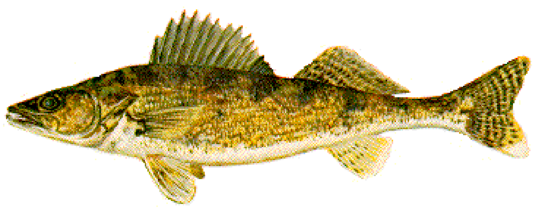
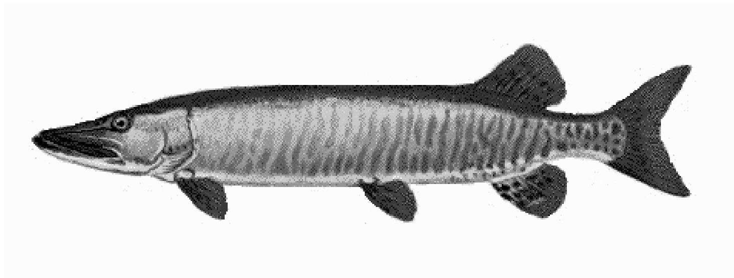
WISCONSIN DEPARTMENT OF NATURAL RESOURCES

2023-2024 Ceded Territory Fishery Assessment Report





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Administrative Report # 105

Treaty Fisheries Assessment Unit

Bureau of Fisheries Management

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Walleye illustration Virgil Beck

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INTRODUCTION

The northern portion of Wisconsin, encompassing 22,400 square miles and including all or parts of 30 counties, was ceded by the Lake Superior Chippewa Tribes to the United States in the Treaties of 1837 and 1842 (Figure 1). Although the lands were ceded to the United States, the Chippewa Tribes retained hunting, fishing, and gathering rights throughout this area (USDI 1991). The Wisconsin Ceded Territory contains 77% of Wisconsin's lakes accounting for 53% of the total inland lake surface acreage in Wisconsin (Staggs et al. 1990). Of lakes within the Ceded Territory, over 900 contain walleye (*Sander vitreus*) and more than 600 contain musky (*Esox masquinongy*), and the vast majority of naturally reproducing walleye and musky populations are found within the Ceded Territory.

Figure 1. Map of Wisconsin showing the Ceded Territory (shaded).

Walleye and muskellunge are tremendously popular with Wisconsin anglers and are important economically. Chippewa tribal members rely on these same fisheries for preservation of their cultural heritage and as a food source. In 1983, the United States Court of Appeals for the Seventh Circuit affirmed the rights of six Wisconsin Chippewa Bands (Bad River, Lac Courte Oreilles, Lac du Flambeau, Sokaogon, Red Cliff, and St. Croix) to fish off-reservation waters in the Wisconsin Ceded Territory. Tribal fishing uses traditional methods (e.g. spearing and netting) as determined by Treaties of 1837 and 1842 between the Bands and the United States government. Since affirmation of tribal fishing rights in 1983 the Wisconsin Department of Natural Resources (WDNR) has worked to integrate tribal harvest opportunities with sport fisheries in the Ceded Territory.

To facilitate and manage shared tribal and recreational angler harvest, an intensive data collection and analysis effort began in 1987. The program evolved as knowledge of unique aspects of the Ceded Territory shared fisheries increased and developed into the current program in 1990. The primary goal is to collect information essential to protecting Ceded Territory fish populations from over-exploitation by the combined tribal and recreational fisheries.

As part of this effort WDNR works with the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) to establish safe harvest quotas for walleye and muskellunge and to monitor the shared fisheries throughout the Ceded Territory. The majority of tribal harvest occurs during spring while walleye and muskellunge are congregated in shallow water to spawn and are readily taken by spear. A smaller number are harvested throughout the remainder of the year with a variety of capture methods including spearing, gill netting, fyke netting, set-lining, and angling. Netting and spearing are highly efficient methods and, unlike low efficiency methods such as angling, are not self-regulating (Beard et al. 1997, Hansen et al. 2000). Based on the inclusion of high efficiency tribal harvest in these fisheries, over-exploitation is a strong possibility in the absence of intensive management and could result in long-lasting and potentially irreversible damage.

Wisconsin DNR gathers data from a representative sample of lakes throughout the Ceded Territory each year in order to assess abundance and stability of walleye populations. Walleye populations are evaluated by WDNR using three primary methods: spring adult and total population estimates, fall age-0 (young-of-year) relative abundance estimates, and creel surveys of angler catch and harvest. When combined, these methods provide information on the current harvestable population, an indication of the future harvestable population, and the degree of exploitation in the walleye fishery. Wisconsin DNR also conducts muskellunge and black bass *Micropterus* spp. population estimates each year and estimates harvest of these species via creel surveys; WDNR does not quantify recruitment of these species via young-of-year (YOY) surveys.

Population estimates are critical to the management of Ceded Territory fisheries. Accurate population estimates allow calculation of “safe harvest” levels that allow harvest while minimizing the potential of jeopardizing a species’ future abundance or persistence.

Creel surveys provide vital information about the use of fisheries by recreational anglers, including angling effort, catch, and harvest; Estimates from surveyed lakes can be extrapolated across larger areas (e.g. Ceded Territory). When coupled with population estimates, creel harvest data can be used to estimate angler exploitation for individual species. The WDNR treaty fisheries program focuses primarily on game species (walleye, muskellunge, largemouth *Micropterus salmoides* and smallmouth *Micropterus dolomieui* bass, and northern pike *Esox lucius*), but creel information on all species is recorded.

In support of this effort, data is collected and provided by GLIFWC and the United States Fish and Wildlife Service (USFWS) which conduct spring adult population estimates and fall age-0 surveys on additional lakes each year. Tribal harvest data is made available by GLIFWC which censuses open-water tribal harvest of all species and conducts periodic creel surveys to assess winter harvest of muskellunge through the ice.

This annual report summarizes WDNR efforts related to management of the shared Ceded Territory fishery from early 2023 through early 2024. In doing so, it reports on one 'annual cycle' of work related to management of these fisheries. The typical annual cycle begins with establishment of safe harvest levels prior to spring spearing activities, includes conducting creel surveys, population estimates, and YOY walleye surveys on selected lakes, and results in summarization of tribal and angler exploitation rates for Ceded Territory lakes[1].

METHODS

ESTIMATION OF POPULATION SIZE

With more than 900 walleye lakes and 600 muskellunge lakes in the Wisconsin Ceded Territory it is logistically impossible to obtain precise population estimates from all lakes in a single year. In addition, fish populations in general and walleye populations in particular are extremely variable and can change dramatically from year to year. Therefore, WDNR selects several lakes each year for walleye population estimates and corresponding nine-month creel surveys[2]. The lakes sampled by the WDNR within the Ceded Territory during 2023-24 were chosen using a stratified random design considering size, historic level of tribal harvest, and primary walleye recruitment source. Of the lakes sampled each year, four are 'trend lakes' which are evaluated every three years to provide meaningful data on temporal trends within walleye populations; trend lakes sampled in 2023 were Two Sisters (Oneida Co.), Big Arbor Vitae (Vilas Co.), Pine (Iron Co.) and Balsam (Polk Co.) lakes. In addition, at least one large lake or lake chain is chosen to be surveyed each year. In 2023 Rice River Flowage Chain (Lincoln Co.), Thunder (Oneida Co.), Lac Vieux Desert (Vilas Co.), Red Cedar (Barron Co.), Lost Land (Sawyer Co.), Teal (Sawyer Co.) and Minong Flowage (Washburn Co.) lakes were large waters successfully sampled.

The continuing randomized survey of lakes throughout the history of this program (Appendix A) provides data necessary for successful management of the shared fisheries. Data from lake surveys is used to estimate walleye population size and derive safe harvest levels,

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[1] For the purposes of this report 'Tribal' refers to catch and harvest by traditional methods used by tribal fishers (e.g. spearing and netting); 'Angler' indicates catch and harvest by hook and line, and may include tribal members angling during open seasons if interviewed during creel surveys.

[2] Creel surveys are conducted from the first Saturday in May through early March and correspond to the Wisconsin open season for game fish species. The month of November was excluded from analyses due to poor ice conditions and low angler effort.

estimate tribal and angler harvest and exploitation rates, examine temporal and spatial trends in walleye populations and angler effort, and maintain up to date characterizations of population status for each lake.

WALLEYE

Walleye spawning population estimates[3] for various lakes in the Ceded Territory were made using a standard mark-recapture methodology. Walleyes were initially captured for marking using fyke nets shortly after ice out. Each fish was measured (total length; inches and tenths) and marked with one of two lake specific fin clip; two clips were used in each lake to classify fish as either 'adult' or 'juvenile'. Adult (mature) walleyes were defined as all fish 15" or longer and all fish for which sex could be determined (regardless of length). Walleye of unknown sex less than 15" long were classified as juvenile (immature). In lakes where previous estimates of walleye spawner abundance were available, the goal was to mark 10% of the anticipated spawning population. Where no preliminary abundance estimate was available, at least one walleye per acre of lake surface area was targeted for marking. Marking continued until the target number was reached or spent females began appearing in the fyke nets.

Walleyes were initially recaptured with AC electrofishing gear within one week (typically 1-4 days) after netting and marking were completed. In each lake, the entire shoreline (including islands) was sampled to ensure equal vulnerability of marked and unmarked walleyes to capture. All walleyes in the captured were measured and examined for marks; in most lakes, any unmarked walleyes collected in the first electrofishing run were fin clipped accordingly for the lake and fish maturity. A second whole-shore electrofishing recapture run was conducted approximately 1-4 weeks after the first electrofishing run.

Based on electrofishing recapture data, population estimates were calculated with the Chapman (1951) modification of the Petersen Estimator as:

$$N = \frac{(M+1)(C+1)}{(R+1)}$$

where N was the population estimate, M was the number of fish marked and released, C was the total number of fish captured and examined for marks in the recapture sample, and R was the total number of marked fish observed in C.

The Chapman Modification method was used because it provides more accurate population estimates in cases when R is relatively small (Ricker 1975). Walleye population and variance estimates were calculated by length-class (≤ 11.9", 12-14.9", 15-19.9", and ≥ 20.0") and summed accordingly to estimate adult and total walleye abundance.

Fish population size structure is described using proportional stock density (PSD) and relative stock density (RSD) as reviewed by Anderson et al. (1996). Walleye size data were

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[3] Spawning population estimates may be less than adult population sizes if all adults do not spawn in every year. The degree to which this occurs in Wisconsin is currently unknown and may vary by lake.

analyzed to compare proportions of both quality (PSD) and preferred (RSD) length fish gathered in spring surveys (April and May); data were limited to spring surveys to minimize bias associated with fish growth throughout the year and to best characterize the size structure of walleye populations near the outset of the harvest seasons. For the purpose of this report stock, quality and preferred walleye lengths were set at 12, 15 and 18 inches, respectively. Walleye length data were taken from WDNR statewide PSD/RSD database. Proportional stock density (PSD) is calculated as:

$$PSD = \frac{\text{number of fish} \geq 15 \text{ inches}}{\text{number of fish} \geq 12 \text{ inches}} X\, 100$$

Relative stock density (RSD) is calculated as:

$$RSD = \frac{\text{number of fish} \geq 18 \text{ inches}}{\text{number of fish} \geq 12 \text{ inches}} X\, 100$$

MUSKELLUNGE

Muskellunge population estimates were conducted over a two-year period, with marking in year-1 and recapture in year-2. In year-1, muskellunge were marked during fyke netting and electrofishing efforts throughout the sampling season. All muskellunge 20" and larger were given a primary fin clip (the same clip given to adult walleye and bass). Muskellunge less than 20" long were given an alternate fin-clip (generally top caudal). In year-2, muskellunge were recaptured using fyke nets in mid-May, to coincide with the muskellunge spawning season. Adult muskellunge population estimates (considered all sexable fish of any size, plus all fish of unknown sex ≥30" at the time of marking) were made using Chapman modification of the Petersen estimate:

$$N = \frac{(M+1)(C+1)}{(R+1)}$$

where N is the estimated adult population size; M is the total number of muskellunge marked in the lake in year-1 equal to or larger in length than the smallest sexable fish; C is the number of muskellunge re-captured in year-2, excluding fish smaller than the minimum length counted in year-1 plus 2 inches; and R is the number of marked fish recaptured (Wisconsin Technical Working Group 1999; Margenau and AveLallemant 2000).

LARGEMOUTH AND SMALLMOUTH BASS

In a subset of sampled lakes designated as "comprehensive survey" lakes, largemouth *Micropterus salmoides* and smallmouth *Micropterus dolomieu* bass encountered during fish surveys were marked by fin clips. Bass larger than 12.0" were given the same primary (adult) fin-clip as was given to walleye in the same lake; bass 8.0- 11.9" were given the secondary (juvenile) fin-clip for the lake. In these lakes, fyke nets were set just after ice-out in the spring and again after the first electrofishing recapture run. A total of four electrofishing surveys were conducted in each lake. The first electrofishing run was conducted within a week of pulling the early fyke nets. The second run was conducted approximately two weeks after the first electrofishing run. Third and fourth electrofishing runs were conducted at approximately weekly intervals thereafter between mid-late May and mid-June. The entire shoreline of the lake (including islands) was sampled. Bass populations were estimated after both the third and fourth runs. For each bass species population estimates were calculated for various size classes (8.0-13.9”, 14.0-17.9” and ≥18.0”) using the same Chapman modification of the Petersen estimator as described for walleyes. The recapture run yielding the population estimate with the lowest coefficient of variation is reported.

NORTHERN PIKE

In a subset of sampled lakes where northern pike *Esox lucius* provide an locally relevant fishery, population estimates may be conducted to assess their abundance. Pike encountered during fish surveys were marked by fin clips with fish larger than 12.0” given the same primary (adult) fin-clip given to other gamefish in the same lake; pike 8.0-11.9” were given the secondary (juvenile) fin-clip for the lake. In these lakes, fyke nets were set just after ice-out in the spring. Due to the short timeframe when pike are susceptible to fyke net capture, Schnabel multiple mark-recapture estimates are generally conducted using net nights as individual mark/recapture events. Population estimates were calculated for the adult population as a whole, not for various size classes as is typically done for other gamefish species.

ESTABLISHMENT OF SAFE HARVEST

The Wisconsin joint fishery is managed by calculating total allowable catch and ‘safe harvest’ levels for walleye and muskellunge on a lake-by-lake basis. Safe harvest is set such that the risk of exceeding 35% exploitation for walleye or 27% for muskellunge is less than 1-in-40 (Hansen 1989; Hansen et al. 1991). This risk-management system differs from a quota system, which would potentially close fisheries once a harvest cap was reached. Beginning in the spring of 2015 management of angler exploitation began using a ceded territory wide 3 walleye/day angler bag limit and more restrictive size limits than previously in place for most lakes. This system replaced the “sliding bag-limit” system in place since 1990 under which bag limits ranged from 1-5/day and were determined based upon tribal declarations and harvest (Cichosz 2016).

Safe harvest levels are set on all Ceded Territory walleye and muskellunge lakes using the most accurate population estimates available. The most reliable estimates are clearly taken from mark-recapture estimates performed in the same year for which safe harvest is calculated. However, because the temporal overlap of the spearing season and spring population estimate sampling make this logistically impossible, these population estimates are used to estimate abundance for the following two years. In addition, given the year-to-year variability associated with fish populations, safety factors are incorporated to account for the largest potential decrease between years (Hansen et al. 1991).

Population estimates older than two years are not considered to accurately represent a lake’s current population and are not directly used to set safe harvest. In this case, an estimate is calculated from a log-linear mixed effects regression model using lake acreage and lake-specific deviations from the overall intercept as predictors of population abundance (Hansen et al. 2015)[4]. Data inputs were limited to the previous 20 years of data, and for lakes with multiple population estimates all individual data points were incorporated into the model (unlike prior regression methods which used all data regardless of age, and averaged population estimates for each lake before their incorporation into the regression model; Hansen 1989). Three regression models are used depending on the primary source of walleye recruitment in the lake (Nate et al. 2000). Separate models are used for: (A) lakes sustained primarily by natural reproduction (NR; Figure 2), (B) lakes sustained primarily through stocking efforts (ST), and (C) lakes with low density populations maintained through intermittent natural reproduction (REM, R-NR). Figure 2 shows the benefit is using a mixed effects model to better define safe harvest levels in lakes of similar area where measured walleye abundance differs dramatically, with the lake-specific deviations used to apply more harvest where more fish exist, and less harvest where less fish exist. Refer to Appendix B for a complete description of recruitment code designations used for lakes throughout the Wisconsin Ceded Territory. Mixed-effects regression models are used to set safe harvest yearly for the majority of the walleye lakes in the Ceded Territory.

A similar method is employed to set safe harvest for muskellunge. Because muskellunge mark-recapture surveys are conducted over a two-year period, a population estimate for a given lake is employed to directly set safe harvest only once. In the absence of a recent population estimate, a simple log-linear regression model is used to make an estimate of muskellunge abundance. However, population predictions in this model are based on lake acreage using all available data (regardless of age) and averages multiple estimates for individual lakes prior to input to the model; a single model is used for all muskellunge waters in the Ceded Territory (Figure 3).

[4] A mixed-effects model was first used for setting of safe harvest in 2016. Prior to 2016 a log-linear regression relying solely on lake area as a predictor of walleye abundance was utilized (Hansen 1989; Cichosz 2016).

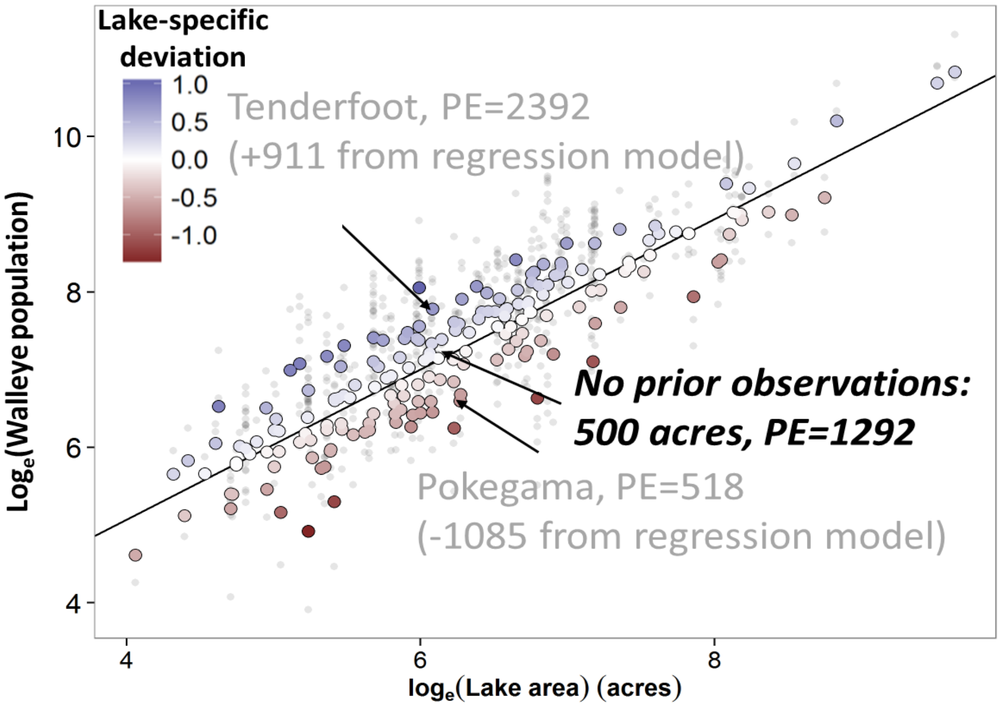

Figure 2. Generalized view of how lake-specific deviations in a mixed effects model better differentiates high or low-density walleye waters to more appropriately allocate safe harvest relative to the more basic regression model (Hansen et al. 2015). Individual models are developed for Natural, Stocked, and Remnant walleye populations.

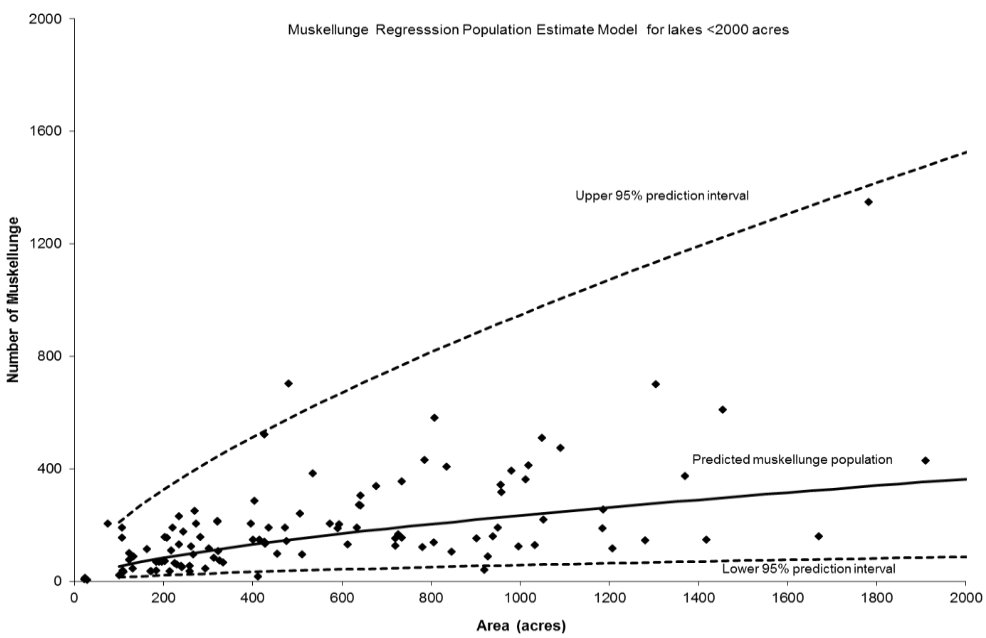

Figure 3. Generalized Regression model used to set 2023 safe harvest levels for muskellunge populations in lakes (applies to all lakes; only lakes <2000 acres are shown for illustrative clarity).

ESTIMATING FISHING EFFORT AND HARVEST

TRIBAL HARVEST AND EXPLOITATION

In lakes where current walleye population estimates are available, tribal harvest numbers are used in conjunction with population estimates to estimate tribal exploitation of walleye populations. Tribal harvest numbers for individual lakes are supplied to WDNR by GLIFWC and encompass all tribal harvest methods used (e.g. spring or winter spearing, netting). Tribal exploitation was estimated as the total number of adult walleyes harvested divided by the adult population estimate for the same lake (C/N; Ricker 1975).

ANGLER HARVEST AND EXPLOITATION - CREEL SURVEYS

Creel surveys are generally conducted each year in the same lakes in which a walleye population estimate is done. Coordinating efforts in this way allows for year-long recovery in the creel of fish marked during spring population estimates, and subsequently allows for estimation angler exploitation of walleye.

WDNR creel surveys use a random stratified roving access design (Beard et al. 1997; Rasmussen et al. 1998). The surveys were stratified by month and day-type (weekend / holiday or weekday), and creel clerks conducted their interviews at random within these strata. Surveys were conducted on all weekends and holidays, and two to three randomly chosen weekdays per week. Angler effort was recorded twice daily based on instantaneous counts of angler activity.

Clerks counted the number of anglers and recorded effort, catch, harvest, and targeted species from anglers completing their fishing trip. Clerks also measured harvested fish and recorded any fin-clips observed. Only completed-trip interview information was used for analyses. Information from interviews was expanded over the appropriate stratum to provide an estimate of total effort, catch, and harvest of each species in each lake for the year. Creel data were summarized according to lake size, population recruitment source and current state regulations (Appendix C). In cases where lakes were connected (as either defined or undefined chains), creel clerks were not necessarily present at each individual lake on a given day; however, during the interview clerks collected information specific to lakes within the chain thereby enabling creel related estimates to be determined for individual lakes.

Angling effort was estimated for each stratum and summed across all strata to estimate total angler effort for each lake (angler hours/lake). Angler catch and harvest (hours/fish) rates were calculated for each game fish species encountered, giving an indication of average angler success and providing an index of the relative abundance of each species. Species-specific catch and harvest rates were calculated using only species-specific fishing effort. General catch and harvest rates were calculated using total angler effort, regardless of the species targeted.

Tribal and angler walleye exploitation rates can be calculated in lakes where both adult population estimates and creel surveys are conducted. Angler exploitation rates for adult walleye were calculated by dividing the estimated number of marked fish harvested by the total number of marked fish present in the lake (R/M; Ricker 1975). Although anglers can harvest immature walleye in some waters, only adult walleye exploitation rates were calculated. Total adult walleye exploitation rates were calculated by summing angling and tribal exploitation.

YOUNG-OF-YEAR WALLEYE SURVEYS

Electrofishing for YOY walleyes was done after sunset in early autumn, beginning when water temperatures had fallen below 70° F. In most cases, the entire shoreline of a lake was electrofished and all sub-adult walleyes were examined and measured. Two-sample t-tests were used to test various hypotheses: that YOY density (fish/mile shocked) observed in natural and stocked model lakes was equal during 2023, that within each recruitment model the YOY density observed in 2023 did not differ from the average over the previous 32 years (1990-2022), and that in stocked model lakes YOY density did not differ between those lakes that were stocked and those that were not stocked during 2023. A general linear model was used to evaluate the effects of recruitment model (natural or stocked), year, and the year*model interaction on YOY walleye/mile over time. The interaction term was evaluated as indicative of significant trends over time in YOY walleye/mile for lakes within one or both recruitment models.

Hansen et al. (2004) updated a previous analysis by Serns (1982) to establish a relationship between the number of YOY walleyes collected per mile of shoreline electrofished and their lake-wide density (#/acre) where:

$$Density = 0.0345 * (Catch\ per\ mile)^{1.564}$$

The Hansen et al. (2004) metric of YOY density is used in evaluation of differences between various lake classes (e.g. Natural or Stocked recruitment model lakes). Use of the Hansen et al. metric for this purpose began with the 2006-2007 annual report; in years prior to 2006 the Serns index was used for the same purpose.

RESULTS AND DISCUSSION

POPULATION ESTIMATES AND DENSITIES

In 2023, spawning walleye populations were estimated in 37 lakes, ranging in size from 63 to 4,300 acres and representing a range of walleye recruitment categorizations and angler regulations (Table 1; Appendix D). Due to sample size restrictions, separate analyses were conducted to evaluate differences in spawner population size across (1) primary recruitment source (natural, stocked, or remnant; refer to Appendix B) and (2) angling regulations in place during the 2022-23 angling season. Statistical comparisons were made for spawner density (fish/acre) which provides a better comparative measure across lakes of varying size (relative to spawner abundance).

All population estimates were reviewed by a Technical Working Group (TWG) for reliability. Factors considered in determining reliability of estimates included numbers of fish marked and/or recaptured by sex and in total and coefficients of variation associated with derived estimates. In cases where population estimates are not deemed reliable by the TWG, estimates are rejected for use in setting safe harvest levels. For consistency across data groups, any population estimates rejected by the TWG for other purposes were also excluded from summaries and analyses presented in this report.

Consistent with most previous years, differences observed during 2023 in walleye spawner density between lakes in different recruitment classes (natural, stocked, or remnant) were statistically significant (General Linear Model, $P<0.05$). Spawner densities observed in 2023 in lakes dominated by natural recruitment were greater than those in remnant model populations (Tukey-Kramer LS Means, $P<0.01$), although mean density in stocked lakes was statistically similar to both naturally reproducing lakes and those with remnant populations (Tukey-Kramer LS Means, $P>0.05$) (Figure 6). Analysis of variance indicated no significant differences in spawner density existed between lakes with varying harvest regulations (General Linear Model, $P=0.24$).

There is no statistically significant trend (up or down) in walleye spawner density in natural-model lakes (GLM, Slope =-0.006, $P=0.65$) in the Ceded Territory since 1995[5] (Figure 4); a significant downward trend had been temporarily noted from 2017-2019 in natural model walleye lakes (Cichosz 2019, 2020, 2021). A significant downward trend previously noted in density of stocked-model walleye waters since 1995 shown in earlier reports was not noted when data since 2020 is accounted for (GLM, Slope=-.006, $P=0.58$; Figure 5).

[5] Data prior to 1995 was excluded due to a difference in the protocol used to select lakes for assessment (Hewett No Date)

Table 1. Lakes surveyed by WDNR crews in spring 2023, with corresponding information on adult (spawning) walleye population abundance and density. Only lakes with population estimates accepted for use by the TWG are shown.

WBIC	County	Lake	Acres	Size Limit (in)	Recruit Code [1]	Recruit Model [1]	Adult Pop. Estimate	Adult Density (#/Acre)
Natural Model Lakes								
2109600	Barron	Red Cedar	1841	Slot20-24	C-NR	Natural	4067	2.21
2949200	Iron	Pine	312	1>14"	NR	Natural	1295	4.15
1516401	Lincoln	Rice River Flowage Chain	3764	Slot20-24	NR	Natural	18483	4.91
2393200	Sawyer	Sand	928	Slot20-24	NR	Natural	1964	2.12
1545600	Vilas	Big Arbor Vitae	1090	1>14"	NR	Natural	4893	4.49
2339900	Vilas	Escanaba	293	Slot20-24	NR	Natural	2221	7.58
2335300	Vilas	Sanford	88	None	NR	Natural	118	1.34
2112800	Washburn	Balsam	295	Slot20-24	NR	Natural	1225	4.15
2692900	Washburn	Minong Flowage	1564	1>14"	NR	Natural	6400	4.09
Stocked Model Lakes								
2902700	Bayfield	Pike Chain	713	Slot14-18	C-ST	Stocked	764	1.07
2092500	Chippewa	Axhandle	84	Slot20-24	ST	Stocked	100	1.19
2157000	Chippewa	Otter	661	Slot20-24	ST	Stocked	1400	2.12
2173900	Chippewa	Popple	90	Slot20-24	C-ST	Stocked	76	0.84
683000	Forest	Stevens	297	Slot20-24	C-ST	Stocked	1662	5.60
2309700	Iron	Cedar	193	Slot20-24	C-ST	Stocked	852	4.41
2301800	Iron	Echo	220	Slot20-24	ST	Stocked	177	0.80
2307300	Iron	Fisher	410	Slot20-24	C-ST	Stocked	282	0.69
198100	Langlade	Sawyer	149	18	ST	Stocked	153	1.02
1543300	Oneida	Katherine	590	Special	C-ST	Stocked	2558	4.34
1019500	Oneida	Squash	396	18	C-ST	Stocked	355	0.90
1618100	Oneida	Thunder	1768	18	C-ST	Stocked	2433	1.38
1588200	Oneida	Two Sisters	719	18	C-ST	Stocked	1019	1.42
2620600	Polk	Balsam	2054	18	C-ST	Stocked	2559	1.25
2418600	Sawyer	Lost Land	1304	Slot20-24	ST	Stocked	1910	1.46
2417000	Sawyer	Teal	1049	Slot20-24	C-ST	Stocked	2415	2.30
1469100	Taylor	Rib	320	Slot20-24	C-ST	Stocked	5840	18.25
1764500	Taylor	Sackett	63	Slot20-24	ST	Stocked	62	0.98
1593800	Vilas	Found	326	18	ST	Stocked	478	1.47
1631900	Vilas	Lac Vieux Desert	4300	18	C-ST	Stocked	7051	1.64
1540400	Vilas	Little Spider	235	Slot20-24	ST	Stocked	428	1.82
1881900	Vilas	Sparkling	154	18	ST	Stocked	569	3.69
2330800	Vilas	Upper Gresham	366	Slot20-24	ST	Stocked	741	2.03
1884100	Washburn	Stone	523	Slot20-24	C-ST	Stocked	778	1.49

Table 1. Continued.

WBIC	County	Lake	Acres	Size Limit (in)	Recruit Code [1]	Recruit Model [1]	Adult Pop. Estimate	Adult Density (#/Acre)
Remnant Model Lakes								
672900	Florence	Keyes	210	18	O-ST	Remnant	91	0.43
1519600	Lincoln	Deer	156	Slot20-24	REM	Natural	23	0.14
466700	Oconto	Reservoir Pond	417	18	O-ST	Remnant	187	0.45
1001300	Oneida	Long	113	Slot20-24	R-NR	Remnant	717	6.34

1 – Recruitment Code and Recruitment Model shown are as defined at the end of the 2023 sampling year, using the 2023 data.

