

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, Bureau of Fisheries, Region 7
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March 17, 2020

To: Owasco Lake Angler Cooperators

Dear Fellow Anglers:

Thank you for participating in the Finger Lakes Angler Diary Program! We have summarized the data from your 2019 diaries and are pleased to send you the annual summary. Your 2019 diaries and new diaries (if necessary) are included for your use with this distribution.

Open Water Trout and Salmon Fishing

In 2019, nine (9) Owasco Lake open water cooperators logged 169 legal salmonids in 137 trips for an average catch rate of 1.23 legal fish per trip. These cooperators had a catch rate for legal salmonids of 0.44 fish per hour and caught legal salmonids on 69% of their trips. Brief summary results by species are included below.

Lake Trout

Owasco Lake open water cooperators caught 151 legal lake trout, of which 11 were kept (93% release rate). Lake trout comprised 86% of the total open water salmonid catch. The largest lake trout reported in 2019 were two respectable fish of 31 inches. The average length of all lake trout caught was 21.3 inches, on par with the average lengths reported over the last 10 years. Most lake trout (136) were caught in late summer and early fall (August-October) in areas around the north end and Long Point. Additional lake trout were caught May - July around the north end and Long Point. In 2019, legal lake trout comprised 97% of the total lake trout catch (only 3% sub-legal).

