Bureau of Fisheries Technical Brief #tb719023

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

Chenango Canal CROTS Survey (Survey #:719023)

James Everard, Region 7 Fisheries

12/20/2019

A CROTS electrofishing survey was conducted on the Chenango Canal, Madison County, on September 6, 2019. This was a repeat of surveys conducted in August 2015 and 2017. The purpose of these surveys was to evaluate concerns from anglers that fishing "wasn't what it used to be." Mainly, they weren't catching the numbers of larger trout they used to. The Chenango Canal has been managed under a special "trophy" trout fishing regulation since 1973. The regulation allows for an all year open season, a minimum length of 12-inches, 2 fish daily limit, and requires the use of artificial lures only.

Two sites covering 0.32 acres of stream were electrofished for 0.65 hours of "on-time." A total of 65 brown trout were collected for a catch per unit effort (CPUE) of 203 trout/acre or 100/trout hour (Table 1). The CPUE based on trout per acre is below both the 576/acre found in 2015, and 427/acre in 2017, but well above the 105/acre found in 1991. The CPUE based on fish/h was also less than both 2015 and 2017 but greater than the 1991 CPUE of 53/h (Table 1). It should be noted that the efficiency was down for some reason in 2019, numerous trout were "rolled" but recovered before being netted. Adjustments were made to the gear but with no improvement. No explanation for this occurrence at this time but it ultimately led to a lower CPUE.

The 2019 mean brown trout length was 5.3 in, an improvement over the 2015 mean length of 5.1 in but less than the 6.7 in mean in 2017. However, all three are still below the 1991 mean length of 8.4 in. It should be noted that the 1991 survey was done in June, 1 ½ months after stocking, while the 2015, 2017 and 2019 were done around 3 ½ - 4 months after stocking. There does seem to be a trend of poor survival of stocked brown trout in recent years. In a 2011 to 2013 statewide trout study covering nine different trout streams around NY, Alexiades et al. (2014) observed a steep decline in stocked trout densities shortly after stocking. Stocked trout made up 48% of the trout collected in 1991 but just 4% in both 2015 and 2017, and only 3% in 2019. Though yearling trout stocked in the spring would be in the 8 to 9 in range, below the ≥12 in legal length, they would still need to survive and "holdover" in the stream for a year or more to reach legal size.

None of the 65 brown trout collected in 2019 were ≥12 in. At least five trout, that likely would have been legal length, were spotted but not successfully netted. Even if those fish had been collected, the percentage of legal fish would have still been below the 26% in 1991 (Table 2). Interestingly, stocked trout made up the majority (86%) of the legal fish captured in 1991 (n=31) but were non-existent in the recent surveys. It should be noted that none of the stocked trout have been marked and estimates of trout origin (wild or stocked) were made using field inspection for deformed or eroded fins. The majority (69%) of the 2019 catch of wild brown trout were Age-0 (young of the year), followed by Age-1 at 18% (Table 3).

With the recent changes in Stream Trout Management, it will be recommended that the Chenango Canal no longer be stocked and be designated Wild-Premier, based on the number of wild trout with the potential to produce some large fish.

SPORT FISH RESTORATION

Table 1.Brown trout collected in the Chenango Canal in 1991, 2015, 2017 and 2019 and catch per unit effort in both trout/hour and trout/acre.

		Effort		Brown		
Year	Month	Hours	Acres	Trout	BT/h	BT/Acre
1991	June	2.59	1.3	138	53	106
2015	August	1.34	0.29	167	125	576
2017	August	0.52	0.22	94	181	427
2019	Sept	0.65	0.32	65	100	203

Table 2. Brown trout collected in the Chenango Canal, origin (wild, stocked, or unknown), legal (≥ 12in), and percent wild and legal.

		Brown Trout					Stocked		Wild	
Year	Stocked	Wild	Unk	Legal	% Wild	% Legal	Legal	% Legal	Legal	% Legal
1991	66	72	0	36	52%	26%	31	86%	5	14%
2015	6	161	0	2	96%	1%	0	0%	2	100%
2017	4	89	1	5	96%	5%	0	0%	4	80%*
2019	2	63	0	0	97%	0%	0	0%	0	0%

**The one unknown was legal length.*

Table 3. Age frequency distribution of wild brown trout collected in the Chenango Canal in August 2015 and 2017, and September 2019.

	Age				
Year	0	1	2	3	4
2015	76%	21%	2%	0%	1%
2017	40%	13%	43%	4%	0%
2019	69%	18%	12%	0%	0%

Literature Cited

Alexiades, A., B. Marcy, P. Sullivan, and C. Kraft. 2014. Evaluation of the NYSDEC Catch Orientated Trout Stocking Program: Project Report.