

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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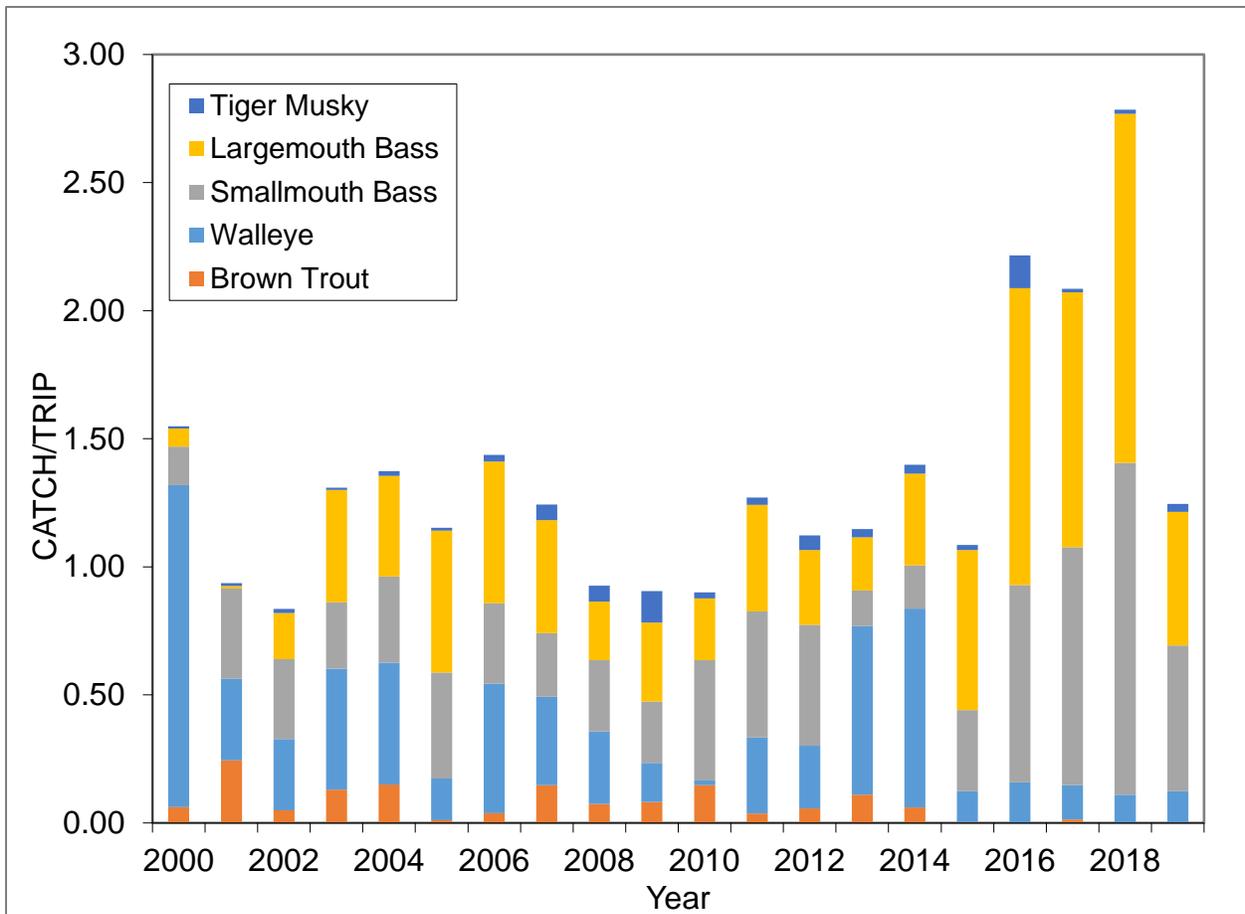
Tuesday, March 17, 2020

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 2019. We had a rise in Otisco Lake cooperators in 2019, from 14 to 20. Cooperators recorded 219 outings (an outing is a record of a cooperator's trip not including members of their party), which amounted to 411 angler trips (includes all participants) totaling 1,783 hours of fishing effort. On average, it took 3.5 hours to catch one legal gamefish in 2019, which is over twice as long as the record rate of 1.3 hours recorded by the 2018 cooperators. Anglers targeting tiger musky comprised 43% of the total cooperator effort (766 out of 1,783 hours) in 2019. This may be one of the reasons it took longer to catch a legal fish in 2019; legal muskies are typically less abundant than other species and musky anglers tend to have less "by-catch" (Appendix Figure 1). Effort geared at bass and walleye was similar with 23% (418 hours) and 21% (369 hours), respectively, followed by anglers targeting any warmwater gamefish at 13% (230 hours). Details on species specific catch rates and effort are included in the discussion below.

There are some appendix figures included at the end of the report that cooperators may find useful/interesting. The figures consist of total catch by target species, and frequency of species catch by area and by month. If there is other information you would be interested in seeing from the angler diary data in future reports, please let me know by including a comment when you return your diaries next winter.



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.

