Fish Population Assessments of Ceded Territory Lakes in Wisconsin, Michigan and Minnesota During 2000

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 St. Croix Chippewa assisted with spring population estimate surveys. Crews from the Fond du Lac, St. Croix, and Bad River tribes assisted with fall surveys.

In the spring, adult walleye (*Stizostedion vitreum vitreum*) population estimates were conducted on nineteen lakes. A total of 33,953 walleye were sampled from 30,579 acres of water during the spawning adult estimate period. Density of adult walleye averaged 3.88 (SD = 1.87, range: 0.43 to 7.27, N=13) fish per acre in lakes with naturally reproducing populations. In nine of these thirteen lakes, adult walleye population densities were at least 3.0 fish per acre, indicating that walleye populations were healthy. Density of adult walleye averaged 3.28 (SD = 1.89, range: 0.43 to 7.27) fish per acre for all lakes combined. In two of the nineteen lakes surveyed, juvenile walleye population estimates were also conducted. A total of 1,881 juvenile walleye were sampled from 518 acres of water. Density of juvenile walleye were 10.6 and 37.0 fish per acre in these lakes.

A summer fish community survey using fyke nets was conducted in Kentuck Lake, Wisconsin in a continuing effort to try to understand reasons for the lack of natural reproduction of walleye for thirteen consecutive years from 1988 through 2000. A total of 3,097 fish were collected, identified to species, and catch per effort values determined.

Spring and summer electrofishing surveys were conducted on two Wisconsin lakes. Surveys were conducted on Siskiwit Lake (Bayfield Co.) in order to gain a better understanding of catch and growth rates of juvenile walleye following spawning and into mid-summer. Age 1 walleye were captured during six surveys from May 17 to July 14, but catch rates generally declined from 46 per mile to 11 per mile during that period. A survey was conducted on Kentuck Lake prior to the lake being stocked with walleye in order to assess whether any natural reproduction had occurred during the spring. No evidence of natural reproduction was noted but survival of walleye stocked the previous year appeared to be good.

During the fall, electrofishing surveys were conducted on 95 lakes in Wisconsin, 6 lakes in Michigan, and 3 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 Sherman Lake (Vilas Co., WI) to obtain fall age 0 and age 1 population estimates. In Wisconsin, a total of 19,843 age 0 and 8,994 age 1 walleye were sampled. In addition, 221 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 2,059 age 0 and 181 age 1 walleye plus 22 gamefish were sampled during the fall. In Minnesota, a total of 4,077 age 0 and 645 age 1 walleye were sampled.

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Introduction

Fishery assessment surveys of ceded territory lakes were conducted during spring, summer, and fall of 2000 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 current agreement, USFWS provides technical support and equipment during spring 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 Bad River during the fall was provided through a Memorandum of Understanding between the Band and GLIFWC.

Methods

Spring Adult Walleye Population Estimates

Nineteen lakes in the ceded territory (Figure A1) of Wisconsin were selected to collect current information on adult walleye populations (Table A1). Of these nineteen lakes, fourteen had experienced tribal spear harvest during the previous year.

Nine lakes in Wisconsin are GLIFWC long-term study lakes. Large (greater than 500 acres in area) long-term lakes surveyed in 2000 included Butternut Lake (Forest Co.), Squirrel Lake (Oneida Co.), Kentuck Lake (Vilas Co.), and Squaw Lake (Vilas Co.). Small (less than 500 acres in area) long-term study lakes surveyed in 2000 included Siskiwit Lake (Bayfield Co.), Sherman Lake (Vilas Co.), and Bass-Patterson Lake (Washburn Co.). Long-term study lakes are surveyed annually to collect trend and variability information on adult walleye populations. Continuing efforts are being made 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 immature fish) 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. Eight electrofishing boats and crews were used, including four from GLIFWC, three from USFWS, and one from St. Croix. All boats had an arrangement of six umbrella dropper anodes and used pulsed DC at 60 pps. Fyke nets were used by two GLIFWC crews to supplement catch during the marking period on some lakes. Electrofishing occurred after sunset. Fyke nets were set in daylight, fished through the night, and lifted the following morning.

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 1-5 nights, depending upon lake size and the number of crews used. Fyke nets were usually set for 4-5 nights on each lake where they were used. Net catches were low compared to those made by electrofishing, however.

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, and age determined later. Additional samples were collected from Lake Chippewa. Generally, spines were taken from fish >10 inches and scales from smaller fish. Fish were given a single or multiple fin clip or tail notch and released away from the capture area, typically near the middle of the lake. On long-term study lakes, fish were also tagged with yellow colored numbered floy tags prior to release.

In most cases, recapture surveys with electrofishing equipment were conducted 1-3 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 Juvenile Walleye Population Estimates and Surveys

Juvenile walleye population estimates were conducted in two small long term study lakes in Wisconsin (Siskiwit Lake Bayfield Co., and Bass-Patterson Lake, Washburn Co.), and a juvenile walleye survey was conducted in Mille Lacs Lake, Minnesota. For the purposes of these estimates and surveys, "juvenile" refers to any walleye less than fifteen inches in total length.

Juvenile walleye surveys began from three to four weeks after the adult spawning period. Electrofishing gear was used to capture fish in all lakes. All electrofishing boats had an arrangement of six umbrella dropper anodes and used pulsed DC at 60 pps. Electrofishing took place after sunset.

For the lakes with population estimates, each electrofishing survey was treated as a recapture run, so that the entire shoreline of each lake was covered. Four marking/recapture surveys were conducted on these two lakes. On Bass-Patterson Lake, additional fish were marked following the completion of each of the first three surveys. For each fish captured, total length, sex (if known), and mark (if present) were determined. Fish captured during the juvenile population estimate surveys were given different fin clips than those that were used during the adult population estimate surveys, and were released away from the capture area, typically near the middle of the lake. For the juvenile survey on Mille Lacs Lake, the entire shoreline of the lake was covered once over a span of three nights, and no marks were applied. For the juvenile survey, total length and sex (if known) were recorded for each walleye captured. Scale or spine

samples for aging were collected from a maximum of ten fish per half-inch group for fish under 13" in length. Spines were collected from fish ten inches or larger in length, and scales were collected from smaller fish.

Juvenile population estimates were calculated using the Schnabel formula, where all surveys except the first were treated as a recapture survey. Data were stratified according to length, with one strata for fish less than 12" in length, and another for fish between 12" and 15". Recaptures of fin clips given during the adult survey were recorded in the field, but only clips given during the juvenile surveys were tallied in calculating the population estimates. Juvenile population estimates were apportioned by age for ages 1, 2, and 3, and the catch from the juvenile survey on Mille Lacs Lake was apportioned by age for ages 1 through 4.

Summer Fish Community Survey

A fish community assessment survey was conducted on Kentuck Lake (Vilas Co.) on June 26 through June 29. During the survey period, eight trap nets were set for four nights, resulting in 32 net-nights of effort. The trap nets had 0.75" mesh.

Summer Electrofishing Surveys

Summer electrofishing surveys were conducted on Siskiwit Lake (Bayfield Co.) and Kentuck Lake (Vilas Co.). Six surveys were conducted on Siskiwit Lake to assess trends in catch rates and walleye length frequencies during the late spring and summer months. One survey was conducted on Kentuck Lake before walleye fingerlings were stocked 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 their length measured (total length in inches). No scale or spine samples were collected during these surveys.

Fall Recruitment Surveys

Fall electrofishing surveys were conducted in 104 ceded territory waters including 95 lakes in Wisconsin, 6 lakes in Michigan, and 3 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 Sherman Lake (Vilas Co.) to conduct age 0 and age 1 mark and recapture population estimates. Up to six electrofishing boats (all DC) sampled lakes four nights per week during the eight week period from September 4 through October 26, 2000. The number of boats assigned to each lake was based upon the shoreline length to be surveyed, whether the entire shoreline or shorter index station segments. For planning purposes, it was assumed that one boat was needed for every 5-7 miles of shoreline. Index stations were sampled on 34 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 walleye juveniles. 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 a regional perspective 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 their length measured (total length in inches). For walleye only, a scale sample was collected from five fish per half-inch group for fish ranging between 4.5-12.0 inches to determine the length range of age 0 and age 1 walleye.

Surveys on Lac Vieux Desert (Vilas Co.) and Long Lake (Washburn Co.) were conducted jointly by GLIFWC and the Wisconsin Department of Natural Resources. Data from the Lac Vieux Desert survey were summarized by GLIFWC; all data from this survey are reflected in this report, regardless of which agency did the actual collection. Data from the Long Lake survey were summarized by WDNR and are not reflected in this report. The survey on Mille Lacs Lake, Minnesota, was conducted jointly by GLIFWC and the Fond du Lac tribe; all data from the survey are reflected in this report.

Fall Age 0 and Age 1 Population Estimates

A mark-recapture age 0 and age 1 walleye population estimate was conducted during the fall on Sherman Lake (Vilas Co.). Electrofishing was used as the capture method, and similar techniques were used as for the fall recruitment surveys. For each survey, the boat made a complete circuit of the lake, and gave a temporary fin clip to all walleye under 15". 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", and five per half-inch group between 12.0" and 14.9". Population estimates were calculated using the Petersen method.

Results and Discussion

Spring Adult Population Estimates

Walleye adult population estimates for nineteen adult stocks in Wisconsin, Michigan, and Minnesota (Table A1) ranged from 368 to 14,216 fish. Estimated population densities ranged from 0.43 to 7.27 walleye per acre (mean = 3.28, SD = 1.89) (Figure A2). Lost Land Lake (Sawyer Co.) had the lowest estimated density while Teal Lake (Sawyer 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.

Eight of nineteen lakes surveyed had recruitment codes of NR (Table B1) indicating that natural reproduction was the only source of recruitment. Five 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 thirteen lakes was 3.88 (SD = 1.87) per acre. Nine of these thirteen lakes surveyed had walleye densities of greater than 3.0 per acre.

Three 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 four lakes was 1.35 fish per acre (SD = 0.75).

Two lakes had recruitment codes of O-ST, indicating that an attempt is being made to establish an adult population through stocking, that stocking provides the only source of recruitment to the population, and survey data is either not available or indicates that adult density had been less than 0.5 per acre. Adult densities in these two lakes were 2.49 per acre and 4.11 per acre, well over the 0.5 per acre threshold. Consequently, these lakes were reclassified as ST for the following year.

Two recapture surveys were conducted on two lakes (Siskiwit Lake, Bayfield Co.; and Bass-Patterson Lake, Washburn Co.) in order to assess sampling variation and the effect of the timing of the survey on the population estimates (Table A2). Since weather conditions during the spring made collection of spawning walleye particularly difficult in some lakes, two recapture surveys were conducted on three additional lakes (Butternut Lake, Forest Co.; Lac Courte Oreilles, Sawyer Co.; and Trout Lake, Vilas Co.) so that usable data would be available from the first recapture survey in the event that walleye catch rates and spawning conditions declined and deteriorated before the second recapture survey was conducted. Fish newly marked during the first recapture survey were treated as part of the marked sample during the second recapture survey. On Siskiwit Lake, estimated adult density changed from 6.01 to 6.65 fish per acre from the first recapture survey to the second, an 11% increase. On Bass-Patterson Lake, estimated adult density changed from 5.74 to 5.28 fish per acre, an 8% decrease. On the remaining three lakes, estimated adult density increased by an average of 39%.

Male-to-female sex ratios (Table A1) were skewed in favor of males in all but one of the 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). From personal observation during surveying, it appeared that females preferred deeper water than males, and in some instances, many females were out of effective netting range except during or after spawning.

A total of 2,101 female, 30,242 male, and 1,610 unknown sex walleye were measured (Figure A3, Table A3) and a subsample was aged (Figure A4). Female lengths ranged from 11.5 to 30.5 inches, male lengths ranged from 9.0 to 26.0 inches, and unknown lengths ranged from 5.0 to 25.5 inches. Age-length tables were developed for subsets of female, male, and unknown sex walleye in each of nineteen lakes sampled (Tables A4 - A23). These age-length tables by themselves are not necessarily representative of the size and age structure of the population, since spines for aging are 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 given should be sufficient to detect the presence or absence of year classes. Regarding the second population health criterion, all of the thirteen NR and C-NR lakes had populations with at least five year classes of females in the aging sample.

Spring Juvenile Walleye Population Estimates and Surveys

Juvenile walleye Schnabel population estimates for all fish under 15" were 3,503 for Siskiwit Lake and 6,954 for Bass-Patterson Lake (Table A23). Population densities were 10.6 walleye per acre for Siskiwit Lake and 37.0 walleye per acre for Bass-Patterson Lake (mean=23.8). During the juvenile walleye survey on Mille Lacs Lake, 974 walleye under 15" were captured over 77.5 miles of shoreline, giving a catch per effort of 12.6 juvenile walleye per mile (Table A24). A total of 2,873 walleye were sampled during all of the juvenile walleye surveys. Lengths of walleye ranged from 3.1 inches to 21.5 inches. Age-length tables were developed using spines and scales collected from a subset of fish from the juvenile surveys as well as from the adult surveys when available (Tables A25-A27), and the data were used to apportion the Schnabel juvenile population estimates and survey catch per effort values by age. Mean densities for age 1, age 2, and age 3 walleye were 3.1 per acre, 4.2 per acre, and 1.3 per acre, respectively for Siskiwit Lake, and 20.0 per acre, 5.8 per acre, and 2.4 per acre, respectively for Bass-Patterson Lake. Catch per mile values for age 1 through 4 walleye from the juvenile walleye survey on Mille Lacs Lake were 3.9 per mile, 6.6 per mile, 1.9 per mile, and 0.2 per mile, respectively.

