongoing

During 2020, 90,750 catfish (channel catfish and channel catfish x blue catfish hybrids) and 92,750 rainbow trout were stocked in the Fishing in Neighborhoods (FINs) lakes. These stockings of large keeper-size catfish (15 in avg), trout (10 in avg) provide anglers with quality fishing opportunities close to home. The program currently includes 44 lakes in 28 counties. A memorandum of agreement is in place with all lake owners enrolled in the FINs program giving Kentucky Department of Fish and Wildlife Resources (KDFWR) the authority to manage fish populations and set standardized regulations for all lakes in the program.

Advertising and marketing efforts were employed in a continuing attempt to raise awareness of the FINs program, increase participation, and recruit new anglers. Facebook and Twitter notifications were posted around stocking dates. District fisheries biologists also mentioned the FINs program and stocking schedules in their weekly fishing reports. A video segment highlighting the FINs program was also featured on KY Afield. Flyers promoting the FINs program were distributed at boat shows. A one-page advertisement for the FINs program appeared in Kentucky Fishing and Boating Guide. Additionally, a one-page stocking table appeared in the Kentucky Afield calendar. Newspaper, magazine and radio interviews, as well as press releases, were issued to promote the program. All lake owners were notified prior to fish being stocked so they could contact their followers via social media. The FINs website was routinely updated to convey the latest stocking information and list of lakes enrolled in the program. Kiosk posters promoting the FINs program and KDFWR's role in fish management and stocking was displayed at 25 of the 44 lakes. Information on the kiosk posters included the FINs logo, mission statement, fish stocking dates and quantities, license requirements, fishing regulations, fish identification, poacher hotline, no littering graphic, brief overview of fishery and past sampling, basic knot tying and the location of a rod loaner program if present.

Spring electrofishing is conducted at every lake on an every other year basis. Samples are conducted to gather information on species composition, catch rates, and size structure. Furthermore, tandem hoop nets are used to sample catfish populations in the fall at every lake, every three years to monitor standing stock and condition of catfish.

Furthermore, exploitation studies, creel surveys, and use of time-lapse cameras to assess fishing pressure have been used to assess angling pressure at FINs lakes. Time lapse cameras have been deployed at 42 of the 44 lakes for a 12-month period to survey fishing pressure in recent years. Timelapse Image Analyzer was used to assist personnel with image analysis.

Small Impoundments Technical Committee American Fisheries Society – Southern Division

State Report Format

State Reporting: Kentucky

Name of Representative to Technical Committee: Dane Balsman

Date Submitted: December 29, 2020

Project Name or Description: Can channel catfish nesting boxes replace stocking in small impoundments?

Contact Information:

Name: Tom Timmerman

Co-Authors: Jeff Crosby, Marcy Anderson, Jeremy Shiflet

Email: tom.timmerman@ky.gov

Phone: 606-783-8650

Objective: Because channel catfish are not able to produce self-sustaining fisheries in small impoundments, KDFWR has been experimenting with artificial nesting boxes as a replacement to stockings.

Current Status: Ongoing – Project is in its early phases with 4 of the 5 lakes in the project just completing their first season in the water.

Abbreviated abstract: In most small impoundments, channel catfish do not produce a self-sustaining population of fish and anglers are reliant on state agencies to stock fish in order to maintain a fishable populations. The limiting factor in most instances is a lack of spawning habitat such as: hollow logs, undercut banks and rock crevices. Several other states have experimented with adding artificial spawning habitat in the form of nesting boxes to their lakes and have had success in creating habitat necessary to have self-sustaining fish populations in small impoundments. With hatchery space limited and expense of raising and stocking these fish high, alternative strategies for providing fish to small impoundments is of particular interest to state agencies. If channel catfish can self-sustain through artificial nesting boxes, then hatcheries can be freed up to use space and funding for other projects. The goals of this project are to (1) determine if artificial nesting boxes can create a self-sustaining population of channel catfish and (2) if so what rate of boxes are needed to maintain high quality populations of channel catfish.

Small Impoundments Technical Committee American Fisheries Society – Southern Division

State Report Format

State Reporting: Kentucky

Name of Representative to Technical Committee: Dane Balsman

Date Submitted: December 29, 2020

Project Name or Description: Rough Fish Removal, Water Quality and Habitat Improvements on Benjy Kinman Lake.

Contact Information:

Name: Jeff Crosby

Co-Authors: David Baker

Email: jeff.crosby@ky.gov or david.baker@ky.gov

Phone: 502-892-4464 or 502-892-4470

Objective: Reduce biomass of rough fish in an effort to increase abundance and condition of sport fishery

Current Status: On going/monitoring

Abbreviated abstract: Benjy Kinman Lake (88 acres) an impounded slough of the Kentucky River near Gratz, KY was purchased by the Kentucky Department of Fish and Wildlife Resources (KDFWR) in 2014. When sampled in 2014, it revealed a high abundance of rough fish (bigmouth buffalo, smallmouth buffalo and common carp) which were introduced into the lake during historic flooding in 1997. Largemouth bass, white and black crappie, bluegill, redear sunfish and channel catfish were also sampled with overall population assessment scores representing “fair” sport fish populations.

KDFWR began removing rough fish (primarily bigmouth buffalo and common carp) with electrofishing gear in 2014. During 2014, 428 fish (2,338 lbs.) were removed. In 2015, an additional 407 rough fish (2,575 lbs.) were removed. Removal efforts have increased from 2016-2020 in regards to the number of trips and the use of 300'x 12' gill nets with 4" mesh. One thousand six hundred and thirty-three fish (11,643 lbs.) were removed in 2016, 992 fish (7,670 lbs.) in 2017, 563 fish (5,475 lbs.) in 2018, 192 fish (1,920 lbs.) in 2019 and 87 fish (870 lbs.) in 2020. To date, 4,302 fish (48.9 fish/acre) or 32,491 lbs. (369.2 lbs/acre) have been removed. The average weight of rough fish removed in 2014 was 5.5 lbs increasing to 7.1 lbs in 2016, 9.7 lbs in 2018 and 10.0 lbs in 2020.

Soil test completed in 2017 revealed a soil pH of 5.3. It was recommended to treat the lake with 5 tons of ag lime/acre or 440 tons. A total of 421 tons of ag lime was washed in throughout the entire lake during the winters of 2017-2019. A fertilization program began in 2018 and remains ongoing.

Habitat work has been completed since 2018 to increase the diversity and complexity of habitat. One thousand three hundred and thirty-four Christmas trees, 207 tons of shot rock and 61 tons of small gravel have been used to create brush piles, rock reefs and spawning habitat. Furthermore, 30 wooden

pallet structures and 10 hinge cut trees have been added. Water willow has been planted creating 12 starter colonies throughout the lake.

Largemouth bass spring catch rates have averaged 124.7 fish/hr from 2015-2017 and have averaged 166.3 fish/hr from 2018-2020. Young of the year (YOY) average catch rates have averaged 57.5 fish/hr from 2014-2017 increasing to an average catch rate of 100.7 fish/hr from 2018-2020. Catch rates of YOY largemouth bass ≥ 5.0 inches averaged 16.5 fish/hr from 2014-2017 increasing to 53.3 fish/hr from 2018-2020. Overall, relative weight indices averaged 84 from 2014-2017, increasing to 86 from 2018-2020. During the same time period relative weights of largemouth bass from 8.0-11.9 inches have slightly improved from 82 to 83, 12.0-14.9 inch fish increased from 84 to 87 and fish ≥ 15.0 inches increased from 93 to 96. Age and growth data was collected 2014 and 2017 resulted in comparable findings. In both samples, largemouth bass reached 12.0 inches between age-3 and age-4.

