



**Fish Population Assessments of Ceded Territory Lakes in
Wisconsin, Michigan and Minnesota During 2008**

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 Bands assisted with spring and fall surveys.

In the spring, adult walleye (*Sander vitreus*) population estimates were conducted on 11 lakes. A total of 14,776 walleye were sampled from 6,351 acres of water during these surveys. All but one of the lakes surveyed had naturally reproducing walleye populations, and density of adult walleye averaged 5.37 (SD = 4.21, range: 0.89 to 13.83) fish per acre. In 9 of these 11 lakes, adult walleye population densities were at least 3.0 fish per acre, indicating that walleye populations were healthy.

On Mille Lacs Lake, Minnesota, assessment crews conducted a cooperative spring adult walleye survey with MNDNR in which 23,354 walleye were caught.

During the fall, electrofishing surveys were conducted on 98 lakes in Wisconsin, 11 lakes in Michigan, and 1 lake in Minnesota to determine year class strength of age 0 (young of the year) and age 1 (yearling) walleye. In Wisconsin, a total of 19,730 age 0 and 6,460 age 1 walleye were sampled. In addition, 898 gamefish including muskellunge (*Esox masquinongy*), northern pike (*Esox lucius*), largemouth bass (*Micropterus salmoides*) and smallmouth bass (*M. dolomieu*) were sampled. In Michigan, a total of 1,770 age 0 and 885 age 1 walleye plus 37 gamefish were sampled during the fall. In Minnesota on Mille Lacs Lake, a total of 3,260 age 0 and 418 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 2008 by the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) to improve 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 ceded territory walleye populations and associated biological parameters. They provide data needed to update recruitment codes, set harvest quotas, and monitor the impacts of a combined tribal and sport 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 2008 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 has continued through a subcontract with GLIFWC. The Sokaogon (Mole Lake) Band also provided assistance during the spring and fall through subcontracts with GLIFWC. The Fond du Lac Band assisted during the spring walleye population estimate and fall walleye recruitment survey on Mille Lacs Lake.

Methods

Spring Adult Walleye Population Estimates

Current information on adult walleye populations was collected from 11 lakes in the ceded territory of Wisconsin (Figure A1). Of these, 10 lakes had experienced tribal spearing harvest during the previous year. Adult walleye population estimates were planned for Birch Lake (Vilas County, Wisconsin), Horsehead Lake (Vilas County, Wisconsin), and Patten Lake (Florence County, Wisconsin). However, after one night of sampling on each lake, 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 2008 included Butternut Lake (Forest Co.), Kentuck Lake (Vilas Co.), Squirrel Lake (Oneida Co.) and Squaw Lake (Vilas Co.). Small (less than 500 acres in area) long-term study lakes surveyed in 2008 included Bearskin Lake (Oneida Co.), Sherman Lake (Vilas Co.), and Bass-Patterson Lake (Washburn Co.). The survey on Sherman Lake was a cooperative effort between GLIFWC and WDNR. WDNR conducted an adult walleye population estimate on Siskiwit Lake (Bayfield Co.), which is also a small long-term study lake. 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 and assess models for predicting population size. A joint study between GLIFWC and the Wisconsin Department of Natural Resources (WDNR) was initiated in 2006 on Sherman Lake to investigate the effects of a 50% exploitation rate on the walleye population.

Mark and recapture data were used to calculate the adult walleye population estimate for each lake according to 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 GLIFWC and WDNR 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, an adjustment was made by reducing 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.

Fish were captured for marking with electrofishing gear soon after ice out in all lakes except for Kentuck Lake and Sherman Lake where walleye were captured by fyke netting by the Mole Lake tribal assessment crew and WDNR respectively. Walleye were also captured by electrofishing one night in Sherman Lake. Seven electrofishing boats and crews were used during the season, including four from GLIFWC, one from USFWS, one from Mole Lake, and one from St. Croix. All boats in all spring electrofishing surveys conducted during 2008 had an arrangement of six umbrella dropper anodes and used pulsed DC at 60 pps. Electrofishing occurred after sunset.

During the marking period, effort was focused on finding and sampling walleye spawning areas. With this concentrated effort, crews were able to mark the target number of walleye in two to seven 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 larger, and scales were taken 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 individually numbered Floy tags prior to release. Fish on all other lakes were given a single caudal fin notch. After being tagged or notched, fish were released away from the capture area, typically near the middle of the lake.

Recapture surveys with electrofishing equipment were conducted one or two 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 recorded.

A spring adult mark-recapture survey was also conducted on Mille Lacs Lake, Minnesota in cooperation with MNDNR to estimate the number of walleye greater than 14 inches in length. During the marking period, fyke netting and electrofishing effort was focused in the main spawning areas. Walleye were measured and sexed. Tags were applied on the spawning grounds by GLIFWC, Fond du Lac, USFWS, and MNDNR survey crews. Fish were recaptured with short term (1-2 hour) sets of standardized graded mesh gill nets set throughout the lake after spawning season.

Fall Recruitment Surveys

Fall electrofishing surveys were conducted in 110 ceded territory waters including 98 lakes in Wisconsin, 11 lakes in Michigan, and Mille Lacs Lake in Minnesota. Fall surveys were conducted to evaluate recruitment of age 0 (young of the year) and age 1 (yearling) walleye, and to assess whether recruitment codes were appropriate.

Electrofishing boats sampled lakes four nights per week from September 8 through October 16. Eight assessment crews were used during the season, including four from GLIFWC, one from USFWS, and crews from the Fond du Lac, 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 15 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 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 severe weather, and in one case obstruction by a citizen. 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 5.5 and 12.0 inches to determine the length range and numbers of age 0 and age 1 walleye.

Protocols were adopted by GLIFWC in the fall of 2004 to reduce the likelihood of spreading aquatic invasive species. All equipment coming in contact with water was checked visually for aquatic invasive species each night before entering the water and again after leaving the water. Boats and trailers were bleached, pressure-washed, or steam-cleaned daily. In addition, crew leaders documented any aquatic invasive species observed, and gathered information regarding signs posted at boat landings pertaining to these species.

Surveys on the following four Wisconsin lakes were conducted jointly by GLIFWC and WDNR, and the results summarized and reported by GLIFWC: Red Cedar Lake (Barron Co.), Upper Eau Claire Lake (Bayfield Co.), Lac Vieux Desert (Vilas Co.), and Trout Lake (Vilas Co.). Surveys on the following six Wisconsin lakes were conducted jointly by GLIFWC and WDNR, and the results were summarized and reported by WDNR: Middle Eau Claire Lake (Bayfield Co.), Lower Post Lake (Barron Co.), Upper Post Lake (Langlade Co.), Pelican Lake

(Oneida Co.), Balsam Lake (Polk Co.), and Nelson Lake (Sawyer Co.). All data from these ten surveys are reflected in this report, regardless of which agency did the actual collection of fish.

Results and Discussion

Spring Adult Walleye Population Estimates

A total of 14,776 walleye were sampled from 6,351 acres of water in Wisconsin during the spawning adult walleye population estimate period. Adult walleye population estimates for 11 stocks in Wisconsin (Table A1) ranged from 391 to 13,237 fish. Estimated population densities ranged from 0.89 per acre for Upper Turtle Lake, Barron Co., to 13.83 walleye per acre for Kentuck Lake, Vilas Co. (mean = 5.37, SD = 4.21) (Figure A2).

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 females that each contribute at least 15 percent of the sample.

Seven of the 11 lakes surveyed had recruitment codes of NR (Table A1), indicating that natural reproduction was the only source of recruitment. Three lakes had recruitment codes of C-NR, indicating that some stocking occurred even though the population was sustained by natural reproduction. One of the lakes had a recruitment code of C-ST, indicating that some natural reproduction occurred even though the population was sustained by stocking. Nine of these 11 lakes had walleye densities of greater than 3.0 per acre.

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 (Colby et al. 1979), and many females are out of effective capture range except during or after spawning.

A total of 1,661 female, 12,782 male, and 333 unknown sex walleye were measured (Figure A3, Table A2) and a subsample aged (Figure A4). Female lengths ranged from 10.0 to 28.5 inches, male lengths ranged from 8.0 to 25.0 inches, and lengths for walleye of unknown sex ranged from 8.5 to 18.0 inches. Age-length tables were developed for subsets of female, male, and unknown sex walleye in each of the lakes sampled (Tables A3 - A13). 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, all of the 11 lakes had populations with at least five year classes of females in the aging sample.

In Mille Lacs Lake, Minnesota, a total of 23,354 walleyes were caught during the spring marking and summer recapture phases. The population was estimated at 669,300 walleyes (standard error 57,000) over 14 inches (5.1 per acre). This estimate includes a 3% adjustment for tag loss (Drake 2009).

