



# **Open Water Spearing in Northern Wisconsin by Chippewa Indians During 1993**

by  
Hock H. Ngu  
Data Analyst

Administrative Report 94-1  
March 1994

**GREAT LAKES INDIAN FISH  
& WILDLIFE COMMISSION**  
Biological Services Division  
P.O. Box 9  
Odanah, WI 54861  
(715) 682-6619



## **ABSTRACT**

For the ninth consecutive spring, spear fishing was conducted by Chippewa tribes in off-reservation waters of northern Wisconsin. A total of 359 tribal members participated in this traditional fishery during 1993. Spearing occurred on 134 lakes and walleye were harvested from all except 4 lakes. A total of 25,032 fish was taken with 98% of the catch (24,532 fish) being walleye. The numbers of other gamefish harvested were 188 muskellunge, 200 bass, and 19 northern pike. Average lengths were 15.2 inches for walleye and 36.5 inches for muskellunge. The tribal walleye quota was exceeded on four lakes by a total of 86 fish. Except for these four instances, harvest of walleye and muskellunge was maintained within the established limits by a nightly permit system and by complete monitoring of the catch.

Summer spearing occurred on 4 dates during August. A total of 56 fish including 47 walleye were taken from 3 lakes. Average length for walleye was 14.5 inches.



## TABLE OF CONTENTS

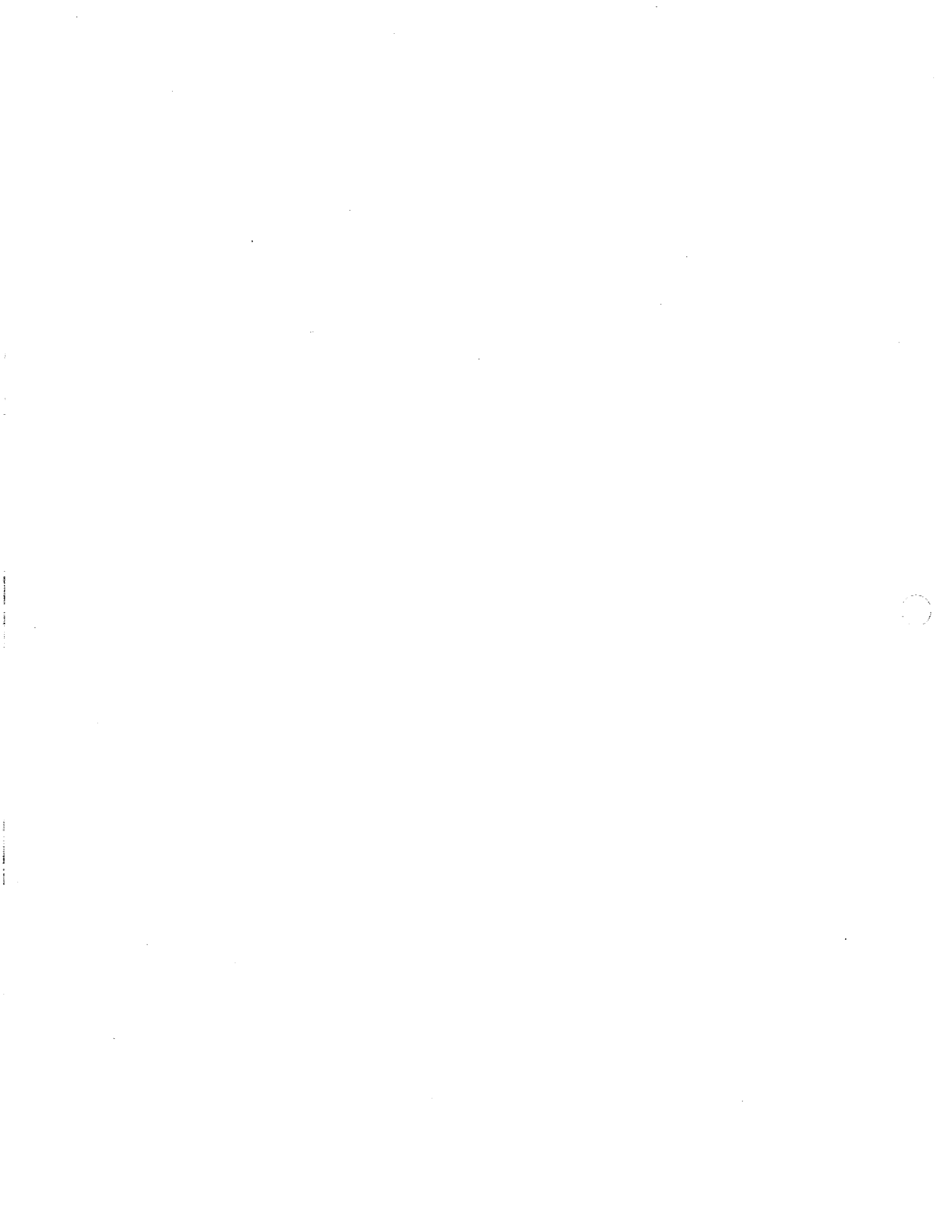
	PAGE
LIST OF TABLES .....	ii
LIST OF FIGURES .....	iii
INTRODUCTION .....	1
Regulations .....	1
Permit System and Monitoring .....	1
RESULTS AND DISCUSSION .....	4
Fishing Effort .....	4
Number of Spearers.....	4
Number of Spearer-nights or Permits Used .....	6
Number of Boat-hours .....	8
Total Harvest .....	10
Walleye Harvest .....	11
Mean Length .....	12
Sex Composition of Catch .....	13
Catch per Effort (CPE) .....	15
Muskellunge Harvest .....	16
Bass Harvest .....	18
Northern Pike Harvest .....	20
Summer Spearing .....	21
ACKNOWLEDGMENTS .....	23
LITERATURE CITED .....	24
LIST OF APPENDICES .....	24

## LIST OF TABLES

TABLE		PAGE
1	Number of spearers on lakes selected by six Wisconsin Chippewa bands during spring spearing 1988-1993 .....	5
2	Number of spearer-nights on lakes selected by six Wisconsin Chippewa bands during spring spearing 1988-1993 .....	7
3	Number of spearer boat-hours on lakes selected by six Wisconsin Chippewa bands during spring spearing 1988-1993 .....	8
4	Number of interviews and average length of spearing trip (in boat-hours) during spring spearing from 1989-1993 .....	9
5	Number of various fish species harvested during spring spearing seasons from 1988-1993 .....	10
6	Number and percent of walleye that were sexed and were male, female, or unknown sex during spring spearing seasons from 1985-1993 .....	13
7	Number of walleye harvested during summer and fall spearing in 1993 .....	22

## LIST OF FIGURES

FIGURE		PAGE
1	Map depicting the ceded territory in northern Wisconsin .....	2
2	Off-reservation Treaty Fishing Permit used during spring 1993 .....	3
3	Number of spearers during spring spearing seasons from 1987-1993 .....	5
4	Number of spearer-nights during spring spearing seasons from 1986-1993 .....	7
5	Number of boat-hours of effort during spring spearing seasons from 1986-1993.....	9
6	Number of walleye harvested during spring spearing seasons from 1985-1993.....	11
7	Length frequency of walleye speared during 1993 and during the nine year period 1985-1993 .....	12
8	Sex composition of the walleye harvest during spring seasons from 1985-1993 .....	14
9	Walleye CPE (number per boat-hour) by lake during 1993 spring spearing season .....	15
10	Number of muskellunge harvested during spring spearing seasons from 1985-1993 .....	17
11	Length frequency of muskellunge speared during 1993 and during the nine year period 1985-1993 .....	17
12	Number of bass harvested during spring spearing seasons from 1985-1993 .....	19
13	Length frequency of bass speared during 1993 and during the nine year period 1985-1993 .....	19
14	Number of northern pike harvested during spring spearing seasons from 1985-1993 .....	21
15	Length frequency of northern pike speared during 1993 and during the eight year period 1986-1993 .....	21





## **INTRODUCTION**

This report presents data for harvest and effort by Chippewa spearers in ceded territory waters of northern Wisconsin (Figure 1) during spring 1993. In 1989 two other seasonal fisheries occurred in off-Reservation waters for the first time since recognition of treaty fishing rights: fall spearing and summer gill netting. During 1993, only a limited amount of summer spearing occurred but no gill netting and fall spearing took place.

## **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 totalled and reported by 9 a.m. the following day to GLIFWC 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.

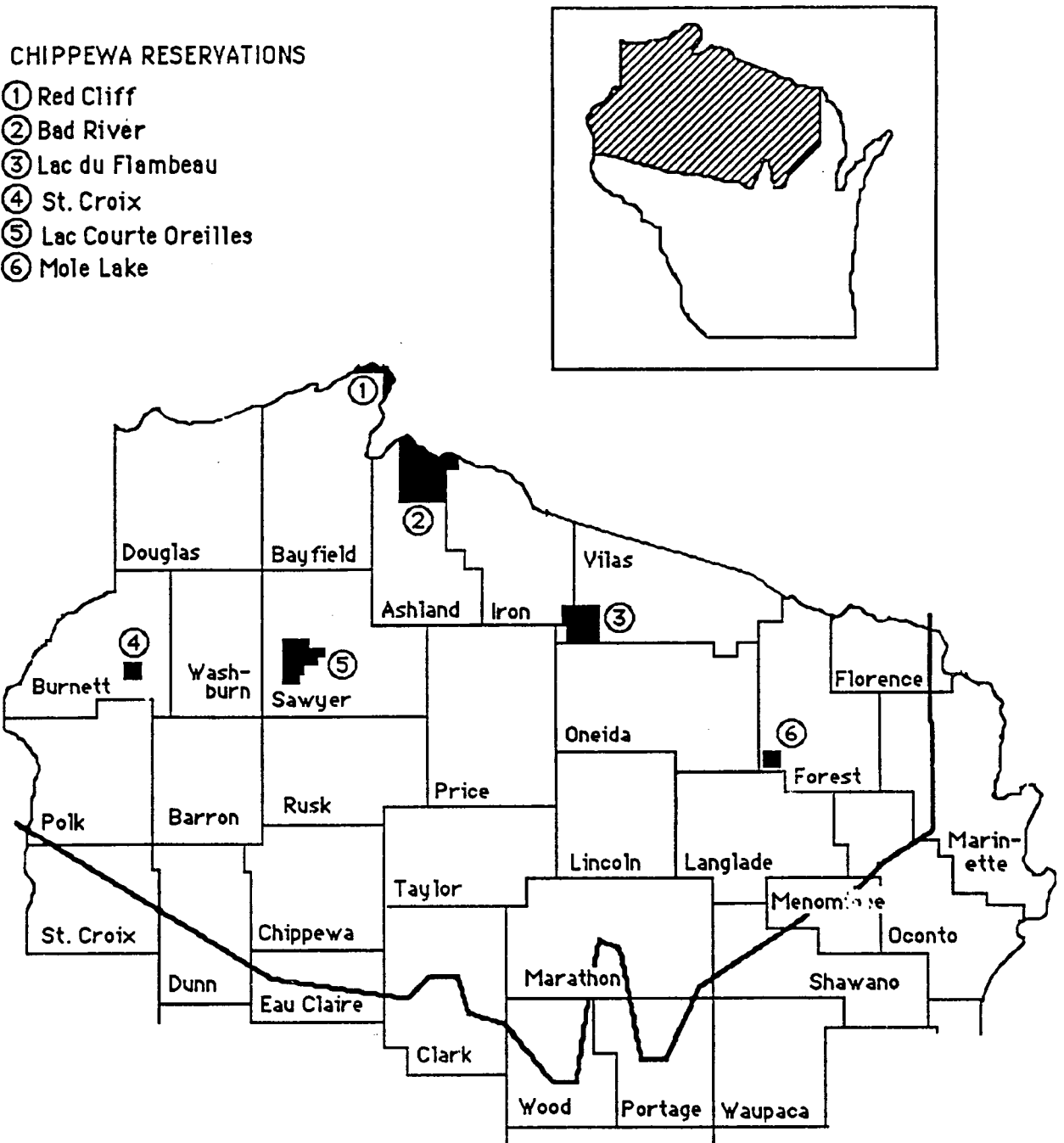


Figure 2. Off-Reservation Treaty Fishing Permit used during the 1993 open-water season.

28	29	30	31	Month _____	1	2	3	4	5
27	Off-Reservation Treaty Fishing Permit				No	0701			
26	<input type="checkbox"/>	Spearing	<input type="checkbox"/>	Fyke Netting					
	<input type="checkbox"/>	Seining	<input type="checkbox"/>	Gill Netting					
25	Tribal ID Number _____ of _____ Reservation								
	Signature of Permittee: _____								
24	Issued by: _____ of _____ Reservation								
23	Water: _____ County: _____								
	Bag Limit: Walleye _____ Muskellunge _____								
22	Other Restrictions: _____								
21	20	19	18	17	16	15	14	13	12

FRONT

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

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 spearers, the number of spearer-nights, and the number of boat-hours.

**Number of spearers.** All tribal members spearing under permits issued by each tribe were counted as an individual spearer for that tribe regardless of whether the spearer was an enrolled member of the tribe issuing permits.

A total of 359 tribal members participated in the 1993 spring spear fishery (Table 1, Figure 3, Appendix A). Four of these individuals speared under the permit system of two tribes and thus, were counted twice. Two of these persons were enrolled at Lac du Flambeau and two at Bad River. No individuals speared under three or more permit systems. Compared to 1992 the total number of spearers increased slightly by 15 persons or 4%.

All persons spearing on lakes selected by Bad River and Lac du Flambeau were members of their tribe (34 and 111 persons, respectively). On lakes selected by Lac Courte Oreilles, 2 of the 72 spearers were members of another tribe (1 from Mille Lacs, 1 from St. Croix). One person from Lac Courte Oreilles was included in the 55 members spearing under permits issued by Mole Lake. Three of the 36 persons who speared under permits issued by Red Cliff were from Bad River. Of the 51 persons spearing on lakes selected by St. Croix, 8 were members of another tribe (2 from Lac Courte Oreilles, 2 from Lac du Flambeau, and 4 from Mille Lacs).

