Fish Population Assessments of Ceded Territory Lakes in Wisconsin, Michigan and Minnesota During 2003

by

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Abstract

The Inland Fisheries Section of the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) conducted fishery assessment surveys of ceded territory lakes in northern Wisconsin, Minnesota, and the upper peninsula of Michigan. Assessment crews from the U.S. Fish and Wildlife Service and the Fond du Lac, Sokaogon (Mole Lake), and St. Croix Chippewa tribes assisted with spring and fall surveys. A crew from the Bad River Chippewa tribe assisted with fall surveys.

In the spring, adult walleye (*Stizostedion vitreum vitreum*) population estimates were conducted on fifteen lakes. A total of 16,226 walleye were sampled from 17,044 acres of water during these surveys. Density of adult walleye averaged 2.52 (SD = 1.51, range: 0.22 to 4.72, n=9) fish per acre in lakes with naturally reproducing populations. In four of these nine lakes, adult walleye population densities were at least 3.0 fish per acre, indicating that walleye populations were healthy. Density of adult walleye averaged 3.16 (SD = 2.70, range: 0.22 to 10.94, n=15) fish per acre for all lakes combined.

On Mille Lacs Lake, Minnesota, assessment crews captured and tagged 20,084 adult walleye as part of a walleye tagging study conducted in cooperation with the Minnesota Department of Natural Resources. The total number tagged included 18,368 males, 1,558 females, and 158 walleye of unknown sex. The mean length of all walleye tagged was 18.4 inches. A spring juvenile walleye survey was also conducted on Mille Lacs Lake, in which 987 walleye were caught, 862 of which were estimated to be between the ages of 1 and 4.

A summer fish community survey was conducted in Kentuck Lake, Vilas County, Wisconsin in a continuing effort to try to understand how fish community interactions may affect walleye reproduction and recruitment. A total of 685 fish were collected, identified to species, and catch per effort values determined.

A summer electrofishing survey was conducted on Kentuck Lake, Vilas County, Wisconsin in order to assess the status of the juvenile walleye population. Overwinter mortality of walleye from the 2001 and 2002 year classes did not appear to be excessive.

During the fall, electrofishing surveys were conducted on 154 lakes in Wisconsin, 22 lakes in Michigan, and 2 lakes in Minnesota to determine year class strength of age 0 (young of the year) and age 1 (yearling) walleye. Additional surveys were conducted on Siskiwit Lake, Bayfield County, Wisconsin to obtain fall age 0 and age 1 population estimates. In Wisconsin, a total of 23,112 age 0 and 12,741 age 1 walleye were sampled. In addition, 492 gamefish including muskellunge (*Esox masquinongy)*, northern pike (*Esox lucius*), largemouth bass (*Micropterus salmoides*) and smallmouth bass (*M. dolomieui*) were sampled. In Michigan, a total of 452 age 0 and 1,119 age 1 walleye plus 42 gamefish were sampled during the fall. In Minnesota, a total of 634 age 0 and 671 age 1 walleye were sampled.

Complete reports for all surveys summarized here are available from GLIFWC's website at www.glifwc.org. Summaries of all spring adult walleye population estimates and all fall walleye recruitment surveys conducted by GLIFWC from 1985 through 2003 are also available from the website.

Contents

Acknowledgments

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Introduction

Fishery assessment surveys of ceded territory lakes were conducted during spring, summer, and fall of 2003 by the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) to continue developing an understanding of spatial and temporal variability of walleye populations in ceded territory waters of northern Wisconsin, Michigan, and Minnesota. These studies add to an extensive body of information describing walleye populations and associated biological parameters. They provide information needed to update recruitment codes, set harvest quotas, and monitor the impacts of a combined tribal and sport angler fishery on the walleye resource.

Since 1989, a Memorandum of Understanding has been in effect between the U.S. Fish and Wildlife Service (USFWS) and GLIFWC. Under the 2003 agreement, USFWS provided technical support and equipment during spring and fall surveys. The St. Croix Chippewa Assessment Unit was initially equipped and funded in 1990 to conduct surveys; assistance in subsequent years was continued through a subcontract with GLIFWC. Assistance by the Bad River Band during the fall and the Sokaogon (Mole Lake) Band during the spring and fall was also provided through subcontracts with GLIFWC. Assistance was provided by the Fond du Lac Band during the spring and fall.

Methods

Spring Adult Walleye Population Estimates

Fifteen lakes in the ceded territory (Figure A1) of Wisconsin were selected to collect current information on adult walleye populations (Table A1). Of these fifteen lakes, ten had experienced tribal spearing harvest during the previous year. An adult walleye population estimate was planned for Pomeroy Lake (Gogebic Co., MI). However, after one night of sampling, it was determined based on the condition of the walleye and water temperature that walleye spawning had already occurred, and survey efforts were discontinued.

Nine lakes in Wisconsin are GLIFWC long-term study lakes. Large (greater than 500 acres in area) long-term lakes surveyed in 2003 included Butternut Lake (Forest Co.), Squirrel Lake (Oneida Co.), and Kentuck Lake (Vilas Co.). Small (less than 500 acres in area) long-term study lakes surveyed in 2003 included Siskiwit Lake (Bayfield Co.), Annabelle Lake (Vilas Co.), Sherman Lake (Vilas Co.), and Bass-Patterson Lake (Washburn Co.). Bearskin Lake (Oneida Co.) and Squaw Lake (Vilas Co.) were surveyed by the Wisconsin Department of Natural Resources in 2003. Long-term study lakes are surveyed annually or biannually to collect trend and variability information on adult walleye populations. The continuing goal is to use adult estimates and fall recruitment data from long-term study lakes to develop population models for predicting population size and assessing the accuracy of model predictions.

Mark and recapture data were used to calculate the adult walleye population estimate for each lake following the Peterson formula (Chapman's modification) described in Ricker (1975). A target number of adult walleye to be marked and recaptured was derived from curves that were developed by Robson and Regier (1964). These curves required an initial estimate of population size. This estimate was obtained either from a previous population estimate survey, or when none existed, from a regression formula estimate for a lake of similar size and recruitment code.

Per agreement between Wisconsin Department of Natural Resources (WDNR) and GLIFWC biologists, all unknown sex fish less than 15 inches in total length were assumed to be immature fish and excluded from the calculation of adult population estimates. In lakes where spearing occurred prior to the recapture survey, a spearing "adjustment" was made. This adjustment reduced the marking sample by the number of marked fish speared. Also, the total number of fish speared before the first recapture run (except for walleye of unknown sex less than 15 inches) was added to the estimate.

Marking periods began soon after ice-out and electrofishing was the primary gear used to capture fish in all lakes. Five electrofishing boats and crews were used, including two from GLIFWC, one from USFWS, one from Mole Lake, and one from St. Croix. All boats in all electrofishing surveys conducted during 2003 had an arrangement of six umbrella dropper anodes and used pulsed DC at 60 pps. Electrofishing occurred after sunset.

During the marking period, each crew concentrated on finding and sampling walleye spawning areas. With this concentrated effort crews were able to mark the target number of walleye in two to four nights, depending upon lake size and the number of crews used.

Walleye were measured (total length in inches) and sexed (male, female, or unknown). Crews were instructed to collect a scale or spine sample from ten male fish per half-inch group between 11.0 inches and 16.9 inches, and from five fish per half-inch group for males of other sizes and females. Generally, spines were taken from fish >10 inches and scales from smaller fish. Spines and scales were analyzed at a later date for age determination. On long-term study lakes, fish were tagged with yellow colored numbered Floy tags prior to release. Fish on all other lakes were given a single fin clip or tail notch. After being tagged or clipped, fish were released away from the capture area, typically near the middle of the lake.

Recapture surveys with electrofishing equipment were conducted one to three nights after the marking period ended. Surveys covered the entire shoreline of each lake. For each fish captured, length, sex and mark, if any, were determined.

Spring Walleye Tagging Study - Mille Lacs Lake

A joint walleye tagging study was implemented in 2002 and continued in 2003 on Mille Lacs Lake, Minnesota by GLIFWC and the Minnesota Department of Natural Resources (MnDNR). Data collected from this survey, which constitutes the second year of a three-year study, were used to generate a walleye population estimate, an estimate of exploitation, and to evaluate walleye movement around the lake. Tribal assessment crews used electrofishing gear after sunset to capture walleye. Two GLIFWC crews and two USFWS crews were used for the duration of the tagging survey, which took place from April 21 through May 3 to coincide with the walleye spawning period. Assistance was also provided by the Fond du Lac crew from April 22 through April 27.

For the purposes of the tagging study, the shoreline of Mille Lacs Lake was divided into 22 segments, including 4 offshore reefs (Figure A5). These segments were used to distribute survey effort around the lake as much as constraints imposed by ice and weather conditions would allow. Each night, electrofishing crews were instructed to record beginning and ending GPS coordinates and total survey time in seconds for each batch of walleye captured.

All newly captured walleye were measured (total length in inches), sexed (male, female, or unknown), and their spawning condition determined. Captured walleye over 10 inches in length were tagged with an individually numbered T-bar anchor tag on the left side of the fish. Three out of every fifty walleye captured were double-tagged with two anchor tags, one behind the other. Tag numbers were recorded for any walleye captured that had been tagged previously, as well as length, sex, and spawning condition information. Walleye were released at least 100 yards offshore.

A subsample of walleye were held in each of two 0.25 inch bar mesh cages measuring 6 feet wide by 4 feet long by 4 feet deep. The cages were placed approximately 20 yards offshore in 4 feet of water. Walleye were held for 36 hours on two occasions and subsequently examined for mortalities and tag retention. A total of 121 walleye were held with a minimum of 30 walleye per cage. Of these, 6 were double-tagged, and the remaining 115 had a single tag, making a total of 127 tags.

Spring Juvenile Walleye Survey

A juvenile walleye survey was conducted in Mille Lacs Lake, Minnesota on June 2 through June 4. The survey began approximately three weeks after the adult spawning period. Electrofishing gear was used to capture fish at night.

The entire shoreline of the lake was covered once over the three nights of the survey. Total length and sex (if known) were recorded for each walleye captured. No walleye were tagged or given fin clips. Scale samples for fish under 10 inches in length and spine samples for fish over 10 inches in length were collected for aging from a maximum of ten fish per half-inch group. Age data was used to apportion the catch by age for ages 1 through 4.

Summer Fish Community Survey

A fish community assessment survey was conducted on Kentuck Lake (Vilas Co.) from June 23 through June 27 with assistance from the Mole Lake tribal assessment crew. During the survey period, eight fyke nets with 0.75 inch bar mesh were set for four nights in the same locations as in previous years. Nets were set at night and lifted each morning. Fish were identified to species, and all fish measured with the exception that a subsample of bluegill were measured and the remainder were counted. Fish were released away from shore.

Summer Electrofishing Survey

A summer electrofishing survey was conducted on Kentuck Lake (Vilas Co.) on June 23 to assess survival of recent walleye year classes and to check for the presence of age 0 walleye that may have been produced through natural reproduction. Electrofishing began at dusk and continued until the entire shoreline was sampled. All fish collected were identified to species and length measured (total length in inches). Scale samples were collected to determine the number of age 1 and age 2 fish caught.

Fall Recruitment Surveys

Fall electrofishing surveys were conducted in 178 ceded territory waters including 154 lakes in Wisconsin, 22 lakes in Michigan, and 2 lakes in Minnesota. Fall surveys were conducted to evaluate recruitment of age 0 (young of the year) and age 1 (yearling) walleye, and to develop data to assess whether recruitment codes were appropriate or needed to be changed. Multiple surveys were conducted on Siskiwit Lake (Bayfield Co.) to conduct age 0 and age 1 mark and recapture population estimates. Electrofishing boats sampled lakes four nights per week during the eight-week period from September 2 through October 27. Ten assessment crews were used during the season, including four from GLIFWC, two from USFWS, and crews from the Bad River, Fond du Lac, Sokaogon (Mole Lake), and St. Croix tribes. The number of boats assigned to each lake was based upon the shoreline length to be surveyed, and whether the entire shoreline or index station segments would be surveyed. For planning purposes, it was assumed that one boat was needed for every 5-7 miles of shoreline. Index stations were sampled on 38 of the larger waters.

The primary objective of these surveys was to assess year class strength of stocked or naturally reproduced age 0 and age 1 walleye. Larger walleye and other game fish (e.g., bass, northern pike and muskellunge) were of secondary priority and collected if this effort did not detract from the collection of juvenile walleye. Panfish and other species were collected as a third priority. Results of surveys were used to determine whether lake recruitment code changes were needed. Other uses included trend analysis of important mixed fishery lakes maintained by natural reproduction, and the development of regional and lake-specific perspectives of annual walleye year class strength.

Electrofishing began at dusk and continued until the entire shoreline or set of index stations was sampled. Exceptions preventing the completion of a survey on a given lake included equipment problems, severe weather, and high waves. All fish collected were identified to species and length measured (total length in inches). For walleye only, a scale sample was collected from five fish per half-inch group between 4.5-12.0 inches to determine the length range and numbers of age 0 and age 1 walleye.

Surveys on the following four Wisconsin lakes were conducted jointly by GLIFWC and WDNR, and the results summarized and reported by GLIFWC: Pelican Lake (Oneida Co.), Nelson Lake (Sawyer Co.), Lac Vieux Desert (Vilas Co.), and Trout Lake (Vilas Co.). Surveys on the following five Wisconsin lakes were conducted jointly by GLIFWC and WDNR, and the results summarized and reported by WDNR: Middle Eau Claire Lake (Bayfield Co.), Balsam Lake (Polk Co.), Lake Chetac (Sawyer Co.), Sand Lake (Sawyer Co.), and Crab Lake (Vilas Co.). All data from these nine surveys are reflected in this report, regardless of which agency did the actual collection of fish. Several Wisconsin lakes were surveyed by both GLIFWC and WDNR where each agency generated a separate report summarizing their own data.

Fall Age 0 and Age 1 Population Estimate

Mark-recapture age 0 and age 1 walleye population estimates were conducted during the fall on Siskiwit Lake (Bayfield Co.). Electrofishing was used as the capture method, and similar techniques were used as for the fall recruitment surveys. For each survey, the boats made a

complete circuit of the lake, and a temporary fin clip was used to mark all walleye less than 15 inches. The lake was surveyed three times. Crews were informed that if time permitted, they should return to areas of higher concentrations of walleye to mark additional fish, keeping a separate record of these captures.

Scale samples were collected from ten fish per half-inch group between 5.5 and 11.9 inches, and five per half-inch group between 12.0 and 14.9 inches. Scale samples were aged to determine the number of age 0 and age 1 walleye captured so that the population estimates could be calculated. Population estimates were calculated using the Petersen method.

Results and Discussion

Spring Adult Population Estimates

A total of 16,226 walleye were sampled from 17,044 acres of water during the spawning adult walleye population estimate period. Adult walleye population estimates for fifteen stocks in Wisconsin (Table A1) ranged from 51 to 10,474 fish. Estimated population densities ranged from 0.22 to 10.94 walleye per acre (mean = 3.16, SD = 2.70) (Figure A2). Little Round Lake (Sawyer Co.) had the lowest estimated density while Kentuck Lake (Vilas Co.) had the highest.

The Report on Biological Issues (1988) listed several indicators of healthy reproducing walleye stocks agreed to by state and tribal biologists. Two indicators included: a) population density of three adult walleye per acre; and, b) the presence of five year classes of females in a sample, or three year classes in a sample of 100 fish that each contribute at least 15 percent to the population.

Seven of fifteen lakes surveyed had recruitment codes of NR (Table A1), indicating that natural reproduction was the only source of recruitment. Two lakes had recruitment codes of C-NR, indicating that some stocking occurred even though the population was sustained by natural reproduction. Mean density of walleye in these nine lakes was 2.52 (SD = 1.51) per acre. Four of these nine lakes surveyed had walleye densities of greater than 3.0 per acre.

Four lakes had recruitment codes of C-ST, indicating that the population was sustained by stocking with some natural reproduction occurring. One lake had a recruitment code of ST, indicating that stocking was the only source of recruitment. Mean density of walleye in these five lakes was 3.74 fish per acre (SD = 4.17). Without Kentuck Lake (Vilas Co.), which had an estimated density of 10.94 fish per acre, the mean density of the remaining four lakes was 1.94 fish per acre (SD = 1.26).

Male-to-female sex ratios (Table A1) were skewed in favor of males in all lakes surveyed. The reliability of these values is questionable in some lakes, however. Electrofishing may bias sampling in favor of males (Shively and Kmiecik, 1991) because males spend more time in shallow water than females during the spawning period, and many females are out of effective capture range except during or after spawning.

A total of 1,497 female, 14,299 male, and 430 unknown sex walleye were measured (Figure A3, Table A2) and a subsample aged (Figure A4). Female lengths ranged from 11.5 to

29.5 inches, male lengths ranged from 9.0 to 26.0 inches, and lengths of fish of unknown sex ranged from 8.0 to 23.5 inches. Age-length tables were developed for subsets of female, male, and unknown sex walleye in each of the lakes sampled (Tables A3 - A17). These age-length tables by themselves are not necessarily representative of the size and age structure of the population, since spines for aging were collected according to a stratified sampling scheme. However, age-length tables reflective of the population can be developed when coupled with length-frequency data from the population estimates. Also, the age-length tables should be sufficient to detect the presence or absence of year classes. Regarding the second population health criterion, seven of the nine NR and C-NR lakes had populations with at least five year classes of females in the aging sample.

Spring Walleye Tagging Study - Mille Lacs Lake

A total of 20,084 walleye were captured and tagged during the spring walleye tagging study on Mille Lacs Lake (Table A18, Figure A6). Segments 1 through 4 are offshore reefs, and very few walleye were thought to be present in shoreline segments 5, 12, and 14. Of these seven segments, GLIFWC crews captured and tagged 6 walleye in segment 4 which was the lowest total of the segments surveyed by GLIFWC; MnDNR crews captured and tagged 12 walleye in segment 1, and neither agency captured any walleye in the remaining five of these segments. Other than segment 4, the smallest total number of walleye captured and tagged by GLIFWC crews was 689 on shoreline segment 18. In shoreline segment 9, a total of 2,061 walleye were captured and tagged, which was more than any other segment (Figure A6). Segment 4 was surveyed on one night, segments 17 was surveyed on two nights, and all other surveyed segments were surveyed on three or more nights.

A total of 18,368 males, 1,558 females, and 158 walleye of unknown sex were captured and tagged (Table A18). Males ranged from 11.4 to 29.8 inches in length with an average length of 18.1 inches, females ranged from 15.0 to 29.8 inches in length with an average length of 21.5 inches, and walleye of unknown sex ranged from 10.5 to 27.1 inches in length with an average length of 17.9 inches (Figure A7). No mortalities were observed from the 121 walleye held in cages for 36 hours, and there were 11 tag losses observed from the 127 total tags.