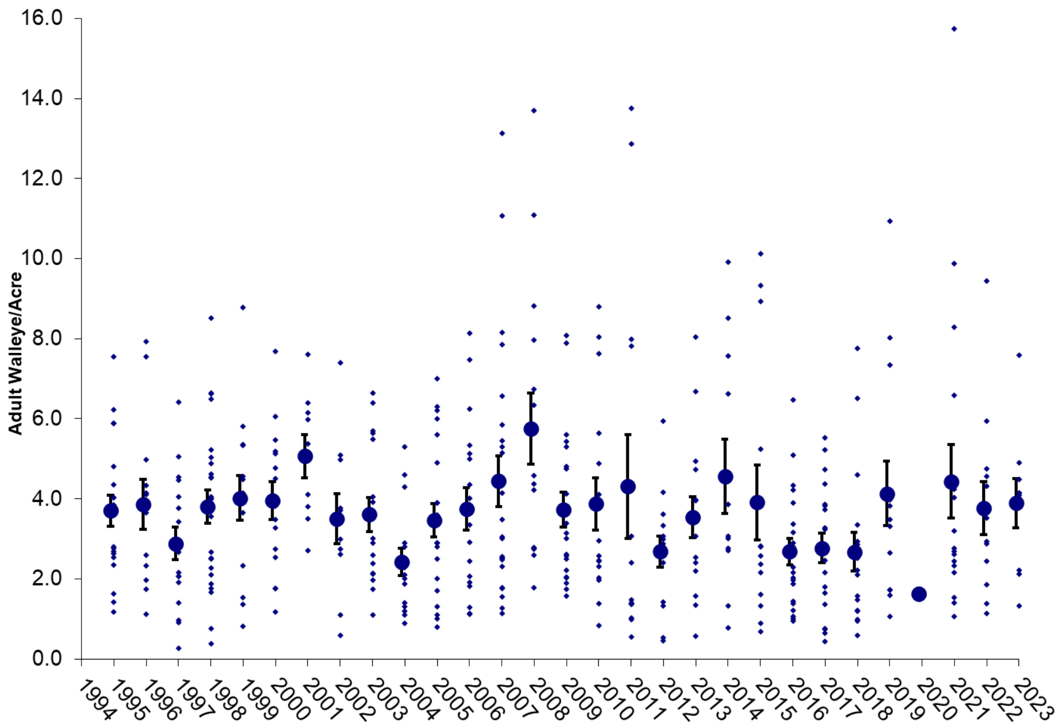

Figure 4. Adult walleye population density estimates recorded in Wisconsin Ceded Territory Lakes with populations sustained primarily by natural reproduction, 1995 – 2023. Small circles represent individual lakes; large circles represent yearly means (±SE).

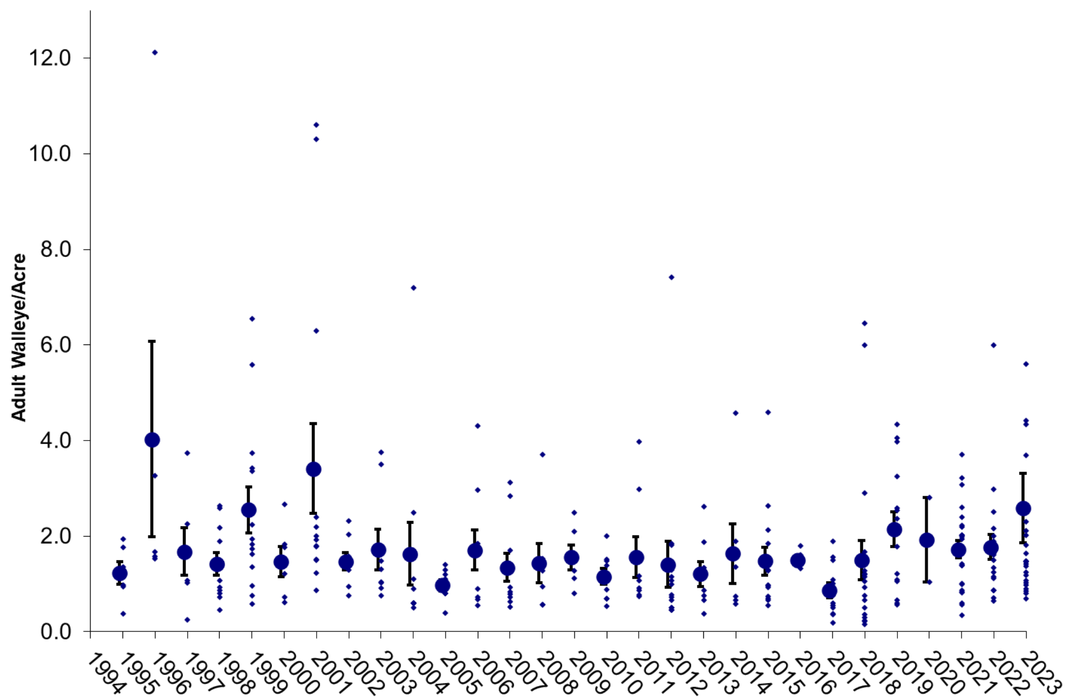

Figure 5. Adult walleye population density estimates recorded in Wisconsin Ceded Territory Lakes with populations sustained primarily by stocking, 1995 – 2023. Small circles represent individual lakes; large circles represent yearly means (±SE).

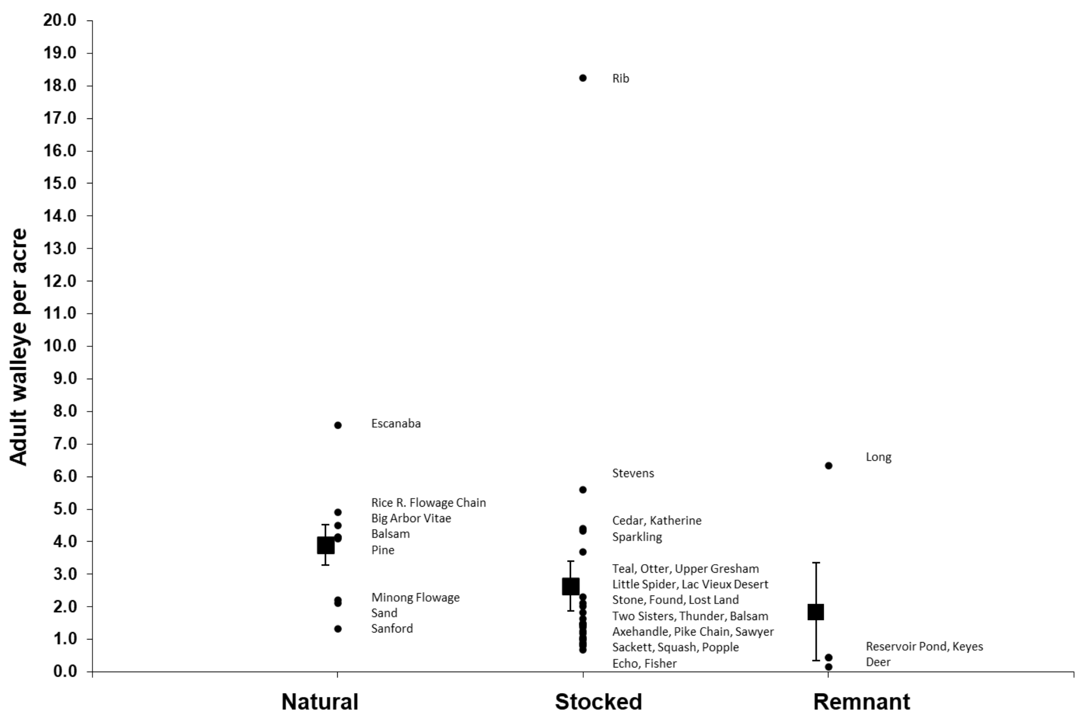

Figure 6. Adult walleye density estimates for lakes sampled by WDNR in spring 2023 based on primary population recruitment source.

SPAWNING ADULT WALLEYE SIZE STRUCTURE

Spawning adult walleye populations were estimated for each lake by length class in both natural (Figure 7), stocked (Figure 8), and remnant (Figure 9) production model lakes. Natural model lakes generally had higher walleye spawner densities than most stocked model lakes, which in turn had higher spawner densities than remnant model lakes. Stocked and remnant model lake populations typically have larger size structure than is seen in natural model lakes, and that did appear to be the case for lakes sampled in 2023, with higher proportions of large (15-20+") walleye generally observed in stocked and remnant fisheries.

In natural model lakes spawning walleye abundance was highly variable and the size structure was typically dominated by 12-20" walleye, although a few lower density waters were notably lacking fish in the 12-15" size class, possibly indicative of past recruitment issues (Figure 7). The natural model lakes sampled had overall densities ranging from roughly 1.3 to 7.6 fish/acre. Six of 9 sampled lakes had walleye densities equal to or exceeding 4 fish/acre; of the remaining lakes sampled, one had a walleye density less than 2 fish/acre. With the exception of Pine Lake (Iron Co.), walleye spawning in the 7-11.9 inch category were very limited in relative abundance in most natural production lakes sampled. It is unclear if the limited abundance of small adult walleye in other waters is due to a lack of young fish recruiting into the population, fish simply not maturing at young ages (and smaller size), or some other factor.

With few exceptions, stocked model lakes spawning walleye abundance and size structures were generally less variable than that observed in natural model lakes (Figure 8). Walleye densities observed in stocked model lakes were less than 2.5 adult fish/acre in 19 of 24 lakes sampled in 2023. Despite lower fish densities than those observed in natural model lakes, stocked model lakes generally had a notable proportion (e.g. >50%) of the spawning population made up of relatively large fish (>15") available for angler harvest under general statewide regulations. As in most years, remnant model lakes sampled in 2023 generally had lower densities (<1.0 adult fish/acre) but similar size structures to those noted in stocked model fisheries (Figure 9).

Data were available for calculation of PSD and RSD-18 for 14 natural, 30 stocked, and 10 remnant-model lakes sampled in 2023 (Table 2). In lakes where walleye regulations involve a 15" minimum size limit, calculating PSD as the percent of stock sized fish over 15" essentially makes this value a comparative tool to evaluate the percentage of harvestable fish across lakes.

There was no discernable pattern in walleye size structure noted in lakes with different recruitment classes during 2023. In natural model lakes observed PSD and RSD-18 values were highly variable, ranging from 5-100 and 1-100 percent, respectively. In stocked model lakes observed PSD and RSD values showed similar variability relative to natural model lakes (0-100 percent and 0-81 percent, respectively), as did size structures in remnant model lakes sampled in 2023 (PSD and RSD 14-100 percent and 1-100 percent, respectively) (Table 2).

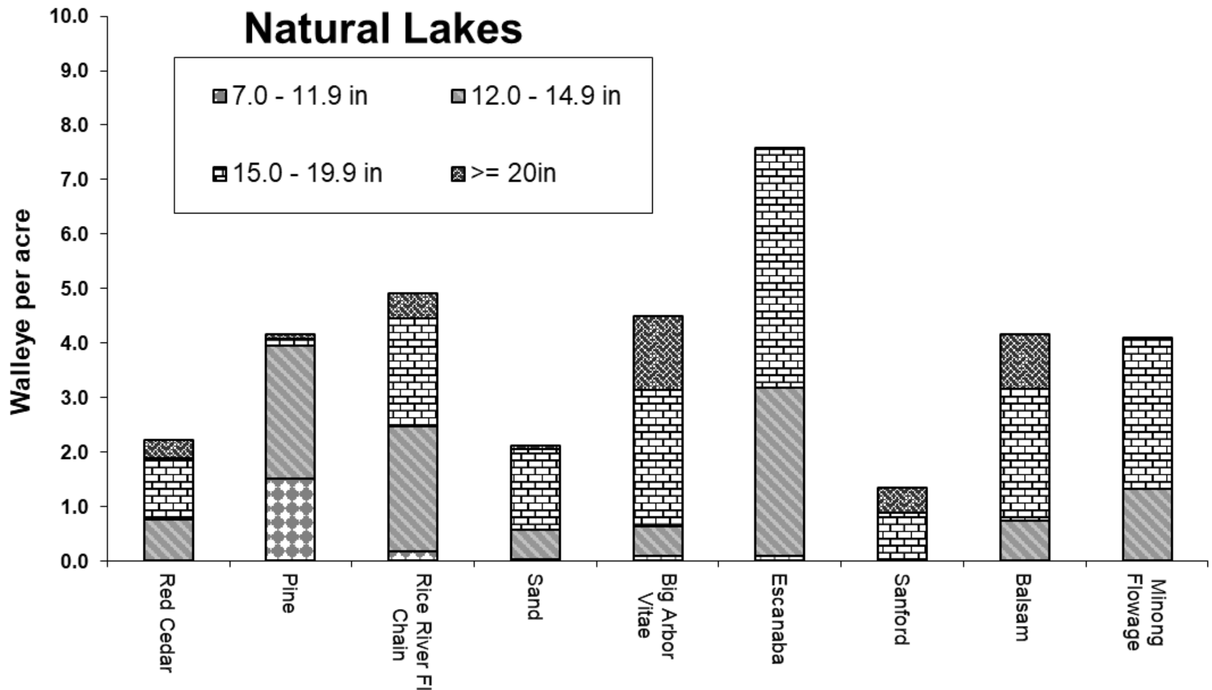

Figure 7. Size distribution of spawning walleye sampled in natural production model lakes during 2023.

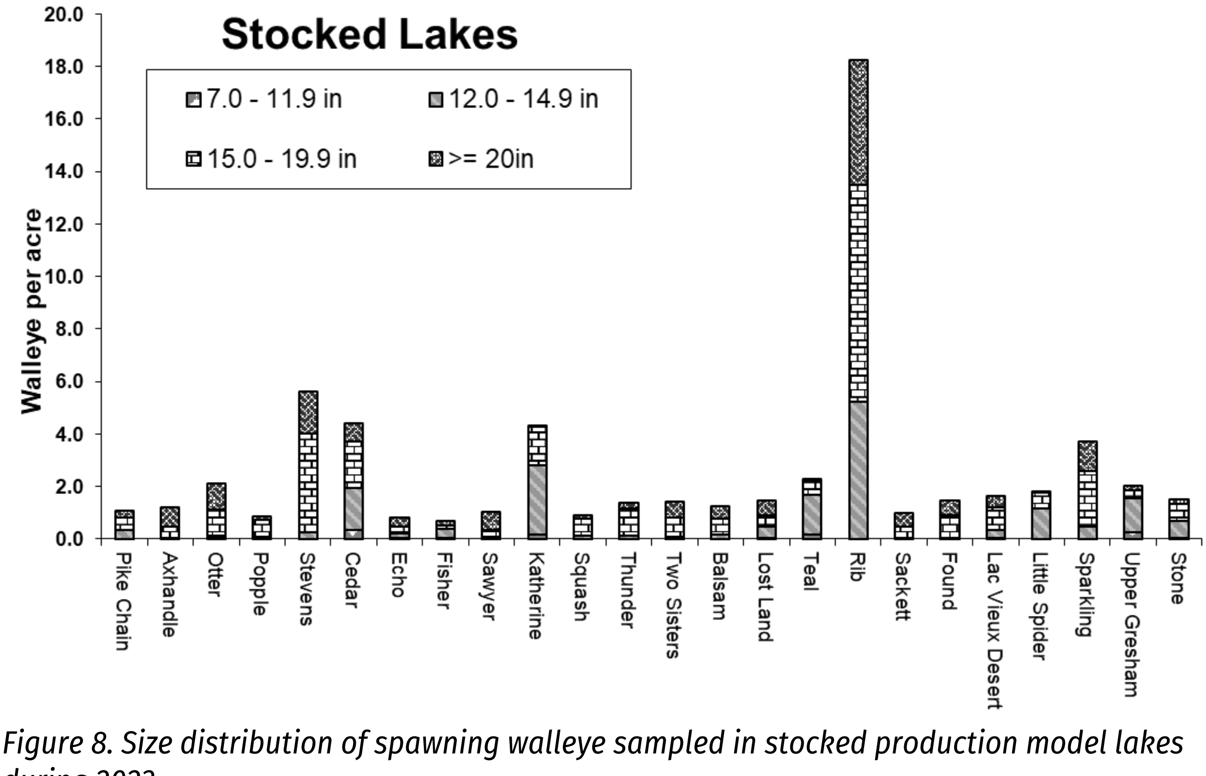

Figure 8. Size distribution of spawning walleye sampled in stocked production model lakes during 2023.

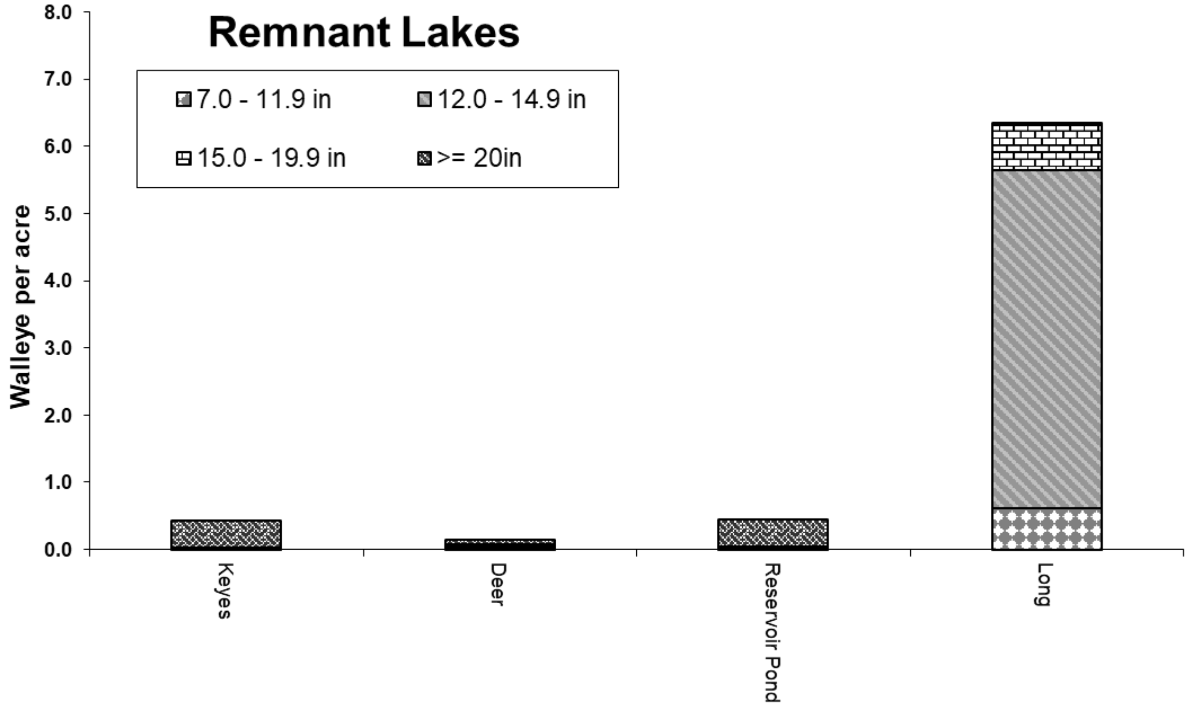

Figure 9. Size distribution of spawning walleye sampled in remnant production model lakes during 2023.

Similar to most other years average stock size structure in 2023 was generally slightly smaller in natural than stocked populations. Remnant model waters had the largest average size structure observed across recruitment classes in 2023 (Figure 10). Mean PSDs for natural, stocked, and remnant model lakes were 57, 70 and 74, respectively. Mean RSD-18s for natural, stocked, and remnant model lakes were 22, 40 and 61, respectively. Differences in PSD and RSD-18 values across lakes in various recruitment models could be caused by any number of potential factors including, but not limited to, high or low recruitment levels of younger/smaller fish, differing angler regulations, harvest patterns and harvest levels, or differences in survival or year class strength leading to differences in the relative abundance of quality (PSD, ≥15”) or preferred (RSD, ≥18”) sized fish in some lakes relative to others.

Mean annual PSD values in natural model lakes are trending upward over time whereas those in stocked model lakes has largely remained stable; the regression of natural model lakes over time has a significant upward slope of 0.71 ($p<0.01$); the regression of stocked model lakes has a much flatter and non-significant upward slope of 0.07 ($P=0.71$; Figure 11). PSD and RSD values are highly correlated in both natural and stocked model waters over time ($r2>0.75$), so the trends presented for PSD values are very similar to those observed for RSD values. The implication of increasing trends in PSD (and RSD) is that, over time, natural model lakes in particularly are seeing an increased percentage of larger walleye in the overall population. The observed trends in PSD values could be due to introduction and increased use of size selective fishing regulations over time (e.g. minimum or protective slot categories), declining recruitment of young fish into the population, increased growth rates, or other factors.

Table 2. Walleye Proportional and Relative Stock Density values for lakes surveyed in spring, 2023.

County	Lake	Acres	Recruit Code	Angling Regulation	PSD	RSD-18
Natural Recruitment Lakes						
Douglas	Minong Flowage	1,564	NR	No Minimum, 1>14"	71	15
Iron	Gile Flowage	3,384	NR	No Minimum, 1>14"	58	16
Iron	Pike Lake	165	C-NR	15"Min., 20-24" Protected Slot	46	31
Iron	Pine Lake	312	NR	No Minimum, 1>14"	5	1
Iron	Turtle Flambeau Fl.	13,545	NR	12" Minimum, 1>15"	20	1
Lincoln	Bridge Lake	411	NR	15"Min., 20-24" Protected Slot	43	13
Lincoln	Lake Nokomis	2,433	NR	15"Min., 20-24" Protected Slot	53	6
Lincoln	Rice River Flowage	920	NR	15"Min., 20-24" Protected Slot	55	6
Oneida	Bass Lake	124	NR	15"Min., 20-24" Protected Slot	100	43
Oneida	Rhinelander Flowage	1,326	NR	15"Min., 20-24" Protected Slot	64	45
Sawyer	Evergreen Lake	200	NR	15"Min., 20-24" Protected Slot	100	100
Sawyer	Mason Lake	190	NR	15"Min., 20-24" Protected Slot	100	100
Sawyer	Sand Lake	928	NR	15"Min., 20-24" Protected Slot	73	16
Vilas	Big Arbor Vitae Lake	1,090	NR	No Minimum, 1>14"	69	23
Stocked Recruitment Lakes						
Bayfield	Pike Lake	17	C-ST	15"Min., 20-24" Protected Slot	60	33
Chippewa	Axhandle Lake	84	ST	15"Min., 20-24" Protected Slot	83	71
Chippewa	Otter Lake	661	ST	15"Min., 20-24" Protected Slot	85	70
Chippewa	Popple Lake	90	C-ST	15"Min., 20-24" Protected Slot	94	47
Forest	Stevens Lake	297	C-ST	15"Min., 20-24" Protected Slot	94	53
Iron	Cedar Lake	193	C-ST	15"Min., 20-24" Protected Slot	29	12
Iron	Echo Lake	220	ST	15"Min., 20-24" Protected Slot	62	39
Iron	Fisher Lake	410	C-ST	15"Min., 20-24" Protected Slot	47	36
Langlade	Sawyer Lake	149	ST	18" Minimum	94	82
Lincoln	Long Lake	132	ST	15"Min., 20-24" Protected Slot	100	33
Oneida	Fifth Lake	240	ST	15"Min., 20-24" Protected Slot	50	50
Oneida	Katherine Lake	590	C-ST	18" Min., 22-28" Protected Slot	31	3
Oneida	Mccormick Lake	118	C-ST	15"Min., 20-24" Protected Slot	85	16
Oneida	Squash Lake	396	C-ST	18" Minimum	87	33
Oneida	Thunder Lake	1,768	C-ST	18" Minimum	86	34
Oneida	Tom Doyle Lake	102	C-ST	15"Min., 20-24" Protected Slot	75	13
Oneida	Two Sisters Lake	719	C-ST	18" Minimum	82	49
Polk	Balsam Lake	2,054	C-ST	18" Minimum	89	49
Rusk	Chain Lake	468	C-ST	18" Minimum	54	26
Rusk	Clear Lake	95	C-ST	18" Minimum	83	81
Rusk	Island Lake	526	C-ST	18" Minimum	48	21
Rusk	Mccann Lake	133	C-ST	18" Minimum	65	51
Taylor	Rib Lake	320	C-ST	15"Min., 20-24" Protected Slot	71	19
Taylor	Sackett Lake	63	ST	15"Min., 20-24" Protected Slot	93	77
Vilas	Brandy Lake	110	C-ST	15"Min., 20-24" Protected Slot	100	50

Table 2. Continued.

Stocked Recruitment Lakes (Cont'd)						
Vilas	Erickson Lake	106	ST	15"Min., 20-24" Protected Slot	0	0
Vilas	Found Lake	326	ST	18" Minimum	93	35
Vilas	Little Spider Lake	235	ST	15"Min., 20-24" Protected Slot	40	30
Vilas	Upper Gresham Lake	366	ST	15"Min., 20-24" Protected Slot	11	0
Washburn	Stone Lake	523	C-ST	15"Min., 20-24" Protected Slot	53	20
Remnant Population Lakes						
Florence	Emily Lake	191	O-ST	15"Min., 20-24" Protected Slot	60	60
Florence	Keyes Lake	210	O-ST	18" Minimum	97	94
Florence	Long Lake	340	O-ST	15"Min., 20-24" Protected Slot	100	100
Lincoln	Bass Lake	100	NR-2	15"Min., 20-24" Protected Slot	100	67
Lincoln	Deer Lake	156	REM	15"Min., 20-24" Protected Slot	52	40
Oconto	Reservoir Pond	417	O-ST	18" Minimum	100	99
Oconto	Townsend Flowage	476	O-ST	18" Minimum	82	59
Oneida	Boom Lake	437	NR-2	15"Min., 20-24" Protected Slot	100	27
Oneida	Long Lake	113	R-NR	15"Min., 20-24" Protected Slot	14	1
Washburn	Little Stone Lake	27	NR-2	15"Min., 20-24" Protected Slot	30	17

* Recruitment Code as defined for 2024 based on use of 2023 data.

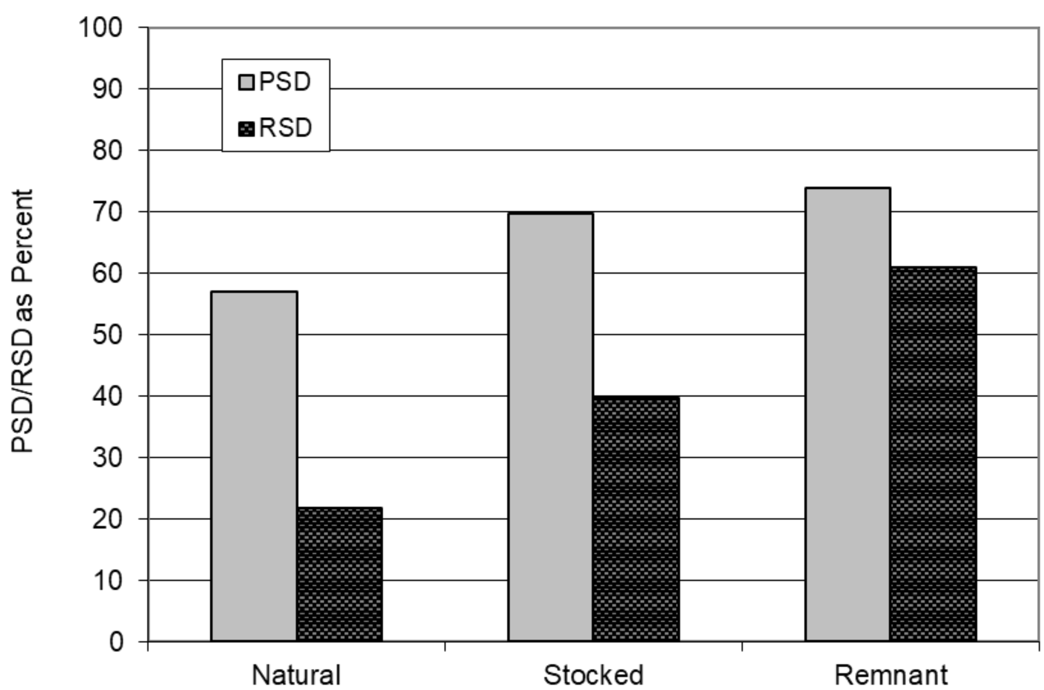

Figure 10. Comparison of mean PSD and RSD-18 values across lakes in various walleye recruitment models for lakes sampled in 2023.

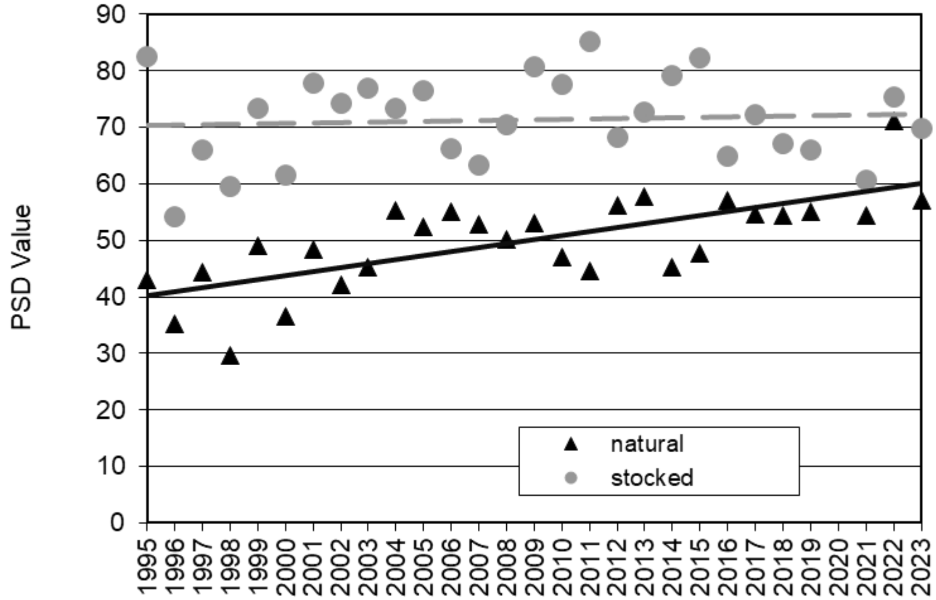

Figure 11. Trends in PSD values observed for walleye in Ceded Territory lakes since 1995.

MUSKELLUNGE ABUNDANCE

Adult muskellunge population and density estimates were completed in 12 Ceded Territory waters during spring 2023 (Table 3). Population estimates completed in 2023 reflect 2022 population numbers because of the two-year mark-recapture time span used to derive estimates. Muskellunge densities in the 12 lakes ranged between 0.02 and 1.63 adult fish/acre and did not appear to be related to lake size or angler regulations (Table 3).

Table 3. Adult muskellunge population estimates completed in 2023 in the Wisconsin Ceded Territory. Regulations presented are for 2023.

County	Lake	Angler Regulation (inches)	Acres	Minimum length in PE (inches)		Adult PE	CV(%)	Total per acre
				Male	Female			
Ashland	Mineral	28	225	22	25.5	87	0.23	0.39
Barron	Rice	50	939	25.5	30	282	0.24	0.30
Barron	Sand	40	322	26.5	27	190	0.24	0.59
Bayfield	Middle Eau Claire	40	902	29.5	30	60	0.44	0.07
Oneida	Crescent	40	626	28	30	124	0.16	0.20
Oneida	Shishebogama	40	716	25	28.5	329	0.46	0.46
Sawyer	Evergreen/Mason	40	390	21.5	23	636	0.06	1.63
Sawyer	Lost Land	40	1,304	23	27.5	285	0.37	0.22
Vilas	Big Arbor Vitae	40	1,090	21.5	30	322	0.38	0.30
Vilas	Escanaba	40	293	24	30	17	0.15	0.06
Vilas	Sanford	40	88	25	27	36	0.27	0.41
Vilas	Trout	50	3,816	24.5	30	74	0.11	0.02

BASS ABUNDANCE

Six largemouth and six smallmouth bass population estimates were successfully completed during 2023 (Table 4). Estimated largemouth bass density ranged from 0.8 fish>8" per acre in Sanford Lake (Vilas Co.) to 10.6/acre in Little Spider Lake (Vilas Co.; Table 4). The range of smallmouth densities observed during 2023 was much narrower than that observed for largemouth bass, ranging from 0.7 – 6.2 adult fish per acre (Sanford and Pallette lakes, Vilas Co., respectively; Table 4). The size structure of both large- and smallmouth bass populations was generally dominated by fish <14" in total length and few if any fish >18" in total length (Table 4).

Table 4. Largemouth and Smallmouth bass population estimates for lakes sampled in the Wisconsin Ceded Territory in spring 2023.

County	Lake	Acres	Angler Regulation	Total PE	CV	Total /acre	8.0-13.9" /acre	14.0-17.9" /acre	18.0"+ /acre
Largemouth Bass									
Langlade	Sawyer	149	12-16"PS	1,006	0.39	6.75	2.72	3.95	0.08
Oneida	Katherine	590	14" Minimum	2,309	0.12	3.91	3.03	0.88	0.00
Oneida	Squash	396	No Minimum	2,156	0.28	5.44	4.89	0.54	0.01
Vilas	Little Spider	235	14" Minimum	2,499	0.25	10.63	10.09	0.53	0.02
Vilas	Sanford	88	14" Minimum	68	0.37	0.77	N/A	N/A	N/A
Vilas	Upper Gresham	366	14" Minimum	4,459	0.10	12.18	11.04	1.11	0.03
Smallmouth Bass									
Iron	Echo	220	14" Minimum	480	0.51	2.18	1.54	0.63	0.02
Oneida	Katherine	590	14" Minimum	2737	0.15	4.62	3.69	0.92	0.01
Oneida	Squash	396	No Minimum	343	0.23	0.87	0.73	0.13	0.01
Vilas	Pallette	180	22" Minimum	1108	0.27	6.16	2.27	3.77	0.12
Vilas	Sanford	88	14" Minimum	65	0.26	0.74	N/A	N/A	N/A
Vilas	Sparkling	154	18" Minimum	234	0.09	1.90	N/A	N/A	N/A

NORTHERN PIKE ABUNDANCE

Eight northern pike population estimates were successfully completed during 2023. Northern pike densities ranged from <1.0 to 16.1 northern pike/acre but were most commonly between 2 and 5/acre. Although no formal process exists for review or northern pike PEs, the treaty biologist recommended 'rejecting' PEs from Sawyer and Bridge lakes based on low (or no) recap numbers during completion of the PE.