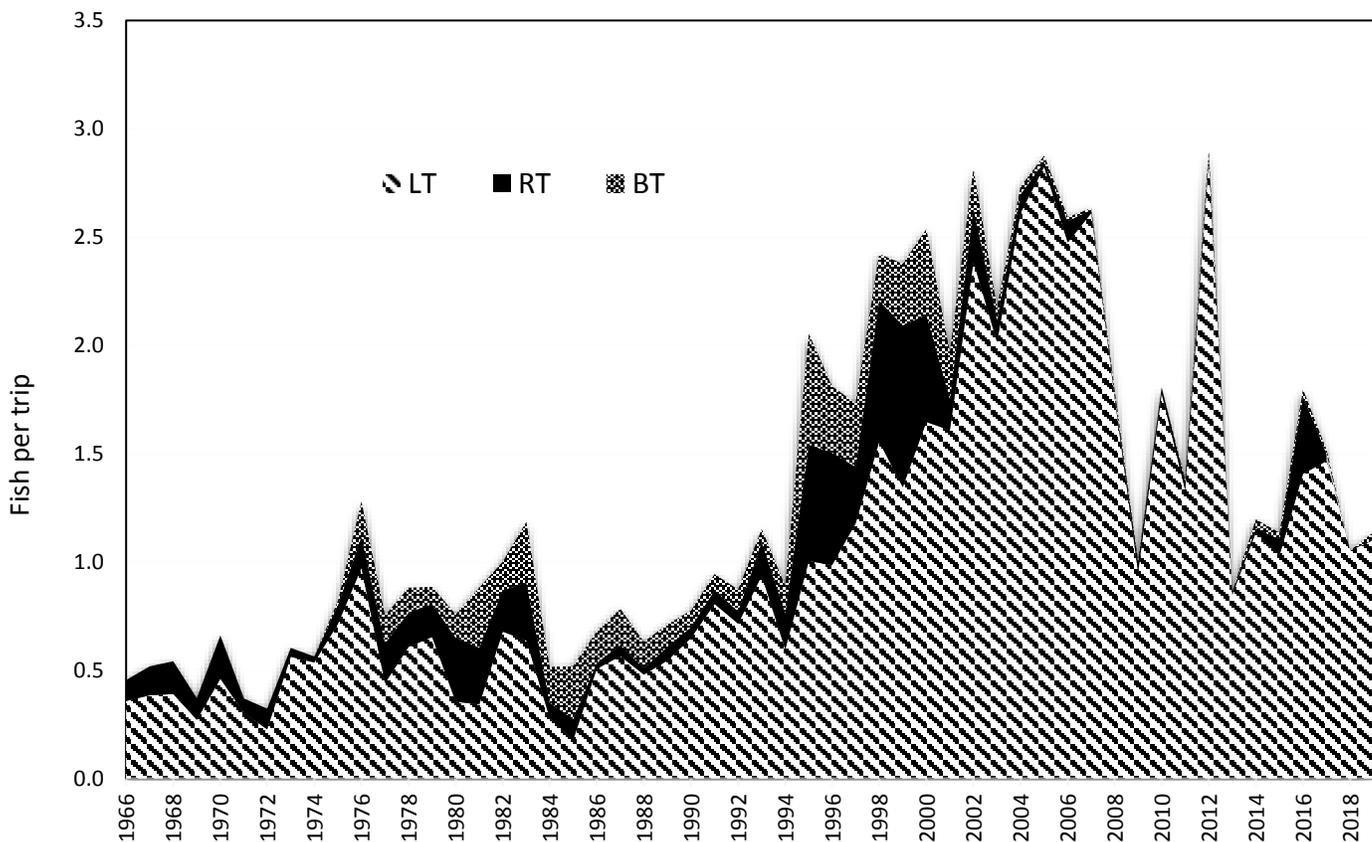
Rainbow Trout

Owasco Lake open water cooperators reported catching 13 rainbow trout between 13 and 26 inches in 2019. The average length of the rainbows caught was 18.2 inches. The majority of rainbows reported (77%) were caught primarily around the north end of the lake and near Long Point in August and September. The total open water rainbow trout catch reported likely understates the potential of the rainbow fishery in the lake, and we anticipate reported numbers increasing as anglers realize this and target this species more directly in the lake.

Brown Trout

Thirteen (13) brown trout were reported by our coldwater open lake anglers in 2019, measuring between nine (9) and 20 inches. The average length of browns reported was 14.1 inches. Given the relatively low number of open water cooperators, this is not surprising. As with the rainbows, this fishery is largely underutilized as it is on the rebound in the lake. Brown trout have been caught in mid-summer lake nettings in both 2016 and 2018 with fish running upwards of 12-14 pounds!

Owasco Lake Coldwater Diary Cooperator Catch Rate



The above graph shows the catch rates (fish/trip) of legal salmonids caught by our Owasco Lake open water cooperators from 1966 through 2018 and the relative contribution of each species in the catch over time. Catch rates are used to remove the effects of having varied numbers of cooperators and trips from year to year. Note the actual data are provided in the attached summary tables.

Owasco Lake Tributary Fishing

In 2019, seven (7) Owasco Lake tributary cooperators caught 57 legal rainbow trout (plus an additional 51 sub-legal fish) and 51 legal brown trout during 73 trips and were successful in catching at least one legal fish in 61% of their outings. The number of cooperators and trips in 2019 was typical of the last decade and is holding at a relatively low level – however catches were good relative to most recent years. Anglers released 97.2% of the rainbows caught and 97.8% of all brown trout! The largest rainbow trout caught was an impressive 25 inches, and the largest brown caught was 18.3 inches. Most rainbows (77%) were caught in April, May and December in the Owasco Inlet. Hemlock Creek and Dresserville Creek also produced fish. Most brown trout (80%) were caught in the Owasco Inlet and Hemlock Creek in April, May and December as well. The total numbers of legal rainbow and brown trout reported in 2019 were higher than in previous years (except 2018, which was a banner season as well) and are likely indicative of both increased effort and reporting, and an increasing number of adult rainbows and browns returning to the

tributaries to spawn. We did receive many anecdotal reports from non-cooperators indicating that the spring run of rainbows in 2019 was the best they've seen in years!

