



# **Open Water Spearing in Northern Wisconsin by Chippewa Indians During 1996**

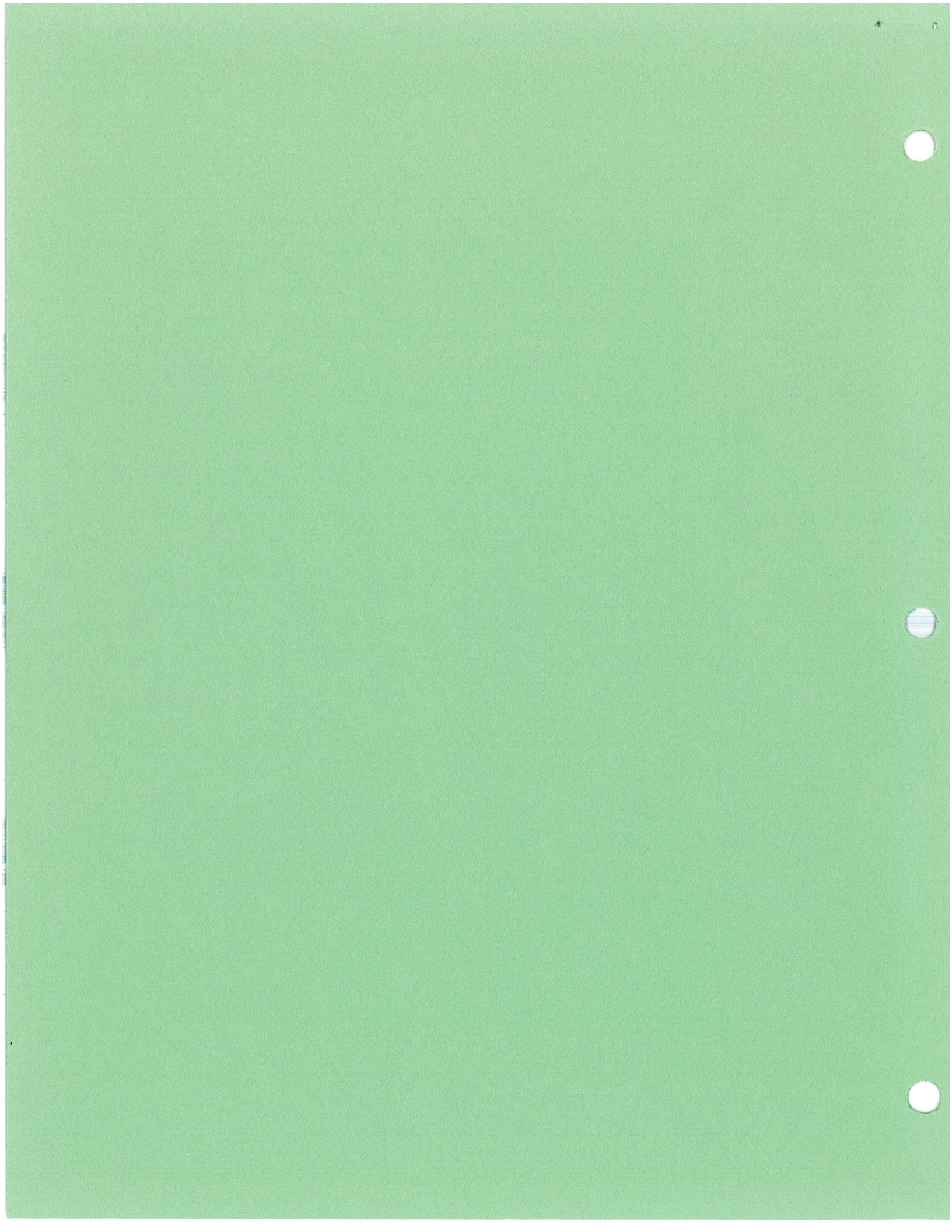
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## ABSTRACT

Nineteen ninety-six (1996) marked the twelfth consecutive spring that spear fishing was conducted by Chippewa tribes in off-reservation waters of northern Wisconsin. A total of 385 tribal members participated in this traditional fishery. Spearing occurred on 167 lakes and walleye were harvested from all except in 10 lakes. A total of 28,963 fish were taken with 97.8% of the catch (28,327 fish) being walleye. Numbers of other gamefish harvested were 319 muskellunge, 160 bass, and 30 northern pike. Average lengths were 15.5 inches for walleye and 38.1 inches for muskellunge. The tribal walleye quota was exceeded by 1 fish on 3 lakes. Except for these 3 instances, harvest of walleye and muskellunge was maintained within the established limits by a nightly permit system and by complete monitoring of the catch. Fall spearing occurred on one night in September. Two Lac Courte Oreilles spearers harvested four walleye (average length = 16.0 inches) from the Chippewa Flowage (Sawyer County).

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## INTRODUCTION

This report presents data for harvest and effort by Chippewa spearers in ceded territory waters of northern Wisconsin (Figure 1) during spring 1996. Since 1989 two other seasonal fisheries have sometimes occurred in off-Reservation waters: fall spearing and summer gill netting. During 1996, the only other fishery that occurred was fall spearing.

## REGULATIONS

Regulations governing the use of spears and nets for harvesting walleye and muskellunge were adopted by each of the six Wisconsin tribes and became permanent in 1989. A listing of the major differences between permanent regulations and negotiated interim rules that governed tribal harvest in 1988 can be found in Kmiecik and Shively (1990).

## PERMIT SYSTEM AND MONITORING

The permit system has operated the same since 1988. Permits (Figure 2) were issued at a tribal office during the day or at the designated boat landing at night. The number of permits that could be issued was determined daily by dividing the remaining Tribal Quota (TQ) for a lake by the nightly bag limit selected for that lake. Lakes were closed to further spearing of walleye and to all netting once the walleye TQ was reached. However, spearing permits could be issued for harvest of other species.

All spearing was monitored by tribal creel clerks under the supervision of GLIFWC wardens and biologists. A set of instructions for collecting biological data was provided to creel clerks at a training meeting about two weeks prior to the season.

During spearing, teams of creel clerks and wardens were assigned to each lake in some areas and only to lakes where permits had been issued in other areas. These teams arrived at the designated boat landing before dark and prepared a work area. Upon return of each boating party, a catch report form was completed. For species other than walleye, all fish were identified, counted, sex determined, and measured. For walleye, all fish were counted. Also, the first 100 walleye plus all those in the last boat were measured and sex determined. In addition, permits were collected and a record made of each person's tribal ID number, the time spearing started and the time it ended.

Harvest and effort for each lake were totaled and reported by 9 a.m. the following day to administrative staff at the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) office in Odanah. Starting in 1993 all catch report forms were also faxed in daily. These data were then transmitted to tribal and WDNR representatives by 10 a.m. and used to update walleye and muskellunge TQ's. At the same time, tribal representatives notified GLIFWC of the lakes and bag limits selected for spearing that night. Harvest was reported regularly in newspapers throughout Wisconsin.

**Figure 1.** Map depicting the ceded territory in northern Wisconsin. Heavy line indicates approximate ceded territory boundary.

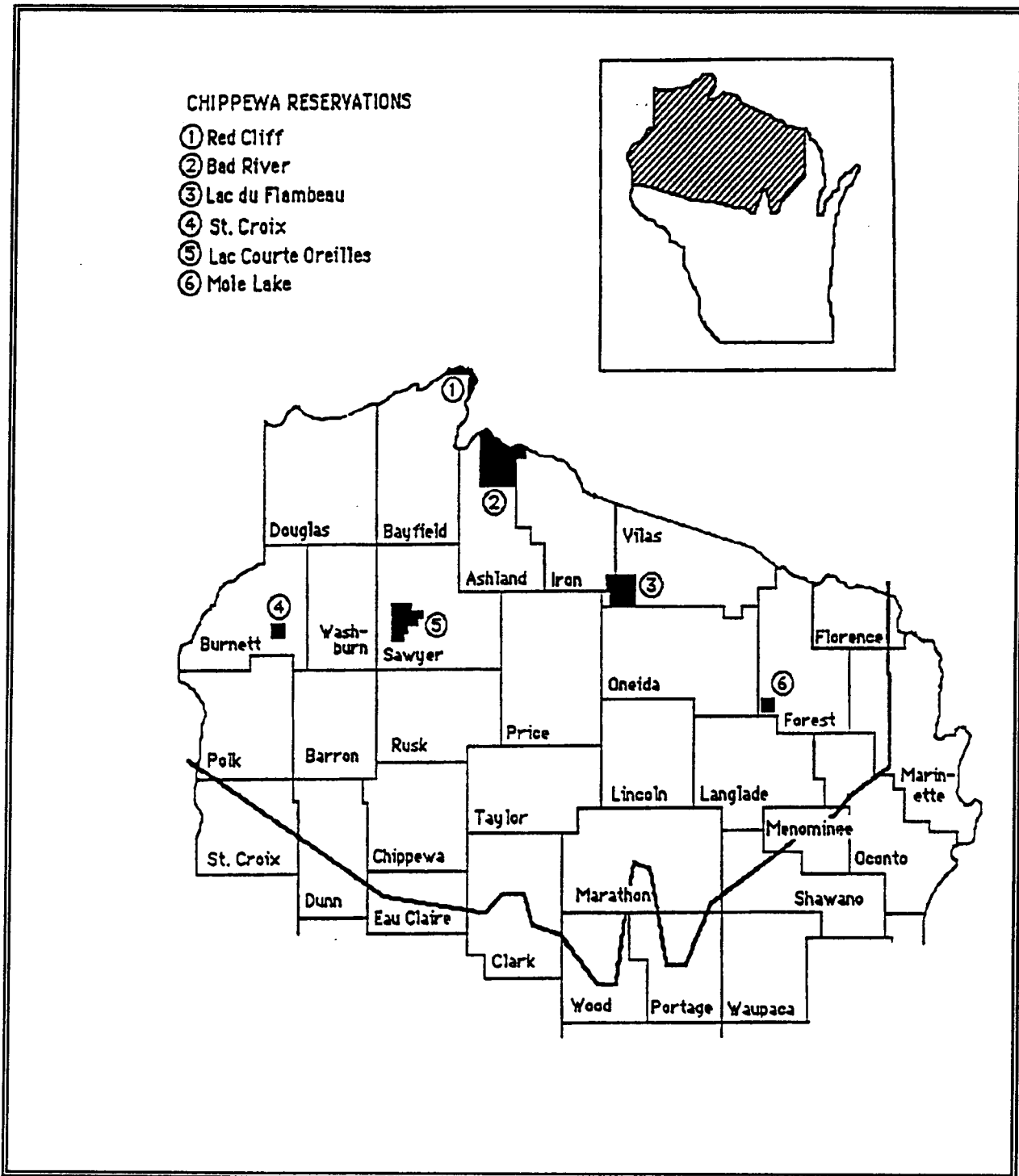




Figure 2

Off-Reservation Treaty Fishing Permit used during the 1996 open-water season.

28	29	30	31	Month	1	2	3	4	5
27	<b>Off-Reservation Treaty Fishing Permit</b>								6
26	<input type="checkbox"/> Spearing	<input type="checkbox"/> Fyke Netting	No		0250			7	
25	<input type="checkbox"/> Seining	<input type="checkbox"/> Gill Netting							8
24	Tribal ID Number _____ of _____ Reservation								9
23	Signature of Permittee: _____								10
22	Issued by: _____ of _____ Reservation								11
21	Water: _____ County: _____								12
	Bag Limit: Walleye _____ Muskellunge _____								
	Other Restrictions: _____								

FRONT

<b>Spearing Times:</b>		<b>Number of:</b>	
Starting _____		Walleye per boat _____	
Ending _____		Musky per boat _____	
<hr/>			
<b>WALLEYE LENGTHS</b>			
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
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BACK

## RESULTS AND DISCUSSION

### Fishing Effort

As in previous years, effort in the spring spear fishery was measured in three ways: by the number of spearkers, the number of spearker-nights, and the number of boat-hours.

**Number of spearkers.** All tribal members spearking under permits issued by each tribe were counted as an individual spearker for that tribe regardless of whether the spearker was an enrolled member of the tribe issuing permits. A total of 385 tribal members participated in the 1996 spring spear fishery (Table 1, Figure 3, Appendix A). None of these individuals spearked under two or more permit systems. Compared to 1995 the total number of spearkers decreased by 36 persons or 9%.

All persons spearking on lakes selected by Bad River, Lac Courte Oreilles, Lac du Flambeau, Mole Lake, and Red Cliff were members of that tribe (25, 50, 153, 54, and 42 persons, respectively). Of the 61 members spearking on lakes selected by St. Croix, 20 were members of another tribe (1 from Bad River, 3 from Lac Courte Oreilles, 2 from Red Cliff, and 16 from Mille Lacs).

**Table 1.** Number of spearkers on lakes selected by six Wisconsin Chippewa bands during spring spearking 1986-1996<sup>1</sup>.