Bluegill and redear sunfish were collected in the spring of 2014 for the first time. Bluegill catch rates were 105.3 fish/hr, ranging from the 2.0-7.0 inch size classes. The last spring sample for bluegill was completed in 2018; fish ranged from the 2.0-7.0 inch size classes and were collected at 309.6 fish/hr. Redear sunfish numbers also increased from 6.7 fish/hr in 2014 to 22.4 fish/hr in 2018.

Age and growth samples were collected for white and black crappie in 2014 and 2017. White crappie mean length at age in 2014 was 4.4 inches (age-1), 6.5 inches (age-2), 7.6 inches (age-3) and 8.3 (age-4). Mean length at age increased in the 2017 sample to 4.4 inches (age-1), 7.5 inches (age-2), 8.6 inches (age-3) and 9.3 inches (age-4). Black crappie have shown some improvement with age-1 fish increasing from 3.9 inches (2014) to 4.4 inches (2017), age-2 fish increasing from 6.0 inches (2014) to 7.1 inches (2017), age-3 increased from 7.0 inches (2014) to 7.5 inches (2017) and age-4 increasing from 7.5 inches (2014) to 7.7 inches (2017).

Monitoring of largemouth bass, bluegill, redear sunfish and crappie will continue in an effort to follow changes within these populations at Benjy Kinman Lake.

Small Impoundments Technical Committee American Fisheries Society – Southern Division

State Report Format

State Reporting: Louisiana

Name of Representative to Technical Committee: Jody David

Co-Authors:

Email: jdavid@wlf.la.gov

Phone: (337) 735-8699

Date Submitted: January 8, 2021

Project Name or Description of Activities: 2020 update

1. Title of Project

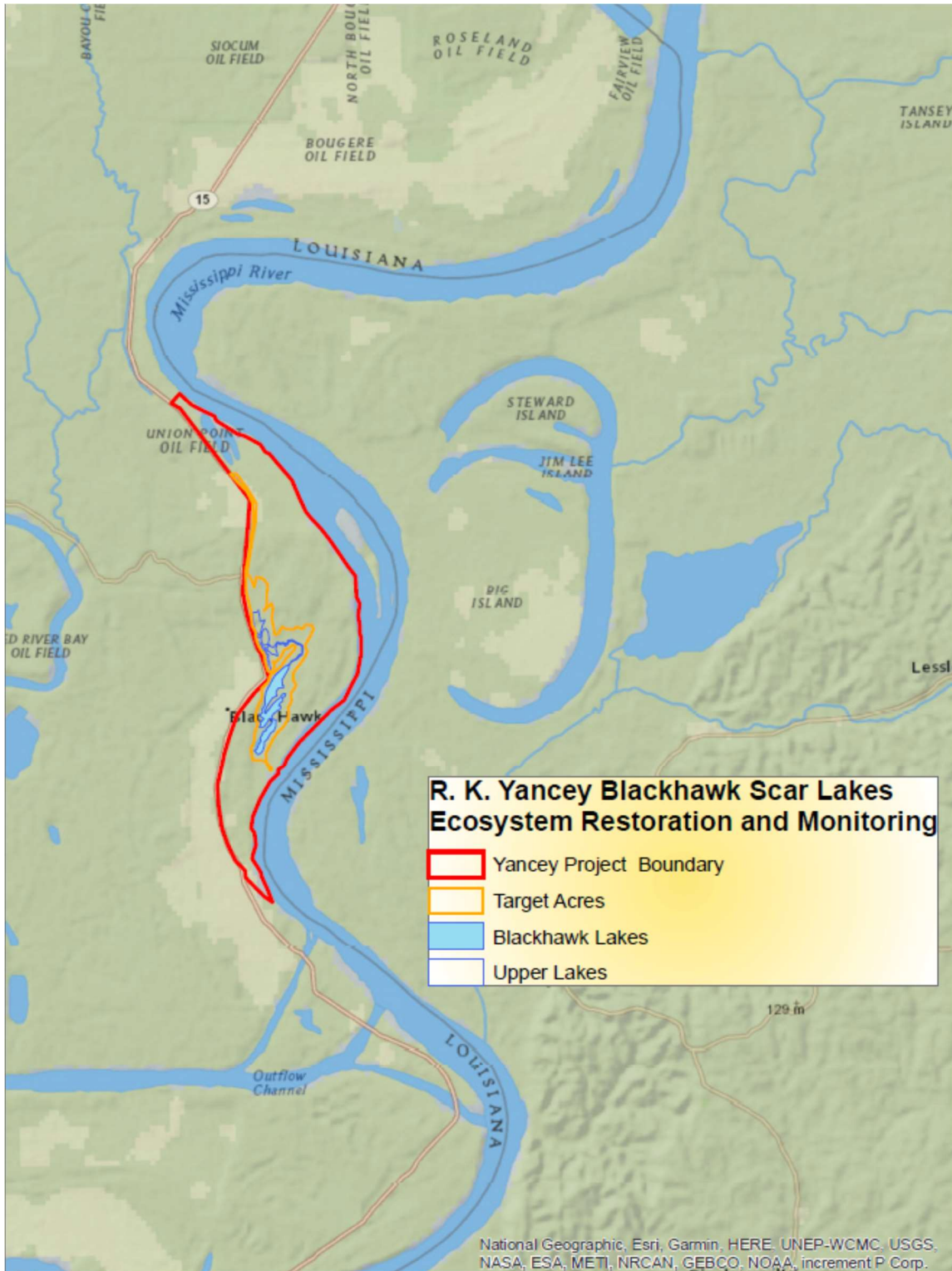
R. K. Yancey Blackhawk Scar Lakes Ecosystem Restoration and Monitoring (LA)

Restore floodplain hydrology over 700 acres and connect 5 miles of streams on the R.K. Yancey Wildlife Management Area near Mississippi River Mile 321 in Louisiana by weir enhancement and culvert replacements, thereby providing restoration methodology techniques to private lands via management recommendations to the public. Monitor floodplain resource use by Alligator Gar and associated fish community post-restoration activity in the Blackhawk Scar Lakes to serve as baseline information, providing a rough replicate for similar restoration assessments and transferrable methodologies for freshwater fish ecology in restored floodplain habitats.

Our Inland Fish office from the central part of Louisiana will be working on this project. Blackhawk Scar Lakes project has been permitted but construction has not started. There are three connected lakes under 500 acres located in Richard Yancey WMA inside the Mississippi River batture. They are conducting sampling and water quality before and after weir installation to observe if the fish community changes. In 2020 they installed hobos for water quality, sampled with seines, and gill nets. We have also assisted Nicholls State University with one year of their gill net samples.

The Yancey Wildlife Management Area (WMA) is between the Mississippi and Red rivers in Louisiana, north of the Lower Old River Control Complex. Three scar lakes in the Mississippi River batture of the WMA Area become seasonally connected during the annual flood pulse to central and northern areas of batture and the River, through a series of culverts and bayous. This project proposes to replace three failing culverts and enhance one failing weir to restore more natural hydrology to 700 acres and improve fish passage in 5 miles of streams; determine habitat use, abundance and life history characteristics of Alligator gar and investigate changes in trophic ecology associated with gar floodplain use in restored areas; quantify fish biomass, fine-scale habitat use, and behavior of gars and associated fish communities using high-resolution acoustic monitoring. Additionally, provide management recommendations to the general public based on lessons learned on how to best use the floodplain on private property and how alterations might impact certain fish and wildlife species. The

Lower Mississippi River Conservation Committee will lead the weir and culvert restoration project components; Nicholls State University and Louisiana Universities Marine Consortium will lead the habitat use and trophic ecology component; Louisiana Wildlife and Fisheries will lead the public outreach project component, with assistance from the Lower Mississippi River Conservation Committee.



2. University Lake

Another small impoundment that is being sampled is located in Baton Rouge near LSU. Our Inland fish group in Baton Rouge has sampled University Lake (195 surface acres) in spring and fall of 2020. There are 4 sample locations in the lake that are sampled with standardized electrofishing each trip, and also performed (4) 225 second “fish community samples” along with the regular fall samples.

