

Artist Lake Panfish (Survey #: 121010) Region 1 Fisheries, Peter Malaty

1/20/23

Artist Lake is a 27-acre lake in Suffolk County Long Island with shore and boat access through a town of Brookhaven park. The lake supports a warmwater fishery for largemouth bass, black crappie, bluegill, and pumpkinseed. There are currently no stocking policies on Artist Lake and the only special regulation is a year-round catch and release season for largemouth bass, although at the time of the survey the sunfish bag limit was 15 with no minimum length limit and the black crappie bag limit was 15 with a minimum length limit of 9 inches. The current regulations which went into effect on 4/1/22 are 25 sunfish with no minimum length limit and 25 black crappie with a 10 inch minimum length limit.

The purpose of this survey was to index black crappie, bluegill, and pumpkinseed abundance and estimate size and age structure, and condition. This survey followed the same design as survey number 120008 and was the second survey of this type on Artist Lake. A total of ten North American standard fyke nets were set overnight on 10/14/21 at randomly selected locations perpendicular to the shore around the perimeter of the lake excluding the western basin because of low water. The water temperature was 66.38 °F. All black crappie, bluegill and pumpkinseed were collected. Scales were collected.

A total of 136 bluegill were caught and the total mean catch per unit effort (CPUE) was 17.0 fish/net (Table 1) which was twice the previous year's estimate (8.5 fish/net). Bluegills ranged in length from 3-7 inches (Figure 1). No preferred, memorable, or trophy size bluegill were caught. Artist Lake ranked second for CPUE and second for PSD among the four lakes sampled in 2021 (Table 2). Between 2020 and 2021 PSD increased 18.4% and RSDp remained zero (Table 1) which indicates a change in the proportion of six inch and larger fish in the stock size catch and that no fish eight inches and larger were present in the catch. Bluegill mean relative weight was 6.6% less than standard weight and ranked second among the five lakes sampled.

A total of 116 pumpkinseed were caught and the total mean CPUE was 14.6 fish/net (Table 1) which was significantly greater than the previous year's estimate (2.9 fish/net). Pumpkinseed ranged in length from 4-8 inches (Figure 2). No memorable or trophy size pumpkinseed were caught. Artist Lake ranked second in CPUE, first in PSD, and second in RSDp among the four lakes sampled in 2021 (Table 3). Between 2020 and 2021 PSD increased 21.7% and RSDp decreased 3.1% (Table 1) which indicates an increase in the proportion of six inch and larger fish in the stock size catch and a decrease in the proportion of fish eight inches and larger in the catch. Pumpkinseed mean relative weight was 7.25% less than standard weight and ranked second amongst the four lakes sampled.

A total of 391 black crappie were caught and the total mean CPUE was 48.9 fish/net (Table 1) which was significantly greater than the previous year's estimate (15.1 fish/net). Black crappie ranged in length from 5-11 inches (Figure 3). No memorable or trophy sized black crappie were caught. For black crappie, Artist Lake ranked second in CPUE, last in PSD, and last in RSDp among the four lakes sampled in 2021 (Table 4). PSD reported from the previous spring electrofishing surveys ranged from 38-100 and RSDp ranged from 0-90. The 2021 PSD and RSDp estimates would have been the lowest in their respective ranges. Again, the relationship is unclear. With the new minimum length limit of 10 inches, the portion of the crappie population available for harvest will be reduced by 58.9%. Mean relative weight for black crappie was 8.9% less than standard weight and ranked second amongst the four lakes sampled.



Table 1. Summary statistics for Artist Lake (120008, 121010)

Species	Year	PSD (%)	RSDp (%)	RSDm (%)	RSDt (%)	Mean CPUE (fish/net)	Mean Wr
Black Crappie	2020	35.5	30.6	0.0	0.0	15.1	90.5
Black Crappie	2021	16.1	2.1	0.0	0.0	48.9	91.1
Bluegill	2020	52.9	0.0	0.0	0.0	8.5	87.6
Bluegill	2021	71.3	0.0	0.0	0.0	17.0	93.4
Pumpkinseed	2020	68.0	4.0	0.0	0.0	2.9	88.7
Pumpkinseed	2021	89.7	0.9	0.0	0.0	14.6	92.5

Table 2. Lake comparison for bluegill.

Lake	Species	PSD (%)	RSDp (%)	RSDm (%)	RSDt (%)	Mean CPUE (fish/net)	Mean Wr
Upper Twin Pond	Bluegill	60.0	23.5	0.0	0.0	14.0	97.1
Artist Lake	Bluegill	71.3	0.0	0.0	0.0	17.0	93.4
Lake Ronkonkoma	Bluegill	3.8	0.0	0.0	0.0	68.7	85.8
Fresh Pond	Bluegill	83.3	3.9	0.0	0.0	8.1	79.1

Table 3. Lake comparison for pumpkinseed.

Lake	Species	PSD (%)	RSDp (%)	RSDm (%)	RSDt (%)	Mean CPUE (fish/net)	Mean Wr
Upper Twin Pond	Pumpkinseed	25.6	0.0	0.0	0.0	4.2	98.4
Artist Lake	Pumpkinseed	89.7	0.9	0.0	0.0	14.6	92.5
Lake Ronkonkoma	Pumpkinseed	1.2	0.0	0.0	0.0	76.2	81.6
Fresh Pond	Pumpkinseed	86.4	6.8	0.0	0.0	8.8	83.3

Table 4. Lake comparison for black crappie.

Lake	Species	PSD (%)	RSDp (%)	RSDm (%)	RSDt (%)	Mean CPUE (fish/net)	Mean Wr
Upper Twin Pond	Black Crappie	86.8	9.4	0.0	0.0	9.6	101.4
Artist Lake	Black Crappie	16.1	2.1	0.0	0.0	48.9	91.1
Lake Ronkonkoma	Black Crappie	21.5	16.6	7.3	0.0	64.1	83.9
Fresh Pond	Black Crappie	59.0	37.6	1.2	0.0	17.3	77.5

Figure 1. Bluegill length frequency

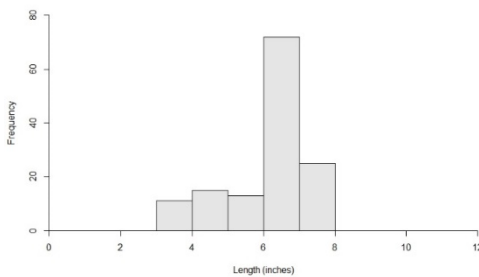


Figure 2. Pumpkinseed length frequency

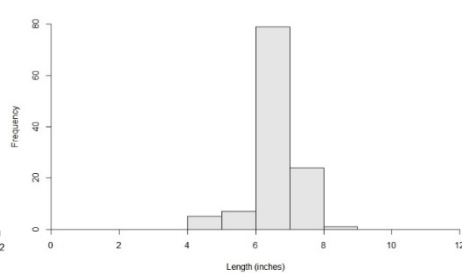


Figure 3. Black crappie length frequency