Owasco Lake Warmwater Fishing

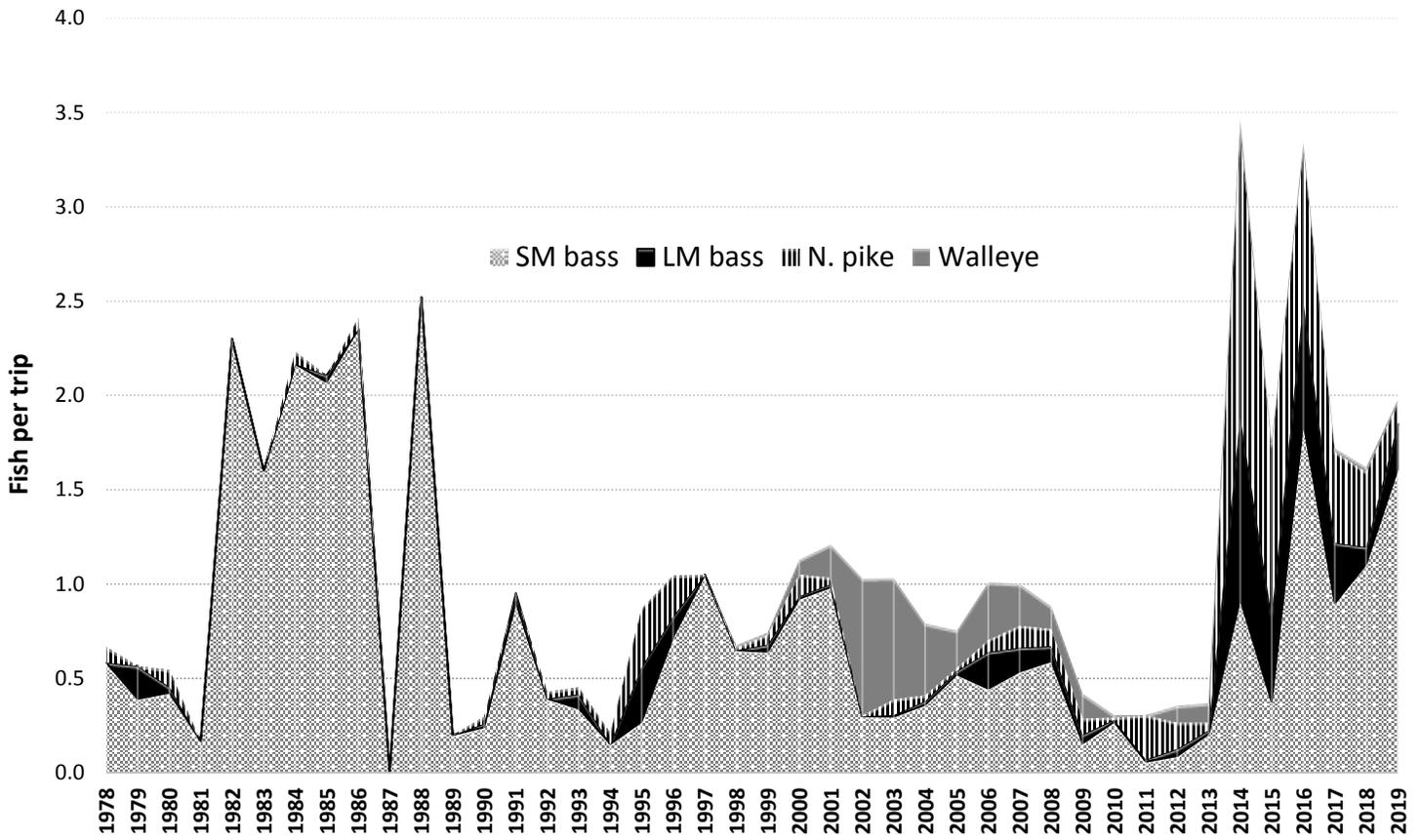
In 2019, eight (8) Owasco warmwater cooperators made 128 trips on the lake. Those anglers caught 216 smallmouth bass, 16 northern pike, 33 largemouth bass and two (2) walleye. Anglers were successful in catching at least one legal warmwater gamefish on 68% of their outings, with it taking, on average, 2.0 hours to catch one legal fish. Overall, this excellent catch rate is on par with the last six (6) years and is very good compared to the years 2003-2013. Northern pike catches were down, but with only eight (8) reporting warmwater cooperators, it is more likely reflective of angler preferences than actual abundance in the lake.

Anglers specifically targeting bass logged 83 trips for a total of 377 hours. They caught 234 bass (201 smallmouths and 33 largemouths). The overall targeted catch rate for bass was 0.62 bass per hour (1.6 hours per bass), and for legal sized bass was 0.58 bass per hour (1.7 hours per legal bass). This is above the statewide average of around 2.0 hours per legal bass. The numbers of smallmouths caught was the highest in the last ten (10) years, and the catch rate in 2019 exceeded those of the heyday of the smallmouth fishery in Owasco in the late 90's and early 2000's. This coming season should be another stellar one should the trend continue.

The largest reported fish caught of each species was as follows: largemouth bass – 24.5 inches, smallmouth bass – 23.3 inches, northern pike – 36.5 inches, walleye – 25 inches. The size ranges of largemouths, smallmouths and northern pike caught were all indicative of healthy populations. Only two (2) walleyes were caught (18.8 - 25 inches), indicating difficulty in catching this species due to population decline in the wake of a stocking moratorium in place since 2006. The low walleye catch may also be attributable to an increase in forage (smelt/alewives) in the lake. Creel studies such as those conducted on Oneida Lake have shown that a strong forage population typically lowers the catchability of walleyes, *i.e.* if the fish are well fed, their tendency to take an offering from an angler decreases and they become harder to catch.