This lake has gone through habitat change, water quality concerns and fish population changes through the years. Our Inland group, with the help from Louisiana State University fisheries section, will continue to monitor this lake.

3. Dubuisoon Lake

Dubuisson Lake is a 200 acre man-made lake adjacent to Interstate 49 (I-49) four miles north of Grand Prairie, Louisiana in St. Landry Parish. The borrow fill dirt from this lake was used to construct I-49 and build a rest area adjacent to the lake in 1981. This waterbody is surrounded by agricultural fields and a small block of hardwood forest. The majority of the lake has deep water (25-30 feet) but is very shallow near the shoreline and is void of any trees or woody debris. The water clarity is generally turbid year round due to runoff from irrigation and row crop practices, but develops a plankton bloom in the late summer months.

Standardized sampling techniques are scheduled every 3 years to allow biologists to understand and evaluate fish populations.

Crappie populations in this lake has increased over the years and has become very popular among crappie anglers

Proposed in 2021/22 will be a handicap accessible fishing pier near the boat launch. Once this is complete LDWF will deploy sand and gravel along the pier as well as artificial reefs to improve habitat for game fish populations.

Historical and present gear types employed to sample fish populations in Dubuisson Lake, Louisiana from 1990 – 2019

Dubuisson Lake Fisheries Sampling	
Year	Sampling Method
1990	Electrofishing
2001	Electrofishing
2002	Gill nets
2003	Electrofishing, Hoop nets
2009	Electrofishing, Gill nets
2012	Electrofishing, Forage
2013	Frame Nets
2014	Electrofishing, Forage
2015	No samples
2016	Electrofishing, Forage
2018	Electrofishing, Forage
2019	Lead nets, Gill nets

Small Impoundments Technical Committee American Fisheries Society – Southern Division

State Report Format

State Reporting: Mississippi

Name of Representative to Technical Committee: Keith Meals

Date Submitted: January 15, 2021

Project Name or Description: NE Region, NW Region

Contact Information:

Name: Keith Meals

Co-Authors: Dustin Rodgers, Chad Washington, Ryan Jones

Email: keithm@wfp.ms.gov

Phone: 662-234-1437 (Meals)

Objective: Optimize fisheries benefits to public and recruit, retain, and reactivate anglers on agency and other public waters.

Current Status: Ongoing.

Abbreviated abstract:

**COVID19 updates: MDWFP fishing rodeos were cancelled in 2020 due to COVID-19. Hybrid (Blue X Channel) catfish (14 inches) contracted for fishing rodeos were stocked in other public waters throughout the state, primarily small impoundments.

MDWFP angler creel surveys, normally conducted during the spring, were suspended as well. However, site visits and reports of local anglers and MDWFP LE officers suggested greater than normal fishing activity since people were having to stay home and children were not attending school classes in person.

Non-federal lakes were closed by governor's orders April 4 – 20, 2020. Some federal, city, and county agencies/governments may have closed their waters and kept them closed longer.

Fall electrofishing (routine monitoring) was conducted on waters as reported. Technical guidance to private pond owners was done, but is not included in this report.

NE Mississippi, D. Rodgers

Community Fishing Assistance Program (CFAP) waters:

Ballard Park Lake, Tupelo, 3 acres

Ballard Park had 300 rodeo catfish stocked.

McAlpine Lake, Amory, 2.5 acres

McAlpine Lake had 300 rodeo catfish stocked.

MDWFP State Fishing Lakes:

Elvis Presley Lake, Tupelo, 322 acres

Elvis Presley Lake was scheduled for renovation in 2021; no sampling took place in 2020. Five hundred catfish were stocked.

Lake Monroe, Aberdeen, 99 acres

Lake Monroe received 400 rodeo catfish. During the summer, approximately 5 acres of Alligator Weed were treated with imazapyr, and five large fish habitat structures were added. Also during the summer, the lake experienced a fish kill. Specimens were collected and taken to MSU for analysis; *Columnaris* bacteria were determined to be the cause. Fall electrofishing consisted of six random samples over a total of 3 km.

Lake Lamar Bruce, Saltillo, 300 acres

Lake Lamar Bruce received 500 catfish. Fall electrofishing was conducted over five randomly selected sample areas for a total of 5 km.

Lamar Bruce Pond, Saltillo, 2 acres

This small pond is separated from the main lake by a small dam and is used for fishing rodeos and also is stocked with Rainbow Trout during the winter. Fifty rodeo catfish were stocked. Variable-leaf pondweed, chara, and southern naiad were treated with fluridone and a later treatment of a diquat/copper mix.

Tippah County Lake, Tippah, 145 acres

Fall electrofishing was conducted over four randomly selected sites for a total of 4 km. The lake was stocked with 1,500 rodeo catfish.

MDWFP State Park Lakes:

Lake Lowndes State Park Lake, Columbus, 150 acres

One thousand rodeo catfish were stocked; no other sampling was performed.

Little Trace Lake, Belden, 11 acres

Located at Trace State Park, this small impoundment is used primarily for fishing rodeos. Bank fishermen also use it heavily. Three hundred rodeo catfish were stocked.

Tombigbee State Park Lake, Tupelo, 90 acres

Tombigbee received 550 rodeo catfish. Fall electrofishing consisted of six random samples for a total of 3 km.

NW Mississippi, K. Meals

Community Fishing Assistance Program (CFAP) waters:

Olive Branch City Park Lakes, Olive Branch (near Memphis, TN), 3 ponds, 6 acres

Three fall electrofishing samples (1/pond) totaled 2.5 miles and documented effects of extremely high fishing pressure (about 1000 hrs/ac annually, prior trail cam surveys). The ponds received a total of 1,300 rodeo catfish.

Lee's Summit Park pond, Hernando, 1.5 acres

One fall electrofishing sample totaled 0.5 miles; 350 rodeo catfish were stocked. Also near Memphis, this small pond gets heavy fishing pressure.

Lake Patsy, Oxford, 8 acres

One fall electrofishing sample totaled 0.9 miles; 700 rodeo catfish were stocked. Unlike other NW CFAPs, Lake Patsy is only open to youth and mobility handicapped.

White's Creek Lake, Eupora, 288 acres

Three fall electrofishing samples totaled 1.3 miles; 700 rodeo catfish were stocked.

MDWFP State Park Lakes:

Spring Lake, Wall Doxey State Park, Holly Springs, 45 acres

Overwinter expansion of parrotfeather to about 75% coverage by May, 2020. Applied granular 2,4-D around boat ramp and fishing pier areas (about 5 acres, total). Stocked 1000 additional Triploid Grass Carp, June, 2020 (200 stocked in 2019). Started long overdue (20+ yrs) winter drawdown in December.

Delta Mississippi, C. Washington

Community Fishing Assistance Program (CFAP) waters:

Bear Pen Park Lake, Cleveland, 4 acres

Fall electrofishing was performed on the lake and included 2 random samples over a 0.6 km area. Three hundred rodeo catfish were stocked in 2020.

Coahoma County Fairgrounds Pond, Clarksdale, 2 acres

Five hundred and fifty rodeo catfish were stocked in the pond in 2020.

Florewood River Plantation Lake, Greenwood, 4 acres

Fall electrofishing on the lake consisted of 2 random samples over 0.5 km.

MDWFP WMA waters:

Charlie Capps WMA Lake, Rosedale, 40 acres

Fall electrofishing on the lake consisted of 3 random samples over 1 km. The lake was stocked with 400 largemouth bass in 2020.

Perry Martin Lake, Riverfront WMA, Rosedale, 20 acres

Located just outside the Mississippi River levee, 2 random samples were conducted during fall electrofishing that covered an area of 0.5 km.

Other public waters:

RecCon Lake, Mound Bayou, 50 acres

Fall electrofishing consisted of 3 random samples over 1 km. Two hundred fifty rodeo catfish were stocked.