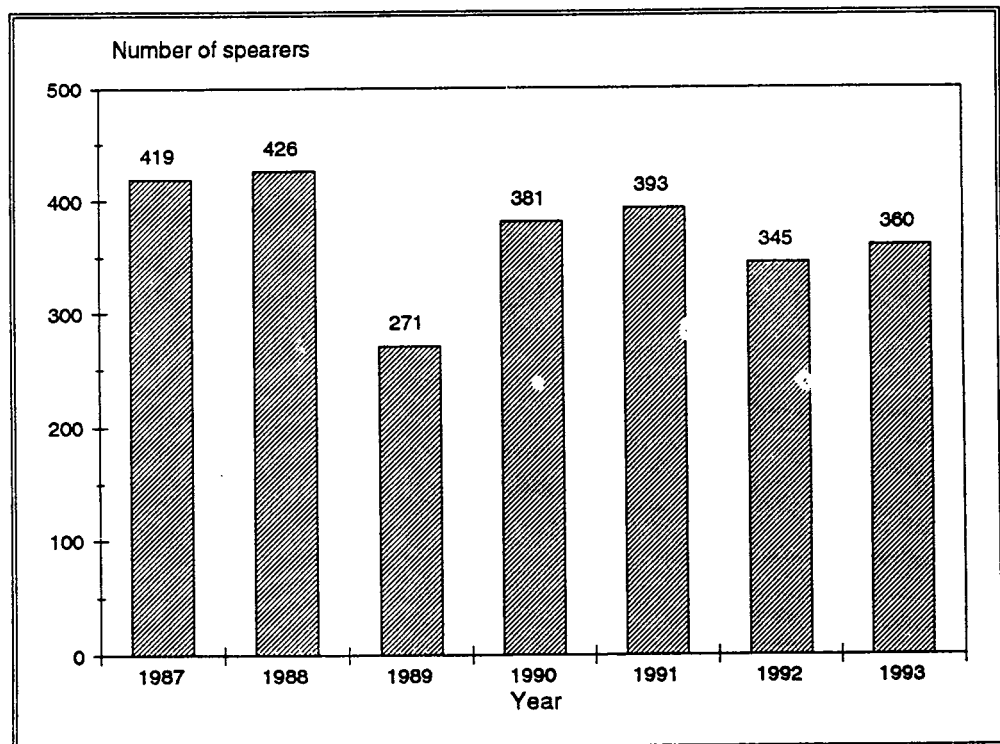
**Table 1.** Number of spearers on lakes selected by six Wisconsin Chippewa bands during spring spearing 1988-1993.

YEAR	BRV	LCO <sup>1</sup>	LDF	MLK	RCF	STC <sup>2</sup>	TOTAL:
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
PERCENT CHANGE: 1992-1993	-3%	73%	-1%	38%	-29%	-20%	4%

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

<sup>2</sup> Includes members from Mille Lacs tribe: 7 in 1988, 8 in 1989, 11 in 1990, 15 in 1991, 13 in 1992, and 4 in 1993.

**Figure 3.** Number of spearers during spring spearing seasons from 1987-1993.



**Number of Spearer-nights or Permits Used.** In a previous report (Kmiecik 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 1,415 spearer-nights were recorded during spring 1993 (Table 2, Figure 4, Appendix B). Nearly one-third of this effort (467 spearer-nights or 33%) occurred on lakes selected by Lac du Flambeau. Spearer-nights on lakes selected by the other five tribes ranged from 144 at Red Cliff to 241 at Mole Lake. Compared to 1992, effort increased by 46 spearer-nights or 3%.

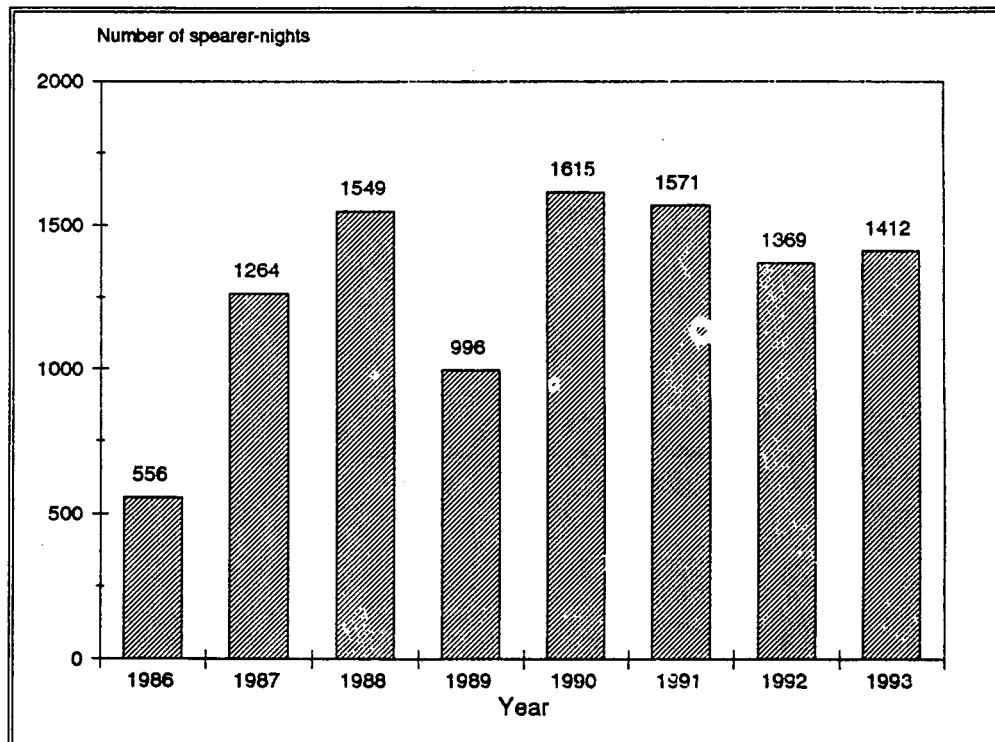
**Table 2.** Number of spearer-nights on lakes selected by six Wisconsin Chippewa bands during spring 1988-1993.

YEAR	BRV	LCO <sup>1</sup>	LDF	MLK	RCF	STC <sup>2</sup>	TOTAL:
1988	64	165	788	249	37	246	1549
1989	70	109	429	120	100	168	996
1990	174	116	751	221	124	229	1615
1991	151	216	605	201	160	238	1571
1992	140	140	512	177	168	232	1369
1993	172	218	469	241	144	171	1415
PERCENT CHANGE: 1992-1993	23%	55%	-9%	36%	-14%	-26%	3%

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

<sup>2</sup> Includes spearer-nights for Mille Lacs tribe: 22 in 1988, 29 in 1989, 35 in 1990, 45 in 1991, 33 in 1992, and 9 in 1993.

**Figure 4.** Number of spearer-nights during spring spearing seasons from 1986-1993.



**Number of Boat-Hours.** A total of 1611 boat-hours of effort were recorded in 1993 (Table 3, Figure 5, Appendix B). Compared to 1992, the number of boat-hours decreased by 3%. Roughly one-third of the effort (459 boat-hours) occurred on lakes selected by Lac du Flambeau. Boat-hours on lakes selected by the other five tribes ranged from 164 at Red Cliff to 297 at Mole Lake.

**Table 3.** Number of spearer boat-hours on lakes selected by six Wisconsin Chippewa bands during spring spearing from 1988-1993 .

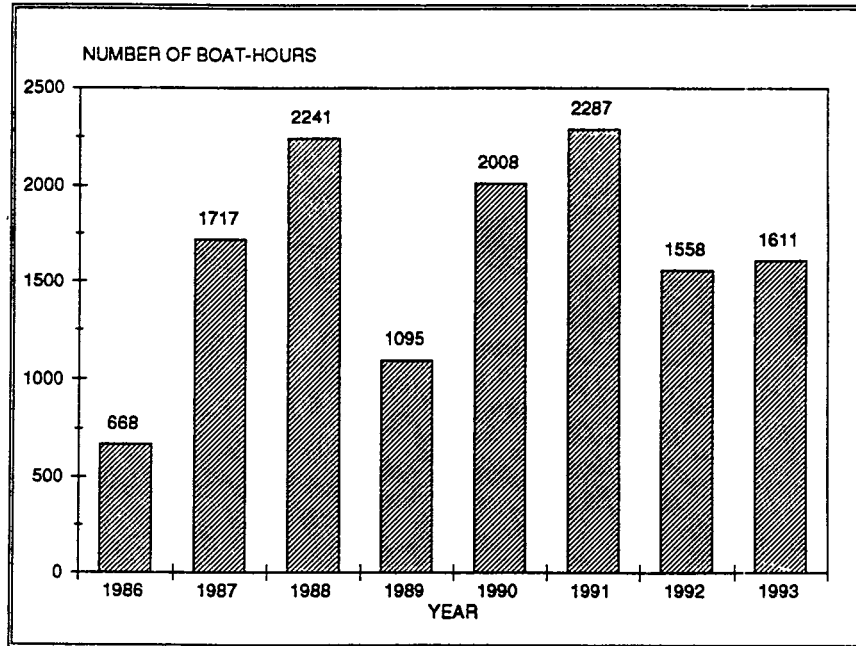
YEAR	BRV	LCO <sup>1</sup>	LDF	MLK	RCF	STC <sup>2</sup>	TOTAL:
1988	172.9	247.0	1093.7	393.2		333.8	3,340.6
1989	134.8	121.5	364.1	155.4	109.2	209.6	1094.6
1990	253.6	150.7	786.5	297.8	181.4	338.4	2008.4
1991	287.6	283.4	703.7	343.7	225.5	443.6	2287.5
1992	206.2	221.3	452.5	218.3	178.4	281.3	1558.0
1993	201.2	289.9	458.6	297.3	164.1	200.2	1611.4
PERCENT CHANGE: 1992-1993	-2%	31%	1%	36%	-8%	-29%	3%

<sup>1</sup>. Includes effort for Mille Lacs tribe in 1990, 1991, and in 1993.

<sup>2</sup>. Includes effort for Mille Lacs tribe in all six years.



Figure 5. Number of boat-hours of effort during spring spearing seasons from 1986-1993.



For all tribes combined, a total of 615 interviews were conducted and effort was recorded for all except 1 in Kentuck Lake, Vilas County. For the 614 interviews with effort, average length of a trip was 2.6 boat-hours (Table 4).

Table 4. Number of interviews and average length of spearing trip (in boat-hours) during spring 1993.

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	3.0	2.8	3.9	2.8	3.5	3.3
1992	3.0	3.2	2.0	2.8	2.4	2.4	2.5
1993	3.2	2.8	2.4	3.1	2.4	2.1	2.6
1993 BOAT-HOURS:	201.1	289.9	456.4	297.3	164.1	200.2	1611.4
1993 INTERVIEWS WITH EFFORT:	62	103	190	97	68	94	614
1993 INTERVIEWS WITHOUT EFFORT:	0	0	0	1	0	0	1

1. Includes effort for Mille Lacs tribe.

## Total Harvest

Eleven taxa of fish were harvested during the 1993 spring spear fishery (Table 5). Of the 25,032 fish taken, 98% were walleye. Percentages of the total catch for other game fish species were 0.8% for both muskellunge and bass, and 0.1% for northern pike. No trout were speared in 1993. Other species combined (panfish and rough fish) totalled 93 fish and made up the remaining 0.3% of the harvest.

**Table 5.** Number of various fish species harvested during spring spearing seasons from 1989 -1993.

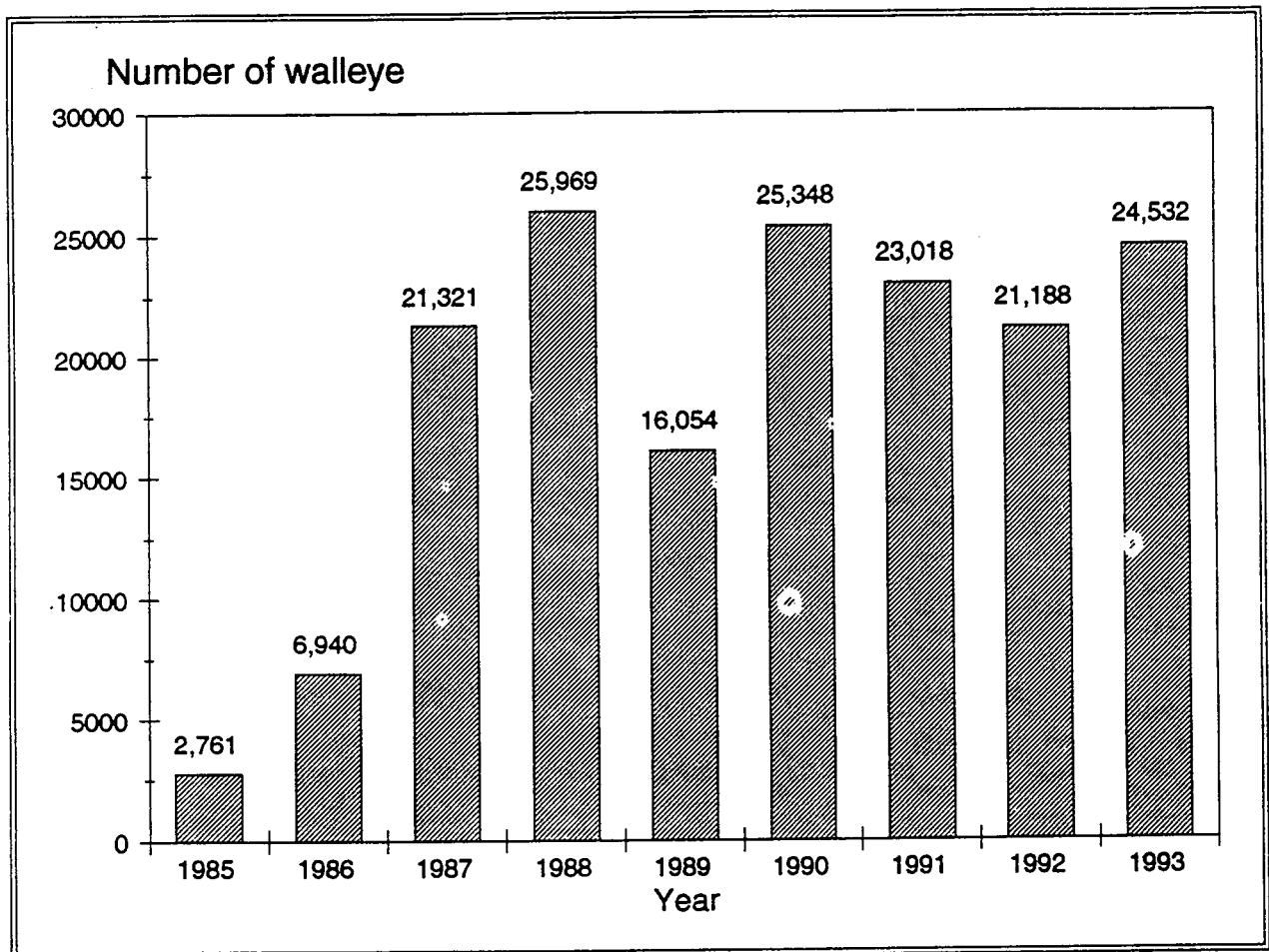
TAXA	1989	1990	1991	1992	1993	9 YEAR TOTAL: (1985-1993)
Walleye	16,054	25,348	23,018	21,188	24,532	167,131
Muskellunge	118	303	185	165	188	1,454
Bass Species	113	3	3	18	79	718
Largemouth Bass		167	130	85	100	482
Smallmouth Bass		49	14	31	21	115
Northern Pike	14	34	41	28	19	251
Lake Sturgeon	1	3				13
Trout Species	1	2	1			6
Rock Bass	9	20	4	2		74
Crappie	27	87	31	26	43	292
Bluegill	3	6	1	5	6	42
Yellow Perch	13	25	8	9	10	82
Bullhead	3	5			1	17
Sucker	31	72	28	17	31	290
Carp		1	1		2	7
Burbot	3	7	1			12
Bowfin	2	2	3			8
Cisco	2					2
<b>TOTAL:</b>	<b>16,394</b>	<b>26,134</b>	<b>23,469</b>	<b>21,574</b>	<b>25,032</b>	<b>170,996</b>

## Walleye Harvest

Tribal quotas (TQ's) for walleye were selected for 220 lakes and totalled 42,112 walleye. Respective values declared in the four previous years were: 222 lakes and 38,863 walleye in 1992, 204 lakes and 39,090 walleye in 1991, 178 lakes and 41,373 walleye in 1990, and 254 lakes and 43,801 walleye in 1989. The percent of the "safe harvest" selected as tribal quotas for lakes in 1993 ranged from 27% to 77%. Two tribes selected the same lake in 18 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 24,532 walleye from 130 lakes (Table 5, Figure 6, Appendix B). Spearing occurred in another 4 lakes but no walleye were harvested. Harvest in 1993 (24,532) was higher than in any of the previous eight years (1985-1992) except in 1988. Overall, 58% of the total walleye TQ was harvested in 1993 compared to 54% in 1992, 59% in 1991, 61% in 1990, and 37% in 1989.

