

# Monroe Lake 2015 Crappie Survey Management Report

**Lake Information:** 10,750 acre Monroe Lake  
**Located:** Monroe and Brown Counties  
**GPS Coordinates:** N39.00712; W -83.513363 at dam.  
**Ownership:** U.S. Army Corps of Engineers. Land managed by Indiana Department of Natural Resources and Hoosier National Forest.  
**Fees:** \$7/car resident, \$9/car non-resident, \$22/annual lake permit at State Recreation Areas. All boats must display the DNR Lake Permit.  
\$5/car HNF Harden Ridge Recreation Area.  
**Amenities:** Camping; hotel and resort; boat rentals; interpretive nature center; hunting and wildlife viewing.  
**Outboard Motor Restriction:** None  
**Special Regulations:** All state fishing regulations apply.

**Best Fishing:** Crappie, Largemouth Bass, Bluegill, Catfish, Hybrid Striped Bass, and Walleye.

**Stockings:** Annual Walleye and Hybrid Striped Bass

**DNR Contact Information:**

Fish Management District 5  
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Bloomington, IN 47401  
(812) 287-8300; [D5Fish@dnr.in.gov](mailto:D5Fish@dnr.in.gov)

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**Report Approved By:** Daniel Carnahan, South Region Fisheries Supervisor

**Date Approved:** May 24, 2018

## Methods

The fish collection effort consisted of 2 Michigan-style trap nets and 4 standard trap nets. The nets were set on March 30 and run on April 1. White and Black crappie were collected and aged using otoliths. A subsample of fish were measured and weighed for both species, the remainder of the fish were counted and lengths and weights were applied to subsample. For aging purposes, size ranges found during the general survey that were not collected in April were added to complete the age-length-key for both species. Fisheries Analysis and Modeling Simulations (FAMS) program was used to calculate proportional size distribution (PSD), relative weight ( $W_r$ ) and growth.

## Summary

- A total of 1,283 White Crappie was collected with a length range of 4.7 to 15.0 in. The catch rates for the Michigan and standard trap nets were 106 and 27 fish per lift respectively. The PSD was 7 which is a result of a large number of 5 to 8 in fish (Table 1).
- Relative weight ( $W_r$ ) is a measure of fish condition. Size ranges with mean scores near 100 are considered fish that are not forage limited. The  $W_r$  for stock size (5 in) and above was 97, 86 for quality size (8 in) and above, 103 for preferred size (10 in), 112 for memorable size (12 in) and 98 for trophy size (15 in). The score of 86 for quality size, indicate

thin fish, most likely from competition for food (Pope *et. al.* 2010).

- A Von Bertalanffy growth curve was run in FAMS to obtain a measure of growth, comparing actual growth to the predicted. Growth is below average for ages 1 through 4 and above average for age 5 and older (Figure 1). This is similar to previous surveys. By age 4, crappie are more able to utilize young shad and grow quickly (Figure 2).
- A total of 288 black crappie was collected during the survey. Length range was 5.0 to 8.4 in. Black Crappie made up 2% of the crappie survey. Ninety-nine percent of the Black Crappie collected were below 8 in (Figure 3). Relative weight for stock and quality size was 78 indicating these fish were under weight and most likely in high competition for food. Black Crappie growth was below average (Figure 4).
- An angler creel survey was conducted in 2015. Crappie was the number one species harvested with an estimated 16,331 harvested. The average length of harvested crappie was 8.1 in (Kittaka 2017).

## Literature Cited

Kittaka, D.S. 2017. Monroe Reservoir, Fishing pressure and fish harvest at Monroe Reservoir 2015. Indiana Department of Natural Resources, Indianapolis, IN. 14pp.



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Pope, K.L., S.E. Lochmann, M.K. Young. 2010. Methods for assessing fish populations. Pages 325 – 345 in W.A. Hubert and M.C. Quist, editors. Inland Fisheries Management in North America, 3<sup>rd</sup> edition. American Fisheries Society, Bethesda, MD.

