

Angler Use Patterns on Randleman Lake

January 2021



The N.C. Wildlife Resources Commission (Commission) conducted a creel survey on Randleman Regional Reservoir (Randleman Lake), a 3,007-acre reservoir located on the Deep River in Randolph County, from July 2011 through November 2012 (Figure 1). Concerns regarding the potential overharvest of Largemouth Bass, particularly memorable-sized Largemouth Bass (fish > 20 inches), led to the implementation of a special regulation that included a minimum size limit of 14 inches and a creel limit of 5 fish per day, where 2 fish may be less than 14 inches and only 1 fish may be greater than 20 inches. As the lake matured and fish populations became more stable, a creel survey was needed to evaluate angler practices and the effectiveness of this regulation.

Project Objectives:

- Assess angler effort, catch, and harvest of Largemouth Bass and crappie and estimate angler success rates of both species in Randleman Lake.
- To use these creel data to evaluate the effectiveness and necessity of the special regulation for Largemouth Bass.

Methods:

- A creel survey was conducted from July to November 2011 and from March to November 2012 (14 months total). The lake is not open to anglers from December through February.
- Bank and boat anglers were interviewed by Commission and Piedmont Triad Regional Water Authority staff at the marina and Southwest Park boat ramps and fishing piers.
- Angler effort (hours spent fishing), targeted effort (hours spend fishing for a certain species), catch (number of fish caught), and harvest (number of fish harvested), as well as angler success (number of fish caught per targeted angler hour) were estimated.

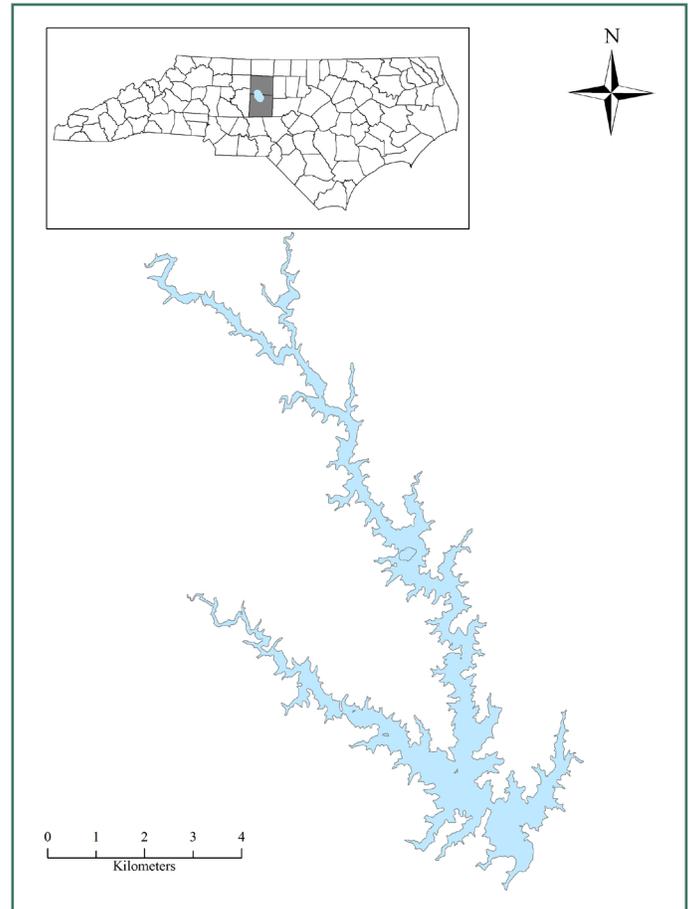


Figure 1: Map of Randleman Lake and its location relevant to Guilford and Randolph counties



Largemouth Bass



Black Crappie



White Crappie

Illustrations: Duane Raver



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Results:

- Using data from 9,147 interviews, Commission biologists estimated 479,689 fish (all species combined) were caught and 118,027 of those fish were harvested over the 14-month survey.
- Anglers spent an estimated 286,338 hours fishing over the entire survey period. Largemouth Bass were the most sought-after species (74% of total angler effort), followed by crappie (16% total angler effort), and then catfish (1% of total angler effort; Table 1).
- Largemouth Bass had the lowest harvest of all the species, where only 3% of Largemouth Bass caught were harvested (Table 2). This translates to a harvest rate of 0.02% harvested per angler-hour (Table 3). Specifically, the harvest rate for Largemouth Bass over 20 inches was 0.0 Largemouth Bass harvested per angler-hour. Only 0.08% of the estimated Largemouth Bass over 20 inches caught during this survey were harvested.
- Conversely, crappie were harvested more than any other species, where 45% of crappie caught were harvested (Table 2). This translates to a harvest rate of 1.48 crappie harvested per angler hour (Table 3).
- The success rate for Largemouth Bass, 0.86 bass caught per angler-hour, was higher in Randleman Lake than in other reservoirs where creel surveys have been conducted in North Carolina (Table 3).

What's Next:

- The results of this creel survey indicate that anglers on Randleman Lake harvest crappie and other species more than Largemouth Bass. Additionally, overharvest of Largemouth Bass is likely not occurring in Randleman Lake.
- Due to the results of this study, the statewide regulation for Largemouth Bass (14 inch minimum size limit and a 5 fish daily creel, where 2 fish per day may be less than 14 inches) was implemented during the 2020-2021 regulations cycle.
- Biologists will continue to monitor the Largemouth Bass and crappie populations in Randleman Lake every 3-5 years.

For more information, contact:

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	Angler Hours	% Effort
Largemouth bass	211,183	73.8
Crappie	45,833	16.0
Anything	24,031	8.4
General Catfish	3,449	1.2
Sunfish	1,288	0.4
Carp	378	0.1

Table 1: Estimated directed effort (angler hours) for each species

	Catch	Harvest
Largemouth Bass	200,026	6,424
Crappie	226,297	101,607
General Catfish	6,075	1,191
Sunfish	38,279	5,724
Channel Catfish	6,573	2,588
White Perch	1,072	97
Blue Catfish	2	2
Carp	434	195
Bullhead	307	127
Yellow Perch	214	52
White Bass	189	7
White Catfish	110	0
Hybrid Striped Bass	111	13
Total	479,689	118,027

Table 2: Estimated catch and harvest for each species

	Catch Rate	Harvest Rate
Largemouth Bass	0.86	0.02
Crappie	3.31	1.48
General Catfish	0.30	0.08
Sunfish	2.11	0.36
Carp	0.36	0.30

Table 3: Estimated harvest and success rates for the most targeted species

