Fish Population Assessments of Ceded Territory Lakes in Wisconsin, Michigan and Minnesota During 2009

by

Mark Luehring
Inland Fisheries Biologist

Joseph D. Rose
Inland Fisheries Section Leader

Administrative Report 11 - 05
March 2011

Great Lakes Indian Fish and Wildlife Commission
P. O. Box 9
Odanah, WI 54861
(715) 682 - 6619
www.glifwc.org

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. An assessment crew from the Bad River Band assisted with fall surveys.

In the spring, adult walleye (*Sander vitreus*) population estimates were conducted on 18 lakes. A total of 23,239 walleye were sampled from 18,353 acres of water during these surveys. All but three of the lakes surveyed had naturally reproducing walleye populations, and density of adult walleye averaged 3.98 (SD = 3.20, range: 0.65 to 12.01) fish per acre. In 9 of these 18 lakes, adult walleye population densities were at least 3.0 fish per acre, indicating that walleye populations were healthy.

In the late spring, walleye surveys were conducted on Franklin and Butternut Lakes, Forest County, Wisconsin to assess overwinter survival of juveniles. A total of 505 walleyes were sampled during these surveys.

During the fall, electrofishing surveys were conducted on 103 lakes in Wisconsin, 10 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 16,787 age 0 and 7,511 age 1 walleye were sampled. In addition, 642 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 1,757 age 0 and 675 age 1 walleye plus 28 gamefish were sampled during the fall. In Minnesota on Mille Lacs Lake, a total of 1,501 age 0 and 2,358 age 1 walleye were sampled.

Contents

Acknowledgments

The authors thank fisheries technicians Butch Mieloszyk and Ed White for their assistance in selecting lakes, conducting field work, providing boat maintenance, supervising crews during spring and fall survey seasons, and aging walleye structures (spines, scales, and otoliths). Fisheries aides Kris Arbuckle, Noah Arbuckle, Dale Corbine, Dale Cornelius, Caine Heffner, Thomas Houle, Joshua Johnson, David Parisien, Ron Parisien Jr., Louis Plucinski, Sam Plucinski, Sam Quagon, Greg Smart, Bill Soulier, and Dennis Soulier, are thanked for operating shocking equipment, sampling fish, and maintaining boats and equipment under demanding conditions. Jennifer Krueger, Database Manager, and Jason Meacham, Data Entry Aide are thanked for entering fall survey data and for producing Figures A1 and B1. Thanks also to Bad River, Fond du Lac, Sokaogon (Mole Lake), St. Croix, and U.S. Fish and Wildlife Service personnel for their efforts, and to Neil Kmiecik, Biological Services Director, for editing the manuscript.

Introduction

Fishery assessment surveys of ceded territory lakes were conducted during spring, summer, and fall of 2009 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 2009 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 assisted with the spring and fall surveys through a subcontract with GLIFWC. The Bad River Band assisted with the fall surveys through a subcontract with GLIFWC. The Fond du Lac Band assisted during the fall walleye recruitment survey on Mille Lacs Lake.

Methods

Spring Adult Walleye Population Estimates

Current information on adult walleye populations was collected from 18 lakes in the ceded territory of Wisconsin (Figure A1). Of these, 15 lakes had experienced tribal spearing harvest during the previous year. GLIFWC also assisted the Wisconsin Department of Natural Resources (WDNR) in completing an adult walleye population estimate on the Turtle-Flambeau Flowage (Iron Co.).

Nine lakes in Wisconsin are GLIFWC long-term study lakes. Large (greater than 500 acres in area) long-term lakes surveyed in 2009 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 2009 included Siskiwit Lake (Bayfield Co.), Annabelle Lake (Vilas Co.), Sherman Lake (Vilas Co.), and Bass-Patterson Lake (Washburn Co.). 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 where walleye were captured by fyke netting by the Mole Lake tribal assessment crew. 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 2009 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 five 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 to four 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.

Spring Juvenile Surveys

Spring electrofishing surveys were conducted on Franklin and Butternut Lakes in Forest County, WI. These surveys were conducted in late May to assess overwinter survival of juvenile walleyes. Surveys covered the entire shoreline of each lake. The boat in the spring juvenile surveys had an arrangement of six umbrella dropper anodes and used pulsed DC at 120 pps. Length of each walleye captured was recorded, and scale samples were taken from five walleye per half inch group for age determination.

Fall Recruitment Surveys

Fall electrofishing surveys were conducted in 114 ceded territory waters including 103 lakes in Wisconsin, 10 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 14 through October 22. Nine assessment crews were used during the season, including four from GLIFWC, one from USFWS, and crews from the Bad River, 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 17 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. Cases of severe weather were the only exceptions that prevented survey completion. All fish collected were identified to species and 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 three 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.). Surveys on the following three Wisconsin lakes were conducted jointly by GLIFWC and WDNR, and the results were summarized and reported by WDNR: Middle Eau Claire Lake (Bayfield Co.), Balsam Lake (Polk Co.), and Trout Lake (Vilas Co.). All data from these six 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 23,239 walleye were sampled from 18,353 acres of water in Wisconsin during the spawning adult walleye population estimate period. Adult walleye population estimates for 18 stocks in Wisconsin and Michigan (Table A1) ranged from 342 to 12,115 fish. Estimated population densities ranged from 0.65 per acre for Franklin Lake, Forest Co., to 12.66 walleye per acre for Kentuck Lake, Vilas Co. (mean = 3.98, SD = 3.20) (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.

Ten of the 18 lakes surveyed had recruitment codes of NR (Table A1), 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. Three of the lakes had a recruitment code of C-ST, indicating that some natural reproduction occurred even though the population was sustained by stocking. 10 of these 18 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 1,528 female, 20,542 male, and 1,169 unknown sex walleye were measured (Figure A3, Table A2) and a subsample aged (Figure A4). Female lengths ranged from 11.0 to 30.5 inches, male lengths ranged from 8.5 to 25.0 inches, and lengths for walleye of unknown sex ranged from 8.0 to 24.0 inches. Age-length tables were developed for subsets of female, male, and unknown sex walleye in each of the lakes sampled (Tables A3 – A20). 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, 16 of the 18 lakes had populations with at least five year classes of females in the aging sample.

Spring Juvenile Surveys

Spring juvenile walleye surveys were conducted on Franklin and Butternut Lakes, Forest Co., Wisconsin. On Franklin Lake, 194 age 1 walleyes (29.4/mile) and six age 2 walleyes

(0.9/mile) were collected. Age 1 walleyes averaged 5.7 inches in length; age 2 walleyes averaged 9.3 inches. On Butternut Lake, 77 age 1 walleyes (9.6/mile) and 38 age 2 walleyes (4.8/mile) were collected. Age 1 walleyes averaged 6.3 inches in length; age 2 walleyes averaged 9.2 inches in length.

Fall Recruitment Surveys

Fall recruitment surveys were conducted on 114 lakes in the ceded territories of Wisconsin, Michigan and Minnesota (Figure B1, Table B2). Survey effort included 391.3 hours of electrofishing along 996.1 miles of shoreline resulting in the collection of 37,784 walleye.

From 103 surveys conducted on 103 lakes in Wisconsin, 329.2 hours of electrofishing along 844.2 miles of shoreline resulted in a collection of 30,537 walleye. In Michigan, 10 lakes were surveyed in 31.4 hours along 73.9 miles of shoreline, resulting in the collection of 3,139 walleye. In Mille Lacs Lake, 4,108 walleye were collected in 30.7 hours along 78.0 miles of shoreline (Table B2).

A total of 16,787 age 0 walleye were caught in Wisconsin. Age 0 walleye were caught in 88 of the 103 lakes surveyed. Over all 103 surveys, catch per effort (CPE) for age 0 walleye ranged from 0.0 to 230.9 (mean = 18.2, median = 6.7, SD = 32.6) per mile. A total of 7,511 age 1 (yearling) walleye were caught in 84 of the lakes surveyed. Over all surveys, age 1 CPE ranged from 0.0 to 120.4 (mean = 9.8, median = 5.1, SD = 18.9) yearlings per mile.

In order to gauge the relative strength of the 2009 and 2008 walleye year classes monitored in the 2009 fall surveys as age 0 and age 1 fish, plots of mean and median CPE values were generated for each year from 1986 through 2009 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 2009, the averages of the yearly mean and median age 0 CPEs are 31.7 and 17.6 per mile, respectively, and the averages of the yearly mean and median age 1 CPEs are 10.3 and 5.8 per mile, respectively. For 2009, the mean and median age 0 CPEs were 16.3 and 8.6, respectively, and the mean and median age 1 CPEs were 9.7 and 4.7, respectively.

In Michigan, 1,757 age 0 walleye were caught. Age 0 walleye were caught in 6 of the 10 lakes surveyed. Age 0 CPE ranged from 0.0 to 46.5 (mean = 9.1, median = 0.4, SD = 20.5) per mile. A total of 765 age 1 walleye were caught in 5 lakes. Age 1 CPE ranged from 0.0 to 81.6 (mean = 9.9, median = 2.2, SD = 15.4) yearlings per mile.

In Minnesota, 1,501 age 0 and 2,358 age 1 walleye were caught in Mille Lacs Lake, yielding CPEs of 19.2 and 30.2 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. Odanah, WI.