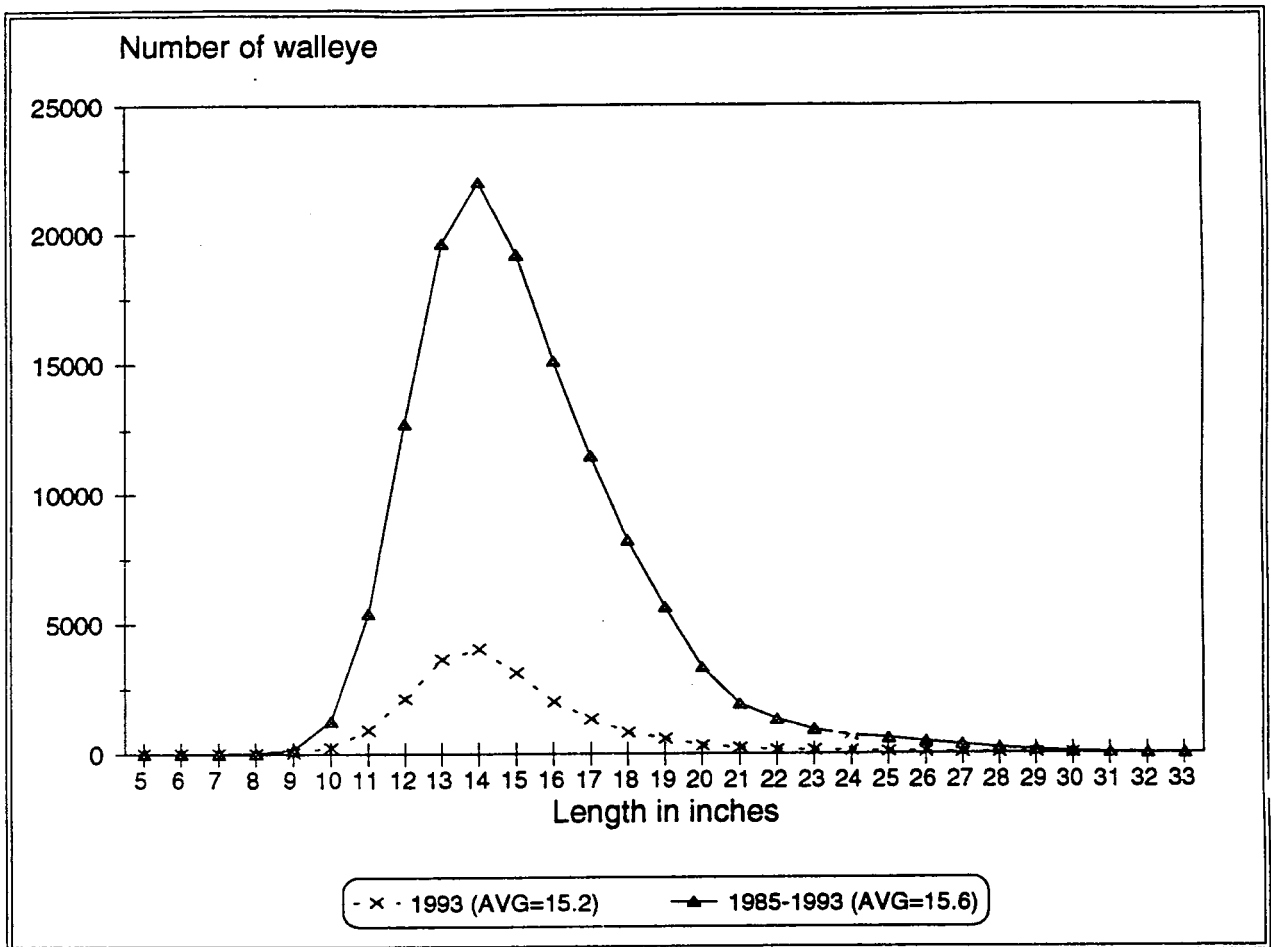
Figure 6. Number of walleye harvested during spring spearing seasons from 1985-1993.



**Mean Length.** A total of 19,903 walleye (81% of the catch) were measured in 1993 (Appendices C and D). Mean length in 1993 (15.2 inches) and in 1992 (15.1 inches) was less than the average length during the 5 previous years (1987-1991) when size restrictions were identical, i.e. 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 Appendix D).

For the 9 spring spearing seasons combined, 78.2% of the walleye harvest has been measured (130,736 of 167,131 fish) (Figure 7; Appendix D). Average length for this 9 year sample was 15.6 inches. Also, 7.6% of the walleye (9,945 fish) were 20 inches or larger and 1.4% (1,772 fish) were 25 inches or larger.

**Figure 7.** Length frequency of walleye speared during 1993 and during the nine year period from 1985-1993.



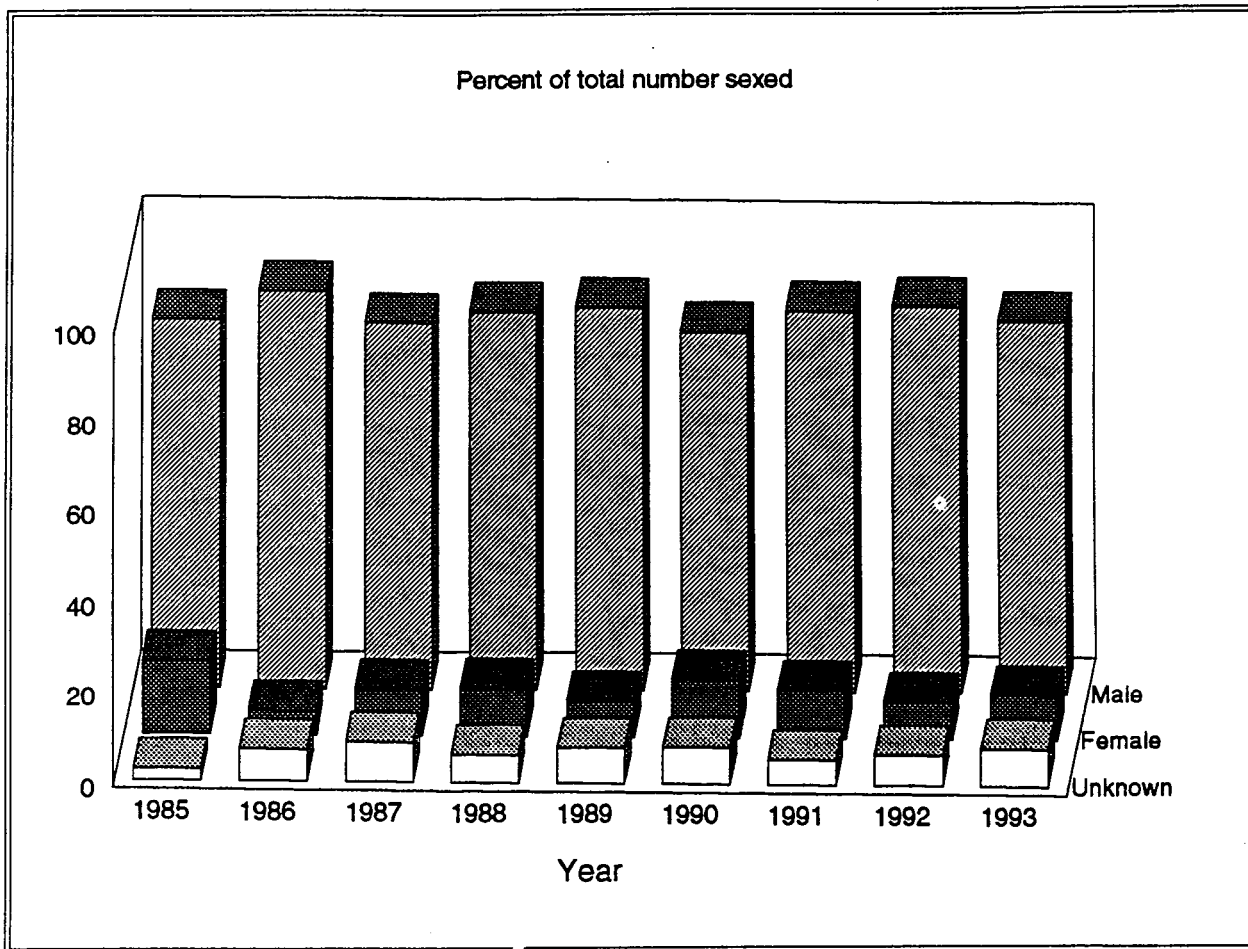
**Sex Composition of Catch.** The majority of walleye measured in 1993 were male: 16,357 of 19,903 fish or 82.2% (Table 6). Females (1,958 fish) comprised 9.8% of the measured harvest, while those whose sex could not be determined (1,588 fish) made up 8.0%. Males made up 89.3% of sexable fish.

For the 9 spring spearing seasons combined, a total of 167,131 walleye have been sexed (Table 6, Figure 8). Of these, 83.2% were male, 9.8% were female, and 7.0% 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 1988-1993.

Number Of Walleye:	1988	1989	1990	1991	1992	1993	9 YEAR TOTAL: (1985-1993)
Harvested Number	25,969	16,054	25,348	23,018	21,188	24,532	167,131
Sexed Number Percent	19,368 74.6%	13,254 82.6%	18,500 73.0%	18,551 80.6%	18,226 86.0%	19,903 81.1%	129,724 77.6%
Male Number Percent	16,193 83.6%	11,222 84.7%	14,693 79.4%	15,626 84.2%	15,653 85.4%	16,357 82.2%	107,902 83.2%
Female Number Percent	2,033 10.5%	1,030 7.8%	2,342 12.7%	1,926 10.4%	1,473 8.1%	1,958 9.8%	12,713 82.2%
Unknown Number Percent	1,142 5.9%	1,002 7.6%	1,465 7.9%	999 5.4%	1,190 6.5%	1,588 8.0%	9,110 7.0%

Figure 8. Sex composition of the walleye harvest during spring seasons from 1985-1993.



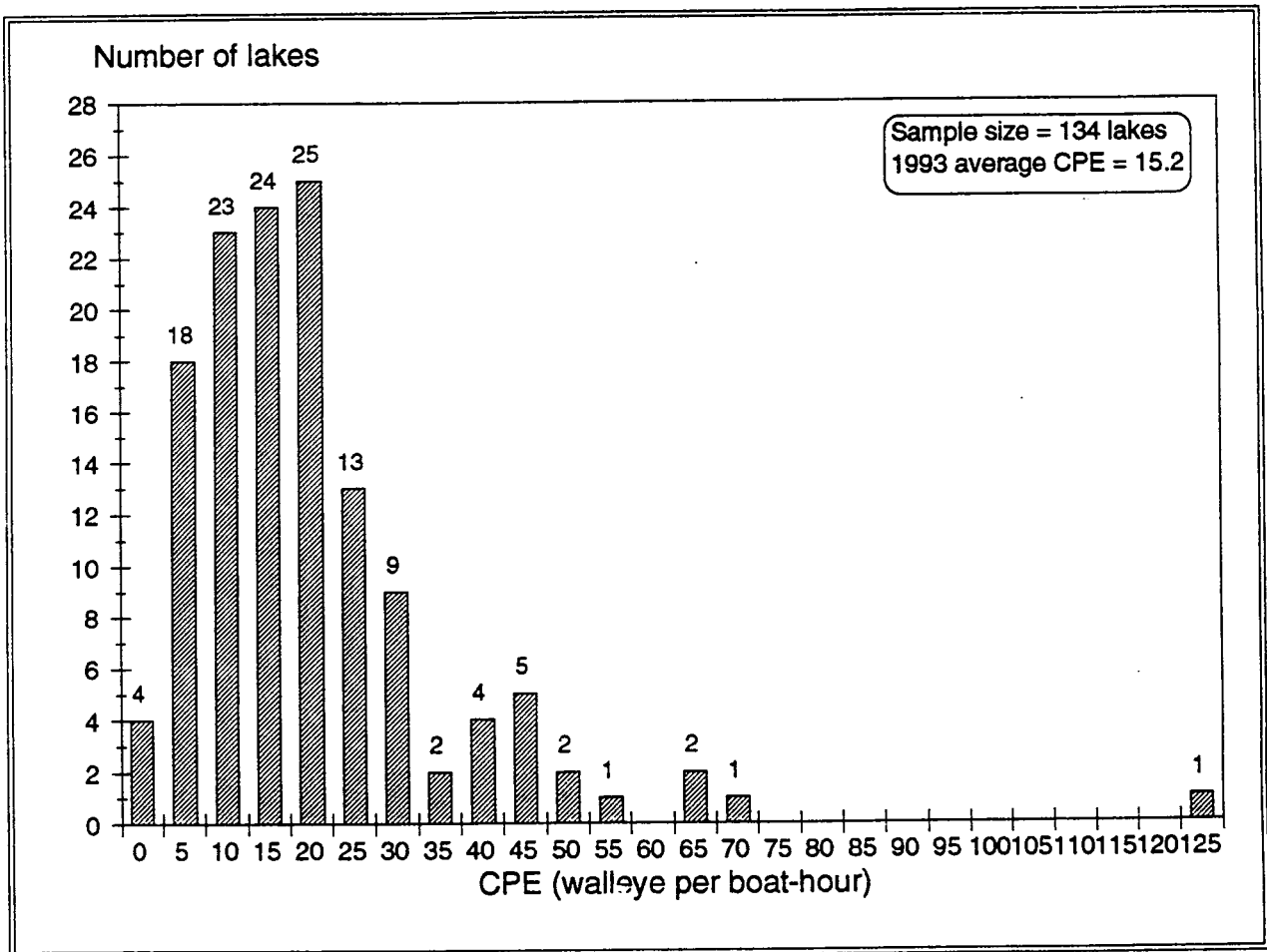
**Catch per effort (CPE).** In 1993 a total of 1611 boat-hours of spearing was recorded in which 24,532 walleye were caught. Overall catch per effort was 15.2 walleye per boat-hour (Appendix B).