YEAR	BRV	LCO <sup>2</sup>	LDF	MLK	RCF	STC <sup>3</sup>	TOTAL:
1986	2	26	119	32		15	194
1987	22	58	206	70		63	419
1988	35	48	200	63	14	66	426
1989	27	30	118	31	23	42	271
1990	46	43	142	46	40	64	381
1991	38	56	137	50	47	65	393
1992	36	41	112	40	52	64	345
1993	34	72	111	55	36	51	359
1994	31	87	134	66	31	70	419
1995	39	68	150	53	44	67	421
1996	25	50	153	54	42	61	385
PERCENT CHANGE: 1995-1996	-36%	-26%	2%	2%	-5%	-9%	-9%

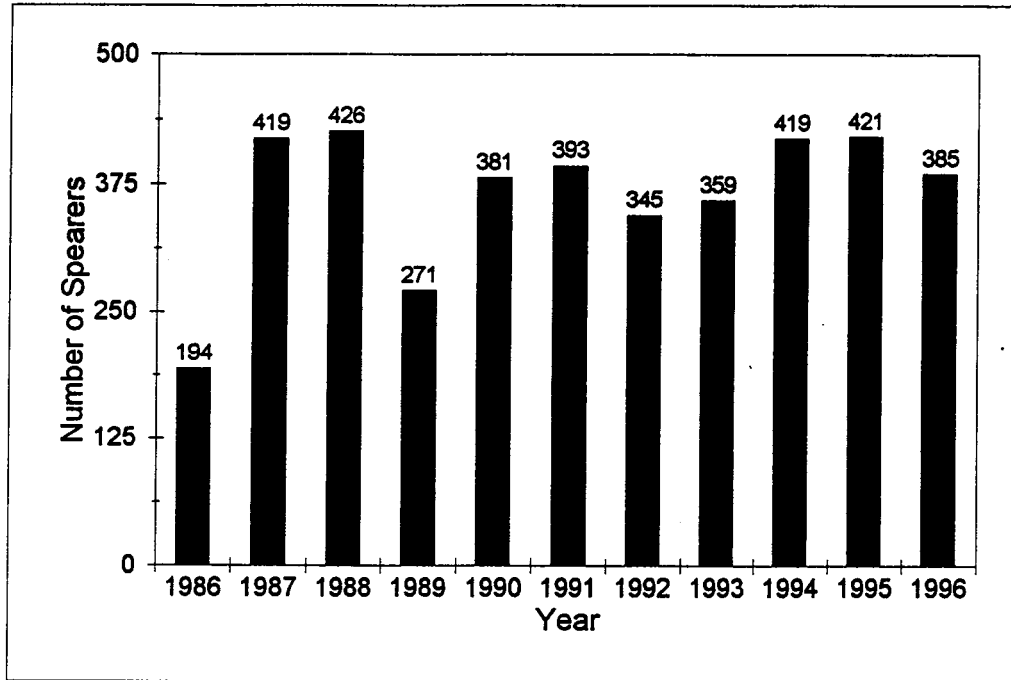
<sup>1</sup> Abbreviations for the various bands are: BRV = Bad River, LCO = Lac Courtes Oreilles, LDF = Lac du Flambeau, MLK = Mole Lake, RCF = Red Cliff, and STC = St. Croix.

<sup>2</sup> Includes members from Mille Lacs tribe: 1 in 1990, 2 in 1991, 0 in 1992, 1 in 1993, 3 in 1994, 0 in 1995, and 0 in 1996.

<sup>3</sup> Includes members from Mille Lacs tribe: 7 in 1988, 8 in 1989, 11 in 1990, 15 in 1991, 13 in 1992, 4 in 1993, 14 in 1994, 15 in 1995, and 16 in 1996.



**Figure 3.** Number of spearers during spring spearing seasons from 1986-1996.



**Number of Spearer-nights or Permits Used.** In a previous report (Kmiccik 1991), special clarification was given to the definition of "spearer-nights". It should be understood that the total number of "spearer-nights" is not simply the total number of nights that all tribal members speared, because some individuals speared under more than one permit on a single night. Additional permits have been issued at night at a boat landing on a "first come, first served" basis and only when enough fish remained in the tribal quota for a lake so that other permits could be issued. Persons receiving a second, third, or fourth permit may have speared on the same lake, a different lake, or both the same and a different lake. With this clarification in mind, this effort statistic will continue to be referred to as spearer-nights, but it can also be viewed as a count of the total number of permits used.

A total of 1,811 spearer-nights were recorded during spring 1996 (Table 2, Figure 4, Appendix B). Nearly 40% of this effort (712 spearer-nights) occurred on lakes selected by Lac du Flambeau. Spearer-nights on lakes selected by the other five tribes ranged from 119 at Red Cliff to 351 at St. Croix. Compared to 1995, effort increased by 56 spearer-nights or 3%.

**Table 2.** Number of spearer-nights on lakes selected by six Wisconsin Chippewa bands during spring spearing from 1986-1996.

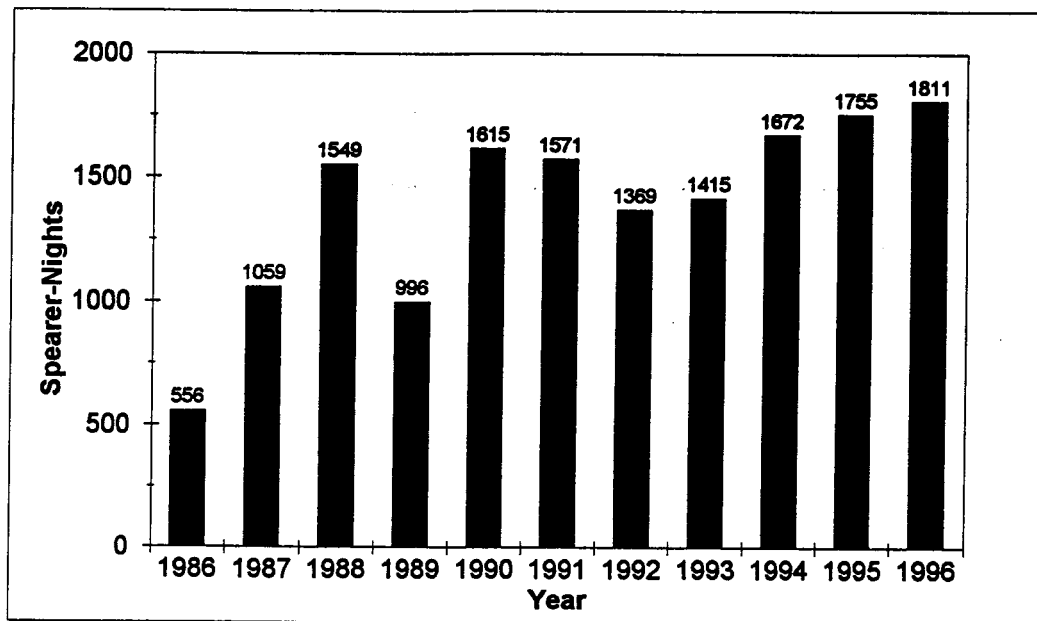
YEAR	BRV	LCO <sup>1</sup>	LDF	MLK	RCF	STC <sup>2</sup>	TOTAL:
1986	2	50	382	72		50	556
1987	43	140	695	205		181	1,264
1988	64	165	788	249	37	246	1,549
1989	70	109	429	120	100	168	996
1990	174	116	751	221	124	229	1,615
1991	151	216	605	201	160	238	1,571
1992	140	140	512	177	168	232	1,369
1993	172	218	469	241	144	171	1,415
1994	129	255	700	167	132	289	1,672
1995	164	215	677	241	135	323	1,755
1996	120	215	712	294	119	351	1,811
PERCENT CHANGE: 1995-1996	-27%	0%	5%	22%	-12%	9%	3%

<sup>1</sup> Includes spearer-nights for Mille Lacs tribe: 2 in 1990, 3 in 1991, 0 in 1992, 1 in 1993, 6 in 1994, and 0 in 1995.

<sup>2</sup> Includes spearer-nights for Mille Lacs tribe: 22 in 1988, 29 in 1989, 35 in 1990, 45 in 1991, 53 in 1992, 9 in 1993, 34 in 1994, 59 in 1995, and 74 in 1996.



**Figure 4.** Number of spearer-nights during spring spearing seasons from 1986-1996.



**Number of Boat-Hours.** A total of 1,639 boat-hours of effort was recorded in 1996 (Table 3, Figure 5, Appendix B). Compared to 1995, the number of boat-hours decreased by 16% (312 boat-hours). About one-third of the effort (641 boat-hours or 39%) occurred on lakes selected by Lac du Flambeau. Boat-hours on lakes selected by the other five tribes ranged from 105 at Red Cliff to 304 at St. Croix.

**Table 3.** Number of spearer boat-hours on lakes selected by six Wisconsin Chippewa bands during spring spearing from 1986-1996.

Year	BRV <sup>1</sup>	LCO <sup>2</sup>	LDF	MLK	RCF	STC <sup>3</sup>	Total:
1986	2	53	440	95		78	668
1987	46	163	976	252		280	1,717
1988	173	247	1094	393		334	3,341
1989	135	122	364	155	109	210	1,095
1990	254	151	787	298	181	338	2,008
1991	288	283	704	344	226	444	2,288
1992	206	221	453	218	178	281	1,558
1993	201	290	459	297	164	200	1,611
1994	172	356	743	247	133	381	2,033
1995	163	359	618	298	144	369	1,951
1996	131	304	641	156	105	302	1,639
PERCENT CHANGE: 1995-1996	-20%	-15%	4%	-48%	-27%	-18%	-16%

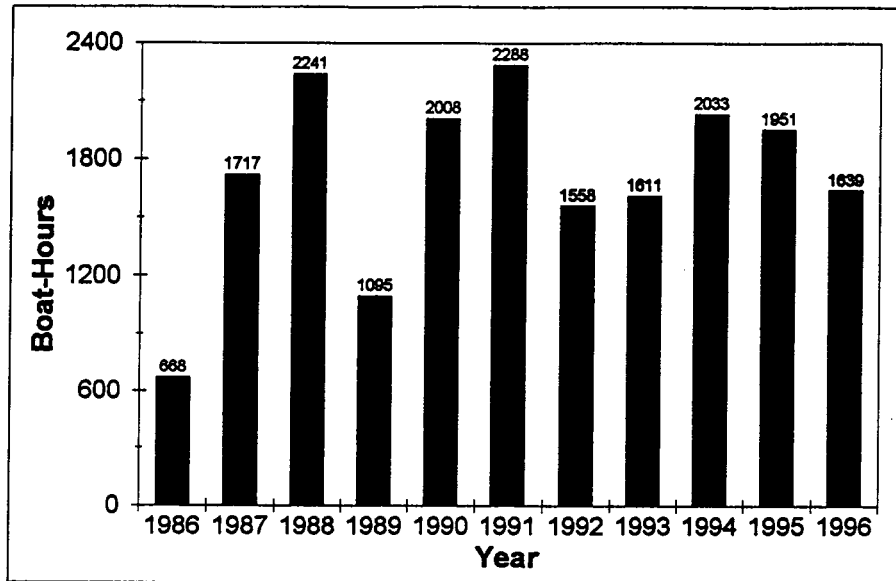
<sup>1</sup>Includes Red Cliff boat-hours in 1988.

<sup>2</sup>Includes effort for Mille Lacs tribe in 1990, 1991, 1993, and 1994.

<sup>3</sup>Includes effort for Mille Lacs tribe from 1988-1996.



**Figure 5.** Number of boat-hours of effort during spring spearing seasons from 1986-1996.



For all tribes combined, a total of 758 interviews were conducted and effort (boat-hours) was determined for all. Average length of a trip was 2.2 boat-hours (Table 4).

**Table 4.** Number of interviews and average length of spearing trip (in boat-hours) during spring spearing from 1989-1996.

YEAR	AVERAGE LENGTH OF TRIP:						TOTAL
	BRV	LCO <sup>1</sup>	LDF	MLK	RCF	STC <sup>1</sup>	
1989	4.1	2.4	2.5	2.6	2.5	2.7	2.7
1990	3.3	2.8	2.7	3.1	3.5	3.1	3.1
1991	3.9	3	2.8	3.9	2.8	3.5	3.3
1992	3	3.2	2	2.8	2.4	2.4	2.5
1993	2.1	3.5	2.0	2.8	2.7	2.5	2.6
1994	3.2	3.0	2.9	3.5	2.3	3.0	3.0
1995	2.1	3.5	2.0	2.8	2.7	2.5	2.5
1996	2.4	2.9	2.2	1.3	2.0	2.2	2.2
1996 Boat-hours:	131	304	641	156	105	302	1639
1996 interviews with effort:	54	103	293	117	52	139	758
1996 interviews without effort:	0	0	0	0	0	0	0

<sup>1</sup>Includes effort for Mille Lacs tribe.

## Total Harvest

Twelve taxa of fish were harvested during the 1996 spring spear fishery (Table 5). Of the 28,963 fish taken, 97.8% were walleye. Percentages of the total catch for other game fish species were 1.1% for muskellunge, 0.6% for bass, and 0.1% for northern pike. Other species combined (panfish and rough fish) totaled 127 fish and made up the remaining 0.4% of the harvest.