Central Mississippi, R. Jones

MDWFP State Fishing Lakes:

Claude Bennett State Lake, Bay Springs, 71 acres

While conducting routine fall electrofishing sampling for sportfish, 77 lbs of bass <14 inches were removed (spring bass removal and age/growth were canceled due to COVID). Applied 1,500 lb of 10-52-4 water soluble fertilizer.

Simpson County State Lake, Bay Springs, 76 acres

Applied rotenone to remove fish population. Created four, 10 X 20 ft gravel spawning beds during renovation.

Prentiss Walker State Lake, Mize, 81 acres

Applied 800 lb of 10-52-4 water soluble fertilizer. Four hundred rodeo catfish were stocked.

MDWFP State Park Lakes:

Lake Ivy, Clarkco State Park Lake, Quitman, 50 acres

While conducting routine fall electrofishing sampling for sportfish, 31 lbs of bass <14 inches were removed (spring bass removal and age/growth were canceled due to COVID).

Mayes Lake, Lefleur's Bluff State Park, Jackson, 30 acres

Conducted routine fall electrofishing sampling for sportfish.

Natchez State Park Lake, Natchez, 230 acres

Conducted routine fall electrofishing sampling for sportfish.

Shadow Lake, Roosevelt State Park, Morton, 147 acres

Applied herbicide to about three acres of filamentous algae. The lake was stocked with 1,500 rodeo catfish.

Odum Lake, Holmes County State Park, Durant, 15 acres

Siphoned lake down and applied rotenone to remove fish population for restocking.

English Lake, Holmes County State Park, Durant, 45 acres

Drained lake to repair dam; applied rotenone to remove fish population for restocking. Odum Lake (above) drains into English Lake.

Small Impoundments Technical Committee American Fisheries Society – Southern Division

State Report Format

State Reporting: North Carolina

Name of Representative to Technical Committee: Kelsey Roberts

Date Submitted: January 11, 2021

Project Name or Description: Winter Trout Stocking in Piedmont Impoundments and Changes in Angler Effort

Contact Information:

Name: Casey Grieshaber

Co-Authors: Lawrence Dorsey

Email: casey.grieshaber@ncwildlife.org

Phone: 910-729-0872

Objective: Determine if stocking trout in Piedmont impoundments increases angler effort in otherwise underutilized waterbodies using camera traps and license sales.

Current Status: Research portion of project is completed. Results are being compiled and a manuscript is being written.

Abbreviated abstract: Brook Trout *Salvelinus fontinalis*, Brown Trout *Salmo trutta*, and Rainbow Trout *Oncorhynchus mykiss* have been stocked by the North Carolina Wildlife Resources Commission (Commission) into public mountain waters since the 1940's, but few trout fishing opportunities have existed in other regions or in small impoundments. In the winter of 2016, the Commission began to stock trout into publicly accessible small impoundments across the Mountain and Piedmont regions. While anecdotal reports have indicated that anglers are happy with the trout stockings little was done to quantify angler use. The goal of this project was to determine changes in angler effort when trout were stocked. Using camera trap photos and angler license fee data we were able to determine that a significant increase in angler participation occurred when trout were stocked. At Indian Camp Lake, a Sandhills Gameland impoundment in Richmond County, a camera trap was used in the winters of 2015–2016 and 2019–2020 to evaluate angler effort. A total of 8,557 camera trap photos were evaluated. Prior to initiation of the stocking program, total angler effort was approximately 180 hours during the winter months whereas after trout stocking began, the total angler effort was approximately 834 hours over the same period. At Frank Liske Park Pond in Cabarrus County, daily license sales were analyzed to determine changes in use. When comparing three years of license sales when no trout were stocked to three years with trout stockings, sales increased by over 250%. Based on license sales and evaluation of camera trap photos, it is apparent that trout stockings significantly increase angler effort at these impoundments during the winter months. These data, along with positive feedback from anglers across the state, indicate the success of the winter trout stocking program.

Small Impoundments Technical Committee American Fisheries Society – Southern Division

State Report Format

State Reporting: Oklahoma

Name of Representative to Technical Committee: Keith Thomas

Date Submitted: January 13, 2021

Project Name or Description: CLOSE TO HOME FISHING PROGRAM (CTHFP)

Contact Information:

Name: Keith Thomas

Co-Authors:

Email: keith.thomas@odwc.ok.gov

Phone: 405-325-7288

Objective: R3 - Recruit, retain and reactivate anglers

Current Status: Top priority in agency's 5 year strategic plan

Abbreviated abstract: Urban Fishing Program Update

The City of Newcastle constructed a 5 acre pond specifically for fishing and signed a 10 year MOU with the OK Dept. of Wildlife Conservation. Several existing cooperators extended their MOUs for an additional ten years. Emphasis on improving fishing access at program ponds around the state is currently underway. Two fishing docks and one boat courtesy dock were added in 2020. Several more are on the waiting list. We're trying to install two docks per year within the CTHFP budget. Park benches were purchased and installed at several ponds for fishing.

Fish stocking strategies have evolved from put-grow-take to put and take. The ODWC Hatchery Section is committed to supplying 40k 6 inch plus hybrid bluegill per year. Funds are also available for purchasing 14" channel catfish from private fish farms. In 2020 23,779 hybrid sunfish were stocked into 35 ponds. A total of 28,522 channel catfish were stocked into 32 ponds. Rainbow trout totaling 21,770 were stocked at 3 CTH sites last year. Discussions are ongoing for stocking additional fish species into select ponds based on angler input. Such species include common carp, yellow bullhead, hybrid striped bass, rainbow trout and smallmouth bass.

There are currently 22 cooperators in the program statewide. The R3 section of the strategic plan is to add 6 more per year in the next year. There are many large municipalities with park ponds / lakes interested in signing up. The basic agreement between the two parties is this, the city maintains the park area and ODWC maintains the pond and its fishery. In an effort to simplify fishing rules and regulations, catch limits were modified. Starting July 1, 2021 largemouth bass, channel catfish, rainbow trout, all sunfish species will have an aggregate limit of 3 fish per person per day. This action will hopefully help with angler compliance, cut costs on fish purchases, increase angler satisfaction and spread the harvest.

Small Impoundments Technical Committee American Fisheries Society – Southern Division

State Report Format

State Reporting: Oklahoma

Name of Representative to Technical Committee: Keith Thomas

Date Submitted: January 13, 2021

Project Name or Description: STATEWIDE MANAGEMENT GRANT

Contact Information:

Name: Richard Snow

Co-Authors:

Email: richard.snow@odwc.ok.gov

Phone: 405.325.7288

Objective: Compare Oklahoma findings to similar small impoundments studied in the southern U.S.

Current Status: Completed

Abbreviated abstract: Population Dynamics of a stunted Blue Catfish Population in a Small Oklahoma Impoundment

Blue Catfish (*Ictalurus furcatus*) populations create popular recreational fisheries throughout the United States. Many of these populations were introduced due to their popularity as a sportfish. However, Blue Catfish introductions are not always successful, particularly in small reservoirs. In 2017, a Blue Catfish population was discovered in Meeker Reservoir, a small impoundment in central Oklahoma. Because Blue Catfish populations generally do not do well in small impoundments, an evaluation was implemented to describe population characteristics, recruitment dynamics, and estimate abundance of preferred-length (> 760 mm) Blue Catfish in Meeker Reservoir. Blue Catfish in this population have high longevity, slow growth, low annual mortality, and reach sexual maturity at small sizes. Recruitment of Blue Catfish was variable, although fish from 21 year classes were observed, of which three year classes were dominant (combine to make 58% of fish in the sample). Strong year classes were produced in years with higher mean annual temperatures (> 16.5°C). Overall, this population is overcrowded and stunted, but a small proportion of fish still reach preferred size. Slow growth of Blue Catfish in this population may be explained by some combination of competition, genetics, low reservoir productivity, and reproductive strategy. The small size structure of this population creates a challenging management scenario, because most fish are below the size that anglers are willing to harvest. Although this population may be anomalous, our results provide important information regarding Blue Catfish population characteristics and recruitment in a small impoundment.