Fall Recruitment Surveys

Fall recruitment surveys were conducted on 110 lakes in the ceded territories of Wisconsin, Michigan and Minnesota (Figure B1, Table B2). Survey effort included 415.8 hours of electrofishing along 1,073.6 miles of shoreline resulting in the collection of 39,972 walleye.

From 98 surveys conducted on 98 lakes in Wisconsin, 354.3 hours of electrofishing along 921.3 miles of shoreline resulted in a collection of 33,216 walleye. In Michigan, 11 lakes were surveyed in 32.6 hours along 84.6 miles of shoreline, resulting in the collection of 3,043 walleye. In Mille Lacs Lake, 3,713 walleye were collected in 28.8 hours along 67.7 miles of shoreline (Table B2).

A total of 19,730 age 0 walleye were caught in Wisconsin. Age 0 walleye were caught in 79 of the 98 lakes surveyed. Over all 98 surveys, catch per effort (CPE) for age 0 walleye ranged from 0.0 to 332.1 (mean = 24.8, median = 8.7, SD = 45.6) per mile. A total of 6,460 age 1 (yearling) walleye were caught in 83 of the lakes surveyed. Over all surveys, age 1 CPE ranged from 0.0 to 65.5 (mean = 8.2, median = 4.3, SD = 11.3) yearlings per mile.

In order to gauge the relative strength of the 2008 and 2007 walleye year classes monitored in the 2008 fall surveys as age 0 and age 1 fish, plots of mean and median CPE values were generated for each year from 1986 through 2008 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 B2 and B3). For 1986 through 2008, the averages of the yearly mean and median age 0 CPEs are 32.5 and 17.9 per mile, respectively, and the averages of the yearly mean and median age 1 CPEs are 10.6 and 6.2 per mile, respectively. For 2008, the mean and median age 0 CPEs were 29.0 and 13.5, respectively, and the mean and median age 1 CPEs were 8.2 and 4.8, respectively.

In Michigan, 1,770 age 0 walleye were caught. Age 0 walleye were caught in 8 of the 11 lakes surveyed. Age 0 CPE ranged from 0.0 to 94.5 (mean = 24.8, median = 7.5, SD = 34.7) per mile. A total of 885 age 1 walleye were caught in 7 lakes. Age 1 CPE ranged from 0.0 to 81.6 (mean = 13.8, median = 2.0, SD = 25.5) yearlings per mile.

In Minnesota, 3,260 age 0 and 418 age 1 walleye were caught in Mille Lacs Lake, yielding CPEs of 48.2 and 6.2 per mile, respectively. Length frequencies from the survey on Mille Lacs Lake are shown in Figure B4, and results from all fall recruitment surveys conducted by GLIFWC on Mille Lacs Lake are shown in Figure B5.

Table B2 includes summaries of gamefish including muskellunge, northern pike, largemouth bass, and smallmouth bass. Various panfish and rough fish species were also collected but their numbers are not reported here. Summary statistics for NR and C-NR lakes, C-

ST lakes, and NR-2 lakes in Wisconsin, Michigan and Minnesota are given in Table B3. 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. Data were plotted for each recruitment code in Figures B6 and B7.

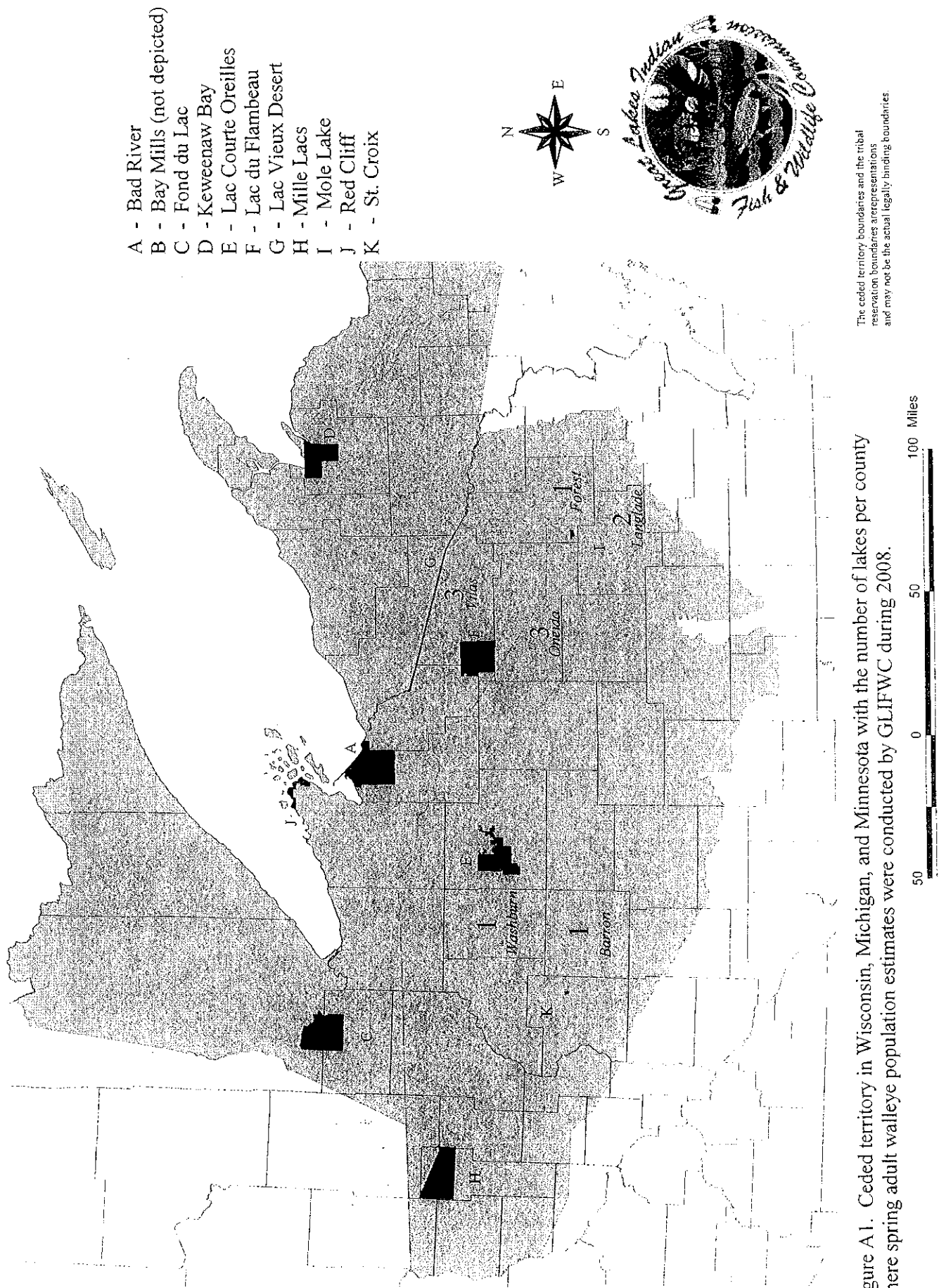
References

- Colby, P. J., R. E. McNicol, and R. A. Ryer. 1979. Synopsis of biological data on walleye (*Stizostedion v. vitreum*, Mitchell 1818). Food and Agricultural Organization of the United Nations, Rome.
- Drake, M. T. 2009. Mille Lacs Safe Harvest Estimation for the 2008 Fishing Season. 1837 Ceded Territory Fisheries Committee Meeting. January, 2009.
- Report on Biological Issues. 1988. LCO et al. V. State of Wisc. August, 1988.
- Ricker, W.E. 1975. Computation and interpretation of biological statistics of fish populations. Bulletin of the Fisheries Research Board of Canada. 382 pp.
- Robson, D.S. and H.A. Regier. 1964. Sample size in Peterson mark-recapture experiments. Transactions of the American Fisheries Society 93: 215-226.
- Shively, J.D. and N. Kmiecik. 1991. Fish population assessment of ceded territory lakes in Wisconsin during 1990. Great Lakes Indian Fish and Wildlife Commission Administrative Report 91-2. Odonah, WI.

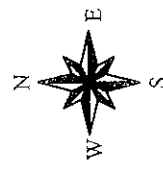
Appendix A: Spring Survey Data

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- A - Bad River
- B - Bay Mills (not depicted)
- C - Fond du Lac
- D - Keweenaw Bay
- E - Lac Courte Oreilles
- F - Lac du Flambeau
- G - Lac Vieux Desert
- H - Mille Lacs
- I - Mole Lake
- J - Red Cliff
- K - St. Croix



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

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 2008.