Appendix A: Spring Survey Data

Figure **Page**

Table **Page**

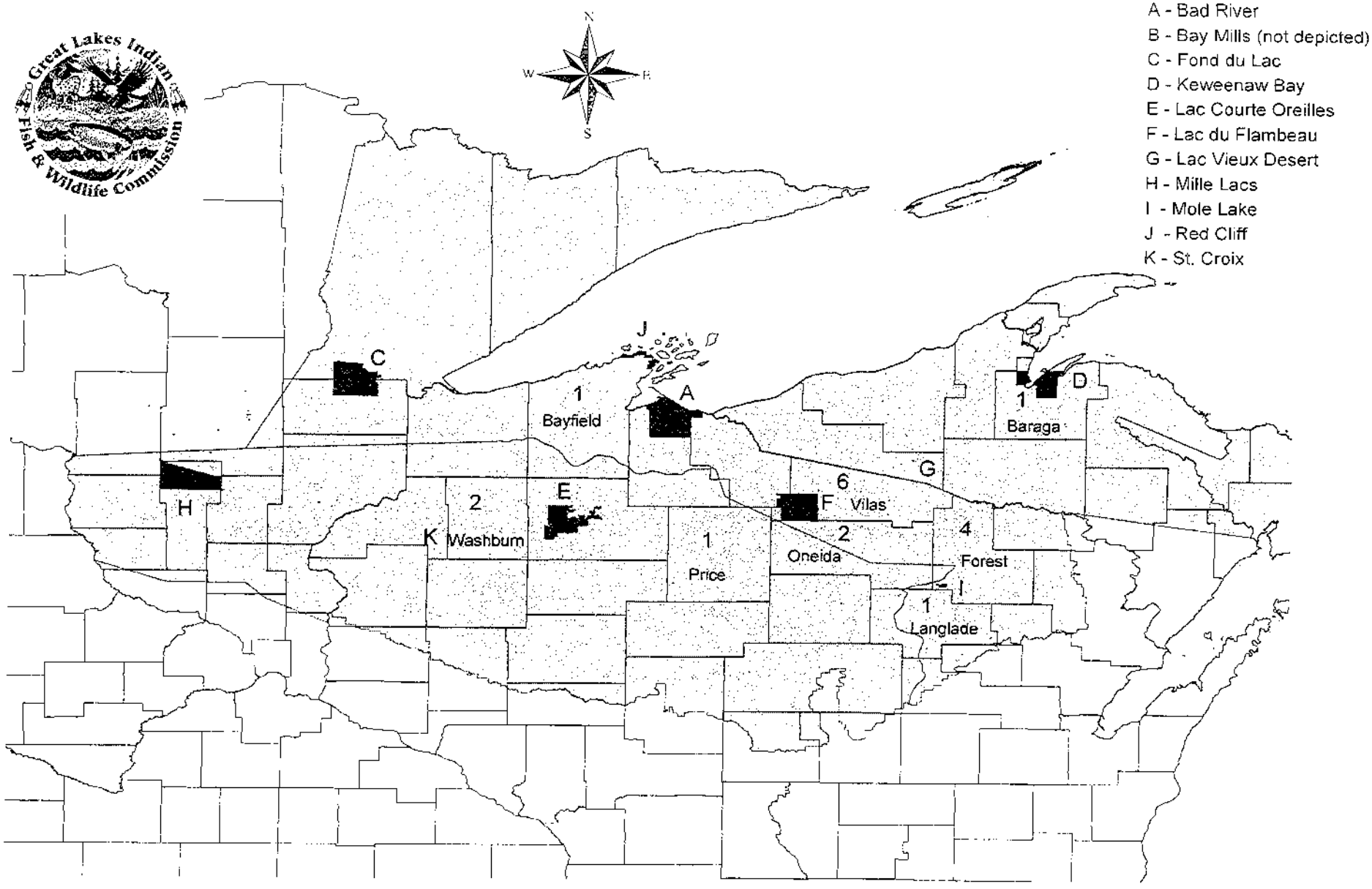

Figure A1. Ceded Territory in Wisconsin, Michigan, and Minnesota with the number of lakes per county where spring adult walleye surveys were conducted by GLIFWC during 2009.