The majority of northern pike were caught May-July near Long Point and around the shallow flats at the north and south ends of the lake. Smallmouth bass were caught in good numbers from May through July, with most fish being caught at the north end and in the vicinity of Long and Burtis Points. Most largemouth bass were caught sporadically from June through October, and catches were predominately at either end of the lake where more expansive areas of aquatic vegetation occur. The two walleye were caught in May and July in the vicinity of Burtis Point.

Owasco Lake Warmwater Diary Cooperator Catch Rate



The graph above shows the catch rates (fish/trip) of legal warmwater species caught by Owasco Lake warmwater cooperators from 1978 through 2018 and the relative contribution of each species in the catch over time. Catch rates are used to remove the effects of having varying numbers of cooperators and trips from year to year. Note the actual data are provided in the attached summary tables.

Fisheries Monitoring and Management Considerations

We last conducted a standard index lake trout gill netting survey on Owasco Lake in early August 2016. Results indicate that overall lake trout abundance is trending downward in the lake, but the population is maintaining a stable age distribution and the fish are in good condition. It is interesting to note that approximately 99% of the lake trout observed in this survey were clipped fish of hatchery origin. There is virtually no natural reproduction of lake trout in this waterbody, and the fishery is supported almost entirely through state stocking efforts. Although not specifically targeted in the survey, baitfish are a standard component of the catch as well, and it appears, relative to recent surveys, that the forage base in the lake (at least rainbow smelt) appears to be increasing. This survey will be repeated in 2020.

Experimental gill netting efforts were also conducted in 2016 and 2018 specifically targeting rainbow trout and walleye to identify if this method could be utilized as an effective tool to assess those species in the lake. We set eight (8) overnight gill nets spaced throughout the lake targeting thermocline waters (approximately 52-60 degrees F). Walleye and rainbows were caught in almost every net. The rainbow trout caught averaged 15.5 inches and 1.6 lbs. The most interesting result of this netting indicates, at least in the areas we sampled, that there are no walleye younger than 14 years old (23.4 inches average length, 5.5 lbs average weight). This confirms to us that there is currently little to no natural reproduction of walleye in the lake or tributaries. There were no walleye observed from any year-classes that would have been produced following the cessation of walleye stocking in the lake. The Finger Lakes Institute has also provided walleye age data from fish they collected in 2016, and their results mirror ours as well, with no fish observed under 14 years of age. The 2018 repeat of this survey yielded ten (10) walleye between the ages of 17 and 25, four (4) rainbow trout and 16 brown trout. Having little to no successful natural reproduction of walleyes in Owasco bodes well for continued restoration of the rainbow and brown trout populations. This experimental netting will next be repeated in 2020. In addition, in 2020 we will begin routine monitoring of forage populations in the lake via targeted netting protocols, which will likely occur in the rotation with our index netting every four years for lakers, rainbows, browns and walleyes.

We last surveyed juvenile salmonids in Owasco tributaries in September of 2019. Results continue to indicate that rainbows (and to a lesser degree, browns) spawn quite successfully in Owasco's tributaries. Hemlock Creek in Locke is our best producer of rainbow trout, consistently exhibiting densities of more than 2,500 young-of-year (YOY) fish per acre. Hemlock Creek is a much smaller shaded tributary and is fed by numerous cold springs, so this is not a real surprise. Wild juvenile rainbows were also abundant in the upper reaches of the Owasco Inlet. The middle reaches of the Inlet appear to be more favorable to brown trout production, along with Dutch Hollow Brook. These juvenile salmonid production surveys will be conducted again in 2020.

Relative to data collected through the diary program, lake trout continue to provide a productive coldwater fishery in Owasco Lake. Rainbow and brown trout still appear to be present in relatively low but increasing numbers in the lake (especially rainbow trout). Our stocking rates for browns and rainbows will remain about the same for now – although approximately 5,000 additional rainbows have been allotted to Dutch Hollow Brook annually in recent years in an effort to restore a viable spawning run in that stream. We are still confident that walleye and lake trout populations in the lake have been suppressing the rainbows and browns due to heavy predation on juvenile fish emigrating from the streams. We also feel that walleye and lake trout predation resulted in lower forage fish (alewife and smelt) abundance in the early 2000's. The walleye population in the lake is still steadily decreasing due to our cessation of stocking and lack of

significant natural reproduction, and the lake trout population continues to stabilize at a lower level following significant stocking cuts in recent years. As the effect of walleye and lake trout predation on juvenile browns and rainbows decreases, we expect to see an increasing rate of recruitment of adult browns and rainbows in the lake, and hence a more robust tributary fishery as well. This is not a short-term rapid change, but we should continue to see fishing (both open water and tributary) improve each year as time goes on. Ultimately, we would still like to see brown and rainbow trout account for an increased proportion of the total catch of trout from Owasco Lake.

