

Lake Ronkonkoma Walleye and White Perch (Survey #:121008)
 Region 1 Fisheries, Heidi O’Riordan 3/24/23

Lake Ronkonkoma is a 231-acre lake on Long Island with public access through a DEC boat launch and shore access through Suffolk County Parks. The lake is stocked annually with 10,000 pond fingerling walleye. The purpose of the stocking walleye program was to supplement the pond with an additional predator to reduce an “overabundant” white perch population to “benefit the bass population by reducing competition between white perch and bass as juveniles”. The stocking program also provides an additional fishery opportunity for Long Island anglers.

The purpose of this survey was to index age-0 walleye and white perch abundance and estimate growth. One lap of the shoreline was completed with 6, 15-minute electrofishing runs targeting only walleye and white perch. All walleye and white perch were collected.

A total of 45 walleye and 75 white perch were caught. The total mean catch per unit effort (CPUE) for walleye was 28.2 fish/hour. The total mean CPUE for white perch was 49.7 fish/hour (Table 1). Walleye ranged in length from 6 to 19 inches (Figure 1). White perch ranged in length from 3 to 10 inches (Figure 2). No memorable or trophy size walleye or white perch were caught. The mean relative weight (Wr) for walleye and white perch was 79.7 and 78.6 respectively.

The CPUE for walleye was the third highest (Table 2), although methods were changed from previous surveys and only walleye and white perch were targeted and collected during electrofishing runs. PSD was in the lower third of the range and RSDp was zero, however this may be misleading as walleye may have significant differences in recruitment from year to year (1994 NYSDEC Percid Sampling Manual). The total number of white perch in 2021 was the lowest while PSD and RSDp were near the middle of the time series (Table 2).

An evaluation of the walleye stocking policy and its effectiveness on reducing the white perch is warranted for Lake Ronkonkoma as well as establishing a management plan.

Table 1. Summary statistics for walleye and white perch for survey 121008. Proportional stock density (PSD), relative stock density-preferred (RSDp), relative stock density-memorable (RSDm), relative stock density-trophy (RSDt), catch per unit effort (CPUE), relative weight (Wr).

Species	Number Caught	PSD (%)	RSDp (%)	RSDm (%)	RSDt (%)	Mean CPUE (fish/net)	Mean Wr
Walleye	45	59.3	0.0	0.0	0.0	28.2	79.7
White Perch	75	11.5	3.6	0.0	0.0	49.7	78.6



Table 2. Summary statistics for electrofishing surveys from 2001-2021.

Year	2001	2004	2007	2010	2014	2018	2019	2020	2021
Survey #	101018	104016	107028	110029	114030	118042	119037	120005	121008
Walleye									
Number	54	54	35	30	35	15	67	55	45
CPUE	15.3	14.79	11.67	9.65	11.14	6	41.1	33.5	28.2
CPUE Quality	0.28	2.2	7.3	2.57	6.7	3.2	4.5	3	9.2
CPUE Preferred	0.28	1.6	3	0	1	0.4	1.6	0	0.0
PSD	67	35	89	62	83	82	52.6	63.6	59.3
RSD-P	33	15	26	0	10	9	15.8	0	0.0
White Perch									
Number	1377	1185	392	108	944	1130	1068	603	75
CPUE	1336.89	1742.7	392	108	941.9	753.3	669.6	383.8	49.7
CPUE Quality	1.89	2.94	21	2	18	5.33	13.2	9	2.5
CPUE Preferred	0	0	0	0	2	0	0.5	2	1.2
PSD	3	0.003	20	50	29	14	8.9	40	11.5
RSD-P	0	0	0	0	3	0	0.4	6.6	3.6

Figure 1. Length frequency of walleye for survey 121008.

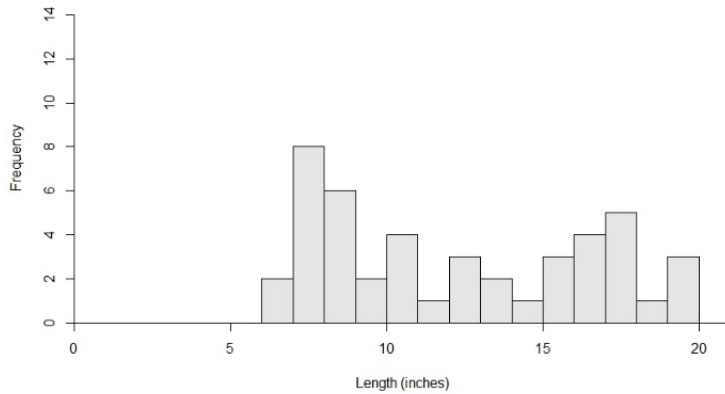


Figure 2. Length frequency of white perch for survey 121008.