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

Figure A2. Estimated Adult Walleye Densities by Recruitment Code, Spring 2009

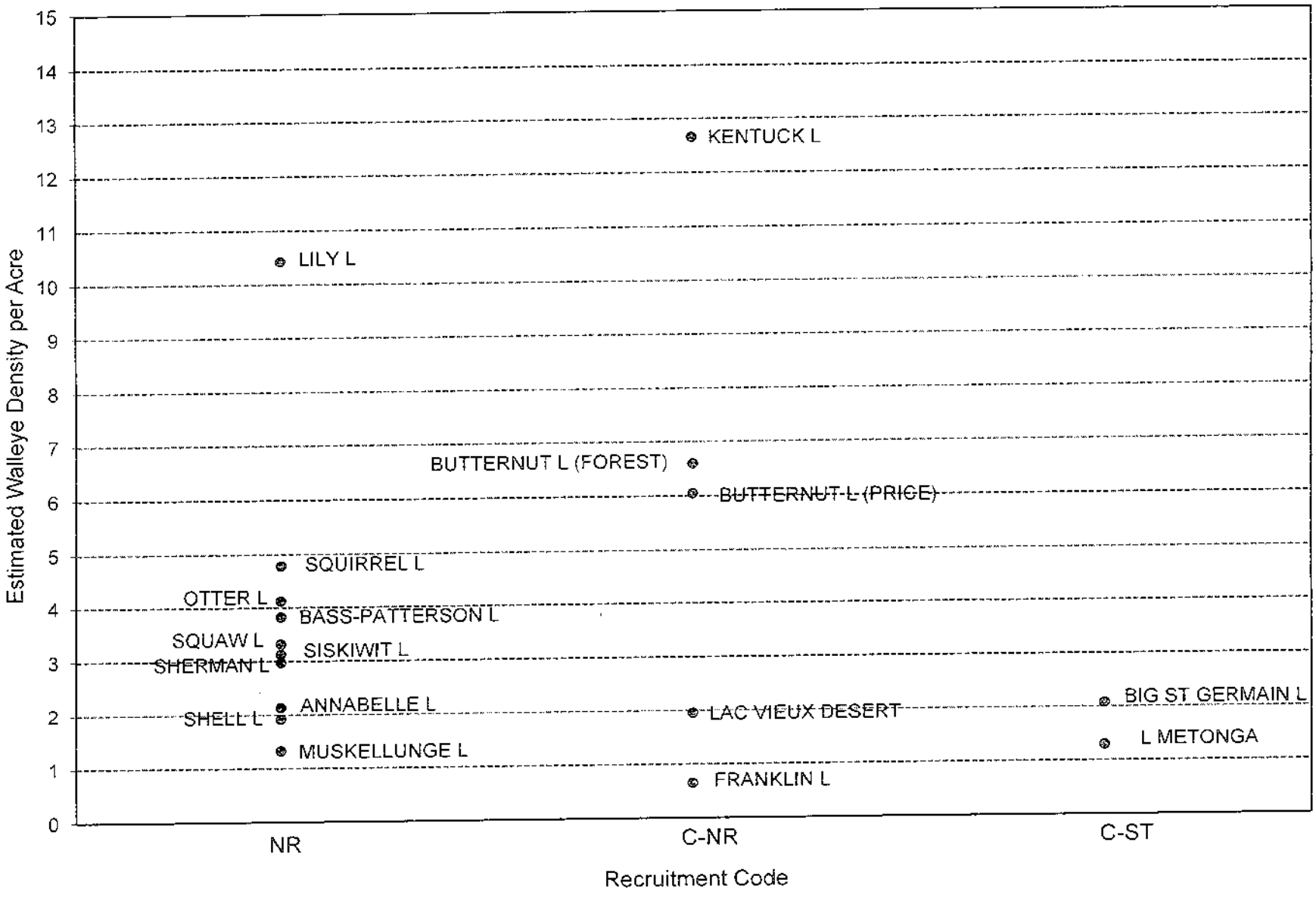

Figure A3 Length Frequency of Adult Walleye Marked

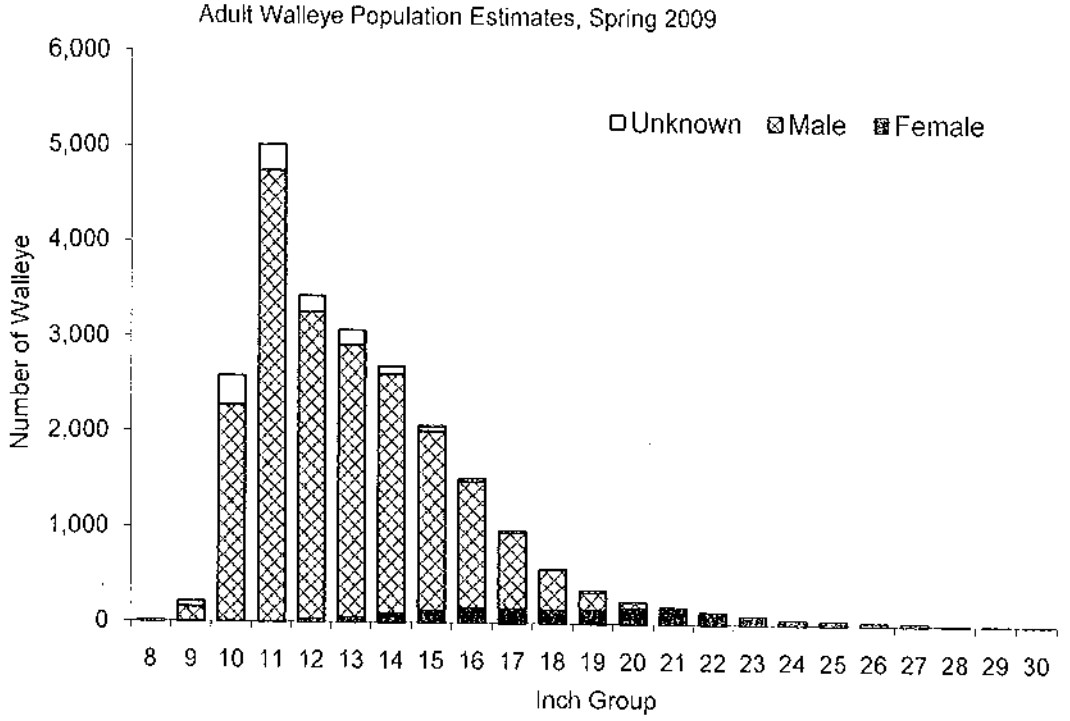

Figure A4 Age Frequency of Adult Walleye Aged

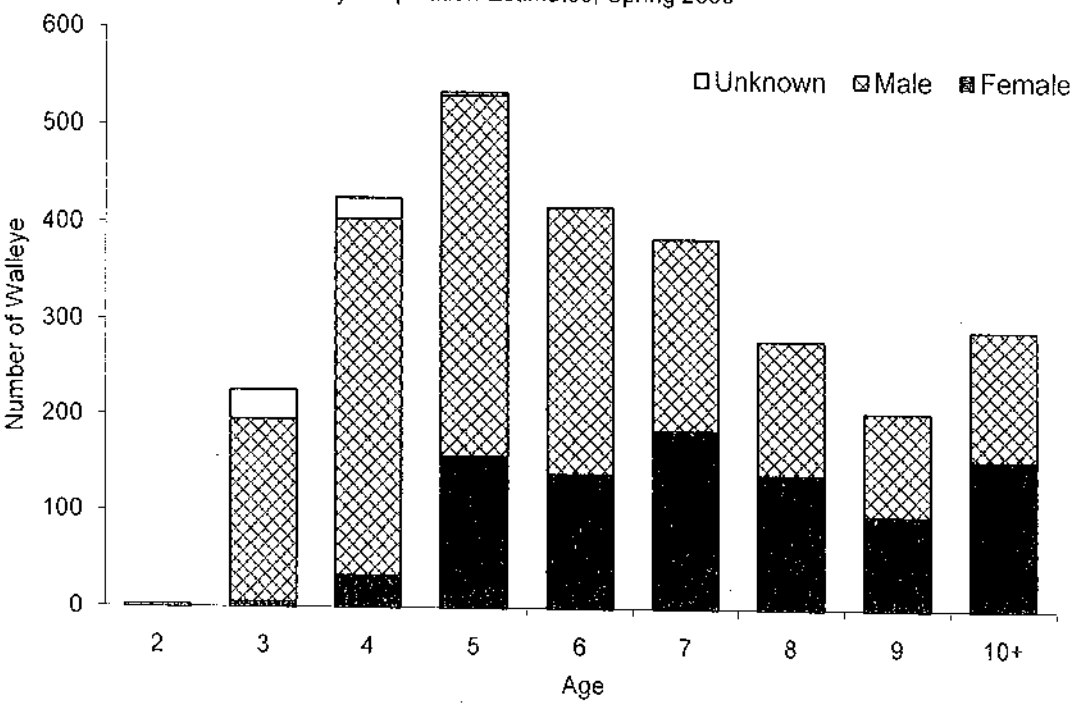

Table A1. Spring 2009 Adult Population Estimates Conducted by GLIFWC

State	County	Lake	Surface Area (Acres)	2009 Walleye Code	Population Estimate	Density	Coefficient of Variation (%)	Marking Gear*	Recapture Gear*	Fin clip applied**	Male: female sex ratio***
MI	BARAGA	PARENT L	184	C-ST	446	2.45	10.06	E	E	TCN	10:1
WI	BAYFIELD	SISKIWIT L	330	NR	1,034	3.13	11.06	E	E	YF	4:1
WI	FOREST	BUTTERNUT L	1,292	C-NR	8,528	6.60	9.05	E	E	YF	219:1
WI	FOREST	FRANKLIN L	892	C-NR	583	0.65	9.35	E	E	TCN	6:1
WI	FOREST	L METONGA	1,991	C-ST	2,574	1.29	14.65	F	E	TCN	2:1
WI	FOREST	LILY L	211	NR	2,201	10.43	5.98	E	E	TCN	15:1
WI	LANGLADE	OTTER L	83	NR	342	4.12	7.21	E	E	TCN	7:1
WI	ONEIDA	MUSKELLUNGE L	284	NR	376	1.32	10.41	E	E	TCN	4:1
WI	ONEIDA	SQUIRREL L	1,317	NR	6,304	4.79	7.59	E	E	YF	18:1
WI	PRICE	BUTTERNUT L	1,006	C-NR	6,084	6.05	10.03	E	E	TC	18:1
WI	VILAS	ANNABELLE L	213	NR	455	2.14	8.00	E	E	YF	17:1
WI	VILAS	BIG ST GERMAIN L	1,617	C-ST	3,360	2.08	14.39	E	E	TCN	10:1
WI	VILAS	KENTUCK L	957	C-NR	12,115	12.66	5.30	F	E	YF	18:1
WI	VILAS	LAC VIEUX DESERT	4,300	C-NR	8,404	1.95	5.13	E	E	TCN	32:1
WI	VILAS	SHERMAN L	123	NR	366	2.98	9.75	E	E	YF	5:1
WI	VILAS	SQUAW L	785	NR	2,608	3.32	7.82	E	E	YF	6:1
WI	WASHBURN	BASS-PATTERSON L	188	NR	719	3.82	7.81	E	E	YF	15:1
WI	WASHBURN	SHELL L	2,580	NR	4,948	1.92	23.43	E	E	TCN	42:1

*Gear used: E = electrofishing, F = fyke netting
** TCN = top caudal notch, YF = numbered yellow floy tag, TC = top 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 2009 Adult Walleye Population Estimates

STATE	COUNTY	LAKE	NUMBER SAMPLED				FEMALE		MALE		UNKNOWN	
			FEMALE	MALE	UNKNOWN	TOTAL	MINIMUM LENGTH	MAXIMUM LENGTH	MINIMUM LENGTH	MAXIMUM LENGTH	MINIMUM LENGTH	MAXIMUM LENGTH
MI	BARAGA	PARENT L	27	262	12	301	14.5	21.0	12.0	21.0	13.5	20.5
WI	BAYFIELD	SISKIWIT L	85	370	1	456	13.5	17.5	10.5	17.5	11.0	11.0
WI	FOREST	BUTTERNUT L	9	1,975	7	1,991	17.0	25.0	10.0	21.0	9.5	14.0
WI	FOREST	FRANKLIN L	27	149	4	180	15.0	29.5	11.5	22.0	9.0	14.5
WI	FOREST	L METONGA	298	649	10	957	16.0	28.0	12.5	22.5	10.0	11.5
WI	FOREST	LILY L	80	1,184	0	1,264	14.0	27.0	10.0	24.5		
WI	LANGLADE	OTTER L	32	226	47	305	15.5	30.5	10.5	20.5	8.0	14.0
WI	ONEIDA	MUSKELLUNGE L	52	182	7	241	14.5	27.5	10.0	22.0	10.5	13.0
WI	ONEIDA	SQUIRREL L	159	2,938	51	3,148	12.5	27.0	10.0	25.0	12.0	20.5
WI	PRICE	BUTTERNUT L	107	1,890	381	2,378	11.5	27.0	8.5	18.5	9.0	24.0
WI	VILAS	ANNABELLE L	18	302	46	366	11.5	22.0	10.0	16.5	10.0	15.0
WI	VILAS	BIG ST GERMAIN L	105	1,082	7	1,194	16.0	27.0	13.0	23.5	14.5	21.0
WI	VILAS	KENTUCK L	189	3,483	28	3,700	11.5	27.5	9.0	20.5	9.0	13.5
WI	VILAS	LAC VIEUX DESERT	105	3,394	30	3,529	12.0	26.0	10.5	25.0	8.0	20.5
WI	VILAS	SHERMAN L	31	142	35	208	11.0	26.5	9.0	19.0	10.0	15.0
WI	VILAS	SQUAW L	152	946	114	1,212	11.0	26.0	10.0	17.5	10.0	17.5
WI	WASHBURN	BASS-PATTERSON L	30	446	180	656	15.5	26.0	11.0	20.0	10.0	18.5
WI	WASHBURN	SHELL L	22	922	209	1,153	14.5	24.0	10.5	21.0	10.5	19.0
OVERALL			1,528	20,542	1,169	23,239	11.0	30.5	8.5	25.0	8.0	24.0

Table A3

Number of Walleye Aged by Sex and Length From Spring 2009 Adult Population Estimate
Parent Lake, Baraga County, Michigan

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																																		
11																																		
12											5																							
13											14			6																		5		5
14											6			8			2															20		20
15											1			7			6															16		16
16														6			6			1												14		14
17													1				4			1			1									13		13
18																1				4			5			3						1	12		13
19																1	1		4	1			5			1			2		5	10		15
20																4			3	1		4				1					11	2		13
21																						3									3			3
22																																		
23																																		
24																																		
25																																		
26																																		
27																																		
28																																		
29																																		
30																																		
TOTALS											26		1	27		6	19		7	8		7	11			6			2		21	99		120

Number of female year classes: 4 Number of male year classes: 7

Table A4

Number of Walleye Aged by Sex and Length From Spring 2009 Adult Population Estimate
Siskiwit Lake, Bayfield 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							1																									1		1
11							1				6																					7		7
12							1				4																					5		5
13										1	4			4			3														1	11		12
14										1			1	11			8			2											2	21		23
15													4	3		5	5			3		1	5								10	16		26
16													2			5	1		10	3		2	8			10					19	22		41
17																1			2			5			1	4			3		9	7		16
18																																		
19																																		
20																																		
21																																		
22																																		
23																																		
24																																		
25																																		
26																																		
27																																		
28																																		
29																																		
30																																		
TOTALS								3		2	14		7	18		11	17		12	8		8	13		1	14			3		41	90		131

Number of female year classes: 6 Number of male year classes: 8

Table A5

Number of Walleye Aged by Sex and Length From Spring 2009 Adult Population Estimate
Butternut Lake, Forest County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
11																																		
12								9			13			1																		23		23
13											3			5																		8		8
14														5			4														9		9
15														4			7			3											14		14
16														1			7			5											13		13
17																1	3			5										1	8		9
18																																		
19																													1			1		1
20																													1			1		1
21																																		
22																																		
23																												1			1			1
24																																		
25																												1			1			1
26																																		
27																																		
28																																		
29																																		
30																																		
TOTALS								9			16			16		1	21			13								2	2		3	77		80

Number of female year classes: 2 Number of male year classes: 6

Table A6

Number of Walleye Aged by Sex and Length From Spring 2009 Adult Population Estimate
Franklin Lake, Forest County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
11									1		1																					1	1	2
12								5			15																					20		20
13								4			17																					21		21
14								2		1	18																				1	20		21
15											4			4																	8		8
16																																		
17																																		
18																																		
19													1																		1			1
20													1			3			1												5			5
21													1			2									1						4			4
22																												2	1		2	1		3
23																			1									1	1		2	1		3
24																												4			4			4
25																												2			2			2
26																																		
27																												1			1			1
28																																		
29																																		
30																																		
TOTALS								11	1	1	55		3	4		5			2						1			10	2		22	72	1	95

Number of female year classes: 6 Number of male year classes: 4

Table A7

Number of Walleye Aged by Sex and Length From Spring 2009 Adult Population Estimate
Lake Metonga, 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	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
11																																		
12											1																							
13											6			2																		1		1
14											11			5																		8		8
15														11			1			1												16		16
16										1			5	8			4			4		1	2			1						13		13
17													12			3	2		3	5		1	9			3			2		7	19		26
18													4			3			5	5		6	3			3			4		19	19		38
19													2						10			4	2		1	3					18	13		31
20																			4			12			2	1			10		18	11		29
21																			9			8			2	1			6		19	7		26
22																			4			7			5			3			19			19
23																						5			2			11			18			18
24																									2			6			8			8
25																												6			6			6
26																												4			4			4
27																												7			7			7
28																												1			1			1
29																																		
30																																		
TOTALS										1	18		23	26		6	7		35	15		44	16		14	12		38	22		161	116		277

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

Table A8

Number of Walleye Aged by Sex and Length From Spring 2009 Adult Population Estimate
Lily 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	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10							1				1																							
11							8				1																					2		2
12							2				6																					9		9
13											8			2																		8		8
14										2	3			5			2															10		10
15													7	6			2			2											2	10		12
16													9			4			3	3			4			3					7	10		17
17													6			4	1			6			1			3					16	10		26
18																3			5	1		1				1			1		9	3		12
19																				1					1	3			1		1	5		6
20																			4			1			1	1			2		5	3		8
21																			2						2						5			5
22																			1						2			1			4			4
23																									1						1			1
24																												4			4			4
25																												2			2			2
26																																		
27																																		
28																																		
29																																		
30																																		
TOTALS								11		2	19		22	13		11	5		15	13		2	5		7	11		7	4		66	81		147

Number of female year classes: 7 Number of male year classes: 8

Table A9

Number of Walleye Aged by Sex and Length From Spring 2009 Adult Population Estimate
Otter Lake, Langlade County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
11																																		
12											1																					1		1
13											7																					7		7
14											11			4			1															16		16
15											3		2	10			6														2	19		21
16													3	9			9			2											3	20		23
17													5			1	2		1	5			3								7	10		17
18																3			1	3						5			1		4	9		13
19																1							1			3			6		1	10		11
20																2			2			1			1	2			2		6	4		10
21																			1						1						2			2
22																									1						1			1
23																									4			1			5			5
24																									1						1			1
25																																		
26																																		
27																																		
28																																		
29																																		
30																																		
TOTALS											22		10	23		7	18		5	10		1	4		8	10		1	9		32	96		128

