



Inland Sea Chronicle



Lake Norman Wildlife Conservationists Newsletter

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Our Mission:

The Mission of the Lake Norman Wildlife Conservationists is to protect and enhance the natural resources and wildlife habitats of the Greater Lake Norman area for all to enjoy.

Our Methods:

- Education
- Cleanup
- Citizen Science
- Field Trips
- Island Adopters
- Nest Boxes
- Rockeries
- Native Plants

NEW Website

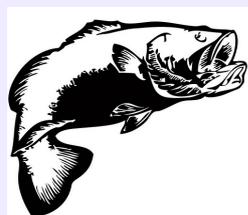
www.LNWC.org

LNWC

Library Programs

- ◆ **Live Snakes!**
March 10
- ◆ **Wildflowers**
April 14
- ◆ **Hybrid Striped Bass**
May 12

**Mooresville
Public Library
Youth Room
304 S. Main St.**



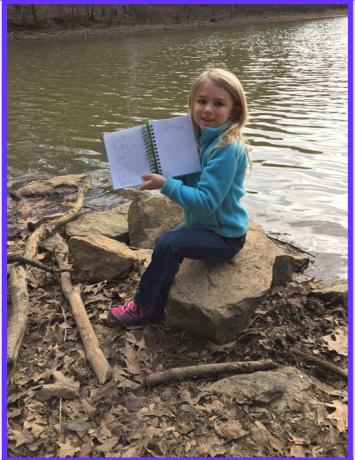
Lake Norman State Park

Has SPRING in its Step!

By **Julie Higgin**

This Centennial Year of our NC State Parks is a great time to get reacquainted with the one in our own backyard, Lake Norman State Park. LNSP not only has a handsome new Visitor Center with unique interpretive signage, classrooms and a gift shop, it also has an enthusiastic new leader, Superintendent Gregory Schneider.

I met the superintendent recently when he and Ranger Jarid Church presented a showing of "Saving the Best: North Carolina State Parks at 100" at the center, along with a program highlighting the 50-plus year history of LNSP. I also took part in the park's First Day Hike, plus took my granddaughter there to explore the wonderful new interpretive trail dubbed the "Dragonfly Trail."



The author's granddaughter, Madeline, enjoys nature journaling at Lake Norman State Park.



Park Superintendent Greg Schneider points out native plants on the First Day Hike.

Superintendent Schneider has quite a history of his own in the park. As a child, he moved with his family from Florida to Iredell County when his father had a job change. The family lived at the state park campground while his parents searched for a new home! His time at the park left quite an impression on the young man. He spent his teenage years as a park employee, then underwent ranger training so he could join the rank of permanent state park personnel. Now that he's reached the rank of superintendent of LNSP, he told us, he plans to stay put until retirement.

The 1,940-acre park, which used to be known as Duke Power State Park because much of its land was given by Duke to the state when the lake was formed, has gone through many changes through the years. And many more are on the drawing board, we learned.

For example, one more ADA-accessible fishing pier is planned for the near future to join the one that's been recently renovated. The family camp ground will have additional camping areas and a new bath house. The park's hiking and biking trails have been lengthened and improved. In fact, the Itusi Trail is 30.5 miles and growing! It includes eight loops that

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Loon Tours Thrill LNWC Members!



—Doug Murison

While we were out on the Loon Field Trip, the group saw tremendous Great Blue Heron activity on Heron Island, especially for early February. Some GBH stay on Lake Norman year-round, while others migrate to states a little farther south. There were reports that morning of a flock of about 30-40 herons soaring around Heron Island. This is unusual behavior, as GBH are solitary birds (aside from colonial nesting).

This increased activity is a good indicator that the migrators have already returned, about 3-4 weeks earlier than expected. They are already gearing up for another nesting season on Heron Island! We are excited and also hoping that this is an indication of an early spring!

As a reminder, Heron Island (near Marker D6) is a federally protected island and must not be disturbed during nesting season, which is April 1st through Aug. 31st.

Kristen Meng



—Kristen Meng

Thank-you to **Gene Vaughan** and his great crew of LNWC volunteers for these educational lake outings!

State Park (cont.)

can be enjoyed on their own. For many families, the 0.8-mile Alder Trail is the trail of choice. With its trail head at the Visitor Center, the Alder gently winds along Lake Norman and includes many scenic picnic spots and places to toss in a fishing line. The delightful Lakeshore Trail, which encircles the Family Camp Ground, gives you a moderate hike not far from attractive picnic areas and the updated swimming beach.

