NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

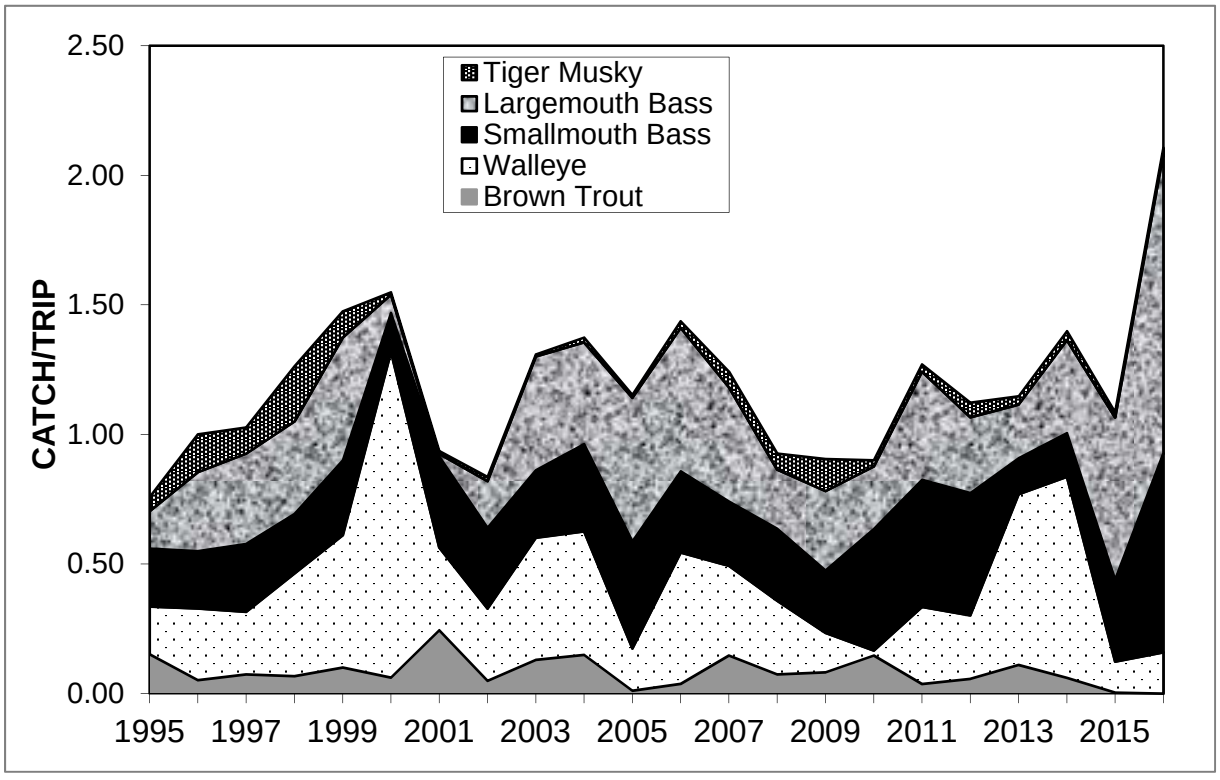
Division of Fish and Wildlife, Bureau of Fisheries, Region 7
1285 Fisher Avenue, Cortland, NY 13045-1012
P: (607) 753-3095 | F: (607) 753-8532
www.dec.ny.gov

Friday, April 07, 2017

To: **Otisco Lake Volunteer Angler Diary Cooperators**

Dear Fellow Anglers:

I would like to begin by thanking you for your time and effort for recording your fishing trips in 2016. We had 16 Otisco Lake cooperators in 2016; which is the same number as 2014 and 2015. Cooperators recorded 131 outings (an outing is a record of a cooperator's trip not including members of their party), which amounted to 195 angler trips (includes all participants) totaling 984 hours of fishing effort. Low water levels during the summer and fall made launching and retrieving boats difficult, which likely affected the number of angler trips in 2016. On average, it took just 2.3 hours to catch one legal gamefish in 2016, which ties the 2006 rate for the best recorded by Otisco Lake cooperators. Anglers targeting tiger musky comprised 38% of the total cooperator effort (375 out of 984 hours) in 2016, followed by anglers targeting bass at 22% (213 hours) and walleye at 21% (203 hours). Details on species specific catch rates and effort are included in the discussion below.