Summer Fish Community Surveys

An effort to rehabilitate the walleye population of Kentuck Lake (Vilas Co.) began in 1998. 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 for thirteen consecutive years from 1988 through 2000. The fish community survey conducted in 2000 on Kentuck Lake caught ten species and 3,097 fish. The most abundant species captured was bluegill (89.8% of the fish), followed by pumpkinseed (6.0%) (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 1998 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 Surveys

A total of 876 walleye were captured in seven late spring to summer electrofishing surveys on two lakes. On Siskiwit Lake, walleye catch per mile declined from a high of 46.5 per mile on May 17 to a low of 10.8 per mile during the final survey on July 14 (Table B2). With one exception, each survey on Siskiwit Lake yielded a lower catch rate than the previous survey. Average length of age 1 walleye, which were assumed to be those between 5.0" and 8.4" and formed a clearly defined length frequency peak, changed little until the final survey on July 14. Age 0 walleye were first captured during the final survey on July 14. Results indicate that electrofishing surveys could reliably detect the presence or absence of age 1 walleye through mid-July.

On Kentuck Lake, 329 walleye were caught, yielding a catch rate of 54.8 per mile. No age 0 walleye were caught on Kentuck Lake, so that this survey provided no evidence that natural reproduction had occurred in 2000. However, survival of fingerlings stocked during the previous year appeared to be good.

Fall Recruitment Surveys

Fall recruitment surveys were conducted on 104 lakes in the ceded territories of Wisconsin, Michigan and Minnesota (Figure C1, Table C2). Survey effort included 326.3 hours of electrofishing along 982.7 miles of shoreline resulting in the collection of 42,940 walleye.

Of 95 lakes surveyed in Wisconsin, 278.5 hours of electrofishing along 837.8 miles of shoreline resulted in a collection of 35,661 walleye. In Michigan, 6 surveys were conducted in 16.2 hours along 56.3 miles of shoreline resulting in the collection of 2,478 walleye. In Minnesota, 3 surveys were conducted in 31.6 hours along 91.6 miles of shoreline resulting in the collection of 4,801 walleye (Tables C2 and C3).

A total of 19,843 age 0 (young of the year, or YOY) walleye were caught in 97 surveys in Wisconsin. Age 0 walleye were caught in 87 of 97 fall surveys. Catch per effort (CPE) for age 0 walleye ranged from 0.0 to 230.7 (mean = 25.6; SD = 39.3) YOYs per mile. A total of 8,994 age 1 (yearling) walleye were caught in 92 surveys. Age 1 CPE ranged from 0.0 to 61.0 (mean = 10.6; SD = 11.3) yearlings per mile (Table C2).

In Michigan, 2,059 age 0 walleye were caught. Age 0 CPE ranged from 0.0 to 75.3 (mean = 28.7; SD = 30.8) YOYs per mile. A total of 181 age 1 walleye were caught. Age 1 CPE ranged from 0.0 to 14.5 (mean = 2.6; SD = 5.8) yearlings per mile (Table C2).

In Minnesota, 4,077 age 0 walleye were caught. Age 0 CPE ranged from 0.0 to 56.1 (mean = 18.8; SD = 32.4) YOYs per mile. A total of 645 age 1 walleye were caught. Age 1 CPE ranged from 0.0 to 8.8 (mean = 3.1; SD = 5.0 yearlings per mile (Table C2). On Mille Lacs Lake, CPEs were 56.1 per mile for age 0 and an 8.8 per mile for age 1.

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. Data are plotted for each recruitment code in Figures C2 and 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 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 668 age 0 and age 1 walleye were sampled during the age 0 and age 1 population estimates, including recaptured fish. Age 0 and age 1 densities obtained from the fall population estimates were 12.2 per acre and 3.2 per acre respectively for Sherman Lake (Table C5). Mean age 0 and age 1 catch per effort (CPE) values on this lake were 53.5 per mile and 30.3 per mile, respectively.

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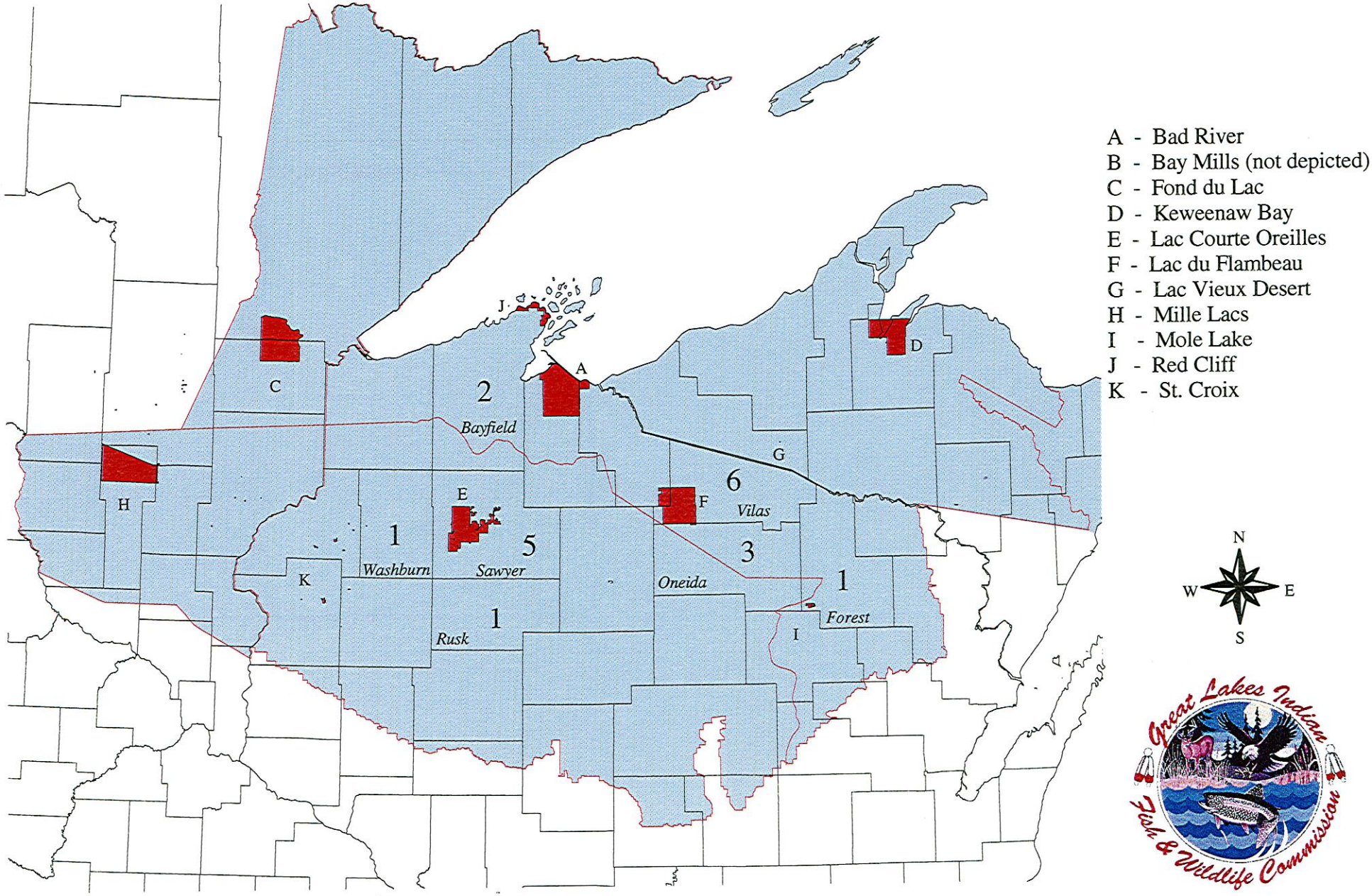

Figure A1. Ceded territory in Wisconsin, Michigan, and Minnesota with the number of lakes per county where spring electrofishing surveys were conducted by GLIFWC during 2000.