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

Table A10

Number of Walleye Aged by Sex and Length From Spring 2009 Adult Population Estimate
Muskellunge Lake, Oneida County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
11																																		
12											3			2																		5		5
13											6			11			1			1											19		19
14										1			1	6			11			1			2								2	20		22
15																2	3			14			2								2	19		21
16													1			1	2		5	9			6		1	1					8	18		26
17													2			2				1		2			1	1					7	2		9
18																			3			5									8			8
19																	1		4			2									6	1		7
20																						3									3			3
21																						2			2				1		4	1		5
22																			1										1		1	1		2
23																						1			1						2			2
24																						1									1			1
25																												1			1			1
26																												3			3			3
27																												1			1			1
28																																		
29																																		
30																																		
TOTALS										1	9		4	19		5	18		13	26		16	10		5	2		5	2		49	86		135

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

Table A11

Number of Walleye Aged by Sex and Length From Spring 2009 Adult Population Estimate
Squirrel Lake, Oneida 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								5			1																					6		6
11								16			1																					17		17
12								4			8		1	4			4														1	20		21
13											4		2	14		1	1														3	19		22
14											1		4	6		1	8			5			1								5	21		26
15											3		2	3		1	5			3			2			1					3	17		20
16													1	1		4	1		1			2	3			1					8	6		14
17																3			3			1			1	3					8	3		11
18																3	1		5	1						2					8	4		12
19																			1			1			1						3			3
20																			1			2			1						4			4
21																			2			1									3			3
22																									1			2			3			3
23																												2			2			2
24																																		
25													1																		1			1
26																												1			1			1
27																																		
28																																		
29																																		
30																																		
TOTALS								25			18		11	28		13	20		13	9		7	6		4	7		5			53	113		166

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

Table A12

Number of Walleye Aged by Sex and Length From Spring 2009 Adult Population Estimate
Butternut Lake, Price 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											1																					1		1
10								7	14		3	3																				10	17	27
11							1	1	2	1	19	11		3																	2	23	13	38
12										1	6			14	2		1														1	21	2	24
13														16	1		6															22	1	23
14										1			3	2		1	12		1	5											6	19		25
15													5			1	4		1	8			4								7	16		23
16													3			5	1		2	1		1	8								11	14		25
17																6			2	1			1			4			3		8	9		17
18																7			2			2			1	1			3		12	4		16
19																			4			3			1						8			8
20																			3			7			2						12			12
21																						3			1						4			4
22																						1			6			4			11			11
23																									1			2			3			3
24																												1			1			1
25																												4			4			4
26																												1			1			1
27																												2			2			2
28																																		
29																																		
30																																		
TOTALS							1	8	16	3	29	14	11	35	3	20	24		15	15		17	13		12	8		14	7		93	139	33	265

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

Table A13

Number of Walleye Aged by Sex and Length From Spring 2009 Adult Population Estimate
Annabelle Lake, Vilas County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10								6			6																					12		12
11								3			12		1	4			1														1	20		21
12										3	8		2	11			1														5	20		25
13										2	3		2	8			3			2											4	16		20
14										1							2		1	1			1								2	4		6
15													1						1	1		1	2			1					3	4		7
16																													1			1		1
17																			1												1			1
18																1			1						1						3			3
19																																		
20																																		
21																																		
22																									1						1			1
23																																		
24																																		
25																												1			1			1
26																																		
27																												1			1			1
28																																		
29																																		
30																																		
TOTALS								9			6	29		6	23		1	7		4	4		1	3		2	1		2	1		22	77		99

Number of female year classes: 7 Number of male year classes: 8

Table A14

Number of Walleye Aged by Sex and Length From Spring 2009 Adult Population Estimate
Big St Germain Lake, Vilas County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
11																																		
12																																		
13														1																		1		1
14											1			6			2														9		9
15														5			5														10		10
16													1				4			3			3								1	10		11
17													1			1				2			7			1					2	10		12
18																2	2		1	1									6		3	9		12
19																1			5			2			2	1		2	6		12	7		19
20																						7			1	1		1	2		9	3		12
21																			1			3			9				2		13	2		15
22																									7			4			11			11
23																									2			13	1		15	1		16
24																												1			1			1
25																												3			3			3
26																																		
27																												3			3			3
28																																		
29																																		
30																																		
TOTALS											1		2	12		4	13		7	6		12	10		21	3		27	17		73	62		135

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

Table A15

Number of Walleye Aged by Sex and Length From Spring 2009 Adult Population Estimate
Kentuck 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					2			3																										
10								10																								5		5
11								7		1	13			1																		10		10
12								3		1	11		2	3																	1	21		22
13										1	2		2	16			1			1											3	17		20
14													3	4		4	11			4											3	20		23
15													4	1		2	1		2	14			5								7	19		26
16																5	1		5	6			3			2			1		8	21		29
17																1			6	1						5			4		10	13		23
18																1			4			1	1			1			4		7	10		17
19																			8			3			1						6	6		12
20																			4			1			1			2	1		8	1		9
21																						1			2			5			8			8
22																						1			5			5			11			11
23																									4			2			6			6
24																												4			4			4
25																												2			2			2
26																												5			5			5
27																												4			4			4
28																																		
29																																		
30																																		
TOTALS					2			23		3	26		11	25		13	14		29	26		7	9		13	8		29	10		105	143		248

Number of female year classes: 7 Number of male year classes: 9

Table A16

Number of Walleye Aged by Sex and Length From Spring 2009 Adult Population Estimate
Lac Vieux Desert, 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																																		
11											2						1																		
12											2			9			1															3		3
13											2			5		1	12			1												12		12
14													2	4			13			2											1	20		21
15													1	1		6	5			12			2								2	19		21
16													2							1		1	15			2					7	20		27
17																3			4	1		3	1		1	9					3	18		21
18																			6			1				2			16		11	11		22
19																			2			1	1		1				14		7	18		25
20																						3							3		4	15		19
21																												1	1		3	3		6
22																												1	1		1	1		2
23																												2			2			2
24																																		
25																												1			1			1
26																																		
27																																		
28																																		
29																																		
30																																		
TOTALS											6		5	19		10	32		12	17		9	19		2	13		5	35		43	141		184

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

Table A17

Number of Walleye Aged by Sex and Length From Spring 2009 Adult Population Estimate
Sherman Lake, Vilas County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10								16	2		1	1																				17	3	20
11							1	16	4		4																				1	20	4	25
12								3	5	1	14	1		2																	1	19	6	26
13							1		2	4	9	4		2																	5	11	6	22
14										2	2		1	1																	3	3		6
15										1		1	4	1																	5	1	1	7
16													2	2																	2	2		4
17													1																		1			1
18													1																		1			1
19													1						1												2			2
20																																		
21																																		
22																1															1			1
23																																		
24																																		
25																																		
26																																		
27																																		
28																																		
29																																		
30																																		
TOTALS							2	35	13	8	30	7	10	8		1			1												22	73	20	115

Number of female year classes: 5 Number of male year classes: 3

Table A18

Number of Walleye Aged by Sex and Length From Spring 2009 Adult Population Estimate
Squaw Lake, Vilas County, Wisconsin

INCH	AGE 1			AGE 2			AGE 3			AGE 4			AGE 5			AGE 6			AGE 7			AGE 8			AGE 9			AGE 10+			TOTAL			
GROUP	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	F	M	U	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10								6			3																					9		9
11								4	1	1	7	1		8			1														1	20	2	23
12							2	1		2	5		3	12			3														7	21		28
13										2	2		6	9		1	8						3								9	22		31
14													8			10	10			3			2								18	15		33
15													6			4	1		3	3		1	1			1					14	6		20
16																1			1			1									3			3
17																1			1				1					1			3	1		4
18																			1			1									2			2
19																																		
20																												1			1			1
21																																		
22																												1			1			1
23																																		
24																																		
25																																		
26																												1			1			1
27																																		
28																																		
29																																		
30																																		
TOTALS							2	11	1	5	17	1	23	29		17	23		6	6		3	7			1		4			60	94	2	156

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

Table A19

Number of Walleye Aged by Sex and Length From Spring 2009 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	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
11							5																											
12							16			2																						5		5
13							15			6																						18		18
14							4			9			1			3															21		21
15										1			1			2															17		17
16																5															4		4
17										1			1	1		5															2	6		8
18													5			2				5			2								5	9		14
19																2							2									4		4
20																			1	1						1					1	2		3
21																			2												2			2
22																1			1			2									4			4
23																																		
24																									4						4			4
25																									1			1			2			2
26																			1									1			2			2
27																																		
28																																		
29																																		
30																																		
TOTALS							40			18			6	3		14			5	6		2	4		5	1		2			22	86		108

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

Table A20

Number of Walleye Aged by Sex and Length From Spring 2009 Adult Population Estimate
Shell 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	ALL
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10							1																											
11							4			14			3																			1		1
12										4			16																			21		21
13													19			1															20		20
14													5			1	15														20		21
15													3	1		8	1		9	1											20		23
16																2	2		9	1			8			1					20		23
17													1						1				3			7			1		11		13
18																1			1							2			8		10		12
19																						1				1			8		9		10
20																1													2		2		3
21																						2			1				1		3	1		4
22																									1						1			1
23																1															2			2
24																												1			3			3
25																																		
26																																		
27																																		
28																																		
29																																		
30																																		
TOTALS							5			18			2	46		7	26		4	18		3	11		2	11		4	20		22	155		177