The above graph shows the long term catch rates by species for all legal sized gamefish. This includes all reported trips regardless of what anglers were fishing for.

The report from our 2014 Full Lake Fisheries Assessment is in its final review. When completed, which should be in the near future, the report will be available to view at: http://www.dec.ny.gov/outdoor/36552.html I've included some interesting highlights from the survey in the discussion that follows.

Walleye

Cooperators caught 31 walleye in 2016, all of which were of legal length (18-inches or greater). The drastic drop in the number of walleye caught, since 2014, is largely due to a few highly successful walleye cooperators deciding not to continue with the diary program. In 2013 and 2014, 68% and 70% of the reported walleye catch came from those cooperators respectively. Walleye are highly prized table-fare and cooperators harvested the majority (87%) of the legal fish caught. The largest walleye caught in 2016 was 25.7 inches, while the average length was 21.9 inches. Area 3 (see map) accounted for most of the walleye catch, with 18 fish. Fishing in May once again produced the majority of the walleye, 26 of the 31. Shore anglers caught16 walleye while boat anglers caught 15.

Anglers specifically targeting walleye caught all but two of the 31 walleye recorded. The resulting targeted catch rate was 0.14 walleye per hour (1 every 7 hours) which was better than last year's 0.10 walleye per hour (1 every 10 hours). As mentioned in the past, targeted catch rates of 0.10 to 0.25 fish per hour are considered to be "good to very good" for New York walleye fisheries while those approaching 0.5 fish per hour are considered "excellent" (Festa et al. 1987).

Otisco Lake was not stocked with walleye in 2016, as it was a non-stocking year and no surplus were available. It is scheduled to be stocked this year (2017) with 44,000 50-day fingerlings.

During the 2014 DEC Fisheries assessment, scale samples were taken from all walleye collected. We also took otoliths (ear bones) from walleye that were collected during our gill netting survey. Otoliths tend to allow more precise aging of walleye that are eight years or older. Walleye ages using otoliths ranged from 2 to 22; the 22 year old fish was only 24 inches long. Age-7 walleye were the most numerous in 2014 followed by age-6. These walleye were from the 2007 and 2008 year classes, which was very interesting, as no walleye were stocked by the DEC in 2007. So, there appears to have been significant natural reproduction of walleye in Otisco Lake in 2007. Walleye stocked into Otisco from 2009 through 2013 were marked with oxytetracycline (OTC) to allow us to differentiate between wild and stocked walleye. A random sample of YOY walleye collected during our fall electrofishing surveys throughout that period was sent to Cornell University to determine if they were OTC marked. Otoliths from a total of 48 walleye were examined and OTC marks were observed on 69% of them. While some OTC marks were almost certainly missed, it would appear that wild production is occurring in the lake in some years. Given this new information from the OTC marked

fish and our 2014 sampling results we now plan on conducting fall walleye surveys on non-stocking years to see if we can document some of this natural reproduction. We had planned on starting this in the fall of 2016, but because of the extremely low water levels, sampling was not attempted. Although wild production is likely highly variable and low in most years due to alewife predation on walleye fry, Otisco Lake does appear capable of producing a strong year class of wild walleye on occasion as evidenced by the 2007 year class.

We understand that there is a lot of concern from walleye anglers about the stocking change that took place in 2014, going from an annual to biannual stocking. As mentioned in previous diary reports we will continue to monitor this. But please keep in mind that since 2002 there have only been three non-stocking years, 2007, 2014 and 2016, and as mentioned above we have evidence that natural reproduction occurred in 2007. As such, there are a lot of walleye year classes currently out there in Otisco.

Tiger Muskellunge

In 2016, cooperators landed 89 tiger muskies with reported lengths ranging from 15 to 45 inches and an average length of 31.2 inches. Of the 89 caught in 2016, 25 were legal length (36-inches or greater) and 27 were between 30 and 35 inches. Prior to 2013 the minimum legal length limit had been 30-inches. Two tigers were kept by cooperators in 2016, a 41 and 42 incher. The release rate for legal tigers was 92%. Those specifically targeting tigers caught 49 of the 89 reported (55%), and 18 of the 25 (72%) legal length tigers. Anglers targeting any warm water gamefish caught 22 tigers (25%), five of which were legal length. Anglers targeting bass accounted for 12 tigers (13%), but no legal length tigers were caught by this group.

