

## Peconic Lake Panfish (Survey #: 120011) Region 1 Fisheries, Peter Malaty

07/07/22

Peconic Lake, also known as Forge Pond, is a 123-acre lake in Suffolk County Long Island with boat access through a NYS DEC boat ramp. The lake supports a warmwater fishery for largemouth bass, black crappie, bluegill, and pumpkinseed. There are currently no special regulations or any stocking policies on Peconic Lake 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 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. These basic surveys are being done for the first time on New Mill Pond/Blydenburgh Lake, Artist Lake, Lake Ronkonkoma, Peconic Lake, Upper Twin Pond, and Fresh Pond. A total of twenty North American standard fyke nets were set over two nights (10 per night) at randomly selected locations perpendicular to the shore around the perimeter of the lake. The nets were set on the nights of 10/28/20 and 10/29/20. The water temperature was 57.2 °F. All black crappie, bluegill and pumpkinseed were collected. Scales were collected.

A total of 186 bluegill were caught and the mean catch per unit effort (CPUE) was 9.3 fish /net (Table 1). Bluegills ranged in length from 2-8 inches (Figure 1). No memorable or trophy size bluegill were caught. Peconic Lake bluegill ranked fourth for CPUE, second for PSD, and second for RSDp among the five lakes sampled in 2020 (Table 2). Bluegill PSD estimated from spring electrofishing from 1998 to 2015 ranged from 10-47 and RSDp estimates ranged from 0-28. Spring fyke netting was also done in 2014 and 2015 but no PSD estimates were made because too few bluegill were caught (4 and 7 respectively). Relative to the electrofishing surveys the 2020 PSD and RSDp estimates were the highest and third highest respectively although the relationship between the current and previous values is unknown because of the confounding effects of gear and season. Bluegill mean relative weight was 10.7% less than standard weight and ranked fourth among the five lakes sampled.

A total of 98 pumpkinseed were caught and the mean CPUE was 4.9 fish/net (Table 1). Pumpkinseed ranged in length from 3-8 inches (Figure 2). No memorable or trophy size pumpkinseed were caught. Peconic Lake pumpkinseed ranked third in CPUE, first in PSD, and first in RSDp among the five lakes sampled (Table 3). Pumpkinseed PSD from the 1998 to 2015 spring electrofishing surveys ranged from 39-75 and RSDp ranged from 0-67. Spring fyke net PSD estimates were 100 and 97 and RSDp estimates were 67 and 43 for 2014 and 2015 respectively. The 2020 PSD for pumpkinseed was higher than all spring electrofishing estimates but lower than the spring fyke net estimates. The 2020 RSDp estimate was lower than all the previous estimates. Again, the relationship between the current and previous values is unknown because of the confounding effects of season and gear. Pumpkinseed mean relative weight was 2.3% greater than standard weight and ranked first amongst the five lakes sampled.

A total of 142 black crappie were caught and the total mean catch per unit effort was 7.1 fish/net. Black crappie ranged in length from 2-13 inches (Figure 3). One memorable size black crappie was caught but no trophy size were caught. For black crappie, Peconic Lake ranked fifth in CPUE, second in PSD, first in RSDp, and fourth in



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RSDm (Table 4). Black crappie were sampled in too few numbers (range 0-24) in all of the previous electrofishing surveys and stock density indices were not reported. Twenty-eight black crappie were caught in the 2014 fyke net survey and a PSD of 100 and an RSDp of 57 were reported. Only three were caught in the 2015 fyke net survey and no stock density indices were reported. The single available stock density estimates that were available were higher than the estimates for 2020. 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 37%. Black crappie mean relative weight was 5.6% less than standard weight and ranked third among the five lakes sampled.

Peconic Lake is scheduled to be sampled annually for black crappie and panfish from 2020-2024.

Table 1. Summary statistics for Survey #120011 Peconic Lake

Species	PSD (%)	RSDp (%)	RSDm (%)	RSDt (%)	Mean CPUE (fish/net)	Mean Wr
Bluegill	72.9	21.1	0.0	0.0	9.3	89.3
Pumpkinseed	90.8	5.1	0.0	0.0	4.9	102.3
Black Crappie	90.8	54.6	0.1	0.0	7.1	94.4

Table 2. Lake comparison for bluegill.

Lake	Species	Number Caught	PSD (%)	RSDp (%)	RSDm (%)	RSDt (%)	Mean CPUE (fish/net)	Mean Wr
Upper Twin Pond	Bluegill	252	31.3	13.0	0.0	0.0	28.0	96.8
Artist Lake	Bluegill	72	52.9	0.0	0.0	0.0	8.5	87.6
Lake Ronkonkoma	Bluegill	2906	6.7	1.1	0.0	0.0	154.1	98.8
New Mill Pond	Bluegill	874	86.6	24.7	0.1	0.0	48.6	92.2
Peconic Lake	Bluegill	186	72.9	21.1	0.0	0.0	9.3	89.3

Table 3. Lake comparison for pumpkinseed.

Lake	Species	Number Caught	PSD (%)	RSDp (%)	RSDm (%)	RSDt (%)	Mean CPUE (fish/net)	Mean Wr
Upper Twin Pond	Pumpkinseed	31	28.6	0.0	0.0	0.0	3.4	97.0
Artist Lake	Pumpkinseed	25	68.0	4.0	0.0	0.0	2.9	88.7
Lake Ronkonkoma	Pumpkinseed	1203	0.9	0.0	0.0	0.0	64.4	88.7
New Mill Pond	Pumpkinseed	257	49.6	0.4	0.0	0.0	14.3	93.0
Peconic Lake	Pumpkinseed	98	90.8	5.1	0.0	0.0	4.9	102.3

Table 4. Lake comparison for black crappie.

Lake	Species	Number Caught	PSD (%)	RSDp (%)	RSDm (%)	RSDt (%)	Mean CPUE (fish/net)	Mean Wr
Upper Twin Pond	Black Crappie	236	45.1	14.7	2.0	0.0	26.2	102.8
Artist Lake	Black Crappie	123	35.5	30.6	0.0	0.0	15.1	90.5
Lake Ronkonkoma	Black Crappie	1708	93.0	23.4	6.3	0.0	76.2	92.4
New Mill Pond	Black Crappie	204	48.7	31.3	2.1	0.0	11.3	99.4
Peconic Lake	Black Crappie	142	90.8	54.6	0.1	0.0	7.1	94.4



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Figure 1. Bluegill length frequency

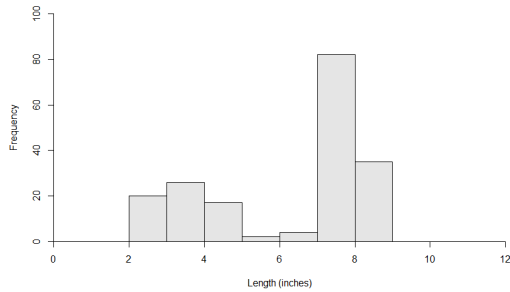


Figure 2. Pumpkinseed length frequency

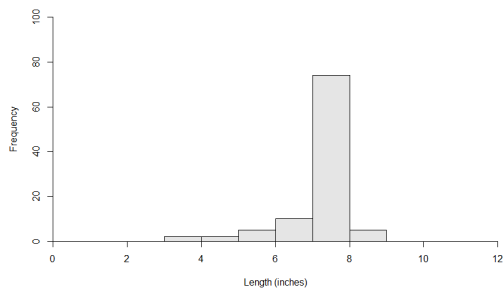


Figure 3. Black crappie length frequency