Figure A2. Estimated Adult Walleye Densities by Recruitment Code, Spring 2008

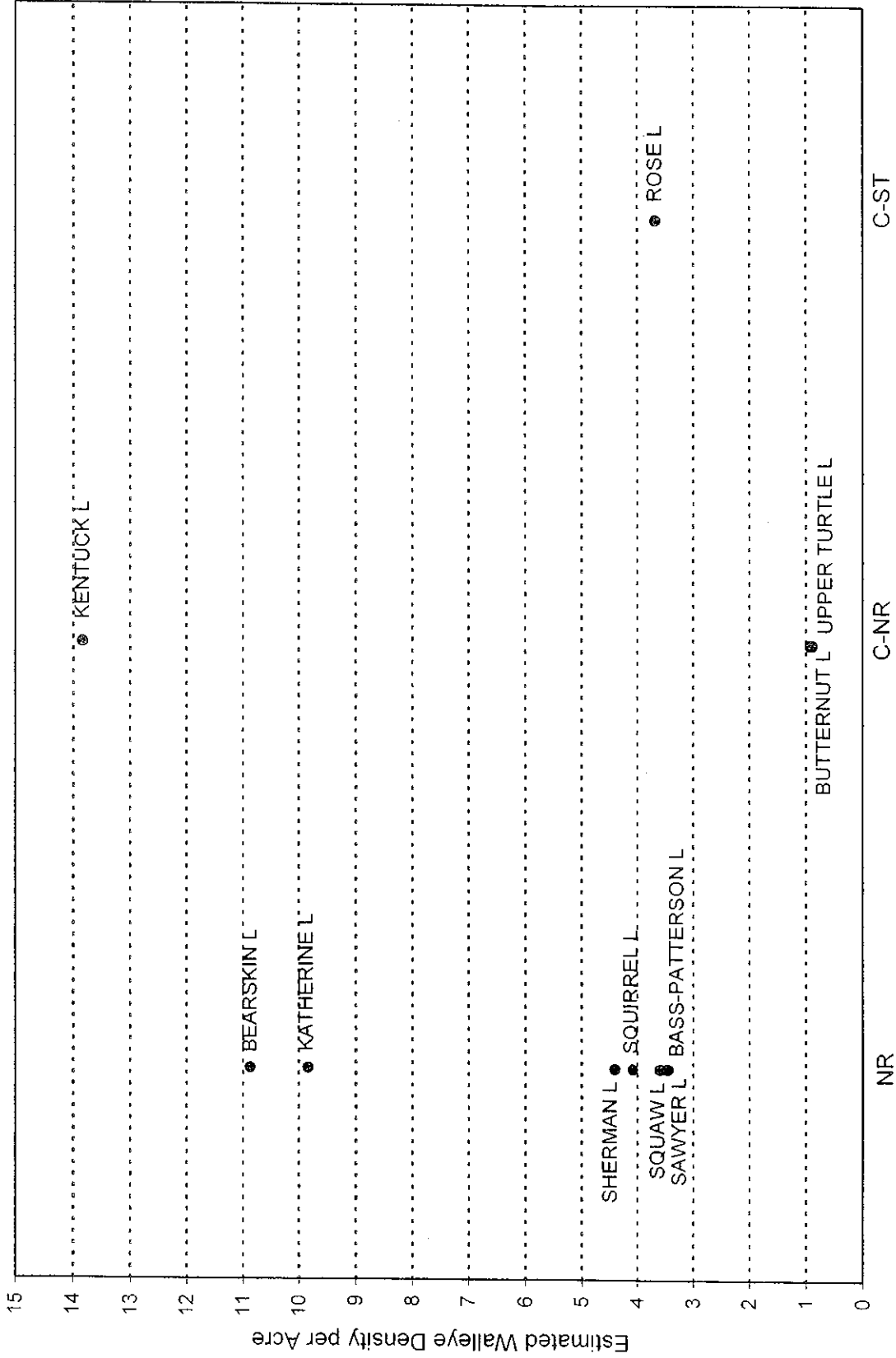


Figure A3

Length Frequency of Adult Walleye Marked
Adult Walleye Population Estimates, Spring 2008

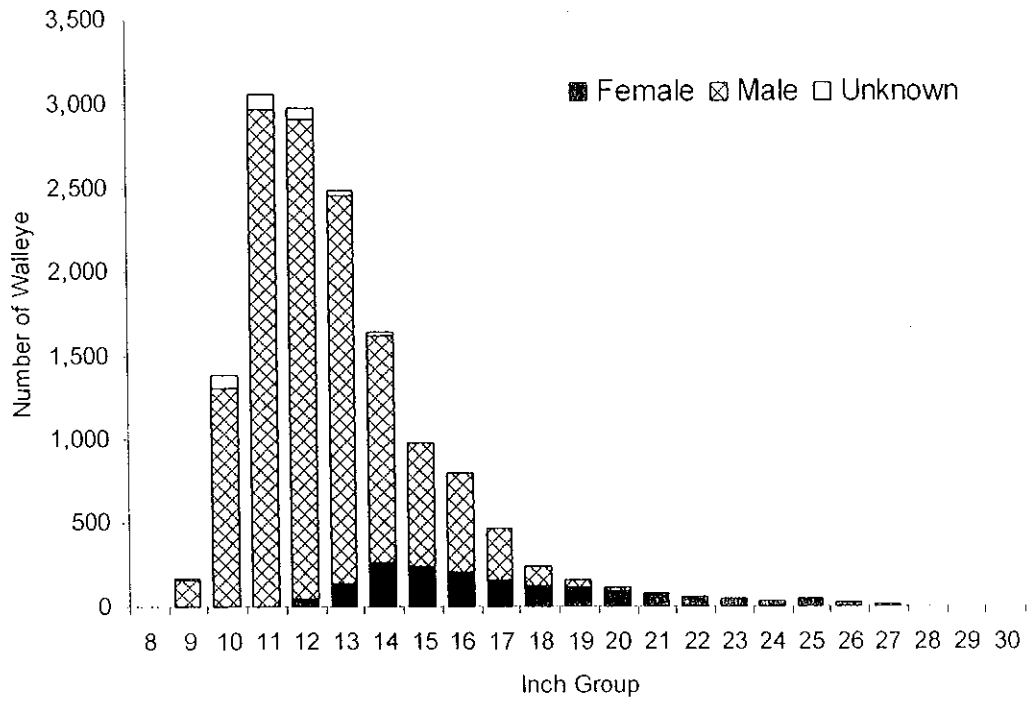


Figure A4

Age Frequency of Adult Walleye Aged
Adult Walleye Population Estimates, Spring 2008