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

50 0 50 100 Miles

Figure A2. Estimated Adult Walleye Densities by Recruitment Code, Spring 2000

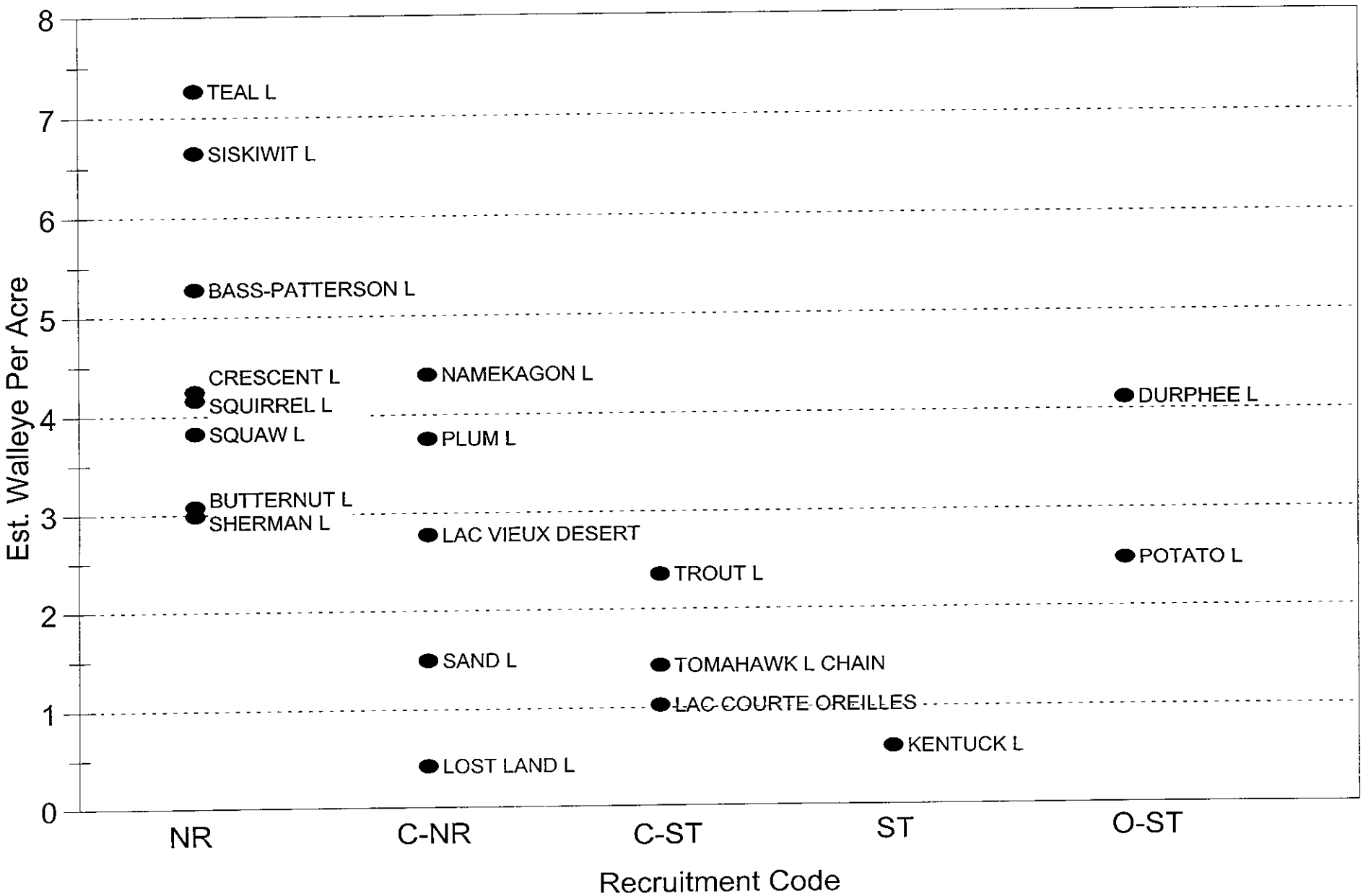

Figure A3. Length Frequency of Adult Walleye Marked, Spring 2000

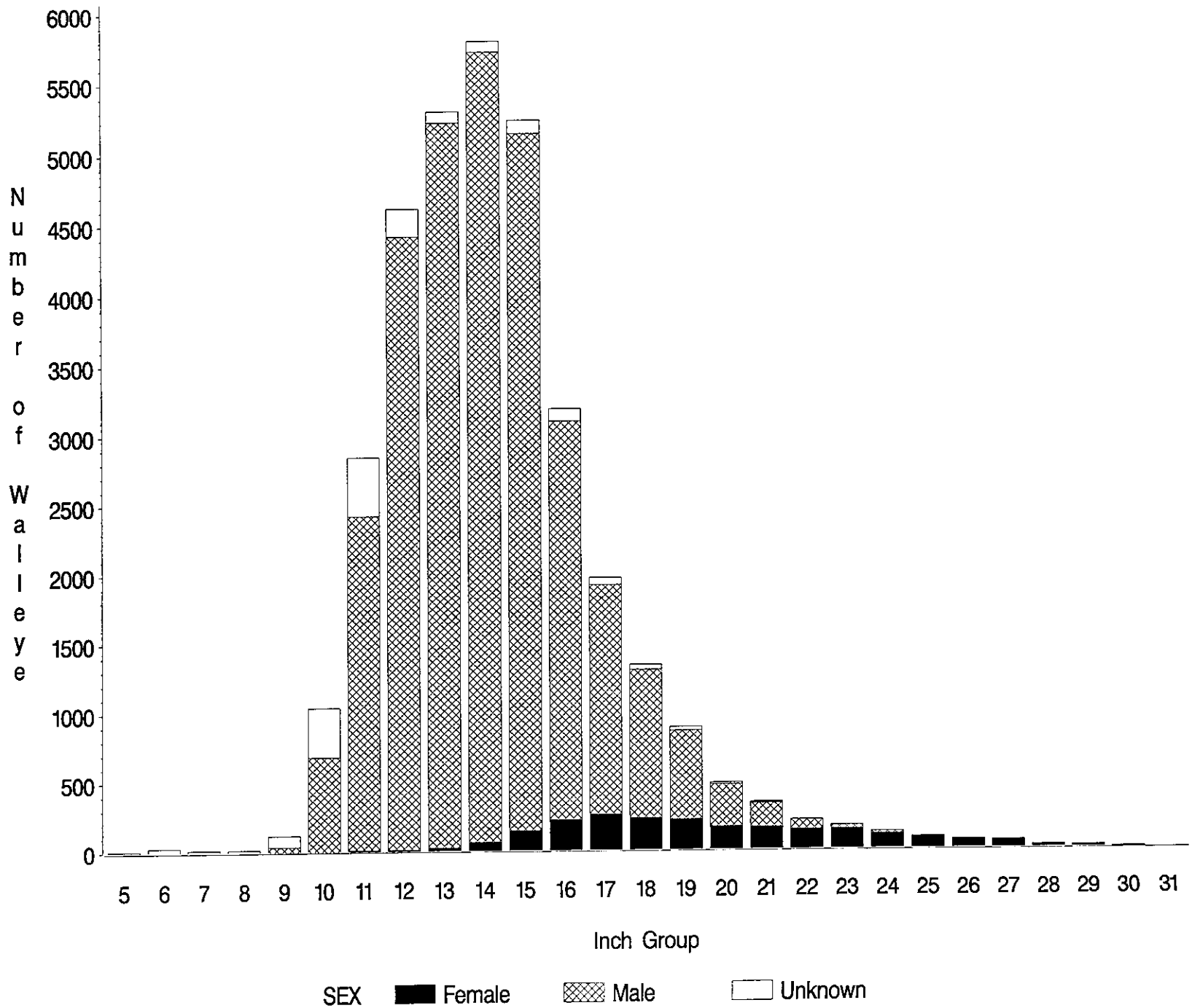

Figure A4. Age Frequency of Adult Walleye Aged, Spring 2000

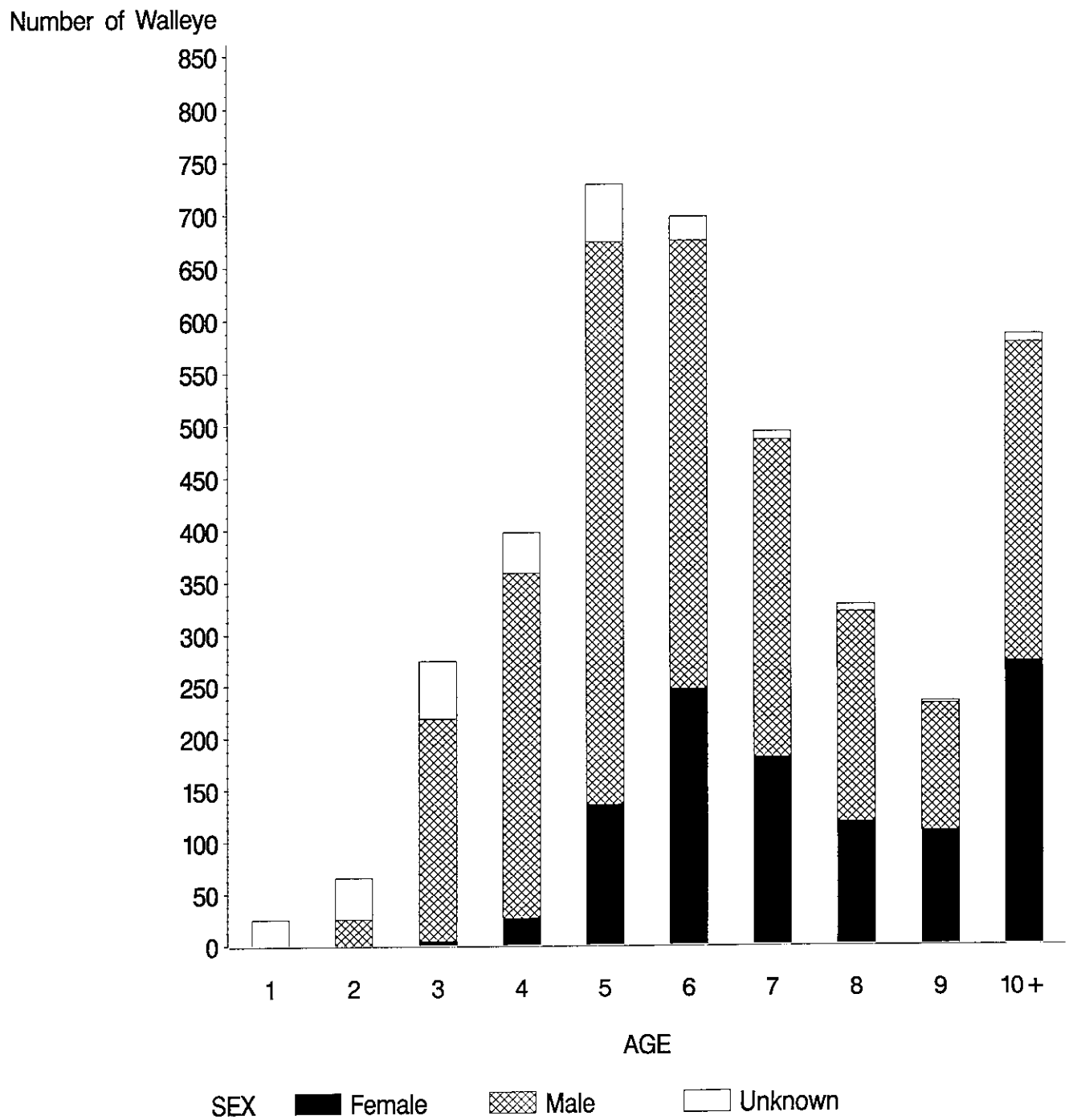

Table A1. Spring 2000 Adult Population Estimates Conducted by GLIFWC

State	County	Lake	Acres	2000 Walleye Code	Population Estimate	Coefficient of Variation (%)	Density	Marking Gear*	Recapture Gear*	Fin clip applied**	Male: female sex ratio***	Angling length regulation
WI	BAYFIELD	NAMEKAGON L	3,227	C-NR	14,216	3.8	4.41	E/F	E	TCN	19.4:1	1 over 14"†
WI	BAYFIELD	SISKIWIT L	330	NR	2,195	7.0	6.65	E	E	AN/YF	14.0:1	15" minimum
WI	FOREST	BUTTERNUT L	1,292	NR	3,981	10.0	3.08	E/F	E	BCN/YF	15.9:1	14"-18" slot ‡
WI	ONEIDA	CRESCENT L	612	NR	2,598	3.9	4.25	E	E	TCN	37.9:1	1 over 14"†
WI	ONEIDA	SQUIRREL L	1,317	NR	5,485	5.0	4.16	E	E	HLV/YF	77.5:1	1 over 14"†
WI	ONEIDA	TOMAHAWK L CHAIN	3,552	C-ST	5,086	8.4	1.43	E/F	E	TCN	7.9:1	15" minimum
WI	RUSK	POTATO L	534	O-ST	1,329	9.1	2.49	E/F	E	TCN	3.0:1	15" minimum
WI	SAWYER	DURPHEE L	193	O-ST	794	9.6	4.11	E	E	TCN	22.4:1	15" minimum
WI	SAWYER	LAC COURTE OREILLES	5,039	C-ST	5,182	8.2	1.03	E	E	TCN	11.8:1	15" minimum
WI	SAWYER	LOST LAND L	1,304	C-NR	563	7.2	0.43	E	E	BCN	4.1:1	No minimum
WI	SAWYER	SAND L	928	C-NR	1,391	29.7	1.50	E	E	TCN	4.1:1	15" minimum
WI	SAWYER	TEAL L	1,049	NR	7,622	3.7	7.27	E	E	TCN	38.1:1	No minimum
WI	VILAS	KENTUCK L	957	ST	574	43.3	0.60	E/F	E	HLV/YF	0.5:1	28" minimum
WI	VILAS	LAC VIEUX DESERT	4,300	C-NR	11,968	7.5	2.78	E	E	BCN	24.0:1	15" minimum
WI	VILAS	PLUM L	1,033	C-NR	3,884	6.2	3.76	E	E	TCN	18.9:1	14-18 slot
WI	VILAS	SHERMAN L	123	NR	368	6.5	2.99	E	E	AN/YF	19.1:1	1 over 14"†
WI	VILAS	SQUAW L	785	NR	3,005	6.2	3.83	E	E	HLV/YF	28.9:1	1 over 14"†
WI	VILAS	TROUT L	3,816	C-ST	8,994	7.9	2.36	E	E	TCN	7.9:1	15" minimum
WI	WASHBURN	BASS-PATTERSON L	188	NR	993	8.8	5.28	E	E	TCN/YF	6.0:1	1 over 14"†

Table A2. Supplemental Spring 2000 Adult Population Estimates Conducted by GLIFWC

Population estimates were calculated from additional recapture surveys conducted between two and eleven days before the final recapture surveys.

State	County	Lake	Acres	2000 Walleye Code	Population Estimate	Coefficient of Variation (%)	Density	Marking gear*	Recapture gear*	Fin clip applied**	Male: female sex ratio***	Angling length regulation
WI	BAYFIELD	SISKIWIT L	330	NR	1,982	8.8	6.01	E	E	AN/YF	12.8:1	15" minimum
WI	FOREST	BUTTERNUT L	1,292	NR	2,755	4.7	2.13	E/F	E	BCN/YF	18.5:1	14"-18" slot ‡
WI	SAWYER	LAC COURTE OREILLES	5,039	C-ST	2,923	13.8	0.58	E	E	TCN	12.2:1	15" minimum
WI	VILAS	TROUT L	3,816	C-ST	9,520	17.3	2.49	E	E	TCN	8.2:1	15" minimum
WI	WASHBURN	BASS-PATTERSON L	188	NR	1,079	13.4	5.74	E	E	TC/YF	5.5:1	1 over 14"†

*Gear used: E = electrofishing, F = fyke nets
** AN = anal clip, 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 A3. Lengths of Walleye Collected During Spring 2000 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	NAMEKAGON L	260	5,044	194	13.5	26.0	9.5	22.0	5.0	19.5
WI	BAYFIELD	SISKIWIT L	73	1,020	267	14.0	19.0	10.0	19.5	6.5	17.5
WI	FOREST	BUTTERNUT L	111	1,761	51	15.0	27.5	9.5	24.5	5.0	18.0
WI	ONEIDA	CRESCENT L	42	1,590	22	12.0	27.5	9.5	20.5	11.0	18.5
WI	ONEIDA	SQUIRREL L	33	2,559	19	11.5	24.5	9.0	20.0	6.0	19.5
WI	ONEIDA	TOMAHAWK L CHAIN	255	2,013	55	14.0	30.5	10.5	26.0	9.5	19.5
WI	RUSK	POTATO L	177	537	2	15.0	27.5	12.0	23.5	12.0	12.0
WI	SAWYER	DURPHEE L	18	403	41	16.0	21.0	11.5	19.5	11.5	22.0
WI	SAWYER	LAC COURTE OREILLES	120	1,413	89	15.5	28.5	13.5	25.5	10.0	21.5
WI	SAWYER	LOST LAND L	75	310	23	11.5	25.0	9.5	20.5	6.0	20.5
WI	SAWYER	SAND L	69	280	7	18.5	27.0	15.0	25.0	7.0	20.5
WI	SAWYER	TEAL L	92	3,506	17	12.5	28.0	10.0	23.5	7.0	16.0
WI	VILAS	KENTUCK L	79	38	0	22.5	29.5	13.0	22.0		
WI	VILAS	LAC VIEUX DESERT	144	3,459	16	14.5	27.5	9.5	21.5	8.0	19.0
WI	VILAS	PLUM L	91	1,720	41	13.5	29.5	9.5	20.5	8.5	17.5
WI	VILAS	SHERMAN L	14	267	59	16.0	24.0	10.0	20.0	10.0	21.0
WI	VILAS	SQUAW L	44	1,273	66	11.5	23.5	9.0	17.5	5.5	17.0
WI	VILAS	TROUT L	324	2,568	96	14.5	28.5	11.0	24.0	11.0	25.5
WI	WASHBURN	BASS-PATTERSON L	80	481	545	15.5	24.0	10.0	18.5	9.5	21.0
		OVERALL	2,101	30,242	1,610	11.5	30.5	9.0	26.0	5.0	25.5