**Table 5.** Number of various fish species harvested during spring spearing seasons from 1992-1996.

Species:	1992	1993	1994	1995	1996
Walleye	21,188	24,532	25,922	30,249	28,327
Muskellunge	165	188	244	299	319
Bass Species	18	79	37	11	6
Largemouth Bass	85	100	174	121	103
Smallmouth Bass	31	21	50	55	51
Northern Pike	28	19	30	32	30
Lake Sturgeon				3	
Rock Bass	2			1	4
Crappie	26	43	40	109	63
Bluegill	5	6	9	5	18
Yellow Perch	9	10	8	8	13
Bullhead		1			3
Sucker	17	31	40	55	22
Carp		2	1	3	4
Burbot			8	1	
<b>TOTAL:</b>	<b>21,574</b>	<b>25,032</b>	<b>26,563</b>	<b>30,952</b>	<b>28,963</b>

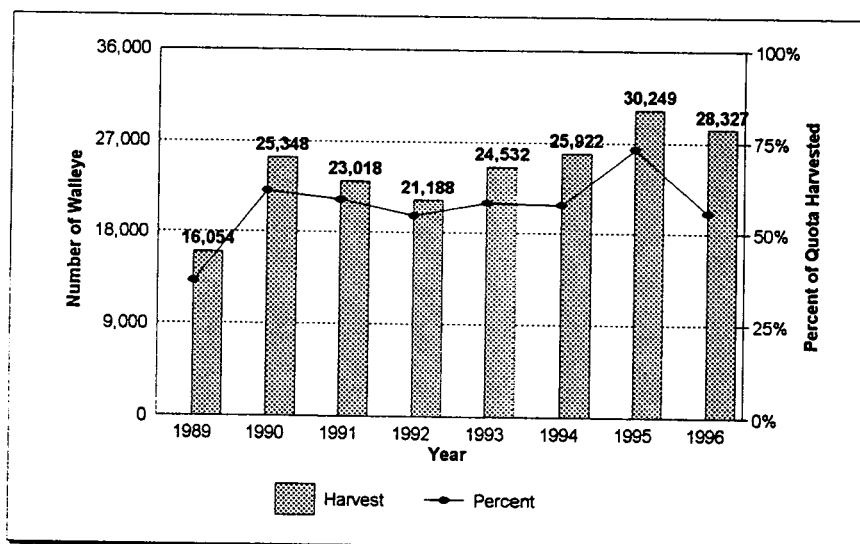
## Walleye Harvest

Tribal quotas (TQ) for walleye were selected for 248 lakes and totaled 50,897 walleye. The percent of the "safe harvest" selected as tribal quotas for lakes in 1996 ranged from 38.46% (Pipe Lake, Polk County) to 94.94% (Old Abe Lake, Chippewa County). Two tribes selected the same lake in 8 instances and agreed on various inter-tribal allocation formulas to keep the TQ within the selected percentage. No lakes were selected by more than two tribes.

Tribal spearers harvested a total of 28,327 walleye from 157 lakes (Table 5, Figure 6, Appendix B). Spearfishing also occurred in another 10 lakes [Tainter Lake (Dunn County), Dells Pond (Eau Claire County), Lost Land Lake (Sawyer County), and Palmer Lake (Vilas County), Rolling Stone Lake (Langlade County), Lake Alice (Lincoln County), Fireside Lakes (Rusk County), Prairie Lake (Barron County), and Trego Lake (Washburn County)] but no walleye were harvested. The percent of the total walleye quota harvested was 56%. Values for the tribal walleye quota and percent of this quota harvested from 1989-1996 were as follows:

Year	Tribal Walleye Quota	Number of Lakes with Quotas	Number of Walleye Harvested	Number of Lakes with Effort	Number of Lakes with Harvest	Percent of Quota Harvested
1989	43,801	254	16,054	102	98	37%
1990	41,373	178	25,348	119	117	61%
1991	39,090	204	23,018	159	147	59%
1992	38,863	222	21,188	153	146	55%
1993	42,112	220	24,532	134	130	58%
1994	44,821	218	25,922	137	105	58%
1995	41,283	222	30,249	153	149	73%
1996	50,897	248	28,327	167	157	56%

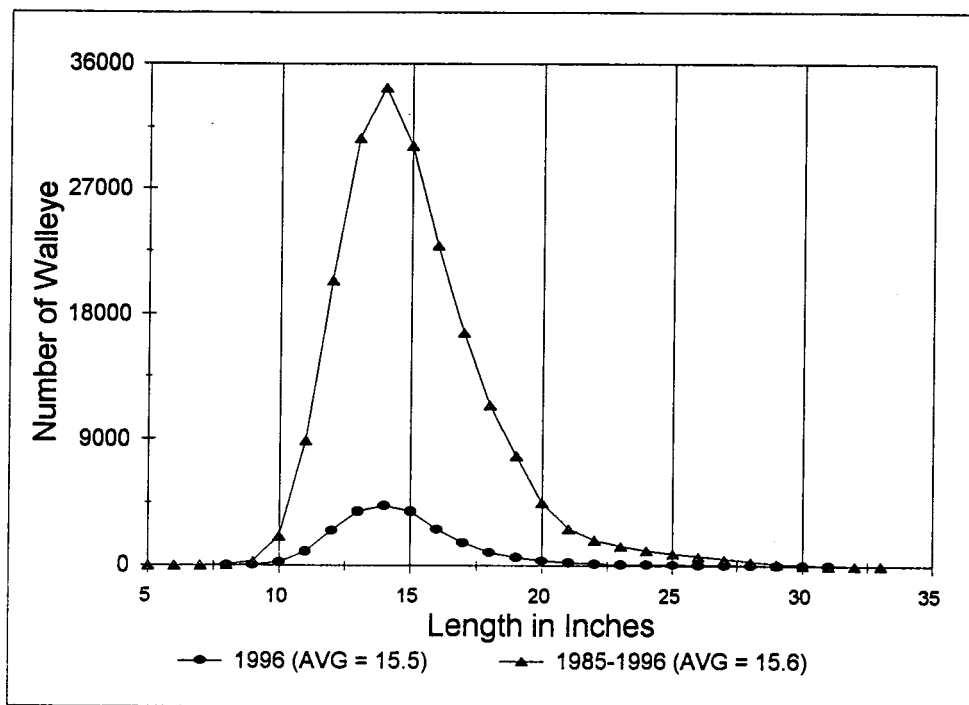
Figure 6. Number of walleye and percent of quota harvested during spring spearing seasons from 1989-1996.



**Mean Length.** A total of 22,998 walleye (84% of the catch) was measured in 1996 (Appendices C and D). The mean length was 15.5 inches, slightly less than the average length during 1987-1991 (range: 15.7-16.0 inches) but greater than the average length during 1992-1995 (range: 15.1-15.4 inches). Size restrictions were identical during each of these nine years; all walleye were to be under 20 inches except that each permit authorized the harvest of one walleye of 20-24 inches and one of any size.

For the 12 spring spearing seasons combined, 90.0% of the walleye harvest has been measured (200,065 of 251,629 fish) (Figure 7; Appendix D). Average length for this 12 year sample was 15.6 inches. Also, 7.3% of the walleye (14,179 fish) were 20 inches or larger and 1.3% (2,637 fish) were 25 inches or larger.

**Figure 7.** Length frequency of walleye speared during 1996 and during the twelve year period from 1985-1996.





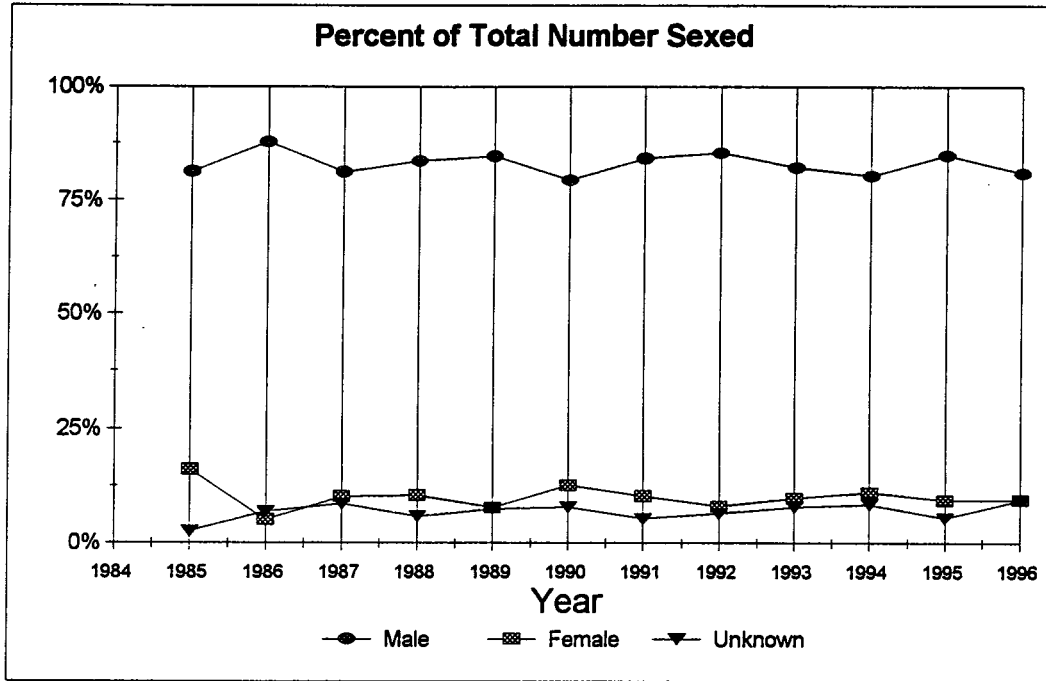
**Sex Composition of Catch.** The majority of walleye measured in 1996 were male: 18,562 of 22,934 fish or 81% (Table 6). Females (2,191 fish) comprised 9.5% of the measured harvest and those whose sex could not be determined (2,181 fish) also made up 9.5%. Males made up 89% of sexable fish.

For the 12 spring spearing seasons combined, a total of 198,989 walleye have been sexed (Table 6, Figure 8). Of these, 83% were male, 10% were female, and 7% were of undetermined or unknown sex. Factors which influence the number of males and females speared were described by Kmiecik and Shively (1990).

Table 6. Number and percent of walleye that were sexed and were male, female, or unknown sex during spring spearing seasons from 1985-1996.

Year	Total Harvest	Male		Female		Unknown		Total Sexed:	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
1985	2,761	696	81%	138	16%	22	3%	856	31%
1986	6,940	6,013	88%	356	5%	473	7%	6,842	99%
1987	21,321	11,539	81%	1,456	10%	1,229	9%	14,224	67%
1988	25,969	16,193	84%	2,033	10%	1,142	6%	19,368	75%
1989	16,054	11,222	85%	1,030	8%	1,002	8%	13,254	83%
1990	25,348	14,693	79%	2,342	13%	1,465	8%	18,500	73%
1991	23,018	15,626	84%	1,926	10%	999	5%	18,551	81%
1992	21,188	15,563	85%	1,473	8%	1,190	7%	18,226	86%
1993	24,532	16,357	82%	1,958	10%	1,588	8%	19,903	81%
1994	25,922	17,467	80%	2,407	11%	1,852	9%	21,726	84%
1995	30,249	20,897	85%	2,339	10%	1,369	5%	24,605	81%
1996	28,327	18,562	81%	2,191	9.5%	2,181	9.5%	22,934	81%
Total:	251,629	164,828	83%	19,649	10%	14,512	7%	198,989	79%

**Figure 8.** Sex composition of the walleye harvest during spring spearing seasons from 1985-1996.



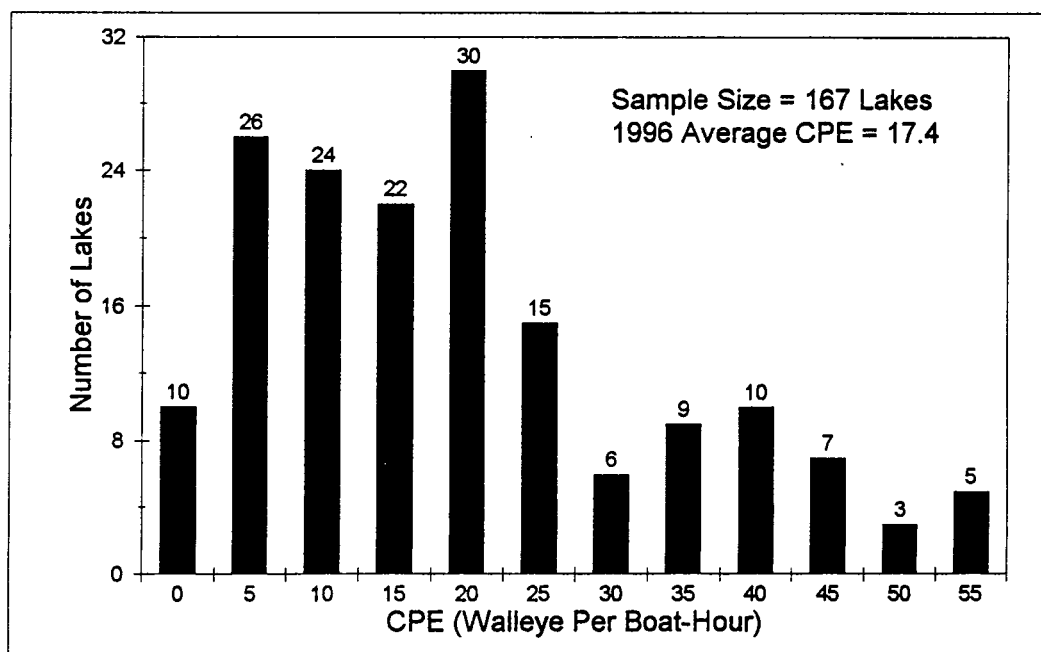
**Catch per effort (CPE).** In 1996 a total of 1,639 boat-hours of spearing was recorded in which 28,327 walleye were caught. Overall catch per effort was 17.3 walleye per boat-hour (Appendix B).