Table 5. Northern pike population estimates for lakes sampled in the Wisconsin Ceded Territory in spring 2023.

County	Lake	WBIC	Acres	Total PE	CV	Total /acre
Florence	Long	677400	340	5468	0.16	16.08
Forest	Howell	691800	177	350	0.12	1.98
Langlade	Sawyer*	198100	149	290	0.34	1.95
Lincoln	Deer	1519600	156	598	0.20	3.83
Lincoln	Bridge*	1516800	411	372	0.34	0.91
Oneida	Thunder	1618100	1768	9757	0.07	5.52
Price	Wilson Fl.	2246500	269	812	0.41	3.02
Rusk	Island Chain	Multiple	1222	2367	0.07	1.94

* Biologist recommends rejection although no formal review process has occurred.

CREEL SURVEYS

In 2023-2024 creel surveys were conducted for 17 Ceded Territory waters in which walleye population estimates were made during spring 2023 (Appendix C). Eleven lakes were creeled for the full angling year (May - March) and six were creeled only during the open water portion of the angling season (May – October). Creel surveyed lakes ranged in size from 149 to 4,300 acres (Sawyer L.-Langlade Co. and Lac Vieux Desert-Vilas Co., respectively) and were located across ten counties within the Ceded Territory.

OVERALL ANGLER EFFORT

From 1995 through 2023 total angler effort has been variable and a downward trend has been observed across all ceded territory lakes monitored [Slope -0.32, $F(1; 537) = 7.20$, $P < 0.01$]. This finding of a meaningful downward trend is relatively new and generally inconsistent with prior evaluations of angling pressure in Ceded Territory lakes (Cichosz 2022, Cichosz 2021, Cichosz 2010, Cichosz 2009, Hansen 2008, Deroba et al. 2007, Hennessy 2005; Figure 12). Since 1995 when random lake selection began, mean total angler effort has been significantly lower in large lakes (≥500 acres; 25.2 hours/ acre) than in small lakes (<500 acres; 34.1 hours/ acre; t-test (unequal variances) $t = -4.39$, $df = 409$, $P < 0.01$). Due to high variability in effort observed in 2023-24 however, the mean total angler effort per acre in large lakes (12 lakes, 19.1 hours/acre) was not significantly different than that in small lakes (5 lakes, 21.7 hours/acre; t-test unequal variances, $t = -0.33$, $df = 5.8$, $P = 0.75$).

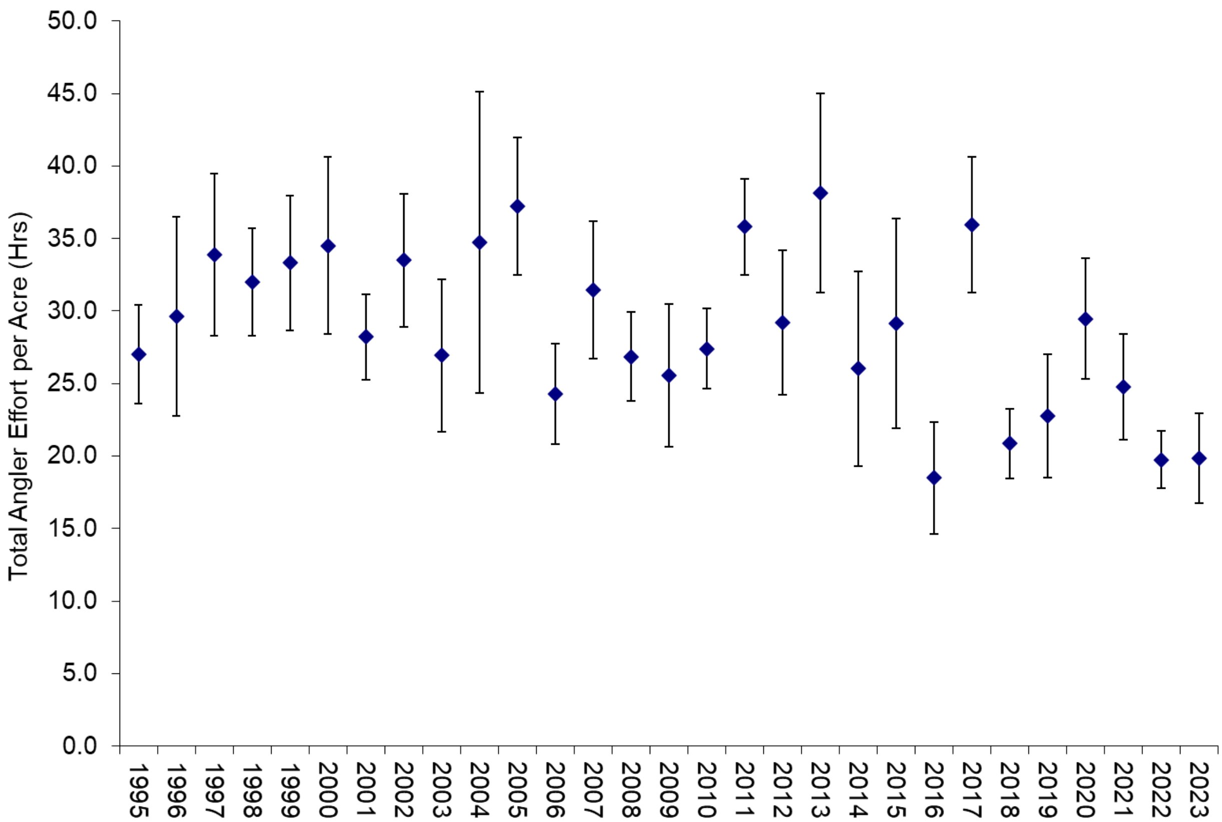

Figure 12. Average total angler effort per acre (±SE) in Wisconsin Ceded Territory lakes where WDNR conducted creel surveys, 1995-2023.

WALLEYE EFFORT, CATCH AND EXPLOITATION

Directed effort for walleye averaged 5.1 hours per acre across lakes during the 2023-24 angling season; Directed effort is defined as hours reported by anglers fishing for a specific species. Nine creel surveys in 2023-24 were in lakes dominated by natural reproduction, with the remaining eight in lakes with populations driven by stocking. No significant difference was found in directed fishing effort for walleye between Natural- (6.35 hours/acre) and Stocked-model lakes (3.62 hours/acre; $t = 1.70$, $df = 10.3$, $P = 0.12$) surveyed during the 2023-24 angling season. Similarly, no significant difference was found in directed fishing effort for walleye between large (≥500 ac., 5.59 hours/ acre) and small lakes (<500 ac., 3.82 hours/ acre; $t = -0.99$, $df = 9.2$, $P = 0.35$) surveyed during the 2023-24 angling season. Since 1995, directed angler effort (hours/acre) for walleye has shown a statistically significant downward trend [Slope = -0.22, $F(1;535) = 48.9$, $P < 0.01$) (Figure 13).

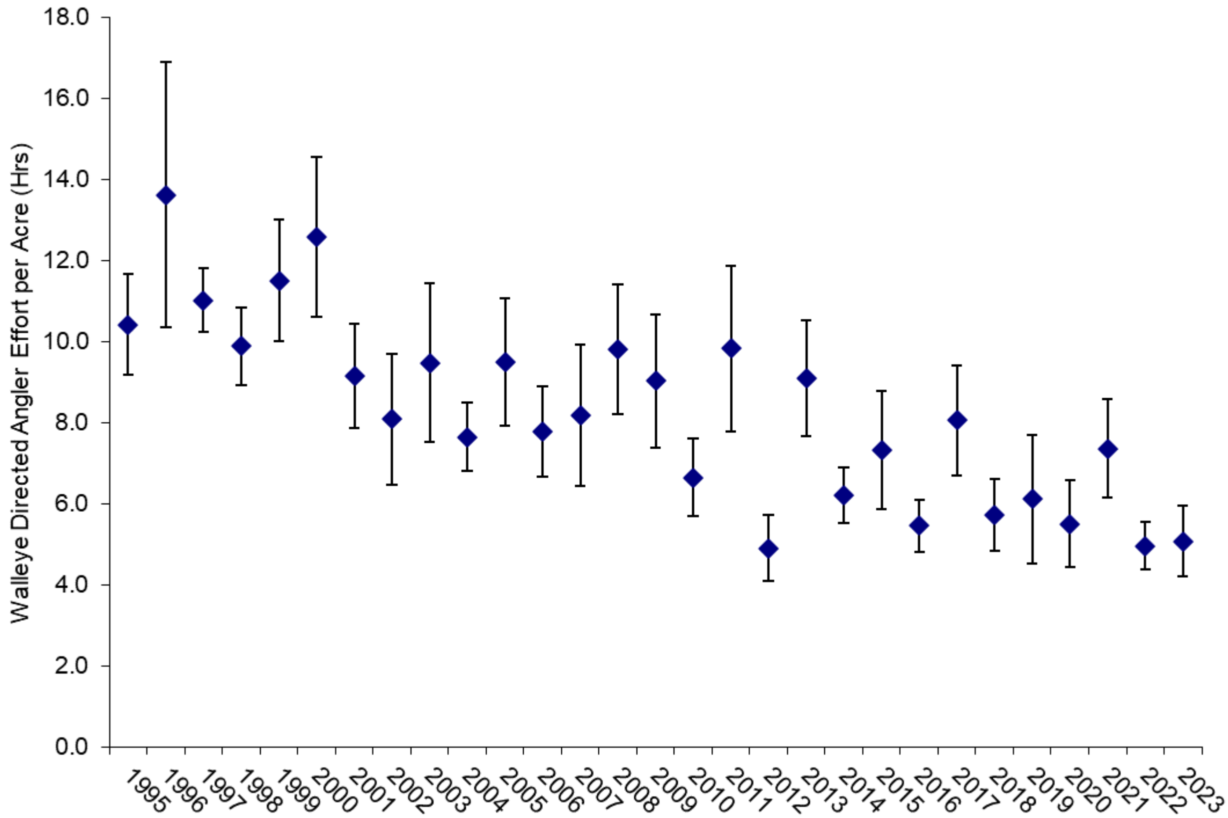

Figure 13. Directed angler effort per acre (±SE) for walleye in Wisconsin Ceded Territory lakes where WDNR conducted creel surveys, 1995-2023.

In 2023-24 the mean specific catch rates (SCR) was 0.26 walleye/hour of directed effort (1 fish per 3.8 walleye angling hours). In lakes with naturally sustained or stocked populations, respectively, mean SCRs were 0.34 walleye per hour (2.9 hours directed effort/ walleye caught; n=9) and 0.17 walleye/ hour (1 fish per 5.9 hours of directed effort; n=8). Specific harvest rates averaged 0.057 walleye/hour of directed effort (17.5 hours directed effort/walleye harvested) and ranged between 0.00 and 0.19 walleye/hour for individual lakes surveyed (Appendix C). Anglers harvested approximately 22% of all walleye caught from creeled waters during the 2023-24 season; this is below the proportion estimated across all lakes creeled between 1995 and 2022 (28%), but not outside of the range of proportions observed in those prior years (Appendix C).

Specific catch rate of walleye between 1995 and 2023 was highly variable, with no statistically relevant trend in SCR observed [Figure 14; Slope = -0.00, $F(1, 534) = 1.50$, $P = 0.22$]. Similarly, no discernible trend was noted for specific harvest rate by year since 1995 [Slope = -0.00, $F(1, 533) = 3.66$, $P = 0.06$] for walleye in the Wisconsin Ceded Territory (Figure 14).

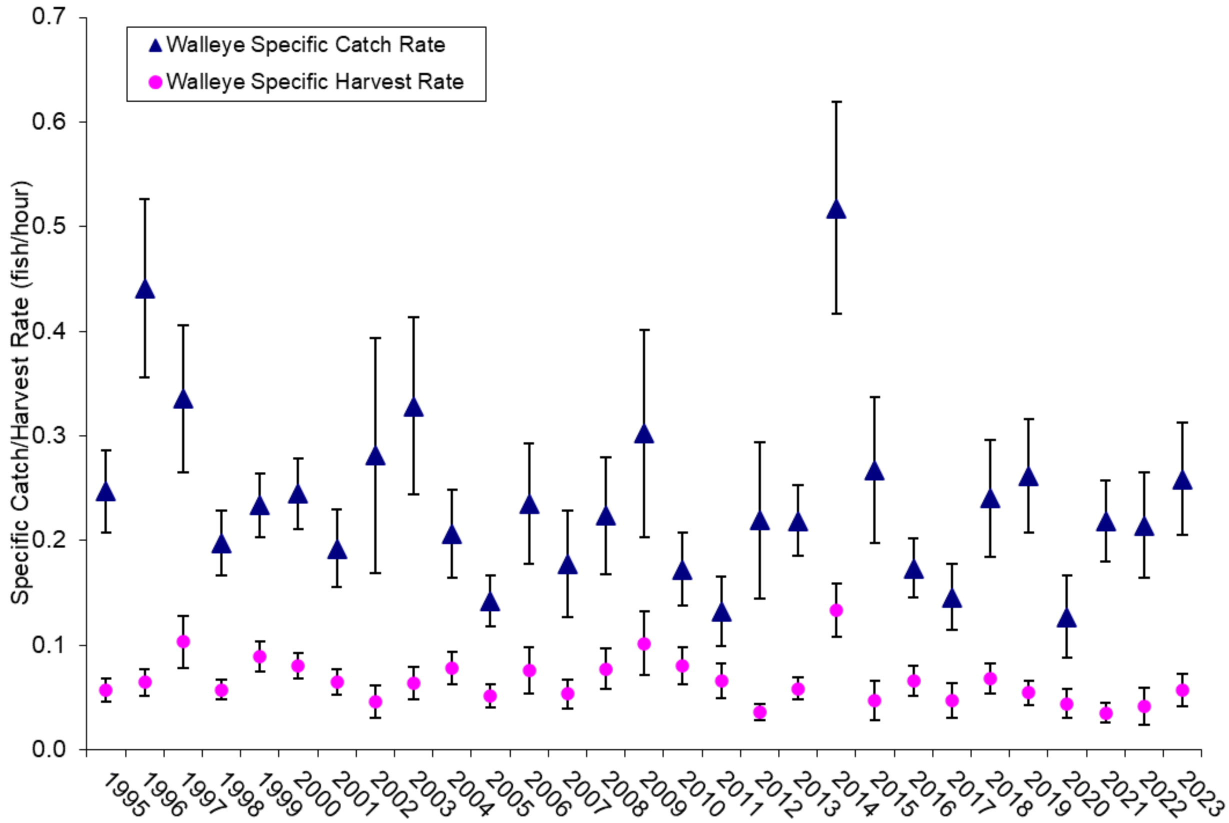

Figure 14. Specific catch and harvest rates (±SE) for walleye in surveyed lakes in the Wisconsin Ceded Territory, 1995-2023. Specific catch or harvest rate is number of walleye caught or harvested divided by time spent fishing specifically for walleye.

Walleye exploitation rates were estimated for 15 lakes during 2023-24 (Table 6; Appendix E). Estimates of angler walleye exploitation ranged from 0.4% to 19.6%; Angler exploitation of walleyes in various size classes was variable with exploitation of walleye 14" or longer ranging from 0.8% to 65.2% whereas that of walleyes 20" or longer ranged from 0.0% to 28.5%. Tribal exploitation of walleyes ranged from 0.0% to 15.2% across all lakes, and tribal exploitation rates exceeded those of anglers in five of the thirteen surveyed lakes where both values were estimable. Total (angler + tribal) exploitation rates ranged from 3.5 – 23.0%, averaging 13.0% across lakes monitored during the 2023-24 harvest period. Based on 2023-24 survey results angler exploitation of walleye populations was estimated as greater than zero in all thirteen lakes where angler exploitation could be estimated; five of 15 lakes surveyed incurred no tribal exploitation of walleye.

Safe harvest limits are set so that over time there is less than a 1-in-40 chance that exploitation will exceed 35% in any given year on any single lake. In 2023-24 total walleye exploitation was below 35% in all lakes evaluated (Table 6).

Table 6. Adult walleye exploitation (expl.) rates by lake and harvest type for 2023, with comparison to 1995-2022 mean exploitation rates.

County	Lake	Acres	Angler expl.	Angler expl. ≥14"	Angler expl. ≥20"	Tribal expl.[1]	Total adult expl.
Bayfield	Pike Chain	713	0.035	0.044	0.000	0.069	0.104
Douglas	Minong Flowage	1564	0.150	0.120	0.000	0.000	0.150
Iron	Echo	220	0.145	0.196	0.000	0.000	0.145
Iron	Pine	312	0.196	0.086	0.000	0.000	0.196
Langlade	Sawyer[2]	149	0.080	0.081	0.109	0.072	0.152
Lincoln	Deer[2]	156	--	--	--	0.000	--
Lincoln	Rice River Fl Treaty Chain[2]	3764	0.054	0.652	0.000	0.019	0.073
Oneida	Katherine	590	0.004	0.008	0.000	0.031	0.035
Oneida	Squirrel	1317	0.096	0.153	0.206	0.095	0.191
Oneida	Two Sisters	719	N/A	N/A	N/A	0.083	N/A
Polk	Balsam[2]	2054	0.014	0.015	0.052	0.058	0.073
Sawyer	Sand	928	0.173	0.189	0.000	0.058	0.230
Vilas	Big Arbor Vitae	1090	0.031	0.031	0.096	0.152	0.183
Vilas	Lac Vieux Desert	4300	0.078	0.101	0.285	0.000	0.078
Washburn	Stone	523	0.012	0.015	0.000	0.073	0.085
2023 mean			0.082	0.130	0.058	0.047	0.130
1995-2022 mean[3]			0.083	0.101	0.111	0.051	0.134

1 Tribal harvest data used to calculate tribal exploitation provided by the Great Lakes Indian Fish and Wildlife Commission.

2 Angler creel survey only in open-water season.

3 No viable combined exploitation estimates are available for 2020 due to COVID-19 work restrictions.

MUSKELLUNGE EFFORT AND CATCH

Of the 17 lakes surveyed in 2023-24, 13 are classified as musky waters and creel clerks recorded at least one musky caught from ten of the classified musky lakes surveyed; Appendix C. For the purpose of analyses and summarization of catch and effort, lakes not classified as musky waters and those without directed fishing effort were excluded even if limited numbers of musky had been reported in creel surveys.

In general, the "action classification" assigned to lakes (WDNR 1996) is a better predictor of musky catch and effort than recruitment source or lake size to describe variability in catch and effort (Simonson and Hewett 1999). Directed effort fishing for musky in creeled waters during 2023 (3.29 hrs/acre) was significantly less than that in the previous 10 year period (6.60 hrs/acre; Two-sample T-Test, p<0.01) although a full model accounting for both musky class and time-period shows that musky class is more important than time in defining directed angling effort expended. A significant difference was noted between time periods for angler catch/acre of musky between the prior 10 years 90.31 fish/acre) and the 2023-24 sampling year (0.15 fish/acre, Two-sample T-Tests, p<0.05; Table 7); No significant difference in angler specific catch rate (fish/targeted hour) was found between the 2023-24 angling year (0.028 fish/hour) and the prior 10 year period (0.036 fish/hour. Due to typically small sample sizes in current year/class combinations, statistical comparisons between time periods are made for total values only (not within or across individual musky classes).

Table 7. Comparison of muskellunge catch and effort rates in 2023 and average values from 2013-2022, by musky lake classification.

Class	Class Description	Lakes sampled	Angler catch/ acre	Specific catch rate (fish/ hour)	Directed effort (hours/ acre)
2023					
A1	Trophy waters	6	0.07	0.023	1.50
A2	Action waters	5	0.30	0.043	6.17
B	Intermediate action/ size	2	0.01	0.004	1.48
C	Low importance	0	N/A	N/A	N/A
Total		13	0.15*	0.028	3.29*
2013-2022 Averages (Prior 10 years)					
A1	Trophy waters	38	0.07	0.031	2.91
A2	Action waters	59	0.53	0.043	10.29
B	Intermediate action/ size	27	0.21	0.031	4.38
C	Low importance	5	0.04	0.007	1.46
Total**		129	0.31	0.036	6.60

* 2023 angling season values differ significantly from prior ten-year averages.
** Differences between 2023 and prior 10-year average were not statistically significant ($p>0.05$) for any variable when evaluated in a model also incorporating musky class.

Trends in directed effort and catch rates of muskellunge were evaluated since 1995; Trend evaluations were not done independently for each muskellunge 'action class' since limited or no data was available for some year/action class categories. There has been no observed trend in muskellunge catch rates [GLM; $F(1, 404) = 0.00$, $P = 0.99$] in the Ceded Territory since 1995 although directed effort has shown a declining trend [$F(1, 406) = 7.84$, Slope -0.18, $P < 0.01$] (Figure 15).

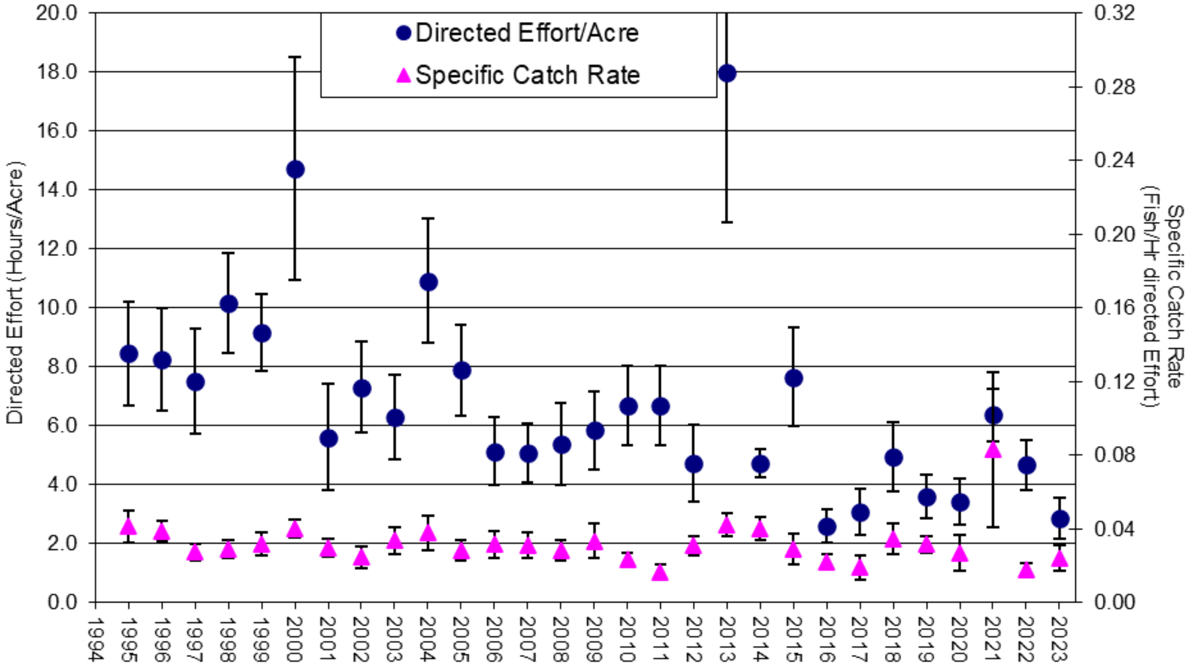

Figure 15. Directed angler effort per lake surface acre and specific catch rate (±SE) for muskellunge in surveyed lakes in the Wisconsin Ceded Territory, 1995-2023.

NORTHERN PIKE EFFORT AND CATCH

Directed effort toward northern pike was recorded in 16 of 17 Ceded Territory lakes surveyed in 2023-24 (Pike Chain of Lakes, Bayfield Co. had no directed effort for pike), with catch reported in all other surveyed lakes (Appendix C). Of the 16 lakes with northern pike effort, five were smaller than 500 acres and eleven were 500 acres or larger (Table 8). No significant differences were observed in creel statistics between large and small lakes evaluated during the 2023-24 angling season; within the prior 10-year period only specific harvest rate of northern pike differed significantly between large and small lakes (Table 8). In comparing current year creel statistics to the prior 10-year averages, differences were noted only in small lakes where directed effort/acre and angler harvest/acre were both statistically lower in 2023-24 surveys relative to the prior 10-year period (Table 8).

Estimates of angler effort directed toward northern pike have been highly variable across years (Figure 16), and since 1995 there has been a slight statistically downward trend in directed angler effort for northern pike [Slope = -0.06, $F(1, 517) = 4.42$, $P = 0.01$]. Specific Catch rates of northern pike have shown no significant trend since 1995 [$F(1, 506) = 0.221$, $P = 0.64$].

Table 8. Mean estimates calculated from 2023 and 2013-2022 northern pike creel survey data.

Year	Lake Size	N	Catch/ Acre	Angler Harvest/ Acre	Specific Catch Rate	Specific Harvest Rate	Directed Effort/ Acre
2023*							
	< 500 acres	5	0.77	0.05	0.340	0.021	1.47
	> 500 acres	11	4.10	0.27	0.242	0.027	4.47
	All lakes	16	3.27	0.22	0.268	0.025	3.72
2013-2022**							
	< 500 acres	88	1.72	0.20***	0.184	0.030**	3.65***
	> 500 acres	80	1.44	0.19	0.218	0.047**	2.68
	All lakes	168	1.59	0.20	0.200	0.038	3.18

* No current year values differ statistically between large and small lakes (T-test, $p>0.05$).

** Statistical differences were noted in 10 yr. average creel statistics between large and small lakes (T-test, $p<0.05$).

***10 yr. averages differ significantly from corresponding 2022-23 annual values (T-test, $p<0.05$).

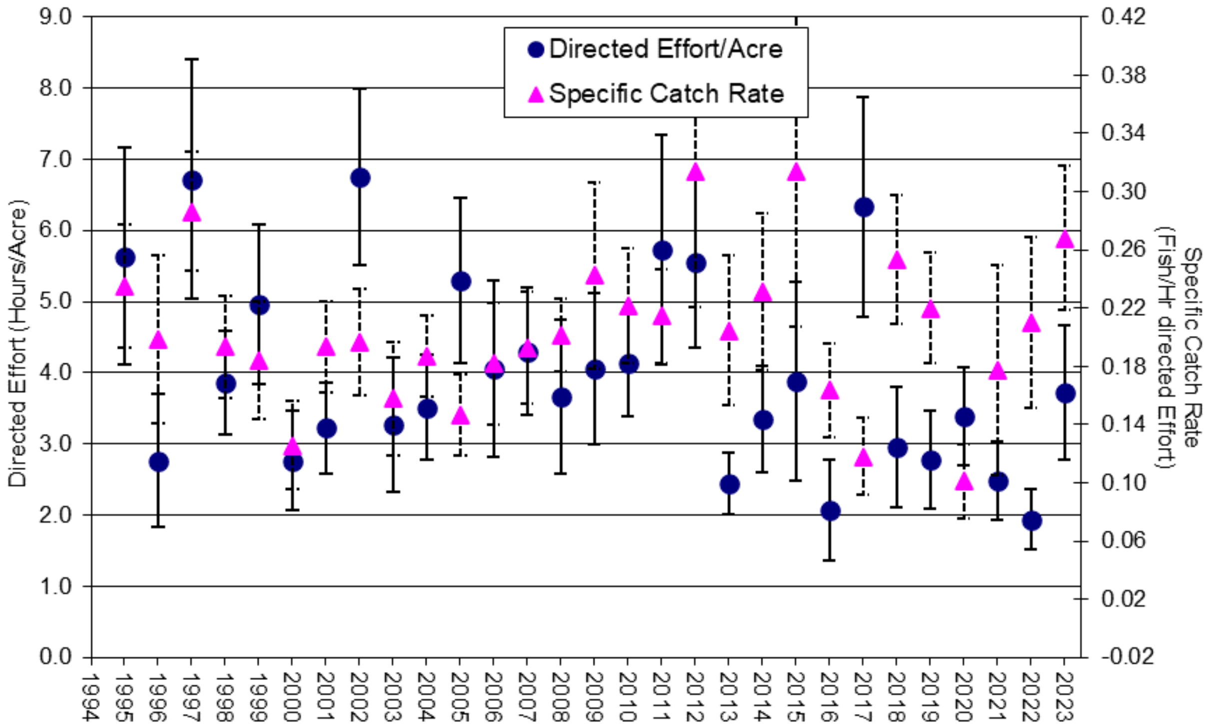

Figure 16. Directed angler effort per lake surface acre and specific catch rate (±SE) for northern pike in surveyed lakes in the Wisconsin Ceded Territory, 1995-2023.

LARGEMOUTH BASS EFFORT AND CATCH

Directed angler effort toward largemouth bass was observed in each of the 17 lakes creeled during 2022-23; catches of largemouth bass were reported in all except the Rice River Flowage during 2022-23 (Appendix C). Five surveys were in lakes smaller than 500 acres and twelve were in lakes 500 acres or larger (Table 9). No statistical differences existed between large and small lakes sampled in 2023-24 for the five creel metrics monitored (T-tests, $P < 0.05$). In small lakes sampled during 2023-24 largemouth bass harvest/acre and specific harvest rate were significantly lower than corresponding 10-year averages (T-tests, $P < 0.05$); metrics in large lakes sampled during 2023-24 did not differ significantly from the corresponding 10-year averages (T-tests, $P > 0.05$) related to largemouth bass. Within the prior 10-year period itself no statistical differences were noted in largemouth bass creel statistics for large and small lakes (2013-2022; T-tests, $P > 0.05$). When all lake sizes were combined, no statistical differences were noted between 2023 creel statistics and corresponding 10-year averages for largemouth bass (T-tests, $P > 0.05$; Table 9).

Since 1995 there has been a statistically relevant increase in specific catch rates of largemouth bass [Slope = 0.010, $F(1, 497) = 15.93$, $P < 0.01$], but not in directed effort expended fishing for them throughout the Wisconsin ceded territory [Slope = 0.048, $F(1, 509) = 2.46$, $P = 0.12$] (Figure 17).

Table 9. Mean estimates calculated from 2023 and 2013-2022 largemouth bass creel survey data.

Year	Lake Size	N	Angler Catch/ Acre	Angler Harvest/ Acre	Specific Catch Rate	Specific Harvest Rate	Directed Effort/ Acre
2023*							
Small	< 500 acres	5	3.48	0.10	0.19	0.01	7.30
Large	> 500 acres	12	5.25	0.23	0.55	0.02	4.82
	All lakes	17	4.73	0.20	0.45	0.19	5.55
2013-2022**							
Small	< 500 acres	88	4.93	0.35***	0.44	0.04***	5.42
Large	> 500 acres	80	4.24	0.31	0.40	0.03	3.97
	All lakes	168	4.60	0.34	0.42	0.03	7.34

* No current year values differ between large and small lakes (T-test, $p > 0.05$).
** No 10 yr. averages differ significantly between large and small lakes (T-test, $p > 0.05$).
*** Significant differences exist between 10 yr. averages and corresponding 2023-24 annual values (T-test, $p < 0.05$).

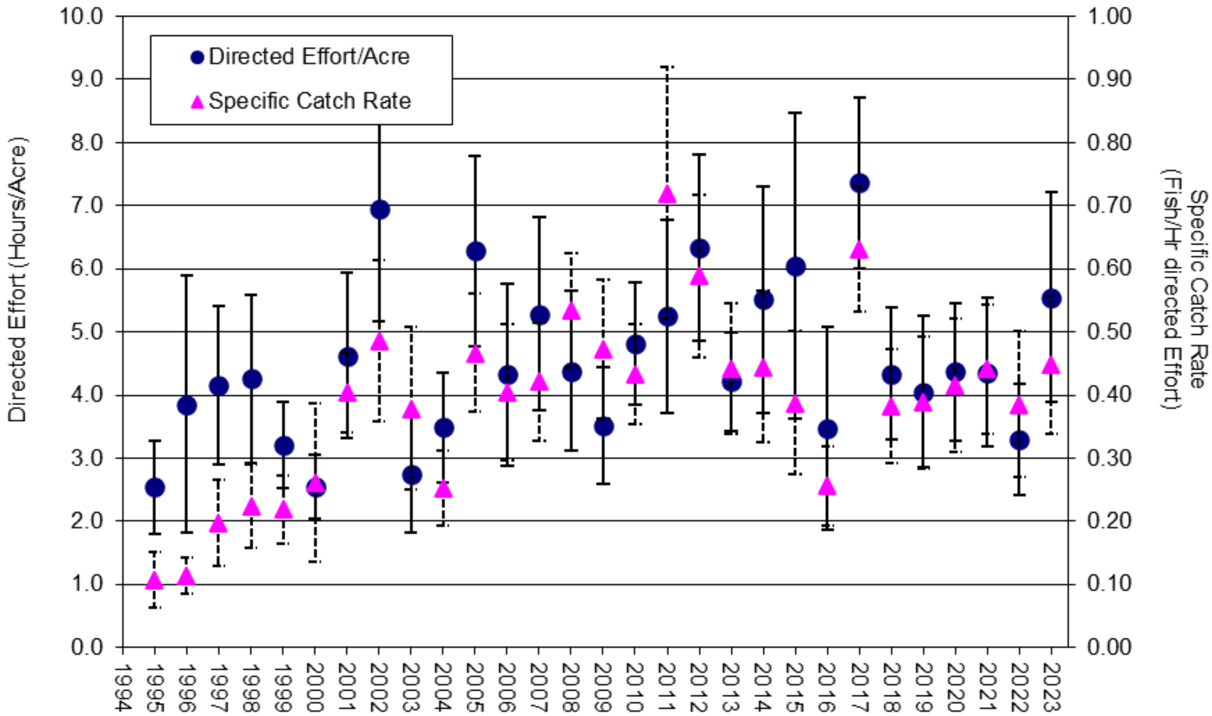

Figure 17. Directed angler effort per lake surface acre and specific catch rate (±SE) for largemouth bass in surveyed lakes in the Wisconsin Ceded Territory, 1995-2023.

