

## Fresh Pond Panfish (Survey #: 121012) Region 1 Fisheries, Peter Malaty

1/20/23

Fresh Pond is a 36-acre lake in Suffolk County Long Island with public access through Hither Hills State Park. The lake supports a warmwater fishery for largemouth bass, black crappie, bluegill, and pumpkinseed. 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 design of these surveys was driven by a need to build a statistically robust information base which would provide the foundation for understanding sportfish population dynamics, context for annual population performance, and quantitative information for identifying the need for and evaluating management actions which specifically are season, size, and bag limit and stocking. The purpose of this survey was to index black crappie, bluegill, and pumpkinseed abundance and estimate size and age structure, and condition. This survey is the first of its kind on this water body. A total of ten North American standard fyke nets were set over one night at randomly selected locations perpendicular to the shore around the perimeter of the lake. The nets were set on the night of 10/25/21. All black crappie, bluegill and pumpkinseed were collected. Scales were collected.

A total of 81 bluegill were caught and the total mean catch per unit effort (CPUE) was 8.1 fish/net (Table 1). Bluegills ranged in length from 1-8 inches (Figure 1). No memorable or trophy size bluegill were caught. Fresh Pond ranked fourth in CPUE, first in PSD and second in RSDp among the four lakes sampled in 2021 (Table 2). Bluegill PSD estimated from four spring and fall electrofishing surveys between 1994 and 2015 ranged from 6-28 and RSDp estimates ranged from 0-2. Bluegill PSD and RSDp ranked first relative to previous years however the relationship between current and previous values is unknown because of the confounding effects of gear and season. Bluegill mean relative weight was 29.1% less than standard weight and ranked last among the four lakes sampled.

A total of 88 pumpkinseed were caught and the total mean CPUE was 8.8 fish/net (Table 1). Pumpkinseed ranged in length from 1-8 inches (Figure 2). No memorable or trophy size pumpkinseed were caught. Fresh Pond ranked third in CPUE, second in PSD and first in RSDp among the four lakes sampled in 2021 (Table 3). Pumpkinseed PSD estimated from four spring and fall electrofishing surveys between 1994 and 2015 ranged from 6-22 and RSDp estimates ranged from 0-5. Pumpkinseed PSD and RSDp ranked first relative to previous years however the relationship between current and previous values is unknown because of the confounding effects of gear and season. Pumpkinseed mean relative weight was 16.7% less than standard weight and ranked third among the four lakes sampled.

A total of 173 black crappie were caught and the mean total CPUE was 17.3 fish/net (Table 1). Black crappie ranged in length from 6-12 inches (Figure 3). Two memorable sized black crappie were caught but no trophy size were caught. For black crappie Fresh Pond ranked third in CPUE, second in PSD, first in RSDp, and second in RSDm among the four lakes sampled in 2021 (Table 4). Black crappie PSD estimated from four spring and fall electrofishing surveys between 1994 and 2015 ranged from 3-69 and RSDp estimates ranged from 0-45. Black crappie PSD and RSDp ranked second relative to previous years however the relationship between current and previous values is unknown because of the confounding effects of gear and season. With the new minimum length limit of 10 inches, the portion of the crappie population available for harvest will be reduced by 46.4%. The



mean relative weight for black crappie was 22.5% less than standard weight and ranked last among the four lakes sampled.

Table 1. Summary statistics.

Species	Number Caught	PSD (%)	RSDp (%)	RSDm (%)	RSDt (%)	Mean CPUE (fish/net)	Mean Wr
Bluegill	81	83.3	3.9	0.0	0.0	8.1	79.1
Pumpkinseed	88	86.4	6.8	0.0	0.0	8.8	83.3
Black Crappie	173	59.0	37.6	1.2	0.0	17.3	77.5

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

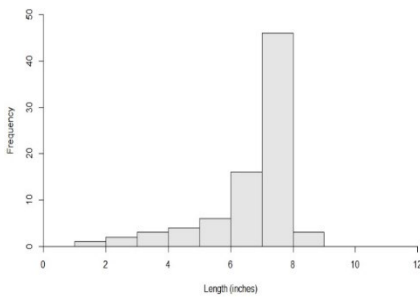


Figure 2. Pumpkinseed length frequency

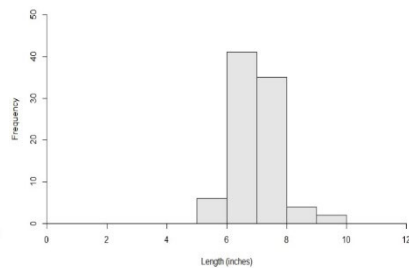


Figure 3. Black crappie length frequency