Catch rates for the 167 lakes speared in 1996 ranged from 0.0 to 52.9 and averaged 17.4 (Appendix B, Figure 9). Boat-hour effort was recorded for all lakes during spring 1996. Similar statistics for the years 1987-1996 were as follows:

Year	Number of Lakes	Range: CPE	Average: CPE
1987	66	0.0 - 46.4	12.2
1988	91	0.0 - 84.1	14.2
1989	98	0.0 - 63.9	18.5
1990	117	0.0 - 45.1	14.3
1991	159	0.0 - 46.5	11.3
1992	153	0.0 - 68.0	16.1
1993	134	0.0 - 123.5	15.2
1994	137	0.0 - 95.2	16.7
1995	153	0.0 - 91.1	19.5
1996	167	0.0 - 52.9	17.4

(Biological Issues Group 1988, Kmiecik and Shively 1990, Kmiecik 1991, Kmiecik and Ngu 1992, Ngu and Kmiecik 1993, Ngu 1993, Ngu 1994, and Ngu 1995).

**Figure 9.** Walleye CPE (number per boat-hour) by lake during the 1996 spring spearing season.



## Muskellunge Harvest

A total of 319 muskellunge were taken from 68 lakes during spring 1996 (Figure 10, Appendix E). This harvest represented 20.5% of the combined tribal muskellunge quota of 1,555 fish selected for 171 lakes. Similar muskellunge quota statistics for the years 1990 to 1995 were as follows:

Year	Tribal Muskellunge Quota	Number of Lakes with Quota	Number of Lakes with Harvest	Number Harvested	Percent of Quota Harvested
1990	1,148	117	57	303	26.4%
1991	1,240	155	54	185	14.9%
1992	1,240	155	52	165	13.3%
1993	1,223	134	49	188	15.5%
1994	1,326	158	49	244	18.4%
1995	1,364	153	59	299	21.9%
1996	1,555	171	68	319	20.5%

The number of muskellunge harvested from each of these 68 lakes ranged from 1 to 26 fish (Appendix E). Ten or more muskellunge were harvested from 8 lakes, 6-9 muskellunge were taken from 11 lakes, and 1-5 fish were speared in 49 lakes. In addition, the number of muskellunge harvested per surface-acre of water averaged 0.0032. No muskellunge were speared from the other 103 lakes.

Lengths of the 318 measured muskellunge averaged 38.1 inches and ranged from 21.0 to 49.0 inches (Appendix F, Figure 11). During the twelve spring seasons combined, 2,268 of 2,316 speared muskellunge have been measured. Average length for this sample of fish was 36.7 inches (range: 13.5-53.0 inches).

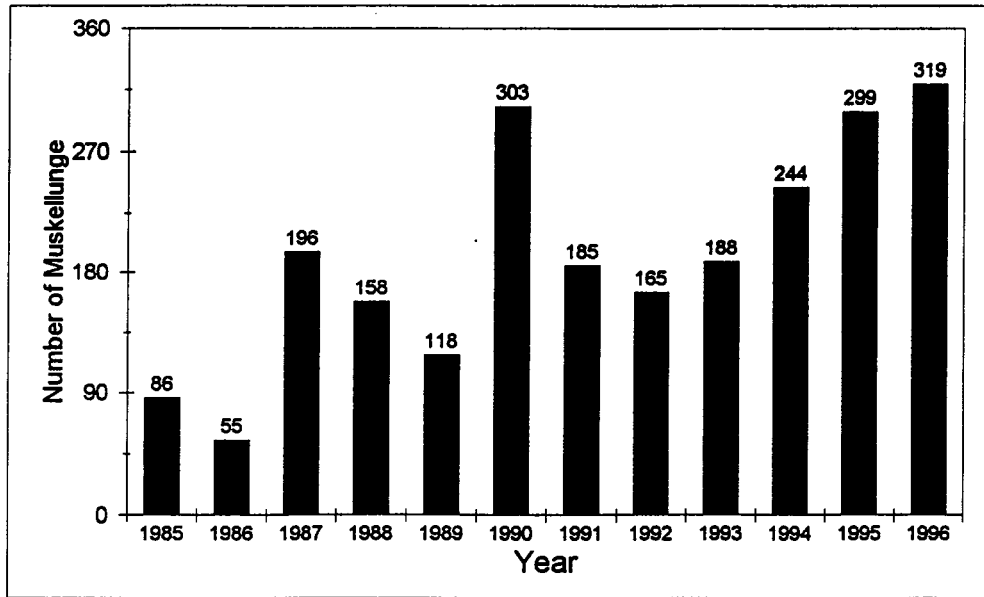
Of the measured catch in 1996, 10.7% (34 of 318 muskellunge) were 32 inches and smaller, while 5.3% (17 fish) were 45 inches and larger. For the 2,268 muskellunge measured from 1985-1996, 490 fish or 21.6% of the sample were less than or equal to 32 inches; 148 fish or 6.5% were 45 inches and larger (Appendix F).

The number of muskellunge per spearer averaged 0.83 for all tribes combined. In other words, 83 muskellunge were taken for every 100 spearers. From 1987-1995 the number per spearer ranged from 0.16 to 1.19. For individual tribes in 1996, the number per spearer was highest for St. Croix members (1.38) compared to the other 5 tribes (range: 0.07-0.96).

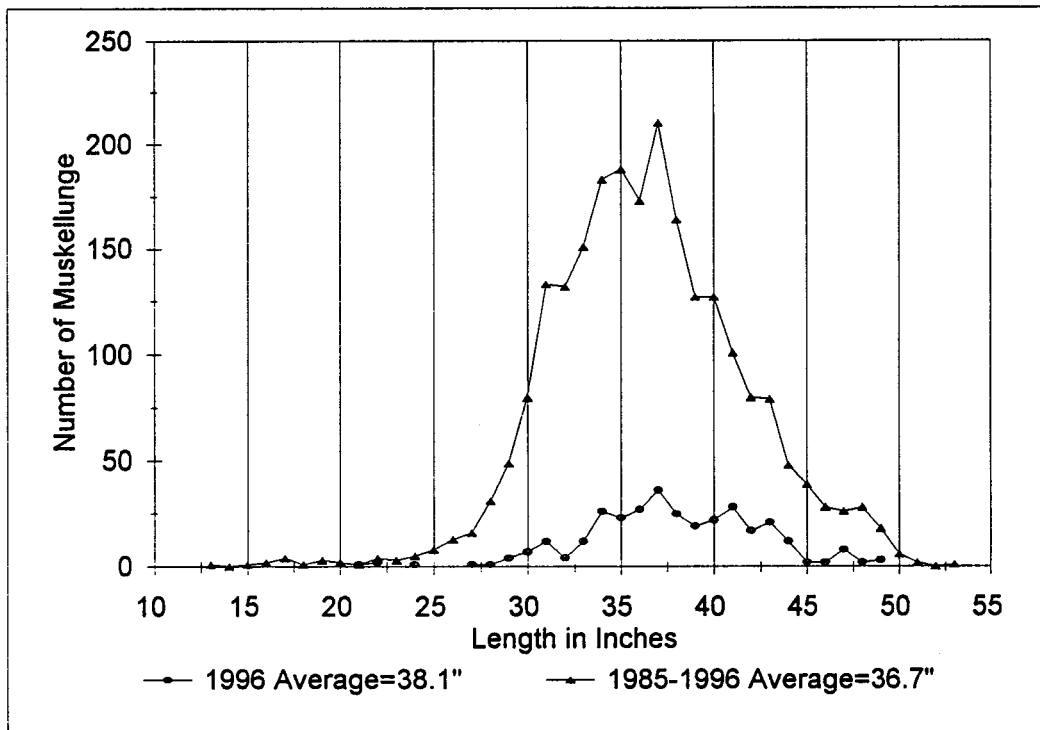
Catch per boat-hour in 1996 averaged 0.2 muskellunge and was greater than the CPE from 1987-1995 (0.07-0.15).



**Figure 10.** Number of muskellunge harvested during spring spearing seasons from 1985-1996.



**Figure 11.** Length-frequency of muskellunge speared during spring 1996 and during the twelve year period 1985-1996



## Bass Harvest

A total of 160 bass were harvested from 38 lakes in 13 counties (Appendix G). Species was recorded for 154 bass. A total of 103 largemouth bass were taken from 23 lakes in 10 counties and averaged 16.2 inches. Ten or more largemouth were speared from 3 lakes, 6-9 from 1 lake, and 5 or less were taken from 19 lakes. The number harvested per surface acre of water averaged 0.0051 largemouth bass (range: 0.0004-0.0305).

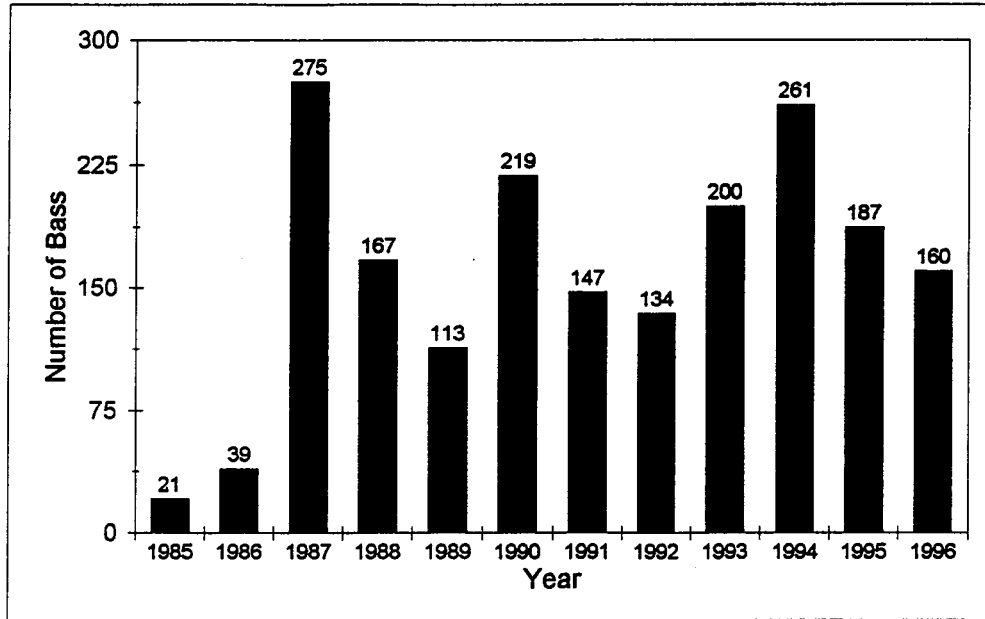
A total of 51 smallmouth bass were speared from 14 lakes in 8 counties. Average length was 14.9 inches. Five or fewer fish were taken from all but three lakes: 6 smallmouth were taken from both Squirrel Lake (Oneida County) and Bond Lake (Douglas County), and 21 fish were taken from Red Cedar Lake (Bayfield County). The number harvested per surface acre averaged 0.0034 smallmouth bass (range: 0.0003-0.0205).

Lengths of 152 measured bass ranged from 8.0-23.0 inches (Figure 13) and averaged 15.2 inches (Appendix H). Of the 1,926 bass speared during the twelve spearing seasons combined, 1,783 have been measured. Average length for this sample was 15.3 inches (annual range: 15.0-15.8 inches).

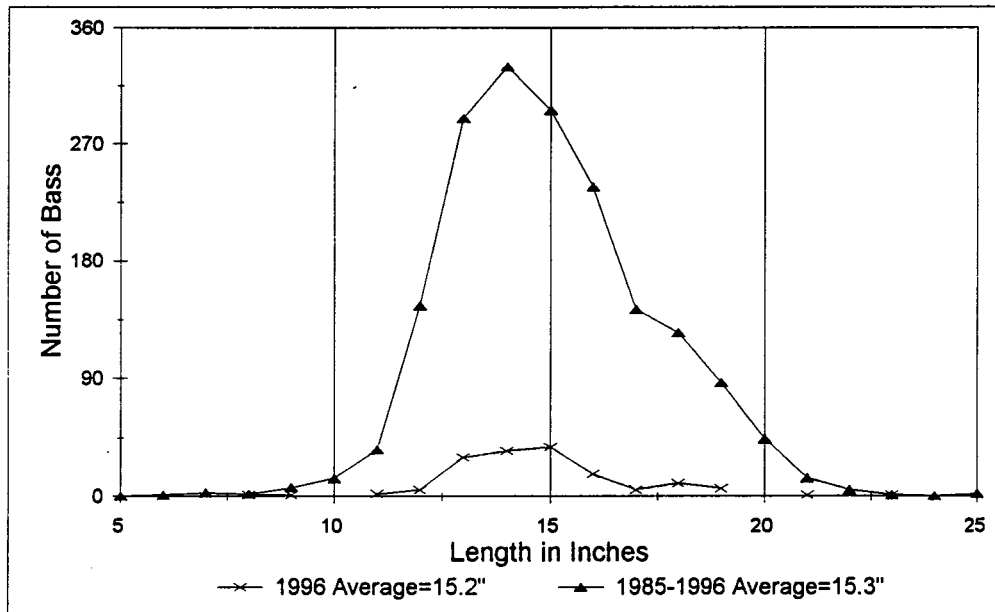
For all tribes combined the number of bass per spearer (CPE) was 0.42. CPE ranged from 0.37 to 0.66 from 1987-1995. For individual tribes, CPE (bass per spearer) was highest for St. Croix (1.89) as was the case during the previous 9 seasons (range: 1.14 - 3.33). Catch per spearer for the other five tribes ranged from 0.10 to 0.24 bass.

The combined tribal catch rate for bass in 1996 was 0.10 bass per boat-hour which was within the range of CPE's from 1987-1995 (0.06 to 0.14). Bass per boat-hour for St. Croix spearers was 0.38 in 1996.