Catch rates for the 134 lakes speared in 1993 ranged from 0.0 to 123.5 and averaged 16.1 (Appendix B, Figure 9). Boat-hour effort was not recorded for Kentuck Lake in Vilas County. Respective statistics for the five previous years were:

<u>Year</u>	<u>Number of Lakes</u>	<u>Range</u>	<u>Average</u>
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

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

**Figure 9.** Walleye CPE (number per boat-hour) by lake during 1993 spring spearing season.



## Muskellunge Harvest

A total of 188 muskellunge were taken from 50 lakes during spring 1993 (Figure 10, Appendix E). This harvest represented 15.5% of the combined tribal muskellunge quota of 1,223 fish selected for 164 lakes. Compared to 1992, 13.3% of the combined tribal muskellunge quota of 1,240 fish selected for 155 lakes was harvested. In 1991, 14.9% of the combined tribal muskellunge quota (1,240) chosen for 155 lakes was harvested. During the 1990 season, 26.4% of the combined quota (1,148 fish) declared for 136 lakes was harvested (Kmiecik 1991). In 1989, 9.7% of the combined quota (1,221 fish) selected for 184 lakes was taken (Kmiecik and Shively 1990).

The number of muskellunge harvested from each of these 50 lakes ranged from 1 to 16 fish (Appendix E). Ten or more muskellunge were harvested from 4 lake, 6-9 muskellunge were taken from 6 lakes, and 1-5 fish were speared in 40 lakes. In addition, the number of muskellunge harvested per surface-acre of water averaged 0.0040 and ranged from 0.0005 to 0.0157. No muskellunge were speared from the other 113 lakes.

Lengths of the 187 measured muskellunge averaged 36.5 inches and ranged from 19.9 to 50.0 inches (Appendix F, Figure 11). During the nine spring seasons combined, 1,410 of 1,454 speared muskellunge have been measured. Average length for this sample of fish was 36.2 inches (range: 13.5-53.0 inches).

Of the measured catch in 1993, 15.5% (29 of 187 muskellunge) were less than 32 inches while 4.8% (9 fish) were 45 inches and larger. For the 1,410 muskellunge measured from 1985-1993, 263 fish or 18.7% of the sample were less than 32 inches; 84 fish or 6% were 45 inches and larger (Appendix F).

The number of muskellunge per spearer averaged 0.52 for all tribes combined. In other words, 52 muskellunge were taken for every 100 spearers. From 1987-1992 the number per spearer ranged from 0.37 to 0.80. For individual tribes, the number per spearer was highest for Lac du Flambeau (1.03) compared to the other 5 tribes (range: 0.11-0.48).

Catch per boat-hour in 1993 averaged 0.12 muskellunge and was within the range from 1987-1992 (0.07 - 0.15).



Figure 10. Number of muskellunge harvested during spring spearing seasons from 1985-1993.

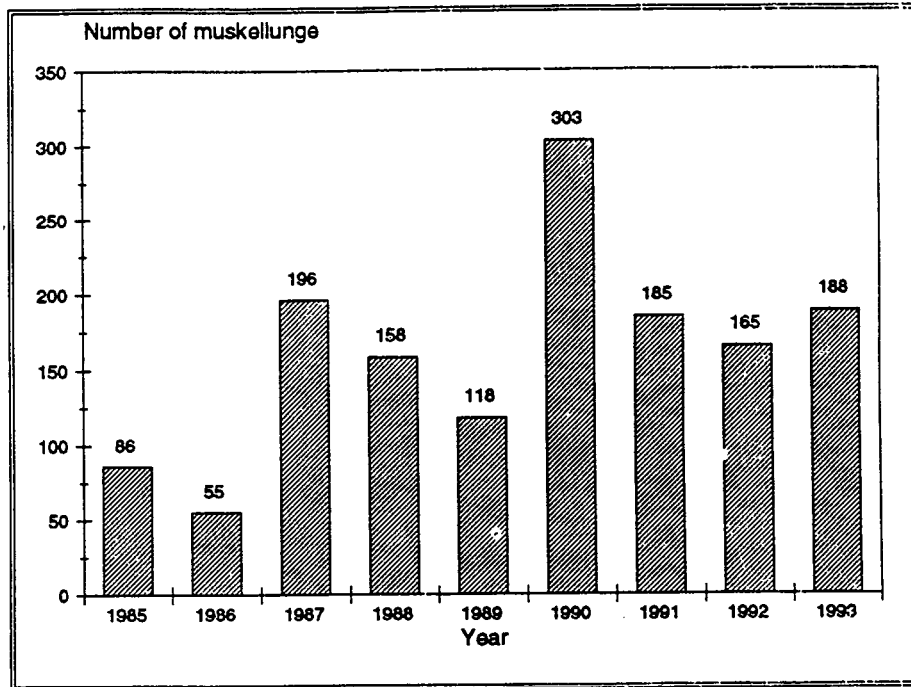
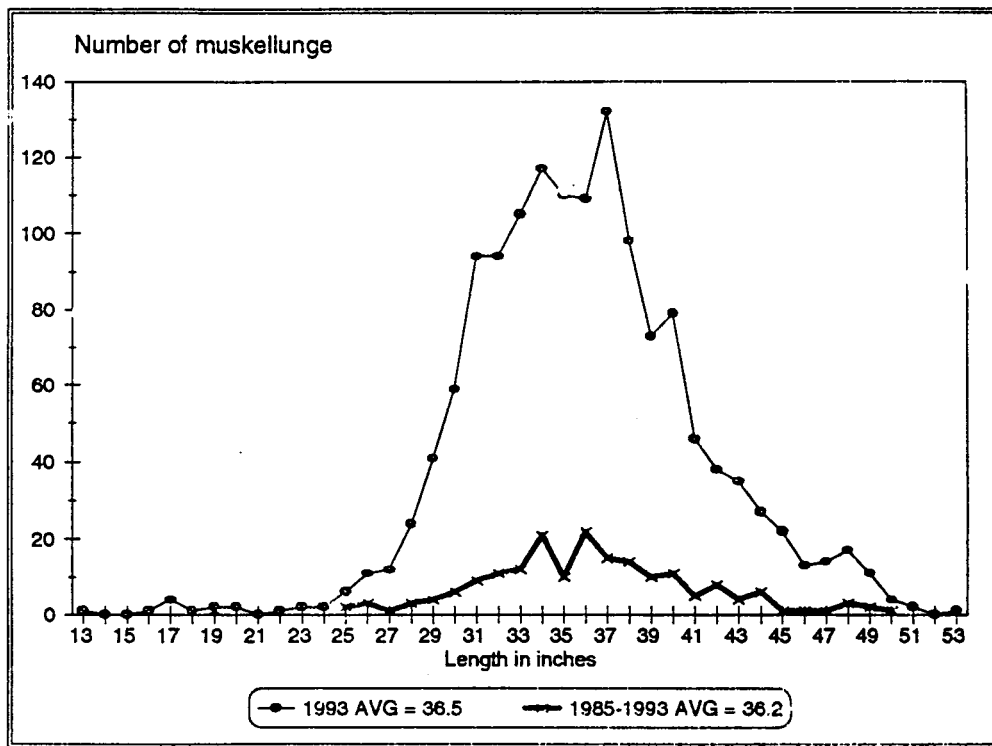


Figure 11. Length-frequency of muskellunge speared during spring 1993 and during the nine year period 1985-1993.



## **Bass Harvest**

A total of 200 bass was harvested from 28 lakes in 10 counties (Appendix G). Species was recorded for 121 largemouth bass and smallmouth bass combined. A total of 100 largemouth bass were taken from 9 lakes in 7 counties and averaged 15.4 inches. Ten or more largemouth were speared from 3 lakes, 7 from one lake and 5 or less were taken from 5 lakes. The number harvested per surface acre of water averaged 0.0071 bass (range: 0.0003-0.0246).

A total of 21 smallmouth bass were speared from 9 lakes in 6 counties. Average length was 16.1 inches. Fewer than 3 fish were taken from all but two lakes, where 5 and 8 fish were taken from Nelson and Round Lakes in Sawyer County respectively. The number harvested per surface acre averaged 0.0016 bass (range:0.0005-0.0033).

Lengths of 198 measured bass ranged from 7.0-25.0 inches (Figure 13) and averaged 15.2 inches (Appendix G). Average lengths during the 8 previous seasons (1985-1992) ranged from 15.0 to 15.8 inches. Of the 1,318 bass speared during the nine spearing seasons combined 1,190 have been measured (Appendix H). Average length for this sample was 15.2 inches.

The majority of largemouth bass (88 fish or 88% of the total) were taken from 4 lakes speared by St. Croix. St. Croix members also speared the majority of bass from 1987 to 1992 (range: 63%-82%) .

For all tribes combined the number of bass per spearer was 0.34, a value slightly lower than CPE in the 5 previous years (range: 0.37 to 0.66). For individual tribes, CPE (bass per spearer) was highest for St. Croix (1.74), as was the case during the six previous seasons (range: 1.14 - 3.33). Catch per spearer for the other five tribes ranged from 0.0 to 0.39 bass.

The combined tribal catch rate for bass in 1993 was 0.08 bass per boat-hour which was within the range of CPE's from 1987-1992 (0.06 to 0.14). Bass per boat-hour for St. Croix spearers was 0.44 in 1993.

Figure 12. Number of bass harvested during spring spearing seasons from 1985-1993.

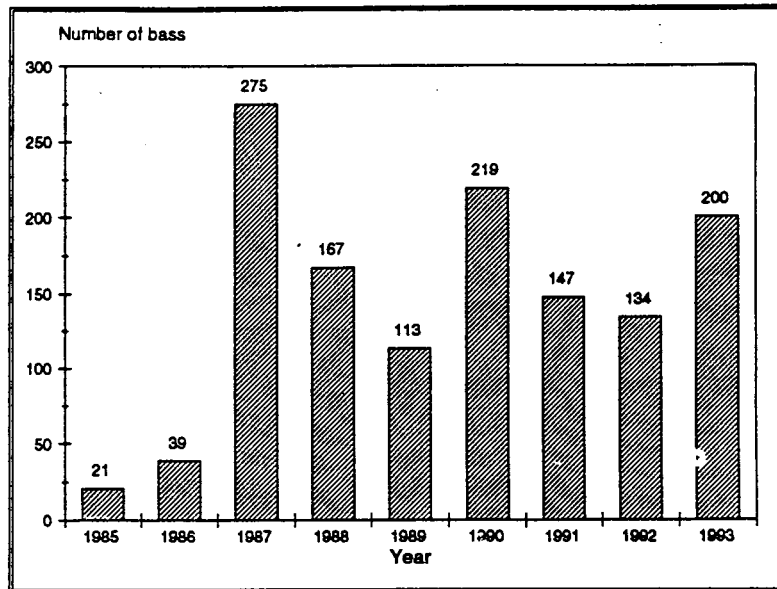
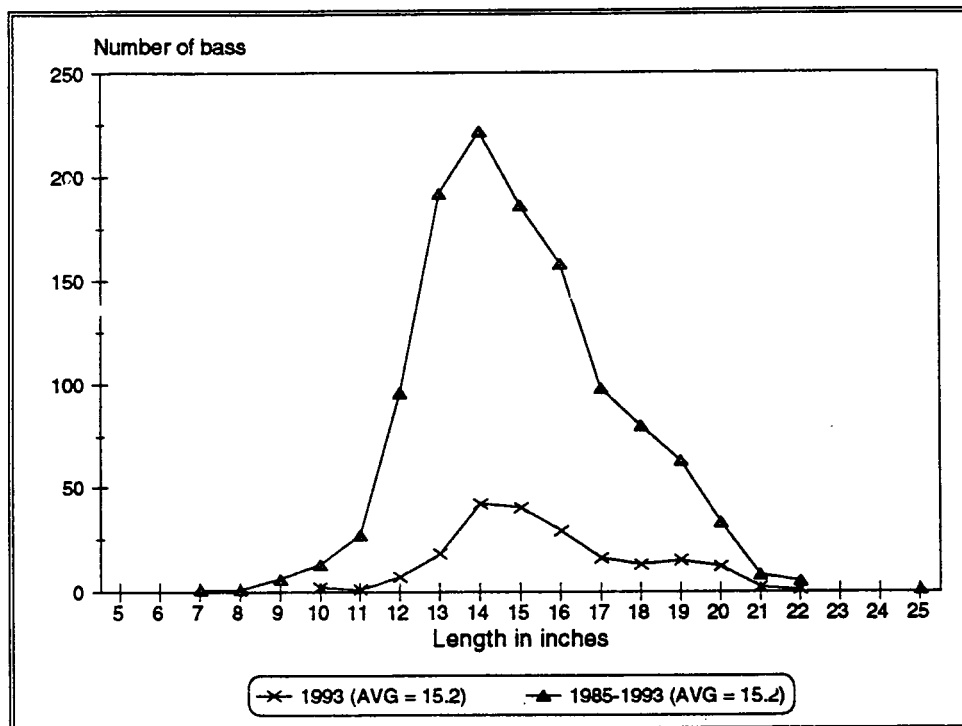


Figure 13. Length-frequency for bass taken during 1993 and during the nine year period 1985-1993.



## **Northern Pike Harvest**

A total of 19 northern pike were harvested from 15 lakes in 10 counties (Appendix G). The number speared per lake never exceeded 4 fish. Catch per surface acre of water averaged 0.0006 (range: 0.0001-0.0035).