Table A4

Number of Walleye Aged by Sex and Length From Spring 2000 Adult Population Estimates

STATE=WI COUNTY=BAYFIELD LAKE=NAMEKAGON L

	AGE																													
	1			2			3			4			5			6			7			8			9			10+		
	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
INCH GROUP																														
5			4																											
6			4																											
7			1																											
8																														
9						2																								
10								3	3		1																			
11								3	1		4																			
12								5	1		6	1		4																
13								1			4		1	6			9													
14											3	1	2	8		1	7			2										
15										1		1	4	2	1	5	10		2	6			1			1				
16										1			7			16	6	1	4	8			2			4				
17													6			13	2		3	3		2	3			1		1	3	
18																9	2		1			5	1			1		2	5	
19																2			3			3			1		1	2	1	
20																						1			3			2		
21																									1			2		
22																			1									3		
23																												6		
24																												2		
25																												3		
26																														
27																														
28																														
29																														
30																														
TOTAL			9			2		12	5	2	18	3	20	20	1	46	36	1	14	19		11	7		5	7	1	23	9	

Table A5

Number of Walleye Aged by Sex and Length From Spring 2000 Adult Population Estimates

STATE=WI COUNTY=BAYFIELD LAKE=SISKIWIT L

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

Table A7

Number of Walleye Aged by Sex and Length From Spring 2000 Adult Population Estimates

STATE=WI COUNTY=ONEIDA LAKE=CRESCENT L

	AGE																													
	1			2			3			4			5			6			7			8			9			10+		
	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
INCH GROUP																														
5																														
6																														
7																														
8																														
9								1																						
10								10			1																			
11								8			12																			
12								1	1		11		1	7			1													
13										1	6			13			1													
14									1		3			12	1	1	4	1												
15											1			5		1	6		1	5						2				
16														3			3			3			3			5				
17													2	2					2		1	1	1						2	
18													3			2										2			2	
19													1			2			1										2	
20																										1			1	
21																														
22																						1			2					
23																									1			1		
24																												1		
25																														
26																														
27																														
28																														
29																														
30																														
TOTAL								20	2	1	34		7	42	1	6	15	1	4	8	1	2	4		3	10		2	7	

Table A8

Number of Walleye Aged by Sex and Length From Spring 2000 Adult Population Estimates

STATE=WI COUNTY=ONEIDA LAKE=SQUIRREL L

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

Table A9

Number of Walleye Aged by Sex and Length From Spring 2000 Adult Population Estimates

STATE=WI COUNTY=ONEIDA LAKE=TOMAHAWK L CHAIN

	AGE																													
	1			2			3			4			5			6			7			8			9			10+		
	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
INCH GROUP																														
5																														
6																														
7																														
8																														
9						1			2																					
10					2	3		1																						
11					1	6			2		1	2																		
12					1	2		4	1					4																
13					2			8	3		1			5	1															
14							1	7			9		1	3			4	1		1										
15								2			7	1		12			2			4			1							
16											3		2	10		1	7		1	6			3							
17													5	7	1	10	6		2	4		1	4			2				
18										1			2	1	1	12	1		8	2			2		2				2	
19													1			8		1	9	1		2	4			1			5	
20													2			6	1		7			3			2	2		2	6	
21																6			6				1		1				1	
22																1			3			1			1			1	2	
23																									1			2		
24																						3							1	
25																						1						3	2	
26																						1						4		
27																												7		
28																												5		
29																												4		
30																														
TOTAL					6	12	1	22	8	1	21	3	13	42	3	44	21	2	36	18		12	15		7	5		28	19	

Table A10

Number of Walleye Aged by Sex and Length From Spring 2000 Adult Population Estimates

STATE=WI COUNTY=RUSK LAKE=POTATO L

	AGE																													
	1			2			3			4			5			6			7			8			9			10+		
	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
INCH GROUP																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12											1			7			1													
13											1			5			11													
14																	7			7										
15																			1	16			4							
16																2				11			24							
17																1			2	7			8			1				
18																3			8	4			4			6			4	
19																			14			3	1		1	1			11	
20																			8			5			1	7			13	
21																			6	1		2	1		4	2			13	
22																						3			3			3	2	
23																1			2			10			2			3	2	
24																			1			4			5			6		
25																						2			8			3		
26																						1			1			1		
27																												1		
28																														
29																														
30																														
TOTAL											2			12		7	19		42	46		30	42		25	17		17	45	

Table A11

Number of Walleye Aged by Sex and Length From Spring 2000 Adult Population Estimates

STATE=WI COUNTY=SAWYER LAKE=DURPHEE L

	AGE																													
	1			2			3			4			5			6			7			8			9			10+		
	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
INCH GROUP																														
5																														
6																														
7																														
8																														
9																														
10																														
11								1																						
12								22	2																					
13								8	3		2																			
14								2	2		14	1			1															
15											4	2		6	2		5													
16													3	2	2		7			7										
17													2			3	3			6										
18													1			2				1			1							
19																1							1			1				
20																			1											
21																			1											
22																														
23																														
24																														
25																														
26																														
27																														
28																														
29																														
30																														
TOTAL								33	7		20	3	6	8	5	6	15		2	14			2			1				

Table A12

Number of Walleye Aged by Sex and Length From Spring 2000 Adult Population Estimates

STATE=WI COUNTY=SAWYER LAKE=LAC COURTE OREILLES

	AGE																													
	1			2			3			4			5			6			7			8			9			10+		
	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
INCH GROUP																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														
13																														
14											8			6																
15											6			23			3													
16														7			5			5			5			2				
17										1							1			9			4							
18																	1		2	1			8			8			2	
19																				1			6		1	5			10	
20																			4			4	1			2			14	
21																			2			3			4			2	13	
22																			1			3			5			2	14	
23																									3			9	13	
24																						1			2			2	5	
25																												4	2	
26																												5	1	
27																												5		
28																														
29																														
30																														
TOTAL										1	14			36			10		9	16		11	24		15	17		29	74	

Table A13

Number of Walleye Aged by Sex and Length From Spring 2000 Adult Population Estimates

STATE=WI COUNTY=SAWYER LAKE=LOST LAND L

	AGE																													
	1			2			3			4			5			6			7			8			9			10+		
	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
INCH GROUP																														
5																														
6			3																											
7																														
8																														
9								1																						
10								1																						
11							1	5						1																
12							1	3			11	1		7	2		1													
13							1	3		3	7			9	1		13													
14										2	3	3	1	4	1	1	22			4			1							
15										1	1		1	1		5	10		2	12			4							
16																7	2	1		3		2	1							
17																6	1		2				3			1				
18																5			2											
19																														
20																	1		1											
21																														
22																														
23																														
24																														
25																												1		
26																														
27																														
28																														
29																														
30																														
TOTAL			3				3	13		6	22	4	2	22	4	24	50	1	7	19		2	9			1		1		

Table A14

Number of Walleye Aged by Sex and Length From Spring 2000 Adult Population Estimates

STATE=WI COUNTY=SAWYER LAKE=SAND L

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

Table A15

Number of Walleye Aged by Sex and Length From Spring 2000 Adult Population Estimates

STATE=WI COUNTY=SAWYER LAKE=TEAL L

	AGE																													
	1			2			3			4			5			6			7			8			9			10+		
	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
INCH GROUP																														
5																														
6																														
7																														
8																														
9																														
10						1		1																						
11								10			3																			
12								5			6			9																
13											2		1	8			8			1										
14											1		1	6		7	12			2										
15													3			7	7		2	12			2							
16																4	1		3	10			2							
17													1			1			5	7		1	2		1	1				
18																2			3							1				
19																			1							1		1		
20																												1	3	
21																									1					
22																												1		
23																						1	1					1		
24																												1		
25																						1								
26																												2		
27																												1		
28																												1		
29																														
30																														
TOTAL						1		16			12		6	23		21	28		14	32		3	7		2	3		9	3	

Table A16

Number of Walleye Aged by Sex and Length From Spring 2000 Adult Population Estimates

STATE=WI COUNTY=VILAS LAKE=KENTUCK L

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

Table A17

Number of Walleye Aged by Sex and Length From Spring 2000 Adult Population Estimates

STATE=WI COUNTY=VILAS LAKE=LAC VIEUX DESERT

	AGE																													
	1			2			3			4			5			6			7			8			9			10+		
	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
INCH GROUP																														
5																														
6																														
7																														
8																														
9						2																								
10								1																						
11								1			4						2													
12											8			10																
13														16			1													
14											1		1	6			11													
15													1	2			10			7										
16													2	2		1	6			6			3							
17													1			4			1	5			4			4			2	
18																6	1		1	3		1	2			2			9	
19																2	1		8			1	1			1		1	10	
20																			2			4			1				5	
21																						2			6	1		1	6	
22																									1			3		
23																												3		
24																												1		
25																												2		
26																												3		
27																												2		
28																														
29																														
30																														
TOTAL						2		2			13		5	36		13	32		12	21		8	10		8	8		16	32	

Table A18

Number of Walleye Aged by Sex and Length From Spring 2000 Adult Population Estimates

STATE=WI COUNTY=VILAS LAKE=PLUM L

	AGE																													
	1			2			3			4			5			6			7			8			9			10+		
	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
INCH GROUP																														
5																														
6																														
7																														
8						1																								
9			1			2																								
10					3	2		13	1																					
11					3			18			8			1																
12					4			14			9			1			2													
13											10			15			6													
14								2		2	11		4	21		1	6			2										
15										2	3		5	7		3	14			5			2			3				
16													7	1		5	6		1	9			5			5				
17										1			4			9	2	1		1			2			5			4	
18																8			1			1			1	2			3	
19																			1	1		3	1		1				1	
20																													2	
21																						2			2					
22																									2					
23																														
24																												1		
25																												1		
26																												4		
27																												1		
28																												2		
29																												1		
30																														
TOTAL			1		10	5		47	1	5	41		20	46		26	36	1	3	18		6	10		6	15		10	10	

Table A19

Number of Walleye Aged by Sex and Length From Spring 2000 Adult Population Estimates

STATE=WI COUNTY=VILAS LAKE=SHERMAN L

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

Table A20

Number of Walleye Aged by Sex and Length From Spring 2000 Adult Population Estimates

STATE=WI COUNTY=VILAS LAKE=SQUAW L

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

Table A21

Number of Walleye Aged by Sex and Length From Spring 2000 Adult Population Estimates

STATE=WI COUNTY=VILAS LAKE=TROUT L

	AGE																													
	1			2			3			4			5			6			7			8			9			10+		
	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
INCH GROUP																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12								1			4			2	1															
13								2	1		6	1		10	5															
14											2	1		11	3		7	5	1											
15											1			9	1	1	10	5		4	1		1							
16													5	4	2	1	7	1	1	2	2		5	3					2	
17													5			5	1		1	1	1	1	2	1		3	1		2	
18													10			4			5			1	2		1	2			6	2
19													1						3	1		1			1	1			7	
20													1			3					1	3			3			4	9	1
21																1			1		1	1			6			9	4	2
22																			2			1			7			6		
23																						2			1			12		1
24																									1			13		
25																												11		1
26																												8		
27																												5		
28																														
29																														
30																														
TOTAL								3	1		13	2	22	36	12	15	25	11	14	8	6	10	10	4	20	6	1	68	30	7

Number of Walleye Aged by Sex and Length From Spring 2000 Adult Population Estimates

STATE=WI COUNTY=WASHBURN LAKE=BASS-PATTERSON L

Table A22

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

Table A23. Spring 2000 Juvenile Population Estimates Conducted by GLIFWC

County	Lake	Area	Schnabel PE	St. Dev. of Schnabel PE	Schnabel Density	Age 1 Density	Age 2 Density	Age 3 Density	Fin clip applied*
BAYFIELD	SISKIWIT L	330	3,503	716	10.62	3.09	4.23	1.29	TC
WASHBURN	BASS-PATTERSON L	188	6,954	915	36.99	20.03	5.79	2.35	HLV
				MEAN	23.80	11.56	5.01	1.82	

* HLV = half left ventral clip, TC = top caudal clip

Table A24. Spring 2000 Juvenile Walleye Surveys Conducted by GLIFWC

County	Lake	Area	Total Walleye Caught	Miles Surveyed	Hours Surveyed	Age 1 Catch per Mile	Age 2 Catch per Mile	Age 3 Catch per Mile	Age 4 Catch per Mile
MILLE LACS	MILLE LACS L	132,516	992	77.5	23.29	3.9	6.6	1.9	0.2

Table A25

Number of Walleye Aged by Sex and Length From Spring 2000 Adult and Juvenile Population Estimates Combined