SMALLMOUTH BASS EFFORT AND CATCH

Each of the 17 creel surveys conducted in the 2023-24 angling season showed some level of angler effort directed toward, and catch of, smallmouth bass (Appendix C). In lakes creeled during 2023-24 only smallmouth bass specific catch rate differed significantly between large (0.48 fish/hour) and small lakes (0.20 fish/hour; Table 10); There were no significant differences in smallmouth bass directed effort, catch/acre, harvest/acre, or specific harvest rate (T-test, P>0.05) between large and small lakes in 2023-24 creel surveys (Table 10). Over the prior 10 years (2013-2022), angler specific catch rate of smallmouth bass was also statistically greater in large lakes (0.41 fish/hour) than in small lakes (0.28 fish/hour). No significant differences were noted between current-year and prior-ten-year datasets for any creel variable in large or small lakes, or all lakes combined (T-tests, P >0.05; Table 10).

Both directed effort and specific catch rates of smallmouth bass anglers in the Ceded Territory have been variable over time, although the 2023-24 average of both variables fell within the observed range of values in other years since 1995 (Figure 18). Since 1995 when a randomized lake selection process was instituted there have been no statistically detectable trends in directed angler effort/acre [F(1, 502) = 0.35, P = 0.56] nor specific catch rates [F(1, 491) = 3.71, P = 0.055] for smallmouth bass over time (Figure 18).

Table 10. Mean estimates calculated from 2023 and 2013-2022 smallmouth bass creel survey data.

Year	Lake Size	N	Angler Catch/ Acre	Angler Harvest/ Acre	Specific Catch Rate	Specific Harvest Rate	Directed Effort/ Acre
2023							
Small	< 500 acres	5	1.21	0.04	0.20*	0.01	3.53
Large	> 500 acres	12	3.15	0.10	0.48*	0.01	3.82
	All lakes	17	2.58	0.09	0.40	0.01	3.73
2013-2022* **							
Small	< 500 acres	88	1.89	0.05	0.28**	0.01	3.54
Large	> 500 acres	80	2.16	0.05	0.41**	0.01	3.37
	All lakes	176	2.02	0.05	0.34	0.01	3.46

* Current year values differ between large and small lakes (T-test, $p<0.05$).
** 10 yr. averages differ significantly between large and small lakes (T-test, $p<0.05$).
*** No significant differences exist between 10 yr. averages and corresponding 2022-23 annual values (T-test, $p>0.05$).

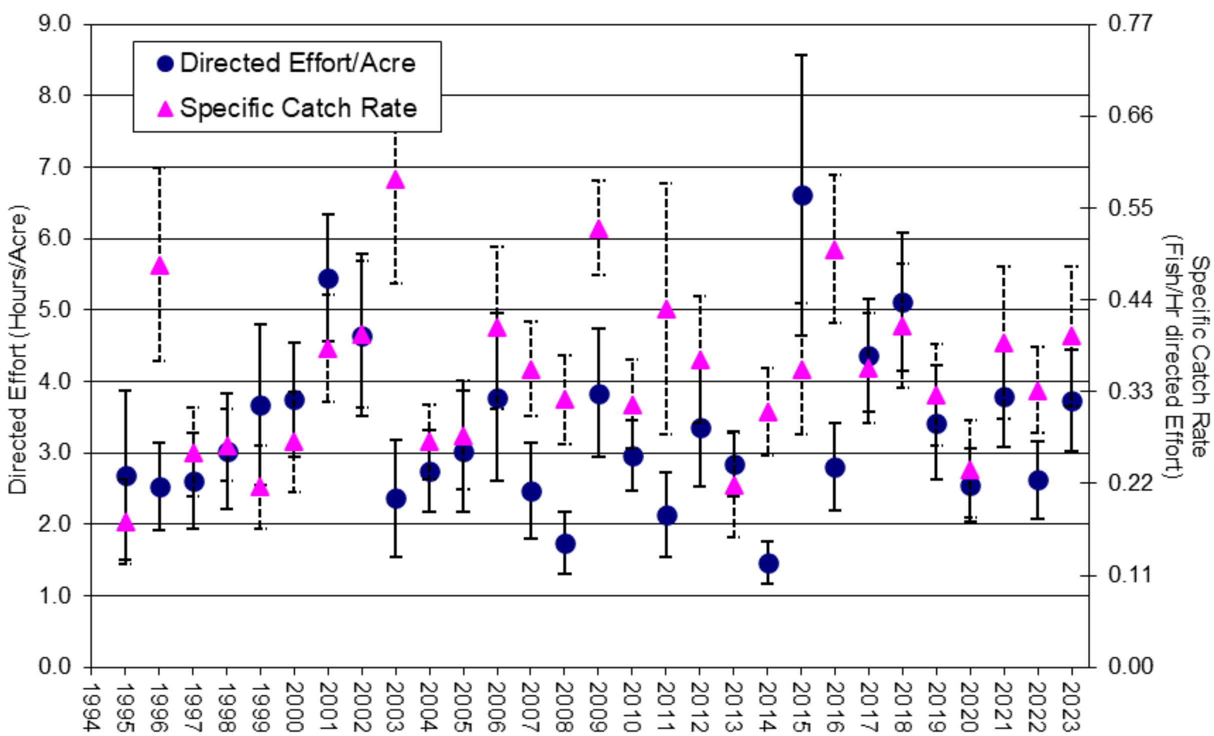

Figure 18. Directed angler effort per lake surface acre and specific catch rate (±SE) for smallmouth bass in surveyed lakes in the Wisconsin Ceded Territory, 1995-2023.

SAFE HARVEST

Safe harvest calculated for the 2023 harvest season was 83,184 walleye and 3,823 musky across the entire Wisconsin Ceded Territory (Table 11). Safe harvest of both walleye and musky has been shown to be highly correlated to the surface acreage of water found in each county (Linear regression, $r^2>0.9$; Cichosz 2009). For both walleye and musky, the greatest total safe harvest numbers for individual counties were observed in Vilas (19,547 walleye, 1,053 musky), Oneida (14,516 walleye, 760 musky), Sawyer (11,541 walleye, 417 musky) and Iron (7,106 walleye, 288 musky) counties. When totaled, safe harvest from these four counties accounted for 63 percent of overall walleye and 66 percent of overall musky safe harvest for the Wisconsin Ceded Territory during 2023. Safe harvest numbers for individual lakes are listed in Appendix G.

Table 11. Walleye and musky safe harvest levels and ranks by county for the 2023 harvest season.

County	Lake Acreage*	Total Calculated Safe Harvest		Ranks (1 = Greatest #)	
		Walleye	Musky	Walleye	Musky
Ashland	2,862	457	74	19	11
Barron	13,684	1,778	36	12	18
Bayfield	12,906	2,775	112	8	8
Burnett	13,557	1,633	92	13	10
Chippewa	14,466	3,244	138	6	7
Clark	320	3	4	26	24
Douglas	6,211	831	37	17	17
Dunn	1,752	397		20	
Eau Claire	2,571	925	26	16	20
Florence	2,198	225		23	
Forest	11,442	2,143	43	11	15
Iron	24,651	**7,106**	**288**	**4**	**4**
Langlade	4,800	469	31	18	19
Lincoln	16,379	4,251	153	5	6
Marathon	9,653	2,742	45	9	14
Marinette	3,361	302	15	22	23
Oconto	3,125	307	17	21	22
Oneida	60,168	**14,516**	**760**	**2**	**2**
Polk	11,504	1,331	67	14	13
Portage	74	3		26	
Price	10,068	2,562	186	10	5
Rusk	5,633	1,014	96	15	9
Sawyer	48,044	**11,541**	**417**	**3**	**3**
St. Croix	1,100	134	42	25	16
Taylor	4,132	145	18	24	21
Vilas	71,263	**19,547**	**1,053**	**1**	**1**
Washburn	14,594	2,803	73	7	12
Grand Total	370,518	83,184	3,823	---	---

* Sum of acreage for lakes with defined safe harvest of one or both species; does not include total county-wide lake acreage.

WALLEYE YOUNG-OF-YEAR SURVEYS

Young of the year (YOY) surveys provide an index of the abundance and survival of the current year class of walleyes from hatching or stocking to their first fall. These surveys provide fisheries managers with potential insight into future changes in adult populations. Early indication of these potential changes allows fisheries managers to develop management strategies to accommodate expected changes in adult populations. Although YOY relative abundance gives some indication of possible future adult abundance it does not necessarily correspond directly, as survival to adulthood varies (Hansen et al. 1998).

During 2023 WDNR completed 172 fall surveys on 145 different lakes in the Wisconsin Ceded Territory (Appendix E). Of the lakes sampled, 56 had walleye populations classified as sustained by naturally reproduction (recruitment codes NR, C-NR, or C-), 84 as sustained by stocking (ST or C-ST), and 25 as remnant or newly established populations (REM, O-ST, NR-2; Appendix B). Water temperatures during 2023 YOY walleye surveys ranged from 49 - 77° F; mean and median water temperatures during YOY surveys were each 64° and 65°F, respectively. Young-of-year walleye lengths ranged from 3.3 to 9.1 inches across all lakes and dates surveyed in 2023 (Appendix E).

Differences in mean YOY walleye density between natural and stocked recruitment categories was significant during 2023 (t-test-unequal variance, t = 3.96, df = 69, P <0.01). Consistent with all previous years since 1990, lakes sustained primarily by natural reproduction had higher mean walleye YOY density (mean = 19.3/mile of shoreline shocked, range = 0.0–213.3) than lakes sustained by stocking (mean = 2.4/mile, range = 0.0–84.2) during 2023 (Figure 19). The mean YOY walleye abundance observed in natural recruitment lakes during 2023 (19.3/mile) was statistically similar to the average observed in natural recruiting waters across the previous 33 years studied (26.4/mile from 1990-2022; t-test unequal variance, t = -1.66, df = 68, P=0.10). Similarly, the mean YOY walleye abundance observed in stocked lakes during 2023 (2.4/mile) was similar to that observed in stocked waters over the previous 33 years studied (3.9/mile from 1990-2022; t-test unequal variance, t = -1.40, df = 100, P=0.17; Figure 19).

It appears that within the Wisconsin Ceded Territory there may be region-wide annual effects on walleye recruitment since mean recruitment varies dramatically from year to year when data from all lakes are combined (Figure 19); In the absence of an annual regional effect one might expect average annual recruitment values (as YOY/mile) for the entire region to be similar across years. Lack of recruitment in a given lake for one or more years is natural and not necessarily alarming. Sporadic recruitment is common for walleye populations both within and among individual lakes. It is common to have almost complete lack of recruitment in 25% or more of lakes with natural reproduction, and year class failures are even more common in lakes with populations maintained by stocking. Generally, successful recruitment occurs in a given lake every 3-4 years which may reduce competition between year classes of walleye (Li et al. 1996).

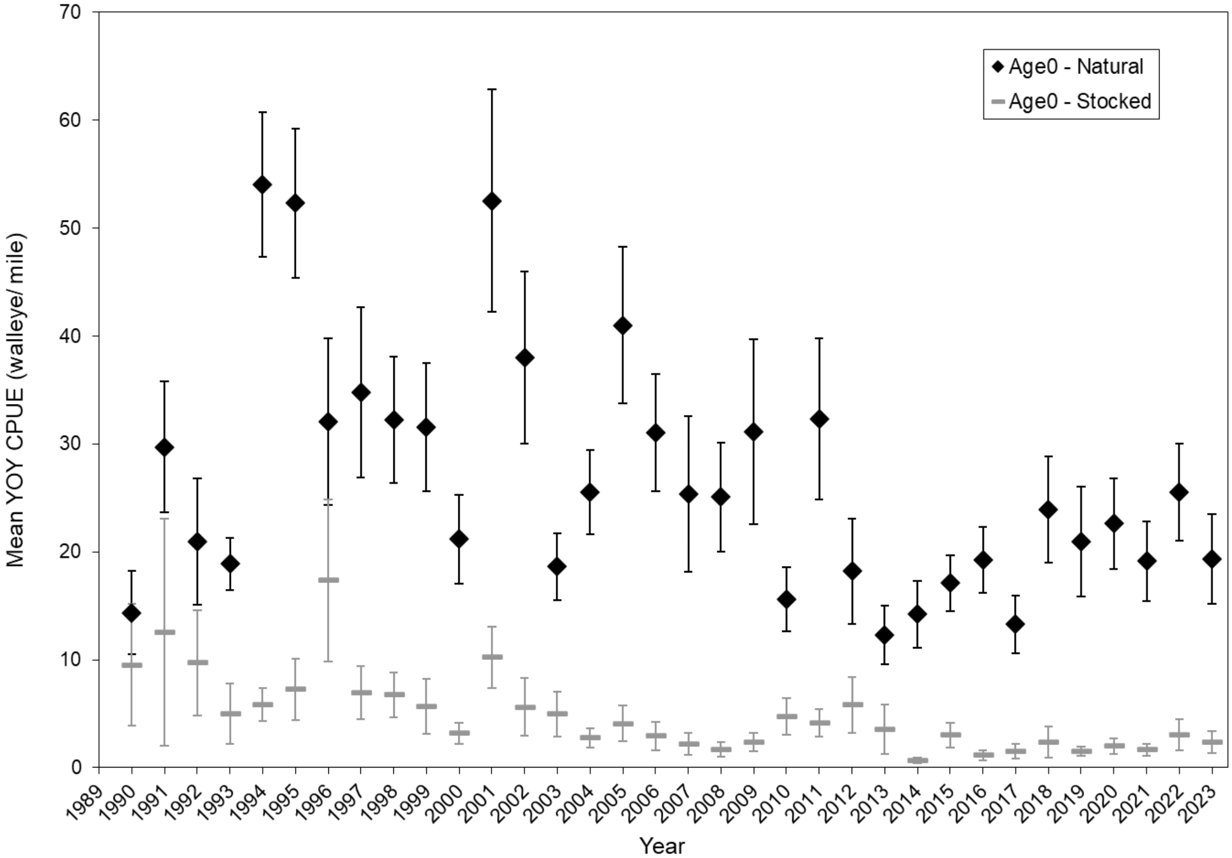

Figure 19. Comparison of mean YOY walleye density (± SE) observed in fall electrofishing surveys since 1990 in lakes dominated by natural recruitment or stocking.

A general linear model used to assess the impact of year and/or recruitment model on YOY walleye density was significant (p<0.001; Table 12). The significance of the model was driven by differences in YOY density between recruitment models (natural or stocked; p<0.001), years (p<0.001), and the interaction of year*recruitment model (p=0.001). Based on the significance of the year*recruitment model interaction term, regressions were done to evaluate trends independently for natural and stocked model lakes. YOY walleye densities have declined significantly over time in both natural (slope=-0.61, p<0.001) and stocked (slope=-0.23, p<0.001) model lakes since 1990 (Figure 19).

Table 12. GLM results comparing YOY walleye density across years and primary walleye recruitment source.

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	67	698,030	10,418	10.60	<.0001
Error	3,544	3,484,725	983		
		Type III SS	Mean Square	F Value	Pr > F
Year	33	178,700	5,415	5.51	<.0001
Recruitment Model[a]	1	446,318	446,318	453.91	<.0001
Year x Recruitment Model	33	73,011	2,212	2.25	<.0001

a –Recruitment Models compared are 'natural' and 'stocked'.

The percentages of natural-model lakes with greater than 25 YOY walleye per mile and greater than 100 YOY walleye per mile are also used to indicate strong annual year classes in the Wisconsin Ceded Territory. These values are less affected by large values for individual lakes than the mean number of YOY walleye caught per mile. In 2023, 14/62 natural model lake surveys (23%) had YOY indices > 25 per mile, two of which (3%) had YOY walleye indices > 100 per mile (Appendix E). Overall, the proportion of lakes with YOY catch rates greater than 25 or 100 fish per mile in 2023 was slightly less than the mean proportion of lakes observed with the same catch rates between 1990-2022 (mean percentage > 25 YOY/mi = 38%; 100 >100/mi = 6%). These finding suggest a below average naturally produced walleye year class across the ceded territory in 2023 despite localized conditions that allowed for large year classes to be found in a limited number of waters.

In lakes categorized as being sustained primarily by stocking, differences in the mean number of YOY walleye captured per mile in lakes that were stocked (1.76 YOY/ mile) with fry or small or large fingerlings was not significantly different from those that were not stocked (2.43 YOY/ mile; t-test unequal variance, t = 0.48, df = 51.4, P=0.63)) in 2023, although sample size of stocked waters was limited to only eight lakes (Table 13). Such differences are commonly observed and most often statistically significant; In 2015, 2016, 2021 and 2022 a lack of statistical significance in YOY/mile between stocked and un-stocked waters was noted as unusual, and also likely attributable to low sample size in stocked waters and the inequality of variances between stocked and non-stocked waters in those years (Cichosz 2018). A similar situation may exist with the 2023 YOY survey data.

Table 13. Young-of-the-year indices in lakes categorized as being sustained primarily by stocking (ST or C-ST), separated by whether or not the lake was stocked in 2023.

	Stocked in 2023	**Not Stocked in 2023**
No. Lakes	8	76
Mean YOY walleye/ mile	1.77	2.42
Q1/Median/Q3	0.11 / 0.50 / 3.97	0.0 / 0.0 / 0.78
Lakes with 0 YOY/ mile	2 (25%)	39 (51%)
Lakes with ≤5 YOY/ mile	8 (100%)	67 (88%)
Lakes with ≤10 YOY/ mile	8 (100%)	73 (96%)

REFERENCES

Anderson, R.O. and R.M. Neumann. 1996. Length, weight, and structural indices. In Fisheries Techniques, Second Edition. Edited by B.R. Murphy and D.W. Willis. American Fisheries Society, Bethesda, Maryland, USA. pp. 447 – 482.

Bailey, N.J.J. 1951. On estimating the size of mobile populations from recapture data. Biometrika 38:293-306.

Beard, T. D., Jr., S. W. Hewett, Q. Yang, R. M. King, and S. J. Gilbert. 1997. Prediction of angler catch rates based on walleye population density. North American Journal of Fisheries Management 17 (4): 621-627.

Beard, T.D., P.W. Rasmussen, S. Cox and S.R. Carpenter. 2003. Evaluation of a management system for a mixed walleye spearing and angling fishery in northern Wisconsin. North American Journal of Fisheries Management 23:481-491.

Berkes, F. and D. Pocock. 1987. Quota management and "people problems": a case history of Canadian Lake Erie fisheries. Transactions of the American Fisheries Society 116:494-502.

Chapman, D.G. 1951. Some properties of the hypergeometric distribution with applications to zoological sample censuses. University of California Publications in Statistics 1:131-160.

Cichosz, T.A. 2009. 2005-2006 Ceded Territory Fishery Assessment Report. Wisconsin Department of Natural Resources Bureau of Fisheries Management, Administrative Report 63, Madison, Wisconsin.

Cichosz, T.A. 2010. 2006-2007 Ceded Territory Fishery Assessment Report. Wisconsin Department of Natural Resources Bureau of Fisheries Management, Administrative Report 64, Madison, Wisconsin.

Cichosz, T.A. 2016. 2014-2015 Ceded Territory Fishery Assessment Report. Wisconsin Department of Natural Resources Bureau of Fisheries Management, Administrative Report 82, Madison, Wisconsin.

Cichosz, T.A. 2018. 2015-2016 Ceded Territory Fishery Assessment Report. Wisconsin Department of Natural Resources Bureau of Fisheries Management, Administrative Report 88, Madison, Wisconsin.

Cichosz, T.A. 2021. 2019-2020 Ceded Territory Fishery Assessment Report. Wisconsin Department of Natural Resources Bureau of Fisheries Management, Administrative Report 95, Madison, Wisconsin.

Cichosz, T.A. 2022. 2020-2021 Ceded Territory Fishery Assessment Report. Wisconsin Department of Natural Resources Bureau of Fisheries Management, Administrative Report 100, Madison, Wisconsin.

Colby, P. J., R. E. McNicol, and R. A. Ryder. 1979. Synopsis of biological data on the walleye *Stizostedion vitreum vitreum* (Mitchill 1818). FAO (Food and Agriculture Organization of the United Nations) Fisheries Synopsis 119.

Deroba, J.D., M.J. Hansen, N.A. Nate, and J.M. Hennessy. 2007. Temporal profiles of walleye angling effort, harvest rate, and harvest in northern Wisconsin lakes. North American Journal of Fisheries Management 27:717-727.

Hansen, G.J.A., J.M. Hennessy, T.A. Cichosz, and S.W. Hewett. 2015. Improved models for predicting walleye abundance and setting safe harvest quotas in northern Wisconsin lakes. North American Journal of Fisheries Management 35:1263-1277.

Hansen, M. J. 1989. A walleye population model for setting harvest quotas. Wisconsin Department of Natural Resources Bureau of Fisheries Management, Fish Management Report 143, Madison, Wisconsin.

Hansen, M. J., M.D. Staggs, and M. H. Hoff. 1991. Derivation of safety factors for setting harvest quotas on adult walleyes from past estimates of abundance. Transactions of the American Fisheries Society 120: 620-628.

Hansen, M. J., M.A. Bozek, J. R. Newby, S. P. Newman and M. D. Staggs. 1998. Factors affecting recruitment of walleyes in Escanaba Lake, Wisconsin, 1958-1996. North American Journal of Fisheries Management 18(4): 764-774.

Hansen, M. J., T. D. Beard Jr., S. W. Hewett. 2000. Catch rates and catchability of walleyes in angling and spearing fisheries in Northern Wisconsin lakes. North American Journal of Fisheries Management 20(1): 109-118.

Hansen, M. J., S. P. Newman and C. J. Edwards. 2004. A reexamination of the relationship between electrofishing catch rate of age-0 walleye density in northern Wisconsin lakes. North American Journal of Fisheries Management 24: 429-439.

Hansen, S.P. 2008. 2004-2005 Ceded Territory Fishery Assessment Report. Wisconsin Department of Natural Resources Bureau of Fisheries Management and Habitat Protection, Administrative Report 62, Madison, Wisconsin.

Hatch, R.W., S.J. Nepszy, K.M. Muth, and C.T. Baker. 1987. Dynamics of recovery of western Lake Erie walleye *stizostedion vitreum vitreum* stock. Canadian Journal of Fisheries and Aquatic Sciences 44 (Supplement 2):15-22.

Hennessy, J.M. 2005. 2002-2003 Ceded Territory Fishery Assessment Report. Wisconsin Department of Natural Resources Bureau of Fisheries Management and Habitat Protection, Administrative Report 59, Madison, Wisconsin.

Hennessy, J.M. 2002. 2001-2002 Ceded Territory Fishery Assessment Report. Wisconsin Department of Natural Resources Bureau of Fisheries Management and Habitat Protection, Administrative Report 55, Madison, Wisconsin.

Hewett, S. W. No Date. Walleye Population Sampling Plan, Treaty Fisheries Program. Wisconsin Department of Natural Resources, internal document. Madison, WI.

Hewett, S. W. and T. D. Simonson. 1998. Wisconsin's walleye management plan: moving management into the 21st century. Wisconsin Department of Natural Resources, Administrative Report #43, Bureau of Fisheries Management and Habitat Protection, Madison, Wisconsin.

Hubert, W. A. 1983. Passive capture techniques. Pages 95–122 *in* L.A. Nielsen and D.L. Johnson, editors. Fisheries techniques. American Fisheries Society, Bethesda, Maryland

Kope, R.G. 1999. Pacific coast salmon. In our living oceans. Report on the status of U.S. living marine resources, 1999. NOAA Technical Memorandum NMFS-F/SPO-41.

Krueger, J. 2010. Open water spearing in northern Wisconsin by Chippewa Indians during 2009. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 2006-03, Odanah, Wisconsin.

Krueger, J. 2009. Open water spearing in northern Wisconsin by Chippewa Indians during 2008. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 2009-02, Odanah, Wisconsin.

Krueger, J. 2008. Open water spearing in northern Wisconsin by Chippewa Indians during 2007. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 2008-02, Odanah, Wisconsin.

Krueger, J. 2007. Open water spearing in northern Wisconsin by Chippewa Indians during 2006. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 2007-02, Odanah, Wisconsin.

Krueger, J. 2006. Open water spearing in northern Wisconsin by Chippewa Indians during 2005. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 2006-02, Odanah, Wisconsin.

Krueger, J. 2005. Open water spearing in northern Wisconsin by Chippewa Indians during 2004. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 2005-02, Odanah, Wisconsin.

Krueger, J. 2004. Open water spearing in northern Wisconsin by Chippewa Indians during 2003. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 2004-01, Odanah, Wisconsin.

Krueger, J. 2003. Open water spearing in northern Wisconsin by Chippewa Indians during 2002. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 2003-03, Odanah, Wisconsin.

Krueger, J. 2002. Open water spearing in northern Wisconsin by Chippewa Indians during 2001. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 2002-01, Odanah, Wisconsin.

Krueger, J. 2001. Open water spearing in northern Wisconsin by Chippewa Indians during 2000. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 2001-01, Odanah, Wisconsin.

Krueger, J. 2000. Open water spearing in northern Wisconsin by Chippewa Indians during 1999. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 2000-05, Odanah, Wisconsin.

Krueger, J. 1999. Open water spearing in northern Wisconsin by Chippewa Indians during 1998. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 99-4, Odanah, Wisconsin.

Krueger, J. 1998. Open water spearing in northern Wisconsin by Chippewa Indians during 1997. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 98-01, Odanah, Wisconsin.

Krueger, J. 1997. Open water spearing in northern Wisconsin by Chippewa Indians during 1996. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 97-02, Odanah, Wisconsin.

Krueger, J. and B. Brost. 2011. Open water spearing in northern Wisconsin by Chippewa Indians during 2010. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 2011-02, Odanah, Wisconsin.

Laarman, P.W. and J.R. Ryckman. 1982. Relative size selectivity of trap nets for eight species of fish. North American Journal of Fisheries Management 2:33-37.

Legault, C.M. 1999. Status review of king mackerel in the Gulf of Mexico. In our living oceans. Report on the status of U.S. living marine resources, 1999. NOAA Technical Memorandum NMFS-F/SPO-41.

Li, E.A.L. 1999. A travel cost demand model for recreational snapper angling in Port Phillip Bay, Australia. Transactions of the American Fisheries Society 128:639-647.

Li, J., Y. Cohen, D. H. Schupp, and I. R. Adelman. 1996. Effects of walleye stocking on year-class strength. North American Journal of Fisheries Management 16(4): 840-850.

Margenau, T. L. and S. P. AveLallemant. 2000. Effects of a 40-inch minimum length limit on muskellunge in Wisconsin. North American Journal of Fisheries Management 20: 986-993.

Milliman, S.R., R.C. Bishop and B.L. Johnson. 1987. Economic analysis of fishery rehabilitation under biological uncertainty: a conceptual framework and application. Canadian Journal of Fisheries and Aquatic Sciences 44 (Supplement 2):289-297.

Nate, N. A., M. A. Bozek, M. J. Hansen, and S. W. Hewett. 2000. Variation in walleye abundance with lake size and recruitment source. North American Journal of Fisheries Management. 20: 119-126.

Ney, J.J. 1993. Practical Use of Biological Statistics. Pages 137-158 *in* C.C. Kohler and W.A. Hubert, editors. Inland Fisheries Management in North America. American Fisheries Society, Bethesda, Maryland.

Ngu, H. H. 1996. Open water spearing in northern Wisconsin by Chippewa Indians during 1995. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 96-01, Odanah, Wisconsin.

Ngu, H. H. 1995. Open water spearing in northern Wisconsin by Chippewa Indians during 1994. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 95-03, Odanah, Wisconsin.

Rasmussen, P. W., M. D. Staggs, T. D. Beard, Jr., and S. P. Newman. 1998. Bias and confidence interval coverage of creel survey estimators evaluated by simulation. Transactions of the American Fisheries Society 127: 460-480.

Ricker, W. E. 1975. Computation and Interpretation of Biological Statistics of Fish Populations. Bulletin of the Fisheries Research Board of Canada 191. Department of the Environment, Fisheries, and Marine Science, Ottawa. 382 p.

SAS Institute, Inc. 2004. SAS Help and Documentation. Cary, NC. SAS Institute, Inc.

Serns, S. L. 1982. Relationship of walleye fingerling density and electrofishing catch per effort in northern Wisconsin lakes. North American Journal of Fisheries Management 2 (1): 38-44.

Simonson, T.D. and S.W. Hewett. 1999. Trends in Wisconsin's Muskellunge Fishery. North American Journal of Fisheries Management 19:291-299.

Staggs, M.D., R.C. Moody, M.J. Hansen, M.H. Hoff. 1990. Spearing and sport angling for walleye in Wisconsin's Ceded Territory. Wisconsin Department of Natural Resources, Administrative Report #31, Bureau of Fisheries Management, Madison, Wisconsin.

United States Department of the Interior (USDI), Bureau of Indian Affairs. 1991. Casting Light Upon the Waters. Minneapolis.

White, K. 2012. Open water spearing in northern Wisconsin by Chippewa Indians during 2011. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 12-03, Odanah, Wisconsin.

Wisconsin Department of Natural Resources. 1996. Wisconsin Muskellunge Waters. Publication RS-919-96.

Wisconsin Technical Working Group. 1999. December meeting minutes.

Appendices

Appendix A. WDNR Lake Sampling Rotation 2023-2025.

Year	Treaty Unit	MWBC	County	Lake	Area	# Lakes	Rotation	WSI #/acre	Most recent PE
2023	Spooner	2949200	Iron	Pine	312	1	TREND		2017
2023	Spooner	2620600	Polk	Balsam	2,054	1	TREND-BW	10	2017
2023	Spooner	2692900	Washburn	Minong Flowage (L Nancy)	1587	1	Spatial		2005
2023	Spooner	2902700	Bayfield	Pike Lake Chain	714	4	BW-REF	0	2020
2023	Spooner	2157000	Chippewa	Otter Lake (Brown)	602	1	WSI	10	2018
2023	Spooner	1884100	Washburn	Stone	523	1	WSI	15	2010
2023	Spooner	2301800	Iron	Echo	205	1	Spatial-WSI	10	#N/A
2023	Spooner	2393200	Sawyer	Sand	950	1	Spatial		2017
2023	Woodruff	1588200	Oneida	Two Sisters	719	1	TREND		2017
2023	Woodruff	1545600	Vilas	Big Arbor Vitae	1,090	1	TREND-BWREF		2017
2023	Woodruff		Oneida	Bearskin Or Annabelle	400	1	GLIFWC PE/ DNR Creel		#N/A
2023	Woodruff	1536300	Oneida	Squirrel	1,309	1	GLIFWC PE/ DNR Creel		2019
2023	Woodruff	1543300	Oneida	Katherine	590	1	Spatial	10	2018
2023	Woodruff	1019500	Oneida	Squash	398	1	WSI-BW	10	2016
2023	Woodruff	198100	Langlade	Sawyer	180	1	WSI	20	2014
2023	Woodruff	1631900	Vilas	Lac Vieux Desert	4,300	1	WSI-ns	15	2018
2023	Woodruff	1516401	Lincoln	Rice R Flowage Chain	3,764	1	Spatial		2012

Year	Treaty Unit	MWBC	County	Lake	Area	# Lakes	Rotation	WSI #/acre	Most recent PE
2024	Spooner	2897100	Bayfield	Diamond	341	1	TREND	5	2018
2024	Spooner	2391200	Sawyer	Grindstone	3,111	1	TREND		2018
2024	Spooner	2068000	Dunn	Tainter Lake	1,605	1	Spatial		#N/A
2024	Spooner	2882300	Bayfield	Siskiwit	330	1	GLIFWC PE/ DNR Creel		2019
2024	Spooner	2858100	Douglas	Amnicon	426	1	WSI	5	2014
2024	Spooner	2245100	Price	Musser	503	1	WSI	20	#N/A
2024	Spooner	2210900	Price	Worcester	101	1	WSI-REF	0	#N/A
2024	Spooner	2392000	Sawyer	Whitefish	786	1	WSI	20	2002
2024	Spooner	2627400	Polk	Big Round	1,015	1	WSI	20	2018
2024	Woodruff	1018500	Vilas	Snipe	239	1	TREND		2018
2024	Woodruff	1592400	Vilas	Plum	1,033	1	TREND		2018
2024	Woodruff	1579900	Oneida	Pelican	3,585	1	BW-REF		2016
2024	Woodruff	1593800	Vilas	Found	336	1	WSI	5	1998
2024	Woodruff	1490300	Langlade	Seven Island	135	1	WSI	0	2006
2024	Woodruff		Vilas	Eagle Chain	4174	10	Spatial		#N/A
2024	Woodruff	1579700	Langlade	Enterprise	509	1	Spatial		2019

Year	Treaty Unit	MWBC	County	Lake	Area	# Lakes	Rotation	WSI #/acre	Most recent PE
2025	Spooner	2678100	Burnett	Lipsett	393	1	TREND		2019
2025	Spooner	2742100	Bayfield	Middle Eau Claire/Bony	902	1	TREND		2019
2025	Spooner	2706800	Burnett	Big Mckenzie Lake	1,129	1	WSI	10	2012
2025	Spooner	2654500	Burnett	Clam River Flowage	412	1	Spatial		1997
2025	Spooner	2621100	Polk	Half Moon Lake	550	1	WSI	10	2012
2025	Spooner	2496300	Washburn	Shell Lake	2513	1	Spatial		2018
2025	Spooner	2351400	Chippewa	Long Lake T32N R08W S08	936	1	Spatial	0	2016
2025	Spooner	2935500	Ashland	Galilee Lake	212	1	WSI	15	#N/A
2025	Woodruff	394400	Forest	L Metonga	1,991	1	TREND		2019
2025	Woodruff	2331600	Vilas	Trout	3,816	1	TREND	20	2019
2025	Woodruff	716800	Forest	Kentuck	1,001	1	GLIFWC PE/ DNR Creel		2019
2025	Woodruff	2271600	Vilas	Amber	785	1	GLIFWC PE/ DNR Creel		2019
2025	Woodruff	1494600	Lincoln	Alexander	618	1	Spatial		2011
2026	Woodruff		Oneida	Tomahawk/Minocqua Chain	5805	5	WSI-Special		#N/A
2025	Woodruff	1013800	Vilas	Razorback Lake	381	1	Spatial		2014
2025	Woodruff	971600	Oneida	Big Carr Lake	209	1	Spatial		2016

Appendix B. Walleye Recruitment Code Descriptions (primary source of walleye recruitment; U.S. Department of the Interior, 1991).