Lengths of 19 measured northern pike ranged from 19.9 to 41.4 inches and averaged 27.2 inches (Appendix I, Figure 15). During the nine spring seasons combined a total of 253 northern pike have been speared (Appendix I). Of these, 208 were measured and length averaged 25.3 inches. Harvest of pike continues to be incidental and an insignificant component of the fishery.

Figure 14. Number of northern pike taken during spring spearing seasons from 1985-1993.

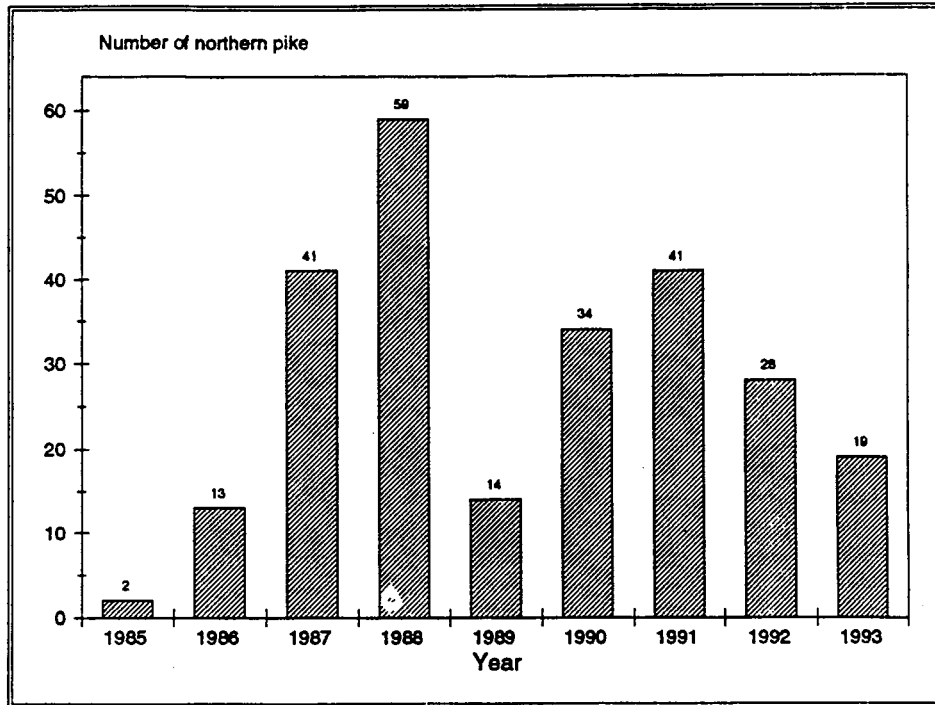
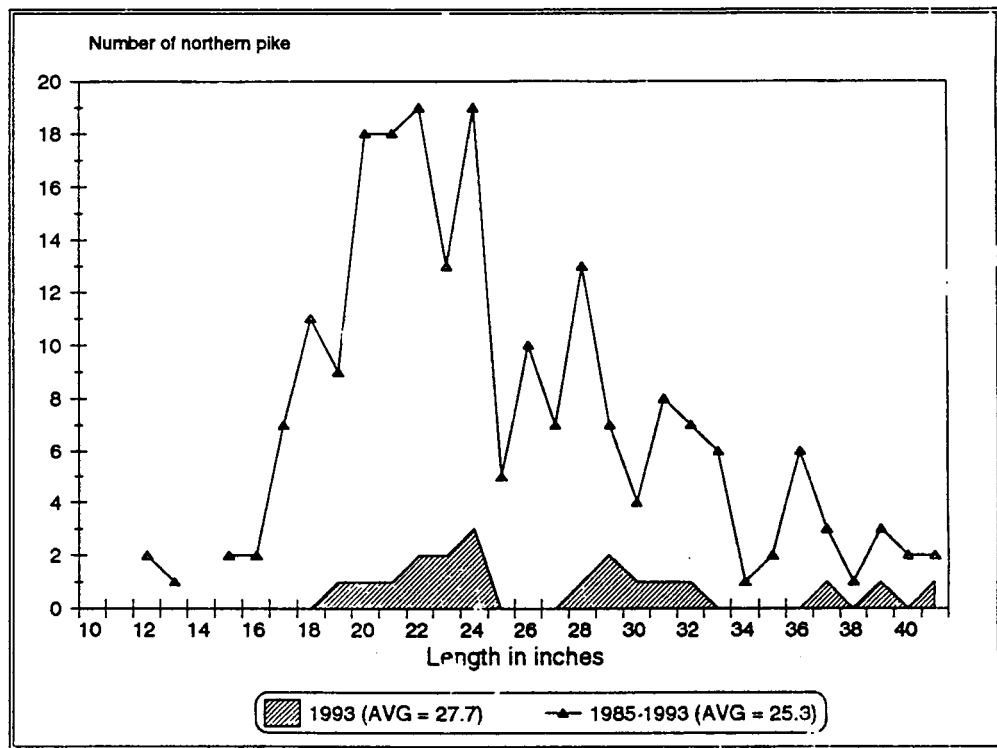


Figure 15. Length frequency of northern pike speared during 1993 and during the eight year period from 1986-1993.



## SUMMER SPEARING

Summer spearing occurred on 2 nights in the Turtle Flambeau Flowage (Iron County) and one night each in the Round Lake (Price County) and Nelson Lake (Sawyer County) during August. All three lakes were speared by tribal members from Bad River. Total effort for the three lakes combined was 20.8 boat-hours and 10 spearer-nights (Table 7). A total of 56 fish were taken of which 47 were walleye. The number of walleye caught per boat-hour was 2.3 and average length was 14.5 inches. Other species harvested included 1 muskellunge, 1 northern, 3 crappie, and 4 suckers.

**Table 7.** Number of fish harvested during summer spearing in 1993.

LAKE	COUNTY	WAE	MUE	NOP	CRP	SUC	BOAT-HOUR	SPEARER-NIGHTS
TURTLE-FLAMBEAU	IRON	46	1	1	2	3	14.25	6
ROUND	PRICE	1	0	0	1	1	3.00	2
NELSON	SAWYER	0	0	0	0	0	3.58	2
TOTAL:		47	1	1	3	4	20.83	10

## **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:

Bad River (BRV) - Milton Barbano, Robert Cadotte, Royce Bressette, William Deragon, Herman Maiwald, James Mattson, Kevin Megown, Joe Shubat, and Tim Warren;

Lac Courte Oreilles (LCO) - Andy Bennett, Cynthia Bisonette, April Conger, Duane Deragon, Barry LaRonge, Dennis J. Miller, Monica T. Ramczyk, Don Taylor, and Jose Valentine;

Lac du Flambeau (LDF) - Samantha Beller, Maurice Beson, Diane Bridgeforth, John Christensen, Gerald Christensen, Myron Christensen, George A. Diver Sr., Elizabeth A. Fisher, Beverly LaBarge, Michelle LaBarge, Clyde Mann, Mike Peltier, Albany Potts, Duane Poupart, Scott Poupart, Mildred Schuman, Gloria L. Smith, William Snow, John A. Wayman, George White, William Wildcat, Howard Wolfe, Cecil Young, and Raymond Zortman;

Lac Vieux Desert (LVD) - Rebecca Antone, Zachary Bailey, Richard Hall, Joseph Jackson Sr., and Thomas McGeshick;

Mole Lake (MLK) - Joseph Ackley, Steven Bellomy, Kathy Christensen, William Daniels, Lorreta Dietzler, Nathaniel Long, Albert McGeshick, Mildred McGeshick, John Olds, Frank Olds, Myra Pitts, Tim Randall, Tammy Robinson, Earl Smith, Evan Smith, Ken Smith, Ron Smith, Charles Van Zile, and Keith Van Zile, Rose Marie Van Zile, Jay White, and Gloria Toyobo II.

Red Cliff (RCF) - Christopher Bear, Mark Bressette, Jerome Brooks, Raymond DeFoe Jr., Kendall Holmes, Michael LaGrew, and George A. Newago;

St. Croix (STC) - Michael Bearheart, Michael Bowen, Joleen Clement, Lynn Holmes, Patrick Mulroy, Roger Mulroy, William Scanlon, and Alice Taylor.

The efforts of the following GLIFWC wardens in setting up nightly clerk/warden teams and in kindly agreeing to supervising creel clerks is appreciated: Jack Lemieux (BRV), Kenneth Rusk (LCO), Frank White (LDF), Clay Rumph (LVD), John Mulroy (MLK), Dave Curran and George P. Newago (RCF), and Gordon Arbuckle (STC).

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

Thanks also go to Annie Thannum for her 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. Special thanks to Becky Megown who did an excellent job in entering all the spring spearing data. Finally, I would like to thank Neil Kmiecik, Biological Services Director, for 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. 42pp.
- 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. E. 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.

## LIST OF APPENDICES

APPENDIX	PAGE
A    Number of tribal members that speared one or more nights on lakes selected by six Wisconsin Chippewa bands during the 1993 spring spear fishery .....	25
B    Number of walleye harvested nightly on lakes speared by six Wisconsin Chippewa bands during spring 1993. Also, balance of quota, number of boat-hours and catch per effort (CPE = walleye per boat-hour) per lake .....	26
C    Total number of walleye measured by per inch group and sexed during spring spearing 1993. Data arranged alphabetically by tribe, county, and lake .....	35
D    Number of walleye per inch group taken during spring spearing seasons from 1985-1993. ....	42
E    Number, average length, and harvest per acre of muskellunge from various lakes during spring spearing in 1993 .....	43
F    Number of muskellunge per inch group taken during spring spearing seasons from 1985-1993 .....	44
G    Number, average length, and harvest per acre of bass (largemouth and smallmouth), and northern pike from various lakes during spring spearing in 1993 .....	45
H    Number of bass (largemouth and smallmouth combined) taken during spring spearing seasons from 1985-1993 .....	46
I    Number of northern pike per inch group taken during spring spearing seasons from 1985-1993 .....	47



## APPENDIX A

Number of tribal members that speared one or more nights on lakes selected by six Wisconsin Chippewa bands during the 1993 spring spear fishery.

Number of Nights	BRV	LCO	LDF	MLK	RCF	STC	Total:	Percent of Total:
1	11	32	30	10	13	17	113	31.5%
2	5	11	22	7	7	9	61	17.0%
3	1	8	13	13	2	6	43	12.0%
4	1	5	10	7	4	6	33	9.2%
5	2	4	4	2	3	3	18	5.0%
6	2	3	6	4	1	3	19	5.3%
7	5	1	10	3	1	2	22	6.1%
8	3	5		3	1	1	13	3.6%
9		2	4	2		2	10	2.8%
10			4		1	1	6	1.7%
11	1			1		1	3	0.8%
12	1		2	1			4	1.1%
13			3	1	1		5	1.4%
14			1				1	0.3%
15			1				1	0.3%
16					1		1	0.3%
17		1		1			2	0.6%
18							0	0.0%
19							0	0.0%
20	2				1		3	0.8%
21							0	0.0%
22			1				1	0.3%
<b>TOTAL:</b>	<b>34</b>	<b>72</b>	<b>111</b>	<b>55</b>	<b>36</b>	<b>51</b>	<b>359</b>	

Number of walleye harvested nightly on lakes selected by six Wisconsin Chippewa bands during spring 1993. Also, balance of quota, number of boat-hours and catch per effort (CPE - walleye per boat-hour) per lake.

COUNTY	LAKE	AREA	WALLEYE SAFE HARVEST	TRIBAL QUOTA	APRIL 17	18	21	22	23	24	25	27	28	29	30	MAY 1	2	3	4	7	TOTAL HARVEST	QUOTA BALANCE	BOAT-HOURS	CPE
<b>BAD RIVER</b>																								
BARRON	HEMLOCK L	357	152	83																	17	66	3.0	5.7
BAYFIELD	DIAMOND L	341	46	25									25								25	0	1.5	16.7
BAYFIELD	NAMEKAGON L	3227	1144	314									314								314	0	14.3	22.0
CHIPPewa	HOLCOMBE FL	3890	1356	372		5															5	367	12.4	0.4
CHIPPewa	L WISSOTA	6300	2098	566	39		208														247	319	13.3	18.5
CHIPPewa	LONG L	1052	411	225							230										230	-5	7.3	31.4
IRON	LONG L	386	167	91										23							23	68	1.9	12.0
IRON	PINE L	312	269	107										**	**						0	107	3.5	9.1
IRON	SPIDER L	352	150	82										**	**						32	50	3.6	26.5
IRON	TRUDE L	781	477	95										**	**						95	0	3.6	26.5
IRON	TURTLE-FLAMBEAU FL	13545	7220	1200											95						199	1	48.7	24.6
ONEIDA	RAINBOW FL	2035	752	206											606	86	302	101			0	206	1.0	6.0
PRICE	LAC SAULT DORE	561	231	63						6				**	**						6	57	1.7	4.0
PRICE	PIKE L	806	329	90									**	**							7	83	3.7	10.9
PRICE	ROUND L	726	322	88									40	**	**						40	48	1.6	59.5
PRICE	SOLBERG L	859	342	94						94				**	**						66	69	4.8	13.7
PRICE	TURNER L	149	176	135										**	**						70	28	5.8	12.2
SAWYER	L OF THE PINES	429	180	98						70											0	65	3.7	0.0
SAWYER	CONNORS L	273	119	65						0											890	10	30.3	32.7
SAWYER	NELSON L	2503	4459	1000				699	291	0											292	0	19.5	15.0
SAWYER	TEALL	1049	540	292					200	92											0	75	8	3.0
TAYLOR	FIBL	320	138	75																	0	197	5.5	36.1
VILLAS	GRAB L	949	374	205										124							124	18	3.0	41.3
VILLAS	N TURTLE L	369	356	142										**	**						124	18	3.0	41.3
VILLAS	PRESQUE ISLE CHAIN (3 LAKES)#	1571	686	108										**	**						101	7	8.2	12.4
VILLAS	S TURTLE L	454	48	19										**	**						0	19	3.1	22.5
VILLAS	SQUAW L	785	550	69								69									69	0	3.1	22.5
	NUMBER OF LAKES:	27			1	1	1	1	2	5	2	6	5	7	2	2	1	1	4	3	44			
	AREA IN ACRES:	44391																						
	NUMBER OF WALLEYE:	23091		5909	39	5	208	699	491	282	247	116	405	147	701	86	302	101	230	204	4243	1666		
	NUMBER OF SPEARER-NIGHTS:				3	2	2	19	20	21	13	13	23	8	22	3	7	2	8	6	172			
	NUMBER OF BOAT-HOURS:				7.3	12.4	6.0	23.0	22.3	14.2	10.3	10.7	20.6	4.9	31.1	3.3	9.7	3.3	9.6	12.6	201.2			201.2
	CPE:				5.3	0.4	34.7	30.4	22.0	18.5	23.9	10.8	19.7	29.9	22.5	26.5	31.3	31.1	23.9	16.2				21.1

\* Lakes not speared during spring 1993.