Spring Juvenile Walleye Survey

During the juvenile walleye survey on Mille Lacs Lake, a total of 987 walleye were captured over 78.0 miles of shoreline (Table A19). Lengths of walleye captured ranged from 3.2 inches to 25.3 inches (Figure A8). An age-length table was developed using spines and scales collected from a subset of fish (Table A20), and used to apportion the catch by age. Catch per mile values for age 1 through 4 walleye were 8.5, 1.1, 0.4, and 1.0 per mile, respectively.

Summer Fish Community Survey

An effort to rehabilitate the walleye population of Kentuck Lake (Vilas Co.) began in 1998, and included stocking walleye in 1999 and 2000. GLIFWC has conducted annual monitoring of the fish community in this lake since 1997. These surveys may contribute to a better understanding of the reasons for the lack of natural reproduction of walleye during thirteen consecutive years from 1988 through 2000. The fish community survey conducted in 2003 on Kentuck Lake caught twelve species and 685 fish. The most abundant species captured was bluegill (40.1% of the fish), followed by pumpkinseed (21.9%) and rock bass (15.5%) (Table B1).

Interaction between black crappie and walleye populations, such that an abundant black crappie population may suppress survival of young walleye, has been suggested as a possible reason for the absence of walleye year classes from 1988 through 2000. Although summer fyke net surveys were not conducted annually to document whether this occurred, catch rates of crappie since 1997 have been relatively low (Figure B1). This suggests that conditions for naturally reproduced year classes of walleye may have improved.

Summer Electrofishing Survey

On Kentuck Lake, 111 walleye were caught during a summer electrofishing survey, yielding a catch rate of 18.5 per mile (Table B2). From the scale samples collected for aging, it was determined that walleye between 6.6 inches and 8.1 inches were age 1, and walleye between 9.2 inches and 12.1 inches were age 2. Thus, catch per mile values for age 1 and 2 walleye were 13.7 and 2.8, respectively. No stocking was done in 2001 or 2002, so the age 1 and age 2 walleye captured in this survey were the result of natural reproduction. No age 0 walleye were caught. However, age 0 walleye were not likely to be vulnerable to the gear at the time.

Fall Recruitment Surveys

Fall recruitment surveys were conducted on 178 lakes in the ceded territories of Wisconsin, Michigan and Minnesota (Figure C1, Table C2). Survey effort included 538.7 hours of electrofishing along 1,511.5 miles of shoreline resulting in the collection of 49,720 walleye.

From 156 surveys conducted on 154 lakes in Wisconsin, 468.7 hours of electrofishing along 1,293.6 miles of shoreline resulted in a collection of 46,006 walleye. In Michigan, 22 surveys were conducted in 47.6 hours along 140.9 miles of shoreline, resulting in the collection of 2,325 walleye. In Minnesota, 2 surveys were conducted in 22.45 hours along 85.0 miles of shoreline, resulting in the collection of 1,389 walleye (Table C2).

A total of 23,112 age 0 walleye were caught in Wisconsin. Age 0 walleye were caught in 134 of the 154 lakes surveyed. One lake was surveyed three times. Over all 156 surveys, catch per effort (CPE) for age 0 walleye ranged from 0.0 to 239.1 (mean = 19.2, median = 5.4, SD = 35.4) per mile. A total of 12,741 age 1 (yearling) walleye were caught in 130 of the lakes surveyed. Over all surveys, age 1 CPE ranged from 0.0 to 72.8 (mean = 10.4, median = 4.2, SD = 14.8) yearlings per mile. In Kentuck Lake, Vilas County, 485 age 0 walleye were caught, yielding a CPE of 80.8 per mile. Since Kentuck Lake was not stocked in 2003, these age 0 walleye were the result of natural reproduction.

In order to gauge the relative strength of the 2003 and 2002 walleye year classes monitored in the 2003 fall surveys as age 0 and age 1 fish, plots of mean and median CPE values were generated for each year from 1986 through 2003 for all Wisconsin lakes with recruitment codes of NR or C-NR with at least 75% of the shoreline surveyed, including lakes surveyed by WDNR and including CPEs of 0.0 (Figures C2 and C3). The averages of the yearly mean and median age 0 CPEs were 33.6 and 18.7 per mile, respectively, and the averages of the yearly mean and median age 1 CPEs were 10.6 and 6.1 per mile, respectively. For 2003, the mean and median age 0 CPEs were 20.8 and 8.3, respectively, and the mean and median age 1 CPEs were 11.4 and 5.4, respectively. Thus, the year class strength of age 0 walleye in the Wisconsin ceded territory was below average, and the year class strength of age 1 walleye was close to average in 2003.

In Michigan, 452 age 0 walleye were caught. Age 0 walleye were caught in 13 of the 22 lakes surveyed. Age 0 CPE ranged from 0.0 to 29.8 (mean = 4.5, median = 0.3, SD = 8.4) per mile. A total of 1,119 age 1 walleye were caught in 17 lakes. Age 1 CPE ranged from 0.0 to 28.3 (mean = 7.0, median = 2.2, SD = 9.2) yearlings per mile.

In Minnesota, 634 age 0 walleye were caught. Age 0 CPEs were 1.1 per mile for Goose Lake and 58.2 for Mille Lacs Lake. A total of 671 age 1 walleye were caught. Age 1 CPEs were 0.2 per mile for Goose Lake, and 9.5 for Mille Lacs Lake. Length frequencies from the survey on Mille Lacs Lake are shown in Figure C4.

Data were plotted for each recruitment code in Figures C5 and C6. Summary statistics for NR and C-NR lakes, C- lakes, C-ST and ST lakes, and O-ST lakes in Wisconsin, Michigan and Minnesota are given in Table C3. Statistics include the average CPE, the standard deviation, the number of lakes, and the range of CPE values for all lakes and for lakes where a year class was detected. Table C4 summarizes the number of gamefish captured in these same three lake groupings in the three states. These species include muskellunge, northern pike, largemouth bass, and smallmouth bass. Various panfish and rough fish species were also collected but their numbers are not reported here.

Fall Age 0 and Age 1 Population Estimates

A total of 236 age 0 and age 1 walleye were sampled during the age 0 and age 1 population estimate on Siskiwit Lake, including recaptured fish. Age 0 and age 1 densities obtained from the fall population estimates calculated by the Petersen method were 0.9 and 4.1 per acre respectively (Table C5). Mean age 0 and age 1 catch per effort (CPE) values were 4.6 and 15.1 per mile respectively.

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Appendix A: Spring Population Surveys

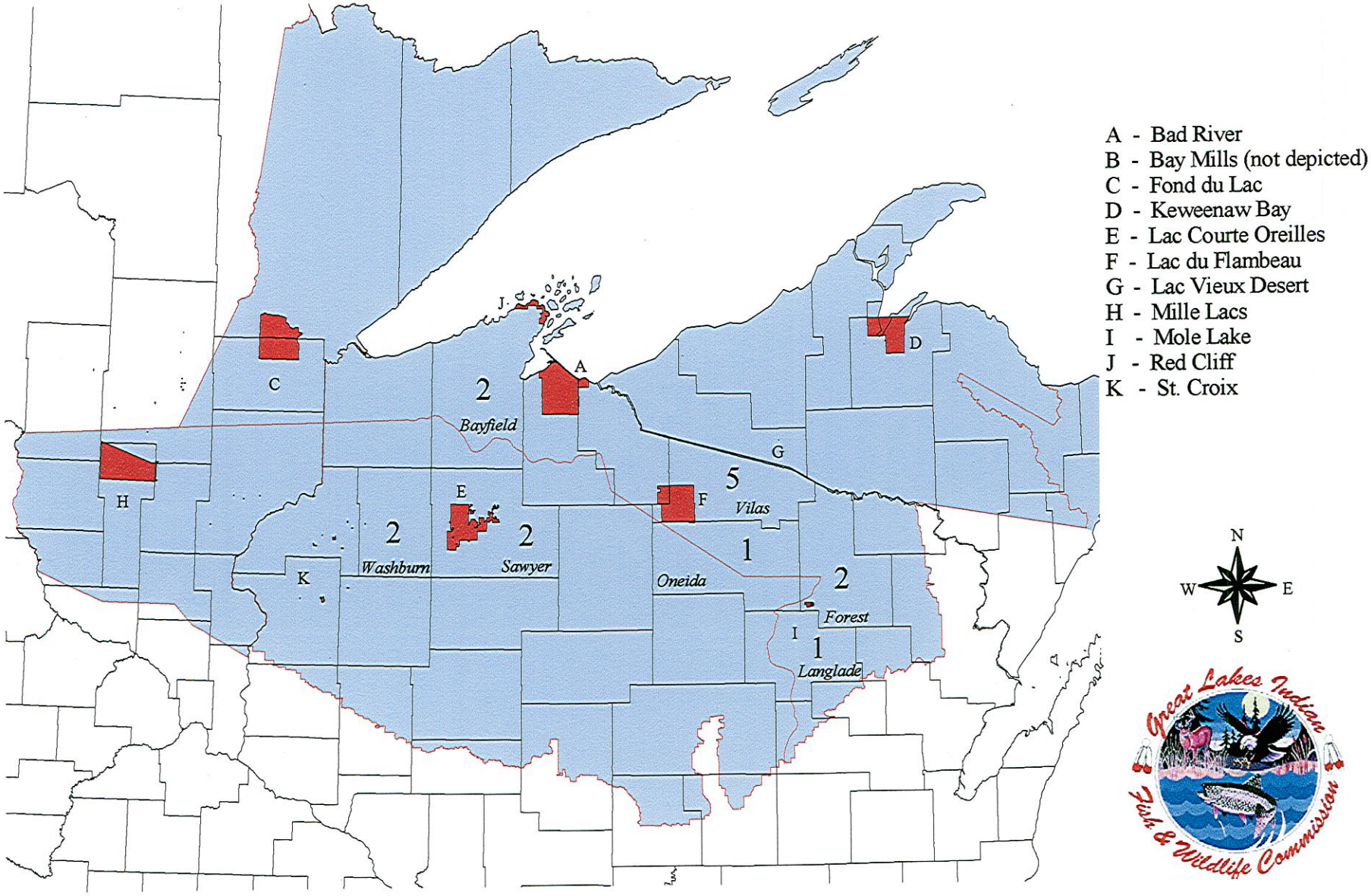

Figure A1. Ceded territory in Wisconsin, Michigan, and Minnesota with the number of lakes per county where spring adult walleye population estimates were conducted by GLIFWC during 2003.

The ceded territory boundaries and the tribal reservation boundaries are representations and may not be the actual legally binding boundaries.

Figure A2: Estimated Adult Walleye Densities by Recruitment Code, Spring 2003

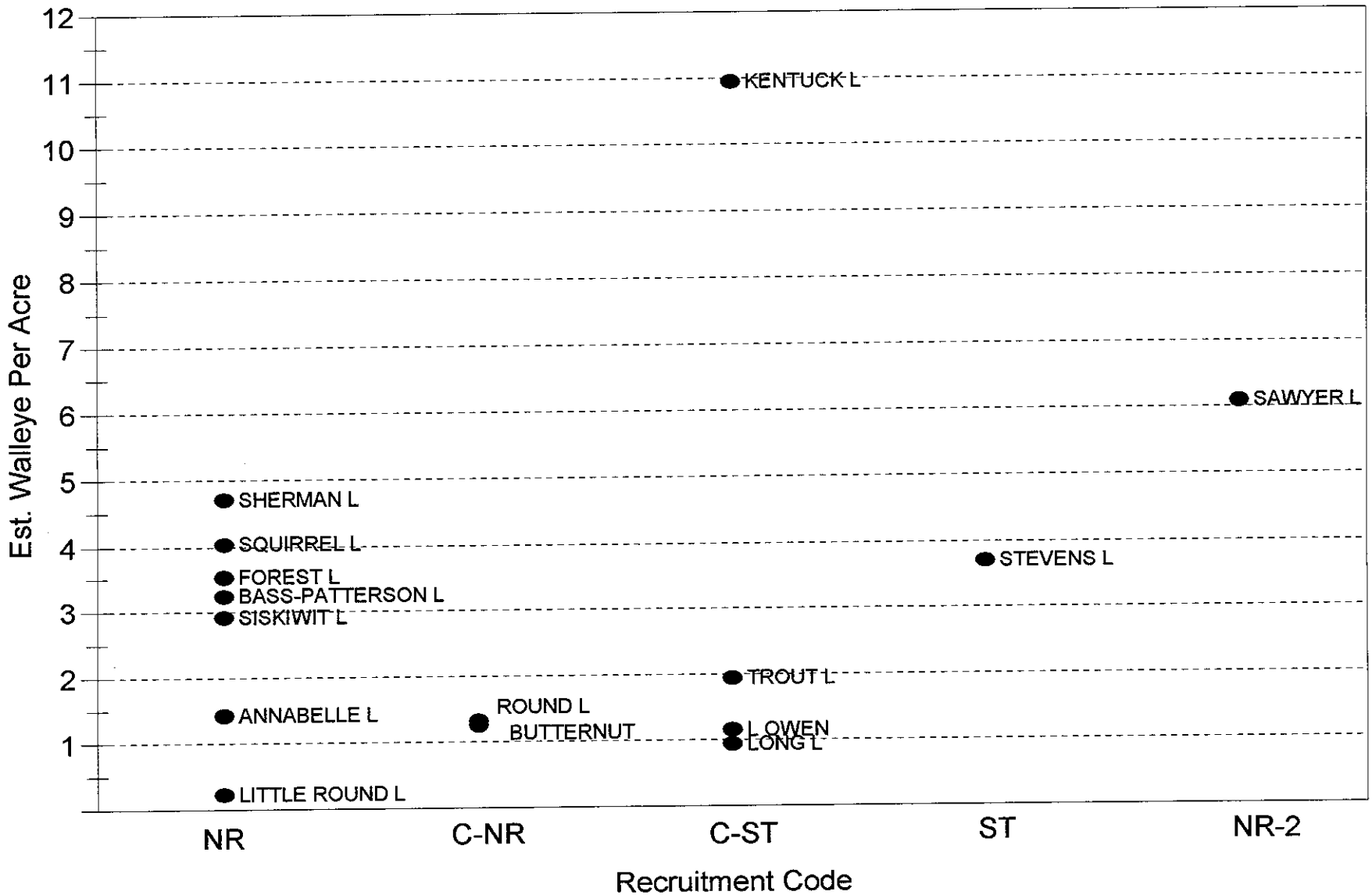

Figure A3. Length Frequency of Adult Walleye Marked

Adult Walleye Population Estimates, Spring 2003

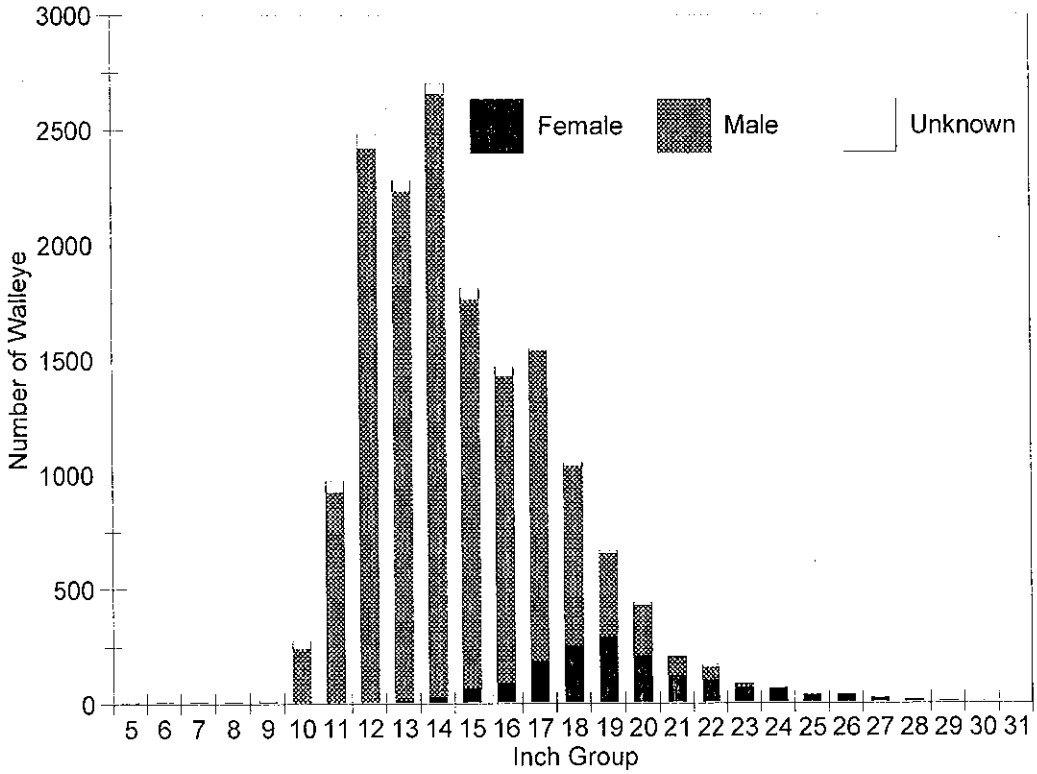

Figure A4. Age Frequency of Adult Walleye Aged

Adult Walleye Population Estimates, Spring 2003

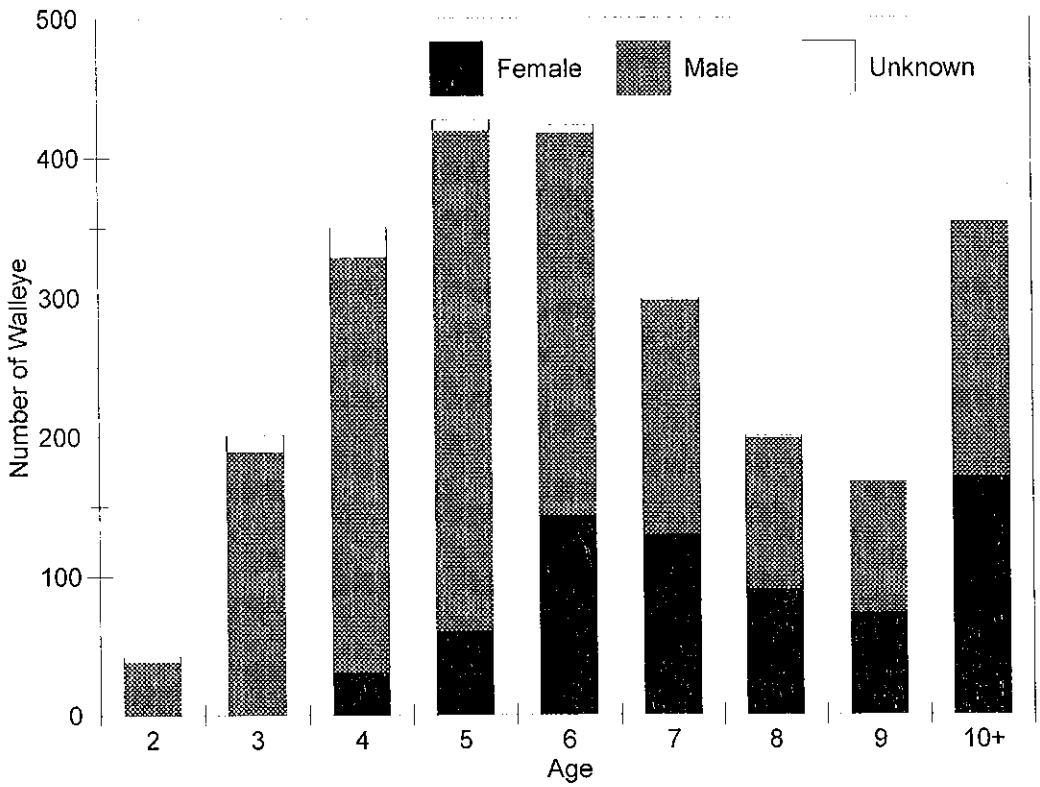

Figure A5. Shoreline Segments Used During 2003 Mille Lacs Lake Walleye Tagging Study