Recruitment Code[1]	Recruitment Model[2]	Description
blank	None	unknown
NONE/ O	None	No walleye are present
REM	Remnant	Stocking provides the only source of recruitment but was discontinued. The stock is expected to disappear at some time in the future.
0-ST	Remnant	Stocking provides the only source of recruitment but was initiated only recently and has not yet resulted in a harvestable population of adults.
ST	Stocked	Stocking provides the only source of recruitment and is consistent enough to result in a multi-year class adult population.
C-ST	Stocked	Stocking provides the primary source of recruitment but some natural reproduction occurs and may augment the adult population.
C-	Natural	Natural reproduction and stocking provide more or less equal recruitment to the adult population.
C-NR	Natural	Natural reproduction is adequate to sustain the population even though the lake is being stocked.
NR	Natural	Natural reproduction only; consistent enough to result in multi-year class adult populations.
NR-2	Remnant	Natural reproduction only; inconsistent, results in missing year classes.
R-NR[3]	Remnant	Formerly supported by natural reproduction but rehabilitation stocking is occurring. Stocking was either not successful initially, or not enough data are available to evaluate the stocking.

1 - Recruitment Code = Designation of the *primary* recruitment source and done by a technical working group.

2 - Recruitment Model is used for data analysis and groups various recruitment codes into one of three categories.

3 – R-NR is a code first developed and implemented by the Treaty Technical Working Group in 2023.

Appendix C. 2023-2024 Creel Survey Summaries.
Angler Effort Summary

County	Lake	MWBIC	Acres	Walleye recruit code	Musky recruit code	Total angler effort	Total angler effort/ acre	Directed Effort Walleye	Walleye Effort/ Acre	Directed Effort Musky	Musky Effort/ Acre	Directed Effort Pike	Pike Effort/ Acre	Directed Effort LMB	LMB Effort/ Acre	Directed Effort SMB	SMB Effort/ Acre
Bayfield	Pike Chain	2902700	713	C-ST	C-NR	15,744	22.08	1,128	1.58	3,317	4.65	--	--	6,226	8.73	3,917	5.49
Douglas	Minong Flowage	2692900	1,564	NR	O	17,984	11.50	11,936	7.63	76	0.05	1,199	0.77	1,290	0.82	1,194	0.76
Iron	Echo	2301800	220	ST	ST	3,668	16.67	1,448	6.58	1,262	5.74	2,408	10.95	135	0.61	268	1.22
Iron	Pine	2949200	312	NR	NR	5,680	18.21	2,386	7.65	2,329	7.46	529	1.70	248	0.79	2,468	7.91
Langlade	Sawyer*	198100	149	ST	O	7,516	50.44	383	2.57	--	--	298	2.00	4,055	27.21	166	1.11
Lincoln	Bridge*	1516800	411	NR	NR	6,083	14.80	781	1.90	374	0.91	1,477	3.59	2,018	4.91	1,821	4.43
Lincoln	Deer*	1519600	156	NR	NR	1,339	8.58	64	0.41	112	0.72	914	5.86	462	2.96	462	2.96
Lincoln	Nokomis*	1516500	2,433	NR	NR	35,267	14.50	11,356	4.67	1,480	0.61	27,456	11.28	7,054	2.90	7,637	3.14
Lincoln	Rice River Flowage*	1516400	920	NR	NR	6,118	6.65	4,139	4.50	51	0.06	9,534	10.36	384	0.42	384	0.42
Oneida	Katherine	1543300	590	C-ST	C-	11,651	19.75	2,310	3.92	438	0.74	2,338	3.96	6,443	10.92	6,851	11.61
Oneida	Squirrel	1536300	1,317	NR	C-	25,836	19.62	7,751	5.89	6,211	4.72	0	0.00	4,173	3.17	6,899	5.24
Oneida	Two Sisters	1588200	719	C-ST	C-	7,635	10.62	2,696	3.75	1,597	2.22	1,011	1.41	3,272	4.55	3,661	5.09
Polk	Balsam*	2620600	2,054	C-ST	O	43,230	21.05	4,343	2.11	117	0.06	5,103	2.48	27,827	13.55	5,310	2.59
Sawyer	Sand	2393200	928	NR	ST	13,003	14.01	8,044	8.67	1,895	2.04	2,173	2.34	439	0.47	1,730	1.86
Vilas	Big Arbor Vitae	1545600	1,090	NR	C-	45,223	41.49	17,283	15.86	9,277	8.51	283	0.26	8,877	8.14	6,119	5.61
Vilas	Lac Vieux Desert	1631900	4,300	C-ST	C-	179,054	41.64	21,811	5.07	18,945	4.41	205	0.05	14,062	3.27	3,643	0.85
Washburn	Stone	1884100	523	C-ST	O	3,099	5.93	1,776	3.40	--	--	1,326	2.54	461	0.88	1,668	3.19

* Open water creel only

Walleye

County	Lake	MWBIC	Acres	WAE Recruit Code	Initial WAE Bag	Final WAE Bag	WAE Size Reg.	Adult PE	APEAc	Angler Catch	Angler Catch/ Acre	Angler Harvest	Angler Harvest/ Acre	Specific catch rate	Specific harvest rate	No. fish measured	Mean length	General catch rate	General harvest rate
Bayfield	Pike Chain	2902700	713	C-ST	3	3	14-18 slot	764	1.07	163	0.23	66	0.09	0.07	0.03	5	21.58	0.01	0.01
Douglas	Minong Flowage	2692900	1,564	NR	3	3	1>14	6400	4.09	5319	3.40	2367	1.51	0.43	0.19	402	14.08	0.30	0.13
Iron	Echo	2301800	220	ST	3	3	20-24 Slot	177	0.80	438	1.99	37	0.17	0.29	0.02	12	18.24	0.15	0.01
Iron	Pine	2949200	312	NR	3	3	1>14	1295	4.15	447	1.43	302	0.97	0.19	0.13	62	12.19	0.08	0.05
Langlade	Sawyer*	198100	149	ST	3	3	18	153	1.03	19	0.13	10	0.07	0.04	0.03	5	23.94	0.00	0.00
Lincoln	Bridge*	1516800	411	NR	3	3	20-24 Slot	2018.202	4.91	106	0.26	0	0.00	0.07	0.00	0	--	0.03	0.00
Lincoln	Deer*	1519600	156	NR	3	3	20-24 Slot	23	0.15	0	0.00	0	0.00	0.00	0.00	0	--	0.00	0.00
Lincoln	Nokomis*	1516500	2,433	NR	3	3	20-24 Slot	11947.17	4.91	10600	4.36	914	0.38	0.81	0.08	93	15.99	0.30	0.03
Lincoln	Rice River Flowage*	1516400	920	NR	3	3	20-24 Slot	4517.63	4.91	2083	2.26	211	0.23	0.50	0.05	12	16.10	0.44	0.04
Oneida	Katherine	1543300	590	C-ST	3	3	18Min,22-28Slot	2558	4.34	1196	2.03	22	0.04	0.35	0.01	6	18.82	0.01	0.00
Oneida	Squirrel	1536300	1,317	NR	3	3	1>14	3962	3.01	4024	3.06	1434	1.09	0.45	0.18	261	13.38	0.16	0.06
Oneida	Two Sisters	1588200	719	C-ST	3	3	18	1019	1.42	114	0.16	4	0.01	0.04	0.00	3	22.60	0.02	0.00
Polk	Balsam*	2620600	2,054	C-ST	3	3	18	2559	1.25	591	0.29	48	0.02	0.08	0.00	3	20.50	0.02	0.00
Sawyer	Sand	2393200	928	NR	3	3	20-24 Slot	1964	2.12	3932	4.24	1301	1.40	0.48	0.16	273	16.98	0.30	0.10
Vilas	Big Arbor Vitae	1545600	1,090	NR	3	3	1>14	4893	4.49	1776	1.63	974	0.89	0.10	0.06	158	15.77	0.04	0.02
Vilas	Lac Vieux Desert	1631900	4,300	C-ST	3	3	18	7051	1.64	5605	1.30	661	0.15	0.21	0.02	37	20.58	0.03	0.00
Washburn	Stone	1884100	523	C-ST	3	3	20-24 Slot	778	1.49	587	1.12	31	0.06	0.29	0.02	9	15.60	0.19	0.01

* Open water creel only

Musky

County	Lake	MWBIC	Acres	MRC	Musky Class	Musky size limit	Angler catch	Angler catch/ acre	Angler harvest	Angler harvest/ acre	Specific catch rate	Specific harvest rate	No. fish measured	Mean length	General catch rate	General harvest rate
Bayfield	Pike Chain	2902700	713	C-NR	A1	40	127	0.18	0	0.00	0.0347	0.0000	0	--	0.0100	0.0000
Douglas	Minong Flowage	2692900	1,564	O	--	40	5	0.00	0	0.00	0.0000	0.0000	--	--	0.0000	0.0000
Iron	Echo	2301800	220	ST	A2	40	75	0.34	0	0.00	0.0597	0.0000	0	--	0.0300	0.0000
Iron	Pine	2949200	312	NR	A2	40	257	0.82	0	0.00	0.1048	0.0000	0	--	0.0500	0.0000
Langlade	Sawyer*	198100	149	O	--	40	--	--	--	--	--	--	--	--	--	--
Lincoln	Bridge*	1516800	411	NR	A1	40	10	0.02	0	0.00	0.0262	0.0000	0	--	0.0000	0.0000
Lincoln	Deer*	1519600	156	NR	A1	40	0	0.00	0	0.00	0.0000	0.0000	0	--	0.0000	0.0000
Lincoln	Nokomis*	1516500	2,433	NR	A1	40	82	0.03	0	0.00	0.0363	0.0000	0	--	0.0000	0.0000
Lincoln	Rice River Flowage*	1516400	920	NR	A1	40	0	0.00	0	0.00	0.0000	0.0000	0	--	0.0000	0.0000
Oneida	Katherine	1543300	590	C-	B	50	9	0.02	0	0.00	0.0077	0.0000	0	--	0.0000	0.0000
Oneida	Squirrel	1536300	1,317	C-	A2	40	153	0.12	0	0.00	0.0215	0.0000	0	--	0.0100	0.0000
Oneida	Two Sisters	1588200	719	C-	B	40	0	0.00	0	0.00	0.0000	0.0000	0	--	0.0000	0.0000
Polk	Balsam*	2620600	2,054	O	--	40	0	0.00	0	0.00	0.0000	0.0000	0	--	0.0000	0.0000
Sawyer	Sand	2393200	928	ST	A1	40	152	0.16	0	0.00	0.0432	0.0000	0	--	0.0100	0.0000
Vilas	Big Arbor Vitae	1545600	1,090	C-	A2	40	153	0.14	9	0.01	0.0141	0.0010	1	47.8	0.0000	0.0000
Vilas	Lac Vieux Desert	1631900	4,300	C-	A2	50	342	0.08	0	0.00	0.0126	0.0000	0	--	0.0000	0.0000
Washburn	Stone	1884100	523	O	--	40	--	--	--	--	--	--	--	--	--	--

* Open water creel only

Northern Pike

County	Lake	MWBIC	Acres	Angler catch	Angler catch/ acre	Angler harvest	Angler harvest/ acre	Specific catch rate	Specific harvest rate	No. fish measured	Mean length	General catch rate	General harvest rate
Bayfield	Pike Chain	2902700	713	--	--	--	--	--	--	--	--	--	--
Douglas	Minong Flowage	2692900	1,564	737	0.47	91	0.06	0.24	0.04	21	25.3	0.06	0.01
Iron	Echo	2301800	220	1,739	7.90	56	0.25	0.33	0.02	9	21.3	0.11	0.00
Iron	Pine	2949200	312	104	0.33	21	0.07	0.12	0.03	3	23.5	0.04	0.01
Langlade	Sawyer*	198100	149	104	0.70	21	0.14	0.02	0.00	5	26.4	0.05	0.01
Lincoln	Bridge*	1516800	411	3,609	8.78	160	0.39	0.29	0.01	24	21.2	0.20	0.01
Lincoln	Deer*	1519600	156	417	2.67	13	0.08	0.11	0.01	3	19.4	0.06	0.00
Lincoln	Nokomis*	1516500	2,433	41,498	17.06	3,273	1.35	0.67	0.07	212	20.4	0.23	0.02
Lincoln	Rice River Flowage*	1516400	920	863	0.94	129	0.14	0.05	0.01	19	25.99	0.02	0.00
Oneida	Katherine	1543300	590	1,846	3.13	329	0.56	0.26	0.08	51	22.7	0.07	0.01
Oneida	Squirrel	1536300	1,317	6	0.00	0	0.00	--	--	0	--	0.01	0.00
Oneida	Two Sisters	1588200	719	1,389	1.93	35	0.05	0.61	0.00	3	21.9	0.24	0.01
Polk	Balsam*	2620600	2,054	3,402	1.66	52	0.03	0.23	0.00	2	25.5	0.08	0.00
Sawyer	Sand	2393200	928	5,191	5.59	261	0.28	0.47	0.04	24	21.4	0.15	0.01
Vilas	Big Arbor Vitae	1545600	1,090	121	0.11	5	0.00	0.41	0.02	1	28.2	0.19	0.01
Vilas	Lac Vieux Desert	1631900	4,300	1,119	0.26	7	0.00	0.00	0.00	1	26.4	0.23	0.00
Washburn	Stone	1884100	523	377	0.72	48	0.09	0.22	0.03	12	24.5	0.05	0.01

* Open water creel only

Largemouth Bass

County	Lake	MWBIC	Acres	Angler catch	Angler catch/ acre	Angler harvest	Angler harvest/ acre	Specific catch rate	Specific harvest rate	No. fish measured	Mean length	General catch rate	General harvest rate
Bayfield	Pike Chain	2902700	713	9,320	13.07	62	0.09	1.25	0.00	4	14.48	0.61	0.00
Douglas	Minong Flowage	2692900	1,564	442	0.28	88	0.06	0.19	0.05	11	15.75	0.03	0.01
Iron	Echo	2301800	220	12	0.05	0	0.00	0.00	0.00	0	--	0.01	0.00
Iron	Pine	2949200	312	4	0.01	0	0.00	0.02	0.00	0	--	0.00	0.00
Langlade	Sawyer*	198100	149	2,247	15.08	67	0.45	0.53	0.02	20	14.54	0.30	0.01
Lincoln	Bridge*	1516800	411	416	1.01	12	0.03	0.15	0.00	2	17.20	0.07	0.00
Lincoln	Deer*	1519600	156	195	1.25	6	0.04	0.23	0.01	1	17.50	0.18	0.01
Lincoln	Nokomis*	1516500	2,433	1,847	0.76	38	0.02	0.20	0.00	2	15.60	0.05	0.00
Lincoln	Rice River Flowage*	1516400	920	0	0.00	0	0.00	0.00	0.00	0	--	0.00	0.00
Oneida	Katherine	1543300	590	6,382	10.82	603	1.02	0.94	0.09	142	13.43	0.56	0.05
Oneida	Squirrel	1536300	1,317	1,834	1.39	48	0.04	0.36	0.00	6	15.67	0.08	0.00
Oneida	Two Sisters	1588200	719	3,033	4.22	12	0.02	0.78	0.00	2	16.00	0.41	0.00
Polk	Balsam*	2620600	2,054	46,702	22.74	2,465	1.20	1.51	0.08	99	13.72	1.08	0.06
Sawyer	Sand	2393200	928	87	0.09	24	0.03	0.12	0.03	5	15.46	0.01	0.00
Vilas	Big Arbor Vitae	1545600	1,090	7,466	6.85	280	0.26	0.67	0.03	25	15.30	0.18	0.01
Vilas	Lac Vieux Desert	1631900	4,300	9,879	2.30	321	0.07	0.44	0.01	21	15.20	0.06	0.00
Washburn	Stone	1884100	523	275	0.53	4	0.01	0.22	0.00	1	16.00	0.12	0.00

* Open water creel only

Smallmouth Bass

County	Lake	MWBIC	Acres	Angler catch	Angler catch/ acre	Angler harvest	Angler harvest/ acre	Specific catch rate	Specific harvest rate	No. fish measured	Mean length	General catch rate	General harvest rate
Bayfield	Pike Chain	2902700	713	2,164	3.04	99	0.14	0.45	0.00	4	16.55	0.16	0.01
Douglas	Minong Flowage	2692900	1,564	1,645	1.05	22	0.01	0.11	0.00	4	14.08	0.01	0.00
Iron	Echo	2301800	220	123	0.56	0	0.00	0.23	0.00	0	--	0.06	0.00
Iron	Pine	2949200	312	1,070	3.43	60	0.19	0.36	0.02	13	16.75	0.22	0.01
Langlade	Sawyer*	198100	149	75	0.50	5	0.03	0.13	0.03	0	--	0.01	0.00
Lincoln	Bridge*	1516800	411	421	1.02	1	0.00	0.14	0.00	1	14.10	0.07	0.00
Lincoln	Deer*	1519600	156	87	0.56	0	0.00	0.16	0.00	0	--	0.08	0.00
Lincoln	Nokomis*	1516500	2,433	4,244	1.74	31	0.01	0.35	0.00	2	15.10	0.12	0.00
Lincoln	Rice River Flowage*	1516400	920	14	0.02	0	0.00	0.00	0.00	0	--	0.01	0.00
Oneida	Katherine	1543300	590	7,982	13.53	315	0.53	1.10	0.04	66	13.22	0.71	0.03
Oneida	Squirrel	1536300	1,317	7,056	5.36	26	0.02	1.00	0.00	3	16.40	0.29	0.00
Oneida	Two Sisters	1588200	719	3,237	4.50	166	0.23	0.74	0.05	18	15.68	0.46	0.02
Polk	Balsam*	2620600	2,054	900	0.44	18	0.01	0.15	0.00	1	14.00	0.03	0.00
Sawyer	Sand	2393200	928	1,514	1.63	43	0.05	0.59	0.01	9	16.39	0.12	0.00
Vilas	Big Arbor Vitae	1545600	1,090	3,029	2.78	36	0.03	0.32	0.00	6	15.62	0.08	0.00
Vilas	Lac Vieux Desert	1631900	4,300	588	0.14	27	0.01	0.04	0.01	1	15.50	0.01	0.00
Washburn	Stone	1884100	523	1,861	3.56	98	0.19	0.87	0.03	8	16.65	0.69	0.04

* Open water creel only

Appendix D. WDNR Walleye Population Estimates Accepted For Use by the Treaty TWG in 2023.

MWBC	County	Lake	Acres	Angler Reg	Recruit Code	Adult PE	CV Adult PE	L95 C.I. Adults	Adult PE/Acre	Adult 0-12"	Adult 12-15"	Adult 15-20"	Adult 20+"
2109600	Barron	Red Cedar	1841	Slot20-24	C-NR	4,067	0.07	3,517	2.21	2	1373	2085	608
2902700	Bayfield	Pike Chain	713	Slot14-18	C-ST	764	0.08	644	1.07	3	242	347	172
2092500	Chippewa	Axhandle	84	Slot20-24	O-ST	100	0.20	60	1.19	1	2	36	61
2157000	Chippewa	Otter	661	Slot20-24	ST	1,400	0.13	1,042	2.12	32	48	653	668
2173900	Chippewa	Popple	90	Slot20-24	C-ST	76	0.28	35	0.84	4	1	60	11
672900	Florence	Keyes	210	18	O-ST	91	0.27	42	0.43	1	1	4	85
683000	Forest	Stevens	297	Slot20-24	C-ST	1,662	0.09	1,385	5.60	1	78	1,110	473
2309700	Iron	Cedar	193	Slot20-24	C-ST	852	0.23	474	4.41	65	309	343	135
2301800	Iron	Echo	220	Slot20-24	ST	177	0.31	68	0.80	10	32	63	72
2307300	Iron	Fisher	410	Slot20-24	O-ST	282	0.15	202	0.69	22	125	55	81
2949200	Iron	Pine	312	1>14"	NR	1,295	0.11	1,011	4.15	468	763	42	22
198100	Langlade	Sawyer	149	18	ST	153	0.08	128	1.02	1	8	39	105
1519600	Lincoln	Deer	156	Slot20-24	NR	23	0.24	12	0.14	1	3	8	11
1516401	Lincoln	Rice River Fl. Cha	3764	Slot20-24	NR	18,483	0.07	16,106	4.91	662	8,649	7,444	1,728
466700	Oconto	Reservoir Pond	417	18	O-ST	187	0.30	77	0.45	1	2	13	171
1543300	Oneida	Katherine	590	.8min,22-28PS	C-ST	2,558	0.08	2,147	4.34	105	1,553	870	30
1001300	Oneida	Long	113	Slot20-24	R-NR	717	0.08	607	6.34	69	568	75	4
1019500	Oneida	Squash	396	18	R-NR	355	0.08	297	0.90	3	45	249	58
1618100	Oneida	Thunder	1768	18	C-ST	2,433	0.09	1,995	1.38	5	196	1,847	385
1588200	Oneida	Two Sisters	719	18	C-ST	1,019	0.13	761	1.42	1	66	507	445
2620600	Polk	Balsam	2054	18	C-ST	2,559	0.08	2,138	1.25	8	300	1,241	1,010
2418600	Sawyer	Lost Land	1304	Slot20-24	C-ST	1,910	0.14	1,375	1.46	30	555	602	722
2393200	Sawyer	Sand	928	Slot20-24	NR	1,964	0.11	1,562	2.12	14	508	1,380	62
2417000	Sawyer	Teal	1049	Slot20-24	C-ST	2,415	0.09	2,005	2.30	182	1,591	519	123
1469100	Taylor	Rib	320	Slot20-24	R-NR	5,840	0.13	4,305	18.25	1	1,670	2,650	1,519
1764500	Taylor	Sackett	63	Slot20-24	ST	62	0.18	40	0.98	1	1	27	33
1545600	Vilas	Big Arbor Vitae	1090	1>14"	NR	4,893	0.21	2,878	4.49	91	605	2,717	1,480
2339900	Vilas	Escanaba	293	Slot20-24	NR	2,221	0.21	1,326	7.58	24	905	1,284	9
1593800	Vilas	Found	326	18	ST	478	0.20	286	1.47	1	12	273	193
1631900	Vilas	Lac Vieux Desert	4300	18	C-ST	7,051	0.08	5,884	1.64	84	1,328	3,834	1,804
1540400	Vilas	Little Spider	235	Slot20-24	ST	428	0.16	290	1.82	2	270	145	11
2335300	Vilas	Sanford	88	None	NR	118	0.22	68	1.34	1	2	74	41
1881900	Vilas	Sparkling	154	18	C-ST	569	0.13	426	3.69	1	70	324	174
2330800	Vilas	Upper Gresham	366	Slot20-24	ST	741	0.08	620	2.03	94	472	114	62
2112800	Washburn	Balsam	295	Slot20-24	NR	1,225	0.16	841	4.15	2	215	711	298
2692900	Washburn	Minong Flowage	1564	1>14"	NR	6,400	0.17	4,266	4.09	12	2,060	4,310	18
1884100	Washburn	Stone	523	Slot20-24	C-ST	778	0.05	695	1.49	12	347	334	86

Appendix D. Continued.

MWBC	County	Lake	Acres	Angler Reg	Recruit Code	PE - Males	CV Male PE	PE - Females	CV Female PE	M:F Ratio
2109600	Barron	Red Cedar	1841	Slot20-24	C-NR	2,965	0.07	1,401	0.27	2.12
2902700	Bayfield	Pike Chain	713	Slot14-18	C-ST	471	0.08	293	0.17	1.61
2092500	Chippewa	Axhandle	84	Slot20-24	O-ST	33	0.29	54	0.16	0.61
2157000	Chippewa	Otter	661	Slot20-24	ST	632	0.22	720	0.14	0.88
2173900	Chippewa	Popple	90	Slot20-24	C-ST	64	0.32	15	0.00	4.27
672900	Florence	Keyes	210	18	O-ST	34	0.24	83	0.59	0.41
683000	Forest	Stevens	297	Slot20-24	C-ST	881	0.09	845	0.36	1.04
2309700	Iron	Cedar	193	Slot20-24	C-ST	319	0.16	304	0.35	1.05
2301800	Iron	Echo	220	Slot20-24	ST	40	0.33	136	0.39	0.29
2307300	Iron	Fisher	410	Slot20-24	O-ST	135	0.08	110	0.25	1.23
2949200	Iron	Pine	312	1>14"	NR	1,110	0.12	219	0.52	5.07
198100	Langlade	Sawyer	149	18	ST	26	0.00	123	0.09	0.21
1519600	Lincoln	Deer	156	Slot20-24	NR	6	0.00	19	0.25	0.32
1516401	Lincoln	Rice River Fl. Cha	3764	Slot20-24	NR	11,442	0.05	10,233	0.20	1.12
466700	Oconto	Reservoir Pond	417	18	O-ST	38	0.42	120	0.27	0.32
1543300	Oneida	Katherine	590	18min,22-28PS	C-ST	1,829	0.07	939	0.33	1.95
1001300	Oneida	Long	113	Slot20-24	R-NR	582	0.08	129	0.23	4.51
1019500	Oneida	Squash	396	18	R-NR	252	0.07	124	0.41	2.03
1618100	Oneida	Thunder	1768	18	C-ST	1,366	0.10	1,105	0.23	1.24
1588200	Oneida	Two Sisters	719	18	C-ST	312	0.17	660	0.23	0.47
2620600	Polk	Balsam	2054	18	C-ST	1,511	0.06	1,649	0.30	0.92
2418600	Sawyer	Lost Land	1304	Slot20-24	C-ST	635	0.12	1,485	0.24	0.43
2393200	Sawyer	Sand	928	Slot20-24	NR	1,322	0.11	789	0.30	1.68
2417000	Sawyer	Teal	1049	Slot20-24	C-ST	1,490	0.10	2,102	0.43	0.71
1469100	Taylor	Rib	320	Slot20-24	R-NR	3,490	0.10	2,989	0.35	1.17
1764500	Taylor	Sackett	63	Slot20-24	ST	42	0.13	19	0.00	2.21
1545600	Vilas	Big Arbor Vitae	1090	1>14"	NR	2,377	0.08	1,870	0.39	1.27
2339900	Vilas	Escanaba	293	Slot20-24	NR	1,150	0.22	404	0.36	2.85
1593800	Vilas	Found	326	18	ST	225	0.09	212	0.41	1.06
1631900	Vilas	Lac Vieux Desert	4300	18	C-ST	3,292	0.07	6,143	0.29	0.54
1540400	Vilas	Little Spider	235	Slot20-24	ST	154	0.16	245	0.28	0.63
2335300	Vilas	Sanford	88	None	NR	31	0.16	16	0.00	1.94
1881900	Vilas	Sparkling	154	18	C-ST	19	0.00	469	0.13	0.04
2330800	Vilas	Upper Gresham	366	Slot20-24	ST	535	0.09	223	0.23	2.40
2112800	Washburn	Balsam	295	Slot20-24	NR	682	0.18	524	0.31	1.30
2692900	Washburn	Minong Flowage	1564	1>14"	NR	3,929	0.18	3,036	0.55	1.29
1884100	Washburn	Stone	523	Slot20-24	C-ST	670	0.05	127	0.52	5.28

Appendix E. YOY Walleye Survey Summaries.

