

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish, Wildlife and Marine Resources, Bureau of Fisheries, Region 8

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Dear Angler,

Thank you for returning your 2021 Seneca Lake angler diary. This is the 49th anniversary of our volunteer angler diary program on Seneca Lake. Data provided by you has been important to our efforts to manage the salmon and trout fisheries in Seneca Lake.

Enclosed is a summary of your personal catch information, referenced to the code number on the cover of your diary and a summary of 1973 through 2021 catch statistics. You should already have received your 2022 diary. If you have not or need additional diaries, please contact our office.

A REMINDER: Please follow the directions that are found in your diary book. Unfortunately, we have had to delete various records because of incomplete trip information.

- Remember to enter both your starting and ending time for each fishing trip. We cannot use data from trips without start and end times.
- Please indicate the target species you are primarily fishing for.
- Record the appropriate code "C" if you keep the fish and "R" if you release the fish in the column marked "C/R".
- Only lake trout and rainbow trout have fin clips. Please be sure to write no mark over the fin pictures to indicate that you observed the fins and none were clipped. Leaving it blank means that you did not observe the fish for fin clips.

Based on the diary results, catching fish in Seneca Lake continues to be difficult. However, some results were encouraging and hopefully will continue to move in a direction that show recent management efforts are leading to more desirable angler results. Unfortunately, angler participation, and therefore total trip information, continues to remain low.

A total of 224 salmonines, of which 85% were legal sized, were caught by cooperators. This resulted in 4.0 h to catch a legal sized salmonine. Although this catch rate is not where we desire the fishery to be, it is the best catch rate reported since 2015.

This was the first year since the diary program began that lake trout were not the most abundant species caught. Only 96 lake trout were reported, comprising only 43% of all salmonines caught. Average length and weight of all lake trout caught were 19.0 inches and 2.9 pounds. Lake trout catch was spread out, though May and June accounted for 47% of the total lake trout catch. Anglers released 34% of legal lake trout caught. Based on fin clips, 29% of lake trout caught were wild, lower than last year.

Atlantic salmon surpassed the catch of lake trout with 116 reported by cooperators. Of these 106 were legal sized. Average length and weight of all Atlantic salmon caught were 17.0 inches and 2.3 pounds. Anglers released 48% of legal sized Atlantic salmon caught. Stocking remains at 24,000 Atlantic salmon yearlings annually and has not changed since 1988. Since returns of Atlantic salmon appear to be much better than brown trout in the recent past, efforts to increase their stocking numbers are being considered.

Absent from the 2020 diary report, rainbow or brown trout were once again caught in the 2021 angler diary. However, numbers remained low with only four rainbow trout and eight brown trout reported. Rainbow trout management continues to focus on the spring fishery in Catharine Creek. Annual stocking of 10,000 Finger Lakes strain yearlings will continue as returns to the stream fishery remain around 15-20%. The brown trout population has been maintained almost entirely by annual stockings of 43,000 fingerlings and 21,600 yearlings. As discussed in the past, due to recent poor returns of brown trout to the angler, consideration is being given to reducing/eliminating brown trout stocking and increasing stockings of other species that anglers catch, such as Atlantic salmon.

In 2021, staff were busy both treating and assessing lamprey populations in the Seneca Lake watershed. As a reminder, sea lamprey adults spawn in the spring in both Catharine Creek and Keuka Outlet. Larvae remain in the streams, buried in sediments, feeding on organic material generally for 3-4 years, but up to 15, before they transform and form the familiar raspy toothed mouth and head to the lake where they begin feeding on fish, primarily salmonine species. They remain in the lake for 1-1 ½ years before migrating into the streams to reproduce and die. In June, both Catharine Creek and Keuka Outlet were both successfully treated for sea lamprey larvae. Additionally, Catharine Creek canal from Montour Falls to the mouth at Seneca Lake was successfully treated in October. These treatments resulted in mortality of thousands of lamprey larvae and will reduce impacts to lake salmonine populations. Next treatments are scheduled for 2024, unless post assessments and consultation with US Fish and Wildlife Service lamprey control experts suggest earlier treatments are warranted.

In addition to the treatments, staff assessed 74 tributaries around the lake to determine if additional lamprey populations have developed. Of all the tributaries surveyed, two young-of-year lamprey larvae in two different tributaries in the northeast section of the lake were found. Since larvae numbers were extremely low and treatments are expensive and time consuming to complete, it has been decided to not treat these streams at this time and continue monitoring to determine if abundance increases. We will also continue to monitor lamprey spawning nest abundance and wounding rates on both lake trout and rainbow trout to evaluate lamprey populations.

Several factors have resulted in the recent poor results anglers are experiencing in Seneca Lake. These include increased lamprey predation, changes in population dynamics of lake trout populations both from natural conditions and associated stocking manipulations, continuous changes to the food web due to zebra and quagga mussels and other invasives, and increased forage abundance, primarily alewives. We have been addressing those factors that we have the greatest control on by increasing lake trout stocking to pre-2012 levels and focusing on lamprey control efforts to reduce salmonine mortalities.

