



An Overview of the Shearon Harris Reservoir Habitat Project

July 2022



Shearon Harris Reservoir (Harris Lake) is a 4,151-acre impoundment in the upper Cape Fear River Basin, located approximately 20 miles southwest of Raleigh, NC (Figure 1). The primary function of the reservoir is a cooling source for the Duke Energy nuclear powered electric generating facility; however, its close proximity to a highly-urbanized area also makes it a popular destination for anglers. Anglers can access the reservoir using two N.C. Wildlife Resources Commission (Commission) boat ramps.

Harris Lake supports multiple sportfish populations, with Largemouth Bass and Black Crappie catch rates consistently above average for a Piedmont reservoir during Commission sampling.

Harris Lake has diverse aquatic habitat, including rock outcroppings, flats, roadbeds and aquatic vegetation. However, the combination of Hydrilla management, water quality changes, and substantial development within the watershed has resulted in a decrease in submerged aquatic vegetation — a major source of habitat in Harris Lake. In 2018, the Commission partnered with Duke Energy, Harris Lake County Park, NC BASS, and other angler groups to improve habitat at Harris Lake. The current habitat enhancement project was funded by the Federal Aid in Sport Fish Restoration Program and by a grant from the Reservoir Fisheries Habitat Partnership (www.friendsofreservoirs.com).

Project Objective

- To develop and implement a 5-year aquatic habitat enhancement plan in Harris Lake that mitigates the losses of invasive submerged aquatic vegetation by establishing beneficial native aquatic vegetation and installing artificial and natural habitat in order to maintain a balanced and popular fishery.

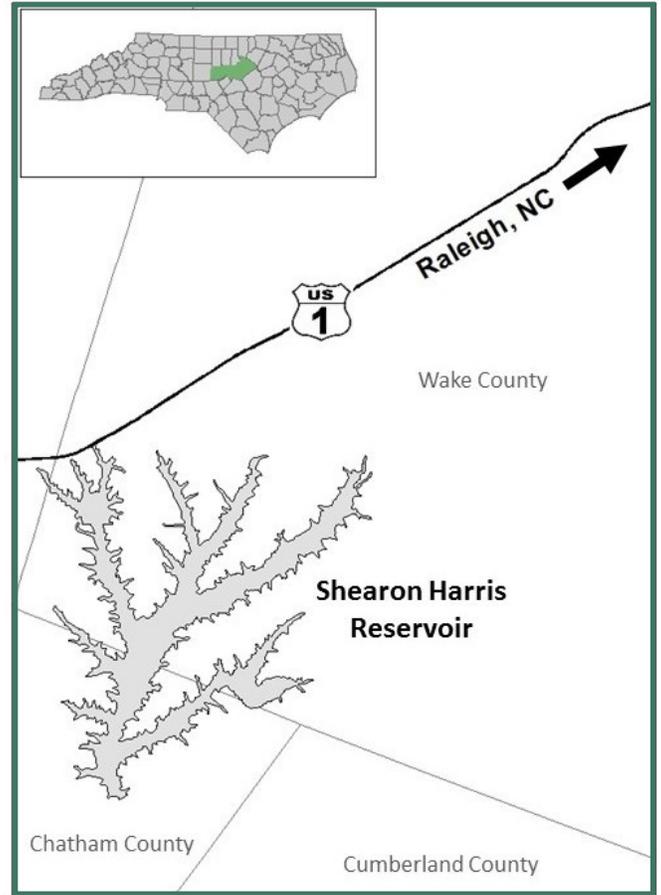


Figure 1. Shearon Harris Reservoir located in Wake and Chatham counties



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Methods:

- Develop a 5-year Habitat Enhancement Plan with input from the public and partners on the type and placement of habitat throughout the lake through public meetings and outreach. By 2023, deploy approximately 30 acres of artificial and natural structure (400 to 700 fish attractors) at numerous sites throughout the lake, including establishing three fishing coves with shallow water habitat.
- Establish founder colonies of native vegetation totaling approximately one acre. Some founder colonies will be enclosed in fencing (Figure 2) to protect them from herbivores, such as turtles, muskrats, beaver, and sterile Grass Carp.
- Fell at least 20 trees into the water and cable them to the shoreline.

Results:

- A Habitat Enhancement Plan was developed in 2018. All fish attractor sites and areas to restore aquatic vegetation were identified by the public. The plan is updated annually based on additional public input and work completed each year. Access the plan [here](#) or by visiting: ncwildlife.org/Portals/0/Fishing/documents/2019Fishing-Documents/Harris-Lake-Aquatic-Habitat-Plan.pdf
- Prior to 2018, there were five fish attractor reef sites in Harris Lake. Today there are over 65 sites across the lake, including three shallow water fishing coves, consisting of over 780 individual fish attractors (Figure 3). The fishing coves are within close proximity to the boat ramps. Fish attractors are located at water depths where oxygen levels should be adequate for fish to use year-round. In the summer (when oxygen levels can drop in deeper water) fish can utilize habitat down to approximately 20ft in the deepest parts of Harris Lake. All reef site locations and the coves are marked with GPS coordinates. Access locations [here](#) or by visiting: <https://www.ncpaws.org/ncwrcmaps/fishattractors>.
- Additionally, fish attractors placed in water shallower than 12 ft are marked with buoys.