Lake	County	WBIC	Acres	Walleye Recruit Code	Model	Date	Temp	Total Shore	ShockMi	%Shock	Age0	Age0 Min Length	Age0 Max Length	Age0 Modal Length	Age0Mi	Hansen Index	Age1	Age1 Min Length	Age1 Max Length	Age1 Modal Length	Age1Mi	WEStock
DAY	ASHLAND	2430300	625	ST	stocked	9/5/2023	77	10.6	3.5	33	0	-	-	-	0.0	NA	0	-	-	-	0.0	A
ENGLISH	ASHLAND	2914800	244	ST	stocked	9/18/2023	61	4.1	3.8	93	0	-	-	-	0.0	0.0	2	NA	9.0	9.9	0.5	A
MINERAL	ASHLAND	2916900	225	NR	natural	9/21/2023	71	5.3	4.8	91	108	4.5	6.9	5.0-5.4	22.5	NA	202	7	10.4	8.0-8.4	42.1	N
MOQUAH	ASHLAND	2918200	50	O-ST	remnant	9/14/2023	65	2.7	1.6	59	0	-	-	-	0.0	NA	2	8	9.4	None	1.3	A
POTTER	ASHLAND	2917200	29	ST	stocked	9/18/2023	68	0.9	0.9	100	0	-	-	-	0.0	0.0	0	-	-	-	0.0	A
SPIDER	ASHLAND	2918600	103	C-ST	stocked	9/14/2023	66	2.7	2.7	100	0	-	-	-	0.0	0.0	23	8	9.9	8.0-8.4	8.5	A
SPILLERBERG	ASHLAND	2936200	75	NR	natural	9/28/2023	64	1.5	1.5	100	78	5	7.9	6.5-6.9	52.0	16.7	13	9	11.4	.5-10.9,11.0-1	8.7	N
UPPER CLAM	ASHLAND	2429600	166	C-ST	stocked	9/11/2023	65	3.2	3.2	100	0	-	-	-	0.0	0.0	23	7	8.9	7.0,7.6	7.2	N
BEAR	BARRON	2105100	1358	C-ST	stocked	9/18/2023	66	14.9	6.9	46	2	7.5	7.7	None	0.3	NA	12	8	9.8	None	1.7	N
DUCK	BARRON	2100300	100	NR	natural	9/28/2023	64	1.5	1.5	100	0	`-	-	-	0.0	0.0	0	-	-	-	0.0	N
HEMLOCK	BARRON	2109800	357	NR-2	remnant	9/26/2023	64	6.9	6.9	100	2	5.1	5.3	None	0.3	0.0	0	-	-	-	0.0	N
HORSESHOE	BARRON	2469800	115	C-ST	stocked	10/5/2023	63	2.5	2.5	100	0	-	-	-	0.0	0.0	0	-	-	-	0.0	N
LOWER TURTLE	BARRON	2079700	276	C-ST	stocked	9/20/2023	69	3.8	3.8	100	0	-	-	-	0.0	NA	42	8	10.7	9.7	11.1	N
SILVER	BARRON	1881100	337	C-NR	natural	10/11/2023	58	4.4	4.4	100	106	5.5	7.7	6.8	24.1	5.0	0	-	-	-	0.0	N
UPPER TURTLE	BARRON	2079800	438	C-ST	stocked	9/19/2023	66	4.8	4.8	100	0	-	-	-	0.0	0.0	127	9	11.9	9.7	26.5	N
ATKINS	BAYFIELD	2734000	176	R-NR	#N/A	9/11/2023	68	2.3	2.3	100	7	6.2	7.3	None	3.0	0.2	0	-	-	-	0.0	N
CISCO	BAYFIELD	2899200	95	C-ST	stocked	9/6/2023	73	2.9	2.9	100	0	-	-	-	0.0	NA	0	-	-	-	0.0	A
CRYSTAL	BAYFIELD	2897300	111	R-NR	#N/A	9/27/2023	65	2.5	2.5	100	1	5	5.4	-	0.4	0.0	3	9	9.4	None	1.2	N
DIAMOND	BAYFIELD	2897100	341	C-ST	stocked	9/7/2023	69	5.0	5.0	100	0	-	-	-	0.0	0.0	0	-	-	-	0.0	A
LAKE TAHKODAH	BAYFIELD	2473500	152	O-ST	remnant	9/27/2023	63	2.6	2.6	100	0	-	-	-	0.0	0.0	0	-	-	-	0.0	N
LONG	BAYFIELD	2767100	263	ST	stocked	9/26/2023	63	6.8	6.8	100	0	-	-	-	0.0	0.0	0	-	-	-	0.0	N
MIDDLE EAU CLAIRE	BAYFIELD	2742100	902	C-NR	natural	9/25/2023	62	11.0	7.7	70	40	4.8	7.3	6.2,6.4,6.6	5.2	NA	7	8	10.5	None	0.9	A
PIKE CHAIN (BB/LM/	BAYFIELD	126748	713	C-ST	stocked	9/13/2023	65	13.6	13.6	100	4	5.2	6.4	None	0.3	NA	5	10	11.2	10.1	0.4	N
TAYLOR	BAYFIELD	2734100	94	REM	remnant	10/19/2023	50	1.7	1.7	100	0	-	-	-	0.0	NA	5	8	9.9	None	2.9	N
BIG MCKENZIE	BURNETT	2706800	1185	C-ST	stocked	10/11/2023	56	7.1	5.5	77	0	-	-	-	0.0	NA	26	9	12.4	10.5	4.7	N
LIPSETT	BURNETT	2678100	393	ST	stocked	9/11/2023	70	3.5	3.5	100	2	5.6	6.2	None	0.6	NA	1	9	8.7	-	0.3	B
YELLOW	BURNETT	2675200	2287	NR	natural	9/27/2023	65	7.9	7.9	100	112	4.8	8.3	6.8	14.2	NA	16	8	11.8	None	2.0	N
LAKE WISSOTA	CHIPPEWA	2152800	6300	NR	natural	10/10/2023	57	56.3	11.4	20	751	4.5	7.7	5.7	65.9	NA	474	8	10.8	9.7	41.6	N
LONG	CHIPPEWA	2351400	1052	C-ST	stocked	10/4/2023	66	14.0	14.0	100	1	7	7	-	0.1	0.0	19	10	11.0	10.5	1.4	A
MEAD	CLARK	2143900	320	O-ST	remnant	9/18/2023	65	8.2	4.7	57	0	-	-	-	0.0	NA	5	11	13.4	None	1.1	N
AMNICON	DOUGLAS	2858100	426	O-ST	remnant	9/18/2023	64	6.0	6.0	100	0	-	-	-	0.0	NA	1	8	8.4	-	0.2	N
LAKE NEBAGAMON	DOUGLAS	2865000	914	C-ST	stocked	9/12/2023	65	10.8	10.8	100	154	5.2	7.3	6.5	14.3	NA	93	8	10.8	9.7	8.6	A
RED	DOUGLAS	2492100	258	O-ST	remnant	9/14/2023	66	3.5	3.5	100	0	-	-	-	0.0	0.0	12	8	10.0	9.6	3.4	N
ALTOONA	EAU CLAIRE	2128100	840	NR	natural	10/9/2023	56	9.4	4.0	43	853	4.2	7.7	5.9	213.3	NA	70	8	10.8	8.7	17.5	N
LAKE EAU CLAIRE	EAU CLAIRE	2133200	860	NR	natural	10/9/2023	59	24.3	4.0	16	88	4.7	8.6	5.7	22.0	NA	0	-	-	-	0.0	N
BEARSKULL	IRON	2265100	75	C-ST	stocked	9/19/2023	63	2.2	2.2	100	0	-	-	-	0.0	0.0	0	-	-	-	0.0	A
CEDAR	IRON	2309700	193	C-ST	stocked	9/13/2023	64	4.4	4.4	100	1	7.3	7.3	-	0.2	0.0	46	8	9.4	9.2	10.5	N
ECHO	IRON	2301800	220	ST	stocked	9/14/2023	64	4.9	4.9	100	0	-	-	-	0.0	NA	33	6	9.0	7.2	6.7	N
FISHER	IRON	2307300	410	O-ST	remnant	9/11/2023	66	10.9	3.8	35	6	6.0	7.2	None	1.6	NA	3	8	8.0	None	0.8	N
GILE FLOWAGE	IRON	2942300	3384	NR	natural	10/3-4/2023	69,65	27.2	7.7	28	273	3.9	6.7	4.7	35.5	NA	106	7	9.9	8.2	13.8	N
ISLAND	IRON	2945500	352	C-NR	natural	10/2/2023	65	7.4	6.4	86	96	5.8	7.6	6.3	15.0	NA	0	-	-	-	0.0	N
LONG	IRON	2303500	396	C-ST	stocked	9/18/2023	63	12.5	8.1	65	0	-	-	-	0.0	NA	21	8	10.0	9.5	2.6	A
PIKE	IRON	2299900	165	C-NR	natural	9/20/2023	67	2.7	2.7	100	8	5	6.3	None	3.0	0.2	47	7	9.6	9.1	17.4	N
PINE	IRON	2949200	312	NR	natural	9/7/2023	65	6.0	6.0	100	163	4.3	7.3	5.6	27.2	6.0	11	8	9.4	None	1.8	N
SPIDER	IRON	2306300	352	C-ST	stocked	9/27/2023	63	7.3	7.3	100	1	7.2	7.2	-	0.1	0.0	5	8	9.3	None	0.7	N
TRUDE	IRON	2295200	792	NR	natural	9/21/2023	70	15.1	4.0	26	104	4.8	7.6	6.7	26.0	NA	5	9	10.0	None	1.3	N
TURTLE FLAMBEAU F	IRON	2294900	13122	NR	natural	9/25-26/2023	62	206.3	25.6	12	635	3.6	6.7	5.3	24.8	NA	111	7	9.9	9.7	4.3	N
BALSAM	POLK	2620600	2054	C-ST	stocked	10/3/2023	68	22.7	22.7	100	1	7.7	7.7	-	0.0	NA	17	9	11.6	None	0.7	N
BEAR TRAP	POLK	2618100	241	ST	stocked	10/10/2023	60	3.5	3.5	100	1	5.3	5.3	-	0.3	0.0	9	10	11.0	10.7	2.6	N
WARD	POLK	2599400	91	C-ST	stocked	9/21/2023	70	2.3	2.3	100	1	7.1	7.1	-	0.4	0.0	23	8	10.5	9.1	10.0	N
ELK	PRICE	2240000	88	C-NR	natural	9/19/2023	65	2.8	2.8	100	46	3.6	6.4	6	16.4	NA	34	7	10.4	9.0	12.1	N
LAC SAULT DORE	PRICE	2236800	561	NR	natural	10/2/2023	68	14.1	4.0	28	43	3.6	7.3	5.6	10.8	NA	24	8	9.9	9.4,9.5	6.0	N
LONG	PRICE	2239300	418	C-NR	natural	9/19/2023	66	11.9	3.0	25	43	3.8	7.2	5.8	14.3	NA	58	8	10.3	8.0	19.3	N
PATTERSON	PRICE	1872500	70	O-ST	remnant	10/26/2023	52	1.8	1.8	100	0	-	-	-	0.0	NA	0	-	-	-	0.0	N
PIKE	PRICE	2268300	806	NR	natural	9/26/2023	64	10.9	7.1	65	223	4.1	7.0	5.5	31.4	NA	54	8	10.4	8.9	7.6	N
ROUND	PRICE	2267800	726	NR	natural	9/26/2023	63	5.1	5.1	100	80	4.0	6.9	5.0-5.4	15.7	NA	112	7	9.9	7.5-7.9	22.0	N
SOLBERG	PRICE	2242500	859	C-ST	stocked	9/21/2023	71	12.4	4.0	32	6	6.2	7.3	None	1.5	NA	23	9	10.7	10.0	5.8	A
CHAIN	RUSK	2350500	468	C-ST	stocked	9/20/2023	73	7.9	6.0	76	0	-	-	-	0.0	NA	0	-	-	-	0.0	A
ISLAND	RUSK	2350200	526	C-ST	stocked	9/20/2023	67	5.8	5.8	100	0	-	-	-	0.0	0.0	0	-	-	-	0.0	A
SAND	RUSK	2353600	262	ST	stocked	10/2/2023	69	4.8	4.8	100	1	7.0	7.0	-	0.2	0.0	9	10	10.8	None	1.9	B
BARBER	SAWYER	2382300	238	C-ST	stocked	9/11/2023	68	4.8	2.6	54	49	6.3	8.0	6.8,7.4	18.8	NA	44	9	11.5	10.0	16.9	N
BLACK	SAWYER	2401300	129	O-ST	remnant	9/13/2023	65	3.0	3.0	100	6	7.0	7.9	7.5-7.9	2.0	0.1	18	8	10.9	8.5-8.9	6.0	A
BLACK DAN	SAWYER	2381900	128	C-ST	stocked	9/11/2023	70	3.0	3.0	100	0	-	-	-	0.0	NA	13	8	10.2	None	4.3	N

Appendix E. Continued.

Lake	County	WBIC	Acres	Walleye Recruit Code	Model	Date	Temp	Total Shore	ShockMi	%Shock	Age0	Age0 Min Length	Age0 Max Length	Age0 Modal Length	Age0Mi	Hansen Index	Age1	Age1 Min Length	Age1 Max Length	Age1 Modal Length	Age1Mi	WEStock
CONNORS	SAWYER	2275100	429	NR	natural	9/28/2023	65	5.0	5.0	100	18	4.9	7.1	None	3.6	0.3	6	8.4	9.5	None	1.2	N
FAWN	SAWYER	2435900	23	NR-2	remnant	9/25/2023	64	0.9	0.9	100	0	-	-	-	0.0	0.0	0	-	-	-	0.0	N
FISHTRAP	SAWYER	2401100	216	O-ST	remnant	9/20/2023	65	6.8	2.9	43	0	-	-	-	0.0	NA	2	10.0	10.9	None	0.7	A
GHOST	SAWYER	2423000	372	C-NR	natural	9/11/2023	66	7.3	2.9	40	1	7.5	7.9	-	0.3	NA	19	8.5	10.4	9.0-9.4	6.6	A
GRINDSTONE	SAWYER	2391200	3111	NR	natural	9/28/2023	63	10.5	10.5	100	139	4.7	7.2	6.2	13.2	2.0	11	7.4	9.4	None	1.0	N
LAC COURTE OREILLE	SAWYER	2390800	5039	C-ST	stocked	9/14/2023	66	25.4	25.4	100	102	4.9	7.3	6.2	4.0	0.3	41	7.4	10.1	7.5,9.6	1.6	B
LAKE CHIPPEWA (FL(	SAWYER	2399700	15300	C-NR	natural	9/18-19/2023	64,66	232.9	18.0	8	317	4.2	7.9	7.5	17.6	NA	NA	NA	NA	NA	NA	N
LAKE OF THE PINES	SAWYER	2275300	273	C-NR	natural	9/25/2023	64	4.9	4.9	100	5	5.9	6.9	None	1.0	0.0	52	7.0	10.0	2,7.3,7.5,8.3,8	10.6	N
LOWER CLAM	SAWYER	2429300	203	C-ST	stocked	9/19/2023	66	4.2	3.4	81	1	6.5	6.9	-	0.3	NA	2	9.0	9.4	None	0.6	A
ROUND	SAWYER	2395600	3054	NR	natural	10/17/2023	57	20.2	5.3	26	17	5.3	7.0	6.2,6.3	3.2	NA	0	-	-	-	0.0	N
SAND	SAWYER	2393200	928	NR	natural	9/18/2023	63	5.1	5.1	100	229	4.2	7.0	5.7	44.9	13.2	15	7.5	10.4	9.3	2.9	N
SISSABAGAMA	SAWYER	2393500	719	C-ST	stocked	9/13/2023	68	8.2	8.2	100	27	5.5	6.5	6.0	3.3	0.2	3	9.5	10.5	None	0.4	N
SPIDER	SAWYER	2435700	1454	C-ST	stocked	10/18/2023	52	20.8	17.4	84	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
SPIDER	SAWYER	2435700	1454	C-ST	stocked	9/25/2023	64	20.8	5.0	24	0	-	-	-	0.0	NA	14	7.2	9.2	8.3	2.8	N
TIGER CAT FLOWAGE	SAWYER	2435000	819	ST	stocked	10/9/2023	57	19.9	3.4	17	0	-	-	-	0.0	NA	0	-	-	-	0.0	N
WHITEFISH	SAWYER	2392000	786	C-ST	stocked	9/20/2023	66	8.1	8.1	100	2	7.0	7.3	None	0.2	0.0	23	8.0	11.2	9.0,9.8	2.8	N
WINDIGO	SAWYER	2046600	522	NR	natural	9/7/2023	70	9.0	4.0	44	29	4.2	7.2	5.8	7.3	NA	3	8.8	9.7	None	0.8	N
CEDAR	ST. CROIX	2615100	1100	C-ST	stocked	10/5/2023	66	6.3	6.3	100	0	-	-	-	0.0	NA	6	10.7	11.6	None	1.0	A
RIB	TAYLOR	1469100	320	R-NR	#N/A	9/27/2023	63	3.3	3.6	109	2	6.5	6.6	None	0.6	0.0	20	7.8	10.0	9.3	5.6	A
SACKETT	TAYLOR	1764500	63	ST	stocked	9/11/2023	70	1.9	1.9	100	2	6.0	6.1	None	1.1	0.0	1	10.7	10.7	-	0.5	A
BALSAM	WASHBURN	2112800	295	NR	natural	9/27/2023	63	7.4	7.4	100	20	4.2	7.1	4.8	2.7	NA	7	7.8	11.2	None	0.9	N
LAKE NANCY	WASHBURN	2691500	772	C-ST	stocked	9/18/2023	67	10.9	7.4	68	0	-	-	-	0.0	NA	14	8.9	11.4	None	1.9	N
LONG	WASHBURN	2106800	3290	C-ST	stocked	10/9/2023	58	38.0	12.1	32	10	5.0	7.3	None	0.8	NA	123	7.5	11.9	9.7	10.2	N
MIDDLE McKENZIE	WASHBURN	2706500	530	C-ST	stocked	10/5/2023	62	4.1	4.1	100	3	6.3	7.0	None	0.7	0.0	18	9.1	12.4	10.3	4.4	N
MINONG FLOWAGE	WASHBURN	2692900	1564	NR	natural	9/20/2023	68	24.8	5.0	20	457	4.5	7.7	6.0	91.4	NA	218	8.5	12.4	10.5	43.6	N
SHELL	WASHBURN	2496300	2580	NR	natural	9/26/2023	64	10.2	5.5	54	574	4.0	7.8	5.0	104.4	NA	2	9.4	9.9	None	0.4	N
STONE	WASHBURN	1884100	523	C-ST	stocked	9/26/2023	63	4.0	4.0	100	2	7.4	7.4	None	0.5	0.0	6	8.5	9.7	None	1.5	N
TREGO	WASHBURN	2712000	451	NR-2	remnant	9/13/2023	58	16.9	4.8	28	3	5.5	6.9	None	0.6	NA	11	8.5	11.9	11.0-11.4	2.3	N
FAY	FLORENCE	677100	282	ST	stocked	09/07/2023	67	4.5	3.2	71	0	-	-	-	0.0	0.0	0	-	-	-	0.0	A
PATTEN	FLORENCE	653700	255	NR	natural	10/04/2023	66	3.9	3.9	100	49	4.4	7.8	5.1	12.6	0.3	11	9.2	11.4	9.9	2.8	N
PINE R FL	FLORENCE	651300	127	R-NR	#N/A	09/07/2023	68	3.7	3.6	97	56	4.1	5.6	4.8	15.6	0.4	5	8.1	10.2	8.9	1.4	A
CRANE	FOREST	388500	337	ST	stocked	09/25/2023	64	3.9	4.2	108	0	-	-	-	0.0	0.0	6	10.6	11.8	11.3	1.4	A
CRYSTAL	FOREST	184200	74	NR	natural	10/04/2023	66	1.8	1.8	100	0	-	-	-	0.0	0.0	0	-	-	-	0.0	N
HOWELL L	FOREST	691800	177	NR	natural	10/23/2023	54	2.0	1.1	55	3	5.0	6.4	-	2.7	0.0	0	-	-	-	0.0	N
METONGA	FOREST	394400	1991	NR	natural	10/10/2023	56	7.9	9.5	120	213	4.1	7.7	5.6	22.4	0.7	49	8.0	11.1	9.1	5.2	N
RANGE LINE	FOREST	478200	82	C-ST	stocked	09/25/2023	64	1.5	1.9	127	1	7.3	7.3	-	0.5	0.0	13	11.5	12.2	12.2	6.8	N
ROBERTS	FOREST	378400	415	C-ST	stocked	09/21/2023	69	4.5	5.6	124	16	6.9	9.1	8.2	2.9	0.0	17	9.2	11.8	10.3	3.0	A
STEVENS	FOREST	683000	297	C-ST	stocked	09/13/2023	63	3.3	3.2	97	26	5.7	8.1	7.3	8.1	0.1	13	10.2	13.2	12.2	4.1	N
OTTER	LANGLADE	387200	83	C-ST	stocked	09/12/2023	67	2.4	2.4	99	202	4.5	6.9	5.6	84.2	5.3	0	-	-	-	0.0	N
ROSE	LANGLADE	494200	112	ST	stocked	09/25/2023	66	3.8	3.7	97	0	-	-	-	0.0	0.0	0	-	-	-	0.0	N
SAWYER	LANGLADE	198100	149	ST	stocked	09/26/2023	65	5.2	3.0	58	0	-	-	-	0.0	0.0	3	9.4	9.9	9.9	1.0	N
SUMMIT	LANGLADE	1445600	282	O-ST	remnant	09/20/2023	67	3.3	3.3	100	1	7.1	7.1	-	0.3	0.0	1	9.5	9.5	-	0.3	N
UPPER POST	LANGLADE	399200	757	C-ST	stocked	09/21/2023	69	7.6	4.7	62	0	-	-	-	0.0	0.0	15	8.7	11.0	9.8	3.2	A
DEER	LINCOLN	1519600	156	NR	natural	10/09/2023	56	3.0	2.2	73	0	-	-	-	0.0	0.0	5	9.3	9.8	9.8	2.3	N
NOKOMIS	LINCOLN	1516500	2433	NR	natural	10/09/2023	54	38.5	16.9	44	751	3.3	7.2	4.5	44.4	2.0	274	7.3	10.3	8.8	16.2	N
PESOBIC	LINCOLN	1481600	146	ST	stocked	09/07/2023	70	2.3	2.3	100	0	-	-	-	0.0	0.0	0	-	-	-	0.0	N
PINE	LINCOLN	1012100	134	ST	stocked	09/11/2023	68	2.7	2.7	100	2	6	7.1	-	0.7	0.0	12	7.6	9.6	-	4.4	N
SEVEN ISLAND	LINCOLN	1490300	132	C-NR	natural	09/27/2023	64	4.0	4.0	100	7	6.3	7.2	6.6	1.8	0.0	5	10.1	10.7	10.2	1.3	N
SILVER	LINCOLN	1017400	95	C-ST	stocked	09/13/2023	65	2.3	2.1	91	2	5.6	5.7	-	1.0	0.0	0	-	-	-	0.0	N
SOMO	LINCOLN	1547700	472	C-ST	stocked	09/14/2023	67	14.2	4.0	28	36	6.8	8.6	7.3	9.0	0.2	11	7.6	10.4	7.9	2.8	N
SPIRIT RESERVOIR	LINCOLN	1506800	1664	NR	natural	10/02/2023	68	50.3	4.3	9	83	3.8	6.3	4.6	19.3	0.5	29	8.2	11.1	8.6	6.7	N
WISCONSIN LAKE	LINCOLN	1564400	79	ST	stocked	09/19/2023	64	2.3	2.3	100	6	6.4	7.3	7	2.6	0.0	20	7.3	9.5	7.8	8.7	N
TUG	LINCOLN	1482400	151	ST	stocked	09/18/2023	67	2.7	2.3	85	12	7.3	8.3	7.7	5.2	0.1	7	8.7	9.1	-	3.0	N
BIG EAU PLEINE	MARATHON	1427400	6830	C-NR	natural	10/02/2023	67	66.3	3.3	5	173	5.7	8.8	6.7	52.4	2.5	20	9.4	11.9	11.2	6.1	N
SANDSTONE FLOWA	MARINETTE	531300	153	C-NR	natural	10/02/2023	67	6.4	4.0	63	20	4.4	7.4	5.8	5.0	0.1	1	11.0	11.0	-	0.3	N
BIRD L	ONEIDA	972000	99	R-NR	#N/A	09/21/2023	68	2.8	3.0	109	0	-	-	-	0.0	0.0	0	-	-	-	0.0	N
BOLGER	ONEIDA	973000	119	C-ST	stocked	09/27/2023	64	3.1	2.8	90	0	-	-	-	0.0	0.0	0	-	-	-	0.0	N
BOOM	ONEIDA	1580200	437	NR-2	remnant	10/02/2023	67	6.9	6.0	87	2	5.8	5.9	-	0.3	0.0	30	7.1	9.1	8.6	5.0	N
CARROL	ONEIDA	1544800	352	ST	stocked	10/03/2023	67	6.1	4.8	79	0	-	-	-	0.0	0.0	19	7.6	9.5	8.5	4.0	N
CLEAR	ONEIDA	977500	846	R-NR	#N/A	09/14/2023	67	13.8	13.8	100	0	-	-	-	0.0	0.0	2	8.6	9.5	-	0.1	A
CRESCENT	ONEIDA	1564200	626	C-NR	natural	09/20/2023	66	7.4	7.1	96	0	-	-	-	0.0	0.0	0	-	-	-	0.0	A
EAST HORSEHEAD	ONEIDA	1523000	184	C-ST	stocked	09/28/2023	64	3.7	3.3	89	0	-	-	-	0.0	0.0	25	7.3	10.1	8.8	7.6	N
KATHERINE	ONEIDA	1543300	590	C-ST	stocked	09/19/2023	65	10.7	11.3	106	1	6.2	6.2	-	0.1	0.0	3	9.5	10.1	-	0.3	A
KAWAGUESAGA	ONEIDA	1542300	670	C-ST	stocked	09/11/2023	67	11.1	11.5	104	2	5.1	6	-	0.2	0.0	0	-	-	-	0.0	A
LONG	ONEIDA	1001300	113	R-NR	#N/A	10/10/2023	57	4.5	2.8	62	0	-	-	-	0.0	0.0	9	7.8	9.9	-	3.2	N
LOWER KAUBASHINE	ONEIDA	1534800	187	ST	stocked	08/30/2023	72	4.5	3.7	82	0	-	-	-	0.0	0.0	40	6.5	10.2	8.6	10.8	N
MINOCQUA	ONEIDA	1542400	1360	C-ST	stocked	09/12/2023	66	19.1	19.1	100	0	-	-	-	0.0	0.0	3	9.7	10.3	-	0.2	BA
MUSKELLUNGE	ONEIDA	1595600	284	ST	stocked	09/25/2023	64	4.0	4.0	100	0	-	-	-	0.0	0.0	42	7.3	9.7	8.3	10.5	N
PELICAN	ONEIDA	1579900	3585	NR	natural	09/18/2023	64	16.7	18.5	111	131	4.3	6.9	5.7	7.1	0.1	196	7.1	9.5	8.0	10.6	N
RHINELANDER FLOW	ONEIDA	1580100	1326	NR	natural	10/11/2023	52	26.2	12.6	48	11	4.5	5.3	4.7	0.9	0.0	23	7.1	9.2	7.8	1.8	N

Appendix E. Continued.

Lake	County	WBIC	Acres	Walleye Recruit Code	Model	Date	Temp	Total Shore	ShockMi	%Shock	Age0	Age0 Min Length	Age0 Max Length	Age0 Modal Length	Age0Mi	Hansen Index	Age1	Age1 Min Length	Age1 Max Length	Age1 Modal Length	Age1Mi	WEStock
SQUASH	ONEIDA	1019500	396	R-NR	#N/A	09/20/2023	66	7.4	7.0	95	19	5.6	7.2	6.5	2.7	0.0	31	8.2	11.6	10.3	4.4	N
THOMPSON	ONEIDA	1569900	382	C-ST	stocked	09/26/2023	63	6.9	7.5	109	1	5.6	5.6	-	0.1	0.0	20	6.6	10.3	-	2.7	N
THUNDER	ONEIDA	1618100	1768	C-ST	stocked	10/05/2023	61	10.6	9.7	92	34	4.5	6.1	5.3	3.5	0.0	3	9.4	10.4	9.4	0.3	BA
TOMAHAWK	ONEIDA	1542700	3392	C-ST	stocked	09/13/2023	66	30.2	30.2	100	3	5.5	6.9	-	0.1	0.0	227	7.2	10.7	9.2	7.5	N
TWO SISTERS	ONEIDA	1588200	719	C-ST	stocked	09/25/2023	65	9.3	9.2	99	36	6.3	7.6	7.3	3.9	0.0	0	-	-	-	0.0	B
ALDER	VILAS	2329600	274	C-NR	natural	09/12/2023	64	3.9	3.0	77	1	6.5	6.5	-	0.3	0.0	8	8	10.6	9.0	2.7	B
ANVIL	VILAS	968800	398	C-ST	stocked	09/19/2023	65	4.8	4.6	96	4	6	6.5	-	0.9	0.0	17	9	11.5	10.0	3.7	N
ARROWHEAD	VILAS	1541500	99	C-ST	stocked	10/16/2023	54	2.0	2.0	100	0	-	-	-	0.0	0.0	16	10	12.5	-	8.0	N
BIG ARBOR VITAE	VILAS	1545600	1090	NR	natural	09/26/2023	65	7.8	8.1	104	29	5.5	7.5	6.4	3.6	0.0	10	9	11.9	-	1.2	N
BIG ST GERMAIN	VILAS	1591100	1617	C-ST	stocked	09/18/2023	65	7.6	9.2	121	63	4.5	6.7	5.5	6.8	0.1	250	7	10.0	8.5	27.2	A
DEAD PIKE	VILAS	2316600	297	C-ST	stocked	09/27/2023	62	3.8	3.7	96	3	6.9	7.4	-	0.8	0.0	12	8	10.5	8.5	3.2	N
ESCANABA	VILAS	2339900	293	NR	natural	09/13/2023	61	5.2	5.2	100	76	4.4	7.9	6.3	14.6	0.3	20	8	9.9	9.0	3.8	N
ESCANABA	VILAS	2339900	293	NR	natural	09/20/2023	67	5.2	5.2	100	50	4.8	8.0	6.0	9.6	0.2	12	8	10.1	-	2.3	N
ESCANABA	VILAS	2339900	293	NR	natural	09/26/2023	64	5.2	5.0	96	21	4.8	7.7	6.0	4.2	0.0	9	8	10.7	8.7	1.8	N
ESCANABA	VILAS	2339900	293	NR	natural	10/10/2023	53	5.2	5.2	100	11	5.9	7.3	6.2	2.1	0.0	13	8	10.7	9.3	2.5	N
ESCANABA	VILAS	2339900	293	NR	natural	10/18/2023	53	5.2	4.2	81	25	4.1	7.6	-	6.0	0.1	16	8	11.5	9.5	3.8	N
FISHTRAP	VILAS	2343200	329	O-ST	remnant	10/03/2023	67	6.3	5.8	92	5	5.2	7.2	-	0.9	0.0	29	8	11.2	9.5	5.0	A
FOREST	VILAS	2762200	466	NR	natural	10/10/2023	57	7.0	7.0	100	75	4.4	6.5	5.0	10.7	0.2	13	7	10.6	8.3	1.9	N
HARRIS L	VILAS	2958500	507	C-NR	natural	09/21/2023	67	6.0	6.4	107	5	5.0	6.9	-	0.8	0.0	103	8	11.2	9.0	16.1	B
HIGH	VILAS	2344000	734	O-ST	remnant	10/03/2023	66	9.4	7.5	80	1	6.0	6.0	-	0.1	0.0	62	8	11.4	10.3	8.3	A
HUNTER	VILAS	991700	184	C-ST	stocked	10/17/2023	52	3.2	3.1	97	0	-	-	-	0.0	0.0	6	10	11.2	10.7	1.9	N
LAC VIEUX DESERT	VILAS	1631900	4300	C-ST	stocked	09/28/2023	63	16.3	16.3	100	7	5.5	7.6	-	0.4	0.0	271	8	11.5	9.5	16.6	B
LITTLE ARBOR VITAE	VILAS	1545300	534	C-ST	stocked	10/12/2023	54	7.1	5.1	72	31	6.3	7.7	6.8	6.1	0.1	152	9	11.9	10.8	29.8	N
LITTLE JOHN	VILAS	2332300	166	NR	natural	10/11/2023	55	3.3	2.8	85	41	5.0	8.5	6.2	14.6	0.3	2	11	10.9	-	0.7	N
LITTLE STAR	VILAS	2334300	244	C-NR	natural	10/02/2023	66	3.8	3.8	100	0	-	-	-	0.0	0.0	3	9	10.7	-	0.8	N
LONG	VILAS	1602300	872	ST	stocked	09/11/2023	65	8.2	7.6	93	62	5.5	6.9	6.3	8.2	0.1	0	-	-	-	0.0	A
MANITOWISH	VILAS	2329400	506	C-NR	natural	10/02/2023	67	7.3	5.5	75	18	6.0	7.8	7.0	3.3	0.0	11	9	11.4	-	2.0	N
MUSKELLUNGE	VILAS	1596600	272	ST	stocked	09/28/2023	63	3.6	3.5	97	0	-	-	-	0.0	0.0	3	9.6	10.1	-	0.9	N
PIONEER	VILAS	1623400	427	ST	stocked	10/17/2023	50	3.7	4.2	114	0	-	-	-	0.0	0.0	5	8.4	10.2	-	1.2	B
PLUM	VILAS	1592400	1033	NR	natural	10/04/2023	65	14.5	14.9	103	119	4.1	6.7	5.2	8.0	0.1	18	7.2	10.2	9.2	1.2	N
SANFORD	VILAS	2335300	88	NR	natural	09/18/2023	62	2.4	2.4	100	0	-	-	-	0.0	0.0	0	-	-	-	0.0	N
SANFORD	VILAS	2335300	88	NR	natural	09/25/2023	63	2.4	2.4	100	0	-	-	-	0.0	0.0	0	-	-	-	0.0	N
SANFORD	VILAS	2335300	88	NR	natural	10/17/2023	53	2.4	2.4	100	0	-	-	-	0.0	0.0	0	-	-	-	0.0	N
SNIPE	VILAS	1018500	239	NR	natural	09/27/2023	63	3.5	4	114	61	5.6	7.3	6.1	15.3	0.4	31	8.6	10.8	9.3	7.8	N
SPARKLING	VILAS	1881900	154	C-ST	stocked	10/16/2023	55	2.3	2.3	100	0	-	-	-	0.0	0.0	0	-	-	-	0.0	B
SPIDER	VILAS	2329300	272	C-NR	natural	10/02/2023	67	5.9	6	101.694915	42	5.2	7	5.6	7	0.108363344	22	8	10.8	-	3.66666667	N
TROUT	VILAS	2331600	3815.84	C-ST	stocked	10/05/2023	62	17.9	16.6	92.7374302	83	5	7.7	6.6	5	0.064023314	2	9.4	10.4	-	0.12048193	B
UPPER GRESHAM	VILAS	2330800	366	ST	stocked	10/12/2023	55	5.8	5.8	100	0	-	-	-	0	0	78	8.2	10.3	9.1	13.4482759	N
WILDCAT	VILAS	2336800	305	ST	stocked	10/16/2023	49	5	4.9	98	0	-	-	-	0	0	51	7.9	11.6	9.5	10.4081633	N
Long	Washburn	2106800	3290	C-ST	stocked	10/10/2022	57	38	12.1	31.8421053	21	5.5	8.3	7.7,8.3	1.73553719	NA	0	-	-	-	0	A
Minong Flowage	Washburn	2692900	1564	NR	natural	9/22/2022	67	24.8	5	20.1612903	1082	5.3	8.3	7	216.4	NA	38	9.7	11.9	10.7	7.6	N
Slim	Washburn	2109300	224	C-ST	stocked	10/4/2022	62	2.6	2.6	100	0	-	-	-	0	0	89	6.8	10.5	8.5	34.2307692	N
Stone	Washburn	1884100	523	C-ST	stocked	9/13/2022	70	4	4	100	7	6	7.2	None	1.75	NA	0	-	-	-	0	A

Appendix F. Walleye Exploitation Rates.

F-1. Information on fin clipped fish in population (prior to creel) and those observed in angler creels used to estimate angler harvest and exploitation rates during the 2023-2024 fishing season.

							Clips Given Prior to Creel				Clips Observed in Creel					
Year	WBIC	County	Lake	Acres	Recruit. Code	Size Limit	Clip Given	# Clips Given	#Clips ≥14”	#Clips ≥20”	# Clips Observed	# Clips Projected	# Clips Obs. ≥14”	# Clips Proj. ≥14”	# Clips Obs. ≥20”	# Clips Proj. ≥20”
2023	2902700	Bayfield	Pike Chain	713	C-ST	14-18 slot	RV	459	363	103	1	16	1	16	0	0
2023	2692900	Douglas	Minong Flowage	1564	NR	1>14	RV	966	827	9	22	145	15	99	0	0
2023	2301800	Iron	Echo	220	ST	20-24 Slot	RV	62	46	15	3	9	3	9	0	0
2023	2949200	Iron	Pine	312	NR	1>14	LP	536	61	11	20	105	1	5	0	0
2023	198100	Langlade	Sawyer	149	ST	18	RV	125	124	92	4	10	4	10	4	10
2023	1519600	Lincoln	Deer	156	NR	20-24 Slot	RP	13	13	7	--	--	--	--	--	--
2023	1516401	Lincoln	Rice River Fl Treaty	3764	NR	20-24 Slot	LP	5,590	465	215	27	303	27	303	0	0
2023	1543300	Oneida	Katherine	590	C-ST	8Min,22-28Sl	RV	1,208	604	11	1	5	1	5	0	0
2023	1536300	Oneida	Squirrel	1317	NR	1>14	YF/RV	1,370	377	56	34	131	15	58	3	12
2023	1588200	Oneida	Two Sisters	719	C-ST	18	RP	564	554	335	1	N/A	1	N/A	1	N/A
2023	2620600	Polk	Balsam	2054	C-ST	18	RP	1,260	1,205	344	1	18	1	18	1	18
2023	2393200	Sawyer	Sand	928	NR	20-24 Slot	RV	730	666	31	31	126	31	126	0	0
2023	1545600	Vilas	Big Arbor Vitae	1090	NR	1>14	RP	1,465	1,310	156	9	45	8	40	3	15
2023	1631900	Vilas	Lac Vieux Desert	4300	C-ST	18	LP	2,233	1,733	409	9	175	9	175	6	117
2023	1884100	Washburn	Stone	523	C-ST	20-24 Slot	LP	581	464	51	2	7	2	7	0	0

F-2. Estimated angler and tribal harvest and associated walleye exploitation rates for lakes surveyed during the 2023-2024 fishing season.

