

Hosmer Brook Trout Population Estimate

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11/25/2022

Hosmer Brook is a 4.5-mile long tributary of upper Cattaraugus Creek, flowing through the Town of Sardinia in southern Erie County. It has a long-standing history of being a productive wild brown and rainbow trout fishery. There are 1.6 miles of Public Fishing Rights from the mouth upstream to the Sardinia Town Park. The stream from its mouth to Genesee Road is managed with a “Wild-Quality” designation, having a year-round open season, including catch and release – artificial lures only from October 16 through March 31. From April 1 through October 15, three fish may be harvested, only one of which can be >12 inches. In 2022, as part of New York State’s trout stream management plan, the stream was sampled by electrofishing at three sites (just above the mouth, NYS Rt 39 and Genesee Road) to estimate the adult wild trout population abundance and biomass. The lower and middle sites have been sampled 12 times between 1993 and 2022, while the upper site at Genesee Road has been sampled seven times in that period. To estimate the adult trout population abundance, we utilized two electrofishing passes in all sampling years.

Sampling this year (1,500 feet of stream) resulted in a total catch of 154 adult (yearling and older) brown trout and 14 adult rainbow trout. At our site above the mouth, in addition to wild brown trout, we captured five hatchery brown trout that had been stocked in Cattaraugus Creek and moved up into Hosmer Brook to find cooler water during this hot, dry summer. The adult wild brown trout captured ranged from 4 to 18 inches (Figure 1), with an average length of 8.8 inches. Adult rainbow trout ranged from 5 to 9 inches with an average length of 6.7 inches.

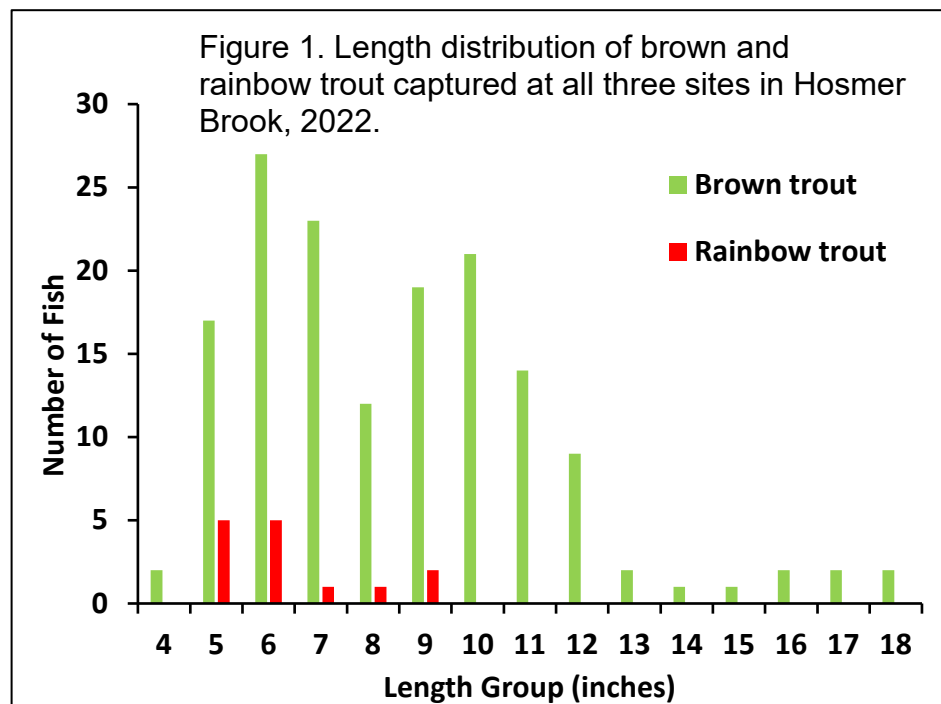


Table 1 displays the abundance of adult brown and rainbow trout per mile at each of the three sampling sites over the 12 sampling years. At the lower site near the mouth, adult brown and rainbow trout abundance in 2022 was 348 fish/mile (±12) and 34 fish/mile (±0), respectively. The NYS Rt 39 site produced abundance estimates of 850 adult brown trout/mile (±18) and 94 adult rainbow trout/mile (±29). At the Genesee Road site, we found an abundance of 371 fish/mile (±45) for adult brown trout and 11 fish/mile for adult rainbow trout.



For all three sites combined and species combined, the average adult trout abundance in 2022 was 591 fish/mile and the average biomass was 84 lbs/acre.

The average abundance and biomass of adult brown and rainbow trout in Hosmer Brook in 2022 greatly exceeded the values needed for its inclusion in the “Wild-Quality” management category. Neither adult brown trout or rainbow trout abundance at the site above the mouth showed any long-term or short-term trends, with considerable variance throughout the 1993 to 2022 period (Table 1). Likewise, at our site at NYS Rt 39, the abundance of adult brown trout and rainbow trout showed no short-term trends from 2016 to 2022, however rainbow trout did show a downward long-term trend from 1993 to 2022 (Table 1). In both 2020 and 2022, adult brown trout abundance at the site at NYS Rt 39 was the highest we have measured. Adult trout habitat at the site near the mouth and NYS Rt 39 has changed extensively between survey years with both sites very susceptible to intense flooding effects, particularly since 1995. At our Genesee Road site, the adult brown trout abundance has varied considerably over the seven survey years, with the value in 2022 near the long-term average, while the adult rainbow trout abundance was the lowest we have measured (Table 1). This low abundance of adult rainbow trout in Hosmer Brook coincides with what we have observed at most of our sample sites in the Cattaraugus Creek watershed in the last three years. The catch of young-of-year brown trout in 2022 was moderate at our lower two sites, while young-of-year rainbow trout numbers captured were very low. Based on this year’s sampling, it appears Hosmer Brook should continue to provide good fishing for anglers wishing to pursue wild brown and rainbow trout.

Table 1. Adult wild brown trout (BT) and rainbow trout (RT) population estimates (fish per mile) for all three sites on Hosmer Brook, 1993-2022.

Year	Site near mouth		Rt 39		Genesee Road	
	BT	RT	BT	RT	BT	RT
1993	404	211	368	316	229	99
1995	404	684	505	505	236	115
1998	237	65	327	192	221	137
2000	261	102	780	344	401	116
2002	224	211	579	326	564	282
2007	191	182	644	533	427	173
2016	545	263	369	33	---	---
2017	211	96	341	187	---	---
2018	305	83	276	131	---	---
2019	202	184	526	105	---	---
2020	293	132	882	118	---	---
2022	348	34	850	94	371	11