We are currently drafting, revising and reviewing recreational fisheries management plans for all of New York's Finger Lakes. When these plans are complete (2020) they will be available for public review and comment. Please keep your eyes open for them and feel free to provide us with comments!

Ongoing Recruiting Call!!!!

Please help us recruit new anglers to the Finger Lakes Angler Diary Cooperator Program – we need participating anglers now more than ever, especially on Owasco and Otisco Lakes. We are encouraging our current members to seek out prospective participants and refer them in our direction. As you can see from this report, the catch data obtained from such a small group of anglers can hinder our understanding of what may be happening in the fishery. I am always happy to discuss the ins and outs of the program with new members, and can be reached via the phone number or email below.

Thank you again for your participation in the Owasco Lake Angler Diary Program, your contributions are greatly appreciated! I wish you continued success on the water in 2020!

Sincerely,

Ian R. Blackburn

Aquatic Biologist – NYSDEC Region 7 Fisheries

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Owasco Lake Coldwater Fishing Survey Summary By Year

Year	Total # fishing trips	% successful outings	Average hours/trip	Total legal gamefish caught			Average length (in.)			# hours to catch legal gamefish	# cooperators
				Brown trout	Rainbow trout	Lake trout	Brown trout	Rainbow trout	Lake trout		
1967 *	255	47	4.3		34	98		15.8	18.5	7.5	15
1968 *	395	47	3.6		60	154		15.3	20.4	6.3	23
1969 *	232	38	3.5		23	63		15.9	19.9	8.9	19
1970 *	579	54	3.6		116	267		15.5	21.1	5.1	37
1971 *	600	36	3.1		41	181		15.5	21.7	8.5	30
1972 *	344	32	3.3		33	78		15.5	21.8	9.9	27
1973 *	578	47	3.3		24	325		15.6	20.6	5.3	21
1974 *	661	50	3.7		19	354		17.3	20.9	6.2	25
1975 *	1169	69	3.7	22	102	834	17.8	16.8	22.0	4.2	40
1976 *	761	70	3.8	123	111	740	16.8	17.0	22.1	3.6	40
1977 *	757	58	4.7	97	140	333	17.0	16.0	23.2	6.2	44
1978 *	858	52	4.0	98	136	522	19.6	17.3	23.1	6.3	53
1979 *	823	50	3.8	66	125	538	16.1	15.0	22.0	5.0	56
1980 *	490	54	3.8	52	145	174	15.7	14.6	21.0	5.3	44
1981 *	499	60	3.5	138	131	171	15.9	14.5	21.9	4.2	46
1982 *	807	60	4.1	106	154	548	17.9	15.1	21.5	4.9	61
1983 *	544	62	5.1	153	145	347	13.3	13.4	21.9	4.3	45
1984 *	770	71	3.9	127	54	216	15.5	13.8	21.1	5.4	52
1985 *	728	57	3.5	178	70	130	16.2	15.4	20.7	4.3	52
1986 *	438	61	3.7	64	12	222	15.2	14.6	20.6	3.8	33
1987 *	635	68	3.8	106	33	359	16.2	15.2	20.3	3.0	44
1988 *	851	62	3.7	104	24	409	18.0	16.4	21.1	3.8	48
1989 *	1287	68	3.8	132	83	701	18.9	18.3	21.9	3.4	50
1990 *	1195	63	3.8	91	60	776	22.3	18.5	20.7	3.1	58
1991 *	1087	72	3.9	82	68	877	21.8	16.3	22.1	2.9	64
1992 *	781	71	4.0	78	45	558	21.4	18.3	21.3	3.1	64
1993 *	850	79	3.7	51	133	796	22.8	14.6	21.3	2.2	55
1994 *	1093	68	3.7	136	183	652	22.5	16.3	21.7	2.8	55
1995 *	785	79	3.9	401	422	789	21.4	16.2	23.3	2.2	55
1996	663	72	4.0	204	344	653	17.4	16.3	22.7	2.2	43
1997 *	566	75	3.8	166	148	667	19.9	18.1	23.7	2.2	37
1998	509	79	4.0	110	331	792	17.9	14.4	21.6	1.6	31
1999	680	78	3.6	193	508	915	15.9	14.7	20.6	1.5	33
2000	438	81	4.2	173	217	721	15.6	17.2	20.1	1.6	28
2001	449	82	3.8	96	65	722	19.3	15.9	19.8	1.9	34
2002	576	88	4.6	105	143	1374	19.5	17.1	21.2	1.6	36
2003	452	81	3.9	26	46	911	21.4	17.3	20.4	1.8	39
2004	348	84	4.0	12	30	909	20.2	18.2	20.2	1.4	32
2005	338	79	4.3	10	8	954	25.1	20.1	20.6	1.5	37
2006	314	82	4.7	6	31	777	18.5	21.6	21.4	1.8	36
2007	254	76	4.7	2	4	663	17.3	21.3	22.4	1.8	24
2008	139	75	4.5	3	2	245	26.1	21.5	23.1	2.5	19
2009	124	64	5.0	1	6	118	19.5	18.7	21.4	4.9	13
2010	67	70	4.5	0	2	119		20.0	22.0	2.5	11
2011	100	53	4.2	1	4	133	16.5	15.5	21.4	3.0	13
2012	41	95	5.0	1	1	117	20.3	10.0	23.0	1.7	9
2013	66	66	3.7	0	1	56		18.0	20.7	4.3	12
2014	147	76	4.2	6	3	167	17.6	19.0	22.7	3.5	13
2015	200	74	4.1	8	15	206	19.4	22.2	23.8	3.6	13
2016	123	91	5.1	2	26	169	17.8	16.6	23.6	3.2	12
2017	58	52	3	1	2	85		20.5	22.6	2	4
2018	113	85	2.9	0	11	119		19.3	20.3	2.5	5
2019	137	69	2.8	5	13	151	14.1	18.2	21.3	2.3	9

