

Heavy Fish, Light Fish, Yellow Perch, Whitefish

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Introduction:

Song Lake and Tully Lake of Cortland County are two popular local fishing destinations, but no comprehensive fish assessment had been conducted on either body. To add to the lake associations' pool of knowledge with which to manage each ecosystem, we moved forward with the **objective of analyzing the fish compositions of each lake and assessing their health based on the length-weight ratio from the standard New York DEC data.**

Methods:

Song Lake was sampled on November 2nd and 3rd, while Tully Lake was sampled November 15th and 16th were sampled for using gill nets and seines. On each day of sampling, gill nets were set perpendicular to shore for about an hour each.



Seine



Perch in gill net

The nets had variable sized mesh throughout, allowing for a greater range of fish sizes to be caught. The gill nets were set multiple times until the desired sample size was reached. A total of 4 gill nets were set on Song Lake while a total of 6 gill nets were set on Tully Lake. During the hour long period that each set of gill nets was left to fish, accessible edges of the lake were seined. The length and weight of every game fish that was caught was recorded and compared to New York DEC standards. The baitfish caught during seining were counted and recorded only.

Paired two tailed t-tests were used to test for significant differences from the DEC standard. P-values are reported with associated graphs against a significance value of .05.

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Dr. Chris Whipps
Andrew Brainard

Results:

Table 1

Species Caught		Number of Fish Caught	
Common Name	Scientific Name	Song Lake	Tully Lake
Yellow Perch	<i>Perca flavescens</i>	32	21
Pumpkinseed	<i>Lepomis gibbosus</i>	13	2
Bluegill	<i>Lepomis macrochirus</i>	0	2
Lepomis	<i>Lepomis spp.</i>	36	0
Tessellated Darter	<i>Etheostoma olmstedii</i>	110	0
Banded Killifish	<i>Fundulus diaphanus</i>	135	0
Largemouth Bass	<i>Micropterus salmoides</i>	1	0
Rock Bass	<i>Ambloplites rupestris</i>	0	1
Chain Pickerel	<i>Esox niger</i>	0	6
White Sucker	<i>Catostomus commersonii</i>	0	1
Whitefish	<i>Coregonus spp.</i>	0	1

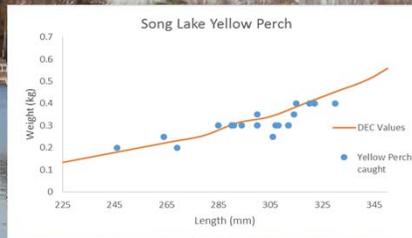


Figure 1.

The Yellow Perch length-weight ratio in Song was found to be not statistically different from the DEC average (p-value=0.14).

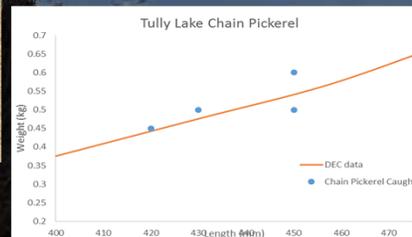


Figure 3.

The length-weight ratio of Chain Pickerel in Tully was not statistically different than the DEC average (p-value = 0.07). This is likely due to the small sample size.



Yellow Perch with parasites

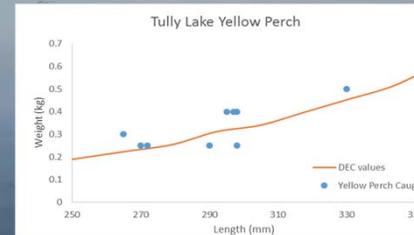


Figure 2.

The Yellow Perch length-weight ratio in Tully was found to be statistically higher than the DEC average (p-value=0.01).



Chain Pickerel



Whitefish likely *Coregonus artedi*

Whitefish:

There was an unexpected catch on Tully Lake. A Whitefish was collected via gill net on the last day of sampling. Whitefish, likely a *Coregonus artedi*, are sometimes reported in the lake, but this was first time a sample was able to be retained for analysis. Other local stocks of Whitefish, which are remnant populations from the large glacial lake that once covered this region, may be related to this fish or the extirpated population of Whitefish from Onondaga Lake.

Discussion/Conclusions:

We found the Yellow Perch from Song Lake had slightly lower condition than the New York DEC average condition index, but this difference was not statistically significant (Figure 1). Yellow Perch and Chain Pickerel populations of Tully Lake exceeded the average condition index, but only the Yellow Perch data were statistically higher than the DEC values (Figure 2,3).

While seining on Song Lake, large samples of Tessellated Darters and Banded Killifish were collected, while no species of bait fish were captured on Tully Lake. The majority of these individuals from Song Lake, in addition to some of the smaller Yellow Perch from both lakes, had very noticeable black spots on their bodies, this is believed to be *Crassiphiala buboglossa*. This parasite has one of its life stages in the tissues of fish and can inhabit a number of different species. The parasites rarely damage fish and are not dangerous to humans.

Increasing our sample size would improve the accuracy of the study. The techniques employed in this study (seining and gill netting) required a constant presence on the lake. The sample sizes were mostly limited by the amount of time we were available to collect samples. To increase the sample size, trap nets could have been used to catch more fish without spending more time in the field, although we likely would not have caught the Whitefish, which is found in open water.