Number of female year classes: 6 Number of male year classes: 8

Appendix B: Fall Recruitment Survey Data

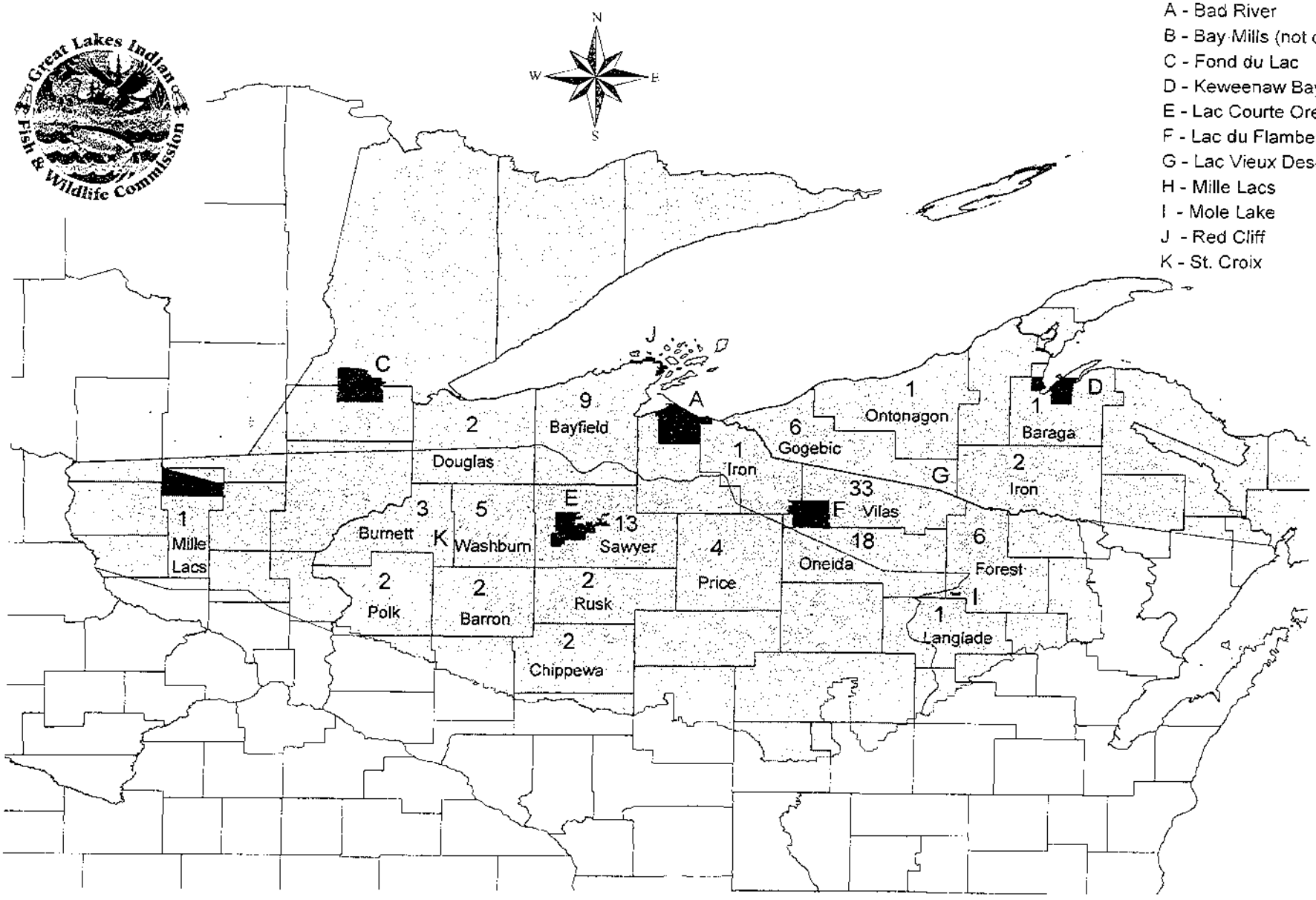

Figure B1. Ceded Territory in Wisconsin, Michigan, and Minnesota with the number of lakes per county where fall electrofishing surveys were conducted by GLIFWC during 2009.

*The ceded 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

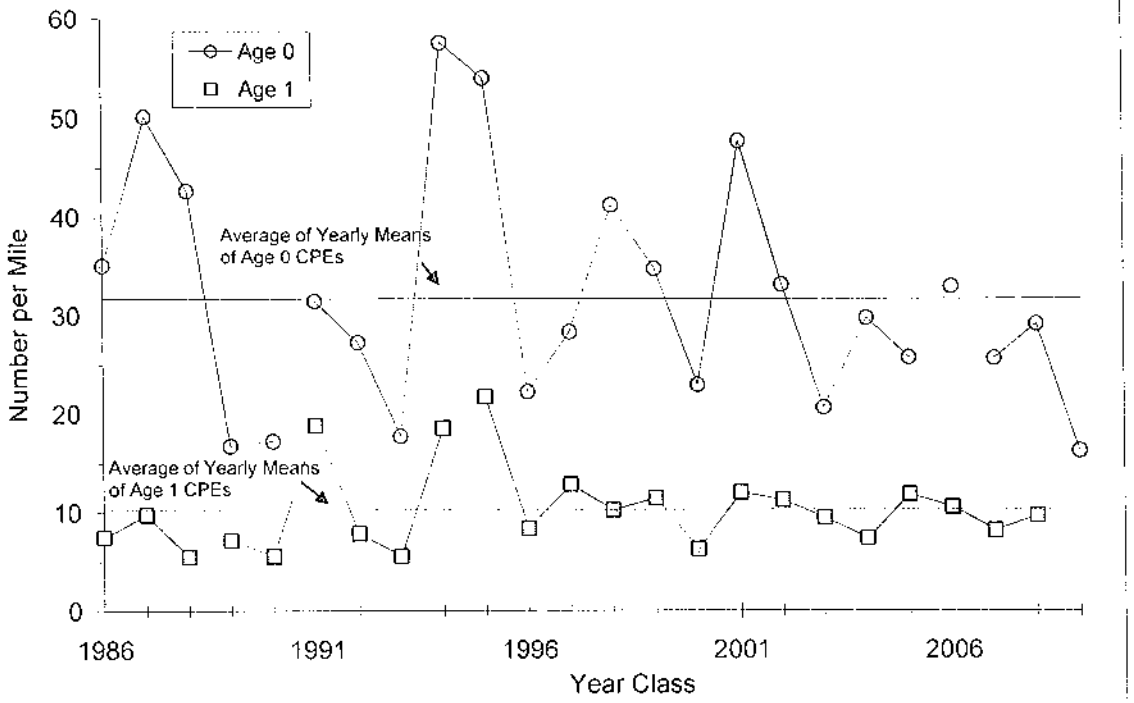

Figure B3 Medians of Age 0 and Age 1 Walleye CPEs in Wisconsin

Data represents NR and C-NR lakes in Wisconsin with at least 75% of the shoreline surveyed, and includes Wisconsin DNR data and all cases with CPEs of 0.