*Lengths are from kept fish only

Owasco Lake Tributary Fishing Survey Summary By Year

Year	Total # fishing trips	% successful outings	Average hours/trip	Total legal gamefish caught		Average length (in.) of fish		# hours to catch legal gamefish	# cooperators
				Brown trout	Rainbow trout	Brown trout	Rainbow trout		
1979 *	190	72	3.2	46	329	11.3	12.6	1.6	15
1980 *	152	68	3.4	71	186	12.2	14.0	2.5	16
1981 *	186	83	3.3	101	393	12.7	13.4	1.6	21
1982 *	169	71	3.1	49	270	14.6	14.2	1.9	23
1983 *	124	80	3.4	88	255	16.8	12.9	2.2	22
1984 *	243	58	2.9	90	234	13.4	12.8	1.7	21
1985 *	285	87	2.7	218	197	15.6	13.3	1.3	24
1986 *	257	69	2.6	122	136	15.2	14.2	1.9	14
1987 *	181	74	2.7	61	154	16.8	14.3	1.5	13
1988 *	199	71	2.5	27	153	18.0	13.6	1.4	17
1989 *	111	71	2.8	54	68	15.3	14.6	1.5	17
1990 *	108	81	2.5	55	35	20.0	14.2	1.0	9
1991 *	72	78	3.4	16	41	15.5	14.6	1.6	11
1992 *	139	81	3.1	61	85	13.1	14.2	1.4	14
1993 *	99	77	2.6	45	53	13.3	14.5	1.3	15
1994 *	110	52	2.6	30	25	17.5	14.5	2.2	15
1995 *	108	58	2.7	35	85	15.5	16.2	2.4	19
1996	191	68	2.8	127	181	13.3	16.1	1.7	21
1997 *	141	74	2.9	167	120	13.1	16.4	1.4	17
1998	159	74	3.2	136	171	28.0	22.0	1.6	19
1999	117	82	3.3	91	256	14.4	16.7	1.1	15
2000	105	72	3.0	104	160	18.3	16.8	1.2	11
2001	82	53	2.8	48	62	17.5	16.6	2.1	15
2002	75	71	3.7	66	104	13.8	17.7	1.6	11
2003	66	67	3.3	48	69	17.1	16.8	1.8	10
2004	44	61	2.2	31	29	15.3	16.0	1.6	10
2005	51	26	3.9	17	18	19.0		5.7	10
2006	45	14	3.7	12	7	15.3	21.5	8.7	12
2007	25	54	3.0	23	12	14.1	19.0	2.1	9
2008	24	68	2.9	24	15	13.2	11.5	1.8	5
2009	23	80	3.0	32	10	13.4	11.5	1.7	6
2010	39	71	3.2	34	25	12.5	13.6	2.1	8
2011	28	61	2.6	18	16	15.9	15.3	2.1	6
2012	21	53	2.8	12	12		21.8	2.5	8
2013	39	62	1.8	30	22	12.6	16.5	1.3	6
2014	49	50	1.8	55	9	14.1	17.5	1.4	8
2015	38	50	1.9	24	22	13.6	16.7	1.6	5
2016	44	78	2.2	64	48	11.8	12.9	0.9	9
2017	20	59	2.7	13	8	14.0	14.2	2.5	6
2018	76	62	3.8	65	94	11.6	9.1	1.8	6
2019	73	61	2.7	51	57	10.8	11.0	1.8	7