Figure 2. Fenced enclosure protecting beneficial native vegetation. Also shown is native vegetation growing outside of the enclosure that is less susceptible to herbivory.

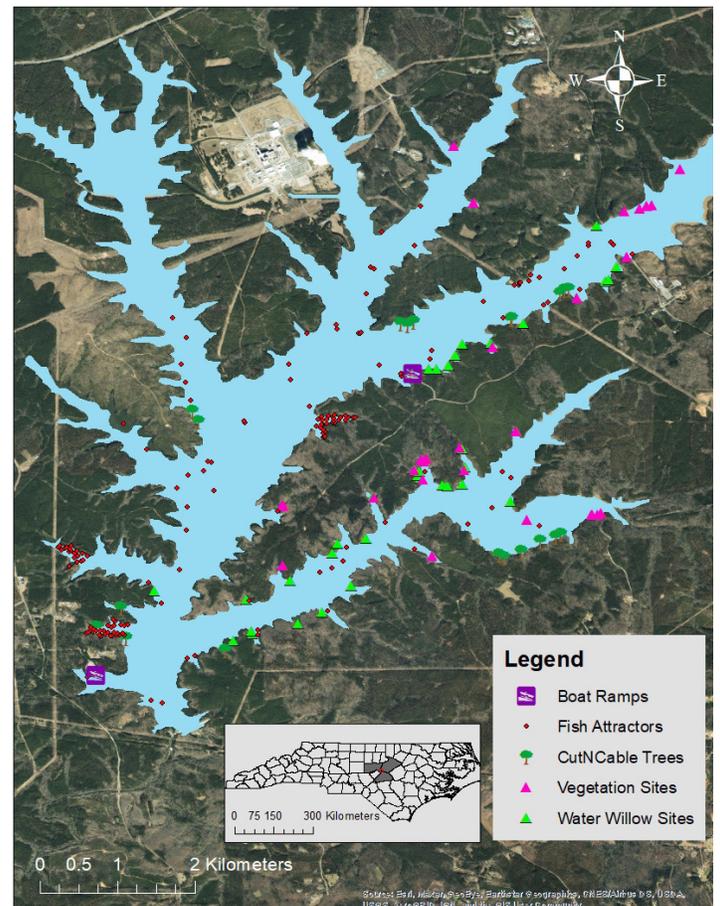


Figure 3. Shearon Harris Reservoir showing the locations of the two boat ramps along with numerous habitat enhancements.

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- Types of fish attractors include: Mossback trophy tree, PVC trees, cube structures (Shelbyville Cube), barrel structures and spiderblocks. Examples of these structures can be seen [here](#) or online: https://www.ncwildlife.org/Portals/0/Fishing/documents/Fish_Attractor_Types_used_by_NCWRC.pdf. These structures will provide habitat with an extended lifetime and are made with materials that do not corrode or break down in the water.
- Twenty-one trees were felled into approximately 10 ft of water and cabled to their stump and pose no navigational hazard (Figure 4). Largemouth Bass, crappie and other gamefish use submerged trees in a variety of ways, including foraging, refuge, spawning and recruitment.
- Additionally, the Commission has established founder colonies of native aquatic vegetation such as American lotus, water willow, maidencane, pickerelweed, soft-stem bulrush, white water lily, spatterdock, watershield, eelgrass and pondweed totaling a little over half an acre. As mentioned, some founder colonies of native vegetation are enclosed with wire fencing, while some emergent vegetation, such as water willow, that aren't as susceptible to herbivory are placed outside of fenced enclosures. So far over 5,700 native plants have been planted at 120 locations around the lake (Figure 3, previous page).

In Summary:

- Many of the goals of the current plan have already been met. However, the Commission will continue to stay engaged in the fishery's management, including habitat needs in Harris Lake.
- So far, the data suggests that Largemouth Bass and crappie are maintaining their overall population level, abundance, and size structure.



Figure 4. Commission personnel cabling a cut tree to the shoreline

What's Next:

- Continue expanding and intensifying revegetation work over the next several years.
- Continue to evaluate the relative abundance, size distribution, and age and growth data in the Largemouth Bass and crappie fisheries to monitor any trends that could indicate a change in what is now an outstanding fishery for both species.
- The Commission will re-assess the habitat needs in 2023 and will develop another five-year habitat plan.

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