State of Otisco Lake Fisheries Public Meeting

Keeping with our recent trend of holding public meetings (Owasco Lake in 2018 and Skaneateles Lake in 2019) this year we will be holding a meeting on the State of the Otisco Lake Fishery. Our initial plan was to hold it on Tuesday, April 21, at the Homer Intermediate School auditorium. But, because of Covid-19 we will most likely be rescheduling that for a later date. We will send out more information when we have it.

Walleye

Cooperators caught 52 walleye in 2019, all but two were of legal length (18-inches or greater). Walleye are highly prized table-fare and cooperators harvested the majority (76%) of the legal fish caught. The largest walleye caught in 2019 was 28.0 inches, while the average length was 22.5 inches. Area 3 (see map) accounted for most of the walleye catch with 28 fish, Area 2 provided 21, and Area 4 the remaining three. Fishing in May once again produced most of the walleye, 22 of the 52 total. Boat anglers caught most of the walleye (44) while shore anglers caught 8.

Anglers specifically targeting walleye caught 44 of the recorded walleye. The resulting targeted catch rate was 1 fish every 8.4 hours (0.12 walleye per hour) which was down from last year's 1 every 6.7 hours (0.15 walleye per hour). As mentioned in the past, targeted catch rates of one every 4 to 10 hours (0.25 to 0.10 fish per hour) are considered "very good to good" for New York walleye fisheries while those approaching 1 every 2 hours (0.5 fish per hour) are considered "excellent" (Festa et al. 1987).

2019 was a scheduled stocking year so Otisco Lake received 44,000 pond fingerlings in mid-June along with a surplus stocking of approximately 54,100. The total walleye stocked in 2019 was 98,100. 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 keep in mind that since 2002 there have only been three non-stocking years, 2007, 2014 and 2016. We also have evidence that some natural reproduction has occurred in recent years from using otolith ages and that some walleye are living a long time on Otisco. In 2014 we had a 22-year-old walleye and in 2018 we had walleye up to age-16. As such, there are a lot of walleye year classes currently out there in Otisco Lake.

Tiger Muskellunge

In 2019, 138 tiger muskies were landed which is the most recorded in a single year by Otisco cooperators. Lengths ranged from 18 to a whopping 47.3 inches with an average length of 28.2 inches. Of the total caught in 2019, 13 were legal length (36-inches or greater). No tiger muskies were kept by cooperators in 2019. Those specifically targeting tigers caught 96 of the 138 reported (70%), and 10 of the 13 (77%) legal length tigers. Anglers targeting any warm water gamefish, bass, and walleye caught 25, 12 and five tigers, respectively. With two, zero and one of legal length, respectively. Cooperators specifically targeting tiger muskies completed 149 trips and logged 766 angler-hours. This was the most hours ever recorded by Otisco cooperators specifically targeting tigers and was well above the five-year average of 311 angler-hours. The targeted catch rate for tiger musky in 2019 was 1 every 8.0 hours (0.125 per hour). This was above the 5-year average of 1 every 9.9 hours (0.101 per hour). Catch rates of muskellunge from diary programs on the St. Lawrence River yielded a rate of 1 fish every 25 hours (0.04 fish per hour) (Farrell et al. 2006). Creel survey data for Chautauqua Lake show average muskellunge catch rates of 1 every 20 hours (0.05 fish per hour) (McKeown and Einhouse 2000). The Otisco Lake angler success rate for tiger musky appears to be above these renowned muskellunge fisheries.

The majority (121) of the tigers caught in 2019 were landed by boat anglers, hard-water anglers iced 16, and one was caught by a shore angler. Area 3 gave up 70 of the 138 tigers (51%), Area 4 produced 45 (33%), and Area 2 the remaining 23 (16%). May was the most productive month for tigers, accounting for 46 of the 138 caught (33%), followed by September with 33 (24%).

Since tiger muskellunge are sterile hybrids (a cross between muskellunge and northern pike), the fishery is supported entirely by stocking. Otisco Lake received the target stocking number of 11,000 fall fingerlings (9.5 inches) in September 2019. Tiger musky are highly vulnerable to predation by bass, walleye and other tiger musky 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, many tigers ultimately do survive and prosper in Otisco, as evidenced by the monster tiger that was caught and released in October 2019 by Demetrio Ascoti. That fish was 50 inches long and would have likely been a new state record.

36-inch Tiger Musky Special Regulation Initial Review

In 2010 a regulation proposal was submitted for Otisco Lake to increase the minimum length limit for tiger musky from the Statewide length of 30 inches to 40 inches. The intent of this initial proposal was, *“To increase the trophy potential of tiger muskellunge in a lake that has repeatedly demonstrated the ability to produce 40-inch and greater fish”*. As a result of public input received on this proposal, angler sentiment was mixed with some strongly in favor of the higher size limit and others strongly opposed, it was modified to a 36-inch minimum length. A 36-inch minimum length provides a compromise that will allow tiger musky to reach “trophy” size but allow harvest-oriented anglers to take a fish smaller than the original proposal. Based on the available growth data, a change in minimum size limit from 30-inch to 36-inch would simply delay the potential harvest of tiger musky for approximately 1-2 years.