Thank you for your continued cooperation during difficult angling conditions. We value your feedback and wish you much success during the 2022 season.

Good Fishing,

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Table 1. Summary of 2021 Seneca Lake angler diary trips.

Angler	Days Fished	Angler Trips	Angler Hours	Avg Trip (hrs)	Caught				Kept			Legal Salmonids Caught	Hrs to Catch Legal Salmonid	
					LTC	BTC	RTC	LLS	LTK	BTK	RTK			LLS
223	3	4	8.00	1.83	0	0	0	0	0	0	0	0		
460	8	16	64.00	4.00	0	0	0	0	0	0	0	0		
471	6	9	47.00	4.92	5	2	0	7	0	1	0	2	14	3.36
472	6	8	12.25	1.50	8	0	0	0	8	0	0	0	8	1.53
475	2	2	2.50	1.25	0	0	0	0	0	0	0	0	0	
485	6	6	22.75	3.79	9	0	0	1	9	0	0	1	10	2.28
487	13	15	74.00	4.62	2	0	0	38	1	0	0	10	40	1.85
492	5	8	34.00	4.10	0	0	0	2	0	0	0	1	1	34.00
510	32	35	91.75	2.35	21	1	3	0	9	0	0	0	19	4.83
513	3	7	51.50	6.33	1	0	0	0	0	0	0	0	1	51.50
528	16	20	49.50	2.03	5	0	0	36	1	0	0	23	37	1.34
559	1	1	1.00	1.00	0	0	0	0	0	0	0	0	0	
584	2	2	9.00	4.50	3	0	0	0	0	0	0	0	3	3.00
586	2	2	4.00	2.00	1	0	0	0	1	0	0	0	1	4.00
629	1	1	1.00	1.00	0	0	0	0	0	0	0	0	0	
646	2	2	3.50	1.75	0	0	0	0	0	0	0	0	0	
687	11	11	20.00	1.82	10	0	0	1	9	0	0	1	11	1.82
699	5	11	66.00	5.40	0	2	0	5	0	1	0	2	7	9.43
846	6	6	14.50	2.42	27	0	0	0	12	0	0	0	15	0.97
924	17	46	157.00	3.50	1	3	1	23	0	2	1	15	20	7.85
963	4	7	30.00	4.38	3	0	0	3	1	0	0	0	4	7.50
968	3	3	1.00	0.33	0	0	0	0	0	0	0	0	0	
22	154	222	764.25	2.95	96	8	4	116	51	4	1	55	191	4.00

