

Duck Lake Centrarchid Survey (Survey #: 717004)

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Duck Lake is a 213-acre natural lake located in the Town of Red Creek in northern Cayuga County. It is a shallow eutrophic waterbody supporting large stands of dense submergent and emergent vegetation (maximum depth 20 feet). The lake is accessible via fee launch at the Duck Lake Campground which is located on Duck Lake Road in Red Creek. Duck Lake is popular amongst local anglers for its largemouth bass and tiger muskellunge. Duck Lake has produced a state record black crappie in the past and is currently stocked with 1100 tiger muskellunge annually.

Duck Lake was last surveyed in 1998 to evaluate the success of tiger muskellunge stocking. Successful recruitment of tiger muskies was documented in that survey, along with numerous largemouth bass, bluegills, pumpkinseeds, black and white crappies, and yellow perch among other species. This electrofishing survey was conducted to assess the status of the warmwater sportfish and panfish populations in the lake utilizing NYSDEC's Centrarchid Sampling Manual protocols (Greene, 1989).

The entire shoreline of the lake was sampled on the night of 6/8/2018. Sampling via boat electrofishing was conducted for a total of 1.79 hours (four (4) all fish runs of 15 minutes and one (1) gamefish only run of 47 minutes). Total sample collection included 325 fish of 12 species including bowfin, northern pike, tiger muskellunge, golden shiners, black crappie, brown bullhead, pumpkinseeds, bluegills, largemouth bass, yellow perch and common carp. The single tiger musky captured was 26 inches and 3.7 pounds. One new species (white perch) was documented and was present in great abundance. Only one black crappie was observed during this survey.

White perch were the most abundant panfish collected in the survey ($n = 108$) followed by bluegills and pumpkinseeds ($n = 83$ and $n = 26$, respectively). Ages of white perch in the sample ranged from one (1) to five (5) years old (lengths from 5-11 inches), likely indicative of a more recent introduction to the lake. Black crappie ($n = 1$) and yellow perch ($n = 5$) were present but in very low densities and relatively small sizes. Bluegills and pumpkinseeds exhibited good condition (average relative weights (W_r) of 91.1 and 89.6, respectively), but fish of preferred, memorable or trophy size (≥ 8 inches, ≥ 10 inches and ≥ 12 inches, respectively) were notably absent in the catch. Slightly more than half of the pumpkinseeds (58%) were of quality size (≥ 6 inches). Most bluegills were in the 3 - 5 inch range.

Largemouth bass comprised 27% of the total survey catch ($n = 87$) and ranged from 3.7 – 22.0 inches total length (TL). The largest bass was 22.0 inches and 6.3 pounds. The catch rate for quality size and larger bass (≥ 12 inches) was 125 fish per hour, and the catch rate for preferred size and larger bass (≥ 15 inches) was 25 fish per hour (Table 1), which are excellent rates and well above the statewide average for this type of survey (Brooking *et al.* 2018). The catch rate for memorable fish (≥ 20 inches) was five (5) fish per hour. The average W_r of largemouths in the lake was 89.2 ± 0.9 , indicating a condition slightly below statewide average (Brooking *et al.* 2018). Length frequency distribution indicates a large proportion of fish of breeding size and larger, but smaller (juvenile) bass are underrepresented in the catch (Figure 1). Smaller bass and panfish may be experiencing the effects of both competition and predation from a burgeoning white perch population in this lake. Future surveys are warranted to monitor effects of the introduction of white perch in Duck Lake.

Based on this survey no management changes are recommended. Continued stocking of tiger musky is justified given past and current documentation of recruitment and anecdotal reports from local anglers of large fish caught.



<u>Species</u>	<u>Total Catch (n)</u>	<u>Time (hr)</u>	<u>CPUE (fish/hr)</u>				<u>Memorable</u>
			<u>All Sizes</u>	<u>≥Stock</u>	<u>≥Quality</u>	<u>≥Preferred</u>	
<i>Largemouth Bass</i>	87	1.79	156	141	125	25	5
<i>Bluegill</i>	83	1.00	83	81	38	-	-
<i>Pumpkinseed</i>	26	1.00	26	24	15	-	-
<i>White Perch</i>	108	1.00	108				

Table 1. Catch per unit effort (CPUE) for abundant sportfish and panfish in Duck Lake, 6/8/2017.

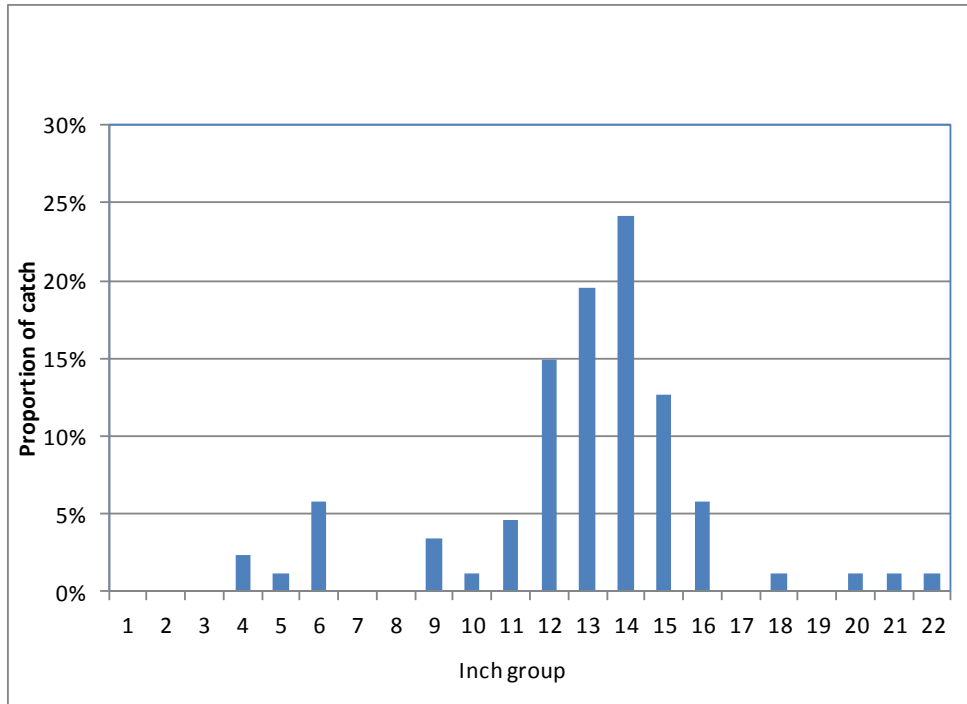


Figure 1. Length frequency distribution of largemouth bass in Duck Lake, 6/8/2017.

Literature Cited:

Brooking, T., Loukmas, J., Jackson, R. and T. VanDevalk. 2018. Black bass and sunfish sampling manual for lakes and ponds. New York State Department of Environmental Conservation, Federal Aid in Sportfish Restoration, F-63-R, Study 2, Job 2-2.3, Albany, New York.

Greene, D.M. 1989. Centrarchid Sampling Manual. Chapter 1 in Fish Sampling Manual. New York State Department of Environmental Conservation, Bureau of Fisheries, Albany, New York.