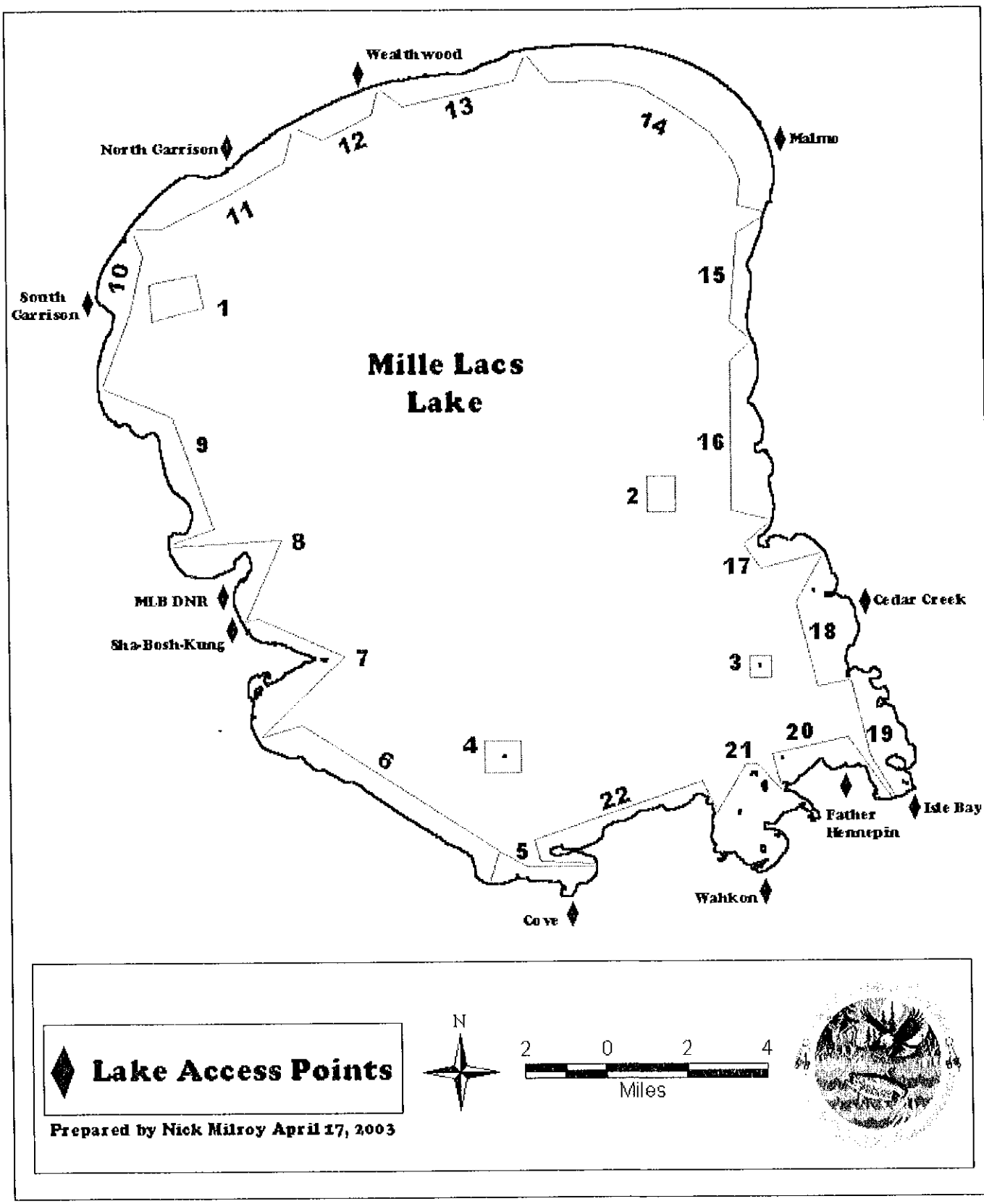

Figure A6. Walleye Tagged by GLIFWC, FDL & USFWS
Mille Lacs Lake, 2003
By Shoreline Segment

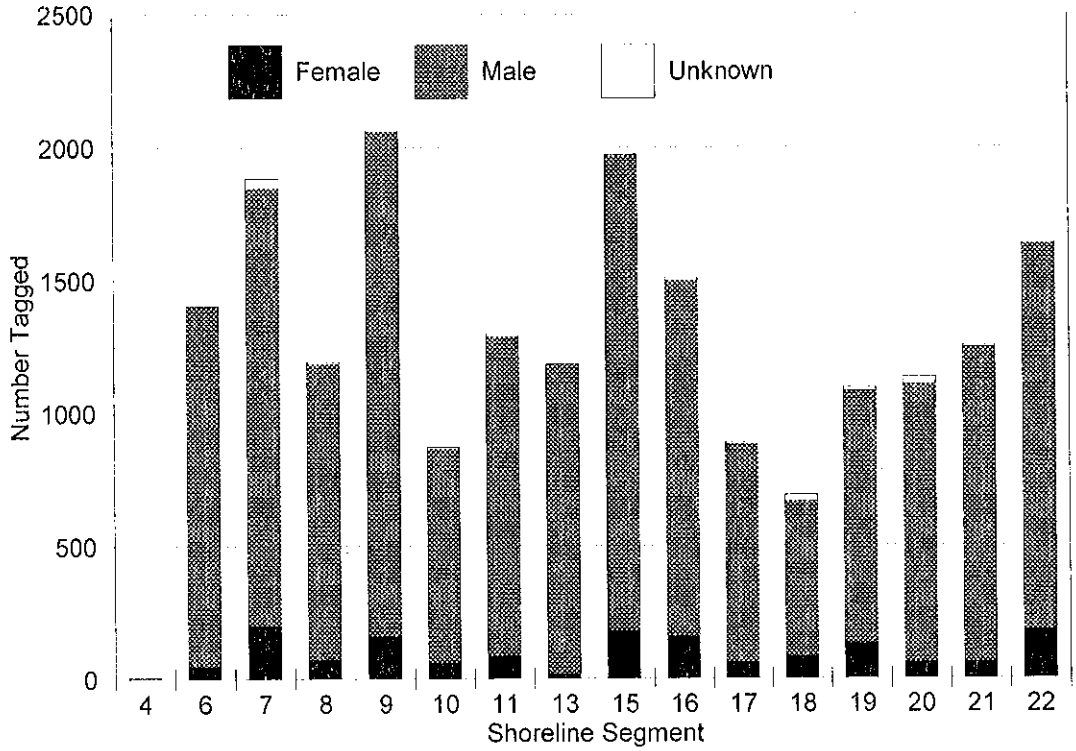

Figure A7. Walleye Tagged by GLIFWC, FDL, & USFWS
Mille Lacs Lake, 2003
By Inch Group

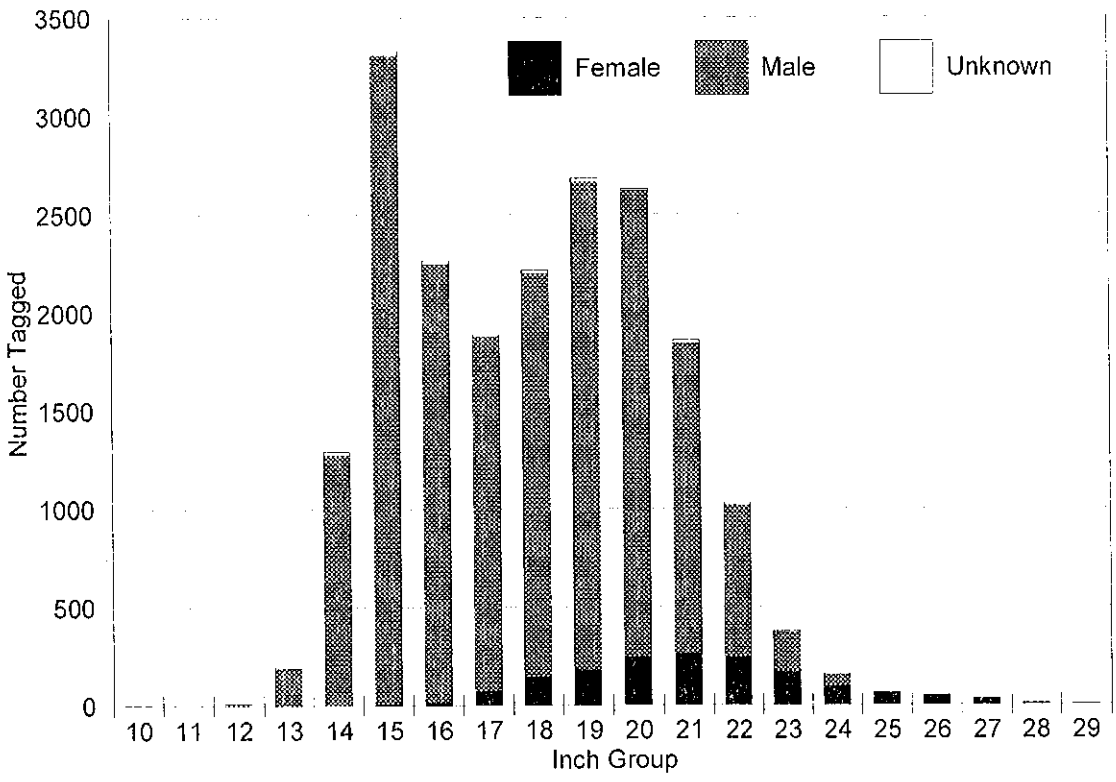

Figure A8. Length Frequency of Walleye Captured

Spring 2003 Juvenile Walleye Survey, Mille Lacs Lake

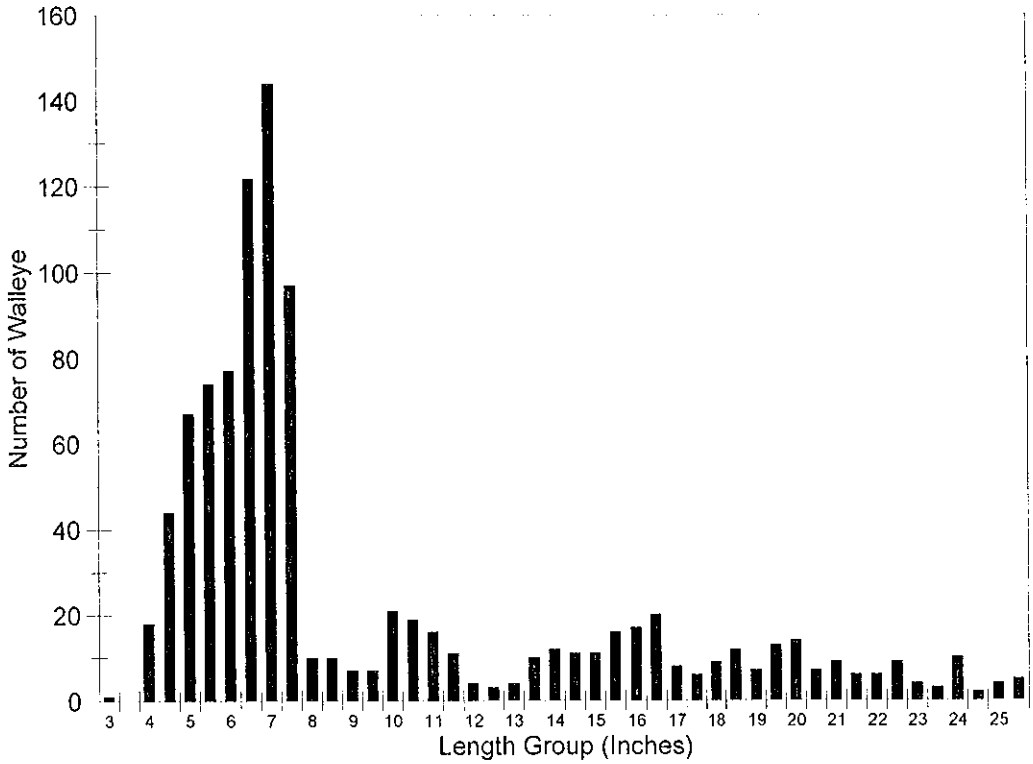

Table A1. Spring 2003 Adult Population Estimates Conducted by GLIFWC

State	County	Lake	Surface Area (Acres)	2003 Walleye Code	Population Estimate	Coefficient of Variation (%)	Density	Marking Gear*	Recapture Gear*	Fin clip applied**	Male: female sex ratio***	Angling length regulation
WI	BAYFIELD	L OWEN	1,323	C-ST	1,532	7.9	1.16	E	E	TCN	4:1	15" minimum
WI	BAYFIELD	SISKIWIT L	330	NR	964	8.5	2.92	E	E	YF	8:1	15" minimum
WI	FOREST	BUTTERNUT L	1,292	C-NR	1,625	7.8	1.26	E	E	YF	7:1	14"-18" slot ‡
WI	FOREST	STEVENS L	297	ST	1,101	10.0	3.71	E	E	BCN	5:1	15" minimum
WI	LANGLADE	SAWYER L	149	NR-2	907	9.4	6.09	E	E	BCN	8:1	1 over 14"†
WI	ONEIDA	SQUIRREL L	1,317	NR	5,324	8.1	4.04	E	E	YF	24:1	1 over 14"†
WI	SAWYER	LITTLE ROUND L	229	NR	51	11.8	0.22	E	E	HLV	20:1	15" minimum
WI	SAWYER	ROUND L	3,054	C-NR	4,039	6.5	1.32	E	E	TCN	25:1	15" minimum
WI	VILAS	ANNABELLE L	213	NR	304	31.0	1.43	E	E	YF	3:1	15" minimum
WI	VILAS	FOREST L	466	NR	1,644	6.3	3.53	E	E	BCN	8:1	14"-18" slot ‡
WI	VILAS	KENTUCK L	957	C-ST	10,474	4.9	10.94	E	E	YF	353:1	28" minimum
WI	VILAS	SHERMAN L	123	NR	580	9.7	4.72	E	E	YF	11:1	1 over 14"†
WI	VILAS	TROUT L	3,816	C-ST	7,392	8.3	1.94	E	E	BCN	3:1	15" minimum
WI	WASHBURN	BASS-PATTERSON L	188	NR	609	8.5	3.24	E	E	YF	28:1	1 over 14"†
WI	WASHBURN	LONG L	3,290	C-ST	3,104	5.3	0.94	E	E	BCN	10:1	15" minimum

*Gear used: E = electrofishing
** BCN = bottom caudal notch, HLV= half left ventral clip, TCN = top caudal notch, YF = numbered yellow floy tag
***Sex ratio is calculated for walleye sampled during marking and recapture runs but excludes recaptured fish
† No minimum length limit, but only 1 walleye over 14" allowed
‡ No minimum length limit, but walleye from 14" to 18" may not be kept, and only one fish over 18" is allowed

Table A2. Lengths of Walleye Collected During Spring 2003 Adult Walleye Population Estimates

STATE	COUNTY	LAKE	NUMBER SAMPLED			FEMALE		MALE		UNKNOWN	
			FEMALE	MALE	UNKNOWN	MINIMUM LENGTH	MAXIMUM LENGTH	MINIMUM LENGTH	MAXIMUM LENGTH	MINIMUM LENGTH	MAXIMUM LENGTH
WI	BAYFIELD	L OWEN	127	570	37	14.5	26.5	11.5	22.5	10.0	23.5
WI	BAYFIELD	SISKIWIT L	55	454	35	13.5	19.5	11.5	18.0	10.0	17.0
WI	FOREST	BUTTERNUT L	105	693	3	15.5	24.5	10.5	21.0	10.5	20.0
WI	FOREST	STEVENS L	91	429	2	16.5	27.0	12.5	23.5	8.0	8.5
WI	LANGLADE	SAWYER L	55	418	7	15.0	27.5	10.5	21.0	9.5	12.5
WI	ONEIDA	SQUIRREL L	99	2,336	83	11.5	28.0	9.0	19.5	10.0	23.5
WI	SAWYER	LITTLE ROUND L	2	39	1	18.0	18.0	14.0	21.5	18.0	18.0
WI	SAWYER	ROUND L	53	1,330	28	15.0	23.0	11.0	21.5	9.5	22.0
WI	VILAS	ANNABELLE L	24	79	52	13.0	27.0	10.5	18.5	10.5	18.0
WI	VILAS	FOREST L	97	823	8	15.0	29.0	12.0	19.5	15.0	19.0
WI	VILAS	KENTUCK L	10	3,527	1	13.5	29.5	9.5	23.0	15.5	15.5
WI	VILAS	SHERMAN L	30	319	52	15.0	23.0	10.0	20.5	10.0	17.5
WI	VILAS	TROUT L	595	1,489	31	13.5	27.5	10.5	22.5	9.0	22.5
WI	WASHBURN	BASS-PATTERSON L	13	363	36	15.5	29.0	10.0	19.5	10.0	19.0
WI	WASHBURN	LONG L	141	1,430	54	17.0	29.5	11.0	26.0	10.0	20.0
OVERALL			1,497	14,299	430	11.5	29.5	9.0	26.0	8.0	23.5