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SENECA LAKE TROUT AND SALMON FISHING DIARY

YEAR	TOTAL FISHING TRIPS	AVE HOURS/ TRIP	TOTAL SALMONIDS ¹ KEPT				AVE LENGTH OF FISH KEPT (IN.) ²				AVE WEIGHT OF FISH KEPT (LBS.) ³				# HOURS TO CATCH LEGAL SALMONID ⁴	NUMBER OF COOPERATORS
			LT	RT	BT	LLS	LT	RT	BT	LLS	LT	RT	BT	LLS		
1973	1762	4.7	2120	75	6	-	20.6	21.2	-	-	3.8	3.4	-	-	3.0	76
1974	2394	4.7	2018	64	2	-	21.2	20.2	-	-	3.2	3.6	-	-	4.6	74
1975	2584	4.3	2176	134	3	-	20.2	18.2	-	-	3.0	2.7	-	-	4.4	100
1976	2190	4.6	2088	72	1	-	21.5	20.2	-	-	3.5	3.8	-	-	4.6	91
1977	1984	4.8	1422	31	1	-	21.7	21.4	-	-	3.6	4.4	-	-	6.0	83
1978	1817	4.4	1168	112	3	-	21.9	17.4	-	-	3.8	2.1	-	-	5.6	85
1979	2095	4.2	859	244	5	-	22.1	16.1	-	-	4.0	2.1	-	-	6.9	96
1980	1901	4.0	987	429	40	-	22.7	17.3	15.2	-	4.3	2.1	1.6	-	4.5	84
1981	2438	3.8	1132	797	163	-	21.6	17.4	16.2	-	3.9	2.3	2.2	-	3.7	97
1982	1774	3.8	1333	170	89	1	21.6	18.7	15.8	-	3.8	2.9	1.9	-	3.6	100
1983	2151	3.8	1866	202	133	5	22.1	17.1	16.6	19.1	4.1	2.4	2.2	3.1	3.1	100
1984	2749	3.9	1602	385	188	6	20.6	18.5	17.0	20.0	3.5	2.8	2.6	3.6	3.6	119
1985	2377	3.5	2232	250	176	5	20.7	19.7	16.6	19.7	3.4	3.4	2.4	3.7	2.7	100
1986	2518	3.4	2216	246	169	5	21.8	19.5	17.9	16.8	3.8	3.2	3.0	1.8	2.7	102
1987	2931	3.5	2927	317	232	7	21.8	16.9	17.9	16.5	3.8	2.2	3.0	1.8	2.5	119
1988	3205	3.5	2647	563	281	5	21.6	18.7	18.9	-	3.7	2.9	3.7	-	2.6	132
1989	3948	3.4	3671	335	273	37	22.0	19.3	20.0	18.0	3.8	3.0	4.4	2.1	2.3	142
1990	3819	3.6	3428	298	233	101	21.7	19.7	18.7	17.8	3.6	3.1	3.3	2.1	2.7	141
1991	4120	3.5	3765	233	188	49	22.2	19.6	19.1	19.3	3.8	3.1	3.2	2.8	2.7	143
1992	2844	3.5	2316	244	135	131	21.1	19.7	21.3	18.4	3.3	3.2	4.6	2.3	2.7	139
1993	2895	3.5	2532	98	127	60	20.1	19.2	18.6	19.0	3.2	2.8	3.2	3.0	2.6	132
1994	3520	3.8	2849	107	182	97	20.6	18.5	18.8	17.7	3.2	2.6	3.5	2.3	3.0	152
1995	3235	3.5	3132	79	92	128	21.6	19.5	20.6	18.0	3.4	3.1	4.2	2.1	2.2	130
1996	2761	3.4	2641	163	68	133	21.8	19.3	21.3	18.6	3.6	2.9	4.6	2.3	1.9	121
1997	3154	3.1	3490	61	38	59	21.2	20.5	22.0	20.9	3.3	3.3	5.5	3.3	1.5	120
1998	2309	3.1	2507	38	46	48	20.6	22.7	21.0	21.8	2.9	4.6	4.2	4.0	1.4	106
1999	1622	3.1	1679	42	7	40	20.1	18.7	19.5	18.4	2.8	2.5	3.4	2.4	1.6	93
2000	1433	2.7	1612	32	12	17	20.0	20.0	20.3	19.4	2.6	3.8	3.4	2.7	1.3	89
2001	1451	2.8	1830	17	12	23	20.4	19.4	18.9	16.8	2.8	3.2	4.1	2.0	1.2	68
2002	1697	3.3	1896	27	40	69	21.0	20.4	19.7	18.9	3.1	3.3	3.7	2.4	1.6	76
2003	1199	2.8	1184	19	26	50	21.1	20.9	20.0	18.9	3.1	3.6	4.2	2.4	1.5	67
2004	1121	2.9	1072	7	21	48	21.2	-	22.4	21.4	3.2	-	4.7	3.4	1.4	62
2005	1038	3.4	846	5	9	10	21.4	20.1	20.2	17.6	3.2	3.6	3.5	2.4	1.4	65
2006	937	3.4	770	48	12	48	21.8	19.3	18.1	19.0	3.5	2.9	2.9	2.4	1.7	55
2007	1110	3.0	1108	12	20	16	21.6	22.1	19.7	20.9	3.5	4.3	3.3	2.9	1.3	53
2008	1088	2.9	1108	13	10	15	22.1	20.8	22.0	19.0	3.7	3.8	5.2	2.0	1.2	52
2009	992	3.2	877	11	4	120	21.5	19.2	24.0	16.9	3.3	2.6	6.0	2.6	1.8	46
2010	951	3.6	536	18	25	186	22.5	20.5	19.8	18.7	4.0	2.8	3.6	2.8	2.3	61
2011	964	3.7	644	40	47	180	22.0	19.8	19.5	18.8	3.8	3.0	3.7	3.3	1.8	59
2012	905	3.6	570	23	50	65	22.7	22.2	22.4	19.9	4.2	4.1	4.9	3.8	2.2	56
2013	887	3.3	508	15	99	124	22.1	19.1	22.8	18.9	4.2	4.1	5.0	3.2	2.2	53
2014	843	3.7	606	22	42	82	22.4	20.3	24.1	20.0	4.4	3.2	5.8	3.6	2.2	53
2015	696	3.8	401	21	18	26	22.8	21.5	23.0	20.6	4.5	3.6	5.9	2.9	2.5	52
2016	548	3.8	195	2	13	48	22.8	21.0	21.1	21.2	4.3	3.0	2.0	3.9	4.8	48
2017	394	4.3	152	16	14	32	20.9	17.8	19.6	19.1	3.5	2.6	4.2	2.6	5.0	43
2018	352	3.9	146	8	8	38	19.7	19.0	19.9	19.5	3.7	2.7	4.3	2.4	4.5	34
2019	261	3.5	113	3	0	14	21.0	19.0		18.8	3.7	2.2		3.0	4.7	26
2020	236	3.4	7	0	0	18	22.5	-	-	19.3	4.4	-	-	4.9	5.0	22
2021	222	3.0	51	1	4	55	19.0	15.4	17.3	17.0	2.9	-	3.3	2.3	4.0	22

- 1 Salmonids = Lake Trout – LT; Rainbow Trout – RT; Brown Trout – BT; Landlocked Salmon – LLS
- 2 Average Length of Fish with Recorded Lengths
- 3 Average Weight of Fish with Recorded Weights
- 4 Includes Legal Salmonids Released