Figure B4

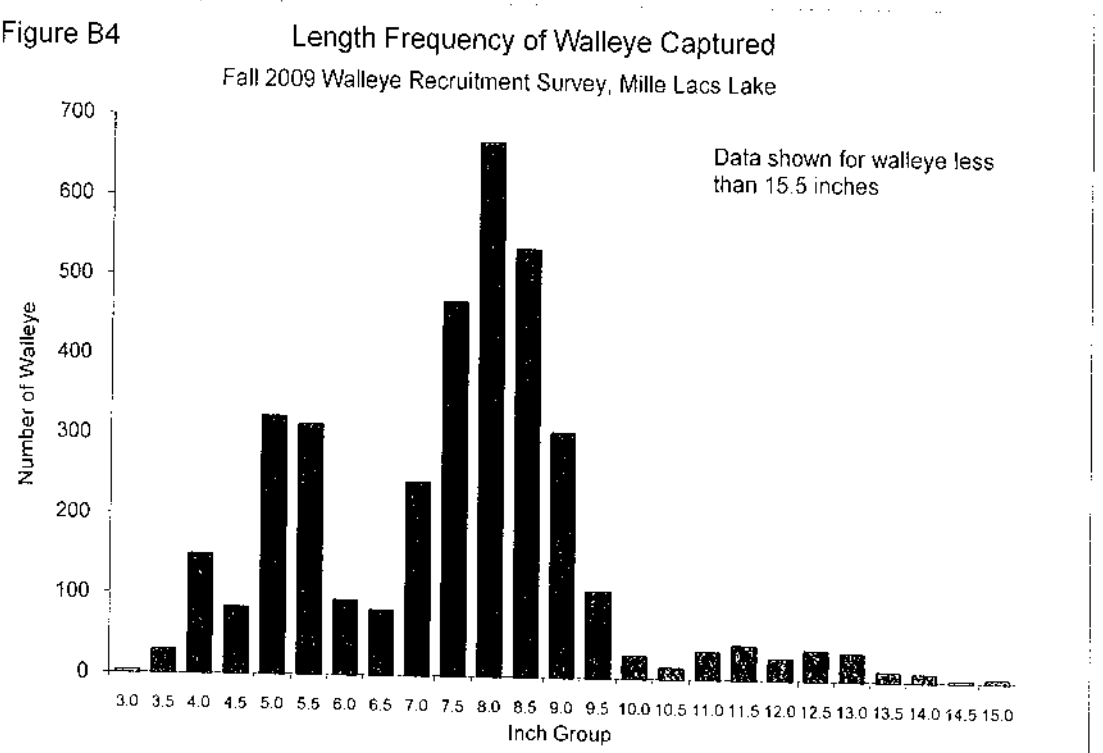

Figure B5

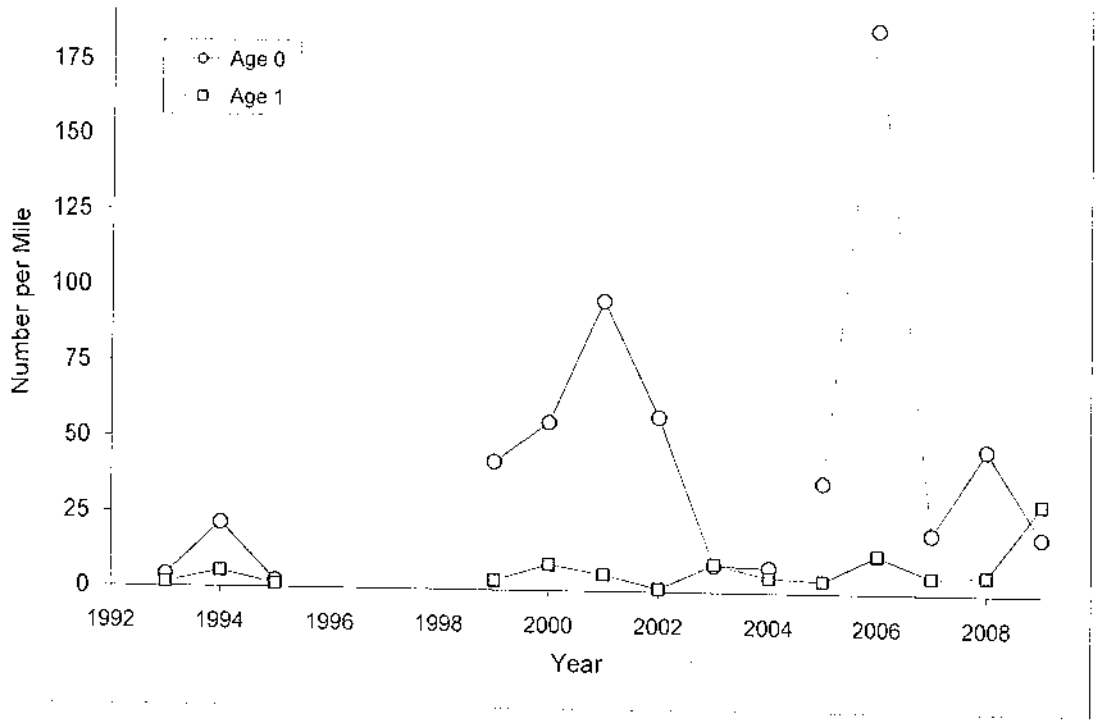

Figure B6. Age 0 CPE By Code for GLIFWC 2009 Recruitment Surveys

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

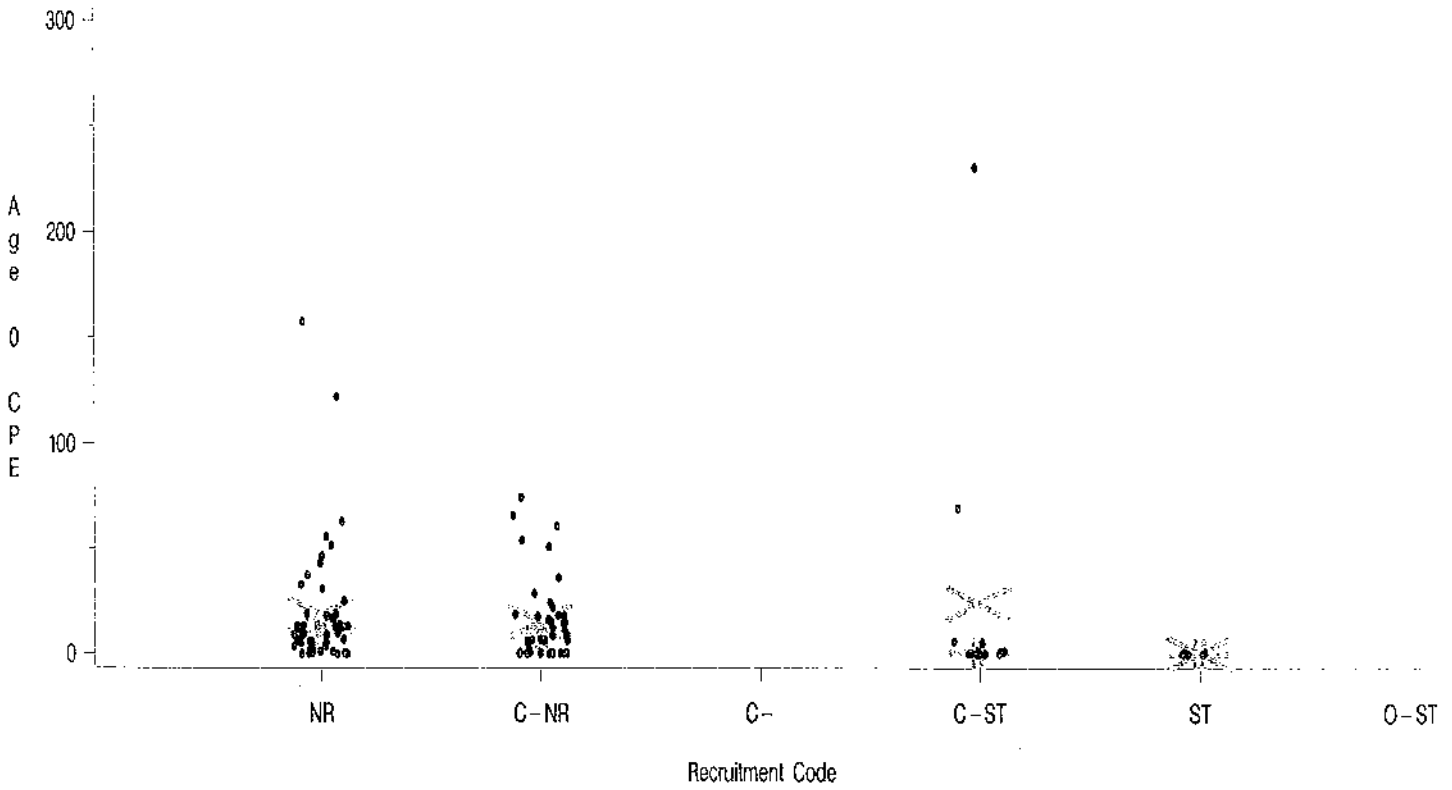

Figure B7. Age 1 CPE By Code for GLIFWC 2009 Recruitment Surveys

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

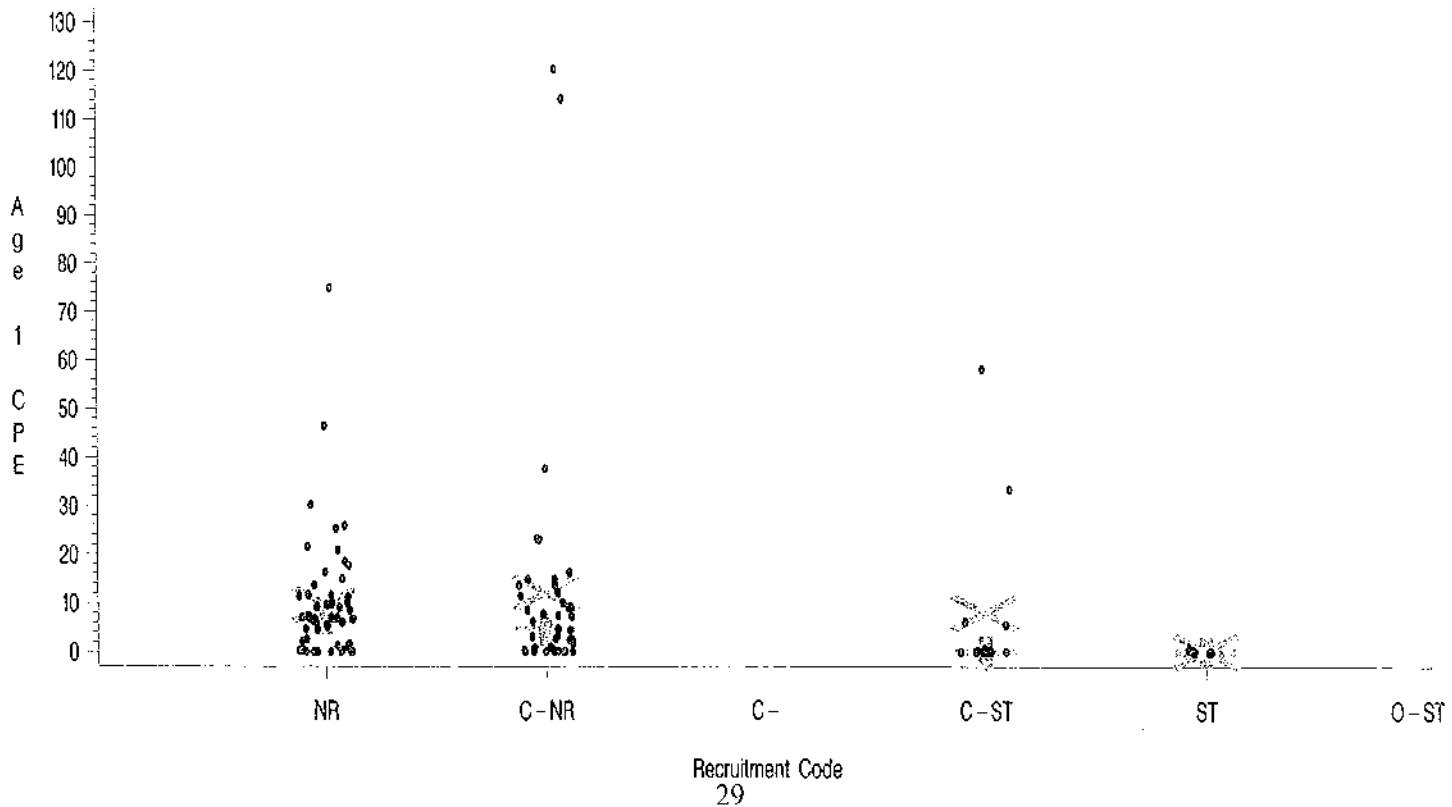

Table B1. Description of Walleye Recruitment Source Codes.

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.