Another new employee, Ranger Amy Shepherd, has recently joined the ranks to provide environmental education opportunities for all ages both on the trails and in the new classrooms. She will be sending out the monthly State Park Program Calendars to those who put their name and email address on the list. And don't forget to pick up your LNSP hiking medallion at the all-new gift shop!

Visit ncparks.gov/lake-norman-state-park for more information about this amazing park!



The new Visitors Center has colorful displays of our area's natural and cultural history.



LNSP Visitor Center



Club Moss (AKA Running Cedar)

Fishes of Lake Norman:

Hybrid Striped Bass

(Editor's Note: This article is the first of a series of articles that will focus on different fishes in Lake Norman and their role in the fish community.)

By John Crutchfield

The hybrid striped bass (also known as “hybrids” or “Bodie bass”) is a sport fish frequently pursued by anglers in Lake Norman and were introduced by the North Carolina Wildlife Resources Commission (Commission) in 2013 to replace the struggling striped bass fishery in the lake. The evolution of the hybrid striped bass fishery in Lake Norman is an interesting story and revolves around the summer-time habitat conditions in the lake which are not optimal for striped bass survival over the long-term.

Before we delve into the habitat question, a bit of history is needed to understand the origin of hybrid striped bass and its adaptability to Lake Norman. Hybrids are a cross between a white bass male (scientific name *Morone chrysops*)



-Painting courtesy of Duane Raver

and striped bass female (scientific name *Morone saxatilis*) and originated in the mid-1960s from fish culture research in South Carolina. Hybrids have appearance characteristics of both parental species and tend to have a deeper body form and smaller mouth similar to its white bass parent but with distinct broken lateral stripes. Hybrids are silvery grey-blue in color on their back and shoulders tapering to a silvery white on sides and belly.

Hybrid striped bass have gained widespread appeal as a sport fish, particularly in large southeastern U.S. reservoirs, where it has been stocked because of its propensity to prey on abundant shad forage populations, its rapid growth and hybrid vigor characteristics, its hard fighting qualities when hooked, and its mild flesh which makes for good eating. Another benefit for anglers is that hybrids are a schooling fish preferring open water in the upper parts of the lake water column which make them easier to locate and catch. Hybrids are fertile and there have been a few instances of reproduction in reservoirs or reproduction with co-existing striped bass populations. However, to maintain hybrid populations in reservoirs over the long-term, they are produced in fish hatcheries and stocked on a routine basis, just like striped bass had to be stocked. This type of fishery management strategy is known as a put-grow-and-take fishery.

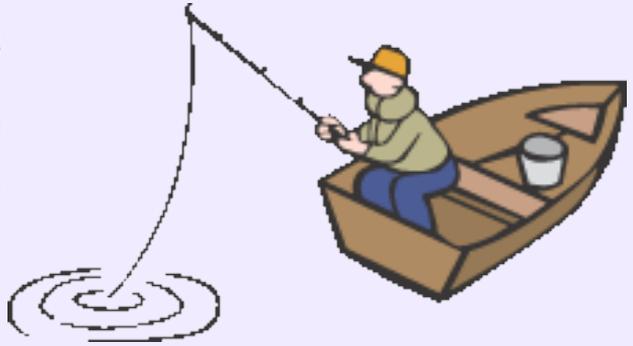
Since 2013, the Commission has annually stocked hybrid fingerlings (about 2-4 inches in length) at about 5 fish per acre which equates to 162,500 fish per year. These young hybrids initially feed on small crustaceans and insects but quickly shift to diet of fish at about 4-5 inches in length. Depending upon the abundance of prey fish, hybrids can grow rapidly within the first 2-3 years of their lives typically reaching 16 to 21 inches and weighing 2-3 pounds by age 2. In southeastern reservoirs, the typical size of hybrids caught by anglers generally ranges from 2 to 5 pounds, but fish in the 10 to 15 pound range are not uncommon. Most hybrids have a life span of 5-6 years. According to records kept by the Commission, the state record for a hybrid striped bass is 17 pounds, 7 ounces, caught in Lake Chatuge in Western NC during March 1996. In Lake Norman, hybrids up to 7 pounds have been caught by anglers.

The decision by the Commission to replace striped bass with hybrids in Lake Norman is based on available habitat during the warmer summer months, mainly driven by water temperatures and dissolved oxygen content. Hybrids can withstand higher water temperatures than striped bass which make them more tolerable of the environmental conditions in Lake Norman during summer months. Hybrids can also tolerate lower oxy-

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Hybrid Striped Bass (cont.)

gen levels (as low as 1 part per million or ppm) for brief periods of time but prefer oxygen levels in the 6-12 ppm range for optimal growth. They also tend to occupy the upper parts of the lake water column and can feed on a variety of fish prey species.