Cooperators specifically targeting tiger muskies put in 52 trips and logged 375 angler-hours. The targeted catch rate for tiger musky in 2016 was 0.13 per hour (1 every 7.7 hours). This was well above the 0.04 tigers per hour (1 every 25 hours) in 2015, and slightly better than the five year average of 0.12 per hour (1 every 8.3 hours). Anglers targeting any warm water species had a tiger musky catch rate of 0.12 per hour (1 every 8.3 hours). While anglers targeting bass had a catch rate of 0.06 tigers per hour (1 every 16.7 hours). Diary data on catch rates are lacking for tiger musky but catch rates of muskellunge from diary programs on the St. Lawrence River yielded a rate of 0.04 fish per hour (1 every 25 hours) (Farrell et al. 2006).Creel survey data for Chautauqua Lake have average muskellunge catch rates of 0.05 fish per hour (1 every 20 hours) (McKeown and Einhouse 2000). The Otisco Lake angler success rate for tiger musky appears to be similar, or above, these renowned muskellunge fisheries.

The majority (54%) of tigers caught in 2016 were landed by boat anglers, while shore anglers accounted for 34% (30 of 89), and ice anglers caught 11 tigers (12%). Tigers were caught throughout the lake, but the majority (43) were caught around the causeway (Areas 1 and 2). Areas 3 and 4 accounted for 16, and 19 fish, respectively. Eleven tigers were caught with no area recorded. May was the most productive month for tigers, accounting for 26 of the 89 caught (29%).

Since tiger muskellunge are sterile hybrids (cross between muskellunge and northern pike), the fishery is supported entirely by stocking. Otisco Lake received the target stocking rate of 11,000 fall fingerlings (9.5 inches) in early-September 2016. Tiger musky are highly vulnerable to predation by bass, walleye and other tigers during their first 6-8 months in the lake. Although there is no formal assessment, survival following stocking is believed to be low but variable. Despite this, a good number of tigers ultimately do well in Otisco, as evidenced by the ice fishing world record caught in 2009. This, coupled with the fact that many anglers choose to release a large portion of the legal tigers they catch in hopes of letting them grow even larger, indicates that we have a quality fishery for these fish in Otisco.

During the 2014 survey, five tiger musky were floy tagged (small grey tag, looks like a piece of spaghetti). Amazingly, one of those tagged tigers was recaptured by an angler in 2016. I am not sure what the actual odds are for catching one of five tagged fish out of a lake as big as Otisco, but it has to be extremely low. My advice to that angler was, "go and buy a lottery ticket". That tiger was tagged on September 24, 2014, was 23.8 inches and estimated to be three years old. It was recaptured on September 18, 2016, in approximately the same location it was tagged, and was 30 inches long and estimated to be 5 years old.

Black Bass

Overall, a total of 159 smallmouth and 252 largemouth bass were caught by cooperators in 2016. The vast majority of fish recorded were at or above the legal 12-inch length limit (94% of smallmouth and 90% of largemouth). The harvest rate was 2% (7 of the 376 legal bass), which is well below the five-year average of 10%. The largest smallmouth and largemouth were 21 and 22.5 inches, respectively. Based on the standard length/weight tables found on our website at: http://www.dec.ny.gov/outdoor/9222.html, that smallmouth would have been pushing 4 ½ pounds, and the largemouth would have weighed around 6 ¾ pounds. Besides those two impressive bass, there were an additional four smallmouths and nine largemouths caught that were 20 inches or larger.

Cooperators specifically targeting bass took 54 trips for a total of 213 angler-hours. Those targeting bass caught 336 overall, 307 of which were of legal length (91%). This equates to a targeted catch rate of 1.6 bass per hour (1 bass every 36 minutes) and a targeted legal catch rate of 1.4 legal bass per hour (1 bass every 42 minutes). These bass catch rates are above the statewide average of 0.51 bass per hour (1 fish every 2 hours) for all size bass and 0.26 per hour (1 fish every 3.9 hours) for legal length bass (Green et al. 1986). Those fishing for any warm water gamefish weren't as successful in 2016 compared to 2015 when it came to catching bass. They only caught 16 bass, of which 15 were legal length (94%). This equates to catch rates of just 0.09 bass per hour overall (1 bass every 11 hours), and 0.08 legal bass per hour (1 legal bass every 12.5 hours). The 2015 bass catch rate for these anglers was 0.31 bass (1 bass every 3.2 hours) and 0.27 legal bass per hour (1 legal bass every 3.7 hours). In the past, these

"any" warm water gamefish anglers had bass catch rates similar to those anglers targeting bass but this is the fourth consecutive year that their catch rates were lower. As stated last year, we have no reason to believe that there is anything wrong with the lake's bass populations, especially given the consistently good catch rates for anglers targeting bass. One possible explanation is that anglers start off targeting bass but switch to targeting any warm water gamefish on days when bass fishing is slow or unproductive. To the contrary, this may also be contributing to higher catch rates for anglers targeting bass.