*Lengths are from kept fish only

Owasco Lake Warmwater Fishing Survey Summary By Year

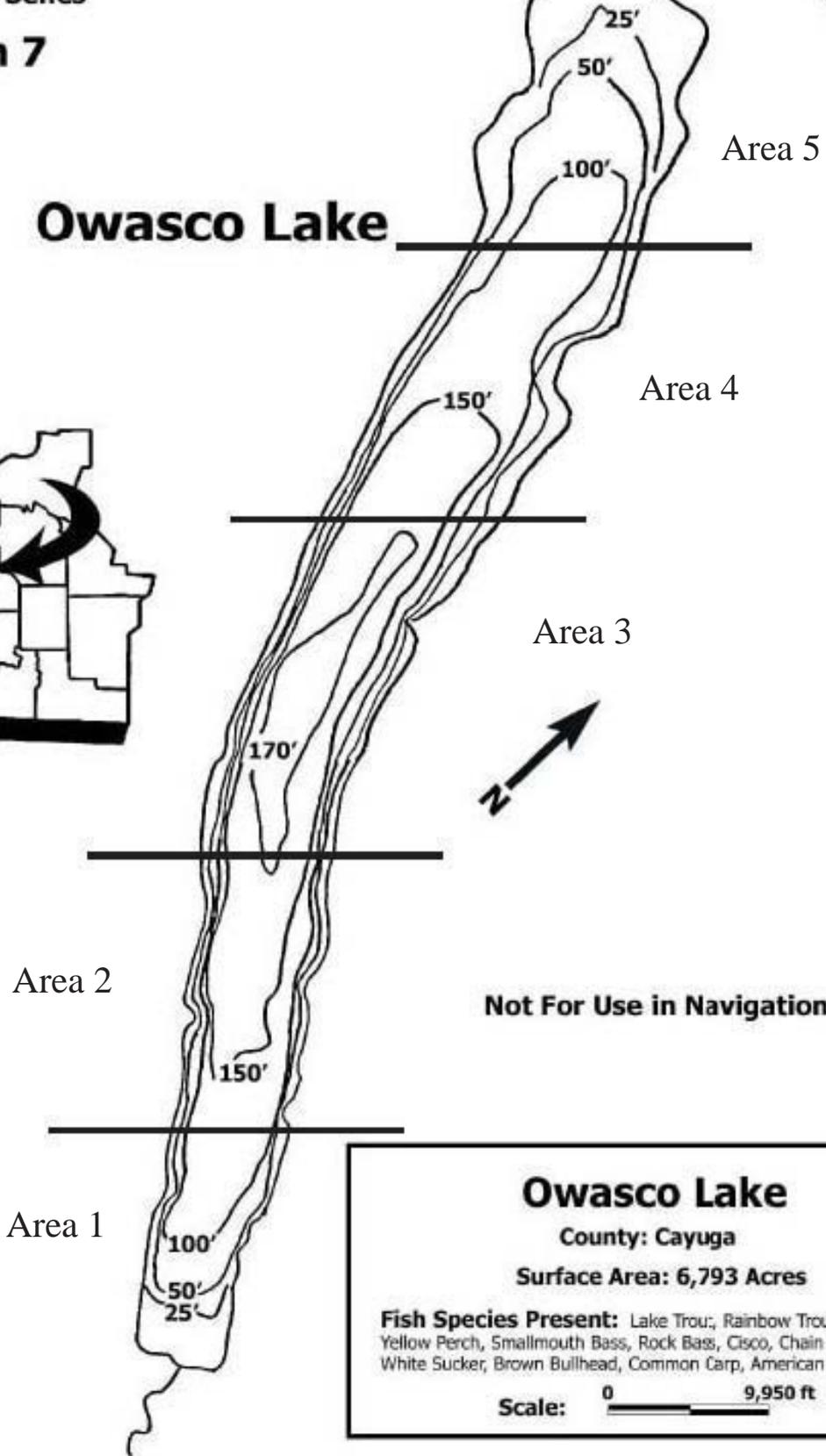
Year	Total # fishing trips	% successful outings	Average hours/trip	Total legal gamefish caught				Average length (in.) of fish				# hours to catch legal gamefish	# cooperators
				SM bass	LM bass	N. pike	Walleye	SM bass	LM bass	N. pike	Walleye		
1978 *	36	39	4.1	21		3		14.4		26.0		9.7	6
1979 *	23	48	2.8	9	4			15.9	20.8			8.0	4
1980 *	33	82	3.1	14	1	3		15.3	19.0	23.0		2.7	5
1981 *	18	17	2.6	3				15.7					2
1982 *	30	70	3.3	69				14.9				3.1	3
1983 *	10	90	3.6	16				15.9				2.3	4
1984 *	30	83	2.5	65		2		14.3		25.2		1.9	6
1985 *	28	86	2.9	58	1			14.8	15.0			1.4	3
1986 *	17	100	2.7	40		1		14.5		30.0		2.0	1
1987 *													
1988 *	25	93	4.0	63				14.1				1.6	2
1989 *	10	29	1.9	2				13.3				9.4	1
1990 *	54	56	2.7	13	1	2		18.2	17.0	23.2		5.7	6
1991 *	21	46	3.3	19	1			16.4	17.0			1.5	5
1992 *	28	57	1.8	11		1		14.3		25.0		2.5	4
1993 *	53	57	2.2	18	4	2		16.2	16.5	23.0		4.7	7
1994 *	151	57	3.6	23		9		14.7		26.7		4.0	9
1995 *	100	61	3.8	27	29	31	0	14.9	15.0	31.8		4.4	6
1996	110	56	3.2	79	12	24	0	13.5	16.5	25.4		3.0	6
1997 *	61	64	3.3	64	0	0	0	16.5				3.1	6
1998	74	50	3.4	48	0	1	1	13.2		27.5	18.5	5.1	7
1999	78	53	3.3	50	3	4	1	114.0	13.0	26.6	11.5	4.6	7
2000	78	63	3.3	72	1	9	6	14.5	13.0	23.4	14.6	2.9	7