Starting on October 1, 2013 the special fishing regulation went into effect. Prior to that date the Otisco Lake minimum length for tiger musky was the same as the statewide 30 inches. Both Otisco Lake and the Statewide Regulations have a daily limit of one tiger musky.

Otisco Lake has a long-standing volunteer angler diary cooperator program, which began in 1979. As tiger muskies can often be difficult to sample with standard fisheries gear this angler diary data is an important component for evaluating the tiger musky fishery. Data from this program was used to compare the percentage of legal tiger musky caught by anglers targeting tigers prior to (1996-2012) and since (2013-2019) the 36” size limit went into affect. Though the 36-inch tiger musky length limit has only been established for seven seasons on Otisco Lake, an initial review of this angler diary data looks promising. The average targeted catch rate of tiger muskies 30 inches and greater increased from 1 every 26 hours (0.038 per hour) for pre-regulation to 1 every 18 hours (0.055 per hour) for post-regulation (Figure 1). The targeted catch rate of tiger muskies 36 inches and greater also improved with a pre-regulation average catch rate of 1 every 133 hours (0.008 per hour), while the post-regulation average catch rate was 1 every 43 hours (0.023 per hour).

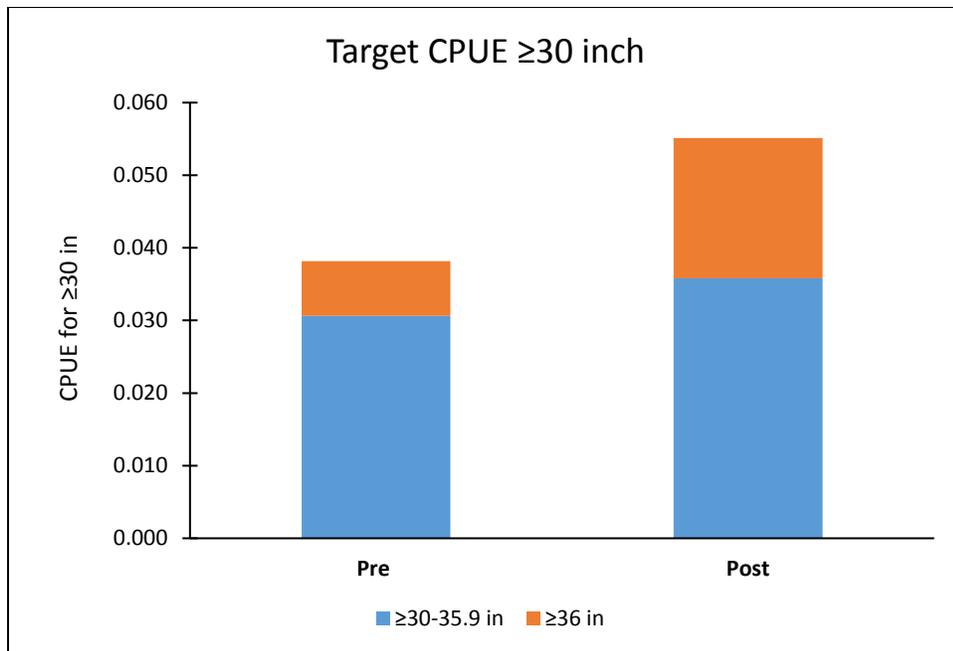


Figure 1. Targeted angler diary cooperators catch per unit effort (fish/hour) of tiger muskies 30 inches and greater for Pre (1996-2012) and Post (2013-2019) 36-inch minimum length regulation.

The harvest rate of tiger muskies by angler diary cooperators (regardless of target species) has decreased during the post-regulation period. The average pre-regulation harvest rate of legal tiger musky for angler diary cooperators was 15% (31 of 204) and post-regulation rate was 5% (4 of 74). So, even before the 36-inch length limit angler cooperators were only keeping a relatively small percentage of their legal tigers. Whether this trend is representative of all anglers fishing Otisco Lake is unknown. It is important to note here that there is nothing wrong with keeping a legal tiger musky if an angler chooses to do so since, as sterile hybrids, the population is maintained by the annual stocking. Nonetheless anglers should consider releasing them if they are not keeping them for consumption or to have mounted.

It's too early, with only seven years of data, to make long range predictions but the 36-inch minimum length limit regulation does appear to be helping to improve the catch rate of "trophy" tigers in the Otisco Lake fishery. It will be interesting to see if this trend continues in the future.