County	Lake	Acres	Adult PE	Angler Harvest	Tribal Harvest	Total Harvest	Angler Exploitation	Angler Exploitation ≥14”	Angler Exploitation ≥20”	Tribal Exploitation	Total Exploitation	Notes
Bayfield	Pike Chain	713	764	66	53	119	0.0349	0.0441	0.0000	0.0694	0.1042	
Douglas	Minong Flowage	1564	6400	2367	0	2367	0.1501	0.1195	0.0000	0.0000	0.1501	
Iron	Echo	220	177	37	0	37	0.1452	0.1957	0.0000	0.0000	0.1452	
Iron	Pine	312	1295	302	0	302	0.1959	0.0861	0.0000	0.0000	0.1959	
Langlade	Sawyer	149	153	10	11	21	0.0800	0.0806	0.1087	0.0719	0.1519	Open Water Only
Lincoln	Deer	156	23	0	0	0	--	--	--	0.0000	--	Open Water Only
Lincoln	Rice River Fl Treaty	3764	18483	1125	348	1473	0.0542	0.6516	0.0000	0.0188	0.0730	Open Water Only
Oneida	Katherine	590	2558	22	80	102	0.0041	0.0083	0.0000	0.0313	0.0354	
Oneida	Squirrel	1317	3962	1434	377	1811	0.0956	0.1533	0.2064	0.0952	0.1908	
Oneida	Two Sisters	719	1019	4	85	89	--	--	--	0.0834	--	
Polk	Balsam	2054	2559	48	149	197	0.0143	0.0149	0.0523	0.0582	0.0725	Open Water Only
Sawyer	Sand	928	1964	1301	113	1414	0.1726	0.1892	0.0000	0.0575	0.2301	
Vilas	Big Arbor Vitae	1090	4893	974	746	1720	0.0307	0.0305	0.0962	0.1525	0.1832	
Vilas	Lac Vieux Desert	4300	7051	661	0	661	0.0784	0.1010	0.2852	0.0000	0.0784	
Washburn	Stone	523	778	31	57	88	0.0120	0.0151	0.0000	0.0733	0.0853	

Appendix G. Safe harvest of walleye and musky calculated for individual lakes within the Wisconsin Ceded Territory in 2023.

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
Ashland	Augustine L	2410400	166	Regression- NR	67	Regression	5
Ashland	Bear L	2403200	204	Regression- NR	51	Regression	5
Ashland	Beaver Dam L	2916700	118			Regression	4
Ashland	Beaver L	2935400	25			Regression	1
Ashland	Cub L	1842600	31			Regression	2
Ashland	Day L	2430300	641	2 year PE	60	Regression	11
Ashland	E Twin L	2429000	110			Regression	4
Ashland	English L	2914800	244	Regression- ST	28	Regression	6
Ashland	Eureka L	2935600	39			Regression	2
Ashland	Gordon L	2406500	142	1 year PE	10	Regression	4
Ashland	L Galilee	2935500	213	Regression- Rem	7	Regression	6
Ashland	Meder L	2935300	135	Regression- ST	17		
Ashland	Mineral L	2916900	225	1 year PE	114	Regression	6
Ashland	Moquah L	2918200	50	Regression- Rem	2	Regression	2
Ashland	Pelican L	2404800	46	Regression- NR	12	Regression	2
Ashland	Potter L	2917200	29	Regression- ST	6		
Ashland	Spider L	2918600	103	Regression- ST	13	Regression	4
Ashland	Spillerberg L	2936200	75	Regression- NR	30	Regression	3
Ashland	Tea L	2922700	50	Regression- NR	13		
Ashland	Torrey L	2406700	29			Regression	2
Ashland	Upper Clam L	2429600	166	Regression- ST	21	Regression	5
Ashland	Zielke L	2406900	21	Regression- NR	6		
Barron	Bass L	1832800	118				
Barron	Bear L	2105100	1358	1 year PE	125		
Barron	Beaver Dam L	2081200	1112	Regression- Rem	22		
Barron	Big Dummy L	1835100	111	Regression- Rem	4		
Barron	Big Moon L	2079000	191	2 year PE	13	1-2 year PE	12
Barron	Butternut L	2105800	141				
Barron	Duck L	2100300	100	Regression- NR	42		
Barron	Echo L	2630200	161	Regression- Rem	5		
Barron	Granite L	2100800	154	Regression- NR	88		
Barron	Hemlock L	2109800	357	Regression- Rem	12		
Barron	Horseshoe L	2469800	115	Regression- ST	16		
Barron	Horseshoe L	2630100	377				
Barron	L Chetek	2094000	770	Regression- ST	96		
Barron	L Montanis	2103200	200	Regression- ST	29		
Barron	Little Sand L	2661600	101			Regression	3
Barron	Loon L	2478600	94	Regression- ST	12		
Barron	Lower Devils L	1864000	162	Regression- NR	41		

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
Barron	Lower Turtle L	2079700	276	2 year PE	70		
Barron	Lower Vermillion	2098200	208	Regression- Rem	7		
Barron	Minnow L	1866600	26				
Barron	Mud L	2094600	577	Regression- Rem	14		
Barron	Pokegama L	2094300	506	Regression- ST	63		
Barron	Poskin L	2098000	150	Regression- ST	16		
Barron	Prairie L	2094100	1534	Regression- ST	177		
Barron	Red Cedar L	2109600	1841	Regression- NR	643		
Barron	Rice L	2103900	939			Regression	14
Barron	Sand L	2661100	322	Regression- Rem	8	Regression	7
Barron	Scott L	2630700	81	Regression- ST	10		
Barron	Silver L	1881100	337	Regression- NR	88		
Barron	Spring L	1882800	60	Regression- NR	16		
Barron	Staples L	2631200	305	Regression- Rem	9		
Barron	Tenmile L	2089500	376	Regression- ST	47		
Barron	Upper Devils L	2043500	86	Regression- Rem	3		
Barron	Upper Turtle L	2079800	438	2 year PE	102		
Bayfield	Armstrong L	2754600	48	Regression- NR	13		
Bayfield	Atkins L	2734000	176	Regression- Rem	6		
Bayfield	Bellevue L	2755800	65	Regression- Rem	3		
Bayfield	Bladder L	2756200	81	Regression- NR	21		
Bayfield	Bony L	2742500	191	1 year PE	38	Regression	5
Bayfield	Buffalo L	1837700	179	1 year PE	32	Regression	5
Bayfield	Buskey Bay	2903800	100	Regression- ST	0	Regression	3
Bayfield	Camp One L	2965700	37	Regression- NR	10		
Bayfield	Chippewa L	2431300	274			Regression	7
Bayfield	Cisco L	2899200	95	Regression- ST	12		
Bayfield	Cranberry L	2732800	58	Regression- Rem	3		
Bayfield	Crystal L	2874700	94	Regression- Rem	4		
Bayfield	Crystal L	2897300	111	2 year PE	20		
Bayfield	Deep L	2760100	125	Regression- Rem	4		
Bayfield	Diamond L	2897100	341	2 year PE	14		
Bayfield	Drummond L	2899400	99	1 year PE	12		
Bayfield	Eagle L	2902900	170			Regression	5
Bayfield	Everett L	2761600	34	Regression- Rem	2		
Bayfield	Finger L	2965500	76	Regression- Rem	3		
Bayfield	Flynn L	2902800	29			Regression	2
Bayfield	Ghost L	2423900	142			Regression	4
Bayfield	Hammil L	2467900	83	Regression- Rem	3		
Bayfield	Hart L	2903200	259	Regression- ST	0	Regression	6
Bayfield	Hildur L	2902600	67			Regression	3

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
Bayfield	Iron L	2877000	248	Regression- Rem	7		
Bayfield	Island L	2470800	59	Regression- Rem	3		
Bayfield	Jackson L	2734200	142	Regression- Rem	5		
Bayfield	Kelly L	2472000	56	Regression- Rem	2		
Bayfield	Kern L	2900500	91	Regression- NR	23		
Bayfield	L Knotting	2734700	80	Regression- Rem	3		
Bayfield	L Millicent	2903700	183	Regression- ST	0	Regression	5
Bayfield	L Owen	2900200	1323	Regression- NR	205		
Bayfield	L Ruth	2765900	66	Regression- Rem	3		
Bayfield	L Tahkodah	2473500	152	Regression- Rem	5		
Bayfield	Little Siskiwit L	2882200	37	Regression- NR	10		
Bayfield	Long L	2767100	263	Regression- ST	33		
Bayfield	Marengo L	2921100	99	Regression- NR	25		
Bayfield	Mccarry L	2903400	32			Regression	2
Bayfield	Middle Eau Claire	2742100	902	1 year PE	148	Regression	14
Bayfield	Mill Pond L	2899700	62	Regression- NR	16		
Bayfield	Mullenhoff L	2876500	69	Regression- Rem	3		
Bayfield	Muskellunge L	2903600	45	Regression- Rem	2		
Bayfield	Namekagon L	2732600	3227	2 year PE	1584	Regression	31
Bayfield	Perch L	2770800	25	Regression- NR	7		
Bayfield	Pickerel L	2489200	91	Regression- Rem	4		
Bayfield	Pike L Treaty Cha	2902700	714	Regression- ST	89		
Bayfield	Robinson L	2743300	91	Regression- Rem	4		
Bayfield	Samoset L	2494800	46	Regression- Rem	2		
Bayfield	Siskiwit L	2882300	330	2 year PE	189		
Bayfield	Spider L	2774200	75	Regression- Rem	3		
Bayfield	Spider L	2876200	124	Regression- Rem	4		
Bayfield	Swett L	2743700	88	Regression- NR	23		
Bayfield	Trapper L	2734500	84	Regression- NR	22		
Bayfield	Twin Bear L	2903100	172	Regression- ST	0	Regression	5
Bayfield	Upper Eau Claire	2742700	996	Regression- NR	151	Regression	15
Burnett	Benoit L	2678300	279			Regression	7
Burnett	Big Mckenzie L	2706800	1185	Regression- ST	124	Regression	16
Burnett	Big Sand L	2676800	1400	Regression- Rem	19		
Burnett	Big Trade L	2638700	304			Regression	7
Burnett	Clam R Fl	2654500	359	Regression- NR	88		
Burnett	Crooked L	2459200	254	Regression- Rem	8		
Burnett	Danbury Fl	2674500	256			Regression	6
Burnett	Des Moines L	2674200	229			Regression	6
Burnett	Devils L	2461100	1001	Regression- Rem	20		
Burnett	Dunham L	2651800	243	Regression- Rem	7		

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
Burnett	Elbow L	2463100	233				
Burnett	Fish L	2464500	356	Regression- Rem	10		
Burnett	Lipsett L	2678100	393	1 year PE	65		
Burnett	Little Mcgraw L	2477000	55	Regression- Rem	2		
Burnett	Little Trade L	2639300	130			Regression	4
Burnett	Little Yellow L	2674800	348	Regression- NR	85	Regression	8
Burnett	L Lucerne	2480100	40	Regression- Rem	2		
Burnett	Mallard L	2480800	113	Regression- Rem	4		
Burnett	Poquettes L	2491100	97	Regression- Rem	4		
Burnett	Rice L	2677900	311			Regression	7
Burnett	Rooney L	2493100	322	Regression- ST	41		
Burnett	Round L	2640100	204	Regression- Rem	6		
Burnett	Sand L	2495100	962	Regression- Rem	20		
Burnett	Twenty-Six L	2672500	230			Regression	6
Burnett	Upper Clam L	2656200	1207	Regression- NR	279		
Burnett	Webb L	2705400	759	Regression- Rem	16		
Burnett	Yellow L	2675200	2287	Regression- NR	833	Regression	25
Chippewa	Axhandle L	2092500	84	Regression- Rem	3		
Chippewa	Chippewa Falls Fl	2152600	282	Regression- NR	69		
Chippewa	Cornell Fl	2181400	577	Regression- NR	138	Regression	10
Chippewa	Cornell L	2171000	194	Regression- ST	24		
Chippewa	Holcombe Fl	2184900	3890	Regression- NR	847	Regression	34
Chippewa	L Wissota	2152800	6300	Regression- NR	1173	Regression	46
Chippewa	Long L	2351400	1052	2 year PE	491	1-2 year PE	21
Chippewa	Old Abe L	2174700	1072	Regression- NR	249	Regression	15
Chippewa	Otter L	2157000	661	Regression- ST	177		
Chippewa	Popple L	2173900	90	Regression- ST	11		
Chippewa	Round L	2169200	216	2 year PE	60	1-2 year PE	12
Chippewa	Town Line L	2172600	48	Regression- Rem	2		
Clark	Mead L	2143900	320	2 year PE	3	Regression	4
Douglas	Amnicon L	2858100	426	Regression- Rem	11	Regression	9
Douglas	Bass L	2451700	126	Regression- NR	32		
Douglas	Bear L	2857700	49	Regression- NR	13	Regression	2
Douglas	Beauregard L	2452400	93	Regression- NR	24		
Douglas	Bond L	2693700	293	Regression- ST	37		
Douglas	Clear L	2457700	36	Regression- NR	10		
Douglas	Dowling L	2858300	154	Regression- Rem	5	Regression	5
Douglas	Hoodoo L	2763900	32	Regression- Rem	2		
Douglas	L Minnesuing	2866200	432	Regression- Rem	11		
Douglas	L Nebagamon	2865000	914	1 year PE	211		
Douglas	Leader L	2693800	165	Regression- NR	41		

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
Douglas	Lower Eau Claire	2741600	802	Regression- Rem	17	Regression	13
Douglas	Lund L	2480300	75	Regression- Rem	3		
Douglas	Lyman L	2856400	403	Regression- ST	51	Regression	8
Douglas	Person L	2488600	172	Regression- Rem	6		
Douglas	Peterson L	2488700	33	Regression- Rem	2		
Douglas	Red L	2492100	258	Regression- Rem	8		
Douglas	Round L	2493900	34				
Douglas	Upper St Croix L	2747300	855	Regression- ST	135		
Douglas	Whitefish L	2694000	832	Regression- NR	212		
Douglas	Wilson L	2600800	27				
Dunn	Tainter L	2068000	1752	Regression- NR	397		
Eau Claire	Altoona L	2128100	840	2 year PE	479	Regression	7
Eau Claire	Dells Pond	2149900	739	Regression- NR	175	Regression	12
Eau Claire	Halfmoon L	2125400	132	Regression- Rem	5		
Eau Claire	L Eau Claire	2133200	860	1 year PE	266	Regression	7
Florence	Bass L	652500	50	Regression- Rem	2		
Florence	Emily L	651600	191	Regression- Rem	6		
Florence	Fay L	677100	282	Regression- ST	32		
Florence	Fisher L	704200	54				
Florence	Halsey L	679300	512	Regression- ST	75		
Florence	Keyes L	672900	210	Regression- Rem	6		
Florence	Long L	677400	340	Regression- Rem	9		
Florence	Patten L	653700	255	2 year PE	82		
Florence	Pine R Fl	651300	127	Regression- Rem	5		
Florence	Sand L	591600	52	Regression- Rem	2		
Florence	Sea Lion L	672300	125	2 year PE	6		
Forest	Arbutus L	181400	158	Regression- ST	20		
Forest	BEAR L	552100	68	Regression- Rem	3		
Forest	Birch L	555500	468	Regression- NR	113		
Forest	Butternut L	692400	1292	1 year PE	201		
Forest	Crane L	388500	337	2 year PE	107		
Forest	Crystal L	184200	63	Regression- NR	25		
Forest	Franklin L	692900	892	Regression- Rem	18		
Forest	Ground Hemlock L	395900	88	Regression- ST	11		
Forest	Howell L	691800	177	1 year PE	73		
Forest	Jungle L	377900	177	1 year PE	64		
Forest	King L	501700	33	Regression- NR	9		
Forest	L Lucerne	396500	1026	Regression- ST	99		
Forest	L Metonga	394400	1991	1 year PE	765		
Forest	Lily L	376900	213	1 year PE	181	Regression	6

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
Forest	Little Long L	190500	102	Regression- Rem	4		
Forest	Little Sand L	389700	229	Regression- Rem	7		
Forest	Mole L	390600	73	Regression- Rem	3		
Forest	Pine L	406900	1670	Regression- ST	178		
Forest	Quartz L	591000	47			Regression	2
Forest	Range Line L	478200	82	Regression- ST	22		
Forest	Riley L	557100	213			1-2 year PE	9
Forest	Roberts L	378400	414	1 year PE	109	Regression	9
Forest	Silver L	555700	334	Regression- Rem	9	Regression	7
Forest	Stevens L	683000	297	Regression- ST	78		
Forest	St Johns	388700	96	Regression- Rem	4		
Forest	Trump L	479300	172	Regression- ST	23		
Forest	Van Zile L	608400	81	Regression- NR	17		
Forest	Wabikon L	556900	594			1-2 year PE	8
Forest	Windfall L	373500	55			Regression	2
Iron	Bearskull L	2265100	75	Regression- ST	10		
Iron	Big Pine L	2270700	632	Regression- NR	150	Regression	11
Iron	Boot L	2297800	180	Regression- Rem	6	Regression	5
Iron	Catherine L	2309100	118	Regression- Rem	5		
Iron	Cedar L	2309700	193	Regression- ST	34	Regression	5
Iron	Charnley L	1840400	71	Regression- Rem	3		
Iron	Clear L	2303700	67	Regression- Rem	3	Regression	3
Iron	Echo L	2301800	220	Regression- ST	28	Regression	6
Iron	Fisher L	2307300	410	Regression- Rem	11	Regression	8
Iron	French L	1849600	92	Regression- ST	12	Regression	3
Iron	Gile Fl	2942300	3384	Regression- NR	924	Regression	32
Iron	Grand Portage L	2314100	144	Regression- Rem	5	Regression	4
Iron	Grant L	2312500	107	Regression- Rem	4	Regression	4
Iron	Hewitt L	2763300	78			Regression	3
Iron	Island L	2945500	352	Regression- NR	86	Regression	8
Iron	L Of The Falls	2298300	338	2 year PE	12	Regression	7
Iron	L Tahoe	2314000	37	Regression- Rem	2	Regression	2
Iron	Little Martha L	2314700	35	Regression- Rem	2	Regression	2
Iron	Long L	2303500	396	2 year PE	63	1-2 year PE	19
Iron	Lower Springstead	2267000	95	Regression- NR	24	Regression	3
Iron	Martha L	2314300	146	Regression- NR	37		
Iron	Mcdermott L	2296500	84	Regression- Rem	4		
Iron	Mercer L	2313600	184	Regression- ST	23	Regression	5
Iron	Moose L	2299300	269			Regression	6
Iron	Mud L	2316400	56	Regression- NR	15		

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
Iron	Muskie L	2266800	81	Regression- NR	21	Regression	3
Iron	N Bass L	1868900	180			Regression	5
Iron	Owl L	2307600	129	Regression- Rem	5	Regression	4
Iron	Oxbow L	2302300	80	Regression- NR	21	Regression	3
Iron	Pardee L	2308000	206	Regression- NR	51	Regression	5
Iron	Pike L	2299900	165	Regression- NR	41	Regression	5
Iron	Pine L	2949200	312	Regression- NR	229	Regression	7
Iron	Plunkett L	2325200	48	Regression- Rem	2		
Iron	Randall L	2318500	115	1 year PE	36	Regression	4
Iron	Rice L	2300600	125	Regression- NR	32	Regression	4
Iron	Sandy Beach L	2316100	111	2 year PE	18		
Iron	Saxon Falls Fl	2941100	41	Regression- NR	11	Regression	2
Iron	Second Black L	2298600	60	Regression- NR	16		
Iron	Spider L	2306300	352	Regression- ST	44	Regression	8
Iron	Stone L	2267200	82	Regression- Rem	3	Regression	3
Iron	Third Black L	2298800	68	Regression- NR	18		
Iron	Trude L	2295200	781	Regression- NR	315	Regression	13
Iron	Turtle-Flambeau Fl.	2294900	13545	Regression- NR	4748	Regression	73
Iron	Upper Springstead	2267100	126	Regression- NR	32	Regression	4
Iron	Virgin L	2304500	119			Regression	4
Iron	Wilson L	2297000	162			Regression	5
Langlade	Big Twin L	182200	60	Regression- Rem	3		
Langlade	Deep Wood L	1445100	72			Regression	3
Langlade	Duck L	981500	123	Regression- Rem	4		
Langlade	Enterprise L	1579700	505	Regression- NR	126	Regression	10
Langlade	Greater Bass L	1445500	258			Regression	6
Langlade	Jessie L	188700	35	Regression- Rem	2		
Langlade	Lawrence L	997300	50	Regression- Rem	2		
Langlade	Moccasin L	1005600	110	Regression- ST	13	Regression	4
Langlade	Mueller L	194000	88	Regression- Rem	3		
Langlade	Otter L	387200	83	Regression- ST	11		
Langlade	Pickerel L	388100	1256	Regression- Rem	18		
Langlade	Rolling Stone L	389300	672	Regression- Rem	15		
Langlade	Rose L	494200	112	1 year PE	22		
Langlade	Sawyer L	198100	149	Regression- ST	19		
Langlade	Summit L	1445600	282	Regression- ST	36	Regression	7
Langlade	Upper Post L	399200	757	2 year PE	174		
Langlade	Water Power L	1445400	22			Regression	1
Langlade	White L	365500	166	Regression- ST	21		

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
Lincoln	Alexander L	1494600	677	Regression- NR	139	Regression	12
Lincoln	Bass L	969600	100	Regression- Rem	4		
Lincoln	Clear L	1555400	272	Regression- Rem	8		
Lincoln	Crystal L	979100	109	Regression- Rem	4		
Lincoln	Deer L	1519600	156	Regression- NR	39	Regression	5
Lincoln	Grandfather Fl	1502400	350	Regression- NR	140		
Lincoln	Grandmother Fl	1503000	562	Regression- NR	191		
Lincoln	Jersey City Fl	1516000	404	Regression- NR	179	Regression	8
Lincoln	L Alice	1555900	1369	Regression- NR	340	Regression	18
Lincoln	L Mohawksin	1515400	1910	1 year PE	1250	1-2 year PE	25
Lincoln	L Nokomis	1516500	2433	Regression- NR	0	Regression	26
Lincoln	Long L	1001000	132	Regression- ST	14		
Lincoln	Merrill Fl	1481100	164	Regression- NR	41		
Lincoln	Muskellunge L	1555500	167	Regression- Rem	6		
Lincoln	Pesabic L	1481600	146	Regression- ST	15		
Lincoln	Pine L	1012100	134	Regression- ST	17	Regression	4
Lincoln	Rice R Fl	1516400	920	Regression- NR	0	Regression	14
Lincoln	Rice R Fl. Treaty Chain	1516401	3764	Regression- NR	1234		
Lincoln	Seven Island L	1490300	132	Regression- NR	33	Regression	4
Lincoln	Silver L	1017400	82	Regression- ST	10		
Lincoln	Somo L	1547700	472	2 year PE	48	1-2 year PE	8
Lincoln	Spirit R Fl	1506800	1664	Regression- NR	509	Regression	20
Lincoln	Squaw L	1564400	79	Regression- ST	11	Regression	3
Lincoln	Thompson L	1022200	30			Regression	2
Lincoln	Tug L	1482400	151	Regression- ST	19	Regression	4
Marathon	Big Eau Pleine Reservoir	1427400	6830	Regression- NR	2658	Regression	39
Marathon	L Wausau	1437500	1918	Regression- NR	43	Regression	2
Marathon	Lost L	1407000	42	Regression- Rem	2		
Marathon	Mayflower L	310500	98	Regression- ST	12		
Marathon	Mission L	1005400	107			Regression	4
Marathon	Mud L	193800	70	Regression- Rem	3		
Marathon	Norrie L	310100	99	Regression- Rem	4		
Marathon	Pike L	1406300	205	2 year PE	13		
Marathon	Wausau Dam L	1469700	284	Regression- Rem	7		
Marinette	Big Newton L	498800	68	Regression- NR	18		
Marinette	Caldron Falls Res	545400	1018	Regression- Rem	20	Regression	15
Marinette	Eagle L	500200	56	Regression- Rem	2		
Marinette	High Falls Reserv	540600	1498	Regression- ST	184		
Marinette	Hilbert L	501200	247	2 year PE	33		

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
Marinette	Johnson Falls Fl	533300	68	Regression- NR	18		
Marinette	Little Newton L	502300	60	Regression- NR	16		
Marinette	Oneonta L	503300	66	Regression- Rem	3		
Marinette	Sandstone Fl	531300	153	Regression- Rem	3		
Marinette	Thunder L	533600	127	Regression- Rem	5		
Oconto	Archibald L	417400	393	Regression- ST	78	Regression	8
Oconto	Bass L	417900	142	Regression- ST	21		
Oconto	Bear L	471200	78	Regression- Rem	3		
Oconto	Boot L	418700	235	Regression- Rem	7	Regression	6
Oconto	Chain L	464700	81	Regression- Rem	3		
Oconto	Crooked L	462000	143	Regression- Rem	5		
Oconto	Horn L	467100	132	Regression- Rem	5		
Oconto	John L	470600	104	Regression- Rem	4		
Oconto	Maiden L	487500	290	1 year PE	64		
Oconto	Munger L	470900	97	Regression- Rem	4	Regression	3
Oconto	Reservoir Pond	466700	417	Regression- Rem	11		
Oconto	Shay L	427300	50	Regression- Rem	2		
Oconto	Surprise L	428100	70	Regression- Rem	3		
Oconto	Townsend Fl	465000	476	Regression- Rem	12		
Oconto	Waubee L	439500	124	Regression- Rem	4		
Oconto	Wheeler L	439800	293	1 year PE	81		
Oneida	Aldridge L	967400	134	Regression- NR	34		
Oneida	Alva L	968100	201	Regression- NR	50		
Oneida	Baker L	1546000	42	Regression- NR	11		
Oneida	Bass L	970000	74				
Oneida	Bass L	1580300	124	Regression- NR	31	Regression	4
Oneida	Baycat L	1833700	63	Regression- Rem	3		
Oneida	Bear L	1527800	312	Regression- ST	39		
Oneida	Bearskin L	1523600	400	1 year PE	546	Regression	8
Oneida	Big Carr L	971600	213			Regression	6
Oneida	Big Fork L	1610700	690	Regression- NR	321	Regression	12
Oneida	Big L	1613000	865	Regression- NR	236	Regression	14
Oneida	Big Stone L	1612200	548	Regression- NR	140	Regression	10
Oneida	Birch L	1523800	180	Regression- NR	45		
Oneida	Bird L	972000	99	Regression- Rem	4		
Oneida	Blue L	1538600	456	Regression- NR	110		
Oneida	Bolger L	973000	119	Regression- ST	35		
Oneida	Boom L	1580200	437	Regression- Rem	11	Regression	9
Oneida	Booth L	1537800	207	Regression- ST	26	Regression	5
Oneida	Bridge L	1516800	411	Regression- NR	0	Regression	8
Oneida	Brown L	973700	98	Regression- Rem	4		

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
Oneida	Buckskin L	2272600	634	Regression- ST	55	Regression	8
Oneida	Buffalo L	974200	104	Regression- NR	45		
Oneida	Burrows L	975000	156	Regression- Rem	5	Regression	5
Oneida	Carrol L	1544800	352	Regression- ST	49	Regression	8
Oneida	Chain L	1598000	219			Regression	6
Oneida	Clear L	977100	36				
Oneida	Clear L	977200	30	Regression- NR	8	Regression	2
Oneida	Clear L	977400	62	Regression- NR	16	Regression	3
Oneida	Clear L	977500	846	1 year PE	113	Regression	13
Oneida	Clear L	2272555	212	Regression- NR	52	Regression	5
Oneida	Clearwater L	1616400	351	Regression- NR	86	Regression	8
Oneida	Columbus L	1616900	670	Regression- NR	159		
Oneida	Crescent L	1564200	612	1 year PE	264	Regression	11
Oneida	Crooked L	1613300	176	Regression- Rem	6		
Oneida	Cunard L	1590000	43	Regression- NR	11		
Oneida	Currie L	979300	96	Regression- NR	25		
Oneida	Dam L	1596900	744	1 year PE	198	Regression	12
Oneida	Deer L	1612300	177	Regression- NR	33	Regression	5
Oneida	Diamond L	1537100	124	Regression- NR	31	Regression	4
Oneida	Dog L	1590200	37	Regression- Rem	2		
Oneida	Dog L	1612900	216	Regression- NR	41	Regression	6
Oneida	E Horsehead L	1523000	184	Regression- ST	32	Regression	5
Oneida	Echo L	1597800	107	Regression- NR	27	Regression	4
Oneida	Fifth L	1571100	240	Regression- ST	30	Regression	6
Oneida	Fish L	1570600	70	Regression- NR	18	Regression	3
Oneida	Fourmile L	1610800	218	Regression- NR	58	Regression	6
Oneida	Fourth L	1572000	258	Regression- ST	33	Regression	6
Oneida	Franklin L	986000	161	Regression- ST	20	Regression	5
Oneida	Fuller L	2272000	101	Regression- Rem	4		
Oneida	Garth L	986600	114	Regression- NR	29		
Oneida	George L	1569600	435	1 year PE	54	Regression	9
Oneida	Gilmore L	1589300	320	Regression- ST	48	Regression	7
Oneida	Hancock L	1517900	259	Regression- Rem	8	Regression	6
Oneida	Hasbrook L	1589100	302	Regression- NR	215	Regression	7
Oneida	Hat Rapids Fl	1567325	650	Regression- NR	155		
Oneida	Hemlock L	989200	39	Regression- NR	10		
Oneida	Hill L	990200	30	Regression- Rem	1		
Oneida	Hixon L	1568900	50	Regression- Rem	2		
Oneida	Hodstradt L	990700	126	Regression- Rem	5		
Oneida	Indian L	1598900	397	Regression- ST	50		
Oneida	Island L	1610500	295	Regression- NR	71	Regression	7

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
Oneida	Jennie Webber L	1574300	226	Regression- Rem	7		
Oneida	Julia L (Three Lks)	1614300	401	Regression- NR	97	Regression	8
Oneida	Kate Pier L	1586300	34	Regression- NR	9		
Oneida	Kathan L	1598300	189	Regression- NR	47		
Oneida	Katherine L	1543300	590	2 year PE	129	Regression	11
Oneida	Kawaguesaga L	1542300	670	2 year PE	260	Regression	12
Oneida	Killarney L	1520900	421	Regression- Rem	11		
Oneida	L Creek	1580500	172	Regression- NR	43	Regression	5
Oneida	L Julia (Rhinelan	995000	238	2 year PE	39	Regression	6
Oneida	L Seventeen	996100	172	Regression- ST	22		
Oneida	L Thompson	1569900	382	Regression- ST	52	Regression	8
Oneida	Laurel L	1611800	232	Regression- NR	70	Regression	6
Oneida	Little Bearskin L	1523500	164	Regression- Rem	5		
Oneida	Little Carr L	998800	52	Regression- Rem	2		
Oneida	Little Fork L	1610600	354	Regression- NR	146	Regression	8
Oneida	Little Tomahawk L	1543900	160	Regression- ST	0	Regression	5
Oneida	Lone Stone L	1605600	172			Regression	5
Oneida	Long L	1001300	113	Regression- Rem	4	Regression	4
Oneida	Long L	1001400	115	Regression- Rem	4		
Oneida	Long L	1609000	620	Regression- NR	198	Regression	11
Oneida	Long L	1618300	56	Regression- NR	15	Regression	2
Oneida	Lost L	1575100	155	Regression- NR	39		
Oneida	Lower Kaubashine	1534800	187	Regression- ST	24	Regression	5
Oneida	Lumen L	1002800	49	Regression- NR	13		
Oneida	Madeline L	1544700	159			Regression	5
Oneida	Manson L	1517200	236	Regression- ST	30	Regression	6
Oneida	Maple L	1609900	144	Regression- Rem	5		
Oneida	Margaret L	1615900	88	Regression- NR	23		
Oneida	Mars L	1577100	41	Regression- NR	11		
Oneida	Mccormick L	1526600	118	Regression- ST	15		
Oneida	Medicine L	1611700	372	Regression- NR	125	Regression	8
Oneida	Mercer L	1538900	257	Regression- NR	63	Regression	6
Oneida	Mid L	1542600	215	Regression- Rem	7	Regression	6
Oneida	Mildred L	1004600	191	Regression- ST	24		
Oneida	Minocqua L	1542400	1360	2 year PE	515	Regression	18
Oneida	Moccasin L	1612100	95	Regression- NR	24	Regression	3
Oneida	Moen L	1573800	460	Regression- ST	58	Regression	9
Oneida	Mud L	1544000	41	Regression- NR	11		
Oneida	Mud L	1612500	124	Regression- Rem	4	Regression	4