\*\* Lakes named but no spearing effort.

# The quota of designated lake chains may be taken from any combination of one or more individual lakes in the chain.

Pike Lake Chain: Buskey Bay, Hart L., L. Millicent, Twin Bear L.

Presque Isle Chain: Avenir L., Presque Isle L., Van Vleet L.

Rice R. Fl. Chain: L. Nokomis, Rice R. Fl., Bridge L. (Oneida Co.)

Tomahawk Chain: Little Tomahawk L., Tomahawk L.

Twin L. Chain: N. Twin L., S. Twin L.



Number of walleye harvested nightly on lakes speared by six Wisconsin Chippewa bands during spring 1993. Also, balance of quota, number of boat-hours and catch per effort (CPE - walleye per boat-hour) per lake.

COUNTY	LAKE	AREA	WALLEYE SAFE HARVEST	TRIBAL QUOTA	APRIL 27	28	29	30	MAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	TOTAL HARVEST	QUOTA BALANCE	BOAT-HOURS	CPE	
FOREST IRON IRON IRON LINCOLN LINCOLN LINCOLN LINCOLN LINCOLN MARATHON	BUTTERNUT L	1292	823	246																						246			
	GLE FL	3384	1195	657																						657			
	L OF THE FALLS	338	145	79																						79			
	TRUDE L	781	477	95																						95			
	TURTLE-FLAMBEAU FL	13545	7220	2770																						1967	803	95.3	20.6
	ALEXANDER FL	677	275	151																						151			
	JERSEY CITY FL	433	182	100																						100			
	L MOHAWKINS	1910	710	380																						390			
	RICE R FL CHAIN (3 LAKES)#	3764	1369	751		..	..																			190	561	15.0	
	SPRINT R FL	1693	146	80																						90	80		
	BIG EAU PLEINE RESERVOIR	6830	1906	983																						22	2	3.9	23.0
	BEARSKIN L	400	169	92																						100	6	4.0	41.8
	BOOM L	437	183	100																						167	53	5.3	5.3
	BUCKSKIN L	634	316	173																						153	32	3.2	16.1
	CHIAN L	219	87	53																						157	7	3.2	48.9
	CLEAR L	846	337	185										78												92	5	5.6	16.5
	CHESCENT L	612	295	162																						37	72	2.5	14.8
	DAML	744	289	164																						69	8	1.0	63.0
	GEORGE L	435	183	100																						69	8	1.0	63.0
	HASBROOK L	302	130	71									63													92	92	1.2	42.7
	JULIA L	401	169	92																						50	1	9.4	17.9
	KATHERINE L	590	93	51																						169	31	1.8	16.0
	KAWAGUESAGA L	670	364	200								50														28	8	1.8	26.8
	L THOMPSON	382	162	89								152														49	8	1.8	26.8
	MANSON L	236	104	57																						28	8	1.8	26.8
	MEDICINE L	372	158	86																						49	8	1.8	26.8
	MERCER L	257	112	61																						86	86	2.9	18.2
MINOCQUA L	1360	836	514																						489	61	20.4	23.9	
MUSKELLUNGE L	284	123	67																						63	25	4.5	14.0	
RAINBOW FL	2035	752	206																						31	4	2.7	11.7	
RHINELANDER FL	1326	509	279																						279	279	2.7	11.7	
SAND L	540	223	122																						53	3	2.9	18.2	
SPRINT L	388	157	86																						53	3	2.9	18.2	
SQUASH L	392	210	115																						115	0	4.4	26.0	
SQUIRREL L	1317	910	500																						499	1	17.0	29.4	
TOMAHAWK LAKE CHAIN (2 LAKES)#	3552	1048	575																						572	3	24.2	23.6	
TWO SISTERS L	705	275	151																						148	3	7.6	19.5	
WILLOW FL	5135	1744	479																						479	479	7.6	19.5	
BUTTERNUT L	1006	395	217		..	..																			217	217	7.6	19.5	
DUPROY L	379	161	88																						88	88	2.9	18.2	
LAC SAULT DORE	561	231	63																						0	0	1.5	0.0	
PIKE L	806	329	80																						0	0	3.7	11.6	
ROUND L	726	322	88																						42	0	2.7	32.5	
SOLBERG L	342	94	41																						42	0	4.5	9.3	
WILSON L	351	150	82																						82	82	2.7	32.5	
L CHIPPEWA	15900	3127	300																						300	300	4.5	9.3	
ALDER L	274	119	65																						0	65	0.6	0.0	
ANVIL L	380	468	257																						247	10	2.0	123.5	
ARMOUR L	320	138	75																						102	75	10.3	9.9	
BALLARD L	505	274	150																						222	48	5.0	44.4	
BIG ARBOR VITAE L	1090	425	233																						421	11	14.2	29.7	
BIG L	771	948	521																						91	100	6.8	13.5	
BIG MUSKELLUNGE L	850	338	185																						91	94	17.5	26.2	
BIG PORTAGE L	930	636	258																						55	4	3.0	18.3	
BIG ST GERMAIN L	1617	427	234																						233	1	16.8	13.9	
BIRCH L	528	218	119																						6	113	3.7	1.6	
BLACK OAK L	584	68	37																						89	37	5.6	15.9	
BOULDER L	524	217	119																						24	30	5.6	15.9	

Appendix B (Continued)

Number of walleye harvested nightly on lakes speared by six Wisconsin Chippewa bands during spring 1893. Also, balance of quota, number of boat-hours and catch per effort (CPE - walleye per boat-hour) per lake.

COUNTY	LAKE	AREA	WALLEYE SAFE HARVEST	TRIBAL QUOTA	APRIL 27	28	29	30	MAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	TOTAL HARVEST	QUOTA BALANCE	BOAT-HOURS	CPE
	<b>LAC DU FLAMBEAU</b>																											
VILAS	CATFISH L	1012	397	218					..	..															12	206	1.0	12.0
VILAS	CLEAR L	555	229	125					..	..															7	7	3.3	36.3
VILAS	CRANBERRY L	956	377	207					..	..															31	207	4.0	24.5
VILAS	EAGLE L	572	235	129					..	..															107	107	5.0	17.0
VILAS	FOREST L	466	195	107					..	..															3	3	12.3	10.9
VILAS	HARRIS L	507	161	88					..	..															37	37	2.8	66.5
VILAS	HIGHL ISLAND L	734	264	145					..	..															38	38	2.8	66.5
VILAS	ISLAND L	1023	401	220					..	..															39	39	2.8	66.5
VILAS	JAG L	158	72	39					..	..															58	58	3.2	41.8
VILAS	L'CONTENT	244	107	58					..	..															2	2	4.4	26.9
VILAS	L LAURA	589	245	134					..	..															2	2	4.4	26.9
VILAS	LITTLE ARBOR VITAE L	534	221	121					..	..															43	43	2.2	61.8
VILAS	LITTLE ST GERMAIN L	880	80	43					..	..															3	3	2.2	61.8
VILAS	LONG L	872	288	147					..	..															79	79	2.2	61.8
VILAS	LYNX L	339	149	81					..	..															89	89	2.2	61.8
VILAS	MAAME L	400	162	89					..	..															4	4	2.2	61.8
VILAS	MAINTOWISH L	506	210	115					..	..															14	14	2.5	0.4
VILAS	OXBOW L	511	212	116					..	..															81	81	1.8	20.0
VILAS	PAPOSE L	428	190	98					..	..															30	30	3.8	35.7
VILAS	PLUM L	1108	431	237					..	..															5	5	3.5	46.9
VILAS	PRESCUE ISLE CHAIN (2 LAKES)#	1571	686	166					..	..															89	89	8.0	6.7
VILAS	PREST L	640	261	143					..	..															4	4	3.5	14.0
VILAS	SNIP L	239	105	57					..	..															21	21	3.0	7.0
VILAS	SPARKLING L	127	97	63					..	..															7	7	5.3	15.0
VILAS	SQUAW L	272	118	64					..	..															4	4	4.2	57.7
VILAS	STAR L	785	550	150					..	..															71	71	5.3	15.0
VILAS	TENDERFOOT L	437	1076	263					..	..															15	15	4.2	6.4
VILAS	TROUT L	3816	3816	144					..	..															497	497	14.7	25.3
VILAS	TWIN CHAIN (2 LAKES)#	3430	686	364					..	..															15	15	8.1	38.4
VILAS	WHITE SAND L	728	285	162					..	..															70	70	32.8	..
VILAS	WILD RICE L	379	166	91					..	..															6	6	4.8	..
VILAS	WOLF L	383	166	91					..	..															6	6	4.8	..
	NUMBER OF LAKES:	92			5	7	9	5	10	11	12	10	10	9	10	8	8	10	10	10	8	10	10	16	176			
	AREA IN ACRES:	114884																										
	NUMBER OF WALLEYE:		43676	19690	2	355	783	1493	627	1167	822	850	907	694	1077	382	214	262	241	22	14	18	36	34	9990	9600		
	NUMBER OF SPEARER-NIGHTS:				8	20	40	55	27	49	33	34	40	33	51	30	13	11	12	4	4	4	2	5	469			
	NUMBER OF BOAT-HOURS:				4.2	23.1	31.5	64.2	31.1	37.5	23.9	33.4	47.9	30.4	52.3	28.5	11.8	5.6	11.7	5.5	4.5	2.1	3.5	3.9	456.4		458.6	
	CPE:				0.5	15.3	24.9	23.3	20.2	31.2	34.4	25.5	18.9	22.5	20.6	13.4	18.2	47.0	20.5	4.0	3.1	8.7	10.3	8.7			21.8	

\* Lakes not speared during spring 1893.  
 \*\* Lakes named but no spearing effort.  
 # The quota of designated lake chains may be taken from any combination of one or more individual lakes in the chain.

- Pike Lake Chain: Buskey Bay, Hart L., Millport, Twin Bear L.
- Presque Isle Chain: Averill L., Presque Isle L., Van Vleet L.
- Rice R. Fl. Chain: L. Nokomis, Rice R. Fl., Bridge L. (Oneida Co.)
- Tornahawk Chain: Little Tornahawk L., Tornahawk L.
- Twin L. Chain: N. Twin L., S. Twin L.

Number of walleye harvested nightly on lakes selected by six Wisconsin Chippewa bands during spring 1993. Also, balance of quota, number of boat-hours and catch per effort (CPE - walleye per boat-hour) per lake.

COUNTY	LAKE	AREA	WALLEYE SAFE HARVEST	TRIBAL QUOTA	APRIL 23	24	25	26	27	28	29	30	MAY 1	2	3	4	5	6	TOTAL HARVEST	QUOTA BALANCE	BOAT- HOURS	CPE	
<b>MOLE LAKE</b>																							
FLORENCE	FAY L	247	36	21															0	21	4.5	2.7	
FLORENCE	HAISEY L	512	62	37															12	25	7.0	4.6	
FLORENCE	KEYES L	202	90	53				6											32	21	3.8	17.1	
FLORENCE	PATTEN L	255	111	66		21				64									64	2	14.7	16.6	
FLORENCE	BUTTERNUT L	1292	823	246									87	60	38		58		243	3	7.7	25.0	
FLORENCE	FRANKLIN L	892	323	193										130	62		12		192	1	8.8	11.7	
FLORENCE	L LUCERNE	1026	173	103															102	1	21.7	16.9	
FLORENCE	L METONGA	2157	611	366															365	1	8.5	6.5	
FLORENCE	LILY L	211	94	56		24													55	1	8.5	6.5	
FLORENCE	PINE L	1670	134	53															0	53	8.7	8.9	
FLORENCE	ROBERTS L	414	175	104															78	26	1.5	16.0	
FLORENCE	STEVENS L	295	41	24									24						24	0	3.1	2.6	
FLORENCE	ENTERPRISE L	502	264	158													8		8	150	6	3.1	2.6
FLORENCE	GREATER BASS L	246	11	6															0	6	4	2.6	
FLORENCE	JESSIE L	35	8	4															0	4	4	2.6	
FLORENCE	LAWRENCE L	50	10	5															0	5	5	2.6	
FLORENCE	LOWER POST L	377	49	29															0	29	6.3	13.1	
FLORENCE	MOCCASIN L	110	19	10															0	10	10	10.2	
FLORENCE	OTTER L	90	16	8															0	8	8	10.2	
FLORENCE	ROLLING STONE L	672	76	41															0	41	14	10.2	
FLORENCE	ROSE L	109	19	10															0	10	14	10.2	
FLORENCE	SAWYER L	168	27	14															0	14	14	10.2	
FLORENCE	WHITE L	166	26	14															0	14	14	10.2	
FLORENCE	HIGH FALLS RESERVOIR	1498	569	312		0													0	312	2.0	0.0	
FLORENCE	JOHNSON FALLS FL	68	33	18															0	18	14.8	2.1	
FLORENCE	ARCHIBALD L	430	181	108				3											31	77	1.5	0.7	
FLORENCE	MAIDEN L	290	126	75					1										1	74	2.3	0.0	
FLORENCE	WHEELER L	293	127	76					0										0	76	6.3	13.1	
FLORENCE	BIG FORK L	690	279	83				83											83	0	10.5	19.7	
FLORENCE	BIG L	865	344	206					121										206	0	2.8	10.2	
FLORENCE	BIG STONE L	548	226	67													29		29	38	89	10.2	
FLORENCE	CLEARWATER L	351	150	89															0	89	163	10.2	
FLORENCE	COLUMBUS L	670	272	163															0	163	74	10.2	
FLORENCE	EMMA L	223	98	58															0	58	74	10.2	
FLORENCE	FIFTH L	240	125	74															0	74	74	10.2	
FLORENCE	FOURMILE L	218	96	52															0	52	74	10.2	
FLORENCE	FOURTH L	258	135	80															0	80	74	10.2	

Appendix B (Continued)

Number of walleye harvested nightly on lakes selected by six Wisconsin Chippewa bands during spring 1993. Also, balance of quota, number of boat-hours and catch per effort (CPE - walleye per boat-hour) per lake.