Research by biologists with the Commission, N.C. State University, and Duke Energy have shown that the optimal striped bass summer habitat is limited in Lake Norman and generally diminishes from the spring into the hotter summer months as the lake stratifies into layers based on temperature and dissolved oxygen. Additionally, periodic droughts can affect reservoir inflows and subsequently temperature and dissolved oxygen levels within a given year which can also take a toll on striped bass habitat and population vitality over time. The net result is that there have been periodic die-offs of striped bass in the summer months for three or more decades. Recent striped bass die-offs have ranged from 362 fish in 2009 to 6,993 in 2012. These die-off numbers represent only dead fish actually collected by biologists and the total mortality numbers are likely higher.

Striped bass tend to follow schools of river herring (a prey species introduced by illegal stocking) into the deeper, cool water depths of the lake during the summer months. As the summer progresses, this deeper water eventually turns into a type of “oxygen bubble” that is created when the middle depths of the lake lose oxygen faster than the deep layer. This process occurs naturally during the summer in deep reservoirs (greater than 100 feet). The deep layer, or oxygen bubble, eventually runs out of oxygen, and striped bass can become trapped and die. So you are probably asking the question, will do hybrids exhibit a similar behavior pattern as their striped bass parents? A recent study conducted by Virginia Polytechnic Institute & State University researchers at Claytor Lake, Virginia, indicated hybrids generally remain in the upper water depths during the summer, even with high water temperatures, and tend not to follow prey fish into the deep water depths, like striped bass do. Some hybrids do go into the deeper depths of lakes but the die-off patterns show striped bass exhibit a higher degree of mortality from this behavior than hybrids.

The Commission is currently conducting a research program to evaluate the success of the hybrid stocking program. The stocking and research program will be entering into its fourth year during 2016. The success of the hybrid program in Lake Norman is being judged on three criteria. First, hybrids will have significantly better body condition than what has been historically observed for striped bass. Second, summer mortality of the hybrids is minimal. Third, hybrid escapement downstream is negligible. The Commission has indicated they will re-evaluate the merit of the hybrid stocking program in Lake Norman if these three criteria are not successfully met.

Preliminary results indicate hybrids of several age classes are thriving in Lake Norman and anglers are having good success in catching them. **The Commission has also recently implemented a tag-return research project (tag return reward of \$100) to determine angler harvest rates of hybrids.**

The current harvest regulation for hybrids and the remaining striped bass in Lake Norman allows anglers to harvest four fish in aggregate that are 16 inches or larger. According to local guides and anglers, fishing techniques for hybrids are similar to those used to pursue striped bass in the lake. Casting or trolling artificial lures is effective, as is vertical jigging with spoons or soft baits with lead heads. Hybrids will also take live bait such as minnows, cut bait, and even chicken livers depending upon feeding conditions. A popular method of catching hybrids is “jump fishing” or spotting hybrids feeding on schools of prey fish on the lake surface, especially during the early morning or evening dusk hours. In the winter, schools of feeding hybrids can often be spotted by watching for gulls gathering just above the school. Angler reports in the local papers, magazines, and on-line blogs, or talking with anglers about the locations of hybrid schools are good techniques to know where to go catch them.

John Crutchfield is Duke Energy Director of Public Safety & Recreation Strategy Planning Services. john.crutchfield@Duke-Energy.com

Adopt-an-Island Program Update

The re-instituted Island Habitat Program kicked off at a meeting held Feb. 4 at the Lake Norman Volunteer Fire Department building on Brawley School Road, Mooresville. Nearly 50 enthusiastic volunteers came to get their questions answered by a variety of experts from Duke Energy, NC Wildlife Federation, Cornelius Police Dept., etc. The Adopt-an-Island Planning Committee, headed by **Gene Vaughan** and **John Crutchfield**, has been completing logistics and will hold another meeting for island adopters this spring. Questions? Contact Gene at:

gvgonefishin@gmail.com



Sgt. George Brinzey of the Cornelius Police Department Water Patrol discusses the town's 24/7 lake watch.
-Julie Higgin



Heron Island (not up for adoption)
-Kristen Meng



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We welcome photos and article ideas for our newsletter.
 Contact Julie Higgin, editor, at jchiggin@yahoo.com