STATE=WI COUNTY=BAYFIELD LAKE=SISKIWIT L

	AGE																													
	1			2			3			4			5			6			7			8			9			10+		
	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
INCH GROUP																														
3																														
4																														
5			4																											
6			22																											
7			22																											
8			1			1																								
9						16																								
10						25		2	5																					
11						21		3	5			1																		
12								1	2		6	3		2																
13											9			10																
14										4	3			16			2													
15										3			6	3	1	1	5			9			2							
16										1			6		1	7	3		1	6			7			1				
17													1			7	1			1		1	1			2			3	
18																			1							1				
19																			1											
20																														
21																														
22																														
23																														
24																														
25																														
26																														
27																														
28																														
TOTAL			49			63		6	12	8	18	4	13	31	2	15	11		3	16		1	10			4			3	

Table A26

Number of Walleye Aged by Sex and Length From Spring 2000 Adult and Juvenile Population Estimates Combined

STATE=WI COUNTY=WASHBURN LAKE=BASS-PATTERSON L

	AGE																													
	1			2			3			4			5			6			7			8			9			10+		
	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
INCH GROUP																														
3																														
4			3																											
5			15																											
6			16																											
7			20																											
8			15			5																								
9						27			2																					
10						20			4			5			2															
11					3	16			8		4	6		2	4															
12						2		6	10		6	2		9	8		1													
13											1			10	5		3	1												
14														10			6			3										
15																	4			8		1	7						1	
16													1				1	1	1	1			9		1	4		1	5	
17																			1			3			3	2		3	3	
18																			2			5			1	1		2		
19																						4			1			6		
20																						1			1			5		
21																						1			3			2		
22																														
23																														1
24																												1		
25																														
26																														
27																														
28																														
TOTAL			69		3	70		6	24		11	13	1	31	19		15	2	4	12		15	16		10	7		20	9	1

Table A27

Number of Walleye Aged by Sex and Length From Spring 2000 Juvenile Walleye Survey

STATE=MN COUNTY=MILLE LACS LAKE=MILLE LACS L

	AGE																													
	1			2			3			4			5			6			7			8			9			10+		
	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
INCH GROUP																														
3																														
4			4																											
5			22																											
6			37																											
7			31																											
8			8																											
9						22																								
10						37																								
11						39																								
12						6		1	19																					
13									14																					
14								2	16			4			1			1												
15									2		1	2																		
16												3			1															
17												2		1				1			1									
18																														
19																														
20																				1										
21																														
22																														
23																														
24																														
25																														
26																														
27																														
28																														
TOTAL			102			104		3	51		1	11		1	2			2		1	1									

Appendix B: Summer Surveys

Figure		Page
B1.	Fish Community Surveys, Kentuck Lake, Vilas County, Wisconsin, 1983-2000	44

Table		Page
B1.	Summer 2000 Fish Community Survey, Kentuck Lake, Vilas Co., WI	45
B2.	Spring and Summer 2000 Electrofishing Surveys Conducted by GLIFWC	46

Figure B1. Fish Community Surveys, Kentuck Lake, Vilas County, Wisconsin, 1983-2000

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

* Incomplete data available from 1984 survey, which was conducted in June. It appears that 24 or 25 nets were set during this survey.
1997, 1999, and 2000 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.

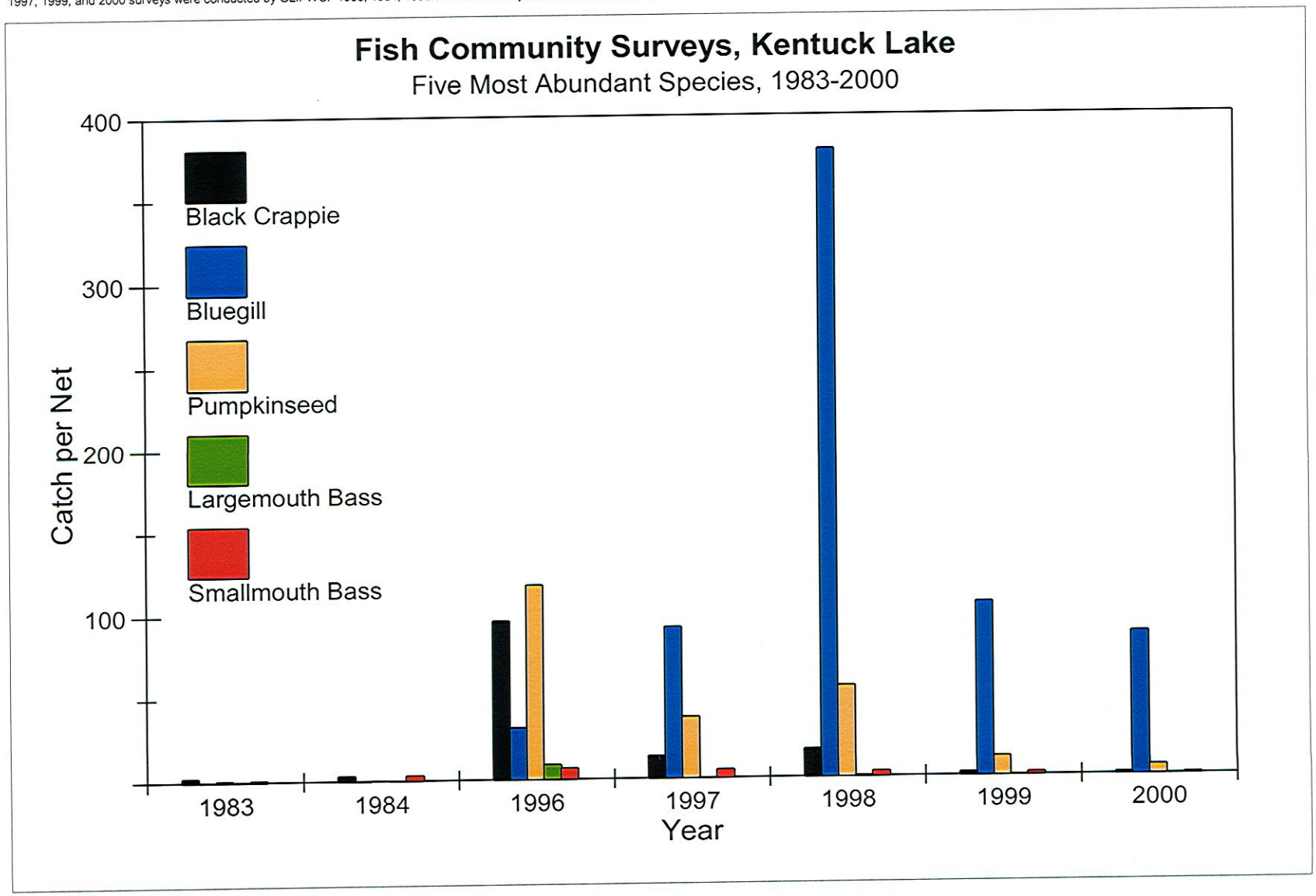

Table B1. Summer 2000 Fish Community Survey, Kentuck Lake, Vilas County, Wisconsin Dates: June 26 - June 29, 2000

Net Sets: 8 trap nets for 4 nights Area: 957 acres

Inch Group	Black Crappie Trap Net	Bluegill Trap Net	Golden Shiner Trap Net	Muskellunge Trap Net	Pumpkinseed Trap Net	Rock Bass Trap Net	Smallmouth Bass Trap Net	Walleye Trap Net	White Sucker Trap Net	Yellow Perch Trap Net
1.5-1.9										
2.0-2.4										
2.5-2.9										
3.0-3.4		1								
3.5-3.9										
4.0-4.4										1
4.5-4.9										
5.0-5.4		28								
5.5-5.9		169			20					
6.0-6.4	2	398			95	1	4		1	
6.5-6.9	1	248			60		1			
7.0-7.4	3	25			7	4	4			3
7.5-7.9		7			4	1	2			
8.0-8.4						1	1	2	2	1
8.5-8.9						1	2	1		1
9.0-9.4							1	2		
9.5-9.9	6						1			
10.0-10.4	6						1			
10.5-10.9	15						3			
11.0-11.4	3						2			
11.5-11.9							1		1	
12.0-12.4										
12.5-12.9										
13.0-13.4									1	
13.5-13.9									1	
14.0-14.4										
14.5-14.9										
15.0-15.4									1	
15.5-15.9										
16.0-16.4									1	
16.5-16.9									2	
17.0-17.4										
17.5-17.9									2	
18.0-18.4									2	
18.5-18.9										
19.0-19.4										
19.5-19.9										
20.0-20.4									1	
20.5-20.9									1	
21.0-21.4										
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								1		
27.5-27.9										
28.0-28.4										
28.5-28.9										
29.0-29.4										
29.5-29.9										
30.0-30.4				1						
38.0-38.4										
Unmeasured		1906	33							
Total	36	2782	33	1	186	8	23	6	16	6
Catch/Net	1.13	86.94	1.03	0.03	5.81	0.25	0.72	0.19	0.50	0.19

Table B2. Spring and Summer 2000 Walleye Electrofishing Surveys Conducted by GLIFWC

Inch Group	Siskiwit Lake, Bayfield County										Kentuck Lake, Vilas County
	Spring Juvenile Population Estimate				Spring and Summer Electrofishing						Summer Electrofishing
	May 1	May 2	May 3	May 4	May 17	May 25	May 31	June 7	June 13	July 14	June 12
3.0-3.4	0	0	0	0	0	0	0	0	0	2	
3.5-3.9	0	0	0	0	0	0	0	0	0	0	
4.0-4.4	0	0	0	0	0	0	0	0	0	0	
4.5-4.9	0	0	0	0	0	0	0	0	0	0	
5.0-5.4	0	0	0	1	0	1	0	2	0	0	
5.5-5.9	0	1	0	2	4	2	4	4	5	0	1
6.0-6.4	2	6	5	5	12	16	7	17	14	1	
6.5-6.9	9	5	13	11	18	9	12	18	20	0	
7.0-7.4	5	10	5	5	11	8	3	15	10	6	2
7.5-7.9	4	1	1	1	9	2	3	4	3	12	14
8.0-8.4	0	0	0	0	0	0	0	0	0	7	102
8.5-8.9	0	0	1	0	0	2	0	0	0	0	159
9.0-9.4	2	0	3	4	1	2	0	1	0	0	43
9.5-9.9	9	4	1	2	5	3	3	2	0	0	6
10.0-10.4	28	19	11	10	20	12	4	3	2	0	1
10.5-10.9	49	31	27	19	29	15	8	3	2	2	
11.0-11.4	42	33	31	17	33	17	14	5	0	3	1
11.5-11.9	21	27	12	8	20	17	4	1	0	5	
12.0-12.4	0	0	0	0	2	4	3	0	0	1	
12.5-12.9	0	0	0	0	3	1	0	0	0	2	
13.0-13.4	0	0	0	0	5	2	2	0	2	0	
13.5-13.9	0	0	0	0	4	1	1	0	1	1	
14.0-14.4	0	0	0	0	6	0	1	0	0	0	
14.5-14.9	0	0	0	0	1	1	0	0	0	1	
15.0-15.4	0	0	0	0	1	0	0	0	0	0	
15.5-15.9	0	0	0	0	1	0	0	0	0	0	
16.0-16.4	0	0	0	0	1	0	0	0	0	0	
16.5-16.9	0	0	0	0	0	0	0	0	0	0	
Total	171	137	110	85	186	115	69	75	59	43	329
Total <12.0	171	137	110	85	162	106	62	75	56	38	329
Total CPE	42.8	34.3	27.5	21.3	46.5	28.8	17.3	18.8	14.8	10.8	54.8
Total <12.0 CPE	42.8	34.3	27.5	21.3	40.5	26.5	15.5	18.8	14.0	9.5	54.8
Age 1 Ave. Length	7.0	6.8	6.8	6.7	6.8	6.6	6.6	6.7	6.7	7.7	

Electrofishing surveys conducted during the spring juvenile population estimate on Siskiwit Lake are included in the table for comparison. CPE indicates catch per mile. Age 1 Average Length for Siskiwit Lake based on walleye between 5.0" and 8.4".