Small Impoundments Technical Committee American Fisheries Society – Southern Division

State Report Format

State Reporting: Oklahoma

Name of Representative to Technical Committee: Keith Thomas

Date Submitted: January 13, 2021

Project Name or Description: STATEWIDE MANAGEMENT GRANT

Contact Information:

Name: Richard Snow

Co-Authors:

Email: richard.snow@odwc.ok.gov

Phone: 405.325.7288

Objective: Update the status of the yellow bass in Oklahoma

Current Status: Completed

Abbreviated abstract: Population Dynamics and Diets of Yellow Bass in New Spiro Reservoir, Oklahoma

Yellow Bass (*Morone mississippiensis*) are rare in Oklahoma and little information exists regarding the basic ecology in the state. However, a population exists at New Spiro Reservoir, which was studied in fall 2018 and spring 2019. Our objective was to describe population dynamics (age and size structure, condition, growth, mortality, and age at maturity) and diets (spring and fall) of Yellow Bass in New Spiro Reservoir, Oklahoma. This population was dominated by stock-sized (100 mm TL) fish that were primarily planktivorous in both seasons. Yellow Bass in New Spiro Reservoir is characterized by fast growth rates ($L_{\infty} = 281$ mm TL by age-2), short longevity (age-3), rapid maturity (100% mature by age-2), and high annual mortality rates. Relative weights (W_r) of Yellow Bass were average (mean $W_r = 96$), but W_r increased with fish size (substock = 90, stock = 92, quality = 98, preferred = 105, memorable = 114). This study improves our knowledge of the life history of Yellow Bass in Oklahoma and provides a basis from which future studies can be compared.

Small Impoundments Technical Committee American Fisheries Society – Southern Division

State Report Format

State Reporting: Oklahoma

Name of Representative to Technical Committee: Keith Thomas

Date Submitted: January 13, 2021

Project Name or Description: FARM POND TECHNICAL ASSISTANCE EVALUATION

Contact Information:

Name: Marley Beem, OSU Extension Specialist for Aquaculture

Co-Authors:

Email: marley.beem@okstate.edu

Phone: 405-744-3854

Objective: Survey of farm pond problems in Oklahoma

Current Status: Completed

Abbreviated abstract: Oklahoma Farm pond stocking program evaluation

There are more than 326,000 ponds in Oklahoma and their owners experience numerous management challenges. Three major agencies offer technical assistance for ponds: the Oklahoma Department of Wildlife Conservation (ODWC), OSU Extension and the Natural Resource Conservation Service (NRCS). Looking at the frequency of pond-owner-identified problems provides useful insights, but is not enough because pond owners often overlook underlying issues. The insights of professionals who assist pond owners also are needed to provide a balanced picture. When combined, this information offers agency administrators a useful basis on which to allocate resources and choose approaches for better solving common pond problems. The author has been working with Oklahoma pond owners to educate and provide technical assistance for more than 30 years and brings that perspective to formulating this survey and the interpretation of its results. It is hoped that the results of this survey will stimulate discussion of possible new directions and approaches in assisting Oklahoma pond owners. In the future, the results of this survey also may be useful as baseline data.

Small Impoundments Technical Committee American Fisheries Society – Southern Division

State Report Format

State Reporting: South Carolina

Name of Representative to Technical Committee: Preston Chrisman

Date Submitted: January 8, 2021

Project Name or Description: SCDNR State Lakes Program

Contact Information:

Email: chrismanp@dnr.sc.gov

Phone: 803-280-0922

Objective: Provide diverse angling opportunities for the public

Current Status: Ongoing

Abbreviated abstract: The South Carolina Department of Natural Resources (SCDNR) currently manages 22 lakes under the State Lakes Program. These lakes range in size from 1 to 400 acres and display an array of management intensity levels due to a host of factors. Of the 22 lakes, 9 are limed and fertilized and there have been recent nuisance vegetation issues (Hydrilla and pond weeds) at 4 lakes, but these appear to be under control now. Two lakes received extensive damage from floods resulting from hurricanes in 2015 (Lake Ashwood) and 2016 (Dargans Pond) and their dams were compromised. Lake Ashwood's dam was repaired and a new gate valve was installed; the lake was restocked and will reopen to the public July 1, 2021. Dargans Pond is owned by Clemson and the decision was made to not repair the dam so this lake will be removed from the State Lakes Program soon. A third lake, Lake Johnson, is also experiencing erosion issues and the water level has been reduced until repairs can be made and a new spillway can be installed. Sunrise Lake received a new spillway in 2017 and reopened to fishing July 1, 2019. While Sunrise Lake was drawn down for spillway replacement, a habitat improvement project was completed, adding gravel spawning beds, concrete culvert pipes, and PVC fish attractors to the lake. Lake Brown (hyper-eutrophic) had a severe cyanobacteria bloom in summer 2020, resulting in a minor fish kill and a South Carolina Department of Health and Environmental Control fish consumption advisory for the lake. Fish attractor sites are maintained on most State Lakes and receive periodic replenishment in the form of Christmas trees, bamboo, or artificial structures.

The lakes' sport fish populations receive varying levels of monitoring and management due to manpower and budgetary restrictions. Some lakes are sampled annually while others are not able to be sampled effectively at all. Of the lakes that have had their fish populations sampled in recent years, most are displaying bass-crowded conditions. There are several trophy bass lakes in the State Lakes Program as well, but very few that display balanced conditions. Finally, there are a handful of impoundments that are little more than put-and-take catfish ponds. Many of the lakes receive annual Channel Catfish stockings as well as supplemental Bluegill and Redear Sunfish stockings to improve panfish fisheries and bass forage in the lakes. Threadfin Shad have been stocked into three of the lakes and early returns look promising.

Trying to combat the crowding of Largemouth Bass in these lakes is a top priority for lake managers but most efforts have been unsuccessful so far. However, SCDNR wants to provide wide array of angling opportunities and it is hoped that some lakes can be corrected to display balanced conditions while still maintaining some lakes in bass-crowded conditions for trophy panfish opportunities. Preliminary discussions have occurred within SCDNR to determine if we would like to try a female-only Largemouth Bass lake, following GADNR's recipe. Having clusters of State Lakes where there is at least one lake that is bass-crowded and one lake that is a trophy bass fishery should appeal to widest range of anglers and keep participation rates high.

Small Impoundments Technical Committee American Fisheries Society – Southern Division

State Report Format

State Reporting: South Carolina

Name of Representative to Technical Committee: Preston Chrisman

Date Submitted: January 8, 2021

Project Name or Description: Largemouth Bass Removal Study

Contact Information:

Name: Preston Chrisman

Co-Authors: Dan Rankin (SCDNR), Dr. Chuck Cichra (University of Florida)

Email: chrismpan@dnr.sc.gov; rankind@dnr.sc.gov; cecichra@ufl.edu

Phone: 803-280-0922

Objective: Determine if heavy Largemouth Bass removal via electrofishing can be feasible as a short-term solution to bass-crowded impoundments.

Current Status: Entering evaluation phase

Abbreviated abstract: Largemouth Bass-crowded small impoundments are an increasing issue for lake managers, particularly in the southeastern United States. Reduced angler harvest and high reproduction rates lead to density-dependent reductions in growth and condition for Largemouth Bass while also reducing panfish recruitment to stock and quality length groups. We removed between 40% and 50% of the estimated Largemouth Bass populations in two small public fishing lakes (40 and 25 acres) in South Carolina during summer 2020 via electrofishing. Additional sampling events in spring and summer 2021 will evaluate the removal project and ideally show increased condition and reduced catch rates of Largemouth Bass and more balanced length distributions of panfish. If successful, this Largemouth Bass removal project could serve as a template for SCDNR and other lake management groups to use for correcting bass-crowded small impoundments.