Tiger Musky Tagging Cooperative

Four members of the Central New York Chapter of Muskies Inc. started a cooperative tagging study with the DEC in October 2019. With the late start in the season only four tigers were tagged in 2019 but the tagging will continue through 2020. So, if you catch a tiger musky please look for a Floy tag (looks like a gray piece of spaghetti) near its dorsal fin. If releasing the fish DO NOT remove the tag but please write down the date, tag number, length of the fish and approximate location caught. If keeping the fish, the

same information would be needed but you could remove the tag. Contact our office at 607-753-3095 or email the tagging information at fwfish7@dec.ny.gov

Black Bass

Overall, a total of 271 smallmouth bass and 302 largemouth bass were caught by Otisco Lake cooperators in 2019. That smallmouth catch is just below the 2018 record catch of 297, while the 302 largemouth catch is a new record surpassing the 295 caught in 2018. Most fish recorded were legal sized (12+-inch) (86% of smallmouth and 71% of largemouth). The harvest rate was 3% (13 of the 573 legal bass), which is just below the five-year average of 4%. The largest smallmouth and largemouth bass were 20 and 21 inches, respectively.

Cooperators specifically targeting bass took 94 trips for a total of 418 angler-hours in 2019 which is a record, breaking the 2017 effort of 402 angler-hours. Those targeting bass caught 437 overall, 334 (76%) of which were legal length. This equates to a targeted overall catch rate of one bass every 58 minutes (1.05 bass per hour) and a targeted legal catch rate of one bass every 1.25 hours (0.80 legal bass per hour). These bass catch rates are well above the statewide average of one every two hours (0.51 bass per hour) for all sized bass and one every 3.9 hours (0.26 per hour) for legal length bass (Green et al. 1986). Those fishing for any warmwater gamefish in 2019 caught 37 bass of which 32 were legal length (86%). This equates to catch rates of one bass every 6.2 hours (0.16 bass per hour), and one legal bass every 7.1 hours (0.13 legal bass per hour). In the past, these "any" warmwater gamefish anglers had bass catch rates similar to anglers targeting bass, but for a five-year span between 2013 to 2017 their catch rates were lower. Catch rates increased in 2018 and were more on par with bass anglers but fell off again in 2019. 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. This may also be contributing to higher catch rates for anglers targeting bass.

Overall, the average length of smallmouth bass caught was 14.8 inches and 14.0 inches for largemouth bass. Boat anglers accounted for most of the bass catch with 98% of smallmouth bass and 86% of the largemouth bass. Area 3 produced the most smallmouth bass with 185, followed by Area 2 with 84 and Area 4 with two. The most productive region for largemouth bass was Area 3, with 187 caught, while Area 4 accounted for 60 and Area 2 added 55. For smallmouth bass, May was once again the top producer (90) followed by June (61). June was the big month for largemouth bass (98) followed by both August (69) and September (62).

Brown Trout

In 2019, no angler cooperators made trips specifically targeting brown trout. One 20 inch "accidental" brown trout was caught and released by a cooperator targeting tiger musky.

In closing I want to again thank all 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 2020!**

Sincerely,

James Everard
Biologist 1 (Aquatic)

Literature Cited

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- Farrell, J.M., R. Klindt, J.M. Casselman, S.R. Lapan, R.G. Werner, and A. Schiavone. 2006. Development, implementation, and evaluation of an international muskellunge management strategy for the upper St. Lawrence River. Environ. Biol. Fish (2006).
- 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