**Figure 12.** Number of bass harvested during spring spearing seasons from 1985-1996.



**Figure 13.** Length-frequency for bass taken during 1996 and during the twelve year period from 1985-1996.



### **Northern Pike Harvest**

A total of 30 northern pike were harvested from 18 lakes in 9 counties (Appendix G). The number speared per lake never exceeded 4 fish except for Yellow Lake (Burnett County) where 8 northern pike were taken. Catch per surface acre of water averaged 0.0019 (range: 0.0002-0.0047).

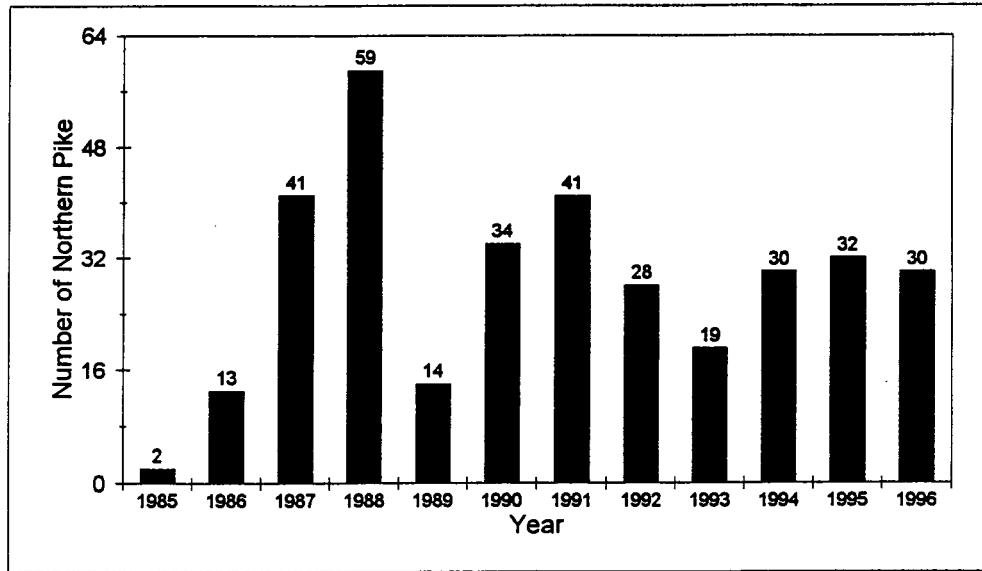
Lengths of 26 measured northern pike ranged from 18.0 to 38.0 inches and averaged 25.6 inches (Appendix I, Figure 15). During the twelve spring seasons combined a total of 345 northern pike have been speared (Appendix I). Of these, 291 were measured and length averaged 25.6 inches. Harvest of pike continues to be incidental and an insignificant component of the fishery.

### **Fall Spearing**

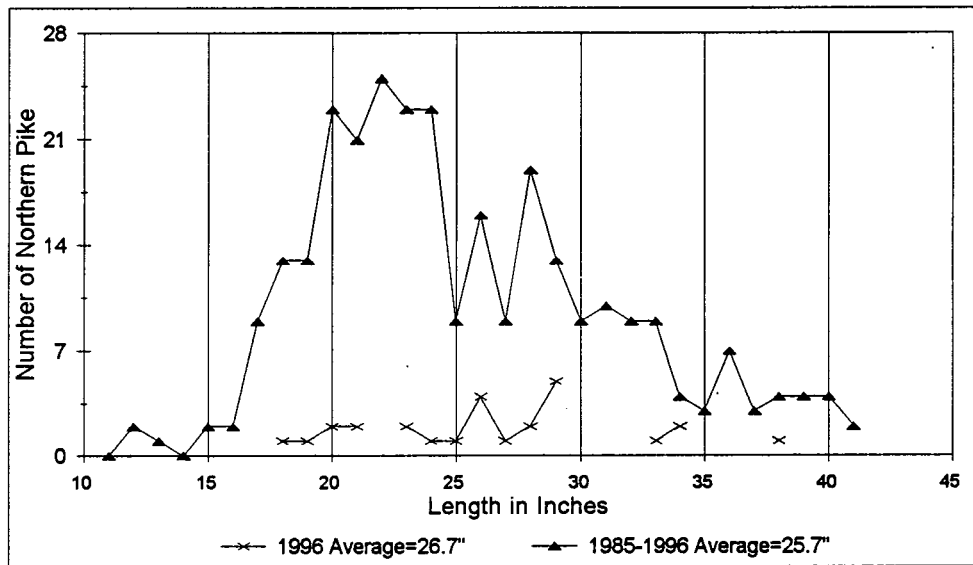
Fall spearing occurred on one night during September on the Chippewa Flowage (Sawyer County). Four walleye (average length = 16.0 inches) of unknown sex were speared by two tribal members from Lac Courte Oreilles. Effort was 3.1 boat-hours and the number of walleye caught per boat-hour was 0.75. No other spearing harvest took place.



**Figure 14.** Number of northern pike taken during spring spearing seasons from 1985-1996.



**Figure 15.** Length-frequency of northern pike speared during 1996 and during the twelve year period from 1985-1996.



## ACKNOWLEDGMENTS

The author extends a "Meegwitch" to the following workers who assisted with monitoring the fishery (either as creel clerk or seasonal warden) or who issued permits and helped to update and compile harvest data each day:

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The patience and humor of tribal members during the nightly counting and measuring of fish continues to be recognized and appreciated.

Thanks also go to Annie Thannum and Kim Campy for their diligence in compiling nightly harvest statistics, in providing these data to tribal and WDNR representatives, and in updating each day the list of lakes selected for harvest, along with the adjusted quota, the bag limits, and the number of permits available for each lake. Finally, I would like to thank Neil Kmiecik for help in writing and editing this report.

## LITERATURE CITED

Biological Issues Group. 1988. Report on Biological Issues. Plaintiff's Exhibit 106, Lac Courte Oreilles Band, et al. v. State of Wisconsin, et. al., W.D. Wis. No. 74-c-313.

Kmiecik, N. and J. D. Shively. 1989. Spear Fishery of the Lake Superior Tribes of Chippewa Indians, Spring 1988. Great Lakes Indian Fish and Wildlife Commission Administrative Report 89-2. 43 pp.

Kmiecik, N. and J. D. Shively. 1990. Open Water Spearing and Netting in Northern Wisconsin by Chippewa Indians during 1989. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 90-1. 40 pp.

Kmiecik, N. 1991. Spear Fishery of the Lake Superior Tribes of Chippewa Indians, Spring 1990. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 91-4. 42 pp.

Kmiecik, N. and H. H. Ngu. 1992. Open water Spearing and Netting in Northern Wisconsin by Chippewa Indians during 1991. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 92-8. 46 pp.

Ngu, H. and N. Kmiecik. 1993. Open water Spearing and Netting in Northern Wisconsin by Chippewa Indians during 1992. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 93-4. 45 pp.

Ngu, H. 1994. Open water Spearing and Netting in Northern Wisconsin by Chippewa Indians during 1993. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 94-1. 46 pp.

Ngu, H. 1995. Open water Spearing and Netting in Northern Wisconsin by Chippewa Indians during 1994. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 95-03. 45 pp.

Ngu, H. 1996. Open water Spearing in Northern Wisconsin by Chippewa Indians During 1995. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 96-01. 43 pp.

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Appendix A. Number of tribal members that speared one or more nights on lakes selected by six Wisconsin Chippewa bands during the 1996 spring spear fishery.

Number of Nights	BRV	LCO	LDL	MLK	RCF	STC <sup>1</sup>	Total:	Percent of Total:	Cumulative Percent:
1	9	13	49	11	22	19	123	31.9%	31.9%
2	7	14	21	9	9	9	69	17.9%	49.9%
3	4	5	11	5	5	5	35	9.1%	59.0%
4	1	6	22	6	3	9	47	12.2%	71.2%
5		1	13	6		4	24	6.2%	77.4%
6	2	2	12	7	1	3	27	7.0%	84.4%
7			5	5		2	12	3.1%	87.5%
8		2	6	2	1		11	2.9%	90.4%
9		1	2	1	1	1	6	1.6%	91.9%
10		4	1			3	8	2.1%	94.0%
11			4				4	1.0%	95.1%
12	2	1	2	2			7	1.8%	96.9%
13			3			3	6	1.6%	98.4%
14		1	2				3	0.8%	99.2%
15						2	2	0.5%	99.7%
16							0	0.0%	99.7%
17							0	0.0%	99.7%
18							0	0.0%	99.7%
19							0	0.0%	99.7%
20							0	0.0%	99.7%
21						1	1	0.3%	100.0%
22							0	0.0%	100.0%
23							0	0.0%	100.0%
24							0	0.0%	100.0%
25							0	0.0%	100.0%
Total:	25	50	153	54	42	61	385	100%	100%

<sup>1</sup> Includes 16 members from Milles Lacs, 3 from Lac Courte Oreilles, 2 from Red Cliff, and 1 from Bad River.

Appendix B Number of walleye harvested nightly on lakes selected by six Wisconsin Chippewa bands during spring 1996  
 Also, balance of quota, number of boat-hours, catch per effort (CPE - walleye per boat-hour), number of spear-nights, number of interviews with effort, and number of interviews without effort

County	Lake	Area Harvest	Walleye Sale	Tribal Quota	April 26	27	28	29	30	May 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total Harvest	Quota Balance	Boat-Hour	CPE	
ASHLAND	BEAR L	204	86	51																													
BAYFIELD	LOWEN	1323	215	82																													
BAYFIELD	NAMEKAGON L	3227	1170	350																													
BAYFIELD	SISKIWI T	330	111	65																													
BURNETT	CLAM R FL	473	191	113																													
CHIPPENWA	L WISSOTA	6300	2188	1291																													
CHIPPENWA	LONG L	1052	801	473																													
DOUGLAS	ANNICON L	426	173	73																													
DOUGLAS	BOND L	292	121	71																													
DOUGLAS	DOWNING L	154	66	39																													
DOUGLAS	L MINNESUNG	432	75	44																													
DOUGLAS	WHITERSH L	832	327	193																													
DUNN	TAMTER L	1752	660	230																													
IRON	ECHO L	220	92	55																													
IRON	FISHER L	452	53	31																													
IRON	L OF THE FALLS	338	139	82																													
IRON	LONG L	396	64	38																													
IRON	PINE L	312	129	78																													
IRON	SPIDER L	352	145	86																													
IRON	TRUDE L	781	308	182																													
IRON	TURTLE-FLAMBEAU FL	13545	4462	792																													
ONEIDA	RAINBOW FL	2035	759	200																													
PRICE	DUROY L	378	155	92																													
PRICE	LONG L (T37N-R1W-S14)	418	170	101																													
PRICE	MUSSER L	563	63	37																													
PRICE	SOLBERG L	859	478	282																													
RUSK	CHAIN L	468	216	128																													
RUSK	DAIRYLAND RESERVIOR	1745	657	388																													
RUSK	ISLAND L	526	116	68																													
RUSK	SAWYER	429	309	182																													
SAWYER	CONNORS L	2503	630	372																													
SAWYER	TEAL L	1049	407	240																													
SAWYER	TAYLOR	320	132	78																													
VILAS	ANNABELLE L	213	44	26																													
VILAS	BIG CROOKED L	682	631	373																													
VILAS	BLACK OAK L	684	65	38																													
VILAS	CRAB L	949	370	218																													
VILAS	FOREST L	466	189	112																													
VILAS	HARRIS L	507	204	120																													
VILAS	LOST CANOE L	249	111	65																													
VILAS	MAMIE L	400	157	93																													
VILAS	N TURTLE L	369	151	89																													
VILAS	PRESCUE ISLE CHAIN (3 Lakes)*	1571	614	280																													
VILAS	S TURTLE L	454	184	109																													
VILAS	TENDERFOOT L	437	293	173																													
	Number of lakes:	45																															
	Area in acres:	51366																															
	Number of walleye:	18681																															
	Number of spear-nights:	8251																															
	Number of interviews with effort:	175	240	0	192	0	0	140	187	182	0	247	97	154	304	226	187	100	70	83	76	0	427	0	0	3087	5174						
	Number of interviews without effort:	2	3	0	5	0	2	3	3	3	0	4	3	3	6	4	3	2	1	1	0	8	0	0	0	54							
	Number of boat-hours:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Catch-per-effort:	12.1	8.1	0.0	10.6	0.0	0.0	3.7	4.9	5.1	0.0	10.3	11.6	12.9	9.3	8.3	3.3	1.5	2.5	3.1	0.0	11.8	0.0	0.0	0.0	130.5							
					14.5	29.5	0.0	18.2	0.0	0.0	38.1	38.1	36.0	0.0	24.0	8.3	13.4	23.5	24.4	22.5	30.8	46.7	33.2	24.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.7	



Appendix B (cont) Number of walleye harvested nightly on lakes selected by six Wisconsin Chippewa bands during spring 1996  
 Also, balance of quota, number of boat-hours, catch per effort (CPE - walleye per boat-hour), number of spearer-nights, number of interviews with effort, and number of interviews without effort.