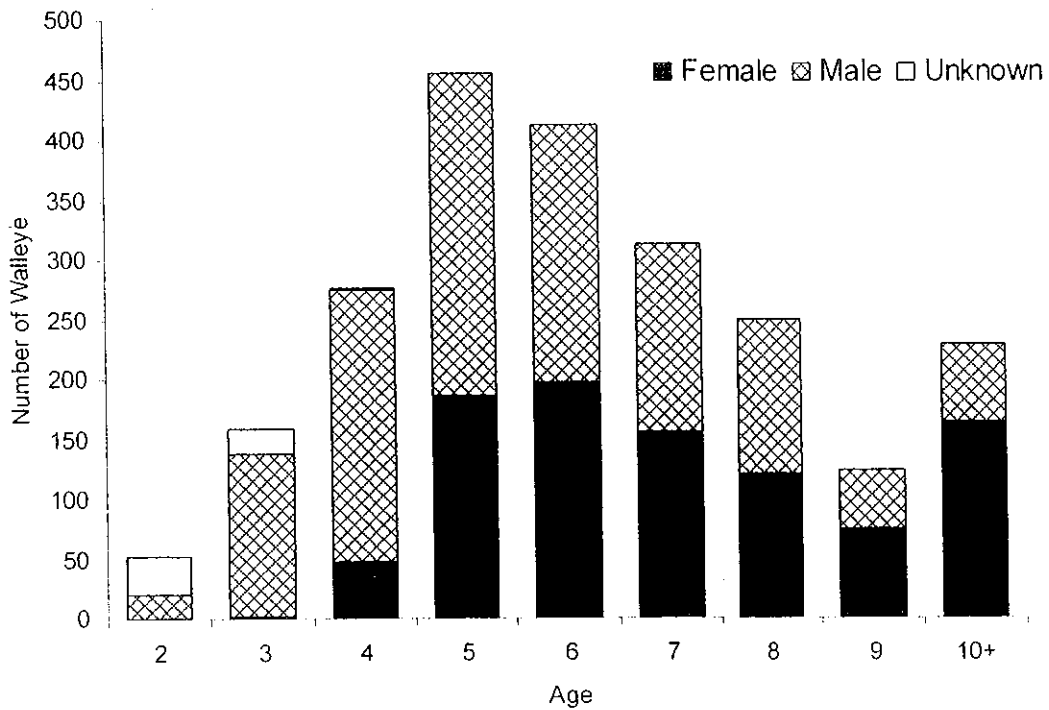


Table A1. Spring 2008 Adult Population Estimates Conducted by GLIFWC

State	County	Lake	Surface Area (Acres)	2008 Walleye Code	Population Estimate	Density	Coefficient of Variation (%)	Marking Gear*	Recapture Gear*	Fin clip applied**	Male: female sex ratio***
WI	BARRON	UPPER TURTLE L	438	C-NR	391	0.89	9.00%	E	E	TCN	6:1
WI	FOREST	BUTTERNUT L	1,292	C-NR	1,195	0.92	14.97%	E	E	YF	9:1
WI	LANGLADE	ROSE L	112	C-ST	412	3.68	8.55%	E	E	TCN	6:1
WI	LANGLADE	SAWYER L	149	NR	515	3.46	6.05%	E	E	TCN	5:1
WI	ONEIDA	BEARSKIN L	400	NR	4,349	10.87	8.44%	E	E	YF	6:1
WI	ONEIDA	KATHERINE L	590	NR	5,803	9.84	6.30%	E	E	TCN	14:1
WI	ONEIDA	SQUIRREL L	1,317	NR	5,388	4.09	3.79%	E	E	YF	7:1
WI	VILAS	KENTUCK L	957	C-NR	13,237	13.83	4.96%	F	E	YF	9:1
WI	VILAS	SHERMAN L	123	NR	543	4.41	12.17%	F/E	E	YF/TCN/BC	5:1
WI	VILAS	SQUAW L	785	NR	2,817	3.59	6.72%	E	E	YF	5:1
WI	WASHBURN	BASS-PATTERSON L	188	NR	653	3.47	8.43%	E	E	YF	8:1

*Gear used: E = electrofishing, F = fyke netting

** TCN = top caudal notch, YF = numbered yellow floy tag, BC = bottom caudal

***Sex ratio is calculated for walleye sampled during marking and recapture runs but excludes recaptured fish

Table A2. Lengths of Walleye Collected During Spring 2008 Adult Walleye Population Estimates

STATE	COUNTY	LAKE	NUMBER SAMPLED			TOTAL	FEMALE		MALE		UNKNOWN	
			FEMALE	MALE	UNKNOWN		MINIMUM LENGTH	MAXIMUM LENGTH	MINIMUM LENGTH	MAXIMUM LENGTH	MINIMUM LENGTH	MAXIMUM LENGTH
WI	BARRON	UPPER TURTLE L	38	245	5	288	16.0	28.5	13.5	21.5	13.0	18.0
WI	FOREST	BUTTERNUT L	43	408	18	469	16.0	27.5	9.0	21.5	8.5	14.5
WI	LANGLADE	ROSE L	39	241	1	281	15.5	26.5	13.0	22.0	18.0	18.0
WI	LANGLADE	SAWYER L	53	288	2	343	15.0	24.0	12.5	19.0	11.0	12.0
WI	ONEIDA	BEARSKIN L	221	1,359	115	1,695	12.0	26.0	9.5	19.5	10.0	16.5
WI	ONEIDA	KATHERINE L	134	1,830	28	1,992	11.0	27.5	8.0	18.5	9.0	14.0
WI	ONEIDA	SQUIRREL L	372	2,698	30	3,100	11.0	27.5	9.5	25.0	9.5	15.0
WI	VILAS	KENTUCK L	455	4,130	44	4,629	12.5	27.0	9.0	20.5	9.0	14.5
WI	VILAS	SHERMAN L	42	211	7	260	10.0	25.5	8.5	17.5	10.0	15.5
WI	VILAS	SQUAW L	218	982	51	1,251	12.0	25.0	10.0	17.5	10.0	17.5
WI	WASHBURN	BASS-PATTERSON L	46	390	32	468	15.5	26.5	10.0	20.5	10.0	17.0
OVERALL			1,661	12,782	333	14,776	10.0	28.5	8.0	25.0	8.5	18.0

Table A3 Number of Walleye Aged by Sex and Length From Spring 2008 Adult Population Estimate
Upper Turtle Lake, Barron County, Wisconsin

INCH GROUP	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL					
	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	F	M	U
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18												5	5					1	1		1									6	7		13			
19										1		2						1	1											3	3		6			
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27																																4		4		4
28																																4		4		4
29																																				
30																																				
TOTALS										6			5	21		8	23		4	6		2	4		2	3		17	2		38	65		103		

Number of female year classes: 6 Number of male year classes: 7

Table A4 Number of Walleye Aged by Sex and Length From Spring 2008 Adult Population Estimate
Butternut Lake, Forest County, Wisconsin

INCH GROUP	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL					
	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	F	M	U
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28																																				
29																																				
30																																				
TOTALS							13	4		31			34			1	26		3	30		1	22		4	3		25	25		34	184		4	222	

Number of female year classes: 5 Number of male year classes: 8

Table A5

Number of Walleye Aged by Sex and Length From Spring 2008 Adult Population Estimate
Rose Lake, Langlade County, Wisconsin

INCH GROUP	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL									
	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	F	M	U	ALL			
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7																																								
8																																								
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10																																								
11																																								
12																																								
13							3			4		2																			9	9								
14						1				9		2																			12	12								
15									1	12		6			2															1	20	21								
16									2	2		1	3			7														3	20	23								
17												2		1	1															5	10	15								
18												1		3		1								2	4					1										
19															3		1														4									
20															1		9														1	11	1							
21															1		2														5	1								
22																															1		1							
23																																1		2						
24																																								
25																																								
26																																								
27																																								
28																																								
29																																								
30																																								
TOTALS									4			3	27			4	13			6	10			13	10			9	13			2	5			2	2	39	84	123

Number of female year classes: 7

Number of male year classes: 8

Table A6

Number of Walleye Aged by Sex and Length From Spring 2008 Adult Population Estimate
Sawyer Lake, Langlade County, Wisconsin

INCH GROUP	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL					
	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	F	M	U
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29																																				
30																																				
TOTALS									6			2	10			2	21			7	12			8	15			12	11			17	9	48	84	132

Number of female year classes: 6

Number of male year classes: 7

Table A11

Number of Walleye Aged by Sex and Length From Spring 2008 Adult Population Estimate
Sherman Lake, Vilas County, Wisconsin

INCH GROUP	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL					
	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	F	M	U
3																																				
4																																				
5																																				
6			3																																	
7			10																																	
8			3	1	7																															
9				6	9		4	1																												
10				3	9		9	1																												
11					5	1	10	2																												
12						1	10	9																												
13							3	1	1	1																										
14																																				
15										1																										
16																																				
17																1				1																
18															1																					
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20																	1																			
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22																3				2																
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26																																				
27																																				
28																																				
29																																				
30																																				
TOTALS			16		10	30	2	36	14	1	1	1	3			6	1		5	1		2			1			1			21	49	61	131		

Number of female year classes: 8

Number of male year classes: 5

Table A12

Number of Walleye Aged by Sex and Length From Spring 2008 Adult Population Estimate
Squaw Lake, Vilas County, Wisconsin

INCH GROUP	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
	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			5			2																				
11								4				12		4																				
12								2	5			3	15		1					1														
13								3	3			14	10		6	5			1	1														
14								1				7	1		21	7			3	4					1	2								
15												2			6				7	1				2	2									
16															2				1	1														
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27																																		
28																																		
29																																		
30																																		
TOTALS							8			6	25		26	32		36	12		13	7		8	5					69	89		178			

Number of female year classes: 5

Number of male year classes: 6

Table A13

Number of Walleye Aged by Sex and Length From Spring 2008 Adult Population Estimate
 Bass-Patterson Lake, Washburn County, Wisconsin

INCH GROUP	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL					
	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	F	M	U
3																																				
4																																				
5																																				
6																																				
7																																				
8																																				
9																																				
10							4	2			1																			5	2	7				
11											9																				9		9			
12											5				8																13		13			
13											2				16			2													20		20			
14															14			3													17		17			
15															1	4			12											1	21		22			
16															5	1			4			4			2					5	11		16			
17															5			1				3			2		1			5	7		12			
18																	8				1			1			1			8	4		12			
19																	1				2			2						5			5			
20															1						1					1				4			4			
21																	1				1									2			2			
22																										1				1			1			
23																					1			1				1		3			3			
24																																				
25																															1			1		
26																															1			1		
27																															1			1		
28																																				
29																																				
30																																				
TOTALS							4	2			17			12	43		11	22		5	13		3	5		2	2		3	1		36	107	2	145	