Table B2. Fall 2009 Walleye Recruitment Surveys Conducted by GLIFWC

WISCONSIN		Surface Area	2009 Walleye	Date	Age 0	Age 0 Wall-	Age 0 Min	Age 0 Max	Age 0 Mean	Age 1	Age 1 Wall-	Age 1 Min	Age 1 Max	Age 1 Mean	Total Wall-	Miles	Shore	Hours	Temp-	Other Species			
County	Lake	(Acres)	Code	Surveyed	CPE	eye	Length	Length	Length	CPE	eye	Length	Length	Length	eye	Surveyed	Miles	Surveyed	erature	MUE	NOP	LMB	SMB
BARRON	RED CEDAR L	1,841	C-NR	9/24	18.2	290	3.7	6.7	5.0	0.0	0				369	15.9	15.9	5.66	72				
BARRON	UPPER TURTLE L	438	C-NR	9/23	0.0	0				0.2	1	7.2	7.2	7.2	32	4.8	4.8	2.30	72				
BAYFIELD	BUSKEY BAY	100	NR	9/14	0.4	1	6.4	6.4	6.4	0.0	0				4	2.4	2.4	1.17	71			17	19
BAYFIELD	HART L	259	NR	9/15	19.1	67	4.1	6.5	5.3	0.0	0				70	3.5	3.5	1.49	72				
BAYFIELD	L MILLICENT	183	NR	9/14	3.4	13	4.4	6.7	5.8	0.3	1	8.7	8.7	8.7	16	3.8	3.8	1.63	71		1	25	27
BAYFIELD	L OWEN	1,323	C-ST	10/21	0.2	4	6.1	7.1	6.6	0.2	5	9.5	10.4	10.0	22	24.0	24.0	8.07	48				1
BAYFIELD	MIDDLE EAU CLAIRE L	902	C-NR	9/30	60.8	468	3.2	6.8		10.0	77	7.2	10.3		607	7.7	11.0	3.60	61				
BAYFIELD	NAMEKAGON L	3,227	NR	9/21	13.5	409	3.6	6.8	5.0	7.1	215	7.0	9.8	8.5	1,324	30.2	43.6	8.78	68	4	10		11
BAYFIELD	SISKIWIT L	330	NR	9/28	9.5	38	3.6	6.3	4.4	15.0	60	6.6	9.0	7.4	132	4.0	4.0	1.49	60				
BAYFIELD	TWIN BEAR L	172	NR	9/15	12.6	49	3.8	6.9	5.7	0.3	1	8.9	8.9	8.9	55	3.9	3.9	1.48	72		3	3	5
BAYFIELD	UPPER EAU CLAIRE L	996	C-NR	9/29	16.4	182	4.9	6.8	5.8	0.0	0				193	11.1	11.1	4.00	59				
BURNETT	BIG MCKENZIE L	1,185	C-ST	9/21	0.0	0				0.0	0				1	7.1	7.1	2.47	72		4	20	
BURNETT	DUNHAM L	243	C-ST	10/14	0.0	0				0.0	0				0	3.1	3.1	1.24	48		3	15	
BURNETT	YELLOW L	2,287	C-NR	9/22	15.2	85	4.0	7.4	5.1	9.1	51	7.8	11.2	9.3	165	5.6	7.9	2.57	72				
CHIPPEWA	L WISSOTA	6,300	NR	10/21	37.7	359	4.7	7.5	6.3	6.3	60	7.8	10.2	9.4	503	9.5	56.3	2.71	46				
CHIPPEWA	LONG L	1,052	NR	10/21	5.0	56	3.8	7.1	5.9	4.7	53	7.4	10.2	9.1	209	11.2	14.0	4.44	47	21			
DOUGLAS	L MINNESUING	432	C-NR	9/17	0.0	0				0.0	0				7	6.9	6.9	3.08	70		1	7	
DOUGLAS	LOWER EAU CLAIRE L	802	NR	9/23	4.2	23	4.0	6.4	5.1	6.0	33	6.6	9.7	8.0	64	5.5	7.8	1.99	70				
FOREST	BUTTERNUT L	1,292	C-NR	9/29	74.5	596	3.7	6.3	5.3	8.5	68	7.4	10.0	8.6	724	8.0	8.0	3.41	59				
FOREST	CRANE L	337	ST	10/5	0.3	1	5.9	5.9	5.9	0.3	1	9.3	9.3	9.3	2	3.9	3.9	1.50	53				
FOREST	JUNGLE L	182	NR	9/21	0.0	0				0.0	0				12	2.2	2.2	1.00	67				
FOREST	L LUCERNE	1,026	C-ST	10/14	5.8	51	5.6	7.8	7.0	0.0	0				59	8.8	10.5	4.00	50				
FOREST	L METONGA	1,991	C-ST	10/20	230.9	1,824	3.6	6.6	4.5	58.2	460	6.6	10.6	8.7	2,311	7.9	7.9	5.00	49				
FOREST	LILY L	211	NR	9/22	1.2	6	5.8	7.7	6.7	9.2	47	9.2	11.1	10.2	81	5.1	5.1	2.00	67				
IRON	TURTLE-FLAMBEAU FL	13,545	NR	9/23	157.5	4,031	3.0	7.2	4.5	11.7	300	7.3	10.5	8.6	4,578	25.6	211.0	10.02	68				
LANGLADE	OTTER L	83	NR	9/23	1.3	3	5.2	7.0	6.4	13.8	33	8.1	11.6	10.4	41	2.4	2.4	1.50	67				
ONEIDA	BEARSKIN L	400	NR	9/30	55.9	313	3.8	6.4	5.1	75.0	420	6.5	8.9	8.0	875	5.6	5.6	2.47	59				
ONEIDA	BIG FORK L	690	C-NR	10/8	18.3	99	3.2	5.8	4.8	16.3	88	5.8	9.2	7.7	288	5.4	5.4	2.67	51				
ONEIDA	BIG L	865	C-NR	10/12	6.5	43	4.3	6.1	5.4	23.3	154	6.1	8.7	7.4	221	6.6	6.6	3.00	44				
ONEIDA	BIG STONE L	548	C-NR	10/13	29.0	139	4.2	6.4	5.4	23.1	111	6.5	9.5	8.0	326	4.8	4.8	2.50	46				
ONEIDA	BUCKSKIN L	634	C-ST	10/8	1.1	7	5.3	6.7	6.2	33.5	211	7.7	10.1	9.0	226	6.3	6.3	2.15	48		1	1	
ONEIDA	CHAIN L	219	NR	10/9	0.0	0				0.0	0				5	3.0	3.0	1.00	48				
ONEIDA	CLEAR L	846	NR	10/14	1.2	15	4.8	6.1	5.4	1.3	16	7.4	10.8	9.1	49	12.8	13.8	4.01	50				
ONEIDA	CRESCENT L	612	NR	9/30	46.8	346	3.7	7.1	5.1	9.6	71	7.2	10.5	9.3	501	7.4	7.4	4.00	58				
ONEIDA	DAM L	744	NR	9/23	13.0	91	3.8	6.7	5.8	21.6	151	6.8	9.9	8.0	316	7.0	7.7	2.71	68				
ONEIDA	GEORGE L	435	C-NR	9/29	54.2	298	4.1	6.8	5.7	14.9	82	6.9	9.1	8.6	489	5.5	5.5	3.50	57				
ONEIDA	HASBROOK L	302	NR	10/12	12.7	56	4.3	7.4	5.2	1.1	5	8.2	10.2	8.9	74	4.4	4.4	2.45	48				
ONEIDA	KATHERINE L	590	NR	10/15	5.7	61	4.2	6.5	5.3	6.6	71	6.6	9.7	8.1	172	10.7	10.7	3.94	46				
ONEIDA	LONG L	620	C-NR	10/7	8.3	62	4.3	5.8	5.1	2.4	18	6.9	8.3	7.6	114	7.5	7.5	3.00	50				
ONEIDA	MANSON L	236	C-NR	9/28	0.6	2	6.7	6.7	6.7	0.8	3	9.4	10.3	9.8	28	3.6	3.6	1.74	62				
ONEIDA	MUSKELLUNGE L	284	NR	9/28	6.3	25	5.4	6.9	6.1	0.5	2	9.4	9.8	9.6	32	4.0	4.0	1.45	59				
ONEIDA	PLANTING GROUND L	1,012	C-NR	10/8	16.2	170	4.0	6.3	5.0	14.9	156	6.4	9.1	7.7	457	10.5	10.5	3.40	51				
ONEIDA	SAND L	540	NR	9/24	14.2	68	4.8	7.1	5.4	18.5	89	7.3	9.4	8.3	224	4.8	4.8	1.98	67				
ONEIDA	SQUIRREL L	1,317	NR	9/29	17.2	189	4.0	6.3	5.3	6.8	75	6.5	9.1	8.3	371	11.0	13.9	4.53	55				
POLK	BALSAM L	2,054	C-ST	10/15	0.0	0				0.1	2	9.1	9.6		52	22.7	22.7	7.30	47				
POLK	BIG ROUND L	1,015	ST	10/20	0.0	0				0.0	0				5	5.7	5.7	2.55	46		6	25	
PRICE	BUTTERNUT L	1,006	C-NR	10/1	6.7	60	4.1	6.8	6.0	37.7	339	7.0	10.1	8.6	688	9.0	11.2	4.17	57				
PRICE	PIKE L	806	C-NR	10/13	6.3	69	4.0	6.6	5.2	0.9	10	6.8	9.7	8.4	126	10.9	10.9	2.49	44				
PRICE	ROUND L	726	C-NR	10/13	22.4	114	4.0	6.8	5.2	7.5	38	7.0	9.1	7.9	252	5.1	5.1	2.18	48				
PRICE	SOLBERG L	859	NR	10/12	0.3	2	6.0	6.2	6.1	1.6	10	8.8	9.8	9.4	64	6.3	12.4	1.94	43				
RUSK	PULASKI L	126	C-NR	10/1	6.0	15	5.7	6.8	6.2	0.4	1	9.7	9.7	9.7	30	2.5	2.5	0.93	58				
RUSK	SAND L	262	C-NR	10/5	0.6	3	6.4	7.2	6.9	0.0	0				12	4.8	4.8	1.96	57	1		21	
SAWYER	CONNORS L	429	NR	10/20	3.4	17	4.4	5.8	5.0	0.0	0				18	5.0	5.0	1.84	46				
SAWYER	DURPHEE L	193	C-NR	9/22	0.0	0				0.4	1	9.9	9.9	9.9	3	2.7	2.7	0.95	69				
SAWYER	L CHETAC	1,920	C-NR	10/19	0.1	1	6.3	6.3	6.3	0.0	0				8	17.5	17.5	6.37	45		11	10	
SAWYER	L CHIPPEWA	15,300	C-NR	9/14	0.0	1	5.8	5.8	5.8	3.0	73	7.9	10.2	9.3	294	24.1	232.9	10.42	71				
SAWYER	LAC COURTE OREILLES	5,039	C-NR	9/22	14.8	265	4.4	6.6	5.6	9.0	161	6.9	10.9	8.8	432	17.9	25.4	5.11	68				
SAWYER	LOST LAND L	1,304	C-ST	9/17	0.0	0				0.0	0				7	5.4	11.3	2.13	70				5
SAWYER	NELSON L	2,503	C-ST	10/7	1.1	20	5.4	7.3	6.2	0.5	9	7.7	10.1	8.7	55	18.0	31.4	7.80	51		1	269	1
SAWYER	ROUND L	3,054	C-NR	9/21	12.2	247	3.1	6.6	4.8	4.7	94	6.8	9.6	8.0	386	20.2	20.2	7.91	68				
SAWYER	SAND L	928	C-ST	9/23	69.6	355	4.9	7.5	6.5	6.3	32	8.9	10.9	10.1	430	5.1	5.1	1.84	72				
SAWYER	SISSABAGAMA L	719	C-NR	9/23	0.2	2	5.2	5.5	5.4	7.2	59	7.8	10.2	9.1	135	8.2	8.2	3.93	70				
SAWYER	SPIDER L	1,454	ST	9/24	0.2	2	5.3	6.0	5.7	0.6	7	8.3	9.4	8.8	33	11.3	20.8	4.94	70				
SAWYER	WHITEFISH L	786	ST	10/20	0.4	3	5.1	5.7	5.5	0.0	0				3	8.1	8.1	2.49	48			1	1
SAWYER	WINDIGO L	522	C-NR	10/6	24.3	146	3.5	8.0	5.2	2.7	16	8.3	9.8	8.9	171	6.0	9.0	2.30	53				
VILAS	ANNABELLE L	213	NR	9/30	16.4	69	4.1	6.6	5.1	21.0	88	7.0	8.8	7.8	214	4.2	4.2	2.16	57	1			2
VILAS	BIG L (BOULDER JCT)	835	NR	10/7	18.2	175	3.6	6.7	5.4	7.0	67	6.9	10.3	8.8	271	9.6	9.6	3.34	52				
VILAS	BIG L (MI BORDER)	771	NR	9/17	5.2	72	3.8	6.4	5.2	11.7	161	6.5	8.0	7.5	507	13.8	13.8	3.48	68				