Table A3

Number of Walleye Aged by Sex and Length From Spring 2003 Adult Population Estimate
Lake Owen, Bayfield County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
11								2																								2		2
12								4			2																					6		6
13								2			9			5																		16		16
14								1			6		1	3			2														1	12		13
15											2			8			5			3												18		18
16										1			1	7			9		1	5											3	21		24
17																2	5			2			1			3					2	11		13
18													2			2	3		4	2		1				2			5		9	12		21
19													1			3			1			4			2	4		1	6		12	10		22
20																3			3	1		3			1	2			7		10	10		20
21																1						4				1		3	2		8	3		11
22																									4			7			11			11
23																												9			9			9
24																												2			2			2
25																												2			2			2
26																																		
27																																		
28																																		
29																																		
30																																		
TOTALS								9		1	19		5	23		11	24		9	13		12	1		7	12		24	20		69	121		190

Table A4

Number of Walleye Aged by Sex and Length From Spring 2003 Adult Population Estimate
Siskiwit Lake, Bayfield County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
11								3																								3		3
12								7			9			2			1															19		19
13											5		1	7			1						1								1	14		15
14										3	3		2	3		1	8	1		5						1			1		6	21	1	28
15											1		6	2		4	6			5			4			1			1		10	20		30
16										1			1			5	2			2			6			5			3		7	18		25
17													1			1	1		1	2			1			4			7		3	15		18
18																	1		2										4		2	5		7
19																1						1									2			2
20																																		
21																																		
22																																		
23																																		
24																																		
25																																		
26																																		
27																																		
28																																		
29																																		
30																																		
TOTALS								10		4	18		11	14		12	20	1	3	14		1	12			11			16		31	115	1	147

Table A5

Number of Walleye Aged by Sex and Length From Spring 2003 Adult Population Estimate
Butternut Lake, Forest County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
11								4			2																					6		6
12								1			10			1																		12		12
13											5			11			2														18		18
14								1			1			8			12			1											23		23
15											1			4		1	8			5						1					1	19		20
16													1	1		2	8			8			3			1					3	21		24
17													1			6	3		2	1		1	2			6			1		10	13		23
18																2	1		5			1			1	5			2		9	8		17
19																			2			5			4	1			6		11	7		18
20																			2			1			7	1			3		10	4		14
21																						2			3				1		5	1		6
22																									2			6			8			8
23																												1			1			1
24																												1			1			1
25																																		
26																																		
27																																		
28																																		
29																																		
30																																		
TOTALS								6			19		2	25		11	34		11	15		10	5		17	15		8	13		59	132		191

Table A6

Number of Walleye Aged by Sex and Length From Spring 2003 Adult Population Estimate
Stevens Lake, Forest County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
11																																		
12					1																											1		1
13					1																											1		1
14								2																								2		2
15								3			2			4						1												10		10
16														10		1	8			1											1	19		20
17														2			6			1												9		9
18													3			2	4		1	5			1								6	10		16
19																6				5		1	2			1					7	8		15
20													1						6			2	2			4			2		9	8		17
21																			1			1				2			3		2	5		7
22																									1			1	1		2	1		3
23																												3			3			3
24																												1			1			1
25																																		
26																																		
27																																		
28																																		
29																																		
30																																		
TOTALS					2			5			2		4	16		9	18		8	13		4	5		1	7		5	6		31	74		105

Table A7

Number of Walleye Aged by Sex and Length From Spring 2003 Adult Population Estimate
Sawyer Lake, Langlade County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
11					19																											19		19
12					14	1		1																								15	1	16
13					2			7			1																					10		10
14								11			6		1	1																		18		18
15										1	9		1	7			3															19		19
16													2	4		3	12			4					1							20		20
17													1			8	5		1	4						1						10		10
18													1			2			6				2									2		2
19																1			3			3			1									
20																						1			2									
21																						1			1									
22																									2									
23																												1						
24																										1						1		1
25																																		
26																												1						
27																												1						
28																																		
29																																		
30																																		
TOTALS					35	1		19		1	16		6	12		14	20		10	8		5	2		7	2		3				114	1	115

Table A8

Number of Walleye Aged by Sex and Length From Spring 2003 Adult Population Estimate
Squirrel Lake, Oneida County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9								1																								1		1
10								6			7			1																		14		14
11								1			12		1	9			2														1	24		25
12										1	1			14			9														1	24		25
13											2			8		1	8			2											1	20		21
14													1	2		2	9			7			1			1					3	20		23
15													1			6	2		1	8			2		1						9	12		21
16																			1	1			6			2			1		1	10		11
17																3			5				2						1		8	3		11
18																			4			5			2						11			11
19																			2			1			2			4			9			9
20																						4						5			9			9
21																			1						2			3			6			6
22																												2			2			2
23																									1			2			3			3
24																												1			1			1
25																																		
26																																		
27																																		
28																																		
29																																		
30																																		
TOTALS								8		1	22		3	34		12	30		14	18		10	11		8	3		17	2		65	128		193

Table A9

Number of Walleye Aged by Sex and Length From Spring 2003 Adult Population Estimate
Little Round Lake, Sawyer County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
11																																		
12																																		
13																																		
14														1																		1		1
15											3																					3		3
16														1			3														4		4
17														4			2			3			1								10		10
18										1							4			3	1		1		1					2	8	1	11
19																				2			1			1					4		4
20																										3			1		4		4
21																				1											1		1
22																																		
23																																		
24																																		
25																																		
26																																		
27																																		
28																																		
29																																		
30																																		
TOTALS										1	3			6			9			9	1		3		1	4			1		2	35	1	38

Table A10

Number of Walleye Aged by Sex and Length From Spring 2003 Adult Population Estimate
Round Lake, Sawyer County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
11								2			2																					4		4
12								11			10	1		2																	23	1	24
13								3			14			14			1														32		32
14											9			15			4			2											30		30
15										2	3			7			10			8			1								2	29		31
16										3			1	3		1	6			9			7			4					5	29		34
17																7				2			4		1	4		1	3		9	13		22
18													1			1			2	1			1		1	5			3		5	10		15
19																1			3			4				2			4		8	6		14
20																			2			1			2			1	2		6	2		8
21																						1			1			1	1		3	1		4
22																																		
23																									1						1			1
24																																		
25																																		
26																																		
27																																		
28																																		
29																																		
30																																		
TOTALS								16		5	38	1	2	41		10	21		7	22		6	13		6	15		3	13		39	179	1	219

Table A11

Number of Walleye Aged by Sex and Length From Spring 2003 Adult Population Estimate
Annabelle Lake, Vilas County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10								3	1		1																					4	1	5
11								3			9	1		3																	15	1	16
12									1		8	7		3	1																11	9	20
13										3		4	2	4	1		1	3													5	5	8	18
14										2		2	2		1	2	2			2											6	4	3	13
15															1	2	1			1				1							2	2	2	6
16																1			1												2			2
17																																		
18																												1			1			1
19																						1									1			1
20																																		
21																																		
22																																		
23																																		
24																																		
25																																		
26																																		
27																																		
28																																		
29																																		
30																																		
TOTALS								6	2	5	18	14	4	10	4	5	4	3	1	3		1		1				1			17	41	24	82

Table A12

Number of Walleye Aged by Sex and Length From Spring 2003 Adult Population Estimate
Forest Lake, Vilas County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
11																																		
12								1			3																					4		4
13								2			4																					6		6
14											10			5			2														17		17
15											4			5			5			3			1						1		19		19
16													1			1	1			6			7			1			3		2	18		20
17																4			6			1	4			4			2		11	10		21
18																1			4						2	1			7		7	8		15
19																			3			4			2				1		9	1		10
20																									1						1			1
21																									2			1			3			3
22																						1						2			3			3
23																																		
24																																		
25																																		
26																																		
27																																		
28																																		
29																																		
30																																		
TOTALS								3			21		1	10		6	8		13	9		6	12		7	6		3	14		36	83		119

Table A13

Number of Walleye Aged by Sex and Length From Spring 2003 Adult Population Estimate
Kentuck Lake, Vilas County, Wisconsin*

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10					1			1																								2		2
11								7			8			1																		16		16
12								8			10			2																		20		20
13								3			5			12																		20		20
14								1			9			10			3															23		23
15											3		1	3			6			2											1	14		15
16														2			1			1			1									5		5
17																																		
18																				1												1		1
19																	1												1			2		2
20																				1												1		1
21																																		
22																																		
23																																		
24																																		
25																																		
26																												1			1			1
27																												1			1			1
28																																		
29																																		
30																																		
TOTALS					1			20			35		1	30			11			5			1					2	1		3	104		107

*Male walleye aged 5 through 9 could represent fish transferred to Kentuck Lake from Butternut Lake during gamete collection for stocking in 1999 and 2000.

Table A14

Number of Walleye Aged by Sex and Length From Spring 2003 Adult Population Estimate
Sherman Lake, Vilas County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10						1		5	1																							5	2	7
11						2		18	1																							18	3	21
12								21	1		1																					22	1	23
13								12	2		6	1																				18	3	21
14								3	1		12			5																		20	1	21
15										2	4	4	1	8	2		1															3	13	6	22
16										2				3	1		4			2												2	9	1	12
17												1	1		1			1		1			1	1								2	2	3	7
18													2										1	1								3	1		4
19													1											1						1		1	2		3
20																3																3			3
21																			1			1										2			2
22																									1							1			1
23																									1							1			1
24																																		
25																																		
26																																		
27																																		
28																																		
29																																		
30																																		
TOTALS						3		59	6	4	23	6	5	16	4	3	5	1	1	3		3	3		2				1		18	110	20	148

Table A15

Number of Walleye Aged by Sex and Length From Spring 2003 Adult Population Estimate
Trout Lake, Vilas County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
11									1																								1	1
12								6	1		10																					16	1	17
13								1			7		1	11																	1	19		20
14											5	1	1	12		1	9			1											2	27	1	30
15										1			3	9		3	6			4											7	19		26
16										2			2	3		6	9		3	5		1	8			2			1		14	28		42
17													1			10	1		2	5		1	10		1	5			3		15	24		39
18													2			6			6	2		2	5			5			8		16	20		36
19																3	1		8	1		2							18		13	20		33
20																4			7	1		2	1		1				16		14	18		32
21																2			9			5			3			2	6		21	6		27
22																						3			2			10	1		15	1		16
23																												8			8			8
24																												15			15			15
25																												12			12			12
26																												11			11			11
27																												5			5			5
28																																		
29																																		
30																																		
TOTALS								7	2	3	22	1	10	35		35	26		35	19		16	24		7	12		63	53		169	198	3	370

Table A16

Number of Walleye Aged by Sex and Length From Spring 2003 Adult Population Estimate
Bass-Patterson Lake, Washburn County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10								4	1		1																					5	1	6
11								4	1		5			2																	11	1	12
12											9			9																	18		18
13											1			16			1														18		18
14														7			14														21		21
15														3			2			4	1		2								11	1	12
16																	1	1					2								3	1	4
17																							3								3		3
18																			2										1		2	1		3
19																								1									1	1
20																			1									1			2			2
21																									1			1			2			2
22																												1			1			1
23																																		
24																												1			1			1
25																																		
26																																		
27																												1			1			1
28																																		
29																												1			1			1
30																																		
TOTALS								8	2		16			37			18	1	3	4	1		7	1	1			6	1		10	91	5	106

Table A17

Number of Walleye Aged by Sex and Length From Spring 2003 Adult Population Estimate
Long Lake, Washburn County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
11								2																								2		2
12								6			7			5																		18		18
13								4			7			6																		17		17
14								1			6			6			5														18		18
15											4			6			5			2											17		17
16											1			15		1	5			1											1	22		23
17										2				11			6			1											2	18		20
18										1			1	1		3	3			4			2			1			3		5	14		19
19										2			3				2		2	3			5			2			3		7	15		22
20										1			2			3			2	2		2	2			2			8		10	14		24
21																6			4			3			1	1			10		14	11		25
22																2			4			2			1	1		1	9		10	10		20
23																			1			6			3			5	5		15	5		20
24																			1			3						4	3		8	3		11
25																									3			6			9			9
26																												8			8			8
27																									1			5			6			6
28																												6			6			6
29																												1			1			1
30																																		
TOTALS								13		6	25		6	50		15	26		14	13		16	9		9	7		36	41		102	184		286

Table A18. Walleye Tagged by GLIFWC, Fond du Lac, and USFWS Electrofishing Crews in Mille Lacs Lake During 2003
By Sex, Inch Group, and Shoreline Segment

SEX	INCH GROUP	SHORELINE SEGMENT																
		4	6	7	8	9	10	11	13	15	16	17	18	19	20	21	22	TOTAL
FEMALE	15					1			2		2	1					1	7
	16			1	1	2			1		3		1	2	1		2	14
	17		2	15	5	6	1	2	1	14	8	3	4	2	2	5	4	74
	18		5	15	15	15	2	7	1	24	12	7	8	8	7	2	13	141
	19		5	30	9	15	8	12	3	17	19	4	11	12	3	10	19	177
	20		10	44	11	26	6	7	3	17	27	6	14	20	13	13	29	246
	21		10	36	13	33	11	14		25	19	11	14	25	11	11	28	261
	22		7	25	7	24	14	15	3	23	22	8	14	27	8	4	40	241
	23		4	15	8	16	6	15	2	17	20	9	6	16	7	5	19	165
	24		3	7	1	12	7	3	2	22	8	3	3	6	3	5	11	96
	25			6	1	5		4	1	10	4	1	6	8	2	2	8	58
	26		1	5	1	3	3	3		8	7	5		2	2	1	1	42
	27			2	1	3	1	1		2	5	2	2	2		1	7	29
	28			1				2		1	1						1	6
	29										1							1
	TOTAL	0	47	202	73	161	59	85	19	180	158	60	83	130	59	59	183	1,558
MALE	11														1			1
	12		1	1	1	1	1	1			1			1		2	2	12
	13		22	10	11	12	21	6	11	6	16	9	9	22	11	14	7	187
	14		108	109	141	143	62	69	46	64	82	63	41	114	60	83	92	1,277
	15		222	264	226	363	180	261	243	252	241	156	94	244	164	169	223	3,302
	16		127	134	115	215	94	210	235	216	191	106	63	143	112	120	151	2,232
	17		101	153	137	205	37	112	147	192	152	52	38	116	111	114	139	1,806
	18		182	220	117	231	80	129	115	229	138	78	49	82	108	133	167	2,058
	19		223	274	144	249	110	119	105	241	140	98	83	102	173	209	220	2,490
	20	4	192	254	119	216	112	135	112	257	152	109	82	69	155	186	220	2,374
	21		115	144	64	164	67	104	81	192	128	90	70	30	98	93	141	1,581
	22		47	54	25	76	37	40	55	109	70	43	38	20	45	51	67	777
	23	1	14	22	7	15	5	17	10	28	20	16	13	4	7	8	16	203
	24	1	3	5	2	5	1	1	5	2	9	3	3	3	2	4	7	56
	25				1	2					1			1				5
	26			1	3					1					1			6
	27																	0
	28																	0
	29						1											1
	TOTAL	6	1,357	1,645	1,113	1,897	808	1,204	1,165	1,789	1,341	823	583	951	1,048	1,186	1,452	18,368
UNKNOWN	10												1		1			2
	11														4			4
	12																	0
	13			1		1	2					1	1	2		1		9
	14			4	2	2		1		1				1	3	1		15
	15		1	6			2	4		2	2	1	4	2			1	25
	16		1	2				2		1	3	1	3	2	4			19
	17			1			1				1			2	1	1		7
	18			7				1			3		1		3			15
	19			7	1			2					3		1	2		16
	20			2									2		2	1	1	8
	21			4	1						2		4		3	1	1	16
	22			1	1						2		1	4	1			10
	23			1									2		2		1	6
	24			1								1	1		2			5
	25																	0
	26																	0
	27															1		1
	TOTAL	0	2	37	5	3	5	10	0	4	13	4	23	13	27	8	4	158
TOTAL	TOTAL	6	1,406	1,884	1,191	2,061	872	1,299	1,184	1,973	1,512	887	689	1,094	1,134	1,253	1,639	20,084

Table A19. Spring 2003 Juvenile Walleye Survey Conducted by GLIFWC on Mille Lacs Lake, Minnesota

Miles Surveyed	Hours Surveyed	Total Walleye Caught	Estimated Number of Walleye Caught by Age					Catch per Mile by Age			
			Age 1	Age 2	Age 3	Age 4	Age 5+ / Unaged	Age 1	Age 2	Age 3	Age 4
78.0	29.2	987	661	88	35	78	125	8.5	1.1	0.4	1.0

Table A20. Number of Walleye Aged by Sex and Length From Spring 2003 Juvenile Walleye Survey
Mille Lacs Lake, Mille Lacs County, Minnesota

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7			7																														7	7
8			8			2																											10	10
9						6																											6	6
10						19																											19	19
11						11																											11	11
12						3			1																								4	4
13									9			1																					10	10
14									9			3																					12	12
15									1			11																					12	12
16												10			1																		11	11
17												4			1						1												6	6
18												1			4			1						1									7	7
19															1						3			1									5	5
20																																		
21																																		
22																																		
23																																		
24																																		
25																																		
26																																		
27																																		
28																																		
29																																		
30																																		
TOTALS			15			41			20			30			7			1			4			2								120	120

Appendix B: Summer Surveys

Table B1. Fish Community Surveys, Kentuck Lake, Vilas County, Wisconsin, 1983-2003

Net Sets: 8 trap nets for 4 nights*

Year	Summary	Black Crappie	Bluegill	Golden Shiner	Largemouth Bass	Muskellunge	Pumpkinseed	Rock Bass	Smallmouth Bass	Walleye	White Sucker	Yellow Perch
1983	Total	78	2		1	3	13		24	105		96
	Catch/Net	2.44	0.06		0.03	0.09	0.41		0.75	3.28		3.00
1984*	Total	75			3				77	86		8
	Catch/Net	3.12			0.12				3.12	3.50		0.33
1996	Total	3,080	1,014	156	282	5	3,768	2	215	3	60	90
	Catch/Net	96.25	31.69	4.88	8.81	0.16	117.75	0.06	6.72	0.09	1.88	2.81
1997	Total	440	2,936	8	0	0	1,198	1	161	0	16	56
	Catch/Net	13.75	91.75	0.25	0.00	0.00	37.44	0.03	5.03	0.00	0.50	1.75
1998	Total	556	12,142	40	5	1	1,778	6	101	1	9	32
	Catch/Net	17.38	379.44	1.25	0.16	0.03	55.56	0.19	3.16	0.03	0.28	1.00
1999	Total	59	3,379	29	2	0	385	12	49	0	7	28
	Catch/Net	1.84	105.59	0.91	0.06	0.00	12.03	0.38	1.53	0.00	0.22	0.88
2000	Total	36	2,782	33	0	1	186	8	23	6	16	6
	Catch/Net	1.13	86.94	1.03	0.00	0.03	5.81	0.25	0.72	0.19	0.50	0.19
2001	Total	4	1,857	12	0	0	432	22	60	5	22	6
	Catch/Net	0.13	58.03	0.38	0.00	0.00	13.50	0.69	1.88	0.16	0.69	0.19
2002	Total	17	1,348	7	0	0	250	29	60	6	36	2
	Catch/Net	0.55	43.48	0.23	0.00	0.00	8.06	0.94	1.94	0.19	1.16	0.06
2003	Total	10	275	5	1	0	150	106	50	7	76	3
	Catch/Net	0.31	8.59	0.16	0.03	0.00	4.69	3.31	1.56	0.22	2.38	0.09

* Incomplete data available from 1984 survey, which was conducted in June. It appears that 24 or 25 nets were set during this survey. One net did not fish properly during the 2002 survey, so catch/net data was based on 31 successful lifts.
1997 and 1999 - 2002 surveys were conducted by GLIFWC. 1983, 1984, 1996 and 1998 surveys were conducted by the Wisconsin Department of Natural Resources. Some species with minimal catch may not be reported in the summary above.