Number of female year classes: 6

Number of male year classes: 8

Appendix B: Fall Recruitment Survey Data

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B7.	Age 1 CPE by Code for GLIFWC 2008 Recruitment Surveys	26
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B2.	Fall 2008 Recruitment Surveys Conducted by GLIFWC	28
B3.	Summary of Age 0 and Age 1 Catch per Effort Rates During Fall 2008 Recruitment Surveys Conducted by GLIFWC	30

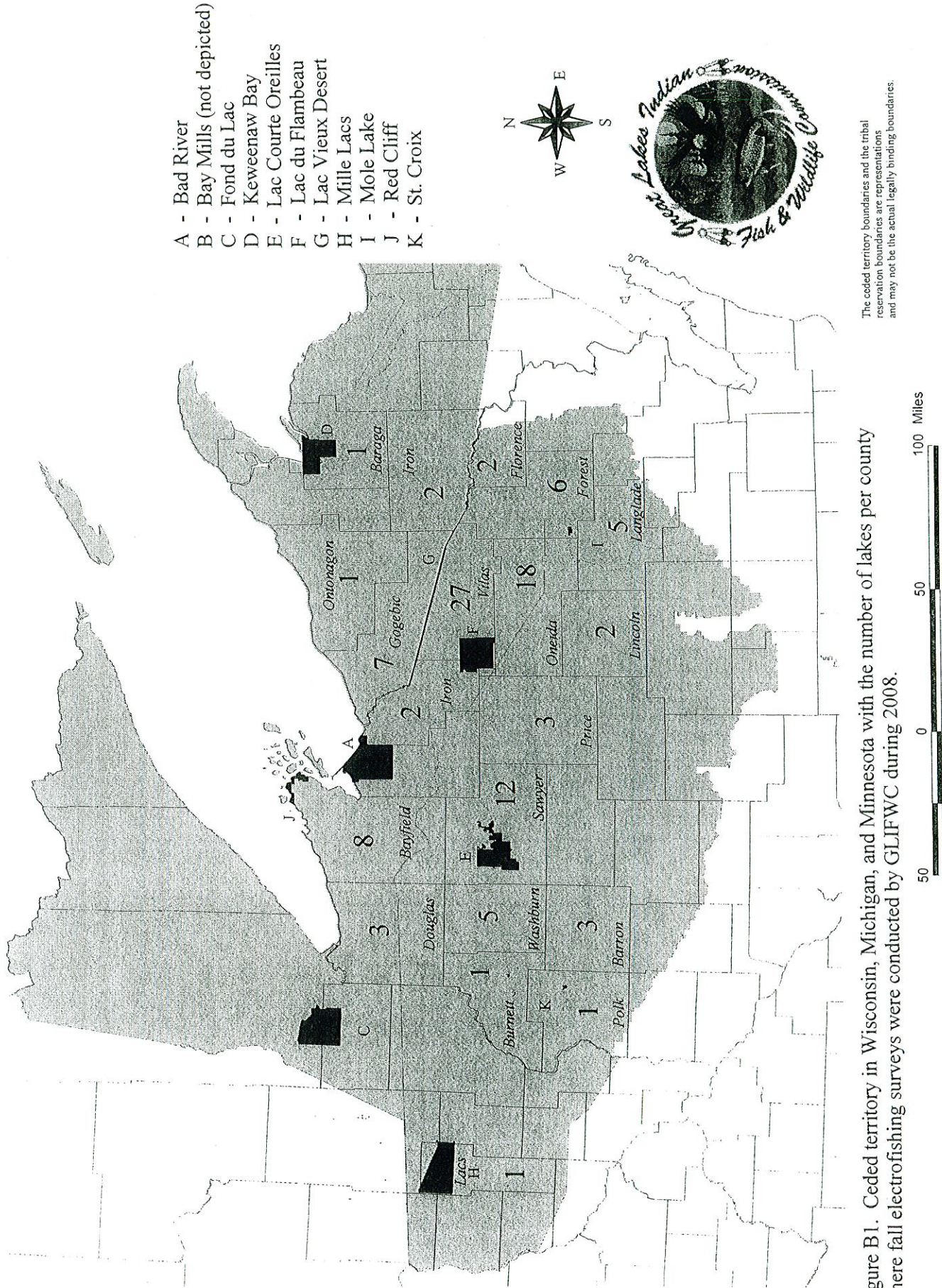


Figure B1. Ceded territory in Wisconsin, Michigan, and Minnesota with the number of lakes per county where fall electrofishing surveys were conducted by GLIFWC during 2008.

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

Figure B2 Means of Age 0 and Age 1 Walleye CPEs in Wisconsin

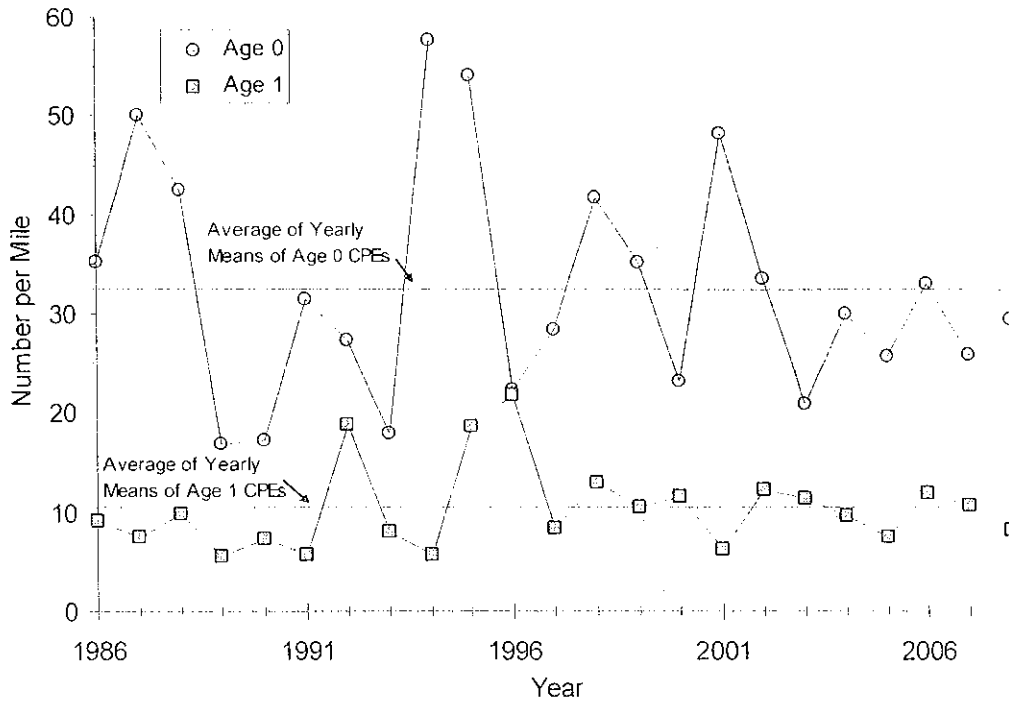


Figure B3 Medians of Age 0 and Age 1 Walleye CPEs in Wisconsin

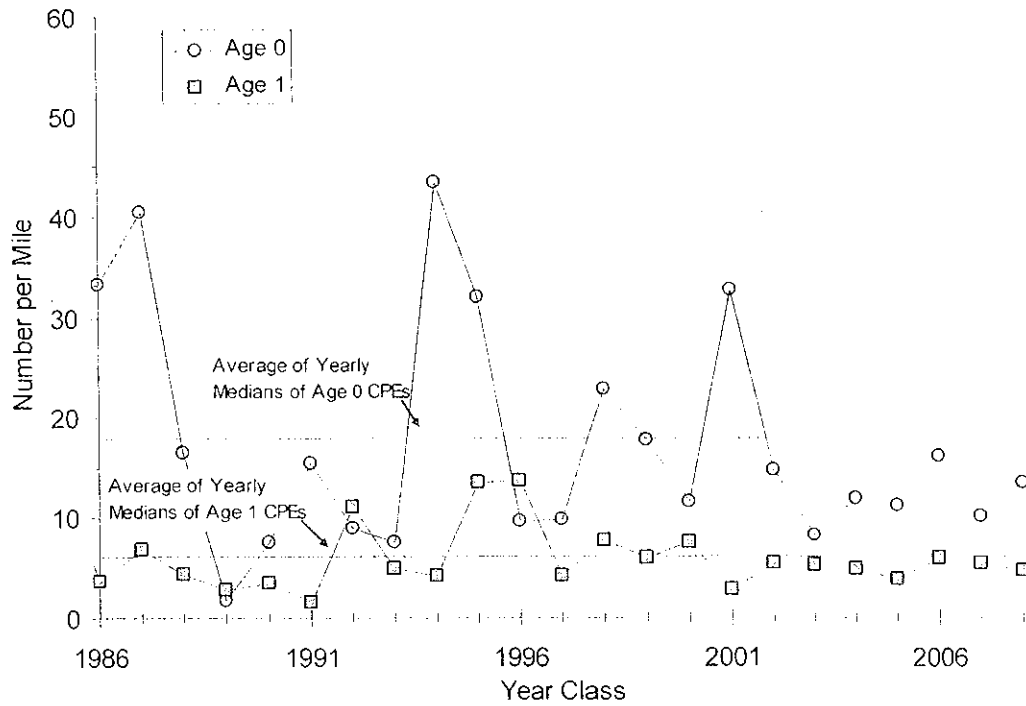


Figure B4

Length Frequency of Walleye Captured
Fall 2008 Walleye Recruitment Survey, Mille Lacs Lake