Table 1. White Crappie and Black Crappie size distribution by number and percent, Monroe Lake, 2015

Species	Size		
	Class (in)	Number	Percent
White Crappie	< 5.0	2	0.0
	5.0-7.9	1,202	94.0
	8.0-9.9	28	2.0
	10.0-11.9	14	1.0
	12.0-14.9	35	3.0
	>15.0	2	0.0
Black Crappie	<8.0	287	99.0
	8.0-11.9	1	1.0

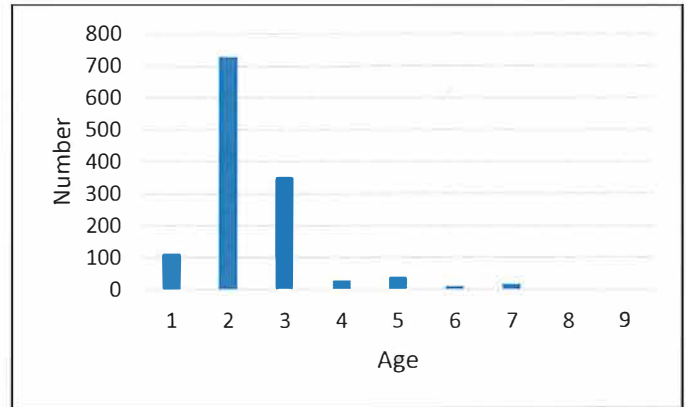


Figure 2. White Crappie age frequency, Monroe Lake, 2015.

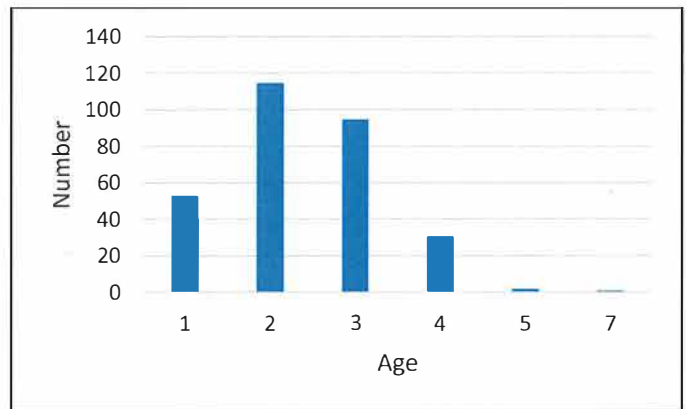


Figure 3. Black Crappie age frequency, Monroe Lake, 2015

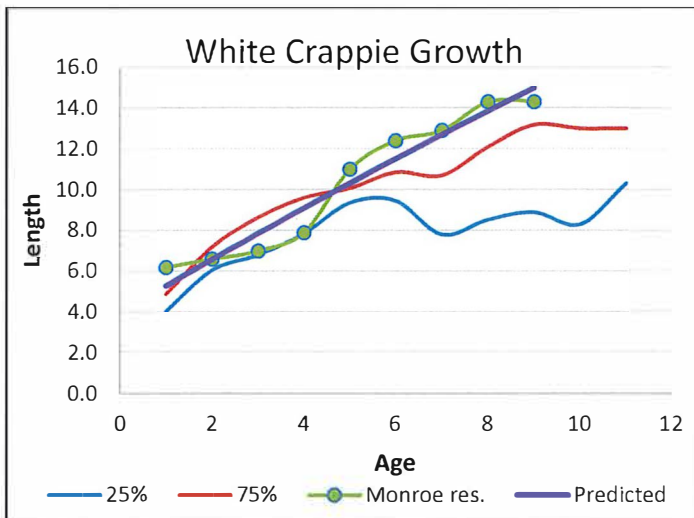


Figure 1. White Crappie actual mean length at age compared to the Von Bertalanffy growth curve (predicted) with the district average's 25<sup>th</sup> and 75<sup>th</sup> percentiles, Monroe Lake, 2015.

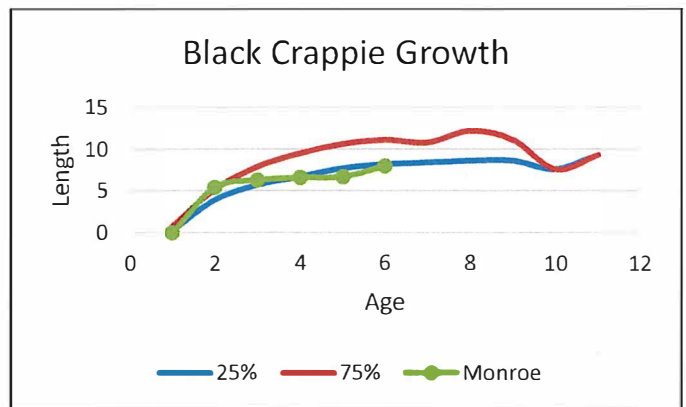


Figure 4. Black Crappie mean length at age, and the district average's 25<sup>th</sup> and 75<sup>th</sup> percentiles, Monroe Lake, 2015.