Figure B1

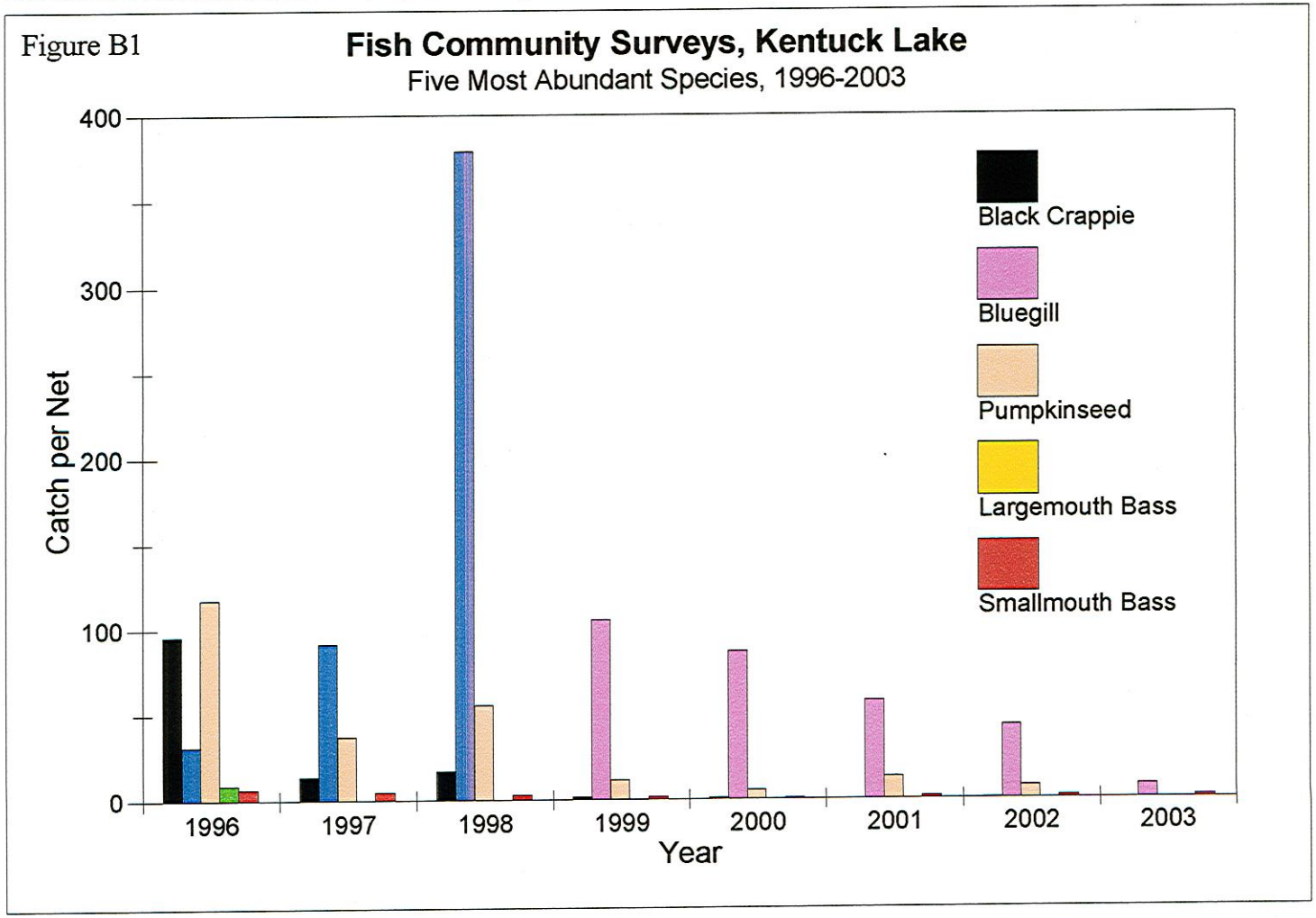

Table B2. Summer 2003 Fish Community Survey, Kentuck Lake, Vilas County, Wisconsin

Dates: June 23 - June 27, 2003

Net Sets: 8 fyke nets for 4 nights

Area: 957 acres

Inch Group	Black Crappie	Bluegill	Brook Trout	Common Shiner	Golden Shiner	Largemouth Bass	Pumpkinseed	Rock Bass	Smallmouth Bass	Walleye	White Sucker	Yellow Perch
2.0-2.4												
2.5-2.9		1										
3.0-3.4	1	1		1				1	1			1
3.5-3.9		1			2		2	1	1			1
4.0-4.4		2					6	6	2			
4.5-4.9		4					5	11	1			
5.0-5.4							4	25	2		1	
5.5-5.9		1					7	19	1			
6.0-6.4		4					12	12				
6.5-6.9		48			1		42	10	4			
7.0-7.4		91			1		49	8	8	1		
7.5-7.9		71					22	6	1	1		
8.0-8.4		20					1	7				
8.5-8.9					1							1
9.0-9.4			1						1			
9.5-9.9									1			
10.0-10.4	4								4			
10.5-10.9	4								2			
11.0-11.4	1								2			
11.5-11.9									1			
12.0-12.4									4	2		
12.5-12.9									7			
13.0-13.4									3	1	2	
13.5-13.9									2		1	
14.0-14.4									1		2	
14.5-14.9											9	
15.0-15.4											5	
15.5-15.9						1				1	5	
16.0-16.4											7	
16.5-16.9									1		3	
17.0-17.4											7	
17.5-17.9											9	
18.0-18.4											6	
18.5-18.9											4	
19.0-19.4											2	
19.5-19.9											4	
20.0-20.4											3	
20.5-20.9											3	
21.0-21.4											3	
21.5-21.9												
22.0-22.4												
22.5-22.9												
23.0-23.4												
23.5-23.9												
24.0-24.4												
24.5-24.9												
25.0-25.4												
25.5-25.9												
26.0-26.4												
26.5-26.9												
27.0-27.4												
27.5-27.9										1		
28.0-28.4												
28.5-28.9												
Unmeasured		31										
Total	10	275	1	1	5	1	150	106	50	7	76	3
Catch/Net	0.31	8.59	0.03	0.03	0.16	0.03	4.69	3.31	1.56	0.22	2.38	0.09
Perc. of Total	1.5%	40.1%	0.1%	0.1%	0.7%	0.1%	21.9%	15.5%	7.3%	1.0%	11.1%	0.4%
Mean Length	9.9	7.2	9.3	3.3	6.1	15.8	6.7	5.9	9.6	13.8	17.0	5.3

Table B3. Summer 2003 Walleye Electrofishing Survey Conducted by GLIFWC

Inch Group	Kentuck Lake, Vilas County Summer Electrofishing June 23, 2003 Number of Walleye
3.0-3.4	
3.5-3.9	
4.0-4.4	
4.5-4.9	
5.0-5.4	
5.5-5.9	
6.0-6.4	
6.5-6.9	10
7.0-7.4	30
7.5-7.9	39
8.0-8.4	3
8.5-8.9	
9.0-9.4	1
9.5-9.9	
10.0-10.4	2
10.5-10.9	3
11.0-11.4	5
11.5-11.9	6
12.0-12.4	5
12.5-12.9	5
13.0-13.4	2
13.5-13.9	
14.0-14.4	
14.5-14.9	
Total Walleye	111
Number of Age 1 Walleye	82
Number of Age 2 Walleye	17
Miles Surveyed	6.0
Hours Surveyed	2.35
Catch per Mile: Total	18.5
Age 1 Catch per Mile	13.7
Age 2 Catch per Mile	2.8

Appendix C: Fall Recruitment Surveys

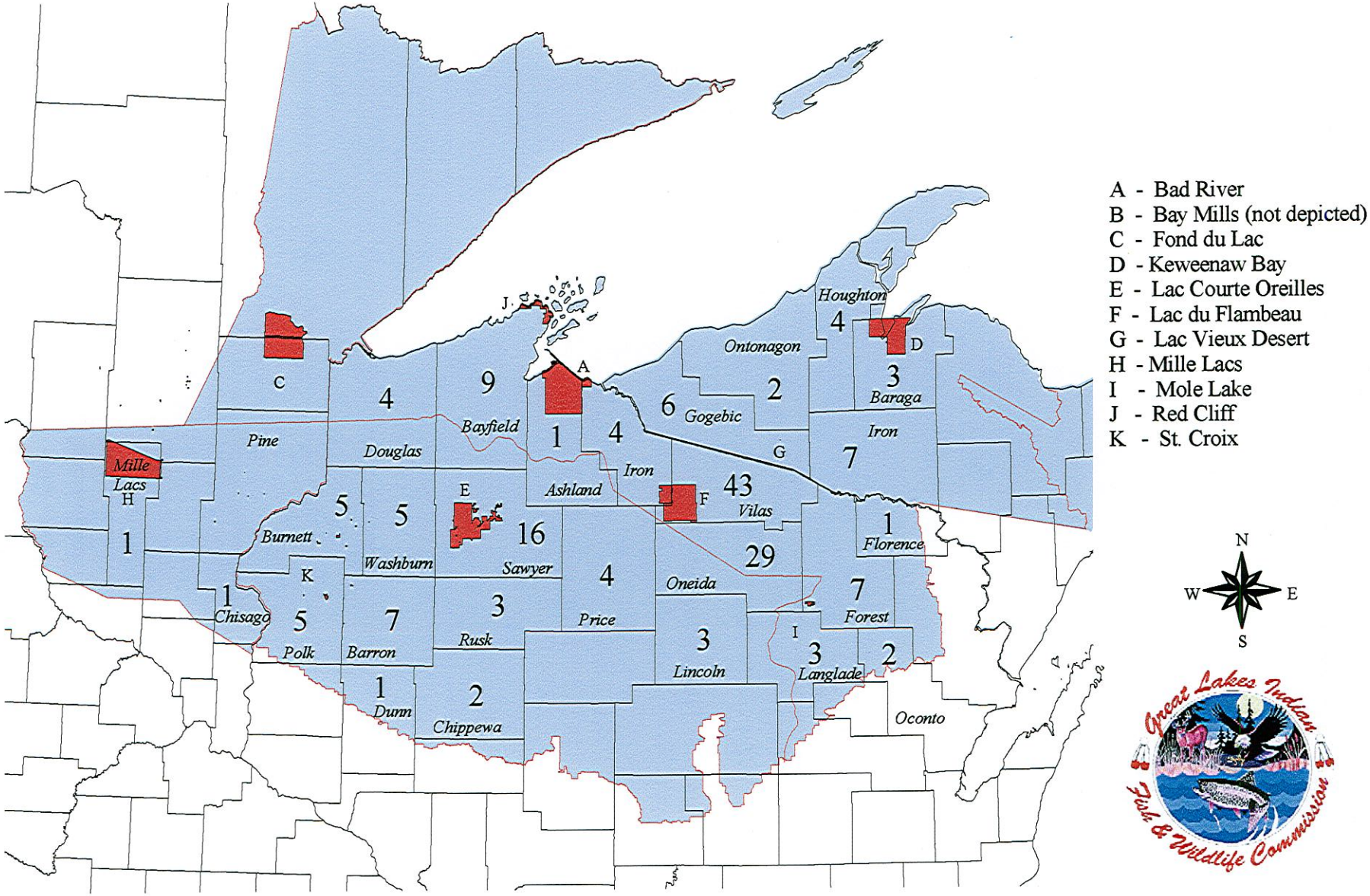

Figure C1. Ceded territory in Wisconsin, Michigan, and Minnesota with the number of lakes per county where fall electrofishing surveys were conducted by GLIFWC during 2003.

The ceded territory boundaries and the tribal reservation boundaries are representations and may not be the actual legally binding boundaries.

Figure C2. Means of Age 0 and 1 Walleye CPEs

Wisconsin Fall Surveys 1986-2003

(Lakes with codes of NR or C-NR with at least 75% of the shoreline surveyed. Includes Wisconsin DNR data and all lakes with CPEs of 0.)

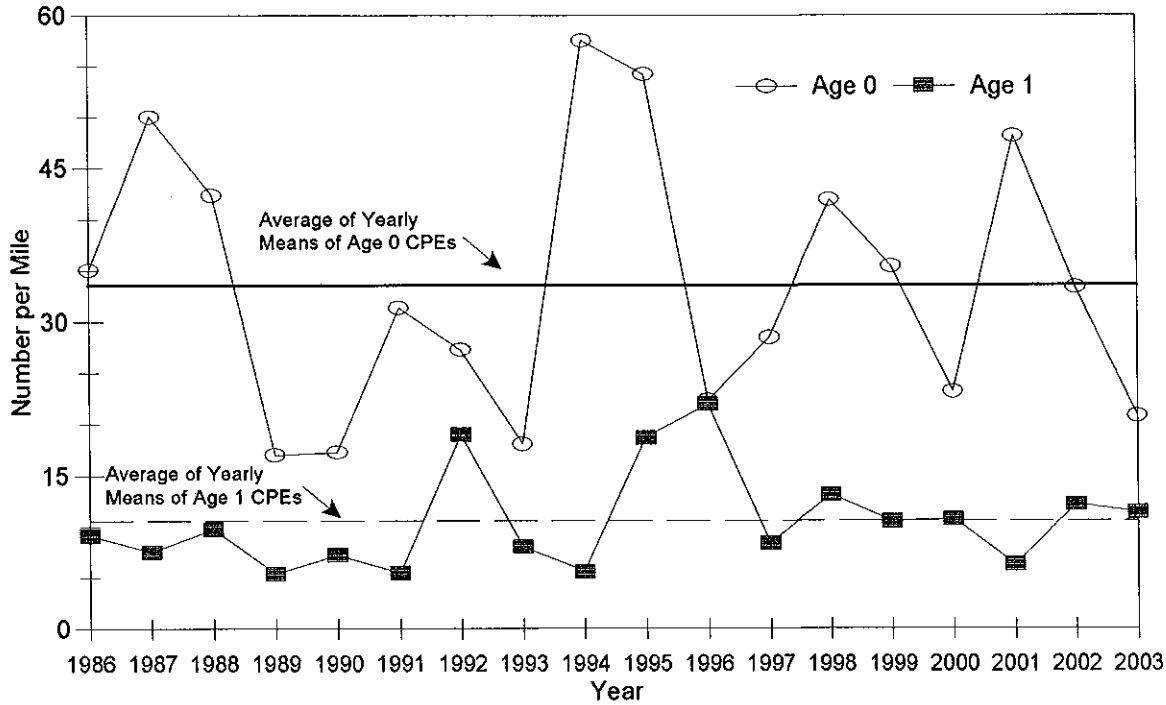

Figure C3. Medians of Age 0 and 1 Walleye CPEs

Wisconsin Fall Surveys 1986-2003

(Lakes with codes of NR or C-NR with at least 75% of the shoreline surveyed. Includes Wisconsin DNR data and all lakes with CPEs of 0.)

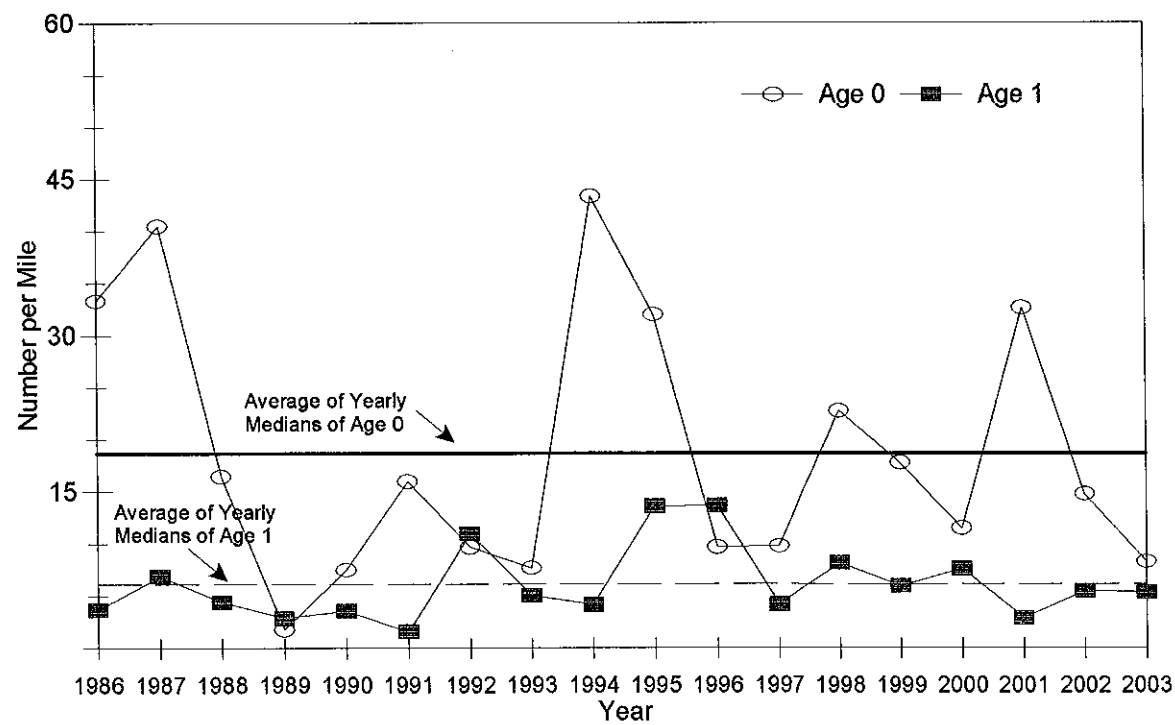

Figure C4.