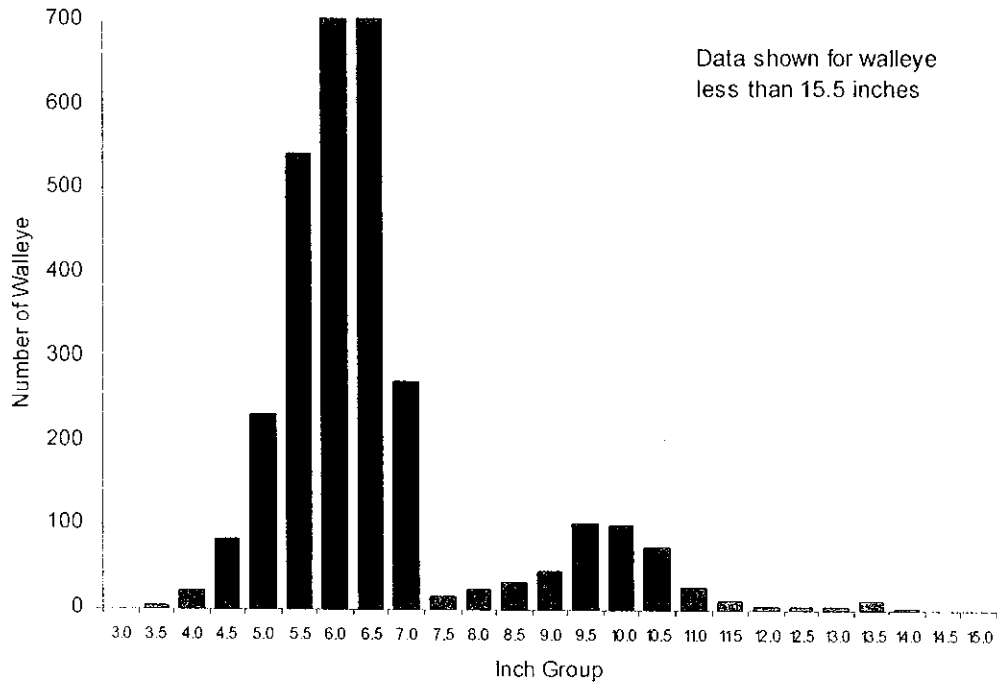


Figure B5

Mille Lacs Lake Fall Walleye CPEs from GLIFWC Surveys

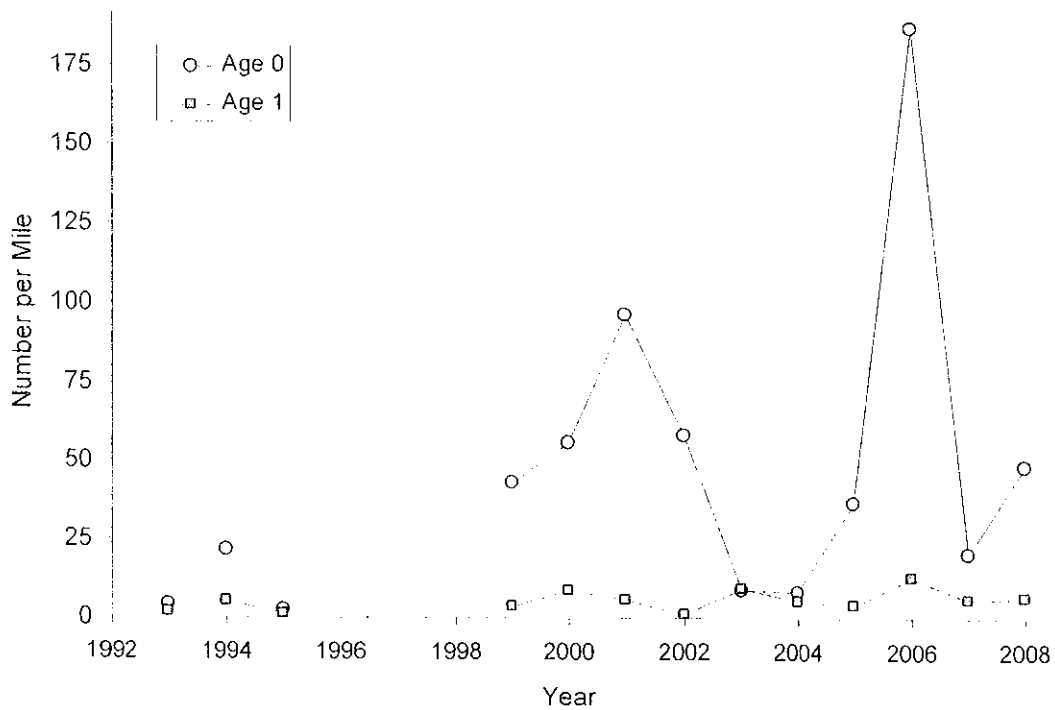


Figure B6. Age 0 CPE By Code for GLIFWC 2008 Recruitment Surveys

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

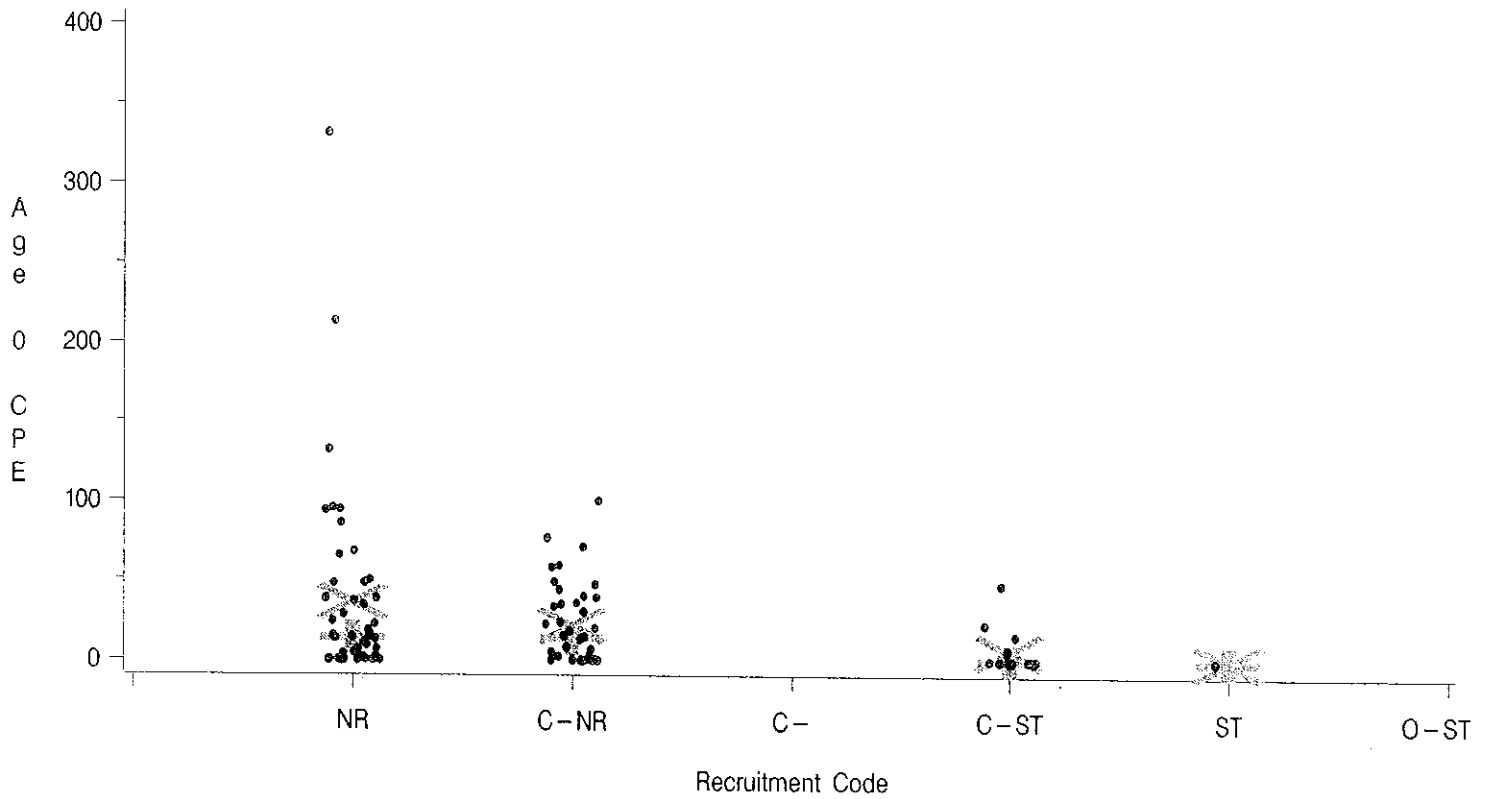


Figure B7. Age 1 CPE By Code for GLIFWC 2008 Recruitment Surveys

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

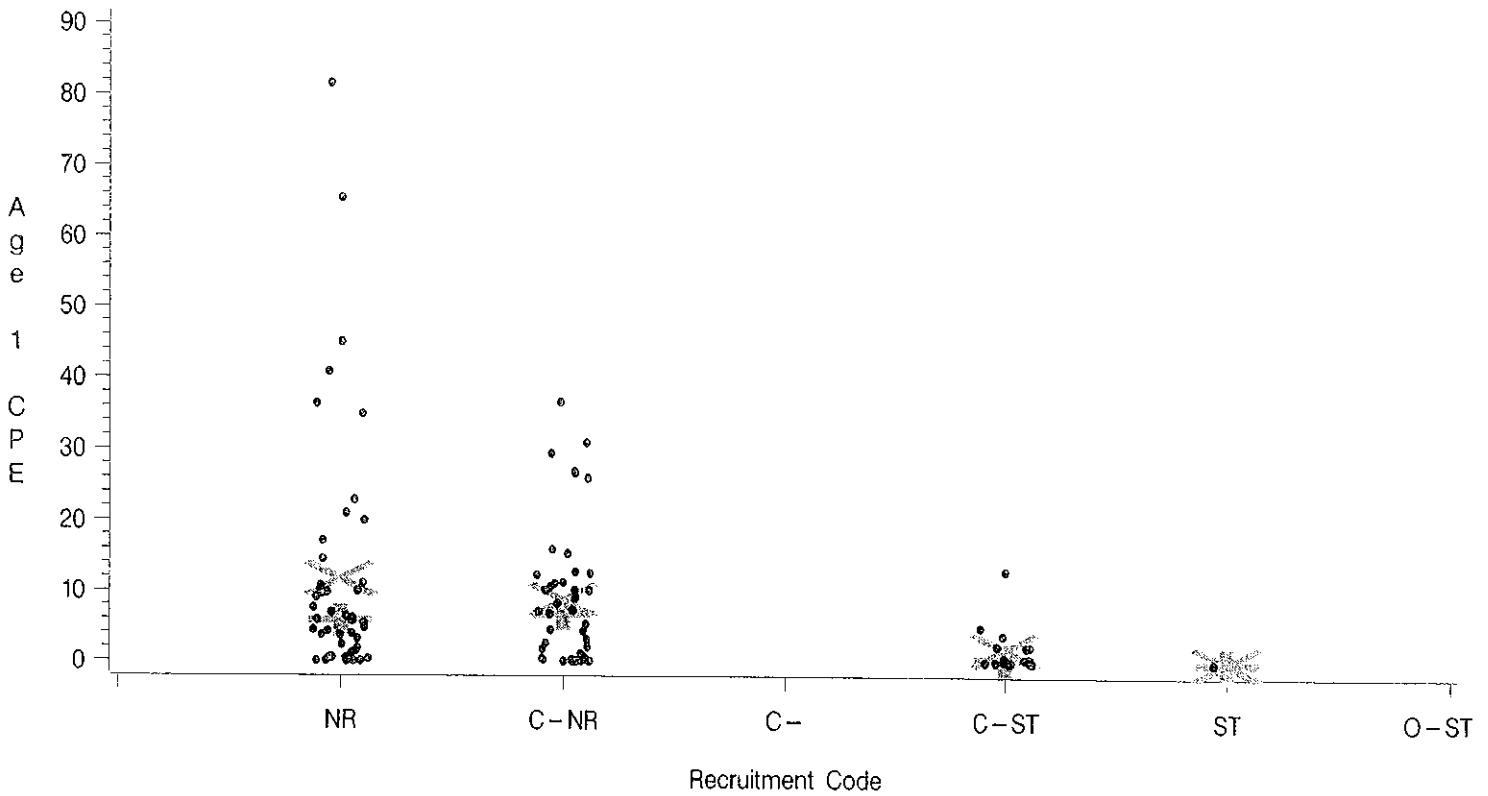


Table B1. Description of Walleye Recruitment Source Codes.

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 density is 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.

SAWYER	TEAL L	1,049	NR	9/17	0.0	0	0.6	3	7.9	8.8	8.4	110	52	2.13	62	2
VILAS	BIG L (BOULDER JCT)	835	NR	9/25	47.9	350	3.7	27	8.6	11.1	10.1	389	7.3	9.6	2.38	63
VILAS	BIG MUSKELLUNGE L	930	NR	10/1	213.8	2,181	3.2	7.9	14.5	14.8	10.7	2,410	10.2	10.2	3.64	57
VILAS	BIG PORTAGE L	638	NR	9/16	0.0	0	0.4	3	8.5	10.2	9.4	8	6.8	6.8	2.47	65
VILAS	BIG ST GERMAIN L	1,617	C-ST	10/8	15.8	120	3.8	7.6	6.3	0.0	0	127	7.6	7.6	2.69	56
VILAS	BOULDER L	524	NR	9/15	332.1	2,557	3.0	6.6	4.8	9.1	7.0	2,659	7.7	7.7	2.40	63
VILAS	CATFISH L	1,012	NR	9/29	7.0	79	5.5	6.9	6.1	4.7	5.3	339	11.3	11.3	4.24	59
VILAS	CLEAR L	555	C-NR	10/6	58.4	309	4.4	6.7	5.6	4.4	2.3	366	5.2	7.1	1.89	57
VILAS	CRANBERRY L	949	NR	10/16	10.9	173	3.3	8.1	5.1	5.6	8.9	362	15.8	15.8	6.74	52
VILAS	CRANBERRY L	956	NR	9/30	9.2	105	4.4	5.9	5.4	22.9	26.1	6.7	8.9	8.0	3.64	59
VILAS	EAGLE L	572	NR	10/1	65.6	315	4.6	6.5	5.7	9.8	4.7	4.9	4.8	4.8	1.61	59
VILAS	FOREST L	466	NR	9/17	38.3	268	3.4	6.2	4.9	4.4	3.1	309	7.0	7.0	2.48	66
