



Fisheries Research Fact Sheet

Black Crappie in B. Everett Jordan Lake: 15 Years of Population Monitoring

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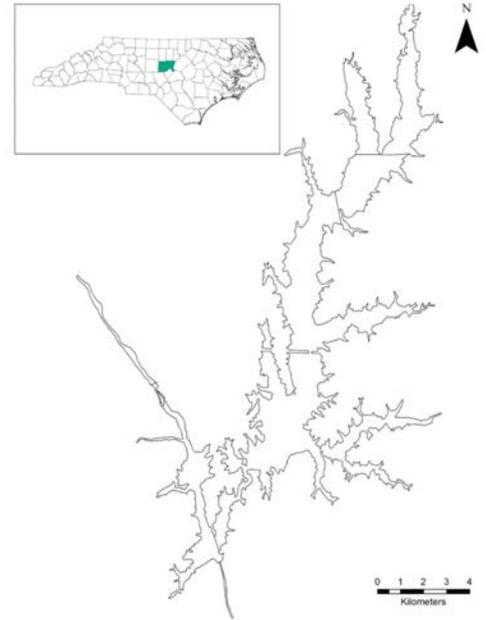
The N.C. Wildlife Resources Commission (NCWRC) has been monitoring the Black Crappie, *Pomoxis nigromaculatus*, population in B. Everett Jordan Reservoir, or Jordan Lake, since 1986. Black Crappie is a popular sport fish that makes for great times on the water followed by great food on the dinner table, so it is important to monitor this species to ensure proper management and high quality fish for anglers to enjoy for many years to come. The Jordan Lake Black Crappie fishery is one of the most popular in the state because of the lake's proximity to the Triangle and the success anglers have. The main goal is to gather data that allows the NCWRC to assess the effectiveness of harvest regulations to support fish growth to harvestable size and promote the recruitment of younger ones. Currently, the Black Crappie fishery in Jordan Lake is managed with a 10-inch minimum length limit with a daily limit of 20 fish.

Objectives:

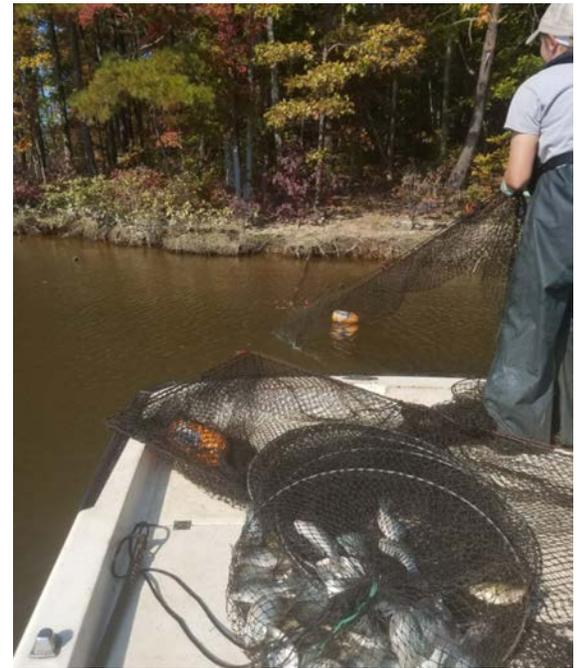
- Survey Black Crappie in Jordan Lake every three to four years to monitor changes within the population size, age structure, and growth rates.
- Assess population changes over time to make appropriate management decisions.

Methods:

- Trap nets are used to capture crappie of all sizes by setting them in various locations throughout the reservoir. Nets capture the crappie at dawn and dusk as they explore the shallow banks looking for shad and aquatic insects to feed on.
- 20 different survey sites are randomly selected for each year.
- The nets are left to “soak” overnight at each site and fish are collected from the nets each day until a minimum of 400 fish have been captured. This typically takes two nights of sampling at 20 sites (40 net nights) to collect all the fish needed for a satisfactory survey.
- Otoliths, or ear bones, from a sub-sample of the crappie are removed for age structure and growth analyses.
- Fish are weighed and measured to assess size structure of the population, recruitment, and body condition of each individual fish.



B. Everett Jordan Reservoir, located in the upper Cape Fear drainage basin.



District 5 Biologist Kelsey Lincoln retrieves a trap net full of Black Crappie from the lake.