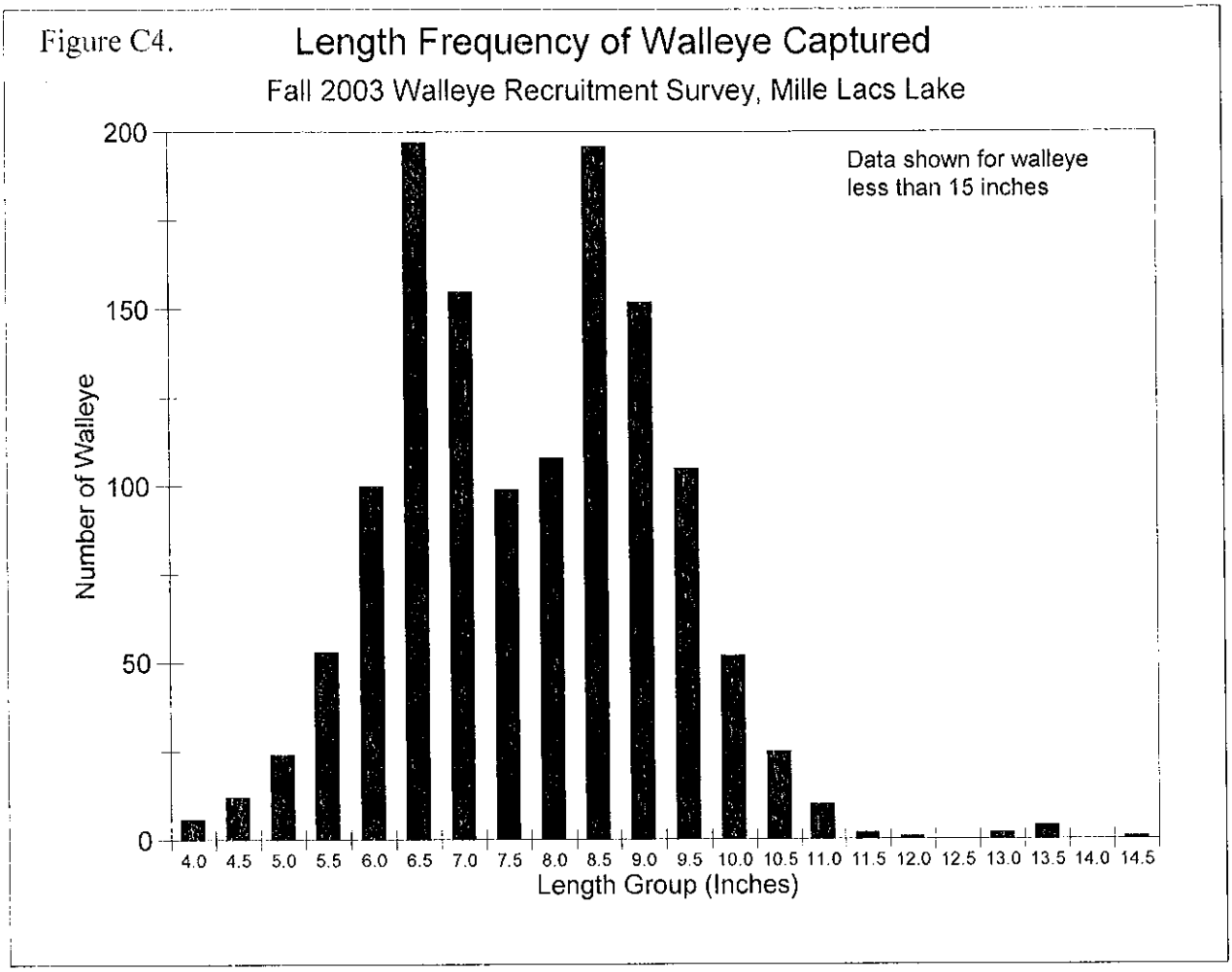
Length Frequency of Walleye Captured
Fall 2003 Walleye Recruitment Survey, Mille Lacs Lake
Data shown for walleye less than 15 inches
Number of Walleye
200
150
100
50
0
4.0 4.5 5.0 5.5 6.0 6.5 7.0 7.5 8.0 8.5 9.0 9.5 10.0 10.5 11.0 11.5 12.0 12.5 13.0 13.5 14.0 14.5
Length Group (Inches)

Figure C5. Age 0 CPE By Code for GLIFWC 2003 Recruitment Surveys

(X is the mean for each code, + is the median.)

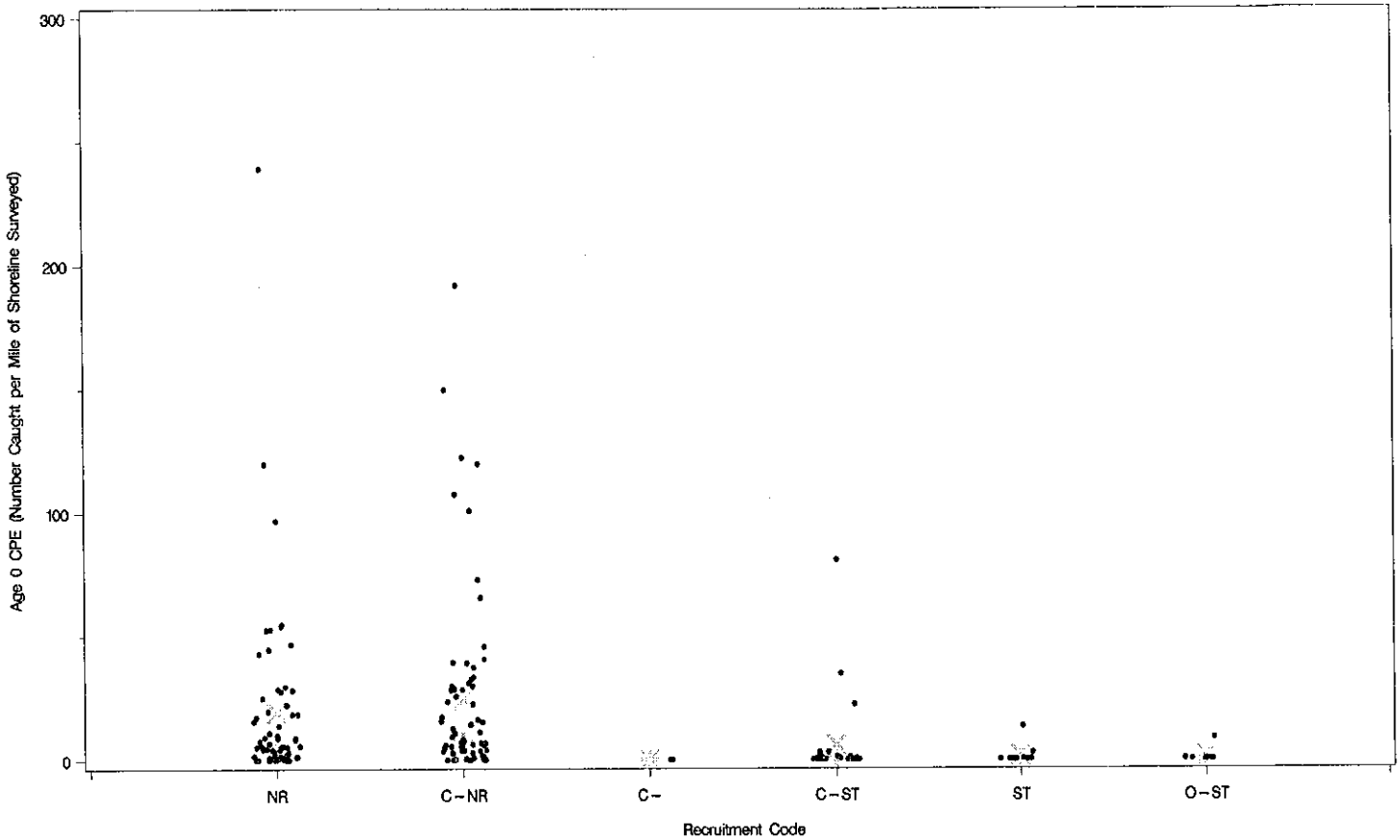

Figure C6. Age 1 CPE By Code for GLIFWC 2003 Recruitment Surveys

(X is the mean for each code, + is the median.)

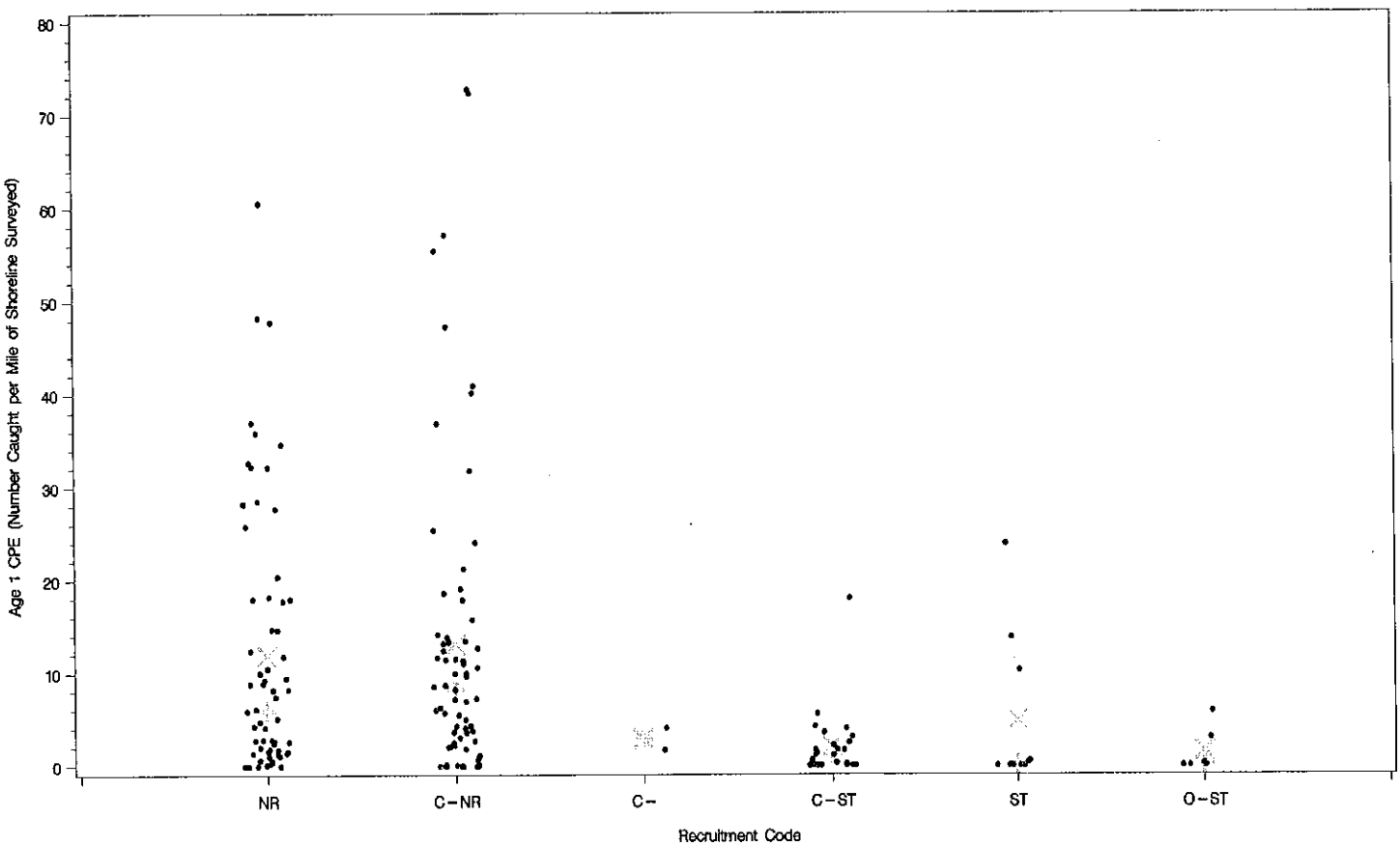

Table C1. Description of Walleye Recruitment Source Codes.

Code		Recruitment Code Description
NR	=	Natural reproduction provides the only source of recruitment to the adult population and is consistent enough to result in an adult population with multiple year-classes present.
NR-2	=	Natural reproduction provides the only source of recruitment to the population, but adult densities are low, presumably resulting from weak or inconsistent year-classes.
C-NR	=	Natural reproduction is sufficient to sustain the adult population, but stocking occurs for non-biological reasons and may or may not augment the adult population (e.g., NR lakes stocked back with fry after spawn collection, NR lakes stocked by lake associations).
C-	=	Natural reproduction and stocking provide more or less equal recruitment to the population, or the relative contributions of natural reproduction and stocking are not understood well enough to make an accurate judgement as to the dominant source.
C-ST	=	Stocking provides the dominant source of recruitment to the adult population but natural reproduction occurs and may augment the adult population to a lesser extent (e.g., NR-2 lakes that are stocked to produce greater abundance).
ST	=	Stocking provides the only source of recruitment to the adult population. If stocking is regular then the adult population may consist of multiple year-classes; if irregular, then the population may consist of one or two year-classes with perhaps only large fish.
REM	=	Absence of recruitment to the adult population due to discontinued stocking or habitat changes has resulted in a remnant population of adults; the stock will disappear at some point in the future.
O-ST	=	Stocking provides the only source of recruitment to the population in an attempt to establish an adult population, but survey data is either not available or indicates that adult density is less than 0.5 per acre.
O	=	Walleye are not present.