COUNTY	LAKE	AREA	WALLEYE SAFE HARVEST	TRIBAL QUOTA	APRIL 23	24	25	26	27	28	29	30	MAY 1	2	3	4	5	6	TOTAL HARVEST	QUOTA BALANCE	BOAT-HOURS	CPE
<b>MOLE LAKE</b>																						
ONEIDA	INDIAN L	397	71	42															0	42		.
ONEIDA	ISLAND L	295	128	76		27			5				..						32	44	5.8	5.6
ONEIDA	LAUREL L	232	102	30															0	30		.
ONEIDA	LITTLE FORK L	354	151	90															0	90		.
ONEIDA	LONE STONE L	172	77	46					12										20	26	7.3	2.7
ONEIDA	LONG L	620	253	151		41		100											141	10	15.2	9.3
ONEIDA	LOWER NINEMILE L	646	73	43															0	43		.
ONEIDA	MOEN L	460	189	113															0	113		.
ONEIDA	PELICAN L	3585	1259	755							502	253							755	0	39.0	19.4
ONEIDA	PLANTING GROUND L	1012	397	238				67		80			60						229	9	41.4	5.5
ONEIDA	ROUND L	150	68	40			7			0			..						7	33	6.0	1.2
ONEIDA	SEVENMILE L	503	299	179		136	..	43											179	0	7.7	23.3
ONEIDA	VIRGIN L	276	120	71															0	71		.
ONEIDA	WHITEFISH L	205	91	54			20			21									41	13	7.3	5.6
ONEIDA	WILLOW FL	5135	1744	479															0	77		.
ONEIDA	BIG SAND L	1408	130	295								..	46						0	-60	20.2	17.6
VILLAS	KENTUCK L	957	492	295										166					355	1	17.5	12.3
VILLAS	LAC VIEUX DESERT	4300	704	216										143					215	1		
VILLAS	LITTLE PORTAGE L	170	77	42												190			0	42		.
	NUMBER OF LAKES:	56			1	4	7	7	5	10	3	5	6	3	4	3	5	2	65			
	AREA IN ACRES:	39217																				
	NUMBER OF WALLEYE:		12384	6119	24	162	143	302	122	312	829	459	217	356	243	198	107	25	3499	2620		
	NUMBER OF SPEARER-NIGHTS:				2	13	21	30	22	25	45	21	13	14	12	14	7	2	241			
	NUMBER OF BOAT-HOURS:				2.8	16.2	30.7	35.2	13.2	48.0	54.2	21.0	15.7	15.5	13.3	17.2	11.7	2.7	297.3		297.3	
	CPE:				8.5	10.0	4.7	8.6	9.2	6.5	15.3	21.9	13.8	23.0	18.2	11.5	9.2	9.4				11.8

\* Lakes not speared during spring 1993.

\*\* Lakes named but no spearing effort.

# The quota of designated lake chains may be taken from any combination of one or more individual lakes in the chain.

Pike Lake Chain: Buskey Bay, Hart L., L. Millicent, Twin Bear L.

Presque Isle Chain: Averill L., Presque Isle L., Van Vliet L.

Rice R. Fl. Chain: L. Nokomis, Rice R. Fl., Bridge L. (Oneida Co.)

Tomahawk Chain: Little Tomahawk L., Tomahawk L.

Twin L. Chain: N. Twin L., S. Twin L.

Number of walleye harvested nightly on lakes selected by six Wisconsin Chippewa bands during spring 1993. Also, balance of quota, number of boat-hours and catch per effort (CPE - walleye per boat-hour) per lake.

COUNTY	LAKE	AREA	WALLEYE SAFE HARVEST	TRIBAL QUOTA	APRIL 22	23	24	25	26	27	28	29	30	MAY 1	2	3	4	13	TOTAL HARVEST	QUOTA BALANCE	BOAT-HOURS	CPE	
	<b>RED CLIFF</b>																						
ASHLAND	GORDON L	142	65	35															0	35			.
BAYFIELD	BONY L	191	29	17															0	17			.
BAYFIELD	JACKSON L	142	65	38															0	38			.
BAYFIELD	L OWEN	1323	508	304										40	176	20			236	68	20.1	11.8	
BAYFIELD	LONG L	263	115	68															0	68		.	
BAYFIELD	MIDDLE EAU CLAIRE L	926	439	263		11			147										185	78	12.6	14.7	
BAYFIELD	NAMEKAGON L	3227	1144	314						**									290	24	12.6	23.0	
BAYFIELD	PIKE L CHAIN (4 LAKES)#	714	498	297				88					290						290	7	13.7	21.1	
BAYFIELD	SISKIWIIT L	330	142	85									73						73	12	4.1	17.8	
BAYFIELD	UPPER EAU CLAIRE L	1030	250	149			51												148	1	11.6	12.8	
DOUGLAS	AMINCON L	426	125	74						58									0	74		.	
DOUGLAS	L MINNESUNG	432	182	109															0	109		.	
DOUGLAS	L NEBAGAMON	914	382	229															0	229		.	
DOUGLAS	LOWER EAU CLAIRE L	802	184	110		**		88											88	22	5.2	17.1	
DOUGLAS	LYMAN L	403	216	129															212	124	2.5	2.0	
DOUGLAS	UPPER ST CROIX L	855	359	215				212											212	9	11.6	18.3	
DOUGLAS	WHITEFISH L	832	207	124															0	124		.	
ONEIDA	BIG FORK L	690	279	83															39	44	2.8	14.2	
ONEIDA	BIG STONE L	548	226	67															0	67		.	
ONEIDA	LAUBEL L	232	102	30															0	30		.	
SAWYER	MOOSE L	1670	628	376															0	376		.	
SAWYER	NELSON L	2503	4458	778	95	**	269		238	90									692	86	45.6	15.2	
SAWYER	SISSABAGAMA L	719	579	347						235									235	112	21.8	10.8	
	NUMBER OF LAKES:	23			1	3	2	2	2	3	1	3	3	1	1	1	2	1					
	AREA IN ACRES:	19314																					
	NUMBER OF WALLEYE:		11182	4241	95	11	320	300	385	148	235	356	363	40	176	20	39	5	2493	1748			
	NUMBER OF SPEARER-NIGHTS:				8	2	18	14	18	12	12	18	22	2	12	2	2	2	144				
	NUMBER OF BOAT-HOURS:				6.0	2.8	23.3	16.7	22.5	11.4	21.8	16.3	17.9	5.5	11.8	2.8	2.8	2.5	164.1			164.1	
	CPE:				15.8	3.9	13.8	17.9	17.1	13.0	10.8	21.8	20.3	7.3	14.9	7.3	14.2	2.0				15.2	

\* Lakes not speared during spring 1993.

\*\* Lakes named but no spearing effort.

# The quota of designated lake chains may be taken from any combination of one or more individual lakes in the chain.

Pike Lake Chain: Buskey Bay, Hart L., L. Millicent, Twin Bear L.

Presque Isle Chain: Averill L., Presque Isle L., Van Vleet L.

Rice R. Fl. Chain: L. Nokomis, Rice R. Fl., Bridge L. (Oneida Co.)

Tomahawk Chain: Little Tomahawk L., Tomahawk L.

Twin L. Chain: N. Twin L., S. Twin L.



Appendix B (Continued)

Number of walleye harvested nightly on lakes selected by six Wisconsin Chippewa bands during spring 1993. Also, balance of quota, number of boat-hours and catch per effort (CPE - walleye per boat-hour) per lake.

COUNTY	LAKE	AREA	WALLEYE SAFE HARVEST	TRIBAL QUOTA	APRIL 17	18	19	20	21	22	23	24	25	26	27	28	29	30	TOTAL HARVEST	QUOTA BALANCE	BOAT-HOURS	CPE
<b>ST. CROIX</b>																						
BARRON	BEAR L	1358	126	69														0	69			
BARRON	BEAVER DAM L	1112	109	59												40	**	40	19	4.9	8.1	
BARRON	DUCK L	100	47	25														0	25			
BARRON	RED CEDAR L	1841	888	378													180	80	116	10.9	23.8	
BARRON	SAND L	322	41	16														0	16			
BARRON	SILVER L	337	45	17														0	17			
BURNETT	BIG MCKENZIE L	1185	459	252	55	125		81										281	-9	20.4	12.8	
BURNETT	DEVILS L	1001	101	55		**				51								51	4	4.2	12.3	
BURNETT	LIPSETT L	393	51	28														0	28			
BURNETT	LITTLE YELLOW L	348	149	81								12						49	81			
BURNETT	SAND L	982	98	53						**								49	4	6.7	7.3	
BURNETT	YELLOW L	2287	1130	451														0	451			
BURNETT	BALSAM L	2054	758	416				182	110			3						394	32	57.6	6.7	
POLK	BIG BUTTERNUT L	378	160	87						84								84	3	3.2	7.1	11.8
POLK	BIG ROUND L	1015	211	84								11	12					34	50	34.1	1.0	
POLK	HALF MOON L	579	101	40														0	40			
POLK	PIPE L	270	118	64														47	17	10.6	4.4	
POLK	WAGOASSET L	1186	115	63						**								0	63			
WASHBURN	BALSAM L	285	128	70														0	70			
WASHBURN	BASS L	130	60	32					**									0	32			
WASHBURN	BASS L	188	84	48					40									0	40	6	4.5	8.9
WASHBURN	GILMORE L	389	38	15														0	15			
WASHBURN	L NANCY	772	73	29						17								17	12	2.8	6.2	
WASHBURN	LONG L	3290	808	243														255	-12	32.4	7.9	
WASHBURN	MIDDLE MCKENZIE L	530	63	34		**			32									32	2	2	4.0	
WASHBURN	RICE L	132	60	32														0	32			
WASHBURN	SHELL L	2580	508	201														0	201			
WASHBURN	TREGOL	451	56	30														0	30			
NUMBER OF LAKES:		28			1	3	0	3	3	3	3	3	2	3	3	4	2	1	34			
AREA IN ACRES:		25485																				
NUMBER OF WALLEYE:			6181	2868	55	125	0	273	142	175	17	26	113	134	140	94	180	80	1554	1414		
NUMBER OF SPEARE-NIGHTS:					9	9		23	12	13	3	18	23	19	8	17	21	4	171			
NUMBER OF BOAT-HOURS:					8.2	7.3		30.4	18.2	15.8	2.8	16.5	28.1	15.6	20.2	24.3	8.4	2.5	200.2		200.2	
CPE:					6.7	17.2		9.0	7.8	11.1	6.2	1.4	4.0	8.6	8.9	3.9	21.4	32.0			7.8	

\* Lakes not speared during spring 1993.

\*\* Lakes named but no spearing effort.

# The quota of designated lake chains may be taken from any combination of one or more individual lakes in the chain.

Pike Lake Chain: Busey Bay, Hart L., L. Millicent, Twin Bear L.

Presque Isle Chain: Averill L., Presque Isle L., Van Vliet L.

Rice R. Fl. Chain: L. Nokomis, Rice R. Fl., Bridge L. (Oneida Co.)

Tomahawk Chain: Little Tomahawk L., Tomahawk L.

Twin L. Chain: N. Twin L., S. Twin L.

Number of walleye harvested nightly on lakes selected by six Wisconsin Chippewa bands during spring 1993. Also, balance of quota, number of boat-hours and catch per effort (CPE - walleye per boat-hour) per lake.

COUNTY	LAKE	AREA	WALLEYE SAFE HARVEST	TRIBAL QUOTA	APRIL	17	18	20	21	22	23	24	25	26	27	28	29	30	MAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	TOTAL HARVEST	QUOTA BALANCE	BOAT-HOURS	CPE	
GRAND TOTAL (ALL TRIBES COMBINED):					2	4	3	6	7	11	17	16	15	25	30	27	19	21	18	21	22	18	15	14	12	10	10	11	9	13	9	7	6							
NUMBER OF LAKES:			238																																					
AREA IN ACRES:			277280																																					
NUMBER OF WALLEYE:			103702	42112	94	130	273	515	1308	652	868	1154	1271	718	1082	2404	3182	970	2120	1186	1351	1018	727	1281	367	214	282	241	22	24	16	36	34	24532	17580					
NUMBER OF SPEAR-NIGHTS:					12	11	23	24	55	40	84	93	91	70	140	141	126	45	82	59	67	58	41	57	32	14	11	13	4	13	4	2	5	1415						
NUMBER OF BOAT-HOURS:					15.5	19.7	30.4	40.2	66.1	50.3	94.7	118.2	105.7	78.0	181.2	130.1	144.5	54.0	92.9	48.9	73.3	68.3	42.4	64.9	30.0	19.0	5.0	13.1	5.5	10.9	2.1	3.5	3.8	1607.7						
CPE:					12.1	17.6	9.0	52.8	73.2	48.1	52.4	61.4	48.2	50.2	89.5	120.7	130.9	88.5	108.7	91.0	78.4	28.5	33.8	38.9	18.8	18.2	47.0	20.5	4.0	8.4	8.7	10.3	6.7							



Total number of walleye measured per inch group and sexed during spring in 1993. Data arranged alphabetically by tribe, county, and lake.

COUNTY	LAKE	AREA	INCH GROUP																												SAMPLE SIZE	TOTAL INCHES	MEAN LENGTH	NUMBER OF:		UNKNOWN			
			5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	MALE	FEMALE										
SAWYER	GRINDSTONE L	3,111																																298	4,975.5	16.7	222	69	7
SAWYER	L CHIPPEWA	15,300				1		7		12	2	5	16	69	43	41	43	29	22	6	7	1	4	3	2	3	1					1,719	25,481.7	14.8	1,418	228	73		
SAWYER	LAC COURTE OREILLES	5,039												1	8	19	29	23	30	9	7	3	5	1								172	3,108.3	18.1	184	8			
SAWYER	LITTLE ROUND L	228													1	1	1	1	1	1	1	2	1	1	1							10	208.2	20.9	1	3	6		
SAWYER	LOST LAND L	1,304													3	5	1	2	1	1	1											13	208.2	16.1	13				
SAWYER	ROUND L	3,054													14	96	35	17	10	9	2	1	1	1	2						383	5,920.9	15.1	336	43	14			
SAWYER	SAND L	828													4	15	18	21	10	9	4	3										112	1,846.9	16.5	92	16	4		
SAWYER	WHITEFISH L	788													1	6	8	8	2	1	3	5	2	1	2						45	801.9	17.8	32	12	1			
	SUB-TOTAL:	29,751				1		7		13	52	180	555	753	447	229	151	118	98	50	35	22	24	20	9	11	3	3	1		2,782	42,554.6	15.4	2,278	379	105			

Appendix C (Continued)

Total number of walleye measured per inch group and sexed during spring in 1993. Data arranged alphabetically by tribe, county, and lake.