Small Impoundments Technical Committee American Fisheries Society – Southern Division

State Report Format

State Reporting: South Carolina

Name of Representative to Technical Committee: Preston Chrisman

Date Submitted: January 8, 2021

Project Name or Description: Outreach and inter-agency cooperation.

Contact Information:

Name: Preston Chrisman

Email: chrismanp@dnr.sc.gov

Phone: 803-280-0922

Objective: Provide pond management information to the public. Host youth fishing rodeos. Sample small impoundments that are not in the State Lakes Program.

Current Status: Ongoing

Abbreviated abstract: Budget reductions eliminated SCDNR's ability to conduct on-site pond management consult visits many years ago. Now, biologists can still perform nuisance vegetation identification and control sessions as well as water quality tests, but the pond owners must bring the samples to DNR offices. All regional offices perform these consulting sessions with pond owners and can provide recommendations on herbicide treatments, grass carp stocking rates, pond construction, and fish population management. Many pond owners are served every year in this fashion in-person or via email or phone conversations.

There are 33 youth fishing rodeos put on by SCDNR every year, including three that are hosted on lakes in the State Lakes Program. Nearly all these rodeos were canceled in 2020 because of COVID-19 but it is hoped they can resume in 2021. Channel Catfish are stocked in the week leading up to each rodeo and all kids that participated receive a rod and reel and a tackle kit at no cost and lunch is served to all the kids and their parents. Prizes are awarded for the biggest and smallest catfish caught and raffle prizes are also given away during each event.

SCDNR biologists also monitor sport fish populations and stock fish into small impoundments that are not within the State Lakes Program. These lakes can include lakes owned by SC State Parks, the US Forest Service, and/or local municipalities that provide angling opportunities for the public.

Small Impoundments Technical Committee American Fisheries Society – Southern Division

State Report Format

State Reporting: Tennessee

Name of Representative to Technical Committee: Mike Bramlett

Date Submitted: January 17, 2021

Project Name or Description: 2020 Small Impoundments Report

Contact Information:

Co-Authors:

Email: Mike.Bramlett@tn.gov

Phone: 615-781-6592

Small impoundments in Tennessee consist of work with Agency Lakes, Community Fishing Program, along with the Winter Trout Program and Youth Fishing derbies.

Agency Lakes Program (ALP)

TWRA maintains eighteen public fishing impoundments ranging from 20 to 560 acres, and are managed for bass, bream, crappie, and catfish. Three impoundments have the addition of hybrid striped bass, and walleye. Ten lakes are under concessionaire operations.

Most of the activities were routine, such as sampling and maintenance. ADA improvements on walkways, picnic areas and fishing piers were made at four lakes. Over one hundred fish habitat/attractors were added, or sites refurbished on nine lakes. Materials/designs mainly consisted of corrugated PVC/concrete blocks, spider buckets, hardwood brush piles, and stake beds. Trotlines and jugs are being utilized on two lakes to help determine changes in channel catfish catch rates with different stocking rates.

Carroll Lake was reopened after two years of renovation work. Renovation work on Herb Parsons Lake was completed and a siphon pump was installed as part of a renovation project. The pump will be used to achieve desired lake water levels in order to allow fish habitat installation and natural vegetative cover regeneration. It will also aid in repairs to boat ramp, fishing piers, and bank stabilization projects, as well as placement of flood tolerant tree species for additional habitat cover.

While not directly in the ALP, fisheries staff assists with the management of state park lakes, which are under the control of the Department of Environment and Conservation (TDEC). Most of these impoundments are not intensively managed, and much of the work on them centers on surveys, creel/size limits, stocking and aquatic vegetation control. However, TWRA has partnered with TDEC to intensively manage five lakes to improve the fisheries as part of the Tennessee fishing trail lakes. This will begin with fish population assessments through sampling, development of fish stocking and management plans, and habitat enhancements.

Community Fishing Program (CFP)

The CFP continues to bring fishing opportunities to municipal/urban areas as well as suburban and rural communities, by working with local/county government and community organizations. It seeks to increase the number of anglers with access to fishing “closer-to-home”. There are currently 17

impoundments in the program ranging from 2 to 30 acres. Most are managed using statewide regulations for bass and bream, with stocked species consisting of channel catfish and/or trout.

Two new pilot urban impoundments were stocked with catfish at a rate of 125-150/acre and were evaluated by creel survey. A total of 124 interviews (211 associated unique individual anglers) were conducted during June and July across both sites. Of those, 127 were fishing for any species, 75 angling trips were specifically targeting Channel Catfish, 12 were targeting Largemouth Bass, and 7 were fishing for Bluegill. Total angling effort was estimated to be 9,815 hrs. (range: 3,747hrs – 6,068hrs) expended at the two ponds across a 2-month study period. This effort accounted for an estimated 3,690 individual fishing trips. Cedar Hill Pond (5.5 acres) had an overall catch rate of only 0.38 fish per hour. However, anglers that were specifically targeting stocked Channel Catfish at Cedar Hill had an overall catch rate of 0.86 fish per hour and a harvest rate of 0.79 fish per hour. Jack Dickert Pond (2.0 acres) had an overall catch rate of 1.16 fish per hour. Catch rates for anglers intending to catch stocked catfish were only 0.25 fish per hour. Jack Dickert Pond has historically been managed as a catch & release fishery, so most anglers had not yet responded to the regulation change and did not harvest fish. Despite varying catch rates at the two ponds, 99.1% said they would fish the site again and 76% of all anglers reported being at least somewhat satisfied with their fishing experience. In addition, our R3 coordinators held multiple “how to and get out and fish” events at each lake during May through July.

Work continues to identify small impoundments in “distressed” counties that could be enhanced for fishing. This includes investigating access, amenities, fish population structure, habitat, and economic status of the surrounding area.

Winter Trout Program

The program stocked approximately 28 small impoundments across the state with rainbow trout during the months of December through March. These lakes are generally less than 10 acres with easy access. Approximately 50,000 rainbow trout, averaging 10 inches are stocked during this three-month period, with a daily creel limit of seven, and no size limit. A trout license is required in addition to a regular fishing license. Angler use has been steady or increasing, with trail cameras being used on several lakes to estimate angler effort/use. Creel/angler surveys are being conducted on nine impoundments with a summary report due in March.

Youth Fishing Derbies

There were nearly 80 youth fishing derbies scheduled to occur and be stocked with channel catfish in 2020. However, due to Covid19, all but three events were cancelled, including all the agency sponsored events. The agency did however move forward with stocking approximately 40,000 pounds of catfish into approximately 80% of the impoundments that were scheduled to have an event. This gave those anglers and families that wanted to get out and practice “social distance” fishing an opportunity to catch some fish.

Small Impoundments Technical Committee

American Fisheries Society – Southern Division

State Report Format

State Reporting: Texas

Name of Representative to Technical Committee: Cynthia Fox Holt

Co-Authors:

Email: Cynthia.fox@tpwd.texas.gov

Phone: 817-732-0761

Date Submitted: January 12, 2021

Project Name or Description of Activities: Texas has over 1,000 public small impoundments that range in size from 0.1 – 500 acres. These are typically controlled by local governments (cities, townships and counties), who partner with us to manage recreational fishing opportunities across the state. Many small impoundments are focal points in small communities and serve as a great attraction for residents while, others are spread throughout major metropolitan areas and serve as close-to-home opportunities for our fastest-growing demographics. The degree of management varies among sites, ranging from simply “put-and-take” seasonal fisheries to intensively managed diversified angling opportunities. These waters play an important role in our state’s R3 initiatives. Most of these receive fish stockings to sustain fishing activity. Species stocked in small impoundments were mainly Channel Catfish, Rainbow Trout, Largemouth Bass, and sunfishes, providing excellent fishing opportunities for Texas anglers.