County	Lake	Area	Harvest	Quota	Apr	22	28	29	30	May	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total Harvest	Quota Balance	Boat-Hour	CPE			
CHIPPewa	HOLCOMBE FL	3890	1394	766	19																														
CHIPPewa	OLD ABE L	1072	415	394																															
DUNN	TAINTER L	1752	680	395																															
EAU CLAIRE	ALTOONA L	840	165	156																															
EAU CLAIRE	DELLS POND	739	292	277	0																														
EAU CLAIRE	L EAU CLAIRE	860	189	160																															
PRICE	LAC SAULT DORE	561	225	213																															
PRICE	WILSON L	351	144	136																															
RUSK	BIG FALLS FL	369	151	143																															
RUSK	LADYSMITH FL	288	120	113																															
RUSK	THORNAPPLE FL	268	112	106																															
SAWYER	BLAISDELL L	356	146	80																															
SAWYER	GRINDSTONE L	3111	198	79																															
SAWYER	L CHETAC	1920	167	91																															
SAWYER	L CHIPPewa	15300	3323	2823																															
SAWYER	L OF THE PINES	273	114	62																															
SAWYER	LAC COURTE OREILLES	5039	230	126																															
SAWYER	LITTLE ROUND L	229	77	42																															
SAWYER	LOST LAND L	1304	499	274																															
SAWYER	LOWER CLAM L	229	96	52																															
SAWYER	ROUND L	3054	1111	610																															
SAWYER	SAND L	928	382	199																															
SAWYER	SMITH L	323	133	73																															
SAWYER	SMITH L	786	82	45																															
SAWYER	WHITFISH L	102	44	24																															
SAWYER	WINDFALL L	25			1	1	1	0	2	2	2	2	3	4	3	4	2	1	3	4	3	4	2	1	1	1	1	1	0						
	Area in acres:	43944																																	
	Number of walleye:		10429	7439																															
	Number of spearer-nights:				4	2	2	0	53	39	77	159	95	204	366	254	229	35	443	305	162	22	0	10	0	0	0	0	2461	4978					
	Number of interviews with effort:				2	1	1	0	14	7	13	17	17	12	27	13	10	10	26	24	14	2	0	1	0	0	0	215							
	Number of interviews without effort:				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	103							
	Number of boat-hours:				3.7	2.6	4.4	0.0	14.9	7.7	12.5	28.7	19.9	20.9	38.7	26.5	16.4	10.1	33.5	31.4	23.6	5.3	0.0	3.1	0.0	0.0	0.0			303.7					
	Catch-per-effort:				0.0	0.0	1.8	0.0	3.6	5.1	6.2	6.5	4.8	9.8	9.5	9.6	14.0	3.5	13.2	9.7	6.9	4.2	0.0	3.3	0.0	0.0	0.0								



Appendix B (cont). Number of walleye harvested nightly on lakes selected by six Wisconsin Chippewa bands during spring 1996. Also, balance of quota, number of boat-hours, catch per effort (CPE - walleye per boat-hour), number of spearer-nights, number of interviews with effort, and number of interviews without effort.

County	Red Cliff Lake	Area	Walleye Safe Harvest	Tribal Quota	April 26	May 1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total Harvest	Quota Balance	Boat- Hour	CPE
BAYFIELD	PIKE L CHAIN (4 Lakes)*	714	303	257																249	8	13.9	17.9
BAYFIELD	L OWEN	1323	215	82																82	0	6.2	13.3
BAYFIELD	MIDDLE EAU CLAIRE L	902	353	211				60	**	**		146	**							206	5	12.1	17.1
BAYFIELD	NAMEKAGON L	3227	1170	350				**	**	210	128		**	12	52	295				347	3	17.7	19.6
BAYFIELD	UPPER EAU CLAIRE L	1030	400	339																338	1	17.2	19.7
DOUGLAS	AMINCON L	426	173	73																12	61	1.5	8.0
DOUGLAS	L NEBAGAMON	914	248	190					**	39		100	90							190	0	5.7	33.5
DOUGLAS	LOWER EAU CLAIRE L	802	249	191				152	**											191	0	16.8	11.3
DOUGLAS	UPPER ST CROIX L	855	335	284					283											283	1	5.5	51.5
RUSK	FIRESIDE LAKES	302	125	106	0															0	106	1.6	0.0
SAWYER	SISSABAGAMA L	719	285	242		43	29													72	170	7.2	10.0
	Number of lakes:	11			1	1	1	3	3	3	2	2	3	2	2	1	1	1	2				
	Area in acres:	11214																					
	Number of walleye:		3656	2325	0	43	29	212	283	249	128	246	90	127	186	295	82	0	0	1970	355		
	Number of spearer-nights:				3	3	2	16	8	24	7	10	4	9	11	16	6	0	0	119			
	Number of interviews with effort:				1	2	1	8	4	9	3	5	2	4	4	6	3	0	0	52			
	Number of interviews without effort:				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Number of boat-hours:				1.6	4.6	2.6	18.7	5.5	12.8	6.2	11.4	2.7	7.9	10.5	14.7	6.2	0.0	0.0			105.2	
	Catch-per-effort:				0.0	9.3	11.2	11.4	51.5	19.4	20.8	21.6	33.7	16.0	17.7	20.1	13.3	0.0	0.0				18.7





Appendix B (continued). Number of walleye harvested nightly on lakes selected by six Wisconsin Chippewa bands during spring 1996.  
 Also, balance of quota, number of boat-hours, catch per effort (CPE - walleye per boat-hour), number of spearer-nights, number of interviews with effort, and number of interviews without effort.

Six Tribal Bands Combined:		Area	Safe Harvest	Tribal Quota	April 19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7
Number of lakes:	248				1	0	0	1	2	2	0	8	10	7	10	7	8	10	13	16	15	20	20
Area in acres:	236,935																						
Number of walleye:		70,465	50,897	0	0	0	0	5	19	0	356	323	224	442	122	179	580	769	773	616	1667	1050	
Number of spearer-nights:				4	0	0	2	4	14	0	27	30	29	43	38	28	50	61	47	54	110	76	
Number of interviews with effort:				2	0	0	1	2	3	0	10	14	13	20	18	16	23	28	21	21	46	30	
Number of interviews without effort:				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Number of boat-hours:				3.7	0.0	0.0	2.6	3.3	5.5	0.0	34.6	32.5	31.2	53.6	43.7	32.0	45.5	66.1	41.2	49.6	117.8	88.3	
Catch-per-effort:				0.0	0.0	0.0	0.0	1.5	3.5	0.0	23.1	32.9	9.9	24.0	6.0	19.3	68.0	70.2	111.9	39.4	80.4	60.0	

Six Tribal Bands Combined:		Area	Safe Harvest	Tribal Quota	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total Harvest	Quota Balance	Boat-Hour	CPE
Number of lakes:	256				24	32	35	31	31	29	30	25	33	29	29	12	13	11	10	8				
Area in acres:	236,935																							
Number of walleye:		70,465	50,897	1518	1601	2973	2552	1973	1132	1624	2370	1355	2109	741	761	311	78	39	65	28,327	22,570			
Number of spearer-nights:				95	119	146	130	103	84	84	99	74	107	52	44	22	20	9	6	1,811				
Number of interviews with effort:				36	48	64	49	48	36	38	38	31	40	19	8	8	5	3	758					
Number of interviews without effort:				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Number of boat-hours:				89.5	109.0	147.6	143.9	127.2	75.5	63.4	76.8	63.8	73.0	36.3	32.5	15.7	17.6	7.3	7.7			1638.7		
Catch-per-effort:				94.6	76.6	107.9	91.1	83.3	94.1	74.6	70.9	54.2	89.0	36.1	23.4	28.9	9.1	5.3	8.4				17.3	













County	Red Cliff	Area	INCH GROUP																															Total Measured	Total Harvested	Total Inches	Mean Length	Male	Female	Unknown	Total Sexed
			8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31															
Bayfield	Lake		8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	249	249	3617.0	14.5	220	13	16	249							
Bayfield	Pike L Chain (4 lakes)*	714			1	12	34	48	65	52	19	8	2	3	3		1										82	82	1398.6	17.1	72	5	5	82							
Bayfield	L Owen	1323			1	1	3	7	15	22	15	5	5	1	2	3	1	1									206	206	2907.3	14.1	192	9	5	206							
Bayfield	Middle Eau Claire L	902			2	5	30	68	27	12	2	2	4	1	1												347	347	2465.9	14.2	157	13	4	174							
Bayfield	Nemadagon L	3227			1	8	23	51	46	23	14	3	2	2	1	1	5	2	4	7	2	3	1				325	338	5343.8	16.4	282	36	0	325							
Bayfield	Upper Eau Claire L	1030						2	26	70	103	49	17	12	9	6	5										12	12	196.8	16.4	12	0	12								
Douglas	Arrnkon L	426							2	2	2	2	2	1	1	1											190	190	2960.4	15.6	176	4	8	188							
Douglas	L. Nebagamon	914							6	20	38	62	32	15	5	6	3										191	191	3139.2	16.4	109	61	21	191							
Douglas	Lower Eau Claire L	802							17	24	20	28	16	18	21	18	4	3	1								200	283	3075.6	15.4	180	6	14	200							
Douglas	Upper St. Croix L	855							2	23	52	63	33	16	7	4											72	72	1050.0	14.6	68	4	0	72							
Douglas	Sisabegama L	719							10	14	23	14	5	1	1	1	1										1701	1970	26154.6	15.4	1468	151	80	1699							
Sawyer	Sub-total:	10912	0	0	4	35	126	264	391	389	204	98	59	47	32	14	12	4	5	7	3	4	2	1	0	0	1701	1970	26154.6	15.4	1468	151	80	1699							



Appendix D. Number of walleye per inch group taken during spring spearing seasons from 1985-1996.

Number of walleye in:

Inch Group	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	12 Year Total	Percent of Total	Cumulative Percent
5		1											1	0.0%	0.0%
6													4	0.0%	0.0%
7													5	0.0%	0.0%
8													39	0.0%	0.0%
9	2	3	17	3	1	4	4	3	4	12	2	6	299	0.1%	0.2%
10	5	49	123	121	60	183	229	243	245	386	219	233	2,096	1.1%	1.2%
11	31	358	558	678	306	649	957	957	905	1,186	1,311	1,026	8,922	4.5%	5.7%
12	140	680	1,282	1,688	925	1,513	1,979	2,444	2,101	2,170	2,955	2,532	20,409	10.1%	15.9%
13	265	928	1,892	2,755	1,684	2,370	2,582	3,507	3,636	3,110	4,113	3,879	30,721	15.2%	31.2%
14	286	1,068	2,133	3,289	2,222	2,917	2,777	3,252	4,032	3,666	4,360	4,305	34,307	16.9%	48.4%
15	293	985	1,895	2,951	2,154	2,856	2,543	2,375	3,111	3,368	3,768	3,867	30,166	14.9%	63.5%
16	247	939	1,666	2,311	1,919	2,295	2,031	1,696	1,993	2,517	2,703	2,605	22,922	11.5%	74.9%
17	172	801	1,374	1,658	1,390	1,862	1,687	1,207	1,323	1,796	1,756	1,664	16,690	8.5%	83.3%
18	145	458	1,113	1,297	1,010	1,288	1,216	878	812	1,120	1,159	970	11,466	5.9%	89.0%
19	118	255	811	932	634	932	811	562	589	850	729	617	7,840	4.1%	92.9%
20	33	149	513	596	328	556	590	261	308	383	440	358	4,515	2.3%	95.2%
21	25	72	259	316	210	307	303	199	218	267	238	240	2,654	1.4%	96.5%
22	18	50	148	214	109	202	249	171	148	205	195	156	1,865	1.0%	97.4%
23	18	23	116	134	76	160	151	129	120	189	164	120	1,400	0.7%	98.1%
24	11	9	86	124	67	100	111	85	101	145	158	111	1,108	0.6%	98.7%
25	7	10	76	89	48	107	102	66	80	98	109	97	889	0.4%	99.1%
26	9		57	75	45	71	86	65	54	91	80	64	697	0.4%	99.5%
27	10	3	42	56	31	63	46	42	33	55	57	51	489	0.2%	99.7%
28	5	1	28	32	18	30	39	25	27	30	36	37	308	0.2%	99.9%
29	8		25	30	8	15	15	17	12	12	16	15	173	0.1%	100.0%
30	11		8	9		5	6	6	1	5	3	6	63	0.0%	100.0%
31	6		2			1		1			1	1	14	0.0%	100.0%
32	2												3	0.0%	100.0%
33	1												1	0.0%	100.0%
Total No. Measured:	1,868	6,842	14,224	19,368	13,254	18,500	18,551	18,226	19,903	21,726	24,605	22,999	200,066	100%	100%
Total Length:	30,382	106,051	226,789	306,926	211,645	295,047	291,543	275,331	301,713	335,322	375,476	348,750	3,104,975		
Average Length:	16.3	15.5	15.9	15.8	16.0	15.9	15.7	15.1	15.2	15.4	15.3	15.2	15.6		
Total No. Speared:	2,761	6,940	21,321	25,969	16,054	25,348	23,018	21,188	24,532	25,922	30,249	28,327	251,629		
Percent Measured:	68%	99%	67%	75%	83%	73%	81%	86%	81%	84%	81%	81%	80%		



Appendix E: Number of muskellunge harvested nightly on lakes speared by six Wisconsin Chippewa bands during spring 1996. Also average length and harvest per acre.