Overall, the average length of smallmouth bass caught was 16.1 inches and 14.2 inches for largemouth bass. Boat anglers accounted for the vast majority of the bass catch with 90% of smallmouth bass and 85% of the largemouth. Smallmouths were caught throughout the lake with Area 3 producing the most with 63. Area 2 was next with 45, followed closely by Area 4 with 41. Area 1, south of the causeway, accounted for ten of the smallmouths reported. Unlike the last few years, the most productive region for largemouth bass was Area 4, with 130 caught, while Area 3 was close behind with 106. Traditionally, Area 4 (the "narrows") is usually the "hot" area for largemouth bass, but that was not the case for the three year period from 2013 to 2015 when Area 3 produced higher catches. For smallmouth bass, May was once again the top producer (75 bass) followed by June (51 bass). July was the big month for largemouth bass (66) followed by August (51) and May (49).

Brown trout

In 2016, anglers specifically targeting brown trout made just 3 trips totaling 6 hours of effort. This is well below the 10-year average of 21.7 trips and 68 hours of effort. No brown trout were caught by cooperators in 2016.

In closing I want to again thank all of the cooperators who work so hard to maintain the diaries for us. As always, I encourage anyone who fishes any of our Finger Lakes to consider becoming a diary cooperator. If you know of someone who fishes any of these lakes, please let them know about our program. **Good luck fishing in 2017!**

Sincerely,

James Everard
Biologist 1 (Aquatic)

Literature cited

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Festa, P.J., J.L. Forney, and R.T. Colesante. 1987. Walleye Management in New York State. New York State Department of Environmental Conservation, Albany, NY.

McKeown, P. E., and, D.W. Einhouse. 2000. The Chautauqua Lake Creel Survey 1998-1999. New York State Department of Environmental Conservation, Albany, NY