Appendix

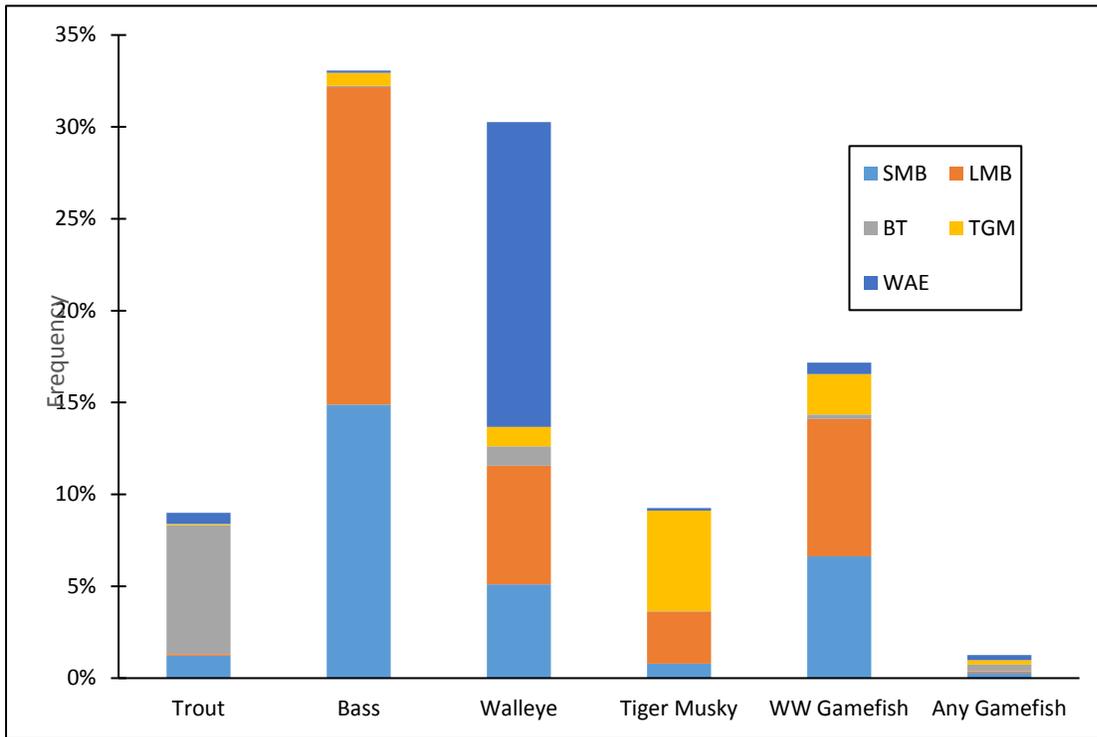


Figure 1. Frequency of catch by target species for Otisco Lake angler diary cooperators from 2006 to 2019. (Basically, if you want to catch something target it.)

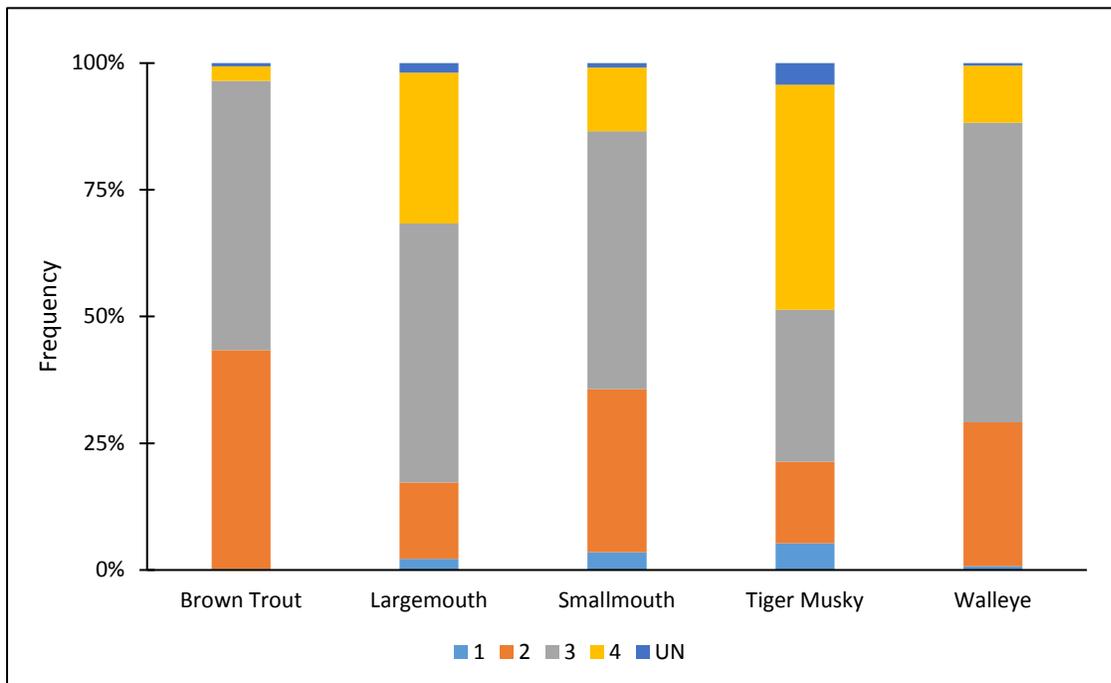


Figure 2. Frequency of catch by area (see map) for Otisco Lake angler diary cooperators from 2006 to 2019.