Appendix C: Fall Recruitment Surveys

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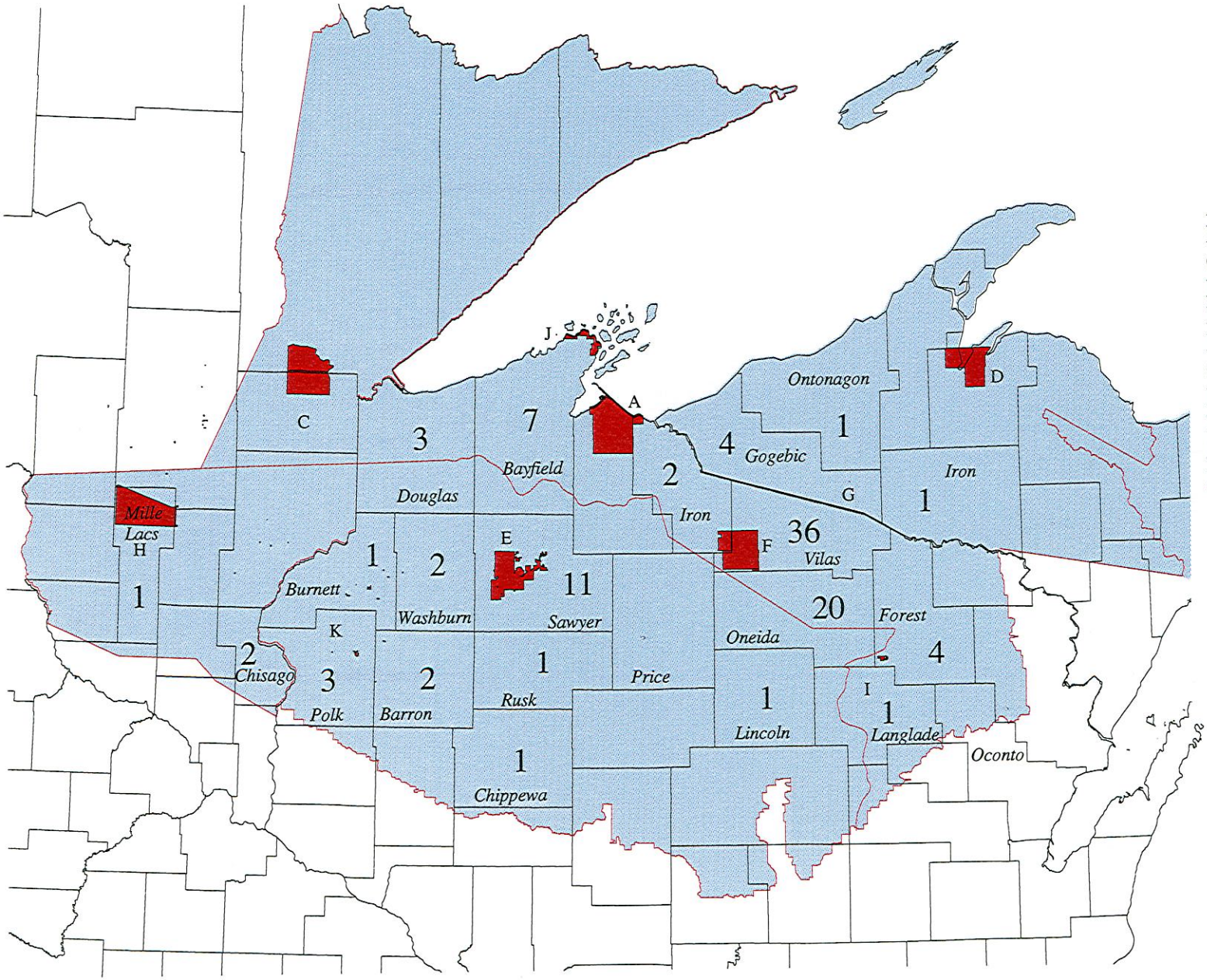

Figure C1. Ceded territory in Wisconsin, Michigan, and Minnesota with the number of lakes per county where fall electrofishing surveys were conducted by GLIFWC during 2000.

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

Figure C2. Age 0 CPE By Code for GLIFWC 2000 Recruitment Surveys

(X is the mean for each code, + is the median. A random jitter has been added for each point)

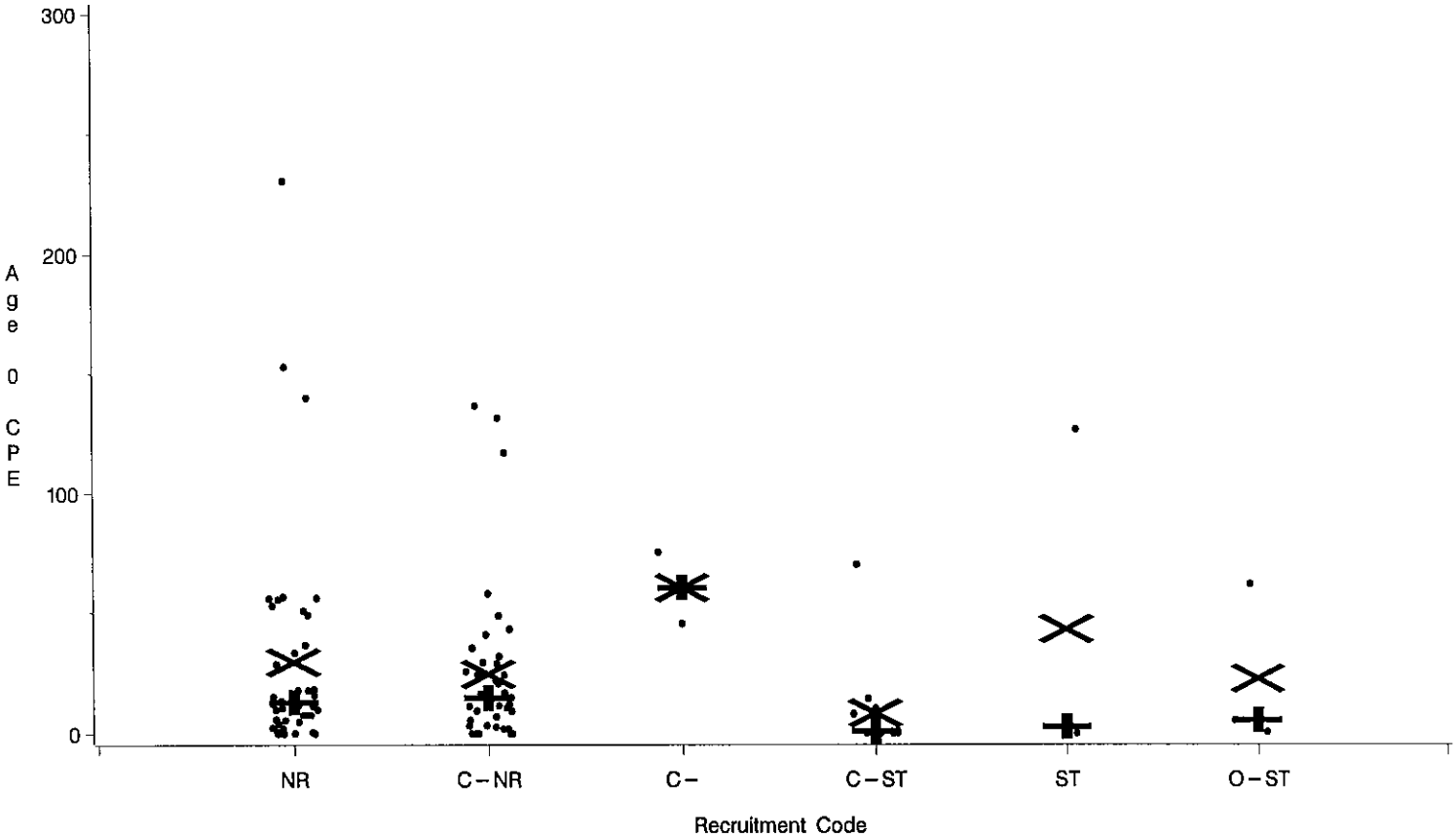

Figure C3. Age 1 CPE By Code for GLIFWC 2000 Recruitment Surveys

(X is the mean for each code, + is the median. A random jitter has been added for each point)

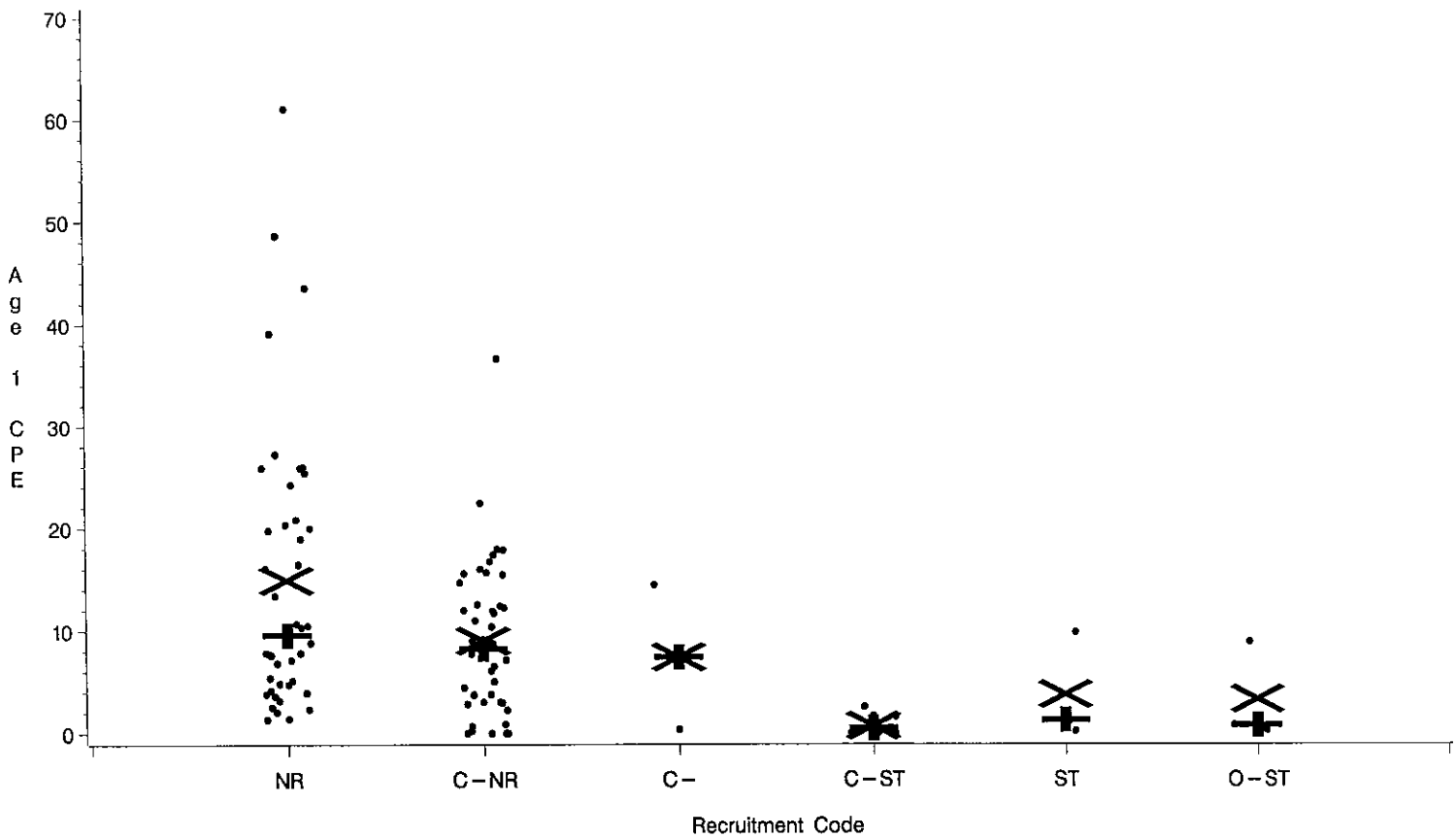

Table C1. Description of Walleye Recruitment Source Codes.

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 2000 Walleye Recruitment Surveys Conducted by GLIFWC