COUNTY	LAKE	Area	Tribes	1996 Safe Harvest	1996 Decl	April 29	May 1	2	3	4	5	6	7	8	9	Total Harvest	Quota Balance	Number Measured	Total Inches	Average Length	Number Per Acre
ASHLAND	BEAR L	204	BRV	6	3											0	3				
BAYFIELD	NAMEKAGON L	3,227	BRV	43	12											0	12				
CHIPPEWA	L WISSOTA	6,300	BRV	67	30											0	30				
CHIPPEWA	LONG L	1,052	BRV	20	10											0	10				
DOUGLAS	AMNICON L	426	BRV	10	2											0	2				
DOUGLAS	DOWLING L	154	BRV	5	2											0	2				
IRON	ECHOL	220	BRV	6	3											0	3				
IRON	FISHER L	452	BRV	11	6											0	6				
IRON	L OF THE FALLS	338	BRV	9	4											0	4				
IRON	LONG L	396	BRV	10	5											0	5				
IRON	PINE L	312	BRV	8	4											0	4				
IRON	SPIDER L	352	BRV	9	5											0	5				
IRON	TRUDE L	781	BRV	16	8											0	8				
IRON	TURTLE-FLAMBEAU FL	13,545	BRV	109	20											0	20				
ONEIDA	RAINBOW FL	2,035	BRV	32	8											0	8				
PRICE	DUROY L	379	BRV	10	5											0	5				
PRICE	LONG L (T37N-R1W-S14)	418	BRV	10	5											0	5				
PRICE	MUSSER L	563	BRV	13	6											0	6				
PRICE	SOLBERG L	859	BRV	17	8											0	8				
RUSK	CHAIN L	468	BRV	11	6											0	6				
RUSK	DAIRYLAND RESERVOIR	1,745	BRV	29	15											0	15				
RUSK	ISLAND L	526	BRV	12	6	1										1	5			44.0	0.0019
SAWYER	CONNORS L	429	BRV	11	6											2	4			78.5	0.0047
SAWYER	TEAL L	1,049	BRV	20	10					2						4	6			97.2	0.0038
TAYLOR	RIB L	320	BRV	8	4											0	4				
VILAS	ANNABELLE L	213	BRV	6	3											0	3				
VILAS	BIG CROOKED L	682	BRV	15	6											0	6				
VILAS	CRABL	949	BRV	19	8											0	8				
VILAS	HARRIS L	507	BRV	12	6											0	6				
VILAS	MAMIE L	400	BRV	10	5											0	5				
VILAS	N TURTLE L	369	BRV	9	4											0	4				
VILAS	PRESQUE ISLE L	1,280	BRV	23	6											0	6				
VILAS	STURTLE L	454	BRV	11	6											0	6				
VILAS	TENDERFOOT L	437	BRV	9	5											0	5				
VILAS	VAN VLIET L	220	BRV	6	1											0	1				
Bad River sub-total:				622	243	1	0	0	0	2	0	0	1	0	3	7	236	6	219.7	38.6	0.0035

Appendix E. (continued). Number of muskellunge harvested nightly on lakes speared by six Wisconsin Chippewa bands during spring 1996. Also average length and harvest per acre.

COUNTY	LAKE	Area	Tribe	1996 Safe Harvest	1996 Decl.	May 2	3	4	5	6	7	8	9	10	11	12	Total Harvest	Quota Balance	Number Measured	Total Inches	Average Length	Number Per Acre
CHIPPEWA	HOLCOMBE FL	3,890	LCO	49	29												0	29				
CHIPPEWA	OLD ABE L	1,072	LCO	20	11												0	11				
EAU CLAIRE	ALTOONA L	840	LCO	9	5												0	5				
EAU CLAIRE	DELLS POND	739	LCO	16	9												0	9				
PRICE	LAC SAULT DORE	561	LCO	13	7												0	7				
PRICE	WILSON L	351	LCO	9	5												0	5				
RUSK	BIG FALLS FL	369	LCO	9	5												0	5				
RUSK	LADYSMITH FL	288	LCO	8	4												0	4				
RUSK	THORNAPPLE FL	288	LCO	7	4												0	4				
SAWYER	BLAISDELL L	356	LCO	9	5												0	5				
SAWYER	GRINDSTONE L	3,111	LCO	21	12									4			4	8	4	136.6	34.2	0.0013
SAWYER	L CHIPPEWA	15,300	LCO	78	46					3	2			1		5	11	35	448.6	40.8	0.0007	
SAWYER	L OF THE PINES	273	LCO	8	4												0	4				
SAWYER	LAC COURTE OREILLES	5,039	LCO	38	22					2							2	20		73.0	36.5	0.0004
SAWYER	LOST LAND L	1,304	LCO	23	13							2					2	11		64.5	32.3	0.0015
SAWYER	LOWER CLAML	229	LCO	7	4										2		2	2		64.6	32.3	0.0087
SAWYER	ROUND L	3,054	LCO	42	25									4	2	2	8	17		328.7	41.1	0.0026
SAWYER	SAND L	928	LCO	18	10	1	2	2									9	1		323.5	35.9	0.0097
SAWYER	WHITEFISH L	786	LCO	16	9		8										8	1		288.4	36.1	0.0102
Lac Courte Oreilles sub-total:				400	229	1	10	2	0	9	2	0	2	9	4	7	46	183	46	1727.9	36.2	0.0044

Appendix E (continued). Number of muskellunge harvested nightly on lakes speared by six Wisconsin Chippewa bands during spring 1996. Also average length and harvest per acre.

COUNTY	LAKE	Area	Tribes	1996 Sale Harvest	1996 Decl	May 8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total Harvest	Quota Balance	Number Measured	Total Inches	Average Length	Number Per Acre
IRON	GILE FL	3,384	LDF	45	22																	1	21	1	37.0	37.0	0.0003
IRON	TURTLE-FLAMBEAU FL	13,545	LDF	109	45																	0	45				
LINCOLN	L MOHAWKSIN	1,910	LDF	30	15																	0	15				
LINCOLN	L NOKOMIS	2,433	LDF	36	18																	0	18				
LINCOLN	RICE R FL	920	LDF	18	9	2																2	7	2	67.6	33.8	0.0008
ONEIDA	BEARSKIN L	400	LDF	10	5																	0	5				
ONEIDA	BOOTH L	207	LDF	6	3		1															1	2	1	37.5	37.5	0.0048
ONEIDA	BUCKSKIN L	634	LDF	10	5																	0	5				
ONEIDA	CAROL L	335	LDF	9	4																	0	4				
ONEIDA	CLEAR L	846	LDF	17	9																	0	9				
ONEIDA	CRESCENT L	612	LDF	14	8	3																3	5	3	108.5	36.2	0.0049
ONEIDA	DAM L	744	LDF	16	9		1	2														3	6	3	112.8	327.6	0.0040
ONEIDA	GEORGE L	435	LDF	11	6		1															1	5	1	37.0	37.0	0.0023
ONEIDA	GILMORE L	301	LDF	8	4					3												3	1	3	125.0	41.7	0.1000
ONEIDA	HASBROOK L	302	LDF	8	4					3												3	1	3	116.2	38.7	0.0089
ONEIDA	INDIAN L	397	LDF	10	5																	0	5				
ONEIDA	JULIA L	401	LDF	10	5																	0	5				
ONEIDA	KATHERINE L	590	LDF	13	7			1														1	6	1	38.0	38.0	0.0017
ONEIDA	KAVAGUESAGA L	670	LDF	15	8														3			3	5	3	107.0	35.7	0.0045
ONEIDA	L THOMPSON	382	LDF	10	5																	0	5				
ONEIDA	LITTLE TOMAHAWK L	180	LDF	5	2																	0	2				
ONEIDA	MADELINE L	159	LDF	5	2																	0	2				
ONEIDA	MANSON L	236	LDF	7	4																	0	4				
ONEIDA	MEDICINE L	372	LDF	9	5																	0	5				
ONEIDA	MINOQUA L	1,390	LDF	24	14					1												3	10	4	140.1	35.0	0.0029
ONEIDA	MOEN L	480	LDF	11	6																	0	6				
ONEIDA	MUSKELLUNGE L	284	LDF	8	4						2											2	2	2	74.3	37.2	0.0070
ONEIDA	PICKEREL L	736	LDF	16	9																	0	8				
ONEIDA	RAINBOW FL	2,035	LDF	32	8																	0	9				
ONEIDA	RHINELANDER FL	1,326	LDF	24	13																	0	13				
ONEIDA	SAND L (T39N-R9E-S20)	540	LDF	12	7																	0	7				
ONEIDA	SQUIRREL L	1,317	LDF	23	13		1	4														5	8	5	191.6	38.3	0.0038
ONEIDA	TOMAHAWK L	3,392	LDF	45	25								1									6	19	6	223.2	37.2	0.0018
ONEIDA	TWO SISTERS L	719	LDF	15	8																	0	8				
PRICE	BUTTERNUT L	1,006	LDF	19	9		4															4	5	4	158.0	39.5	0.0040
PRICE	PIKE L	806	LDF	17	10																	0	10				
PRICE	ROUND L	726	LDF	15	8																	0	8				
PRICE	TURNER L	149	LDF	5	2																	0	2				
VILAS	ALDER L	274	LDF	8	4																	0	4				
VILAS	BALLARD L	505	LDF	12	7																	0	7				
VILAS	BIG ARBOR VITAE L	1,090	LDF	21	12								3	1								8	0	12	477.9	39.8	0.0110
VILAS	BIG L (T42N-R6E-S4)	771	LDF	13	7																	1	6	1	33.9	33.9	0.0013



Appendix E (continued) Number of muskellunge harvested nightly on lakes speared by six Wisconsin Chippewa bands during spring 1996. Also average length and harvest per acre.

COUNTY	LAKE	Area	Tribe	1996 Safe Harvest	1996 Decl.	May 5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total Harvest	Quota Balance	Number Measured	Total Inches	Average Length	Number Per Acre
FOREST	LILY L	211	MILK	6	3																	0	3	1	26.4	26.4	0.0024
FOREST	ROBERTS L	414	MILK	10	5				1													1	4	1	26.4	26.4	0.0024
LANGLADE	ENTERPRISE L	502	MILK	12	7																	0	7				
LANGLADE	MOCOSIN L	110	MILK	4	2																	0	2				
LINCOLN	ALEXANDER L	677	MILK	15	8																	0	8				
LINCOLN	LALICE	1,389	MILK	24	13																	0	13				
LINCOLN	SPIRIT R FL	1,663	MILK	28	15																	0	15				
OCONTO	ARCHIBALD L	430	MILK	11	6																	0	6				
OCONTO	BOOT L	235	MILK	7	4		1															1	3	1	34.9	34.9	0.0043
ONEIDA	BIG FORK L	890	MILK	15	8																	0	8				
ONEIDA	BIG L (T39N/R1E/S15)	865	MILK	17	9																	0	9				
ONEIDA	BIG STONE L	548	MILK	13	7									1								1	6	1	33.6	33.6	0.0018
ONEIDA	BRIDGE L	411	MILK	10	5																	0	5				
ONEIDA	LONG L (T39N/R1E/S8)	620	MILK	14	8																	0	8				
ONEIDA	PELICAN L	3,585	MILK	46	27			9	17													26	1	26	1012.6	38.9	0.0073
ONEIDA	PLANTING GROUND L	1,012	MILK	20	11																	0	11				
ONEIDA	SEVENMILE L	503	MILK	12	7																	0	7				
ONEIDA	THUNDER L	172	MILK	5	2																	0	2				
ONEIDA	WILLOW FL	5,135	MILK	59	35																	0	35				
VILAS	KENTUCK L	957	MILK	19	11																	0	11				
VILAS	LAC VIEUX DESERT	4,300	MILK	34	10																	4	6	4	152.2	38.1	0.0009
Mole Lake sub-total:				381	203	1	0	9	18	0	0	0	0	1	0	0	0	0	0	0	4	33	170	33	1259.7	34.4	0.0033

Appendix E: (continued). Number of muskellunge harvested nightly on lakes speared by six Wisconsin Chippewa bands during spring 1996. Also average length and harvest per acre.

COUNTY	LAKE	Area	Tribe	1996 Sale Harvest	1996 Decl.	May 6	7	8	9	10	11	Total Harvest	Quota Balance	Number Measured	Total Inches	Average Length	Number Per Acre	
BAYFIELD	BUSKEY BAY	100	RC	3	1							0	1					
BAYFIELD	HART L	259	RC	7	4							0	4					
BAYFIELD	L MILLICENT	183	RC	6	3							0	3					
BAYFIELD	MIDDLE EAU CLAIRE L	902	RC	18	10		1					1	9	1	44.5	44.5	0.0011	
BAYFIELD	NAMEKAGON L	3,227	RC	43	12						1	1	11	1	36.0	36.0	0.0003	
BAYFIELD	TWIN BEAR L	172	RC	5	2							0	2					
BAYFIELD	UPPER EAU CLAIRE L	1,030	RC	20	11	1						1	10	1	38.0	38.0	0.0010	
DOUGLAS	AMNICON L	426	RC	10	2							0	2					
DOUGLAS	LOWER EAU CLAIRE L	802	RC	17	10							0	10					
SAWYER	SISSABAGAMA L	719	RC	15	8							0	8					
Red Cliff sub-total:				144	63	1	1	0	0	0	1	3	60	3	118.5	39.5	0.0008	





Appendix F. Number of muskellunge per inch group taken during spring spearing seasons from 1985-1996.