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Otisco Lake

Fishing Diary Summary

Year	Total # Fishing Trips	% of Successful Outings	Ave Hours/ Angler Trip	Total Legal Gamefish[1] Caught[2] BT	WAE	SMB	LMB	TGR	Average Length (in.) of Fish Kept (# kept in Parentheses) BT	WAE	SMB	LMB	TGR	# Hours to Catch 1 Legal Gamefish	# of Coop.
1979	174	63	4.0	2	165	26	--	--	16.8 (2)	23.1 (165)	14.3 (26)	--	--	6.0	8
1980	43	32	4.6	--	17	18	--	--	--	22.4 (17)	13.3 (18)	--	--	11.8	4
1981	40	43	4.2	--	--	17	5	--	--	--	14.5 (17)	14.9 (5)	--	9.1	7
1982	27	33	3.1	--	3	13	--	--	--	24.0 (3)	13.0 (13)	--	--	8.1	4
1983	36	55	7.3	7	13	9	1	--	13.9 (7)	24.0 (13)	13.2 (9)	14.0 (1)	--	7.3	9
1984	40	18	4.0	5	1	8	--	--	19.9 (5)	26.0 (1)	13.1 (8)	--	--	29.6	8
1985	18	22	4.9	5	--	--	--	--	19.1 (5)	--	--	--	--	20.6	5
1986	6	84	5.6	1	--	3	--	--	23.3 (1)	--	13.7 (3)	--	--	14.2	2
1987	21	38	2.8	--	9	--	--	--	--	23.6 (9)	--	--	--	4.5	4
1988	10	29	3.4	--	2	--	--	--	--	24.4 (2)	--	--	--	6.3	2
1989	9	50	3.3	--	2	1	--	--	--	25.8 (2)	16.5 (1)	--	--	7.4	2
1990	96	21	5.8	11	2	--	--	1	20.7 (11)	26.3 (2)	--	--	32.0 (1)	30.1	7
1991	506	27	4.1	19	6	19	15	6	20.0 (19)	25.8 (6)	15.1 (19)	14.7 (15)	35.0 (6)	24.0	15
1992	434	49	3.1	80	2	9	8	7	18.4 (80)	20.8 (2)	16.4 (9)	14.1 (8)	35.0 (7)	5.5	21
1993	328	45	3.9	27	13	12	13	10	20.2 (27)	24.9 (13)	17.2 (12)	15.5 (13)	33.8 (10)	9.6	19
1994	397	34	4.0	35	7	14	7	3	14.9 (35)	24.7 (7)	17.0 (14)	15.6 (7)	33.7 (3)	11.9	27
1995	277	45	3.7	26	6	13	9	3	17.1 (26)	23.8 (6)	14.6 (13)	15.5 (9)	33.0 (3)	4.9	23
1996	213	48	4.0	11	59	47	65	31	17.5 (10)	22.4 (15)	14.2 (8)	--	37.2 (2)	4.0	15
1997	149	50	4.5	11	36	39	52	15	19.8 (9)	22.1 (8)	--	15.5 (1)	34.7 (3)	4.4	11
1998	179	62	4.9	12	71	41	64	38	19.0 (4)	21.2 (31)	13.2 (2)	--	43.5 (3)	3.9	11
1999	139	71	5.0	14	71	40	66	14	20.4 (10)	21.0 (34)	15.3 (15)	17.0 (2)	37.4 (3)	3.3	14
2000	113	71	5.0	7	142	17	8	1	17.6 (6)	21.3 (131)	15.8 (6)	17.0 (1)	36.0 (1)	3.3	6
2001	94	65	5.4	23	30	33	1	1	18.8 (8)	20.3 (12)	17.5 (1)	--	--	5.7	10
2002	61	53	4.6	3	17	19	11	1	20.5 (2)	21.5 (16)	--	16.0 (1)	--	5.5	8
2003	123	71	3.9	16	58	32	54	1	16.1 (4)	20.7 (51)	13.1 (6)	14.8 (3)	--	3.0	11
2004	107	72	4.3	16	51	36	42	2	22.8 (2)	21.6 (39)	14.7 (7)	12.0 (1)	--	3.0	11
2005	92	63	4.2	1	15	38	51	1	--	21.3 (13)	14.7 (15)	14.9 (6)	--	3.6	11
2006	316	69	3.5	12	160	99	175	8	18.4 (16)	21.6 (107)	15.4 (14)	14.3 (6)	31.7 (1)	2.3	16
2007	367	71	4.2	54	127	91	162	22	19.3 (7)	21.7 (88)	14.5 (10)	13.0 (1)	33.3 (5)	3.4	18
2008	162	71	3.5	12	46	46	37	10	22.4 (5)	21.6 (38)	15.4 (10)	--	32.4 (2)	3.8	13
2009	316	68	4.1	26	48	76	97	39	21.1 (5)	21.4 (36)	--	21.0 (1)	36.4 (8)	4.6	16
2010	211	76	3.8	31	4	99	51	5	19.3 (7)	21.5 (1)	15.0 (2)	--	34.0 (1)	4.2	10
2011	326	72	3.9	12	97	160	136	9	18.1 (6)	21.1 (86)	17.0 (1)	19.3 (2)	35.0 (2)	3.1	19
2012	106	65	3.7	6	26	50	31	6	--	22.1 (25)	17.5 (5)	13.5 (8)	31.0 (1)	3.3	12
2013	381	62	3.5	42	251	53	79	12	15.5 (6)	22.8 (237)	17.0 (14)	13.3 (3)	40.0 (1)	3.1	18
2014	379	60	3.6	23	294	64	136	13	--	23.2 (259)	13.6 (22)	13.0 (4)	--	2.6	16
2015	259	52	3.7	1	31	82	162	5	17 (1)	21.4 (29)	16.3 (13)	13.3 (4)	--	3.4	16
2016	195	65	5.0	0	31	150	226	25	--	21.9 (24)	16.6 (7)	--	41.5 (2)	2.3	16

1979 was the first year for this summary.