State	County	Lake	Area (Acres)	2000 Walleye Code	Date Surveyed	Age 0 WAE	Age 0 Min L.	Age 0 Max L.	Age 0 Ave L.	Age 0 CPE	Age 1 WAE	Age 1 Min L.	Age 1 Max L.	Age 1 Ave L.	Age 1 CPE	Total WAE	Miles Surveyed	Shore Miles	Hours Surveyed	Temp	Other Species MUE	NOP	LMB	SMB
WI	BARRON	LOWER DEVILS L	162	NR	9/18	34	6.0	7.4	6.6	10.0	68	8.8	13.4	11.0	20.0	123	3.4	3.4	1.34		0	0	0	0
WI	BARRON	RED CEDAR L	1,841	C-NR	10/2	379	3.8	8.0	6.4	58.0	20	9.4	13.4	11.3	3.1	445	6.5	15.9	2.55	62	0	0	0	0
WI	BAYFIELD	BUSKEY BAY	100	NR	9/18	2	5.8	6.2	6.0	0.8	10	7.7	9.6	8.8	4.2	27	2.4	2.4	0.95	67	0	0	0	0
WI	BAYFIELD	L MILLICENT	183	NR	9/18	2	4.5	6.0	5.3	0.5	15	8.2	9.8	8.9	3.9	32	3.8	3.8	1.34	67	0	0	0	0
WI	BAYFIELD	L OWEN	1,323	C-ST	10/23	13	5.0	6.2	5.5	0.7	8	7.8	11.0	10.0	0.4	45	18.2	24.0	6.66	56	0	6	8	22
WI	BAYFIELD	MIDDLE EAU CLAIRE L	902	C-NR	10/25	125	4.3	7.7	5.7	11.4	132	8.5	11.8	9.9	12.0	430	11.0	11.0	3.23	57	0	0	0	0
WI	BAYFIELD	NAMEKAGON L	3,227	C-NR	10/23	59	4.5	6.9	5.9	2.0	543	7.0	10.1	8.6	18.0	1293	30.2	43.6	8.73	56	0	0	0	0
WI	BAYFIELD	SISKIWIT L	330	NR	9/20	40	4.8	7.7	6.7	10.0	31	9.0	11.3	10.4	7.8	117	4.0	4.0	1.70	57	0	0	0	0
WI	BAYFIELD	UPPER EAU CLAIRE L	1,030	C-ST	10/26	51	3.8	7.8	6.5	5.1	9	9.8	11.9	10.6	0.9	116	10.0	11.0	3.56	56	0	0	0	0
WI	BURNETT	BIG SAND L	1,400	O-ST	9/7	4	5.2	5.8	5.4	0.5	2	11.6	12.4	11.9	0.3	9	7.6	7.6	2.77	68	0	10	20	0
WI	CHIPPEWA	L WISSOTA	6,300	NR	10/16-17	425	4.9	7.3	6.2	33.5	775	7.4	12.9	10.1	61.0	1349	12.7	56.3	4.97	57	0	0	0	0
WI	DOUGLAS	L NEBAGAMON	914	C-NR	9/28	36	5.0	7.1	6.0	3.3	243	7.2	10.0	8.9	22.5	378	10.8	10.8	4.52	60	0	0	0	0
WI	DOUGLAS	LOWER EAU CLAIRE L	802	C-NR	10/26	15	5.4	7.8	6.4	2.7	21	9.5	11.7	10.8	3.8	88	5.5	7.8	1.58	56	0	0	0	0
WI	DOUGLAS	UPPER ST CROIX L	855	C-NR	10/11-12	108	4.9	7.3	6.1	10.8	30	8.7	11.7	10.2	3.0	205	10.0	10.0	4.06	52	0	0	0	0
WI	FOREST	BUTTERNUT L	1,292	NR	10/16	109	3.6	8.2	7.2	13.6	29	8.3	9.8	8.8	3.6	212	8.0	8.0	2.75	52	0	0	0	6
WI	FOREST	FRANKLIN L	892	NR	10/10	1010	3.4	7.0	4.6	153.0	32	6.8	9.6	8.5	4.8	1045	6.6	6.6	2.64	50	0	0	0	0
WI	FOREST	L METONGA	1,991	C-ST	9/13	55	3.9	6.5	5.3	7.0	5	7.3	8.3	7.7	0.6	77	7.9	7.9	3.19	67	0	0	0	2
WI	FOREST	LILY L	211	NR	11/1	0				0.0	12	9.6	11.3	10.0	2.4	31	5.1	5.1	1.02		0	0	0	0
WI	IRON	GILE FL	3,384	NR	9/19	81	4.0	7.1	5.1	12.5	51	7.7	10.9	9.5	7.8	172	6.5	27.2	1.66	62	0	0	0	0
WI	IRON	TURTLE-FLAMBEAU FL	13,122	C-NR	9/18	609	3.2	7.2	4.9	25.8	347	7.3	10.0	8.8	14.7	1144	23.6	206.3	5.44	63	0	0	0	0
WI	LANGLADE	ENTERPRISE L	502	NR	9/12	0				0.0	41	6.7	9.7	7.8	6.8	66	6.0	6.0	1.96	66	0	0	0	0
WI	LINCOLN	L NOKOMIS	2,433	NR	9/11	679	3.1	6.8	4.9	56.6	327	7.1	10.4	8.5	27.3	1112	12.0	38.5	4.72	67	0	0	0	0
WI	ONEIDA	BIG FORK L	690	C-NR	10/12	131	3.4	6.5	4.7	24.3	198	6.6	8.8	7.3	36.7	399	5.4	5.4	1.91	51	0	0	0	0
WI	ONEIDA	BIG L	865	C-NR	10/12	124	4.8	7.4	6.5	24.3	46	7.8	9.9	9.1	9.0	200	5.1	7.1	1.85	50	0	0	0	0
WI	ONEIDA	BUCKSKIN L	634	C-NR	10/3	258	3.5	7.4	5.6	41.0	101	8.3	11.7	10.4	16.0	428	6.3	6.3	2.46	57	0	0	0	0
WI	ONEIDA	CRESCENT L	612	NR	9/14	58	5.4	7.5	6.3	7.8	79	7.8	10.1	9.2	10.7	201	7.4	7.4	2.62	64	0	0	0	0
WI	ONEIDA	HASBROOK L	302	NR	10/4	1015	3.8	8.1	4.9	230.7	14	8.3	9.9	9.2	3.2	1038	4.4	4.4	2.23	58	0	0	0	0
WI	ONEIDA	KATHERINE L	590	NR	10/26	125	3.2	7.0	4.9	11.7	55	7.5	9.5	8.6	5.1	203	10.7	10.7	2.99	54	0	0	0	1
WI	ONEIDA	KAWAGUESAGA L	670	C-NR	10/5	62	5.1	7.0	6.1	9.4	15	7.7	10.6	9.8	2.3	156	6.6	11.1	2.66	58	0	0	0	0
WI	ONEIDA	L THOMPSON	382	C-ST	9/14	0				0.0	17	7.5	9.2	8.3	2.5	27	6.7	6.7	2.36	64	0	0	0	5
WI	ONEIDA	LONG L	620	C-NR	10/10	145	3.3	6.6	5.0	29.0	52	6.8	9.4	7.8	10.4	233	5.0	7.5	1.84	50	0	0	0	0
WI	ONEIDA	MINOCQUA L	1,360	C-NR	10/5	268	4.6	7.3	6.0	22.0	0				0.0	275	12.2	19.1	3.41	55	0	0	0	0
WI	ONEIDA	MUSKELLUNGE L	284	NR	10/19	63	4.1	6.5	5.6	15.8	19	8.4	9.7	9.0	4.8	121	4.0	4.0	1.35	53	0	0	0	0
WI	ONEIDA	PELICAN L	3,585	C-NR	9/12	215	4.2	7.6	5.3	16.5	143	7.8	10.3	9.0	11.0	429	13.0	13.0	6.81	66	0	0	0	0
WI	ONEIDA	PLANTING GROUND L	1,012	C-NR	10/11	198	3.5	6.9	5.1	22.0	151	7.0	9.5	8.0	16.8	401	9.0	10.5	2.88	51	0	0	0	0
WI	ONEIDA	RAINBOW FL	2,035	C-NR	9/28	1340	3.0	7.1	4.5	136.7	76	7.7	11.1	9.3	7.8	1466	9.8	22.3		56	0	0	0	0
WI	ONEIDA	SAND L	540	NR	10/19	55	3.9	6.5	5.3	11.5	122	6.9	9.5	7.9	25.4	203	4.8	4.8	1.64	55	0	0	0	0
WI	ONEIDA	SEVENMILE L	503	NR	10/18	0				0.0	32	7.6	10.3	9.1	7.6	38	4.2	6.1	1.74	53	0	0	0	0
WI	ONEIDA	SQUASH L	392	NR	10/18	14	5.2	6.7	5.9	2.2	13	8.5	9.8	9.2	2.1	75	6.3	7.4	2.62	55	0	0	4	1
WI	ONEIDA	SQUIRREL L	1,317	NR	10/4	706	4.2	7.5	5.7	50.8	290	7.6	9.7	8.5	20.9	1290	13.9	13.9	4.18	55	0	0	0	0
WI	ONEIDA	TOMAHAWK L	3,392	C-ST	10/2	1185	4.2	8.0	6.1	70.1	6	10.6	11.9	11.4	0.4	1232	16.9	30.2	6.38	59	0	0	0	0
WI	ONEIDA	WILLOW FL	5,135	C-NR	9/27	574	3.4	7.3	4.4	35.4	46	7.6	10.3	8.9	2.8	693	16.2	98.5	4.16	56	0	0	0	0
WI	POLK	BALSAM L	2,054	C-ST	10/4	4	5.4	7.2	6.4	1.1	6	10.1	13.9	12.5	1.6	25	3.8	22.7	1.95	61	1	7	26	0
WI	POLK	BIG ROUND L	1,015	ST	10/3	0				0.0	1	12.0	12.4	12.3	0.2	46	5.7	5.7	2.33	58	0	4	21	0
WI	POLK	WAPOGASSET L	1,186	ST	10/9	15	5.2	8.3	6.4	2.7	7	11.2	13.4	12.3	1.3	44	5.6	9.9	2.52	55	0	3	23	1
WI	RUSK	POTATO L	534	O-ST	10/18-19	50	5.8	9.4	7.8	5.4	7	12.0	14.4	13.6	0.8	113	9.2	9.2	3.77	58	0	0	0	0
WI	SAWYER	BARBER L	238	C-ST	10/24	0				0.0	0				0.0	18	4.8	4.8	0.93	58	0	0	0	0
WI	SAWYER	CONNORS L	429	NR	10/31	53	4.7	6.5	5.4	10.6	67	7.0	10.0	8.9	13.4	243	5.0	5.0	1.72		0	0	0	0
WI	SAWYER	DURPHEE L	193	O-ST	9/22	167	4.4	7.9	6.3	61.9	24	10.0	12.4	10.8	8.9	207	2.7	2.7	0.95	63	0	0	0	0
WI	SAWYER	L CHIPPEWA	15,300	C-NR	9/11-12	771	3.4	6.6	4.8	32.0	420	6.7	9.4	8.1	17.4	1622	24.1	232.9	10.40	68	0	0	1	0
WI	SAWYER	LAC COURTE OREILLES	5,039	C-ST	9/20	181	4.6	7.4	6.3	14.5	5	9.1	10.6	10.0	0.4	195	12.5	25.4	4.07	64	0	0	1	0
WI	SAWYER	LOST LAND L	1,304	C-NR	9/13	18	4.0	6.5	5.2	3.3	24	8.4	11.5	9.5	4.4	54	5.4	11.3	1.65	67	0	2	7	0
WI	SAWYER	NELSON L	2,503	C-NR	9/19	1	6.6	6.6	6.6	0.1	4	9.4	10.9	10.1	0.2	88	19.1	31.4	6.06	65	0	0	6	0
WI	SAWYER	ROUND L	3,054	C-NR	9/14	302	3.3	6.7	5.1	15.0	145	6.9	10.2	8.7	7.2	514	20.2	20.2	7.01	65	0	0	0	0
WI	SAWYER	SISSABAGAMA L	719	C-NR	9/27	16	6.4	7.1	6.7	2.0	127	7.7	10.4	9.4	15.5	294	8.2	8.2	3.89	60	0	0	0	0
WI	SAWYER	SMITH L	323	C-NR	10/25	0				0.0	0				0.0	3	4.5	4.5	1.23	54	0	0	0	0
WI	SAWYER	TEAL L	1,049	NR	9/14	53	4.4	6.7	5.4	5.0	257	7.4	10.4	9.0	24.2	420	10.6	11.8	3.81		0	0	0	0
WI	VILAS	ANNABELLE L	213	NR	9/21	16	4.8	6.2	5.7	5.5	141	7.3	10.3	8.9	48.6	204	2.9	2.9	1.82	62	0	0	0	0
WI	VILAS	ANVIL L	380	C-NR	10/17	58	4.7	6.7	5.9	12.1	86	7.1	9.6	8.8	17.9	160	4.8	4.8	1.51	54	0	0	0	0
WI	VILAS	BIG ARBOR VITAE L	1,090	C-NR	10/3	182	5.3	7.8	6.4	29.4	78	8.0	10.2	9.7	12.6	385	6.2	7.8	1.61	58	0	0	0	0
WI	VILAS	BIG L (BOULDER JCT)	835	NR	9/7	352	3.4	6.8	5.5	36.7	158	7.3	10.8	9.1	16.5	582	9.6	9.6	3.44	69	0	0	0	0
WI	VILAS	BIG L (MI BORDER)	771	NR	10/17	107	3.5	6.8	5.2	7.8	108	7.1	9.8	8.3	7.8	386	13.8	13.8		50	0	0	0	0
WI	VILAS	BIG MUSKELLUNGE L	930	NR	10/25	293	3.8	7.0	5.2	28.7	55	7.2	10.0	8.5	5.4	366	10.2	10.2	2.96	55	0	0	0	0
WI	VILAS	BIG PORTAGE L	638	NR	10/18	53	3.8	6.3	4.8	7.8	177	6.8	10.0	8.1	26.0	269	6.8	6.8	1.78	52	0	0	0	0
WI	VILAS	BIG SAND L	1,408	C-ST	10/19	0				0.0	0				0.0	17	5.5	10.6	1.89	56	0	0	2	6
WI	VILAS	BIG ST GERMAIN L	1,617	C-NR	10/5	67	4.2	5.6	4.7	11.6	38	7.8	10.7	9.6	6.6	144	5.8	7.6	1.84	55	0	0	0	0
WI	VILAS	BOULDER L	524	NR	10/9	138	3.4	7.2	5.5	17.9	55	8.1	10.2	9.1	7.1	214	7.7	7.7	1.91	50	0	0	0	0