Inch Group	Number of muskellunge in:												12 Year Total	Percent of Total
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996		
13						1							1	0.0%
14													0	0.0%
15											1		1	0.0%
16			1								1		2	0.1%
17				3			1						4	0.2%
18								1					1	0.0%
19				1					1		1		3	0.1%
20			2										2	0.1%
21												1	1	0.0%
22						1					1	2	4	0.2%
23		1					1				1		3	0.1%
24		1						1			2	1	5	0.2%
25	1		1		1	1			2	1	1		8	0.4%
26				1	2	3	1	1	3	1	1		13	0.6%
27			3	3	2	2		1	1	2	1	1	16	0.7%
28	2		3	1	5	4	5	1	3	3	3	1	31	1.4%
29	2	2	7	5	3	6	4	8	4	2	2	4	49	2.2%
30	8	3	4	6	6	15	6	5	6	11	3	7	80	3.5%
31	6	3	14	9	9	24	12	8	9	14	13	12	133	5.9%
32	7	2	15	13	11	18	10	7	11	14	20	4	132	5.8%
33	3	6	12	10	8	25	11	18	12	20	14	12	151	6.7%
34	8	1	16	10	8	20	20	13	21	17	23	26	183	8.1%
35	7	7	12	10	10	26	17	11	10	26	29	23	188	8.3%
36	2	4	12	7	6	20	18	18	22	15	22	27	173	7.6%
37	8	8	17	11	10	29	20	14	15	16	26	36	210	9.3%
38		6	12	9	7	27	11	12	14	16	25	25	164	7.2%
39	2	1	10	10	6	16	7	11	10	17	18	19	127	5.6%
40	1	2	8	6	5	19	16	11	11	11	15	22	127	5.6%
41	1	2	5	9	3	12	4	5	5	10	17	28	101	4.5%
42	1	1	4	6	5	6	3	4	8	11	14	17	80	3.5%
43	2	2	3	6	3	6	5	4	4	7	16	21	79	3.5%
44	2		3	7		5		4	6	4	5	12	48	2.1%
45			4	8	2	1	5	1	1	7	8	2	39	1.7%
46		1	4	3		2	2		1	8	5	2	28	1.2%
47	3		2	1	2	3	1	1	1	1	3	8	26	1.1%
48		1	4	1	1	2	3	2	3	5	4	2	28	1.2%
49	1		2	1	1	3	1		2	3	1	3	18	0.8%
50	1				1		1		1	1			6	0.3%
51				1		1							2	0.1%
52													0	0.0%
53		1											1	0.0%
Total Number Measured:	68	55	180	158	117	298	185	162	187	243	297	318	2,268	100%
Total Length:	2,407	1,994	6,507	5,805	4,175	10,761	6,725	5,845	6,822	9,034	11,072	12,117	83,263	
Average Length:	35.4	36.2	36.2	36.7	35.7	36.1	36.4	36.1	36.5	37.2	37.3	38.1	36.7	
Total Number Speared:	86	55	196	158	118	303	185	165	188	244	299	319	2316	
Percent Measured:	79.1%	100.0%	91.8%	100.0%	99.2%	98.3%	100.0%	98.2%	99.5%	99.6%	99.3%	99.7%	97.9%	

Appendix G. Number, average length (inches), and harvest per acre (largemouth and smallmouth bass and northern pike) for various lakes during spring spearing 1996.

Tribe	County	Lake	Area	Species	Number Harvested	Number Measured	Total Inches	Average Length	Number Per Acre
MLK	FLORENCE	KEYES L	202	BAS	6	6	95.2	15.9	0.0297
		Total:	202		6	6	95.2	15.9	0.0297
STC	BARRON	PRAIRIE L	1534	LMB	1	1	11.3	11.3	0.0007
STC	BARRON	RED CEDAR L	1841	LMB	16	16	251.2	15.7	0.0087
RCF	BAYFIELD	MIDDLE EAU CLAIRE	902	LMB	4	4	77.5	19.4	0.0044
STC	BURNETT	BIG MCKENZIE L	1185	LMB	1				0.0008
STC	BURNETT	DEVILS L	1001	LMB	10	10	148.7	14.9	0.0100
STC	BURNETT	LITTLE YELLOW L	348	LMB	5	5	79.9	16.0	0.0144
STC	BURNETT	SAND L	962	LMB	2	2	32.0	16.0	0.0021
STC	BURNETT	YELLOW L	2287	LMB	3	3	52.9	17.6	0.0013
LCO	EAU CLAIRE	L EAU CLAIRE	860	LMB	1	1	19.2	19.2	0.0012
LDF	LINCOLN	RICE RIVER FL	3916	LMB	1	1	21.6	21.6	0.0003
LDF	ONEIDA	L KAWAGUESAGA	670	LMB	1	1	14.0	14.0	0.0015
STC	POLK	BALSAM L	2054	LMB	3				0.0015
STC	POLK	BIG BUTTERNUT L	378	LMB	2	2	30.3	15.2	0.0053
STC	POLK	BIG ROUND L	1015	LMB	31	31	441.4	14.2	0.0305
STC	POLK	DEER L	807	LMB	1	1	15.2	15.2	0.0012
STC	POLK	HALF MOON L	579	LMB	2				0.0035
LCO	SAWYER	SMITH L	323	LMB	1	1	16.8	16.8	0.0031
LCO	SAWYER	WHITEFISH L	786	LMB	3	3	50.8	16.9	0.0038
LDF	VILAS	LITTLE ARBOR VITAE	534	LMB	1	1	16.0	16.0	0.0019
STC	WASHBURN	BASS L	188	LMB	1	1	15.7	15.7	0.0053
STC	WASHBURN	LONG L	3290	LMB	5	5	74.7	14.9	0.0015
STC	WASHBURN	MIDDLE MCKENZIE L	530	LMB	7	7	106.2	15.2	0.0132
STC	WASHBURN	SHELL L	2580	LMB	1	1	18.5	18.5	0.0004
		Total:	28570		103	97	1493.9	16.2	0.0051
STC	BARRON	RED CEDAR L	1841	SMB	21	21	310.1	14.8	0.0114
STC	BARRON	SILVER L	337	SMB	1	1	13.4	13.4	0.0030
STC	BURNETT	LITTLE YELLOW L	348	SMB	1	1	15.3	15.3	0.0029
STC	BURNETT	YELLOW L	2287	SMB	1	1	14.9	14.9	0.0004
BRV	DOUGLAS	BOND L	292	SMB	6	6	88.5	14.8	0.0205
MLK	FOREST	PINE L	1670	SMB	1				0.0006
MLK	OCONTO	MAIDEN L	290	SMB	1	1	16.3	16.3	0.0034
LDF	ONEIDA	BEARSKIN L	400	SMB	2	2	31.0	15.5	0.0050
LDF	ONEIDA	KATHERINE L	590	SMB	1	1	14.0	14.0	0.0017
LDF	ONEIDA	KAWAGUESAGA L	670	SMB	1	1	16.7	16.7	0.0015
LDF	ONEIDA	MINOCQUA L	1360	SMB	2	2	30.6	15.3	0.0015
LDF	ONEIDA	SQUIRREL L	1317	SMB	6	6	87.8	14.6	0.0046
LDF	ONEIDA	TOMAHAWK CH	3552	SMB	2	1	14.6	14.6	0.0006
LCO	SAWYER	CHETAC L	1920	SMB	1	1	13.7	13.7	0.0005
LCO	SAWYER	GRINDSTONE L	3111	SMB	1	1	14.3	14.3	0.0003
LCO	SAWYER	ROUND L	3054	SMB	1	1	15.2	15.2	0.0003
LDF	VILAS	HIGH L	734	SMB	1	1	15.2	15.2	0.0014
MLK	VILAS	KENTUCK L	957	SMB	1	1	14.0	14.0	0.0010
		Total:	24730		51	49	725.6	14.9	0.0034
STC	BARRON	RED CEDAR L	1841	NOP	2	2	55.8	27.9	0.0011
RCF	BAYFIELD	UPPER EAU CLAIRE L	1030	NOP	1	1	20.0	20.0	0.0010
STC	BURNETT	DEVILS L	1001	NOP	3	3	64.9	21.6	0.0030
STC	BURNETT	LITTLE YELLOW L	348	NOP	1	1	23.0	23.0	0.0029
STC	BURNETT	YELLOW L	2287	NOP	8	8	238.0	29.8	0.0035
MLK	FOREST	BUTTERNUT L	1292	NOP	1	1	38.7	38.7	0.0008
MLK	FOREST	LILY L	211	NOP	1	1	23.3	23.3	0.0047
MLK	ONEIDA	PELICAN L	3585	NOP	1	1	21.6	21.6	0.0003
MLK	ONEIDA	PLANTING GROUND L	1012	NOP	2	1	18.0	18.0	0.0020
MLK	ONEIDA	WILLOW FL	5135	NOP	1				0.0002
STC	POLK	BALSAM L	2054	NOP	1				0.0005
STC	POLK	BIG ROUND L	1015	NOP	1	1	20.3	20.3	0.0010
STC	POLK	PIPE L	270	NOP	1	1	26.3	26.3	0.0037
LCO	RUSK	THORNAPPLE FL	268	NOP	1	1	26.0	26.0	0.0037
LCO	SAWYER	CHIPPEWA L	15300	NOP	2	2	58.9	29.5	0.0001
BRV	SAWYER	CONNERS L	429	NOP	1				0.0023
LCO	SAWYER	WHITEFISH L	786	NOP	1	1	29.0	29.0	0.0013
LDF	VILAS	EAGLE L	572	NOP	1	1	29.1	29.1	0.0017
		Total:	38436		30	26	692.9	25.6	0.0019

Appendix H. Number of bass per inch group (largemouth and smallmouth) taken during spring spearing seasons from 1985-1996.

Inch Group	Number of bass in:												12 Year Total	Percent of Total
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996		
5													0	0.0%
6										1			1	0.1%
7					1					2			3	0.2%
8			1									1	2	0.1%
9	1	1	2			1	1					1	7	0.4%
10			2	4	1	1	2	1	2	1			14	0.8%
11	1	1	8	7	7	3	1	5	1	5	2	2	36	2.0%
12	2	2	16	7	10	30	11	11	7	32	13	5	146	8.2%
13	3	6	43	21	14	35	36	16	18	41	27	30	290	16.3%
14		2	33	27	17	47	34	20	42	37	36	35	330	18.5%
15	7	8	25	21	17	26	21	21	40	38	34	38	296	16.6%
16		12	30	19	19	25	11	13	29	35	27	17	237	13.3%
17		3	20	15	11	19	9	5	16	22	18	5	143	8.0%
18	1	2	15	9	4	16	9	11	13	17	18	10	125	7.0%
19	1		7	11	8	9	6	6	15	11	7	6	87	4.9%
20		1	5	7	1	2	2	3	12	9	2		44	2.5%
21	1	1	2	1		1			2	4	1	1	14	0.8%
22			1	1	1		1		1				5	0.3%
23												1	1	0.1%
24													0	0.0%
25				1						1			2	0.1%
Total No. Measured:	17	39	210	144	111	215	144	112	198	256	185	152	1,783	100%
Total Length:	255	602	3,199	2,275	1,694	3,246	2,165	1,708	3,002	3,931	2,881	2,315	27,274	
Average Length:	15.0	15.4	15.2	15.8	15.3	15.1	15.0	15.3	15.2	15.4	15.6	15.2	15.3	
Total No. Speared:	21	39	275	167	113	219	147	136	201	261	187	160	1,926	
Percent Measured:	81.0%	100.0%	76.4%	86.2%	98.2%	98.2%	98.0%	82.4%	98.5%	98.1%	98.9%	95.0%	92.6%	

Appendix I. Number of northern pike per inch group taken during spring spearing seasons from 1985-1996.

Inch Group	Number of northern pike in:												12 Year Total	Percent of Total
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996		
11													0	0.0%
12		1						1					0	0.0%
13				1									2	0.7%
14													1	0.3%
15			1			1							0	0.0%
16						2							2	0.7%
17		1	1	2	1	2				1	1		2	0.7%
18			1	1	1	4	1	1		1			9	3.1%
19				2	1	1	4			1	2	1	13	4.5%
20		2		2	5	1	4		1	1	2	1	13	4.5%
21			2	10	1	3	6	1	1	1		2	23	7.9%
22		2	3	2		4	4	2	2	3	3		25	8.6%
23		1	2	2		2	1	3	2	2	6	2	23	7.9%
24		1	3	2		3	6	1	3	2	1	1	23	7.9%
25			1	1		2	2	1			3	1	9	3.1%
26				5		1	2	2		1	1	4	16	5.5%
27			1	1	1	2	1	1		1		1	9	3.1%
28			7	2	1	1	1		1	3	1	2	19	6.5%
29				1	1	2	1		2	1		5	13	4.5%
30			1	1			1		1	4	1		9	3.1%
31			2	3		1		1	1		2		10	3.4%
32			3	2		1			1	2			9	3.1%
33		1			1	1	2	1		2		1	9	3.1%
34							1				1	2	4	1.4%
35							1	1			1		3	1.0%
36		1		2		1	1	1		1			7	2.4%
37				1	1				1				3	1.0%
38						1				2		1	4	1.4%
39		1		1					1		1		4	1.4%
40		1					1				2		4	1.4%
41				1				1					2	0.7%
Total No. Measured:	0	12	28	45	14	32	40	18	19	29	28	26	291	100%
Total Length:	0	312	724	1,152	334	776	986	453	527	792	744	693	7,492	
Average Length:	NA	26.0	25.9	25.6	23.9	24.2	24.6	25.2	27.7	27.3	26.6	26.7	25.7	
Total No. Speared:	2	13	41	59	14	34	41	30	19	30	32	30	345	
Percent Measured:	0.0%	92.3%	68.3%	76.3%	100.0%	94.1%	97.6%	60.0%	100.0%	96.7%	87.5%	86.7%	84.3%	