Table C2. Fall 2003 Walleye Recruitment Surveys Conducted by GLIFWC

WISCONSIN		Surface	2003		Age 0	Age 0	Age 0	Age 0		Age 1	Age 1	Age 1	Age 1		Total					Other Species			
County	Lake	Area (Acres)	Walleye Code	Date Surveyed	Wall-eye	Min Length	Max Length	Mean Length	Age 0 CPE	Wall-eye	Min Length	Max Length	Mean Length	Age 1 CPE	Wall-eye	Miles Surveyed	Shore Miles	Hours Surveyed	Temp-erature	MUE	NOP	LMB	SMB
ASHLAND	L GALILEE	213	O-ST	9/2	25	4.1	7.0	5.1	8.6	17	8.0	9.4	8.7	5.9	93	2.9	2.9	1.89	72				
BARRON	BEAR L	1,358	C-ST	9/29	4	4.6	5.6	5.0	0.3	0				0.0	17	14.9	14.9	4.42	53		9	8	
BARRON	BEAVER DAM L	1,112	C-ST	9/15, 16	6	4.8	5.8	5.2	0.5	3	8.7	10.2	9.6	0.3	14	11.7	18.0	5.20	69		1	4	
BARRON	HORSESHOE L	115	NR	10/2	0				0.0	0				0.0	0	2.5	2.5	0.75	50			14	
BARRON	LOWER TURTLE L	276	ST	10/1	0				0.0	0				0.0	11	3.8	3.8	1.30	51				
BARRON	RED CEDAR L	1,841	C-NR	9/30	259	3.9	8.0	6.5	16.3	69	8.2	11.9	9.9	4.3	456	15.9	15.9	6.52	55				
BARRON	SILVER L	337	C-NR	10/7	202	4.0	7.6	5.4	45.9	3	7.7	10.5	8.7	0.7	234	4.4	4.4	2.30	54				
BARRON	UPPER TURTLE L	438	C-ST	10/8	0				0.0	8	7.4	8.5	8.0	1.7	33	4.8	4.8	2.61	52				
BAYFIELD	BUSKEY BAY	100	NR	10/21	5	5.5	6.1	5.8	2.1	10	6.9	9.7	8.6	4.2	23	2.4	2.4	0.79	54			5	1
BAYFIELD	HART L	259	NR	10/21	29	4.4	6.1	5.4	8.3	5	8.1	10.4	9.0	1.4	36	3.5	3.5	1.37	53				
BAYFIELD	L MILLICENT	183	NR	10/21	38	4.4	7.3	5.6	10.0	6	8.3	10.2	9.3	1.6	44	3.8	3.8	1.30	55			2	
BAYFIELD	L OWEN	1,323	C-ST	9/3	1	6.4	6.4	6.4	0.0	0				0.0	10	24.0	24.0	9.11	70			11	26
BAYFIELD	MIDDLE EAU CLAIRE L	902	C-NR	9/25	83	4.4	7.1		10.8	440	7.2	10.2		57.1	557	7.7	11.0	3.10	58				
BAYFIELD	NAMEKAGON L	3,227	C-NR	10/20	89	4.3	7.4	6.3	3.0	120	7.5	9.5	8.6	4.1	612	29.4	43.6	9.64	51				
BAYFIELD	SISKIWIT L	330	NR	10/13	18	4.9	7.0	5.8	4.5	72	8.2	11.6	10.1	18.0	94	4.0	4.0	1.44	56				
BAYFIELD	SISKIWIT L	330	NR	10/14	23	4.5	7.0	5.6	5.8	72	8.1	11.6	9.8	18.0	101	4.0	4.0	1.53	55				
BAYFIELD	SISKIWIT L	330	NR	10/16	14	4.4	6.5	5.6	3.5	37	7.2	11.6	9.9	9.3	54	4.0	4.0	1.41	48				
BAYFIELD	TWIN BEAR L	172	NR	10/21	4	4.8	7.1	6.0	1.0	8	9.1	11.0	9.9	2.1	28	3.9	3.9	0.89	51				
BAYFIELD	UPPER EAU CLAIRE L	996	C-NR	9/4	42	4.8	6.8	5.7	3.8	1	9.8	9.8	9.8	0.1	58	11.1	11.1	4.00	71				
BURNETT	BIG MCKENZIE L	1,185	C-ST	9/23	20	5.4	7.3	6.4	2.8	12	7.4	10.3	9.4	1.7	65	7.1	7.1	2.72	64				
BURNETT	BIG SAND L	1,400	O-ST	9/8	2	6.7	7.7	7.2	0.3	0				0.0	3	6.7	7.6	2.36	76				
BURNETT	DEVILS L	1,001	C-ST	10/1	1	5.2	5.2	5.2	0.2	0				0.0	13	5.2	5.2	2.01	50		3	6	
BURNETT	SAND L	962	ST	9/25	1	6.4	6.4	6.4	0.1	3	7.6	9.1	8.5	0.4	11	8.3	8.3	2.91	60		4	11	
BURNETT	YELLOW L	2,287	C-ST	9/17	17	4.7	7.5	6.6	3.0	20	7.5	9.7	8.7	3.6	67	5.6	7.9	2.83	68		2	2	
CHIPPEWA	HOLCOMBE FL	3,890	NR	10/15, 16	666	4.8	7.7	6.9	52.9	763	7.8	9.7	8.4	60.6	1,558	12.6	60.8	4.51	53				
CHIPPEWA	L WISSOTA	6,300	NR	10/13, 14	689	5.2	7.0	6.5	54.3	607	7.1	10.0	8.5	47.8	1,756	12.7	56.3	5.09	58				
DOUGLAS	L NEBAGAMON	914	C-NR	10/20, 21	86	4.7	7.6	6.6	8.0	89	7.7	10.6	8.8	8.2	261	10.8	10.8	4.27	54				
DOUGLAS	LOWER EAU CLAIRE L	802	C-NR	9/9	217	4.0	6.8	5.5	39.5	63	7.1	10.5	9.1	11.5	303	5.5	7.8	1.56	75				
DOUGLAS	UPPER ST CROIX L	855	C-NR	10/22, 23	18	4.6	6.7	5.6	1.8	27	7.3	10.7	8.9	2.7	107	10.0	10.0	3.72	50				
DOUGLAS	WHITEFISH L	832	C-NR	9/8	157	2.7	6.7	5.0	22.8	93	6.9	9.9	8.1	13.5	251	6.9	6.9	2.77	72				
DUNN	TAINTER L	1,752	NR	9/10	2	5.7	5.9	5.8	0.2	1	8.9	8.9	8.9	0.1	11	9.6	25.7	1.83	75				1
FLORENCE	PATTEN L	255	NR	9/9	467	3.4	7.2	5.0	119.7	24	7.4	10.9	9.2	6.2	497	3.9	3.9	1.81	71				
FOREST	BUTTERNUT L	1,292	C-NR	9/15	1536	4.7	7.9	6.1	192.0	17	8.1	11.7	9.9	2.1	1,564	8.0	8.0	2.79	67				
FOREST	FRANKLIN L	892	NR	10/9	30	4.0	5.4	4.6	4.5	0				0.0	30	6.6	6.6	2.42	56				
FOREST	JUNGLE L	182	C-NR	9/10	222	4.6	7.6	5.8	100.9	25	10.1	11.6	10.9	11.4	284	2.2	2.2	1.18	72				
FOREST	L LUCERNE	1,026	C-ST	9/15	1	5.8	5.8	5.8	0.1	0				0.0	15	10.5	10.5	3.69	68				
FOREST	L METONGA	1,991	C-ST	9/29	5	4.6	6.1	5.0	0.6	44	7.6	10.7	9.0	5.6	87	7.9	7.9	2.99	57				
FOREST	LILY L	211	NR	9/23	142	5.1	7.2	6.0	27.8	3	7.6	7.8	7.7	0.6	309	5.1	5.1	1.95	62				
FOREST	STEVENS L	297	ST	9/24	0				0.0	79	8.1	11.4	9.7	23.9	80	3.3	3.3	1.15	58				
IRON	ECHO L	220	C-NR	9/4	2	5.5	6.5	6.0	0.4	27	7.9	10.0	9.2	5.5	81	4.9	4.9	2.02	70				
IRON	GILE FL	3,384	NR	9/29	16	3.5	7.5	5.2	3.0	6	7.9	11.5	9.7	1.1	34	5.4	27.2	1.57	48				1
IRON	TRUDE L	781	NR	9/18	232	3.6	7.8	5.4	28.3	97	7.9	10.4	8.8	11.8	399	8.2	14.1	2.27	68				
IRON	TURTLE-FLAMBEAU FL	13,545	C-NR	9/15	1044	3.3	6.7	5.1	40.8	272	6.8	9.1	8.2	10.6	1,637	25.6	211.0	7.53	67				
LANGLADE	ENTERPRISE L	502	NR	9/16	281	3.8	5.4	4.5	46.8	208	6.1	8.9	7.4	34.7	505	6.0	6.0	2.60	68				
LANGLADE	PICKEREL L	1,299	O-ST	10/14	0				0.0	0				0.0	0	4.0	8.1	1.65	53			12	
LANGLADE	SAWYER L	149	NR-2	9/17	1	6.8	6.8	6.8	0.2	3	9.8	10.5	10.3	0.6	23	5.2	5.2	1.73	68				
LINCOLN	L MOHAWKSIN	1,910	NR	10/13	230	4.1	6.9	5.4	22.3	151	7.0	9.4	8.0	14.7	513	10.3	35.2	2.96	48				
LINCOLN	L NOKOMIS	2,433	NR	9/9	1509	3.5	6.8	4.9	96.7	164	7.0	10.5	8.6	10.5	1,854	15.6	38.5	7.14	75				
LINCOLN	SPIRIT R FL	1,663	C-NR	10/15	324	4.0	7.6	5.1	30.0	20	8.1	10.5	10.0	1.9	368	10.8	50.3	4.46	52				
OCONTO	BOOT L	235	C-NR	10/1	1	5.7	5.7	5.7	0.3	0				0.0	4	3.8	3.8	1.27	57				
OCONTO	WHEELER L	293	NR	9/21	0				0.0	3	8.4	9.4	8.7	0.7	16	4.6	4.6	1.65	67				
ONEIDA	BIG FORK L	690	C-NR	9/14	647	3.3	5.6	4.7	119.8	393	5.7	8.5	6.6	72.8	1,131	5.4	5.4	2.67	68				
ONEIDA	BIG L	865	C-NR	10/14	97	3.9	5.6	4.8	15.4	258	5.7	8.0	6.7	41.0	466	6.3	6.6	2.44	50				
ONEIDA	BIG STONE L	548	C-NR	10/27	29	4.2	6.7	5.7	6.0	68	6.8	10.0	8.1	14.2	117	4.8	4.8	1.60	48				
ONEIDA	BOOM L	437	NR	10/14	8	4.6	5.6	5.2	1.4	48	7.1	8.9	8.1	8.3	83	5.8	9.6	1.65	50				
ONEIDA	BUCKSKIN L	634	C-NR	10/6	109	3.7	8.6	5.5	17.3	160	8.7	10.6	9.7	25.4	315	6.3	6.3	1.33	50				
ONEIDA	CLEAR L	846	NR	10/8, 9	74	4.4	6.8	5.7	5.4	19	7.6	9.7	8.6	1.4	103	13.8	13.8	4.91	58				
ONEIDA	CRESCENT L	612	NR	9/7	103	4.1	7.2	5.4	13.9	135	7.6	9.4	8.4	18.2	307	7.4	7.4	3.05	72				
ONEIDA	DAM L	744	NR	10/15	321	3.6	5.7	4.3	52.6	219	6.0	8.4	7.4	35.9	593	6.1	7.7	2.07	50				
ONEIDA	GEORGE L	435	C-NR	9/22	401	4.2	7.5	5.5	72.9	175	7.6	9.3	8.2	31.8	630	5.5	5.5	2.30	62				
ONEIDA	HASBROOK L	302	NR	10/6	197	3.5	7.8	5.3	44.8	21	8.1	10.2	9.0	4.8	225	4.4	4.4	1.78	30				
ONEIDA	ISLAND L	295	C-NR	9/16	41	4.4	6.3	5.8	9.3	82	6.4	8.9	7.4	18.6	155	4.4	4.4	2.28	70				
ONEIDA	JULIA L (THREE LAKES)	401	C-NR	10/16	45	4.7	6.8	5.8	6.8	84	7.1	9.0	8.1	12.7	193	6.6	6.6	2.21	50				
ONEIDA	KATHERINE L	590	NR	9/17	198	3.5	6.6	5.3	18.5	190	6.7	9.8	8.0	17.8	453	10.7	10.7	4.18	66				
ONEIDA	KAWAGUESAGA L	670	NR	10/21	10	5.3	6.4	6.0	1.4	53	7.0	9.6	8.4	7.5	159	7.1	11.1	2.56	49				
ONEIDA	LITTLE FORK L	354	C-NR	10/15	33	3.9	7.0	6.0	6.3	26	7.1	8.4	7.7	5.0	125	5.2	5.2	1.50	49				
ONEIDA	LONG L	620	C-NR	10/15	53	4.4	6.5	5.5	7.1	19	7.0	9.2	7.9	2.5	94	7.5	7.5	2.20	52				

Table C2, continued

WISCONSIN		Surface	2003		Age 0	Age 0	Age 0	Age 0		Age 1	Age 1	Age 1	Age 1		Total					Other Species			
		Area	Walleye	Date	Wall-	Min	Max	Mean	Age 0	Wall-	Min	Max	Mean	Age 1	Wall-	Miles	Shore	Hours	Temp-				
County	Lake	(Acres)	Code	Surveyed	eye	Length	Length	Length	CPE	eye	Length	Length	Length	CPE	eye	Surveyed	Miles	Surveyed	erature	MUE	NOP	LMB	SMB
ONEIDA	MANSON L	236	C-NR	10/22	3	4.4	6.4	5.3	0.8	13	7.0	10.1	8.7	3.6	29	3.6	3.6	1.42	50				
ONEIDA	MEDICINE L	372	C-NR	10/16	69	3.7	6.8	5.0	14.4	53	6.8	8.5	7.6	11.0	171	4.8	4.8	1.74	52				
ONEIDA	MINOCQUA L	1,360	C-NR	10/14	50	5.2	7.1	6.3	4.1	14	8.0	9.8	9.0	1.1	143	12.2	19.1	3.99	54				
ONEIDA	MOEN L	460	NR	10/20	0				0.0	5	8.5	9.5	9.2	1.3	44	3.9	3.9	1.61	53				
ONEIDA	N NOKOMIS L	476	ST	10/23	1	7.2	7.2	7.2	0.2	0				0.0	64	6.1	7.3	2.19					
ONEIDA	PELICAN L	3,585	C-NR	9/30	164	3.6	6.9	5.7	12.6	113	7.1	10.3	9.0	8.7	367	13.0	13.0	6.85	50				
ONEIDA	PLANTING GROUND L	1,012	C-NR	10/8, 9	165	4.1	6.0	5.2	15.7	90	6.1	9.2	7.7	8.6	302	10.5	10.5	3.56	58				
ONEIDA	RAINBOW FL	2,035	C-NR	10/7	1102	3.1	7.4	4.8	122.4	104	7.5	10.2	8.9	11.6	1,231	9.0	22.3	4.04	54				
ONEIDA	SAND L	540	NR	9/10	26	4.0	6.6	5.6	5.4	98	7.1	9.5	8.2	20.4	154	4.8	4.8	1.28	73				
ONEIDA	SQUASH L	392	NR	9/28	31	5.2	7.5	6.2	4.2	2	9.4	9.5	9.5	0.3	34	7.4	7.4	2.41	58				
ONEIDA	SQUIRREL L	1,317	NR	9/18	598	4.2	6.8	5.8	43.0	454	6.9	9.6	8.3	32.7	1,278	13.9	13.9	4.48	65				
ONEIDA	TOMAHAWK L	3,392	C-ST	10/16	2	6.5	7.0	6.8	0.1	0				0.0	80	16.9	30.2	5.96	52			5	
ONEIDA	WILLOW FL	5,135	C-NR	9/8	454	3.5	7.0	4.9	29.9	87	7.3	10.1	8.7	5.7	575	15.2	98.5	3.88	73				
POLK	BALSAM L	2,054	C-ST	10/2	1	8.1	8.1		0.0	14	7.5	11.4		0.6	23	22.7	22.7	8.00	54				
POLK	BIG ROUND L	1,015	ST	9/9	0				0.0	0				0.0	2	5.7	5.7	1.89	74				
POLK	HALF MOON L	579	ST	10/9	0				0.0	0				0.0	15	7.1	7.1	2.20	56		2	8	
POLK	PIPE L	284	C-NR	10/6	19	6.0	8.0	6.7	2.8	0				0.0	20	6.9	6.9	1.93	56		3	6	5
POLK	WAPOGASSET L	1,186	C-ST	10/21	2	6.0	6.2	6.1	0.4	3	7.4	8.1	7.9	0.5	113	5.6	9.9	2.36	54				
PRICE	BUTTERNUT L	1,006	C-NR	10/1	77	4.3	6.9	6.3	6.9	450	7.0	9.7	8.7	40.2	1,295	11.2	11.2	5.02	51	1			
PRICE	N SPIRIT L	213	O-ST	9/29	0				0.0	16	10.3	11.7	11.2	3.0	93	5.3	5.4	2.18	50				
PRICE	PIKE L	806	C-NR	10/2	41	5.3	6.8	5.9	3.8	24	7.1	9.1	8.4	2.2	157	10.7	10.9	2.23	48				
PRICE	ROUND L	726	C-NR	9/30	335	4.4	6.6	5.6	65.7	369	6.7	9.0	8.0	72.4	869	5.1	5.1	2.24	50				
RUSK	DAIRYLAND RESERVOIR	1,745	NR	9/11	5	5.8	6.6	6.2	0.8	11	6.8	8.7	7.9	1.9	34	5.9	20.4	1.74	75				
RUSK	ISLAND L	526	C-NR	9/9	0				0.0	0				0.0	1	4.8	5.8	1.38	75			11	
RUSK	PULASKI L	126	NR	9/8	23	5.1	6.4	5.9	9.2	7	7.6	8.9	8.3	2.8	32	2.5	2.5	0.86	78			2	
SAWYER	CONNORS L	429	NR	9/29	8	5.5	6.9	6.4	1.6	0				0.0	23	5.0	5.0	1.73	53				
SAWYER	GRINDSTONE L	3,111	C-NR	9/2	119	4.0	6.8	5.6	11.3	40	7.3	10.5	8.9	3.8	185	10.5	10.5	3.86	72				
SAWYER	L CHETAC	1,920	C-NR	10/2	26	5.5	6.9		5.5	55	8.0	10.9		11.7	290	4.7	17.5	2.30	53	44		110	
SAWYER	L CHIPPEWA	15,300	C-NR	10/22-3, 28-9	642	4.5	7.3	6.1	28.4	281	7.4	9.9	8.6	12.4	1,127	22.6	232.9	8.97	48				
SAWYER	L WINTER	676	O-ST	9/23	0				0.0	0				0.0	0	11.0	11.0	2.22	62				
SAWYER	LAC COURTE OREILLES	5,039	C-NR	9/25	391	3.9	7.0	5.5	28.5	137	7.1	10.2	8.5	10.0	534	13.7	25.4	5.96	61				
SAWYER	LITTLE ROUND L	229	NR	9/23	0				0.0	0				0.0	0	2.4	3.2	1.05	63		1	14	1
SAWYER	LOST LAND L	1,304	C-NR	9/3	3	6.3	6.5	6.4	0.3	23	6.8	9.1	8.3	2.0	44	11.3	11.3	3.18	67		2	6	
SAWYER	NELSON L	2,503	C-NR	9/24	3	6.7	7.6	7.1	0.1	0				0.0	20	22.7	31.4	8.02	60		4	67	
SAWYER	ROUND L	3,054	C-NR	9/22	123	3.6	7.5	5.9	6.1	147	7.6	9.8	8.5	7.3	327	20.2	20.2	8.59	63				
SAWYER	SAND L	928	C-ST	9/10	114	5.0	6.9		22.4	92	7.5	9.4		18.0	350	5.1	5.1	2.40	69	3	2	3	2
SAWYER	SISSABAGAMA L	719	C-NR	9/11	1	6.4	6.4	6.4	0.1	1	10.4	10.4	10.4	0.1	78	8.2	8.2	3.98	72				
SAWYER	SMITH L	323	O-ST	9/9	0				0.0	1	7.8	7.8	7.8	0.2	1	4.5	4.5	1.65	67		2	9	
SAWYER	SPIDER L	1,454	ST	9/4	0				0.0	0				0.0	19	14.2	20.8	3.80	70				
SAWYER	TEAL L	1,049	NR	9/10	57	4.5	6.6	5.8	11.0	251	6.8	9.4	8.2	48.3	433	5.2	11.8	2.57	71				
SAWYER	WHITEFISH L	786	C-ST	9/8	0				0.0	34	8.0	10.2	9.1	4.2	74	8.1	8.1	3.57	74				
VILAS	ALDER L	274	C-NR	9/29	25	4.7	5.8	5.1	6.4	28	6.5	8.8	7.8	7.2	79	3.9	3.9	1.57	47				
VILAS	ANNABELLE L	213	NR	10/15	17	5.8	6.8	6.4	5.9	36	7.6	10.4	9.4	12.4	65	2.9	2.9	1.04	49				
VILAS	ANVIL L	380	NR	9/17	24	5.1	6.4	5.7	5.0	2	7.3	8.6	8.0	0.4	80	4.8	4.8	1.81	70				
VILAS	BIG ARBOR VITAE L	1,090	C-NR	9/30	88	4.5	7.2	6.0	14.2	111	7.7	10.4	9.3	17.9	350	6.2	7.8	2.13	50				
VILAS	BIG L (MI BORDER)	771	NR	10/2	21	4.0	6.6	5.3	1.5	39	7.4	9.6	8.8	2.8	228	13.8	13.8	3.64	49				
VILAS	BIG MUSKELLUNGE L	930	NR	10/7	559	4.0	6.9	5.2	54.8	84	7.1	10.0	8.7	8.2	666	10.2	10.2	3.85	57				
VILAS	BIG PORTAGE L	638	NR	9/17	126	4.3	8.4	5.7	18.5	18	8.5	10.5	9.3	2.6	202	6.8	6.8	2.58	67				
VILAS	BIG SAND L	1,408	C-ST	9/16	0				0.0	0				0.0	34	5.5	10.6	1.85	67				
VILAS	BIG ST GERMAIN L	1,617	C-NR	10/13	14	6.1	7.1	6.7	3.7	60	9.0	11.5	10.5	15.8	89	3.8	7.6	1.49	56				
VILAS	BLACK OAK L	584	C-ST	10/13	3	6.0	6.8	6.5	0.4	23	8.0	10.0	9.3	3.1	29	7.4	7.4	2.14	55				
VILAS	CATFISH L	1,012	NR	9/18	283	4.4	7.5	6.2	25.0	418	7.5	9.2	8.3	37.0	1,138	11.3	11.3	4.78	69				
VILAS	CLEAR L	555	C-NR	9/3	149	4.0	6.6	5.6	28.7	72	7.0	10.2	8.4	13.8	226	5.2	7.1	1.63	68				
VILAS	CRAB L	949	NR	9/30	73	4.3	7.2		4.9	65	7.6	9.8		4.3	253	15.0	15.8	7.50	55				12
VILAS	CRANBERRY L	956	NR	10/1	326	4.0	6.8	5.6	28.6	367	6.9	9.0	8.0	32.2	1,001	11.4	11.4	4.02	46				
VILAS	EAGLE L	572	NR	9/29	83	4.8	6.8	5.9	17.3	124	7.0	8.6	7.8	25.8	332	4.8	4.8	1.86	51				
VILAS	FISHTRAP L	329	NR	9/11	8	4.8	5.3	5.0	1.3	10	7.8	9.4	8.6	1.6	31	6.3	6.3	2.12	71			7	2
VILAS	FOREST L	466	NR	10/6	4	5.0	7.3	6.7	0.6	19	7.4	9.2	8.3	2.7	46	7.0	7.0	2.26	54				
VILAS	HIGH L	734	NR	10/7	6	5.4	6.6	6.2	1.1	16	8.6	10.4	9.5	2.9	38	5.6	9.4	1.79	54				
VILAS	ISLAND L	1,023	C-NR	10/8	301	4.2	6.9	5.5	25.7	156	7.1	10.4	8.5	13.3	512	11.7	16.8	3.10	56				
VILAS	KENTUCK L	957	C-ST	9/10	485	5.0	7.4	6.5	80.8	13	10.2	11.6	10.7	2.2	516	6.0	6.0	2.45	74				
VILAS	L LAURA	599	C-NR	10/8	516	3.7	6.8	5.1	107.5	227	6.9	9.3	7.6	47.3	773	4.8	4.8	1.89	55				
VILAS	LAC VIEUX DESERT	4,300	C-NR	9/30	89	5.0	7.5	6.7	5.5	215	7.6	10.5	8.7	13.2	382	16.3	16.3	7.25	46	6	2	1	2
VILAS	LITTLE ARBOR VITAE L	534	C-NR	10/14	232	4.7	7.1	6.2	32.7	151	7.1	9.8	8.6	21.3	637	7.1	7.1	2.05	53				
VILAS	LITTLE ST GERMAIN L	980	ST	10/9	40	6.2	8.4	7.6	2.7	8	7.9	8.8	8.2	0.5	100	14.7	14.7	4.67	57			3	
VILAS	LITTLE STAR L	244	C-NR	9/30	20	5.1	7.2	6.0	5.3	14	7.3	9.6	8.4	3.7	53	3.8	3.8	1.44	56				1