VILAS	HARRIS L	507	NR	9/11	6.7	40	4.6	5.9	5.3	6.3	3.8	107	6.0	6.0	2.28	62
VILAS	HIGH L	734	NR	9/10	0.0	0	0.0	0	0	0	0	4	5.6	9.4	2.17	63
VILAS	ISLAND L	1,023	C-NR	10/13	13.6	228	3.2	7.3	5.3	12.2	7.4	453	16.8	16.8	3.56	57
VILAS	KENTUCK L	957	C-NR	9/22	0.0	0	0	0	0	10.0	6.0	106	6.0	6.0	1.97	65
VILAS	LAC VIEUX DESERT	4,300	C-NR	10/1	0.0	0	0	0	0	0.2	3	9.3	10.8	10.2	3.3	7.26
VILAS	LITTLE ARBOR VITAE L	534	NR	9/18	0.0	0	0	0	0	0.3	2	11.7	11.9	11.8	2	7.1
VILAS	LONG L	872	C-ST	9/23	0.0	0	0	0	0	13.0	6.1	8.6	12.9	11.4	6.2	4.7
VILAS	N TWIN L	2,788	C-NR	10/2	100.3	1,414	3.2	7.6	5.1	12.5	17.6	7.8	11.4	10.0	1.595	14.1
VILAS	PRESCUE ISLE L	1,280	NR	10/15	2.5	22	3.9	5.6	4.7	5.3	4.7	7.3	9.6	8.7	12.8	8.8
VILAS	REST L	608	C-NR	10/9	76.9	346	2.9	7.3	5.1	7.1	3.2	8.5	10.5	9.5	4.09	4.5
VILAS	SHERMAN L	123	NR	10/1	68.2	150	4.3	6.9	5.5	65.5	14.4	7.0	9.2	3.33	2.2	2.2
VILAS	SPIDER L	272	C-NR	10/7	30.3	179	3.4	7.3	5.7	10.2	6.0	7.6	10.2	9.1	3.05	5.9
VILAS	SQUAW L	785	NR	9/23	0.8	7	5.3	5.7	5.5	21.0	18.9	7.1	9.5	8.4	3.06	9.0
VILAS	STAR L	1,206	NR	10/14	94.0	1,100	3.1	7.8	5.0	7.6	8.9	8.1	10.3	9.5	1.240	11.7
VILAS	TROUT L	3,816	C-ST	10/6,10/8	6.1	110	3.6	7.5	5.4	3.8	6.8	7.8	10.7	9.5	2.82	17.9
VILAS	WILD RICE L	379	C-NR	10/8	0.0	3	5.8	6.5	6.1	0.3	1	9.3	9.3	9.3	13	3.7
WASHBURN	BASS-PATTERSON L	188	NR	9/25	95.5	277	4.3	7.3	5.8	9.7	2.8	8.1	10.3	9.5	3.58	2.9
WASHBURN	LONG L	3,290	C-ST	10/6	0.6	12	5.2	6.9	6.1	0.6	12	7.3	9.9	9.3	6.0	20.5
WASHBURN	MIDDLE MCKENZIE L	530	C-ST	9/16	0.7	3	6.2	6.6	6.4	0.0	0	0	4.1	4.1	2.03	64
WASHBURN	SHELL L	2,580	NR	10/9	16.0	163	4.7	6.9	5.7	3.1	32	7.4	10.3	8.9	2.47	10.2
WASHBURN	STONE L	523	C-NR	9/22	13.0	52	4.7	7.1	6.0	0.3	1	10.6	10.8	10.8	5.9	4.0