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
Oneida	Muskellunge L	1595600	284	Regression- ST	36	Regression	7
Oneida	Muskie L	1524300	43	Regression- Rem	2		
Oneida	N Nokomis L	1595800	476	Regression- ST	85	Regression	9
Oneida	N Two L	1007500	146	Regression- NR	37		
Oneida	Nose L	1008200	40	Regression- Rem	2		
Oneida	Oatmeal L	1597300	97	Regression- Rem	4		
Oneida	Oneida L	1518200	255	Regression- NR	63	Regression	6
Oneida	Paradise L	1009400	89	Regression- Rem	3		
Oneida	Pelican L	1579900	3585	Regression- NR	1374	Regression	33
Oneida	Pickerel L	1590400	736	Regression- Rem	16	Regression	12
Oneida	Pier L	1529700	257	Regression- ST	32		
Oneida	Pine L	1012200	203	Regression- NR	51		
Oneida	Pine L	1581700	240	Regression- NR	59	Regression	6
Oneida	Planting Ground L	1609100	1012	Regression- NR	273	Regression	15
Oneida	Prairie L	1013000	58	Regression- NR	15		
Oneida	Rainbow Fl	1595300	2035	2 year PE	1549	Regression	23
Oneida	Range Line L	1610300	123	Regression- NR	30	Regression	4
Oneida	Rhinelander Fl	1580100	1326	Regression- NR	305	Regression	18
Oneida	Rocky Run Fl	1525500	96	Regression- NR	25		
Oneida	Round L	1610400	150	Regression- NR	36	Regression	4
Oneida	S Blue L	1015100	80	Regression- Rem	3		
Oneida	S Pine L	1580700	77	Regression- NR	20		
Oneida	S Two L	1015500	214	Regression- NR	53		
Oneida	Sand L	1597000	540	1 year PE	67	Regression	10
Oneida	Second L	1572300	111	Regression- NR	28	Regression	4
Oneida	Sevenmile L	1605800	503	2 year PE	216	Regression	10
Oneida	Shepard L	1576100	179	Regression- Rem	6	Regression	5
Oneida	Shishebogama L	1539600	716	Regression- ST	45	Regression	6
Oneida	Skunk L	1533200	130	Regression- NR	33		
Oneida	Soo L	1018900	135	Regression- NR	34	Regression	4
Oneida	Spider L	1586600	118	Regression- NR	45	Regression	4
Oneida	Spirit L	1612000	368	Regression- NR	88	Regression	8
Oneida	Squash L	1019500	396	Regression- Rem	10		
Oneida	Squirrel L	1536300	1317	1 year PE	630	Regression	17
Oneida	Stella L	1575700	405	Regression- Rem	11	Regression	8
Oneida	Stone L	1597600	188			Regression	5
Oneida	Stone L	2272700	248	Regression- NR	61		
Oneida	Sunday L	1020600	88	Regression- ST	11		
Oneida	Sunset L	1572500	33	Regression- NR	9	Regression	2
Oneida	Swamp L	1522400	296	Regression- Rem	8		

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
Oneida	Swamsauger L	1528700	141	Regression- NR	67		
Oneida	Sweeney L	1589600	187	Regression- ST	27	Regression	5
Oneida	Tamarack L	1582200	99	Regression- NR	25		
Oneida	Third L	1572200	103	Regression- NR	26	Regression	4
Oneida	Thunder L	1580400	172	Regression- NR	43	Regression	5
Oneida	Thunder L	1618100	1768	Regression- ST	231		
Oneida	Tim Lynn L	1597400	84	Regression- NR	22		
Oneida	Tom Doyle L	1586800	102	Regression- ST	13	Regression	3
Oneida	Tomahawk L	1542700	3392	2 year PE	0	Regression	32
Oneida	Tomahawk Treaty Chain	1542701	3552	Regression- ST	583		
Oneida	Townline L	1609600	152	Regression- NR	37	Regression	5
Oneida	Turtle L	1587400	53	Regression- Rem	2		
Oneida	Two Sisters L	1588200	719	Regression- ST	90	Regression	12
Oneida	Upper Kaubashine	1535000	190	Regression- NR	47	Regression	5
Oneida	Venus L	1577000	65	Regression- NR	17		
Oneida	Virgin L	1614100	276	Regression- NR	68	Regression	7
Oneida	W Horsehead L	1522900	145			Regression	4
Oneida	Walters L	1582800	61	Regression- NR	16		
Oneida	Whitefish L	1613500	205	Regression- Rem	6	Regression	5
Oneida	Wildwood L	1178600	28	Regression- Rem	1		
Oneida	Willow Fl	1528300	5135	Regression- NR	1944	Regression	41
Oneida	Willow L	1529500	395	Regression- Rem	10	Regression	8
Polk	Apple R Fl	2624200	639			Regression	11
Polk	Balsam L	2620600	2054	Regression- ST	209		
Polk	Bear L	2452200	155	Regression- NR	39		
Polk	Bear Trap L	2618100	241	Regression- ST	50	Regression	6
Polk	Big Butternut L	2641000	378	1 year PE	325		
Polk	Big L	2615900	259	Regression- Rem	8		
Polk	Big Round L	2627400	1015	Regression- ST	134		
Polk	Bone L	2628100	1781			Regression	21
Polk	Church Pine L	2616100	107	Regression- Rem	4		
Polk	Clear L	2623500	30				
Polk	Deer L	2619400	807			Regression	13
Polk	Half Moon L	2621100	579	Regression- Rem	14		
Polk	Indianhead Fl	2634400	776	Regression- NR	183		
Polk	Little Butternut	2640700	189	Regression- Rem	6		
Polk	Magnor L	2624600	231	Regression- ST	36		
Polk	N Pipe L	2485700	58	Regression- ST	9		
Polk	N Twin L	2623900	135	Regression- Rem	5		

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
Polk	Pike L	2624000	159	Regression- Rem	5		
Polk	Pipe L	2490500	284	Regression- ST	32		
Polk	Poplar L	2491000	125	Regression- Rem	4		
Polk	Sand L	2495000	187	Regression- Rem	6		
Polk	Wapogasset L	2618000	1186	Regression- ST	239	Regression	16
Polk	Ward L	2599400	91	2 year PE	23		
Polk	Wind L	2616000	38				
Portage	Tree L	289400	74	Regression- Rem	3		
Price	Amik L	2268600	224	Regression- Rem	8	Regression	6
Price	Bass L	2279800	84	Regression- Rem	3		
Price	Bass L	2282200	58	Regression- NR	15	Regression	2
Price	Big Dardis L	2244200	144	Regression- ST	18	Regression	4
Price	Blockhouse L	2256800	242	Regression- Rem	7		
Price	Butternut L	2283300	1006	Regression- NR	546	Regression	15
Price	Cochram L	2264000	111	Regression- Rem	4		
Price	CRANBERRY L	2217000	512	Regression- NR	305		
Price	Crane + Chase L	2237500	86	1 year PE	18	Regression	3
Price	Crowley Fl	2287200	422	Regression- Rem	11	Regression	9
Price	Deer L	2239100	145	Regression- Rem	5	Regression	4
Price	Duroy L	2240100	379	Regression- NR	92	Regression	8
Price	Elk L	2240000	88	2 year PE	160	Regression	3
Price	Grassy L	2238100	81	Regression- NR	21	Regression	3
Price	Lac Sault Dore	2236800	561	Regression- NR	134	Regression	10
Price	Long L	2239300	418	Regression- NR	101	Regression	9
Price	Long L	2282000	241	Regression- NR	60	Regression	6
Price	Lower Park Falls	2290100	71	Regression- NR	18	Regression	3
Price	Miles L	2271100	32			Regression	2
Price	Musser L	2245100	563	Regression- ST	70	Regression	10
Price	N Spirit L	1515200	213	Regression- ST	40	Regression	6
Price	Patterson L	1872500	70	Regression- Rem	3		
Price	Pike L	2268300	806	Regression- NR	186	Regression	13
Price	Pixley Fl	2288900	334	Regression- NR	82	Regression	7
Price	Round L	2267800	726	Regression- NR	265	Regression	12
Price	Schnur L	2284000	158	Regression- NR	40	Regression	5
Price	Solberg L	2242500	859	2 year PE	305	Regression	13
Price	Spirit L	1513000	126	Regression- Rem	5	Regression	4
Price	Stone L	1513800	79	Regression- Rem	3		
Price	Thompson L	2265900	111	Regression- Rem	4	Regression	4
Price	Turner L	2268500	149	Regression- Rem	5	Regression	4
Price	Upper Park Falls	2290500	431			Regression	9
Price	Upper Price L	2235300	43			Regression	2

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
Price	Whitcomb L	2266100	44	Regression- ST	6	Regression	2
Price	Wilson L	2239400	351	Regression- Rem	9	Regression	8
Price	Worcester L	2210900	100	Regression- ST	13		
Rusk	Amacoy L	2359700	278	Regression- ST	66	Regression	7
Rusk	Audie L	2368700	128			Regression	4
Rusk	Bass L	2090900	88	Regression- Rem	3		
Rusk	Big Falls Fl	2230100	369	Regression- NR	90	Regression	8
Rusk	Chain L	2350500	468	Regression- ST	50	Regression	9
Rusk	Clear L	2350600	95	Regression- ST	3	Regression	3
Rusk	Dairyland Reservoir	2229200	1745	Regression- NR	396	Regression	21
Rusk	Fireside Lakes	2349500	302	Regression- NR	74		
Rusk	Island L	2350200	526	Regression- ST	52	Regression	10
Rusk	Ladysmith Fl	2228700	288	Regression- NR	71	Regression	7
Rusk	Mccann L	2350400	133	Regression- ST	3	Regression	4
Rusk	Perch L	2368500	23			Regression	1
Rusk	Potato L	2355300	534	Regression- ST	79	Regression	10
Rusk	Pulaski L	1875900	126	1 year PE	27		
Rusk	Sand L	2353600	262	Regression- ST	34	Regression	6
Rusk	Thornapple Fl	2227500	268	Regression- NR	66	Regression	6
Sawyer	Barber L	2382300	238	Regression- ST	35	Regression	6
Sawyer	Barker L	2400000	238	Regression- NR	59	Regression	6
Sawyer	Bennett L	1834800	37	Regression- Rem	2		
Sawyer	Beverly L	2387200	9			Regression	1
Sawyer	Black Dan L	2381900	128	2 year PE	38	Regression	4
Sawyer	Black L	2401300	129	Regression- Rem	5	Regression	4
Sawyer	Blaisdell L	2402200	356	Regression- ST	45	Regression	8
Sawyer	Blue Gill L	1835600	26	Regression- Rem	1		
Sawyer	Boos L	2425000	37	Regression- NR	10	Regression	2
Sawyer	Burns L	2436400	37	Regression- Rem	2	Regression	2
Sawyer	Callahan L	2434700	106			Regression	4
Sawyer	Clear L	1841300	77			Regression	3
Sawyer	Connors L	2275100	429	2 year PE	115	Regression	9
Sawyer	Durphee L	2396800	193	2 year PE	23		
Sawyer	Evergreen L	2277600	200	Regression- NR	82	Regression	5
Sawyer	Fawn L	2435900	23	Regression- Rem	1	Regression	1
Sawyer	Fishtrap L	2401100	216	Regression- Rem	7	Regression	6
Sawyer	Ghost L	2423000	372	Regression- NR	91	Regression	8
Sawyer	Grimh Fl	2385100	86			Regression	3
Sawyer	Grindstone L	2391200	3111	2 year PE	431	Regression	15
Sawyer	Ham L	1852300	100	Regression- NR	26		

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
Sawyer	Hayward L	2725500	247	Regression- ST	31	Regression	6
Sawyer	Holmes L	2419600	62			Regression	3
Sawyer	Hunter L	2400600	126	Regression- NR	32	Regression	4
Sawyer	Island L	2381800	67	2 year PE	6	Regression	3
Sawyer	L Chetac	2113300	1920	Regression- ST	348		
Sawyer	L Chippewa	2399700	15300	1 year PE	6951	Regression	53
Sawyer	L Of The Pines	2275300	273	2 year PE	68	Regression	7
Sawyer	L Placid	2436500	160	Regression- ST	22	Regression	5
Sawyer	L Winter	2381100	676	Regression- Rem	15	Regression	12
Sawyer	Lac Courte Oreille	2390800	5039	Regression- ST	393	1-2 year PE	33
Sawyer	Lewis L	1860200	52	Regression- Rem	2		
Sawyer	Little Round L	2395500	229	Regression- Rem	5		
Sawyer	Little Sissabagama L	2394100	299			Regression	7
Sawyer	Loretta L	2382700	126			Regression	4
Sawyer	Lost Land L	2418600	1304	Regression- ST	126	Regression	17
Sawyer	Lovejoy L	2395900	76	Regression- NR	20		
Sawyer	Lower Clam L	2429300	203	Regression- ST	22	Regression	5
Sawyer	Mason L	2277200	190	Regression- NR	90	Regression	5
Sawyer	Meadow L	2424800	39	Regression- NR	10	Regression	2
Sawyer	Mirror L	1866900	38	Regression- Rem	2		
Sawyer	Moose L	2420600	1670	Regression- NR	380	Regression	20
Sawyer	Mud L	2434800	480	Regression- Rem	12	Regression	9
Sawyer	Nelson L	2704200	2503	Regression- ST	252		
Sawyer	North L	2436000	129	Regression- Rem	5	Regression	4
Sawyer	Osprey	2395100	208	Regression- Rem	3		
Sawyer	Partridge Crop L	2424600	45	Regression- NR	12	Regression	2
Sawyer	Perch L	1873600	129	Regression- ST	16	Regression	4
Sawyer	Radisson Fl	2397400	255	Regression- NR	63	Regression	6
Sawyer	Round L	2395600	3054	2 year PE	659	Regression	30
Sawyer	Sand L	2393200	928	2 year PE	120	Regression	14
Sawyer	Sissabagama L	2393500	719	Regression- ST	106	Regression	12
Sawyer	Smith L	2726100	323	Regression- Rem	9		
Sawyer	Spider L	2435700	1454	Regression- ST	208	Regression	19
Sawyer	Spring L	2724900	220				
Sawyer	Teal L	2417000	1049	Regression- ST	130	Regression	15
Sawyer	Teal R Fl	2416900	75	Regression- NR	19	Regression	3
Sawyer	Tiger Cat Fl	2435000	819	Regression- ST	102	Regression	13
Sawyer	Whitefish L	2392000	786	2 year PE	149	Regression	13
Sawyer	Windfall L	2046500	102	1 year PE	31		
Sawyer	Windigo L	2046600	522	Regression- NR	149		

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
St. Croix	Cedar L	2615100	1100	2 year PE	134	1-2 year PE	42
Taylor	Anderson L	2165700	43	Regression- Rem	2		
Taylor	Chelsea L	2200400	59	Regression- Rem	3		
Taylor	Chequamegon Water	2160700	2714	Regression- Rem	38		
Taylor	Diamond L	1757200	49	Regression- NR	13		
Taylor	Esadore L	1764000	46	Regression- Rem	2		
Taylor	Hulls L	1762700	67	Regression- Rem	3		
Taylor	James L	1468900	50	Regression- Rem	2		
Taylor	Kathryn L	2166100	62	Regression- ST	8		
Taylor	Mondeaux Fl	2193300	416	Regression- Rem	11	Regression	9
Taylor	N Harper L	2204000	54	Regression- NR	14	Regression	2
Taylor	Rib L	1469100	320	Regression- Rem	9	Regression	7
Taylor	Richter L	1760000	45	Regression- Rem	2		
Taylor	S Harper L	2204100	80	Regression- ST	10		
Taylor	Sackett L	1764500	63	Regression- ST	8		
Taylor	Shearer L	2197600	21	1 year PE	5		
Taylor	Wellington L	1467800	43	1 year PE	15		
Vilas	Alder L	2329600	274	Regression- NR	132	Regression	7
Vilas	Allequash L	2332400	426	Regression- ST	57	Regression	9
Vilas	Alma L	967900	55	Regression- ST	7	Regression	2
Vilas	Annabelle L	2953800	213	1 year PE	40	Regression	6
Vilas	Anvil L	968800	398	2 year PE	43		
Vilas	Apeekwa L	2269400	188	Regression- NR	47	Regression	5
Vilas	Armour L	2953200	320	Regression- NR	78	Regression	7
Vilas	Arrowhead L	1541500	99	Regression- ST	13	Regression	3
Vilas	Averill L	2956700	71	Regression- NR	0	Regression	3
Vilas	Ballard L	2340700	505	Regression- ST	113	Regression	10
Vilas	Bass L	1604200	266	Regression- ST	34	Regression	6
Vilas	Bear L	2335400	76	Regression- Rem	3	Regression	3
Vilas	Beaver L	2960600	68	Regression- Rem	3		
Vilas	Belle L	2955700	53	Regression- NR	14	Regression	2
Vilas	Benson L	2327100	28	Regression- NR	7	Regression	2
Vilas	Big Arbor Vitae L	1545600	1090	Regression- NR	786	Regression	16
Vilas	Big Crooked L	2338800	682	Regression- NR	160	Regression	12
Vilas	Big Donahue L	971700	92	Regression- Rem	4		
Vilas	Big Gibson L	1835200	116	Regression- NR	30	Regression	4
Vilas	Big Hurst L	2756000	48	Regression- Rem	2		
Vilas	Big Kitten L	2336700	55	Regression- Rem	2	Regression	2
Vilas	Big L (Boulder Jct)	2334700	835	2 year PE	259	Regression	13
Vilas	Big L (Mi Border)	2963800	771	Regression- NR	534	Regression	10

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
Vilas	Big Muskellunge L	1835300	930	Regression- NR	566	Regression	14
Vilas	Big Portage L	1629500	638	1 year PE	186		
Vilas	Big Sand L	1602600	1418	1 year PE	228	Regression	18
Vilas	Big St Germain L	1591100	1617	2 year PE	364	Regression	20
Vilas	Bills L	1835500	37	Regression- Rem	0	Regression	0
Vilas	Birch L	2311100	528	1 year PE	65	Regression	10
Vilas	Black Oak L	1630100	584	Regression- Rem	14		
Vilas	Boot L	1619100	284	Regression- ST	36	Regression	7
Vilas	Boot L	2756400	29	Regression- Rem	1	Regression	2
Vilas	Boulder L	2338300	524	Regression- NR	215	Regression	10
Vilas	Brandy L	1541300	110	Regression- ST	14	Regression	4
Vilas	Carpenter L	976100	333	Regression- ST	42		
Vilas	Catfish L	1603700	1012	Regression- NR	407	Regression	15
Vilas	Circle Lily L	2326700	223	Regression- ST	28	Regression	6
Vilas	Clear L	2329000	555	Regression- NR	181	Regression	10
Vilas	Cleveland L	2758600	32	Regression- Rem	2		
Vilas	Cochran L	2963500	126	Regression- Rem	5	Regression	4
Vilas	Crab L	2953500	949	Regression- NR	248	Regression	14
Vilas	Crampton L	2759000	59	Regression- Rem	3		
Vilas	Cranberry L	1603800	956	Regression- NR	433	Regression	14
Vilas	Crystal L	1842400	88				
Vilas	Dead Pike L	2316600	297	Regression- ST	35	Regression	7
Vilas	Deer L	980600	65	Regression- Rem	3		
Vilas	Deer L	2311500	37	Regression- Rem	2		
Vilas	Deerskin L	1601300	309	Regression- ST	39	Regression	7
Vilas	Diamond L	1844700	122	Regression- Rem	4	Regression	4
Vilas	Dorothy Dunn L	1845600	70	Regression- Rem	3	Regression	3
Vilas	Duck L	1599900	108	Regression- NR	25	Regression	4
Vilas	E Ellerson L	2331300	136	Regression- NR	34	Regression	4
Vilas	E Witches L	982500	34	Regression- Rem	2		
Vilas	Eagle L	1600200	572	Regression- NR	194	Regression	10
Vilas	Eleanore L	1631500	28	Regression- NR	7	Regression	2
Vilas	Erickson L	983600	106	Regression- ST	19		
Vilas	Escanaba L	2339900	293	1 year PE	397	Regression	7
Vilas	Fawn L	1591000	22	Regression- NR	6	Regression	1
Vilas	Fawn L	2328900	74	Regression- NR	16	Regression	3
Vilas	Finger L	984700	90	Regression- ST	11		
Vilas	Fishtrap L	2343200	329	Regression- Rem	9	Regression	7
Vilas	Forest L	2762200	466	Regression- NR	188		
Vilas	Found L	1593800	326	Regression- ST	41	Regression	7

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
Vilas	Frank L	985900	141	Regression- Rem	5		
Vilas	Harmony L	988300	88	Regression- Rem	3		
Vilas	Harris L	2958500	507	1 year PE	130	Regression	10
Vilas	Helen L	2964400	111	Regression- NR	28	Regression	4
Vilas	Hiawatha L	2328400	36	Regression- ST	5		
Vilas	High L	2344000	734	Regression- Rem	16	Regression	12
Vilas	Horsehead L	2953100	234	Regression- NR	144	Regression	6
Vilas	Hunter L	991700	184	Regression- ST	23		
Vilas	Imogene L	586800	66	Regression- Rem	3		
Vilas	Indian L	2764400	68			Regression	3
Vilas	Irving L	2340900	403	Regression- Rem	10	Regression	8
Vilas	Island L	2334400	1023	Regression- NR	476	Regression	15
Vilas	Jag L	1855900	158	Regression- NR	40	Regression	5
Vilas	Jenny L	1856400	59	Regression- NR	15		
Vilas	Johnson L	1541100	78	Regression- ST	10	Regression	3
Vilas	Jute L	1857400	194			Regression	5
Vilas	Katinka L	2957000	172	Regression- NR	43		
Vilas	Kentuck L	716800	957	1 year PE	1938	Regression	14
Vilas	Kenu L	1629800	73	Regression- Rem	3		
Vilas	Kildare L	1631700	54	Regression- Rem	2	Regression	2
Vilas	L Content	1592000	244	Regression- NR	60	Regression	6
Vilas	L Laura	995200	599	2 year PE	140	1-2 year PE	35
Vilas	Lac Des Fleurs	1630900	49	Regression- Rem	2		
Vilas	Lac Vieux Desert	1631900	4300	Regression- ST	290	Regression	24
Vilas	Little Arbor Vita	1545300	534	1 year PE	578	Regression	10
Vilas	Little Crooked L	2335500	153	Regression- Rem	5	Regression	5
Vilas	Little Horsehead	2953000	52	Regression- NR	14		
Vilas	Little John L	2332300	166	Regression- NR	201	Regression	5
Vilas	Little Papoose L	2328200	46	Regression- Rem	2	Regression	2
Vilas	Little Portage L	1629200	170	Regression- NR	43	Regression	5
Vilas	Little Presque Is	2959700	85	Regression- Rem	3	Regression	3
Vilas	Little Rice L	2338900	59	Regression- Rem	3	Regression	2
Vilas	Little Spider L	1540400	235	Regression- ST	30	Regression	6
Vilas	Little St Germain	1596300	980	Regression- ST	188	Regression	15
Vilas	Little Star L	2334300	244	Regression- NR	48	Regression	6
Vilas	Little Trout L	2321600	978	Regression- ST	36	Regression	4
Vilas	Lone Pine L	2961600	142	Regression- ST	18	Regression	4
Vilas	Long L	1602300	872	1 year PE	206	Regression	14
Vilas	Loon L	1001600	31	Regression- Rem	2		
Vilas	Lost Canoe L	2339800	249	Regression- NR	80		
Vilas	Lost L	1593400	544	Regression- ST	66	Regression	10

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
Vilas	Lower Aimer L	2955000	34	Regression- Rem	2		
Vilas	Lower Buckatabon	1621000	352			Regression	8
Vilas	Lower Gresham L	2330300	149			Regression	4
Vilas	Lynx L	1600000	22	Regression- NR	8	Regression	1
Vilas	Lynx L	2954500	339	Regression- NR	87	Regression	8
Vilas	Mamie L	2964100	400	Regression- NR	314	Regression	8
Vilas	Manitowish L	2329400	506	Regression- NR	89	Regression	10
Vilas	Marshall L	1626600	87	Regression- Rem	3	Regression	3
Vilas	Mccullough L	2960400	216	Regression- ST	27	Regression	6
Vilas	Mermaid L	2768100	60	Regression- ST	8		
Vilas	Meta L	1004400	175	Regression- ST	22		
Vilas	Middle Ellerson L	1866100	60			Regression	1
Vilas	Middle Gresham L	2330700	53	Regression- ST	7	Regression	2
Vilas	Moccasin L	1005700	83	Regression- ST	11	Regression	3
Vilas	Moon L	1005800	131	Regression- ST	17	Regression	4
Vilas	Morton L	2960300	163	Regression- Rem	5	Regression	5
Vilas	Murphy L	2769700	81	Regression- ST	10	Regression	3
Vilas	Muskellunge L	1596600	272	Regression- ST	33	Regression	7
Vilas	N Crab L	2953400	56	Regression- NR	15	Regression	2
Vilas	N Turtle L	2310400	369	Regression- NR	207	Regression	8
Vilas	N Twin L	1623800	2788	Regression- NR	0	Regression	28
Vilas	Nelson L	1007600	104	Regression- Rem	4	Regression	4
Vilas	Nelson L	1869900	27			Regression	1
Vilas	Nixon L	2341200	110	Regression- Rem	4	Regression	4
Vilas	No Mans L	2312100	225	Regression- NR	56	Regression	6
Vilas	Norwood L	1008100	125	Regression- NR	8		
Vilas	Oswego L	1871800	66			Regression	3
Vilas	Otter L	1600100	196	Regression- NR	70	Regression	5
Vilas	Oxbow L	2954800	511	Regression- NR	224	Regression	10
Vilas	Pallette L	1872100	173			Regression	5
Vilas	Palmer L	2962900	635	Regression- Rem	14	Regression	11
Vilas	Papoose L	2328700	428	Regression- NR	140	Regression	9
Vilas	Partridge L	2341500	228	Regression- Rem	7	Regression	6
Vilas	Pickerel L	1619700	293	Regression- ST	32	Regression	7
Vilas	Pine Island L	1011900	79	Regression- ST	10	Regression	3
Vilas	Pioneer L	1623400	427	Regression- ST	52	Regression	9
Vilas	Plum L	1592400	1033	2 year PE	313	Regression	15
Vilas	Plum L	2963200	225	Regression- NR	9		
Vilas	Presque Is. Treaty	2956501	1571	Regression- NR	393		

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
	Chain						
Vilas	Presque Isle L	2956500	1280	Regression- NR	0	Regression	17
Vilas	Rainbow L	2310800	146	Regression- NR	37	Regression	4
Vilas	Razorback L	1013800	362	Regression- NR	236	Regression	8
Vilas	Rest L	2327500	608	Regression- NR	214	Regression	11
Vilas	Rice L	1618600	71	Regression- NR	18	Regression	3
Vilas	Roach L	1014000	51	Regression- NR	13	Regression	2
Vilas	Roach L	2772500	125	Regression- Rem	1		
Vilas	Rock L	2311700	122	Regression- NR	31	Regression	4
Vilas	Rosalind L	1877900	43			Regression	2
Vilas	Round L	2334900	116	Regression- ST	15	Regression	4
Vilas	Rudolph L	2954300	79			Regression	3
Vilas	Rush L	2343600	44	Regression- NR	12	Regression	2
Vilas	S Turtle L	2310200	454	Regression- NR	140	Regression	9
Vilas	S Twin L	1623700	642	Regression- NR	0	Regression	11
Vilas	Sanford L	2335300	88	1 year PE	31	1-2 year PE	3
Vilas	Scattering Rice L	1600300	267	Regression- NR	37	Regression	6
Vilas	Sherman L	1880700	123	2 year PE	26	Regression	4
Vilas	Smoky L	1018300	610			Regression	0
Vilas	Snipe L	1018500	239	2 year PE	122	Regression	6
Vilas	Sparkling L	1881900	154	1 year PE	44	Regression	5
Vilas	Spectacle L	717400	171	Regression- Rem	6		
Vilas	Spider L	2329300	272	Regression- NR	56	Regression	7
Vilas	Spring L	2964800	205	Regression- NR	51		
Vilas	Squaw L	2271600	785	2 year PE	245	Regression	13
Vilas	Star L	1593100	1206	Regression- NR	484	Regression	17
Vilas	Stateline L	2952100	199	Regression- Rem	2		
Vilas	Stewart L	1020000	39	Regression- NR	10		
Vilas	Stone L	2328800	139	Regression- NR	29	Regression	4
Vilas	Sturgeon L	2327200	32	Regression- NR	8	Regression	2
Vilas	Sumach L	1020500	60	Regression- Rem	3	Regression	2
Vilas	Sunset L	1020900	185	Regression- ST	23	Regression	5
Vilas	Tenderfoot L	2962400	437	Regression- NR	239	Regression	8
Vilas	Towanda L	1022900	146	Regression- ST	19	Regression	4
Vilas	Trout L	2331600	3816	1 year PE	1636	1-2 year PE	9
Vilas	Twin Island L	2959300	205	Regression- Rem	6	Regression	5
Vilas	Twin L Treaty Chain	1623801	3430	Regression- NR	1376		
Vilas	Upper Aimer L	2955100	33	Regression- Rem	2		
Vilas	Upper Buckatabon	1621800	494	Regression- Rem	13	Regression	10

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
Vilas	Upper Gresham L	2330800	366	Regression- ST	46	Regression	8
Vilas	Van Vliet L	2956800	220	Regression- NR	0	Regression	6
Vilas	Vance L	2327300	30	Regression- NR	8	Regression	2
Vilas	Vandercook L	1176400	95	Regression- Rem	4		
Vilas	Verna L	1540300	77			Regression	3
Vilas	Voyageur L	1603400	130	Regression- NR	32	Regression	4
Vilas	W Bay L	2964000	368	Regression- NR	83	Regression	4
Vilas	W Plum L	1592500	75	Regression- NR	19	Regression	3
Vilas	W Witches L	1177500	30	Regression- Rem	1		
Vilas	Watersmeet L	1599400	100	Regression- NR	24	Regression	3
Vilas	White Birch L	2340500	112	Regression- NR	25	Regression	4
Vilas	White Sand L	2339100	734	Regression- NR	174	Regression	12
Vilas	Wild Rice L	2329800	379	Regression- NR	42	Regression	6
Vilas	Wildcat L	2336800	305	Regression- ST	55	Regression	7
Vilas	Wolf L	2336100	393	Regression- NR	202	Regression	8
Vilas	Yellow Birch L	1599600	202	Regression- NR	96	Regression	5
Washburn	Balsam L	2112800	295	Regression- NR	98		
Washburn	Bass L	1833300	130	Regression- NR	33		
Washburn	Bass L	2451300	144	Regression- Rem	5		
Washburn	Bass L	2451900	188	1 year PE	63	Regression	5
Washburn	Bean L	2718500	100				
Washburn	Beartrack N L	3000351	33	Regression- NR	9		
Washburn	Beartrack S L	2452300	65	Regression- NR	17		
Washburn	Big Bass L	2453300	203	Regression- Rem	6		
Washburn	Birch L	2113000	368	Regression- ST	46		
Washburn	Cable L	2456100	185	Regression- Rem	6		
Washburn	Chippanazie L	2722800	58	Regression- NR	15		
Washburn	Colton Fl	2702100	58	Regression- NR	15		
Washburn	Deep L	1844000	43	Regression- NR	11		
Washburn	Dunn L	2709800	193	Regression- Rem	6		
Washburn	Gilmore L	2695800	389	Regression- Rem	10		
Washburn	Island L	2470600	276	Regression- ST	35		
Washburn	L Nancy	2691500	772	Regression- ST	76	Regression	13
Washburn	Leach L	2474400	30	Regression- NR	8		
Washburn	Leisure L	2475000	75			Regression	3
Washburn	Little Long L	2664500	112	Regression- Rem	4		
Washburn	Little Mud L	2107100	71	Regression- NR	18		
Washburn	Little Sand L	2477700	74	Regression- Rem	3		
Washburn	Little Stone L	1862400	27	Regression- Rem	1		
Washburn	Long L	2106800	3290	1 year PE	891		
Washburn	Matthews L	2710800	263			Regression	6

County	Lake Name	WBIC Code	Area (acres)	Walleye Method	Walleye SH	Musky Method	Musky SH
Washburn	Mclain L	2481600	150	Regression- ST	19		
Washburn	Middle Mckenzie L	2706500	530	Regression- ST	71	Regression	10
Washburn	Minong Fl	2692900	1564	Regression- NR	815		
Washburn	Mud L	2107700	103	Regression- Rem	4		
Washburn	Pavlas L	2488100	44	Regression- Rem	2		
Washburn	Rice L	2696000	132	Regression- NR	33		
Washburn	Ripley L	2492600	190	Regression- Rem	6		
Washburn	S Twin L	2494500	115	Regression- ST	15		
Washburn	Shell L	2496300	2580	Regression- NR	315	Regression	27
Washburn	Silver L	2496900	188	Regression- ST	24		
Washburn	Slim L	2109300	224	Regression- ST	39		
Washburn	Spring L	1882900	42	Regression- Rem	2		
Washburn	Spring L	2498600	211	Regression- Rem	7		
Washburn	Stone L	1884000	39				
Washburn	Stone L	1884100	523	Regression- ST	61		
Washburn	Tozer L	2502000	36	Regression- Rem	2		
Washburn	Trego L	2712000	451	Regression- Rem	11	Regression	9
Washburn	Un L	2542800	30	Regression- Rem	1		