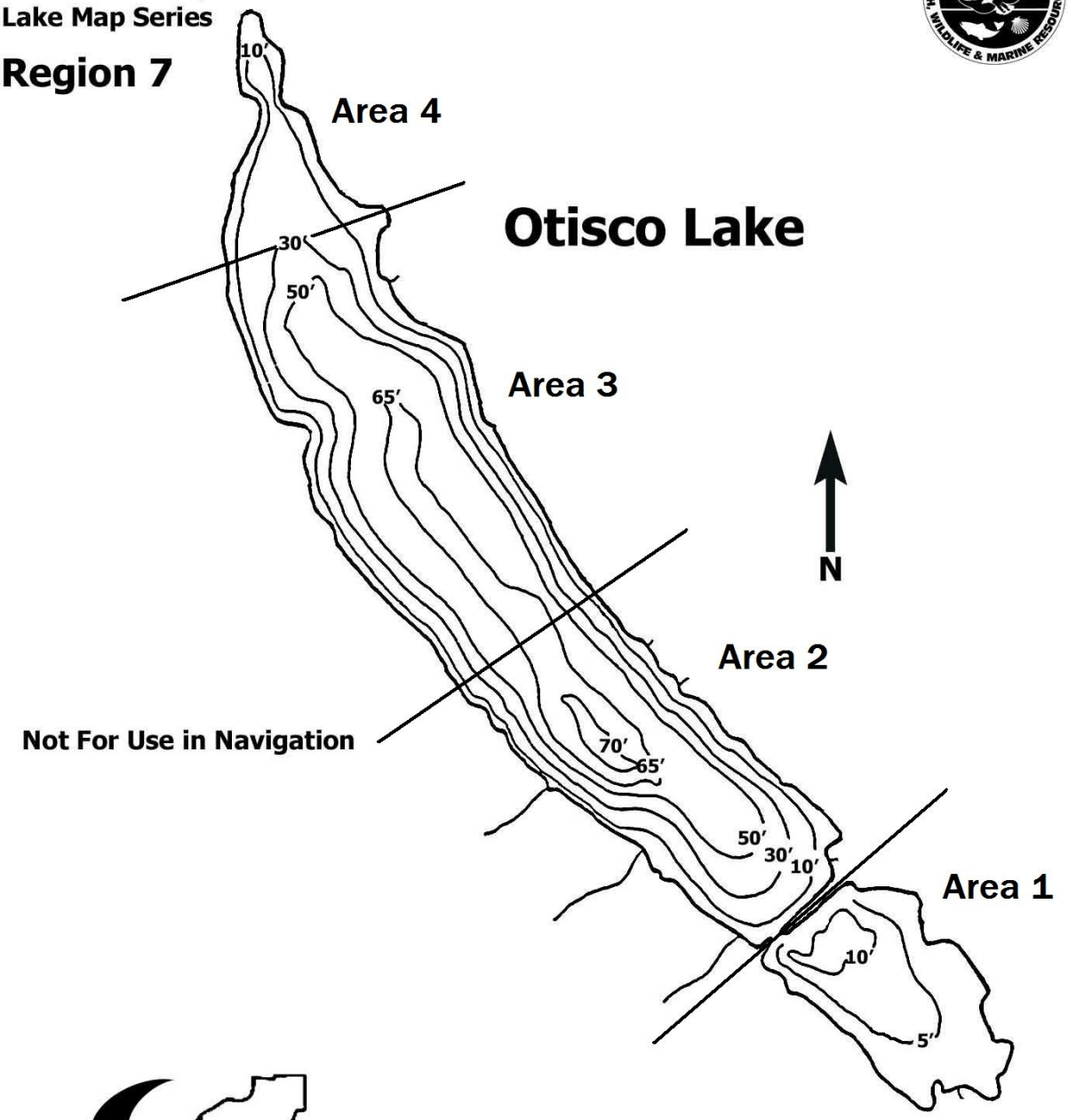
1 - Gamefish = BT-Brown Trout, WAE-Walleye, SMB-Smallmouth Bass, LMB-Largemouth Bass, TGR-Tiger Musky.

2 - Beginning with 1996, the record includes all legal fish caught. Prior years data include only those legal fish that were kept.

3 - Success = One or more legal target fish caught. An outing can include more than one "trip" (i.e., two anglers fishing and one legal fish caught between them).

New York State Department of Environmental Conservation
Division of Fish, Wildlife and Marine Resources
Lake Map Series

Region 7



Otisco Lake

County: Onondaga **Town: Otisco, Spafford**

Surface Area: 2,236 Acres

Fish Species Present: Tiger Muskellunge, Smallmouth Bass, Largemouth Bass, Yellow Perch, Black Crappie, Walleye, Common Carp, White Sucker, Bluegill, Pumpkinseed

Scale: 0 3655 ft