Table C2, concluded

WISCONSIN		Surface Area	2003 Walleye	Date	Age 0 Wall-eye	Age 0 Min Length	Age 0 Max Length	Age 0 Mean Length	Age 0 CPE	Age 1 Wall-eye	Age 1 Min Length	Age 1 Max Length	Age 1 Mean Length	Age 1 CPE	Total Wall-eye	Miles Surveyed	Shore Miles	Hours Surveyed	Temp-erature	Other Species			
County	Lake	(Acres)	Code	Surveyed																MUE	NOP	LMB	SMB
VILAS	LYNX L	339	C-NR	10/15	24	4.2	6.6	5.4	3.5	41	7.1	11.1	9.5	6.0	81	6.8	6.8	2.36	49				
VILAS	MAMIE L	400	NR	10/8	31	5.2	7.1	6.0	5.3	35	7.9	10.3	9.1	5.9	156	5.9	5.9	1.81	50				1
VILAS	MANITOWISH L	506	C-NR	9/10	33	4.2	6.0	5.1	7.9	18	7.2	10.5	9.1	4.3	63	4.2	7.6	1.30	70				
VILAS	N TWIN L	2,788	C-NR	10/6	53	3.6	6.3	5.1	5.1	577	6.5	9.5	8.4	55.5	727	10.4	10.4	4.29	53				
VILAS	OXBOW L	511	NR	9/4	103	4.1	6.8	5.9	7.6	120	7.3	9.8	8.7	8.9	357	13.5	13.5	4.97	70				
VILAS	PALMER L	635	C-ST	10/7	0				0.0	0				0.0	8	6.7	6.7	1.68	47			1	
VILAS	PLUM L	1,033	C-NR	10/6	577	3.4	7.1	4.9	37.5	149	7.2	9.4	8.3	9.7	880	15.4	15.4	5.16	50				
VILAS	PRESQUE ISLE L	1,280	NR	9/2	50	4.3	7.6	5.1	5.7	22	7.7	9.3	8.2	2.5	111	8.8	8.8	3.27	70				1
VILAS	RAZORBACK L	362	C-NR	10/9	244	4.6	6.8	5.5	33.4	51	7.1	9.7	8.8	7.0	342	7.3	7.3	2.02	54				
VILAS	REST L	608	C-NR	10/7	674	3.6	7.4	5.4	149.8	166	7.5	10.7	9.0	36.9	867	4.5	8.1	2.31	55				
VILAS	S TWIN L	642	C-NR	10/6	3	4.1	5.4	4.7	0.8	37	7.7	10.0	8.7	10.0	46	3.7	3.7	1.27	53				
VILAS	SHERMAN L	123	NR	9/16	526	5.1	7.6	6.2	239.1	71	7.7	11.6	9.9	32.3	605	2.2	2.2	1.11	70				
VILAS	SPIDER L	272	C-NR	10/13	177	3.9	7.2	5.0	31.1	109	7.3	9.8	8.6	19.1	379	5.7	5.9	2.07	53				
VILAS	SQUAW L	785	NR	9/16	177	4.1	6.6	5.4	19.7	257	6.8	8.9	8.0	28.6	813	9.0	9.0	3.96	66				
VILAS	STAR L	1,206	C-NR	10/1	459	3.3	8.4	5.4	39.2	36	8.5	10.7	9.5	3.1	522	11.7	11.7	3.64	48				
VILAS	TENDERFOOT L	437	NR	10/21	27	3.9	6.9	5.7	4.1	59	7.0	9.0	8.1	8.9	201	6.6	6.6	2.30	48				
VILAS	TROUT L	3,816	C-ST	10/2	624	3.9	7.4	5.8	34.9	31	8.1	10.0	9.2	1.7	717	17.9	17.9	6.91	50				1
VILAS	WHITE SAND L	728	C-ST	9/11	5	5.4	6.9	6.3	0.8	26	7.3	10.5	9.7	4.0	60	6.5	6.5	2.53	72				
WASHBURN	BALSAM L	295	C-NR	10/23	0				0.0	0				0.0	36	7.4	7.4	1.78	52				
WASHBURN	BASS-PATTERSON L	188	NR	9/18	26	5.7	7.9	7.0	9.0	3	9.7	9.9	9.8	1.0	92	2.9	2.9	1.38	67				
WASHBURN	L NANCY	772	C-NR	10/21	0				0.0	1	10.1	10.1	10.1	0.2	30	6.4	10.9	1.96	54				
WASHBURN	LONG L	3,290	C-ST	10/22	22	4.8	6.7	6.1	1.1	23	7.0	8.8	7.6	1.1	55	20.5	38.0	6.77	53		1	11	4
WASHBURN	SHELL L	2,580	NR	10/20	3	6.7	7.5	7.0	0.3	2	8.0	8.1	8.1	0.2	37	10.2	10.2	3.94	54				
COUNT (WISCONSIN): 156 surveys on 154 lakes		TOTALS (WISCONSIN):			23,112					12,741					46,006	1,293.6	2,191.9	468.70		54	38	339	61
		AVERAGES (WISCONSIN):			148			5.8	19.2	82			8.8	10.4	295								

MICHIGAN		Surface Area	2003 Walleye	Date	Age 0 Wall-eye	Age 0 Min Length	Age 0 Max Length	Age 0 Mean Length	Age 0 CPE	Age 1 Wall-eye	Age 1 Min Length	Age 1 Max Length	Age 1 Mean Length	Age 1 CPE	Total Wall-eye	Miles Surveyed	Shore Miles	Hours Surveyed	Temp-erature	Other Species			
County	Lake	(Acres)	Code	Surveyed																MUE	NOP	LMB	SMB
BARAGA	KING L	502	NR	9/23	0				0.0	0				0.0	0	2.5	6.2	1.71	60			9	
BARAGA	L VERMILLAC (WORM L)	640	C-	9/24	0				0.0	11	7.8	9.7	9.2	4.1	20	2.7	6.9	1.21	51			2	
BARAGA	PARENT L	182	NR	9/11	36	5.4	6.9	6.2	15.7	65	9.7	11.2	10.5	28.3	125	2.3	2.3	1.01	73				
GOGEBIC	CISCO L	506	C-NR	9/25	0				0.0	0				0.0	4	3.2	12.4	1.02	35				
GOGEBIC	DUCK L	616	C-ST	10/10	1	6.3	6.3	6.3	0.1	12	7.8	10.0	8.9	1.3	22	8.9	9.5	2.54	45				
GOGEBIC	L GOGEBIC	13,380	C-NR	9/22	37	3.8	6.6	4.8	1.5	585	6.7	11.3	8.4	24.1	676	24.3	35.0	9.22	67				
GOGEBIC	POMEROY L	314	NR	9/17	25	4.7	6.9	5.8	6.8	37	7.4	10.4	9.1	10.0	322	3.7	3.7	1.35	68				
GOGEBIC	TAMARACK L	335	NR	9/16	119	4.6	6.4	5.6	29.8	111	7.5	10.6	9.3	27.8	284	4.0	4.0	1.45	45				
GOGEBIC	THOUSAND ISLAND L	1,020	C-NR	9/24	0				0.0	0				0.0	0	10.0	10.7	3.53	60			1	
HOUGHTON	BOB L	130	C-ST	9/8	0				0.0	5	10.8	11.6	11.4	2.5	23	2.0	2.0	0.92	74				
HOUGHTON	OTTER L	863	C-	9/22	0				0.0	13	6.9	10.6	8.4	1.7	15	7.6	7.6	2.39	60			3	2
HOUGHTON	PIKE L	83		9/9	5	5.6	6.9	6.1	2.6	2	8.9	9.6	9.3	1.1	10	1.9	1.9	0.78	75				
HOUGHTON	SANDY L	101		9/10	0				0.0	0				0.0	0	2.6	2.6	0.97	72				
IRON	BRULE L	250	C-NR	9/15	127	4.7	7.2	5.6	23.5	34	8.2	10.4	9.6	6.3	254	5.4	5.4	1.56	45				
IRON	CHICAGON L	1,100	C-ST	9/16	5	4.8	6.4	5.5	0.5	12	7.9	10.3	9.3	1.2	44	10.4	10.4	3.40	65				13
IRON	EMILY L	320	ST	9/18	43	5.8	7.4	6.6	13.4	33	8.9	10.7	9.7	10.3	109	3.2	3.2	1.33	55				
IRON	MICHIGAMME RES	7,000	NR	9/17	38	3.9	7.3	5.0	2.3	30	7.5	10.0	8.7	1.8	105	16.5	78.7	3.41	60				2
IRON	PERCH L	994	NR	9/25	9	5.6	7.1	6.4	1.1	118	7.6	10.5	9.4	14.8	156	8.0	8.0	2.57	51				
IRON	STANLEY L	310	NR	9/11	5	6.4	8.0	7.0	1.4	18	10.1	11.8	11.3	5.1	63	3.5	3.5	1.04					
IRON	STE KATHRYN L	151	C-ST	9/18	0				0.0	0				0.0	0	1.9	3.6	0.85	68			8	
ONTONAGON	BOND FALLS FL	2,118	C-NR	9/2	2	6.3	6.9	6.6	0.1	15	7.2	9.9	8.4	1.0	62	15.0	15.0	4.91	68				2
ONTONAGON	SUDDEN L	35	ST	9/8	0				0.0	18	8.7	10.7	9.8	13.8	31	1.3	1.3	0.42	72				
COUNT (MICHIGAN): 22 surveys on 22 lakes		TOTALS (MICHIGAN):			452					1,119					2,325	140.9	233.9	47.59		0	0	23	19
		AVERAGES (MICHIGAN):			21			6.0	4.5	51			9.5	7.0	106								

MINNESOTA		Surface Area	2003 Walleye	Date	Age 0 Wall-eye	Age 0 Min Length	Age 0 Max Length	Age 0 Mean Length	Age 0 CPE	Age 1 Wall-eye	Age 1 Min Length	Age 1 Max Length	Age 1 Mean Length	Age 1 CPE	Total Wall-eye	Miles Surveyed	Shore Miles	Hours Surveyed	Temp-erature	Other Species			
County	Lake	(Acres)	Code	Surveyed																MUE	NOP	LMB	SMB
CHISAGO	GOOSE L	442	C-ST	9/24	7	6.4	7.2	6.8	1.1	1	10.5	10.5	10.5	0.2	20	6.5	7.0	1.63	54				
MILLE LACS	MILLE LACS L	132,516	NR	9/22-3,25,10/9	627	4.0	8.0	6.5	8.9	670	7.6	12.2	9.0	9.5	1,369	70.5	78.0	20.82	58				
COUNT (MINNESOTA): 2 surveys on 2 lakes		TOTALS (MINNESOTA):			634					671					1,389	77.0	85.0	22.45		0	0	0	0
		AVERAGES (MINNESOTA):			317			6.7	5.0	336			9.8	4.8	695								

COUNT (OVERALL): 180 surveys on 178 lakes		TOTALS (OVERALL):			24,198					14,531					49,720	1,511.5	2,510.8	538.74		54	38	362	80
		AVERAGES (OVERALL):			134			5.8	17.2	81			8.8	9.9	276								

CPE=catch per unit effort (number of fish divided by shore miles surveyed), MUE=muskellunge, NOP=northern pike, LMB=largemouth bass, SMB=smallmouth bass.

Table C3. Summary of Age 0 and Age 1 Catch per Effort Rates During Fall 2003 Recruitment Surveys Conducted by GLIFWC

INCLUDING LAKES WHERE NO YEAR CLASS WAS DETECTED

AGE 0

	NR and C-NR					C-					C-ST and ST					NR-2 and O-ST				
	MEAN CPE	ST. DEV.	N	MIN. CPE	MAX. CPE	MEAN CPE	ST. DEV.	N	MIN. CPE	MAX. CPE	MEAN CPE	ST. DEV.	N	MIN. CPE	MAX. CPE	MEAN CPE	ST. DEV.	N	MIN. CPE	MAX. CPE
WISCONSIN	23.6	38.5	120	0.0	239.1			0			5.2	16.4	29	0.0	80.8	1.3	3.2	7	0.0	8.6
MICHIGAN	6.8	10.3	12	0.0	29.8	0.0	0.0	2	0.0	0.0	2.3	5.4	6	0.0	13.4			0		
MINNESOTA	8.9		1	8.9	8.9			0			1.1		1	1.1	1.1			0		
POOLED	22.0	37.1	133	0.0	239.1	0.0	0.0	2	0.0	0.0	4.6	14.8	36	0.0	80.8	1.3	3.2	7	0.0	8.6

AGE 1

	MEAN CPE	ST. DEV.	N	MIN. CPE	MAX. CPE	MEAN CPE	ST. DEV.	N	MIN. CPE	MAX. CPE	MEAN CPE	ST. DEV.	N	MIN. CPE	MAX. CPE	MEAN CPE	ST. DEV.	N	MIN. CPE	MAX. CPE
WISCONSIN	12.8	15.9	120	0.0	72.8			0			2.5	5.4	29	0.0	23.9	1.4	2.3	7	0.0	5.9
MICHIGAN	9.9	11.1	12	0.0	28.3	2.9	1.7	2	1.7	4.1	4.9	5.8	6	0.0	13.8			0		
MINNESOTA	9.5		1	9.5	9.5			0			0.2		1	0.2	0.2			0		
POOLED	12.6	15.4	133	0.0	72.8	2.9	1.7	2	1.7	4.1	2.8	5.4	36	0.0	23.9	1.4	2.3	7	0.0	5.9

EXCLUDING LAKES WHERE NO YEAR CLASS WAS DETECTED

AGE 0

	MEAN CPE	ST. DEV.	N	MIN. CPE	MAX. CPE	MEAN CPE	ST. DEV.	N	MIN. CPE	MAX. CPE	MEAN CPE	ST. DEV.	N	MIN. CPE	MAX. CPE	MEAN CPE	ST. DEV.	N	MIN. CPE	MAX. CPE
WISCONSIN	25.1	39.3	113	0.1	239.1			0			7.6	19.4	20	0.0	80.8	3.0	4.8	3	0.2	8.6
MICHIGAN	9.1	11.1	9	0.1	29.8			0			4.7	7.6	3	0.1	13.4			0		
MINNESOTA	8.9		1	8.9	8.9			0			1.1		1	1.1	1.1			0		
POOLED	23.8	38.0	123	0.1	239.1			0			6.9	17.8	24	0.0	80.8	3.0	4.8	3	0.2	8.6

AGE 1

	MEAN CPE	ST. DEV.	N	MIN. CPE	MAX. CPE	MEAN CPE	ST. DEV.	N	MIN. CPE	MAX. CPE	MEAN CPE	ST. DEV.	N	MIN. CPE	MAX. CPE	MEAN CPE	ST. DEV.	N	MIN. CPE	MAX. CPE
WISCONSIN	13.9	16.1	111	0.1	72.8			0			4.3	6.6	17	0.3	23.9	2.4	2.6	4	0.2	5.9
MICHIGAN	13.2	11.0	9	1.0	28.3	2.9	1.7	2	1.7	4.1	5.8	5.9	5	1.2	13.8			0		
MINNESOTA	9.5		1	9.5	9.5			0			0.2		1	0.2	0.2			0		
POOLED	13.8	15.7	121	0.1	72.8	2.9	1.7	2	1.7	4.1	4.5	6.2	23	0.2	23.9	2.4	2.6	4	0.2	5.9

Table C4. Summary of Other Gamefish Species Collected During Fall 2003 Recruitment Surveys Conducted by GLIFWC

	Wisconsin		Michigan		Minnesota	
Species	Number of Fish Collected	Number of Lakes	Number of Fish Collected	Number of Lakes	Number of Fish Collected	Number of Lakes
Muskellunge	54	4	0	0	0	0
Northern Pike	38	14	0	0	0	0
Largemouth Bass	339	26	23	5	0	0
Smallmouth Bass	61	15	19	4	0	0

Table C5. Summary of Fall 2003 Age 0 and Age 1 Population Estimate Conducted by GLIFWC

County	Lake	Surface Area (Acres)	2003 Walleye Code	Age 0 Population Estimate	Coefficient of Variation (%)	Age 0 Density Per Acre	Mean Age 0 CPE (#/mile)	Age 1 Population Estimate	Coefficient of Variation (%)	Age 1 Density Per Acre	Mean Age 1 CPE (#/mile)
BAYFIELD	SISKIWIT L	330	NR	307	53.7%	0.9	4.6	1,358	42.3%	4.1	15.1