Results so far:

- The Black Crappie population in Jordan Lake has consistently been productive over the past 15 years despite a notable shad kill during the winter of 2010–2011.
- Notable changes in the average size of crappie collected between 2002 and 2015 have not been observed, although may have occurred during years where sampling was not conducted. The lake supports a healthy fishery with a broad distribution of sizes (Figure 1).
- After the most recent survey in 2015, Black Crappie up to 4 years old were collected, with the majority of fish being age 2 or younger. This suggests a strong year class from 2014, which should now be healthy adults.
- In 2015, 35% of fish collected were greater than the 10-in minimum length limit, which is typical of many reservoirs in the Piedmont of NC. Some years have been as low as 19% (2009) and others as high as 53% (2006) (Figure 2).
- Variations in the catch rates of crappie of all sizes among sampling years are likely due to the timing and water temperatures during sampling where some years may have been more favorable for capturing crappie than others.
- Growth of younger fish consistently increased between 2010–2015 with the average size of age-2 fish increasing from 9.6 to 10.4 in during those years (Figure 3).
- In 2015, the percentage of fish >10 in was slightly lower than that of 2014, but is within the normal variation observed indicating steady recruitment to harvestable size (Figure 2).
- The population seemed to have adequately rebounded by 2013 (the next survey) from the major fish kill that occurred during the summer of 2011.

What's next?:

- NCWRC biologists will continue to monitor the Black Crappie population in Jordan Lake every three to four years to ensure appropriate regulations that promote a healthy population.

For more information, contact:

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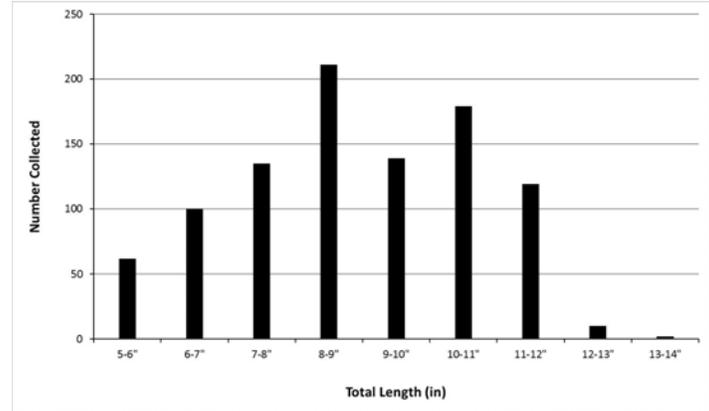


FIGURE 1 – Size distribution (total length) of Black Crappie collected in Jordan Lake in October of 2015.

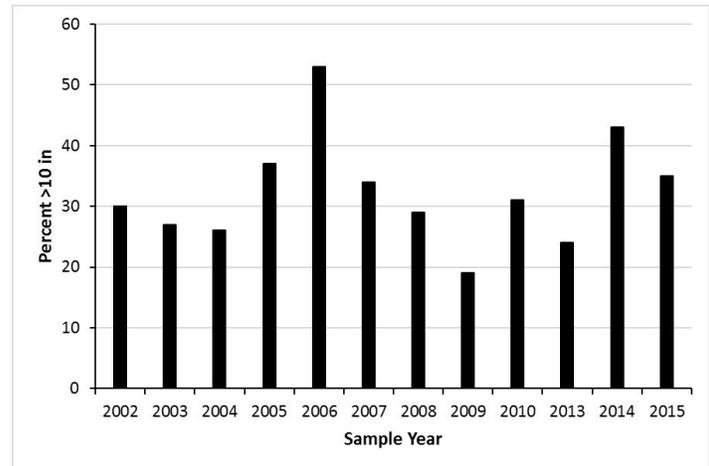


FIGURE 2 – Percent of Black Crappie greater than 10 in long captured in trap net surveys between 2002–2015.

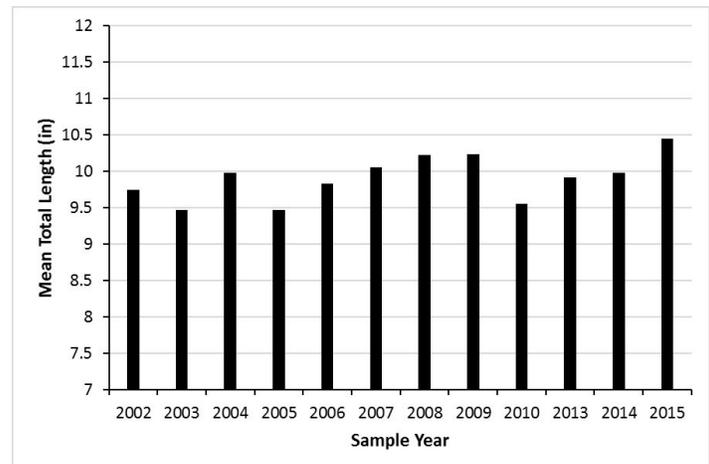


FIGURE 3 – Average length of age-2 Black Crappie captured from Jordan Lake during 2002–2015 surveys.