

Cagles Mill Lake 2018 Crappie Survey

Lake Information: 1,400 Acres; Lieber State Rec. Area
Located: Cloverdale IN; Owen and Putnam Counties
GPS Coordinates; N 39.462440; W -86.879749
Ownership: Army Corps of Engineers
 (765) 795-4439; <https://www.lrl.usace.army.mil/>
Fees: Entrance \$7/car in State Recreation Areas.
 Boats must display the DNR Lake Permit.
Amenities: Campground; Beach; Boat Ramp
Outboard Motor Restriction: None
Special Regulations: Statewide size and bag limits apply.

Best Fishing: White Bass, Walleye, White Crappie, Channel Catfish
Stockings: 84,000 Walleye fingerlings annually
DNR Contact Information:
 Fish Management District 4
 2650 State Road 44
 Martinsville, IN 46151
 (765) 342-5527; D4Fish@dnr.in.gov
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Date Approved: September 7, 2021
Technical Publication: 2021-OSR Angler-46

Methods

A crappie survey of Cagles Mill Lake was conducted using 2 Michigan-style trap nets and 5 standard trap nets. The nets were set on March 26 and run on March 28, 2018. White and Black Crappie were measured to the nearest 0.1 inch TL and weighed to the nearest 0.01 lb. A subsample of fish from each half inch group were collected for otolith removal and subsequent age and growth estimation. An age-length key was constructed to assign ages to the unaged portion of the sample. Fisheries Analysis and Modeling Simulations (FAMS) software was used to calculate proportional stock density (PSD), relative weight (W_r), and a Von-Bertalanffy growth model to assess the population.

Summary

- A total of 543 White Crappie was sampled that ranged from 3.6 to 14.1 inches. Catch rates for Michigan style and standard trap nets were 96.5 and 15.7 fish/lift, respectively.
- White Crappie size structure was excellent with a PSD of 89. This is due to a large number of quality sized fish (8 – 10 in) in the sample (Table 1).

- Mean relative weight (W_r) of stock size White Crappie (5+ in) was 91, quality size (8+ in) was 98, preferred size (10+ in) was 98, and memorable size (12+ in) was 95. Overall W_r scores for White Crappie size increments are good and do not reflect forage limitation.
- White Crappie mean length at age was close to the regional average for most year classes (Figure 1.) Length at age five was below average, likely due to the high abundance of fish present in this age class (Figure 3).
- A total of 33 Black Crappie was sampled that ranged from 6.6 to 10.2 inches. Catch rates for Michigan style and standard trap nets were 6.3 and 0.8 fish/lift, respectively.
- Black Crappie size structure was excellent with a PSD of 88. The majority of Black Crappie sampled were also in the quality size range (Table 1).
- Mean W_r of stock size Black Crappie (5+ in) was 95, quality size (8+ in) was 94. W_r scores indicate this population is in good condition.



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- Mean length at age for Black Crappie was similar to the south region's 25th percentile for this species (Figure 2). The average 3 year old fish was 8.8 inches (Figure 4). Slow growth of Black Crappie is common in turbid reservoirs like Cagles Mill.

Table 1. White and Black Crappie size distribution by number and percent, Cagles Mill Lake, 2018.

Species	Size Class (in)	Number	Percent
White Crappie	<5.0	3	0.6
	5.0-7.9	73	13.4
	8.0-9.9	408	75.1
	10.0-11.9	54	9.9
	12.0-14.9	5	0.9
	>15.0	0	0
Black Crappie	5.0-7.9	5	15.2
	8.0-9.9	27	81.8
	10.0-11.9	1	3
	12+	0	0

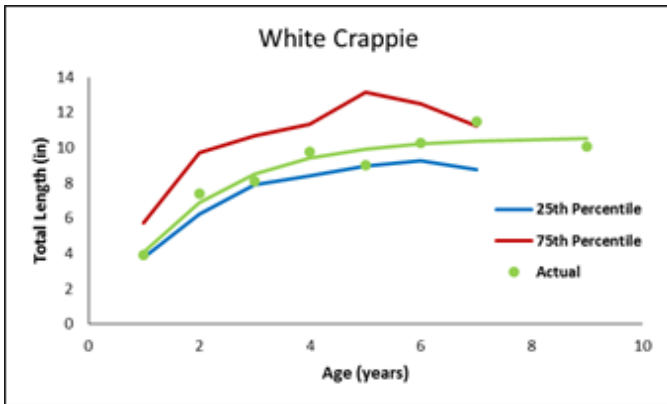


Figure 1. White Crappie actual mean length at age compared to the south region's 25th and 75th percentiles, Cagles Mill Lake, 2018.

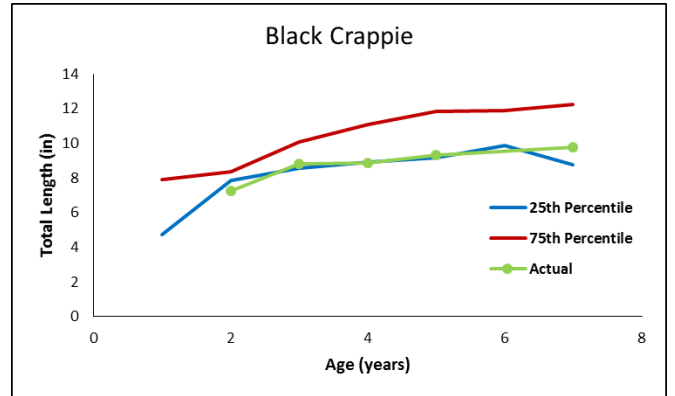


Figure 2. Black Crappie actual mean length at age compared to the south region's 25th and 75th percentiles, Cagles Mill Lake, 2018.

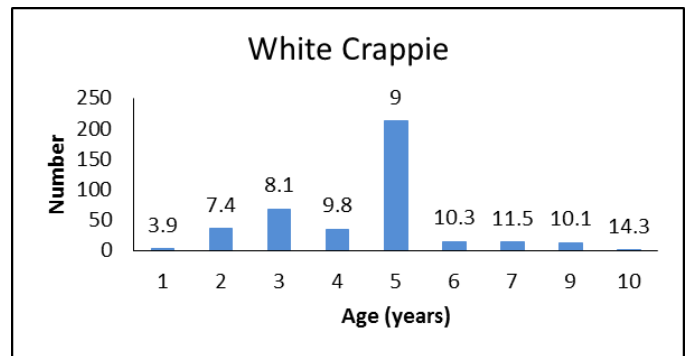


Figure 3. White Crappie age frequency with mean length, Cagles Mill Lake, 2018.

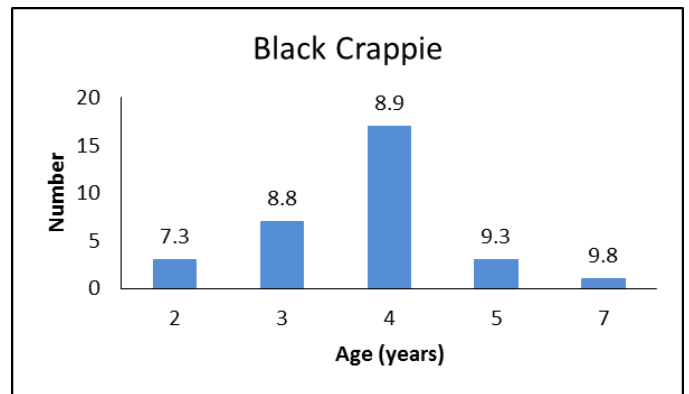


Figure 4. Black Crappie age frequency with mean length, Cagles Mill Lake, 2018.