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

Table C2, continued

State	County	Lake	Area (Acres)	2000 Walleye Code	Date Surveyed	Age 0 WAE	Age 0 Min L.	Age 0 Max L.	Age 0 Ave L.	Age 0 CPE	Age 1 WAE	Age 1 Min L.	Age 1 Max L.	Age 1 Ave L.	Age 1 CPE	Total WAE	Miles Surveyed	Shore Miles	Hours Surveyed	Temp	Other Species MUE	NOP	LMB	SMB
WI	VILAS	CATFISH L	1,012	NR	9/26	157	3.2	6.7	5.5	13.9	230	6.9	9.6	8.3	20.4	644	11.3	11.3	3.90	59	1	0	0	0
WI	VILAS	CLEAR L	555	C-NR	10/3	117	4.3	7.0	6.3	17.0	21	8.0	10.3	9.7	3.0	215	6.9	6.9	1.45	56	0	0	0	0
WI	VILAS	CRAB L	949	NR	10/12	25	4.0	5.8	4.6	2.5	39	7.6	9.7	8.7	3.8	120	10.2	15.8	3.80	54	0	0	0	0
WI	VILAS	CRANBERRY L	956	NR	9/25	603	3.1	6.6	5.2	52.9	183	6.7	9.8	8.0	16.1	975	11.4	11.4	3.79	58	0	0	3	0
WI	VILAS	FISHTRAP L	329	NR	10/10	26	4.8	6.1	5.6	4.1	16	8.3	9.9	8.9	2.5	63	6.3	6.3	1.42	47	0	0	0	0
WI	VILAS	HARRIS L	507	NR	9/19	92	5.0	6.4	5.5	15.3	8	8.4	9.6	9.0	1.3	193	6.0	6.0	2.21	62	0	0	0	2
WI	VILAS	HIGH L	734	NR	10/30	1	6.6	6.6	6.6	0.2	8	9.4	11.6	10.8	1.4	27	5.6	9.4	1.57	47	0	0	0	0
WI	VILAS	ISLAND L	1,023	C-NR	10/2	93	3.6	6.6	4.7	5.5	262	6.8	10.6	8.8	15.6	548	16.8	16.8	2.90	56	0	0	0	0
WI	VILAS	KENTUCK L	957	ST	10/17	761	5.0	9.5	6.4	126.8	59	9.9	11.9	11.4	9.8	842	6.0	6.0	2.02	52	0	0	0	0
WI	VILAS	L LAURA	599	C-NR	10/26	0				0.0	18	6.7	9.4	8.1	3.8	60	4.8	4.8	1.15	54	0	0	0	0
WI	VILAS	LAC VIEUX DESERT	4,300	C-NR	10/9	240	2.9	6.6	4.7	14.7	256	6.8	9.5	8.0	15.7	609	16.3	16.3	6.70	51	7	8	1	0
WI	VILAS	LITTLE ARBOR VITAE L	534	C-NR	10/4	86	5.6	7.6	6.8	12.1	87	9.1	11.5	10.2	12.3	212	7.1	7.1	2.13	56	0	0	0	0
WI	VILAS	LONG L	872	C-NR	10/19	0				0.0	0				0.0	0	6.0	8.2	1.89	54	0	0	0	1
WI	VILAS	MANITOWISH L	506	C-NR	10/4	31	4.0	6.8	5.2	7.0	27	7.0	10.1	9.0	6.1	82	4.4	7.6	1.22	54	0	0	0	0
WI	VILAS	N TWIN L	2,788	C-NR	10/18	1369	4.1	7.6	6.1	131.6	122	7.7	10.7	9.4	11.7	1643	10.4	10.4	3.86	54	0	0	0	0
WI	VILAS	OXBOW L	511	NR	9/6	80	4.1	6.7	5.6	5.9	267	7.2	9.9	8.5	19.8	487	13.5	13.5	5.39	69	0	0	0	2
WI	VILAS	PAPOOSE L	428	C-NR	9/21	137	3.5	6.2	4.7	20.8	58	7.2	9.5	8.6	8.8	284	6.6	6.6	2.46	61	0	0	0	0
WI	VILAS	PLUM L	1,033	C-NR	10/24	428	3.4	7.1	5.0	27.8	184	7.2	9.8	8.5	11.9	675	15.4	15.4	4.08	54	0	0	0	0
WI	VILAS	PRESQUE ISLE L	1,280	NR	9/5	158	3.6	6.4	5.1	18.0	91	6.9	11.5	9.9	10.3	289	8.8	8.8	3.41	69	0	0	0	0
WI	VILAS	REST L	608	C-NR	10/10	43	4.0	6.3	4.5	9.6	3	8.6	9.8	9.1	0.7	58	4.5	8.1	1.61	49	0	0	0	0
WI	VILAS	S TURTLE L	454	NR	9/20	99	2.5	6.3	5.1	16.0	65	6.5	9.3	8.0	10.5	225	6.2	6.2	1.54	61	0	0	0	0
WI	VILAS	S TWIN L	642	C-NR	10/18	433	3.8	7.7	6.2	117.0	46	8.2	10.7	9.7	12.4	490	3.7	3.7	1.05	54	0	0	0	0
WI	VILAS	SHERMAN L	123	NR	9/19	108	3.6	7.6	4.7	49.1	57	7.7	9.5	8.7	25.9	186	2.2	2.2	0.91	64	0	0	0	0
WI	VILAS	SHERMAN L	123	NR	9/21	122	3.4	7.6	4.8	55.5	86	7.7	9.5	8.7	39.1	251	2.2	2.2	0.95	60	0	0	0	0
WI	VILAS	SHERMAN L	123	NR	9/26	123	3.8	7.6	4.7	55.9	57	7.7	9.5	8.8	25.9	209	2.2	2.2	0.99	57	0	0	0	0
WI	VILAS	SQUAW L	785	NR	10/3	165	3.8	6.9	5.7	18.3	392	7.1	10.9	9.0	43.6	631	9.0	9.0	3.78	58	0	0	0	0
WI	VILAS	STAR L	1,206	C-NR	10/23	590	3.4	7.3	5.0	48.8	61	7.7	9.7	8.9	5.0	743	12.1	11.7	3.83	52	0	0	0	0
WI	VILAS	TROUT L	3,816	C-ST	10/11	11	6.0	7.4	6.6	0.6	9	8.5	10.7	10.2	0.5	54	17.9	17.9	5.62	53	0	0	0	0
WI	WASHBURN	BASS-PATTERSON L	188	NR	9/26	406	4.0	7.6	5.5	140.0	55	7.9	12.9	9.9	19.0	512	2.9	2.9	1.37	64	0	0	0	0
WI	WASHBURN	BIRCH L	368	C-ST	10/10	70	5.2	7.3	6.2	10.4	11	9.1	11.3	10.3	1.6	97	6.7	6.7	2.97	53	0	0	0	0
		COUNT (WI):	97 surveys on 95 lakes																					
		TOTAL (WI):				19,843					8,994					35,661	837.8	1,562.5	278.45		9	40	123	49
		AVERAGE (WI):				205			5.6	25.6	93			9.4	10.6	368								

State	County	Lake	Area (Acres)	2000 Walleye Code	Date Surveyed	Age 0 WAE	Age 0 Min L.	Age 0 Max L.	Age 0 Ave L.	Age 0 CPE	Age 1 WAE	Age 1 Min L.	Age 1 Max L.	Age 1 Ave L.	Age 1 CPE	Total WAE	Miles Surveyed	Shore Miles	Hours Surveyed	Temp	Other Species MUE	NOP	LMB	SMB
MI	GOGEBIC	CISCO L	506	C-NR	10/16	0				0.0	0				0.0	6	3.2	12.4	1.04	50	0	0	0	9
MI	GOGEBIC	L GOGEBIC	13,380	C-NR	10/9-10	1076	4.1	7.4	6.0	43.2	22	9.1	11.2	10.2	0.9	1100	24.9	35.0	7.93	50	0	0	0	0
MI	GOGEBIC	POMEROY L	314	C-ST	10/26	30	5.8	7.6	6.6	8.1	0	0.0	0.0		0.0	118	3.7	3.7	1.39	56	0	0	1	0
MI	GOGEBIC	THOUSAND ISLAND L	1,020	C-NR	10/16	0				0.0	0				0.0	26	10.7	10.7		52	0	0	8	2
MI	IRON	STANLEY L	310	C-	10/17	132	4.4	7.0	5.5	45.5	1	9.2	9.2	9.2	0.3	209	2.9	3.5	1.64	52	0	0	0	2
MI	ONTONAGON	BOND FALLS FL	2,118	C-	9/11-12	821	3.8	6.6	4.8	75.3	158	7.1	10.2	8.4	14.5	1019	10.9	15.0	4.19	65	0	0	0	0
		COUNT (MI):	6 surveys on 6 lakes																					
		TOTAL (MI):				2,059					181					2,478	56.3	80.3	16.19		0	0	9	13
		AVERAGE (MI):				343			5.7	28.7	30			9.3	2.6	413								

State	County	Lake	Area (Acres)	2000 Walleye Code	Date Surveyed	Age 0 WAE	Age 0 Min L.	Age 0 Max L.	Age 0 Ave L.	Age 0 CPE	Age 1 WAE	Age 1 Min L.	Age 1 Max L.	Age 1 Ave L.	Age 1 CPE	Total WAE	Miles Surveyed	Shore Miles	Hours Surveyed	Temp	Other Species MUE	NOP	LMB	SMB
MN	CHISAGO	GOOSE L	442	C-ST	9/28	1	7.2	7.2	7.2	0.1	0				0.0	12	7.0	7.0	1.82	61	0	0	0	0
MN	CHISAGO	GREEN L	1,714	C-ST	9/28	0				0.0	4	11.3	11.8	11.6	0.4	24	9.0	12.0	3.90	59	0	0	0	0
MN	MILLE LACS	MILLE LACS L	132,516	NR	9/25-27	4076	3.9	7.9	6.3	56.1	641	7.4	12.1	9.3	8.8	4765	72.6	78.0	25.92	56	0	0	0	0
		COUNT (MN):	3 surveys on 3 lakes																					
		TOTAL (MN):				4,077					645					4,801	88.6	97.0	31.64		0	0	0	0
		AVERAGE (MN):				1359			6.8	18.8	215			10.5	3.1	1600								
		COUNT (OVERALL):	106 surveys on 104 lakes																					
		TOTAL (OVERALL):				25,979					9,820					42,940	982.7	1,739.8	326.28		9	40	132	62
		AVERAGE (OVERALL):				245			5.6	25.6	93			9.4	9.9	405								

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

Table C4. Summary of Other Gamefish Species Collected During Fall 2000 Recruitment Surveys Conducted by GLIFWC

	Wisconsin		Michigan		Minnesota	
	Number of Fish Collected	Number of Lakes	Number of Fish Collected	Number of Lakes	Number of Fish Collected	Number of Lakes
Muskellunge	9	3	0	0	0	0
Northern Pike	40	7	0	0	0	0
Largemouth Bass	123	13	9	2	0	0
Smallmouth Bass	49	11	13	3	0	0

Table C3. Summary of Age 0 and Age 1 Catch per Effort Rates During Fall 2000 Recruitment Surveys Conducted by GLIFWC

INCLUDING LAKES WHERE NO YEAR CLASS WAS DETECTED

AGE 0	NR and C-NR					C-					C-ST and ST					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	27.3	40.2	80	0.0	230.7						17.1	36.5	14	0.0	126.8	22.6	34.1	3	0.5	61.9
MICHIGAN	14.4	24.9	3	0.0	43.2	60.4	21.1	2	45.5	75.3	8.1		1	8.1	8.1					
MINNESOTA	56.1		1	56.1	56.1						0.1	0.1	2	0.0	0.1					
POOLED	27.1	39.6	84	0.0	230.7	60.4	21.1	2	45.5	75.3	14.5	33.4	17	0.0	126.8	22.6	34.1	3	0.5	61.9

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	12.5	11.5	80	0.0	61.0						1.4	2.5	14	0.0	9.8	3.3	4.8	3	0.3	8.9
MICHIGAN	0.3	0.5	3	0.0	0.9	7.4	10.0	2	0.3	14.5	0.0		1	0.0	0.0					
MINNESOTA	8.8		1	8.8	8.8						0.2	0.3	2	0.0	0.4					
POOLED	12.0	11.5	84	0.0	61.0	7.4	10.0	2	0.3	14.5	1.2	2.3	17	0.0	9.8	3.3	4.8	3	0.3	8.9

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	29.5	41.0	74	0.1	230.7						23.9	41.8	10	0.6	126.8	22.6	34.1	3	0.5	61.9
MICHIGAN	43.2		1	43.2	43.2	60.4	21.1	2	45.5	75.3	8.1		1	8.1	8.1					
MINNESOTA	56.1		1	56.1	56.1						0.1		1	0.1	0.1					
POOLED	30.0	40.6	76	0.1	230.7	60.4	21.1	2	45.5	75.3	20.6	38.6	12	0.1	126.8	22.6	34.1	3	0.5	61.9

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	12.9	11.5	77	0.2	61.0						1.7	2.7	12	0.2	9.8	3.3	4.8	3	0.3	8.9
MICHIGAN	0.9		1	0.9	0.9	7.4	10.0	2	0.3	14.5			0							
MINNESOTA	8.8		1	8.8	8.8						0.4		1	0.4	0.4					
POOLED	12.7	11.4	79	0.2	61.0	7.4	10.0	2	0.3	14.5	1.6	2.6	13	0.2	9.8	3.3	4.8	3	0.3	8.9

Table C5. Fall 2000 Age 0 and Age 1 Population Estimates Conducted by GLIFWC

County	Lake	Area	2000 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)
VILAS	SHERMAN L	123	NR	1,503	18.0	12.2	53.5	393	14.8	3.2	30.3
	MEAN			1,503		12.2	53.5	393		3.2	30.3