

Chittenango Creek CROTS Survey (Survey #:722050)
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A 2.2 mile section of Chittenango Creek, Madison County, is managed under a special trout fishing regulation of an all year season, Catch-and-Release (C&R) only, and artificial lures only. This special regulation has been in effect since October 2010. On September 1, 2022, a single pass electrofishing survey, following CROTS protocols, was conducted at two standard sites within the C&R section along with an additional third site outside of the reach (Table 1). The purpose of the survey was to assess whether the C&R regulation has increased the overall density and improved the size structure of the trout population within the reach. The two standard sites had been previously surveyed in August 2009 (before the C&R regulation), August 2013, August 2016, September 2018, and August 2020. The new third site was added in 2020.

A total of 33 brown trout were collected in 2022, which was the lowest number caught of the six surveys (Table 2). The catch per unit effort (CPUE) of 25 trout/h and 36 trout/acre was also the lowest of the six surveys. Start and end points within each site and flow levels varied somewhat between years, likely accounts for the variation of “on-times” over the years. Estimated survey efficiencies (percentage of fish caught) were similar in all years so the calculated trout densities are reliable for comparison purposes.

The 2022 brown trout mean length of 5.5 inches was the shortest mean length of the six surveys (Table 2). The number of young-of-year (YOY) wild brown trout ultimately influences this mean length. YOY brown trout are typically in the 2 to 4-inch range. The percentage of wild trout collected has remained “fairly stable” and has ranged from 65% to 91% with an average of 74%. Wild trout also seem to be important contributors to the overall trout numbers within the sites, with stocked trout only averaging 26% of the trout collected. It should be noted here 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. In all six years the surveys were conducted more than three months after the spring stockings and the low numbers of hatchery brown trout seemingly mirrors a trend of poor survival of stocked brown trout across the state in recent years. In a statewide trout study from 2011 through 2013, covering eight different trout streams around NY, Alexiades et al. (2014) observed a steep decline in stocked trout densities shortly after stocking. This lack of stocked trout, whether recently stocked or holdover, is likely one of the contributing factors to not observing any major changes in mean length and fish/acre in these C&R sites.

Currently, it does not appear that the C&R regulation has had any impact on the trout population within the sample sites. Though the regulation doesn’t seem to be benefitting the trout population, it does provide a unique and popular angling opportunity and should be continued. A 2014 angler survey of Chittenango Creek estimated fishing effort in the C&R section at 455 hours/acre, the highest anywhere on the stream (Everard 2016). Also, one of the questions anglers were asked was if they had ever fished within the C&R section, 57% of respondents had fished there (Everard 2016).



It needs to be determined if this monitoring survey needs to be continued in the future. If it's decided to continue, then the two standard sites, along with the new third site at the upstream section of the C&R section, should be surveyed in 2024.

Table 1. Electrofishing hours of "on-time" and acres surveyed at standard sites within the Catch-and-Release section on Chittenango Creek, Madison County.

Year	On-Time (h)				Area (acre)			
	S-1	S-2	S-3	Total	S-1	S-2	S-3	Total
2009	0.92	0.83	-	1.75	0.33	0.50	-	0.82
2013	0.75	0.33	-	1.08	0.32	0.51	-	0.84
2016	0.50	0.42	-	0.92	0.29	0.30	-	0.59
2018	0.38	0.30	-	0.68	0.33	0.35	-	0.67
2020	0.32	0.26	0.29	0.86	0.34	0.38	0.23	0.93
2022	0.42	0.28	0.62	1.32	0.29	0.31	0.32	0.91

Table 2. Brown trout collected at standard sample sites within the Catch-and-Release section on Chittenango Creek, Madison County.

Year	Brown Trout Collected by Site				Length (in)				CPUE	
	S-1	S-2	S-3	Total	Mean	Min	Max	% Wild	Trout/h	Trout/acre
2009	56	24	-	80	7.2	3.1	17.4	73%	46	99
2013	63	18	-	81	9.4	3.8	16.5	65%	75	96
2016	15	33	-	48	6.0	3.2	18.3	77%	52	79
2018	26	28	-	54	7.5	2.8	18.2	70%	79	80
2020	12	12	49	73	9.0	2.9	21.7	68%	85	78
2022	2	19	12	33	5.5	2.5	18.9	91%	25	36

Literature Cited

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

Everard, J. F. 2016. Chittenango Creek Angler Survey 2014. New York State Department of Environmental Conservation, Cortland, NY.