COUNT: 98 SURVEYS ON 98 LAKES
 AVERAGES: 24.8 201 5.6 8.2 66 83
 19,730 6,460 33,216 921.3 354.34
 79 83 95

TOTALS: 19,730 6,460 33,216 921.3 354.34
 AVERAGES: 24.8 201 5.6 8.2 66 83
 NUMBER OF SURVEYS WITH FISH CAUGHT: 79

MICHIGAN	County	Surface Area (Acres)	2008 Walleye Code	Date Surveyed	Age 0 CPE	Age 0 Walleye	Age 0 Min Length	Age 0 Max Length	Age 0 Mean Length	Age 1 CPE	Age 1 Walleye	Age 1 Min Length	Age 1 Max Length	Age 1 Mean Length	Age 1 Total Walleye	Miles Surveyed	Shore Miles	Hours Surveyed	Temperature	Other Species
BARAGA	PARENT L	182	NR	10/16	0.4	1	7.5	7.5	7.5	0.0	0	0	0	0	47	2.3	2.3	0.90	52	MUE INOP LMB SMB
GOGEBIC	BEATONS L	330	ST	10/16	0.0	0	0	0	0	0.0	0	0	0	0	1	6.9	6.9	2.56	50	
GOGEBIC	CISCO L	506	C-NR	9/8	0.0	0	0	0	0	0.0	0	0	0	0	3.2	12.4	1.04	65		
GOGEBIC	DUCK L	616	C-ST	10/9	7.5	71	4.4	6.7	5.3	0.2	2	8.8	9.2	9.0	85	9.5	9.5	2.69	52	
GOGEBIC	L GOGEBIC	13,380	C-NR	9/10-9/11	22.3	542	3.4	6.2	4.6	12.3	299	7.3	10.3	8.8	985	24.3	35.0	9.67	65	
GOGEBIC	POMEROY L	314	NR	9/8	28.4	105	4.5	6.4	5.6	81.6	302	7.3	10.7	9.5	410	3.7	3.7	1.75	66	
GOGEBIC	TAMARACK L	335	NR	10/2	84.5	378	3.5	7.4	5.7	4.3	17	10.3	11.9	11.0	424	4.0	4.0	1.63	56	
GOGEBIC	THOUSAND ISLAND L	1,020	C-NR	9/9	0.0	0	0	0	0	0.0	0	0	0	0	0	10.7	10.7	3.60	66	
IRON	STANLEY L	310	NR	10/15	86.0	301	4.2	6.9	5.3	40.9	143	8.0	11.6	9.9	506	3.5	3.5	1.66	52	
IRON	WINSLOW L	255	C-NR	10/13	0.5	3	5.2	5.4	5.3	2.0	11	8.9	11.1	9.8	93	5.5	5.5	1.66	56	
ONTONAGON	BOND FALLS FL	2,118	C-NR	10/14-10/15	33.5	369	3.7	7.5	4.6	10.1	111	7.9	10.7	9.1	482	11.0	15.0	5.46	53	

COUNT: 11 SURVEYS ON 11 LAKES
 AVERAGES: 24.8 161 5.5 13.8 80 7
 1,770 885 3,043 84.6 32.62
 8 7 9

TOTALS: 1,770 885 3,043 84.6 32.62
 AVERAGES: 24.8 161 5.5 13.8 80 7
 NUMBER OF SURVEYS WITH FISH CAUGHT: 8

MINNESOTA	County	Surface Area (Acres)	2008 Walleye Code	Date Surveyed	Age 0 CPE	Age 0 Walleye	Age 0 Min Length	Age 0 Max Length	Age 0 Mean Length	Age 1 CPE	Age 1 Walleye	Age 1 Min Length	Age 1 Max Length	Age 1 Mean Length	Age 1 Total Walleye	Miles Surveyed	Shore Miles	Hours Surveyed	Temperature	Other Species
MILLE LACS	MILLE LACS L	132,516	NR	9/22-9/24	48.2	3,260	3.5	7.8	6.2	6.2	418	8.0	11.6	9.9	3,713	67.7	28.81	65	MUE INOP LMB SMB	

OVERALL: 111 SURVEYS ON 111 LAKES
 AVERAGES (OVERALL): 24.760 225 5.6 8.8 71 91
 24,760 7,763 39,972 1,073.6 415.77
 88 91 105

TOTALS (OVERALL): 24,760 225 39,972 1,073.6 415.77
 AVERAGES (OVERALL): 25.0 225 5.6 8.8 71 91
 NUMBER OF SURVEYS WITH FISH CAUGHT (OVERALL): 88

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 B3 Summary of Age 0 and Age 1 Catch per Effort Rates During Fall 2008 Recruitment Surveys Conducted by GLIFWC

Including Lakes Where No Year Class Was Detected

AGE	STATE	NR and C-NR				ST and C-ST				NR-2 and REM						
		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
0	WISCONSIN	28.8	48.9	81	0.0	332.1	6.0	13.0	16	0.0	47.8	0.0		1	0.0	0.0
	MICHIGAN	29.5	36.9	9	0.0	94.5	3.7	5.3	2	0.0	7.5			0		
	MINNESOTA	48.2		1	48.2	48.2			0					0		
	POOLED	29.1	47.4	91	0.0	332.1	5.7	12.3	18	0.0	47.8	0.0		1	0.0	0.0
1	WISCONSIN	9.6	12.0	81	0.0	65.5	1.9	3.3	16	0.0	13.0	0.1		1	0.1	0.1
	MICHIGAN	16.8	27.5	9	0.0	81.6	0.1	0.1	2	0.0	0.2			0		
	MINNESOTA	6.2		1	6.2	6.2			0					0		
	POOLED	10.3	14.1	91	0.0	81.6	1.7	3.2	18	0.0	13.0	0.1		1	0.1	0.1

Excluding Lakes Where No Year Class Was Detected

AGE	STATE	NR and C-NR				ST and C-ST				NR-2						
		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
0	WISCONSIN	33.8	51.4	69	0.1	332.1	9.6	15.6	10	0.1	47.8			0		
	MICHIGAN	38.0	38.0	7	0.4	94.5	7.5		1	7.5	7.5			0		
	MINNESOTA	48.2		1	48.2	48.2			0					0		
	POOLED	34.3	49.8	77	0.1	332.1	9.4	14.8	11	0.1	47.8			0		
1	WISCONSIN	10.8	12.2	72	0.1	65.5	3.0	3.8	10	0.4	13.0	0.1		1	0.1	0.1
	MICHIGAN	25.2	31.0	6	2.0	81.6	0.2		1	0.2	0.2			0		
	MINNESOTA	6.2		1	6.2	6.2			0					0		
	POOLED	11.8	14.6	79	0.1	81.6	2.8	3.7	11	0.2	13.0	0.1		1	0.1	0.1