Otisco Lake Fishing Diary Summary

| Year | Total # Angler Trips | % Trips Successful ¹ | Average Hours/Trip | Total Legal Gamefish Caught | | | | | Average Length of Fish Caught (in) | | | | | Hours to Catch 1 Legal Gamefish | # of Cooperators |
|-------|----------------------|---------------------------------|--------------------|-----------------------------|-----|-----|-----|-----|------------------------------------|------|------|------|------|---------------------------------|------------------|
| | | | | BT | WAE | SMB | LMB | TGR | BT | WAE | SMB | LMB | TGR | | |
| 1979* | 174 | 63 | 4.0 | 2 | 165 | 26 | -- | -- | 16.8 | 23.1 | 14.3 | -- | -- | 6.0 | 8 |
| 1980* | 43 | 32 | 4.6 | -- | 17 | 18 | -- | -- | -- | 22.4 | 13.3 | -- | -- | 11.8 | 4 |
| 1981* | 40 | 43 | 4.2 | -- | -- | 17 | 5 | -- | -- | -- | 14.5 | 14.9 | -- | 9.1 | 7 |
| 1982* | 27 | 33 | 3.1 | -- | 3 | 13 | -- | -- | -- | 24.0 | 13.0 | -- | -- | 8.1 | 4 |
| 1983* | 36 | 55 | 7.3 | 7 | 13 | 9 | 1 | -- | 13.9 | 24.0 | 13.2 | 14.0 | -- | 7.3 | 9 |
| 1984* | 40 | 18 | 4.0 | 5 | 1 | 6 | -- | -- | 19.8 | 23.6 | 13.1 | -- | -- | 29.6 | 8 |
| 1985* | 18 | 22 | 4.9 | 5 | -- | -- | -- | -- | 19.1 | -- | -- | -- | -- | 20.6 | 5 |
| 1986* | 6 | 84 | 5.6 | 1 | -- | 3 | -- | -- | 23.3 | -- | 13.7 | -- | -- | 14.2 | 2 |
| 1987* | 21 | 38 | 2.8 | -- | 9 | -- | -- | -- | -- | 24.3 | -- | -- | -- | 4.5 | 4 |
| 1988 | 10 | 29 | 3.4 | -- | 2 | -- | -- | -- | -- | 24.4 | -- | -- | -- | 6.3 | 2 |
| 1989 | 9 | 50 | 3.3 | -- | 3 | 1 | -- | -- | -- | 25.8 | 16.5 | -- | 28.5 | 7.4 | 2 |
| 1990 | 96 | 21 | 5.8 | 11 | 2 | 1 | 1 | 7 | 20.7 | 26.3 | 10.8 | 9.7 | 28.8 | 30.1 | 7 |
| 1991 | 506 | 27 | 4.1 | 27 | 10 | 45 | 68 | 20 | 18.0 | 23.7 | 13.0 | 13.4 | 29.2 | 24.0 | 15 |
| 1992 | 434 | 49 | 3.1 | 123 | 4 | 61 | 75 | 14 | 15.5 | 16.3 | 14.3 | 13.8 | 29.2 | 5.5 | 21 |
| 1993 | 328 | 45 | 3.9 | 34 | 14 | 43 | 25 | 18 | 17.2 | 24.0 | 15.3 | 13.5 | 29.7 | 9.6 | 19 |
| 1994 | 397 | 34 | 4.0 | 29 | 7 | 45 | 27 | 12 | 13.9 | 23.2 | 14.3 | 14.1 | 27.1 | 11.9 | 27 |
| 1995 | 277 | 45 | 3.7 | 42 | 51 | 62 | 40 | 15 | 16.4 | 25.1 | 13.5 | 14.7 | 28.7 | 4.9 | 23 |
| 1996 | 213 | 48 | 4.0 | 11 | 59 | 47 | 65 | 31 | 15.1 | 23.4 | 14.4 | 14.2 | 29.9 | 4.0 | 15 |
| 1997 | 149 | 50 | 4.5 | 11 | 36 | 39 | 52 | 15 | 17.2 | 24.1 | 14.3 | 13.1 | 31.8 | 4.4 | 11 |
| 1998 | 179 | 62 | 4.9 | 12 | 71 | 41 | 64 | 38 | 16.6 | 21.4 | 13.5 | 14.0 | 34.6 | 3.9 | 11 |
| 1999 | 139 | 71 | 5.0 | 14 | 71 | 40 | 66 | 14 | 18.4 | 20.7 | 14.7 | 15.5 | 36.6 | 3.3 | 14 |
| 2000 | 113 | 71 | 5.0 | 7 | 142 | 17 | 8 | 1 | 15.7 | 20.1 | 14.1 | 14.9 | 36.0 | 3.3 | 6 |
| 2001 | 94 | 65 | 5.4 | 23 | 30 | 33 | 1 | 1 | 15.8 | 19.6 | 14.2 | 12.0 | 40.0 | 5.7 | 10 |
| 2002 | 61 | 53 | 4.6 | 3 | 17 | 19 | 11 | 1 | 17.2 | 20.1 | 14.0 | 15.0 | 26.5 | 5.5 | 8 |
| 2003 | 123 | 71 | 3.9 | 16 | 58 | 32 | 54 | 1 | 14.8 | 20.3 | 13.1 | 13.4 | 34.0 | 3.0 | 11 |
| 2004 | 107 | 72 | 4.3 | 16 | 51 | 36 | 42 | 2 | 15.2 | 21.0 | 14.2 | 14.1 | 26.2 | 3.0 | 11 |
| 2005 | 92 | 63 | 4.2 | 1 | 15 | 38 | 51 | 1 | 13.8 | 20.3 | 13.7 | 14.7 | 28.3 | 3.6 | 11 |
| 2006 | 316 | 69 | 3.5 | 12 | 160 | 99 | 175 | 8 | 15.4 | 21.1 | 14.7 | 13.8 | 24.9 | 2.3 | 16 |
| 2007 | 367 | 71 | 4.2 | 54 | 127 | 91 | 162 | 22 | 14.9 | 21.2 | 14.2 | 14.8 | 27.1 | 3.4 | 18 |
| 2008 | 162 | 71 | 3.5 | 12 | 46 | 46 | 37 | 10 | 15.0 | 20.2 | 13.9 | 14.2 | 29.9 | 3.8 | 13 |
| 2009 | 316 | 68 | 4.1 | 26 | 48 | 76 | 97 | 39 | 14.9 | 21.3 | 13.2 | 13.5 | 28.2 | 4.6 | 16 |
| 2010 | 211 | 76 | 3.8 | 31 | 4 | 99 | 51 | 5 | 14.8 | 15.7 | 12.4 | 12.1 | 25.5 | 4.2 | 10 |
| 2011 | 326 | 72 | 3.9 | 12 | 97 | 160 | 136 | 9 | 13.4 | 20.3 | 13.8 | 13.5 | 26.3 | 3.1 | 19 |
| 2012 | 106 | 65 | 3.7 | 6 | 26 | 50 | 31 | 6 | 13.7 | 22.0 | 14.5 | 14.8 | 24.2 | 3.3 | 12 |
| 2013 | 381 | 62 | 3.5 | 42 | 251 | 53 | 79 | 12 | 13.8 | 22.6 | 15.5 | 14.3 | 29.7 | 3.1 | 18 |
| 2014 | 379 | 60 | 3.6 | 23 | 294 | 64 | 136 | 13 | 14.3 | 22.6 | 14.4 | 14.3 | 30.2 | 2.6 | 16 |
| 2015 | 259 | 52 | 3.7 | 1 | 31 | 82 | 162 | 5 | 17.0 | 21.4 | 15.1 | 14.2 | 28.8 | 3.4 | 16 |
| 2016 | 195 | 65 | 5.0 | 0 | 31 | 150 | 226 | 25 | -- | 21.9 | 16.1 | 14.6 | 31.2 | 2.3 | 16 |
| 2017 | 223 | 73 | 3.7 | 3 | 30 | 207 | 222 | 3 | 15.0 | 22.3 | 15.4 | 13.7 | 29.2 | 1.8 | 16 |
| 2018 | 190 | 71 | 3.6 | 0 | 21 | 246 | 259 | 3 | -- | 21.2 | 14.9 | 14.1 | 27.6 | 1.3 | 14 |
| 2019 | 411 | 61 | 4.3 | 1 | 50 | 234 | 214 | 13 | 20.0 | 22.5 | 14.8 | 14.0 | 28.2 | 3.5 | 20 |