VILAS	BIG PORTAGE L	638	NR	10/15	46.6	317	2.9	7.6	4.9	5.1	35	7.8	10.2	8.9	367	6.8	6.8	2.48	46				
VILAS	BIG SAND L	1,408	ST	10/22	0.0	0				0.0	0				8	5.9	10.6	1.97	42				
VILAS	BIG ST GERMAIN L	1,617	C-ST	10/5	0.0	0				5.5	42	8.8	10.9	10.0	65	7.6	7.6	3.11	56				
VILAS	BIRCH L	528	NR	10/6	31.3	172	4.5	6.6	5.6	5.5	30	7.7	10.1	9.1	266	5.5	6.3	2.59	55				
VILAS	BOULDER L	524	NR	10/14	121.9	939	3.4	7.2	5.4	6.0	46	7.4	9.6	8.3	1,003	7.7	7.7	2.91	44				
VILAS	CATFISH L	1,012	NR	10/13	9.5	107	4.8	6.8	5.9	7.3	82	8.1	10.5	9.3	300	11.3	11.3	4.22	44				
VILAS	CLEAR L	555	C-NR	10/13	5.5	29	5.0	6.4	5.7	6.2	33	7.5	10.4	9.1	81	5.3	7.1	1.79	48				
VILAS	CRANBERRY L	956	NR	10/14	8.8	100	4.8	7.1	5.6	11.3	129	7.2	10.3	9.2	362	11.4	11.4	3.76	43				
VILAS	EAGLE L	572	NR	10/15	13.3	64	4.8	6.6	5.9	6.7	32	7.5	9.6	8.6	120	4.8	4.8	1.77	43				
VILAS	FOREST L	466	NR	10/12	33.1	232	3.9	7.4	4.5	4.7	33	7.9	10.5	9.2	427	7.0	7.0	2.15	50			6	2
VILAS	HARRIS L	507	NR	9/16	6.7	40	4.7	6.1	5.3	11.2	67	7.4	9.8	8.9	182	6.0	6.0	2.75	72			1	
VILAS	HORSEHEAD L	234	NR	9/29	51.7	212	4.3	6.7	5.4	25.4	104	7.1	9.1	8.1	514	4.1	4.1	1.99	58		2	3	3
VILAS	ISLAND L	1,023	C-NR	10/7	51.1	593	3.3	6.9	4.9	13.8	160	7.0	10.5	8.4	894	11.6	16.8	3.79	54				
VILAS	KENTUCK L	957	C-NR	9/28	0.0	0				2.3	14	9.3	10.1	9.8	74	6.0	6.0	2.35	55				
VILAS	LAC VIEUX DESERT	4,300	C-NR	10/1	0.0	0				0.1	2	10.4	10.7	10.6	37	16.3	16.3	7.86	55	1	6	19	4
VILAS	LITTLE ARBOR VITAE L	534	NR	10/8	5.8	41	6.1	8.0	7.1	0.0	0				44	7.1	7.1	2.22	52				
VILAS	LITTLE JOHN L	166	C-NR	9/22	36.4	120	5.0	7.8	6.3	114.2	377	8.1	10.6	9.5	580	3.3	3.3	1.15	68				
VILAS	MAMIE L	400	NR	9/21	0.2	1	6.6	6.6	6.6	4.6	27	6.9	9.2	8.1	118	5.9	5.9	1.67	70				
VILAS	MANITOWISH L	506	C-NR	9/28	0.5	2	5.2	5.5	5.4	3.0	12	6.9	9.0	7.9	22	4.0	7.6	1.81	61		14		
VILAS	N TWIN L	2,788	C-NR	9/30	14.9	155	3.4	6.2	5.0	120.4	1,252	6.3	9.9	7.2	1,479	10.4	10.4	4.84	60				
VILAS	OXBOW L	511	NR	10/5	9.0	121	4.2	6.3	5.3	9.8	132	6.8	9.3	8.2	473	13.5	13.5	5.57	55			3	1
VILAS	PAPOOSE L	428	C-NR	9/29	18.8	105	3.9	6.2	4.9	11.4	64	6.8	10.4	8.1	187	5.6	6.6	2.96	57				
VILAS	PRESQUE ISLE L	1,280	NR	10/22	0.8	7	5.1	7.8	6.6	1.3	11	7.9	9.8	8.7	49	8.8	8.8	3.29	46				
VILAS	REST L	608	C-NR	10/15	18.0	81	3.1	8.1	5.7	7.8	35	8.2	10.3	9.4	141	4.5	8.1	1.79	46				
VILAS	S TWIN L	642	C-NR	9/30	8.4	31	4.0	5.7	4.8	12.2	45	6.5	9.7	7.5	80	3.7	3.7	1.32	58				
VILAS	SCATTERING RICE L	267	NR	10/12	0.0	0				0.3	1	8.7	8.7	8.7	17	3.2	4.4	1.27	44	9		2	1
VILAS	SHERMAN L	123	NR	10/1	25.5	56	3.9	6.2	4.8	17.7	39	7.3	8.8	8.1	167	2.2	2.2	0.95	57	5			
VILAS	SQUAW L	785	NR	9/30	13.1	118	4.4	6.8	5.6	9.2	83	7.2	10.5	9.6	217	9.0	9.0	3.27	61				
VILAS	STAR L	1,206	NR	10/19	43.2	505	3.0	7.9	5.5	16.4	192	8.0	10.6	8.8	782	11.7	11.7	4.80	47				
VILAS	TROUT L	3,816	C-ST	10/20	5.1	91	4.3	7.2		0.1	2	8.9	9.4		106	17.9	17.9	8.10	47		1		
WASHBURN	BALSAM L	295	C-NR	10/6	2.6	13	4.9	7.0	6.3	0.0	0				51	5.0	7.4	1.84	55				
WASHBURN	BASS-PATTERSON L	188	NR	9/28	63.1	183	4.2	7.5	6.0	10.0	29	9.4	10.7	10.1	299	2.9	2.9	1.34	65				
WASHBURN	MINONG FL	1,564	NR	10/13	11.9	63	5.7	7.4	6.7	2.1	11	7.7	10.4	9.6	234	5.3	24.8	2.05	44				
WASHBURN	SHELL L	2,580	NR	10/8	8.9	87	3.5	6.6	4.6	2.7	26	7.2	9.9	8.9	205	9.8	10.2	4.29	51	5			
WASHBURN	STONE L	523	C-NR	10/5	6.0	24	4.2	5.8	5.2	1.8	7	8.7	10.4	9.4	41	4.0	4.0	1.56	57				
COUNT: 103 SURVEYS ON 103 LAKES				TOTALS:		16,787					7,511				30,537	844.2		329.21		47	64	448	83
				AVERAGES:	18.2	163			5.6	9.8	73			8.8	296								
				NUMBER OF SURVEYS WITH FISH CAUGHT:	88					84					102					8	14	18	14

MICHIGAN		Surface Area	2009 Walleye	Date	Age 0	Age 0 Wall-	Age 0 Min	Age 0 Max	Age 0 Mean	Age 1	Age 1 Wall-	Age 1 Min	Age 1 Max	Age 1 Mean	Total Wall-	Miles	Shore	Hours	Temp-	Other Species			
County	Lake	(Acres)	Code	Surveyed	CPE	eye	Length	Length	Length	CPE	eye	Length	Length	Length	eye	Surveyed	Miles	Surveyed	erature	MUE	NOP	LMB	SMB
BARAGA	PARENT L	182	NR	9/24	0.0	0				0.0	0				19	2.3	2.3	0.99	66				
GOGEBIC	CISCO L	506	C-NR	9/16	0.0	0				0.0	0				1	3.2	12.4	1.02	69		1	7	
GOGEBIC	DUCK L	616	C-ST	10/6	0.4	4	5.5	5.9	5.8	0.0	0				5	9.0	9.5	2.56	51				
GOGEBIC	L GOGEBIC	13,380	C-NR	9/14	65.9	1,602	3.1	6.3	4.6	13.6	331	6.7	9.9	8.2	2,072	24.3	35.0	9.59	68				15
GOGEBIC	POMEROY L	314	NR	9/14	0.8	3	5.6	5.7	5.6	46.5	172	6.7	9.5	8.2	520	3.7	3.7	1.73	75				
GOGEBIC	TAMARACK L	335	NR	9/15	12.8	51	4.2	5.6	5.0	26.0	104	7.1	9.8	8.7	175	4.0	4.0	1.76	70				
GOGEBIC	THOUSAND ISLAND L	1,020	C-NR	9/16	0.0	0				0.0	0				7	9.6	10.7	4.38	70	1	2		2
IRON	PERCH L	994	NR	10/21	0.0	0				0.0	0				59	5.5	8.0	2.81	42				
IRON	STANLEY L	310	NR	10/20	0.3	1	6.5	6.5	6.5	8.6	30	7.0	9.2	8.4	82	3.5	3.5	1.35					
ONTONAGON	BOND FALLS FL	2,118	C-NR	10/20	10.9	96	4.8	7.6	6.5	4.3	38	7.8	10.2	9.5	199	8.8	15.0	5.22	45				
COUNT: 10 SURVEYS ON 10 LAKES				TOTALS:		1,757					675				3,139	73.9		31.41		1	3	7	17
				AVERAGES:	9.1	176			5.7	9.9	68			8.6	314								
				NUMBER OF SURVEYS WITH FISH CAUGHT:	6					5					10					1	2	1	2

MINNESOTA		Surface Area	2009 Walleye	Date	Age 0	Age 0 Wall-	Age 0 Min	Age 0 Max	Age 0 Mean	Age 1	Age 1 Wall-	Age 1 Min	Age 1 Max	Age 1 Mean	Total Wall-	Miles	Shore	Hours	Temp-	Other Species			
County	Lake	(Acres)	Code	Surveyed	CPE	eye	Length	Length	Length	CPE	eye	Length	Length	Length	eye	Surveyed	Miles	Surveyed	erature	MUE	NOP	LMB	SMB
MILLE LACS	MILLE LACS L	132,516	NR	9/13	19.2	1,501	3.4	6.8	5.2	30.2	2,358	6.9	10.1	8.3	4,108	78.0	78.0	30.68	71				

OVERALL: 114 SURVEYS ON 114 LAKES				TOTALS (OVERALL):		20,045					10,544				37,784	996.1		391.30		48	67	455	100
				AVERAGES (OVERALL):	17.4	176			5.6	10.0	92			8.8	331								
				NUMBER OF SURVEYS WITH FISH CAUGHT (OVERALL):	95					90					113					9	16	19	16

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 2009 Recruitment Surveys Conducted by GLIFWC

Including Lakes Where No Year Class Was Detected

		NR and C-NR					ST and C-ST					NR-2 and REM				
AGE	STATE	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	18.1	25.7	86	0.0	157.5	18.5	57.2	17	0.0	230.9			0		
	MICHIGAN	10.1	21.5	9	0.0	65.9	0.4		1	0.4	0.4			0		
	MINNESOTA	19.2		1	19.2	19.2			0					0		
	POOLED	17.4	25.2	96	0.0	157.5	17.5	55.7	18	0.0	230.9			0		
1	WISCONSIN	10.5	19.5	86	0.0	120.4	6.2	15.7	17	0.0	58.2			0		
	MICHIGAN	11.0	15.9	9	0.0	46.5	0.0		1	0.0	0.0			0		
	MINNESOTA	30.2		1	30.2	30.2			0					0		
	POOLED	10.8	19.1	96	0.0	120.4	5.9	15.3	18	0.0	58.2			0		

Excluding Lakes Where No Year Class Was Detected

		NR and C-NR					ST and C-ST					NR-2				
AGE	STATE	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	20.0	26.2	78	0.0	157.5	31.5	73.3	10	0.2	230.9			0		
	MICHIGAN	18.1	27.3	5	0.3	65.9	0.4		1	0.4	0.4			0		
	MINNESOTA	19.2		1	19.2	19.2			0					0		
	POOLED	19.9	26.0	84	0.0	157.5	28.6	70.1	11	0.2	230.9			0		
1	WISCONSIN	12.2	20.5	74	0.1	120.4	10.5	19.6	10	0.1	58.2			0		
	MICHIGAN	19.8	17.0	5	4.3	46.5			0					0		
	MINNESOTA	30.2		1	30.2	30.2			0					0		
	POOLED	12.9	20.3	80	0.1	120.4	10.5	19.6	10	0.1	58.2			0