Objective: Small Lakes

Current Status: Small lakes are typically between 75 and 500 acres, excluding those completely enclosed within state parks. These reservoirs may have regulated access and more restrictions than our larger reservoirs to preserve water quality and wildlife populations. When necessary, TPWD will manage specific objectives in these small lakes, similar to large reservoirs, by monitoring, regulating, restoring fish habitat and improving angler access to enhance fishing opportunities. Supplemental stockings may not be required for these self- sustaining populations.

Texas Parks and Wildlife Department (TPWD) partners with waterbody controlling authorities, local vendors and interest groups and educational institutions to plan, fund and complete management activities on small impoundments across Texas. Management activities in these small impoundments in 2020 consisted of fish community and vegetation surveys, vegetation treatments, fish stockings, construction and installation of spawning structures, shoreline stabilization, aerator installation to improve water quality, and habitat enhancement with native vegetation and various types of artificial habitats. These projects are often partially or wholly supported by TPWD Conservation License Plate (CLP) funds. Almost \$43,000 were allotted for these types of projects in 2020. However, due to safety concerns related to COVID-19, no CLP projects were funded or conducted in 2020. All the funds were rolled over to 2021. For more information about CLPs and the projects they fund, please visit: www.conservationplate.org.

Objective: Community Fishing Lakes (CFLs)

Current Status: These ponds are defined as a public impoundment ≤ 75 acres located totally within incorporated city limits, a public park, or any impoundment lying totally within the boundaries of a state park. There are approximately 830 known CFLs in the state, with numbers growing every year. Most CFLs are minimally managed for local anglers seeking a quick experience around their communities. Many CFLs receive annual stockings of Channel Catfish and Rainbow Trout, with many of these stockings tied with outreach fishing events, sponsored by partners. Fishing regulations for most CFLs align with statewide regulations, except those pertaining to catfish and fishing gear. Depending on size and popularity; some CFLs are managed more intensively to provide diverse fisheries objectives to attract a spectrum of angler preferences. Some have received habitat and access enhancements, tailored regulations, and highlight less traditional species in smaller impoundments. This complexity has sprouted the need to revise the definition and regulatory approach for this designation of public waters. A special committee was formed to evaluate the need and strategies for this objective moving forward. The committee has been gathering science and developing surveys to best deliver this approach and help managers decide if changes are justified in the future.

Objective: Neighborhood Fishin' Program

Current Status: Neighborhood Fishin' is our premiere urban fishing program developed to bring quality fishing close to home. It consists of 18 (1-6 acre) CFLs located in parks of 11 major metropolitan areas. Ponds are stocked on a seasonal, biweekly schedule with Channel Catfish or Rainbow Trout eleven months of the year to maintain a 'put-and-take' fishery. This program is supported by numerous local government and private partners, including Gulf States Toyota and Sport Fish Restoration. Total program operating costs are ~\$550K per year at current levels. Fishing regulations are restrictive, intended to ensure success among as many anglers as possible. Sites have been carefully selected to provide diverse amenities to attract families and recruit new anglers to fishing. The program has been running strong for 18 years. For more information on NFPs, please visit: www.neighborhoodfishin.org.

Objective: Outreach and Research

Current Status: TPWD participates in a few hundred public outreach events each year, many of which pertain to youth and family fishing, continuing education courses for Master Naturalist groups, "How to Fish" workshops, and career days at elementary, middle, and high schools. However, due to the COVID-19 pandemic, TPWD's participation in these events was extremely limited in 2020. Several fishing events were safely hosted by TPWD and/or our partners at small impoundments across the state. In addition to these in-person outreach activities, most Inland Fisheries districts utilize social media (Facebook and/or Instagram) as a tool to reach and educate our current and future anglers about Texas' natural resources. Since management reports are not often written for small impoundments, social media is a great way to communicate with Texas anglers about management activities for CFLs.

Lastly, although the COVID-19 pandemic negatively impacted a lot of our normal work activities, fishing license sales were positively impacted. Our agency saw an average 10% increase in fishing license sales for each month in 2020 compared to 2019. In response, we conducted an R3-driven electronic and mail-in survey of active anglers located near six popular community fishing lakes to determine barriers to fishing, fishing habits and fishing license purchasing patterns.

Small Impoundments Technical Committee American Fisheries Society – Southern Division

State Report Format

State Reporting: Virginia

Name of Representative to Technical Committee: Steve Owens

Date Submitted: January 5, 2021

Project Name or Description: Largemouth Bass Thinning Project

Contact Information: Virginia Department of Wildlife Resources

Name: Dan Wilson

Co-Authors:

Email: dan.wilson@dwr.virginia.gov

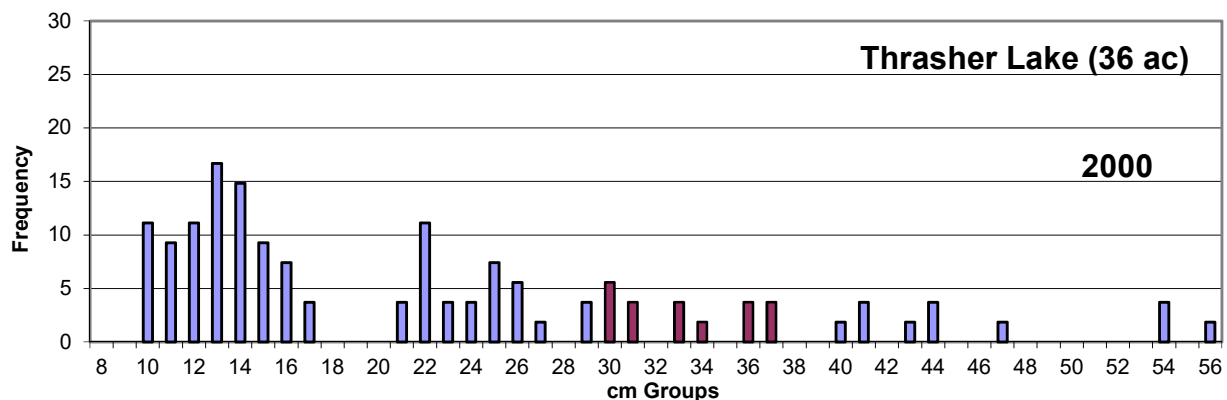
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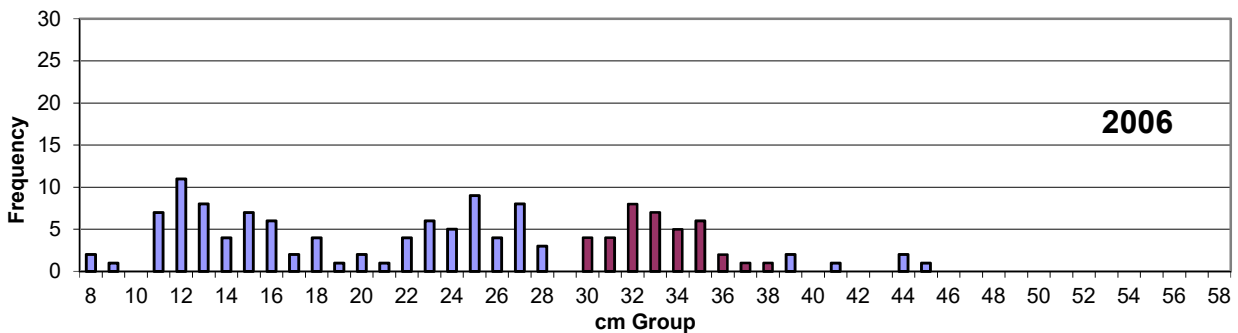
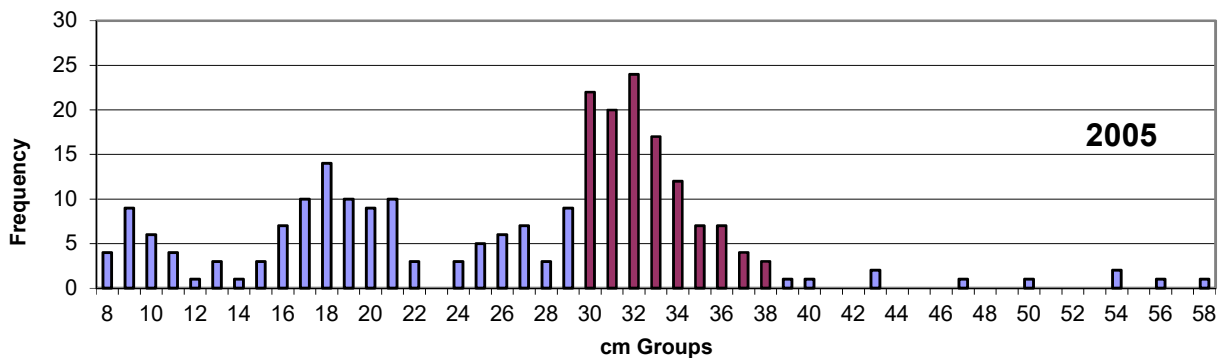
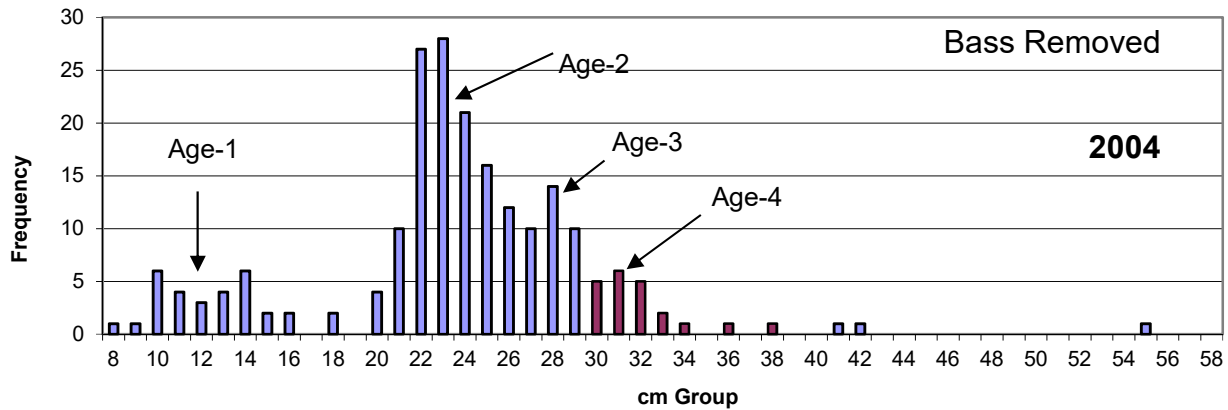
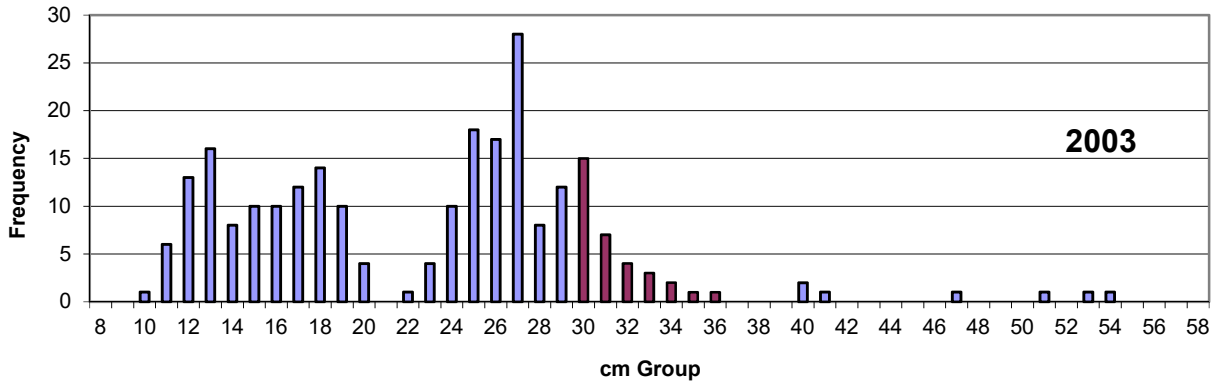
Objective: Reduce Largemouth Bass stunting by restructuring the population

Current Status: Ongoing project

Abbreviated abstract:

The Virginia Department of Wildlife Resources has been involved in several Largemouth Bass thinning projects in hopes of addressing predator stunting. The following is an example of largemouth bass thinnings we have done in the past. The 2000 graph is a typical length frequency for Thrashers Lake (36 ac). This lake was beginning to overpopulate or showed signs of getting that way in 2003 (increasing numbers 9"-12"). Sampling in 2004 showed crowded conditions were increasing. We did conduct population estimates in 2004, but ultimately completed one lap around the lake removing all encountered bass < 320 mm during that sample, which was about 17% of the total bass population. The graphs show changes over time, blue bars are sizes open for harvest and maroon bars indicate the protective slot limit.





Mill Creek Lake (189 ac) became bass crowded sometime after 2010 when hydrilla became abundant. This happened as a result of a staffing shortage that limited sampling and left biologist unaware of the problem when it was occurring (no sampling conducted between 2011-2013). The 2010 graph is a typical length frequency for Mill Creek Lake prior to bass crowding. This lake was showing signs of bass crowding when sampled in 2014 (increasing numbers 9"-12"). We did not conduct population estimates, but started removing bass < 350 mm in 2015. Bass were removed in 2015 and 2016, which did reduce the number of bass in the classical stunted sizes, but recruitment dramatically increased

refilling sizes we had thinned by 2018, resembling other studies. No bass were removed in 2017 or 2018.

We began removing bass again in 2019 and removed more in 2020. We have not had time to conduct population estimates so just been removing as many as we can capture in the <350 mm sizes. Discussions with staff has changed the direction of this project from one or two annual bass removals to continued removal annually until proven totally futile or populations begin to reshape and maintain a balanced population. Hunter Hatcher has had some discussions with folks from Auburn (Graves Lovell under Dr. Matt Catalano) and South Carolina (Preston Lovell) on some projects they have been working on. Information collected indicates bass removal results in increased recruitment which replaces the recently removed fish and does not correct the problem, which we have seen at Mill Creek Lake. Based on that information, we will continue the annual removal of bass over the long term in an attempt to reduce bass numbers in the typical stunted sizes and increase larger adult numbers in the population. Increased adults may provide needed predation on young bass and/or provide enough competitive interaction to keep recruitment at manageable levels (theory). We have reduced the number of ages 3-5 in the stunted sizes (Table 1) and are seeing some improvements in growth (Table 2).

Table 1. Percentage of largemouth bass collected for each age group at Mill Creek Lake. Only bass <350 mm were included.

	Age 2	Age 3	Age 4	Age 5
2015	10%	29%	26%	29%
2019	24%	37%	30%	6%
2020	53%	17%	22%	5%

Table 2. Length at age for largemouth bass collected at Mill Creek Lake. Only bass <350 mm were collected. Traditional Growth in 2009.

	Age 2	Age 3	Age 4	Age 5
2009	258	319	331	362
2015	226	270	276	290
2019	243	284	286	298
2020	259	292	303	320

The Graphs show changes over time, blue bars are sizes open for harvest and maroon bars indicate the protective slot limit. Regulations changed in 2019 from 14” minimum size limit to a 14”-18” protective slot. Bass removed 2015, 2016, 2019, & 2020.