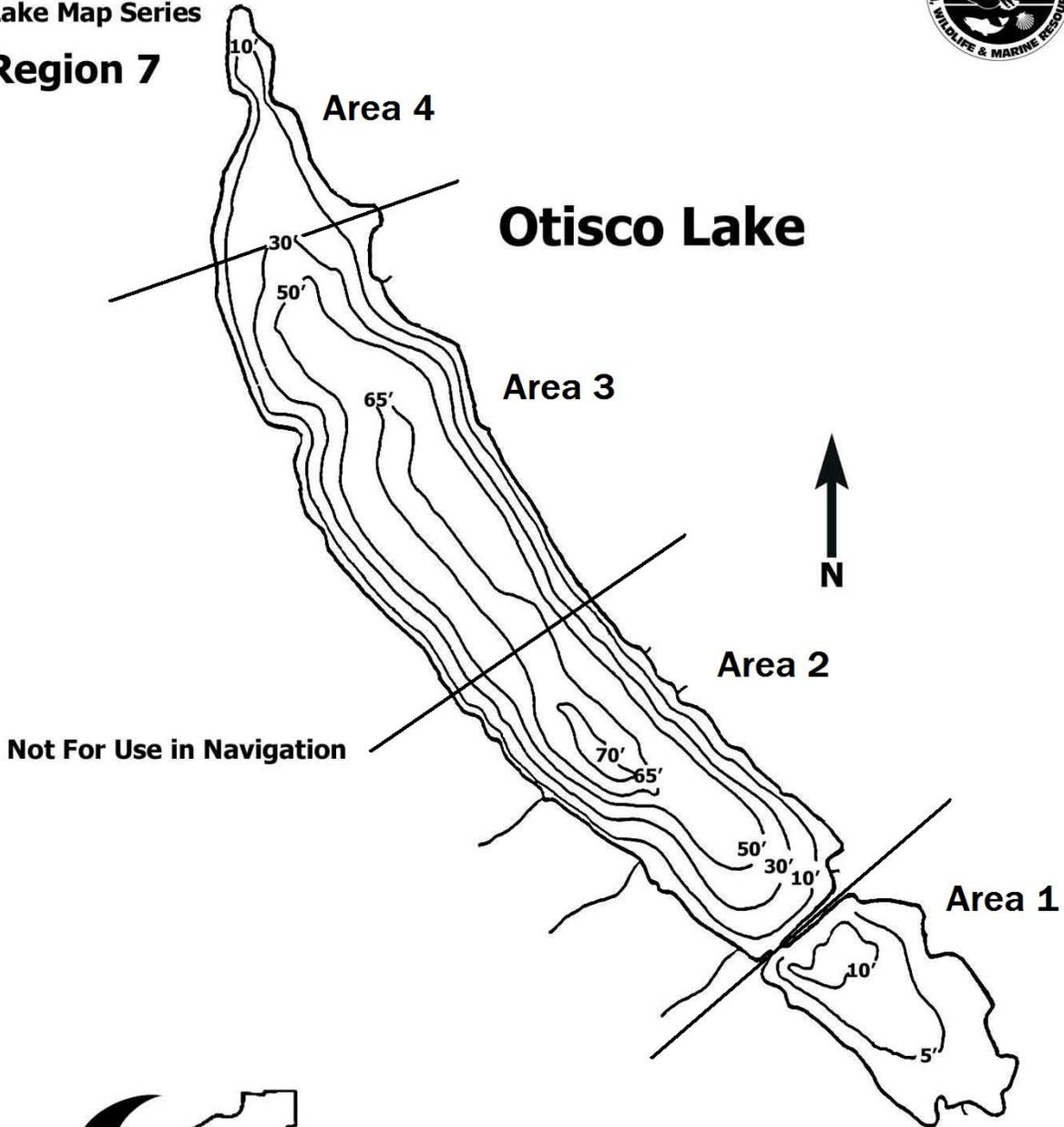
1 - Success = One or more legal target fish caught.