2001	177	70	3.8	174	3	6	31	15.5	18.0	23.0	16.0	3.1	12
2002	171	71	2.9	51	0	1	124	13.7		14.4	19.1	2.8	11
2003	131	65	3.0	39	1	11	84	14.6	15.0	22.4	19.7	3.0	13
2004	100	48	3.0	36	2	3	38	14.0	15.7	29.4	21.1	3.8	9
2005	117	52	3.8	61	2	2	23	14.3	11.4	21.1	21.2	5.1	10
2006	108	59	3.7	48	21	7	33	15.5	14.9	23.5	21.8	3.6	12
2007	86	49	3.9	46	11	10	19	15.6	14.4	24.3	22.2	3.9	13
2008	76	54	3.4	45	6	7	9	15.0	16.7	23.8	23.1	3.8	10
2009	129	34	3.7	20	6	11	17	14.1	15.0	23.8	22.9	8.8	10
2010	82	20	3.3	22	1	1	1	13.9	11.0	20.5	27.0	11.0	6
2011	85	14	3.2	5	1	20	0	12.6	13.0	23.5		10.5	5
2012	79	19	4.0	7	3	11	7	12.4	13.0	24.7	22.8	11.2	6
2013	49	28	2.0	10	1	2	5	14.3	20.0	29.0	25.1	5.6	3
2014	37	79	4.9	34	36	56	2	15.5	14.6	22.4	27.5	1.4	5
2015	72	77	3.4	27	34	75	2	17.3	17.7	27.3	27.5	2.0	5
2016	56	93	4.8	104	36	45	6	15.6	15.5	24.1	24.9	1.4	5
2017	128	92	4.1	131	41	82	3	15.9	16.5	24.9	20.3	2.4	6
2018	123	81	3.7	136	11	49	3	15.3	16.2	26.2	25.3	2.3	6
2019	128	68	4.0	206	31	14	2	16.1	16.7	26.5	21.9	2.0	8

*Lengths are from kept fish only



Region 7

Owasco Lake



Not For Use in Navigation

Owasco Lake
County: Cayuga
Surface Area: 6,793 Acres

Fish Species Present: Lake Trout, Rainbow Trout, Walleye, Yellow Perch, Smallmouth Bass, Rock Bass, Cisco, Chain Pickerel, White Sucker, Brown Bullhead, Common Carp, American Eel, Panfish

Scale: 0 9,950 ft