* 1979-1987 Lengths are from kept fish only.

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



Region 7



Otisco Lake

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

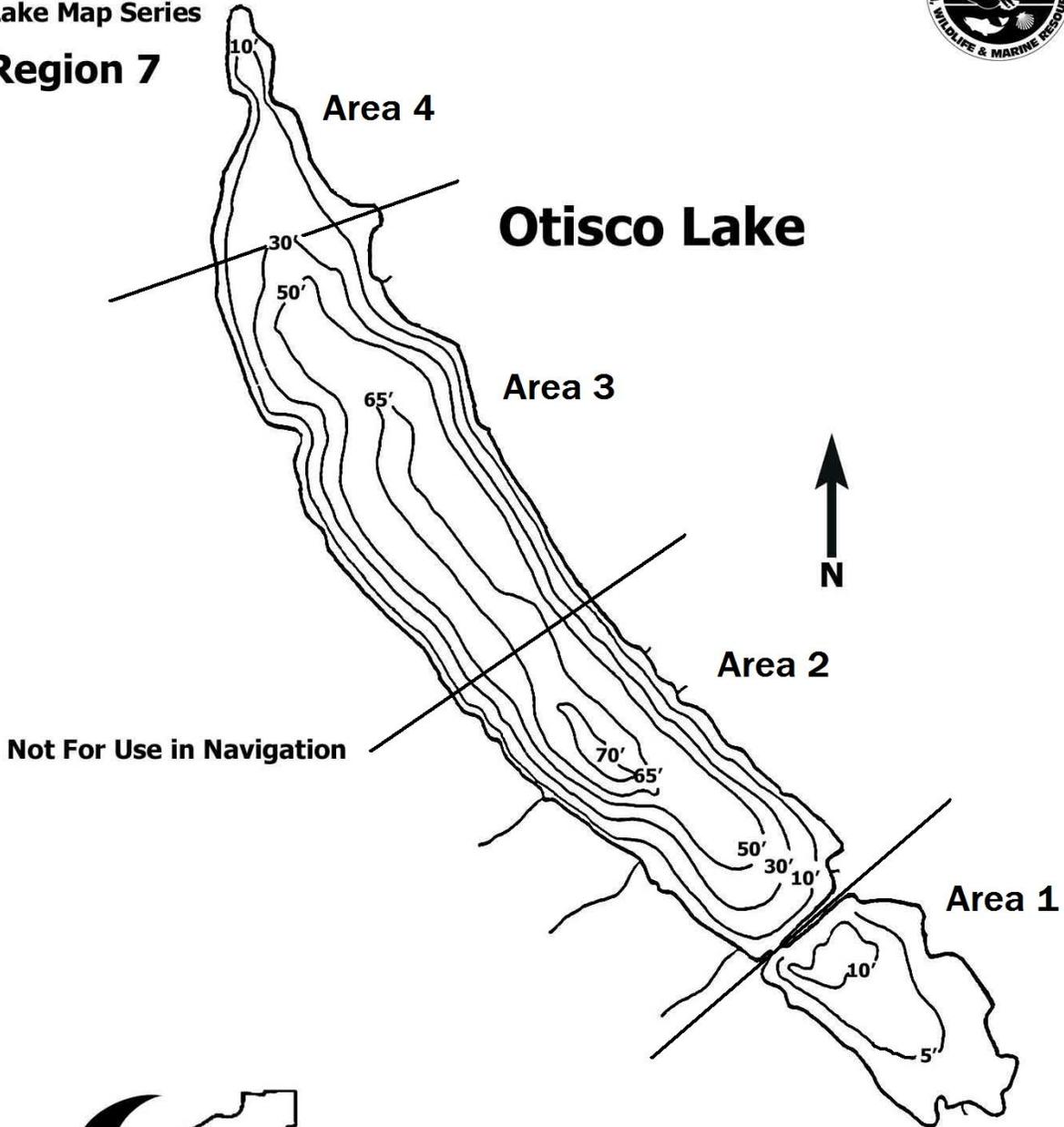
Surface Area: 2,236 Acres

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

Scale: 0  3655 ft



Region 7



Not For Use in Navigation



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