LAC DU FLAMBEAU		AREA	INCH GROUP																														SAMPLE SIZE	TOTAL INCHES	MEAN LENGTH	NUMBER OF:	
COUNTY	LAKE		8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	MALE	FEMALE	UNKNOWN									
IRON	TURTLE-FLAMBEAU FL	13,545	1	1	6	56	83	109	150	128	97	47	23	9	14	5	4	3	2	2	2	2	1	2	1	743	11080.4	14.9	640	59	44						
LINCOLN	RICE R FL CHAIN	3,764					5	27	65	44	22	8	3	6	2	3	1	1	1	1	1	1	1	1	1	190	2846.0	15.5	148	26	16						
ONEIDA	BEARSKIN L	400	1		7	19	9	12	21	9	2	4	3	1	1	1	1	1	1	1	1	1	1	1	1	80	1286.9	13.7	66	9	15						
ONEIDA	BUCKSKIN L	634				1	10	43	39	15	7	14	15	12	2	4	1	1	1	1	1	2	1	1	1	167	2631.9	15.8	136	13	18						
ONEIDA	CLEAR L	846				2	8	37	15	18	26	10	8	6	3	3	3	5	6	1	1	1	1	1	1	153	2516.6	16.4	126	25	2						
ONEIDA	CRESCENT L	612				2	29	35	33	19	13	8	2	4	1	3	3	5	6	1	1	1	1	1	1	157	2288.0	14.6	119	21	17						
ONEIDA	DAML	744			3	4	10	19	16	19	8	9	1	2	1	1	1	1	1	1	1	1	1	1	1	82	1389.9	14.6	74	17	1						
ONEIDA	GEORGE L	435			1	1	2	6	6	11	2	5	1	1	1	1	1	1	1	1	1	1	1	1	1	37	552.4	14.9	33	10	4						
ONEIDA	HASBROOK L	302				2	12	19	12	5	6	2	1	1	1	1	1	1	1	1	1	1	1	1	1	63	827.8	14.7	41	10	12						
ONEIDA	KATHERINE L	590				1	5	19	13	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	50	717.9	14.4	41	7	2						
ONEIDA	KAWAGUESAGA L	670			2	1	18	53	46	20	8	7	3	2	1	4	2	1	1	1	1	1	1	1	1	169	2494.4	14.8	128	8	33						
ONEIDA	L THOMPSON	382						3	3	7	11	2	1	1	1	1	1	1	1	1	1	1	1	1	1	28	447.9	16.0	27	1	1						
ONEIDA	MANSON L	236						6	10	8	10	5	4	1	1	1	1	1	1	1	1	1	1	1	1	49	803.8	16.4	39	3	7						
ONEIDA	MINOCCUA L	1,360			1	1	39	35	41	25	12	12	3	1	4	4	3	3	4	3	1	1	1	1	1	211	3185.5	15.1	162	23	26						
ONEIDA	MUSKELLUNGE L	294			4	3	16	28	8	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	63	861.1	13.7	48	3	12						
ONEIDA	RAINBOW FL	2,035					3	8	7	4	4	2	3	2	1	1	1	1	1	1	1	1	1	1	1	31	468.5	15.1	30	4	3						
ONEIDA	SAND L	540				1	4	7	9	8	13	8	2	1	1	1	1	1	1	1	1	1	1	1	1	53	818.9	15.5	45	5	5						
ONEIDA	SQUASH L	382						13	43	38	15	6	2	1	1	1	1	1	1	1	1	1	1	1	1	115	1734.7	15.1	106	4	3						
ONEIDA	SQUIRREL L	1,317			4	8	35	60	53	23	10	4	1	3	2	2	4	4	2	1	1	1	1	1	1	207	2943.4	14.2	175	19	13						
ONEIDA	TOMAHAWK LAKE CHAIN	3,552					12	81	77	46	22	16	10	7	7	5	6	4	2	1	2	2	2	1	1	300	4690.8	15.6	232	29	39						
ONEIDA	TWOC SISTERS L	705					3	14	27	33	26	11	3	1	1	1	1	1	1	1	1	1	1	1	1	148	2426.5	16.4	63	4	4						
PRICE	PIKE L	806			3	2	11	7	5	3	5	3	1	1	1	1	1	1	1	1	1	1	1	1	1	43	545.2	12.7	39	1	3						
PRICE	ROUND L	726					6	25	13	6	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	88	1188.7	13.5	81	5	5						
PRICE	SOLBERG L	859			1	5	13	8	9	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	42	541.4	12.9	37	5	2						

Appendix C (continued)

Total number of walleye measured per inch group and sexed during spring in 1993. Data arranged alphabetically by tribe, county, and lake.

COUNTY	LAKE	AREA	INCH GROUP																														SAMPLE SIZE	TOTAL LENGTH INCHES	MEAN LENGTH	NUMBER OF:		
			8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	MALE	FEMALE	UNKNOWN										
VILLAS	ANVILLE	380																														150	2123.8	14.2	142	2	6	
VILLAS	BALLARD	505				13	23	8	43	67	25	2	7	1	6	2	4															102	1583.8	15.5	76	4	22	
VILLAS	BIG ARBOR VITAE	1,090	1	6	50	53	38	25	10	20	3	3	6	1	3	1	1														191	2687.1	14.1	183	6	2		
VILLAS	BIG L	771	3	7	85	157	90	35	15	10	10	6	10	6	3	3	1														421	5936.1	14.1	390	10	21		
VILLAS	BIG L	850	2	5	22	24	18	9	5	5	3	1	1	1	1	1	2														335	4515.3	13.5	294	45	5		
VILLAS	BIG MUSKELLUNGEL	930	2	26	115	83	65	18	7	12	5	3	3	3	4	3															55	845.1	15.4	42	2	11		
VILLAS	BIG PORTAGE	638	1	1	4	5	7	18	42	40	16	7	5	3	3	3	1														211	3160.3	15.0	149	16	47		
VILLAS	BIG ST GERMAIN	1,617	1	1	24	62	42	18	16	16	1	4	7	4	4	3															6	99.6	16.6	3	3	3		
VILLAS	BIRCH	528				1	1	1	1	13	9	6	4	5	2	1	1														89	1289.0	14.5	38	4	47		
VILLAS	BOULDER	524	5		8	11	22	1	13	1	2	1	2	2	2	2															89	206.0	17.2	12	2	12		
VILLAS	CATFISH	1,012			1	1	1	1	1	1	2	1	2	4	6	3															118	1849.5	15.7	55	2	61		
VILLAS	CLEAR	555		1	3	9	18	21	16	21	22	13	16	4	4	3															98	1367.0	13.9	76	5	17		
VILLAS	EAGLE	572		2	3	3	10	12	16	14	9	5	5	4	4	2															85	1395.2	15.7	48	16	21		
VILLAS	HARRIS	507			3	3	10	14	14	14	17	9	4	4	2	1	2														134	1916.5	14.3	65	9	60		
VILLAS	HIGHL	794			6	20	44	36	32	19	9	6	4	4	2	2															183	2604.0	14.2	141	15	27		
VILLAS	ISLAND	1,023			2	15	35	52	32	19	16	12	3	3	3	1	3														192	1928.3	14.6	106	15	11		
VILLAS	LAURA	599			3	6	22	38	26	16	3	3	1	1	1	1															119	1703.7	14.3	88	2	29		
VILLAS	LITTLE ARBOR VITAE	534			3	16	37	35	35	19	16	3	1	1	1	1															144	2118.7	14.7	113	10	21		
VILLAS	LONG L	872			5	19	32	38	38	17	16	4	8	2	2	1															2	25.7	12.9	1	1	1		
VILLAS	LYNX	339			1			1			1																					1	13.5	13.5	25	2	1	
VILLAS	MAINTOWISH	506																														35	471.3	13.5	13	2	8	
VILLAS	OXBOW	511			2	4	11	8	4	4	3	8	2	1	2	2															68	1003.2	14.8	49	16	3		
VILLAS	PAPOOSE	428			3	6	8	9	14	9	9	17	10	11	3	1	2														232	3299.3	14.2	194	26	22		
VILLAS	PLUM	1,108			10	23	51	96	43	40	22	19	9	5	1	5															164	2454.4	15.0	138	15	11		
VILLAS	PRESQUE ISLE CHAIN	1,571			9	12	38	40	40	22	10	4	3	5	1	1															54	847.4	15.7	33	12	9		
VILLAS	REST	640			2	4	10	10	10	10	13	4	3	2	4	1															49	842.4	17.2	34	6	9		
VILLAS	SPARKING	127						1	5	2	2	4	10	1	1	1															21	291.0	13.9	10	12	11		
VILLAS	SPIDER	272				4	2	4	4	11	11	2	1																			79	1050.2	13.3	67	10	5	
VILLAS	SQUAW	785			2	12	16	23	11	11	2	1	10	3	2	3																175	2715.2	15.5	131	39	14	
VILLAS	STAR	1,206			1	18	38	36	25	18	18	10	3	5	1	1																94	1397.7	14.8	80	16	23	
VILLAS	TENDERFOOT	437			9	20	9	22	10	10	5	2	3	3	3	1																141	2299.6	16.3	102	16	6	
VILLAS	TROUT	3,816			3	3	8	9	25	32	32	24	17	9	7	2																144	2372.4	16.5	103	35	6	
VILLAS	TWIN CHAIN	3,430			1	1	1	1	45	45	33	13	16	14	7	3																156	2377.7	15.2	77	65	14	
VILLAS	WHITE SAND	728																																				
	SUB-TOTAL	65,881	2	9	77	333	1,001	1,622	1,563	1,056	645	378	213	135	75	63	51	48	36	28	22	8	10	4	1					7,380	109,385	14.8	5,698	711	971			

Appendix C (Continued)

Total number of walleye measured per inch group and sexed during spring in 1983. Data arranged alphabetically by tribe, county, and lake.

MOLE LAKE		INCH GROUP																												SAMPLE SIZE		TOTAL INCHES	MEAN LENGTH	NUMBER OF:	
COUNTY	LAKE	AREA	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	SIZE	INCHES	LENGTH	MALE	FEMALE	UNKNOWN		
FLORENCE	HALSEY L	512																									12	288.5	22.4	9	1	2			
FLORENCE	KEYES L	202																									32	579.1	18.1	29	3	2			
FLORENCE	PATTEN L	255																									64	941.4	14.7	61	3	3			
FLORENCE	BUTTERNUT L	1,292																									243	3,309.1	13.6	294	7	2			
FLORENCE	FRANKLIN L	892																									192	2,960.4	15.4	174	14	4			
FLORENCE	LUCERNE	1,026																									102	1,790.8	17.5	96	4	3			
FLORENCE	L METONGA	2,157																									365	5,647.9	15.5	331	22	12			
FLORENCE	LILY L	211																									55	1,006.2	18.3	23	14	18			
FLORENCE	ROBERTS L	414																									78	1,165.9	14.9	61	4	13			
FLORENCE	STEVENS L	295																									24	454.7	17.8	7	24	7			
LANGLADE	ENTERPRISE L	502																									8	142.6	20.6	21	5	5			
OCCONTO	ARCHIBALD L	430																									31	637.4	18.4	73	10	1			
OCCONTO	MAIDEN L	290																									1	1,087.0	13.1	79	10	8			
OCCONTO	BIG FORK L	890																									206	2,765.8	13.4	177	21	8			
OCCONTO	BIG L	865																									29	386.4	14.0	25	4	4			
OCCONTO	BIG STONE L	548																									32	447.9	13.3	24	4	4			
OCCONTO	ISLAND L	285																									20	377.2	18.9	9	11	4			
OCCONTO	LONE STONE L	172																									141	1,831.5	13.0	119	16	6			
OCCONTO	LONG L	620																									141	1,831.5	13.0	119	16	6			
OCCONTO	PELICAN L	3,585																									755	11,294.0	14.9	644	104	7			
OCCONTO	PLANTING GROUND L	1,012																									229	3,214.5	14.0	174	28	27			
OCCONTO	ROUND L	150																									179	2,711.4	15.1	158	16	5			
OCCONTO	SEVENMILE L	503																									41	594.3	14.3	33	3	5			
OCCONTO	WHITFISH L	205																									285	5,167.6	17.5	230	53	12			
OCCONTO	KENTUCK L	957																									215	3,398.5	15.8	177	19	19			
VILAS	LAC VIEUX DESERT	4,300																									3,439	52,245.0	15.2	2913	389	157			
	SUB-TOTAL:	22,390						5	56	171	353	600	719	527	315	224	153	115	61	47	30	13	13	17	8	4	5	3	3,439	52,245.0	15.2	2913	389	157	

Total number of walleye measured per inch group and sexed during spring in 1983. Data arranged alphabetically by tribe, county, and lake.

### Appendix C (continued)

RED CLIFF COUNTY	LAKE AREA	INCH GROUP																												SAMPLE SIZE	TOTAL INCHES	MEAN LENGTH	NUMBER OF:								
		5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	MALE	FEMALE	UNKNOWN												
		3	17	47	108	279	405	448	289	136	101	64	28	30	12	7	7	5	3	5	5	2	1	1	2	1	1	1	1												
BAYFIELD	L OWEN					1																														184	3,159.5	17.2	140	31	13
BAYFIELD	MIDDLE EAU CLAIRE L	926									4	17	74	57	19	9	3	1	1																185	2,608.6	14.1	157	19	9	
BAYFIELD	NAMEKAGON L	3,227									2	21	66	69	61	41	13	7	5	1	2	2												290	4,344.1	15.0	246	31	13		
BAYFIELD	PIKE L CHAIN	714									5	14	36	45	25	10	3	2	1	2	4	2												156	2,378.8	15.2	124	3	29		
BAYFIELD	SISKIWI L	330											2	11	25	24	8	2	1	1	2	2											73	1,162.6	15.9	69	12	2			
BAYFIELD	UPPER EAU CLAIRE L	1,030											2	14	20	30	23	28	11	5	8	2												148	2,608.2	17.6	131	15	2		
DOUGLAS	LOWER EAU CLAIRE L	802													1	7	19	28	9	12	5	1												88	1,495.1	17.0	88	26	4		
DOUGLAS	LYMAN L	403									2		1		1																			5	73.0	14.6	2	1	2		
DOUGLAS	UPPER ST CROIX L	855										3	5	24	61	49	26	13	2	4														187	2,833.0	15.1	176	9	2		
ONEIDA	BIG FORK L	690										4	14	6	2	3	2	1	1	3	2													99	507.7	13.0	37		2		
SAWYER	NELSON L	2,503											14	99	192	99	42	32	8	3	2														493	7,828.7	15.9	432	44	17	
SAWYER	SISSABAGA L	719									1	10	27	23	11	3	1	1	1	1	1														148	2,060.2	13.9	105	1	42	
	SUB-TOTAL:	47,294									3	17	47	108	279	405	448	289	136	101	64	28	30	12	7	7	5	3	5	5	2			1,996	31,058.5	15.6	1967	192	137		



Appendix C (Concluded)

Total number of walleye measured per inch group and sexed during spring in 1993. Data arranged alphabetically by tribe, county, and lake.

ST CROIX COUNTY	LAKE	AREA	INCH GROUP																												SAMPLE SIZE	TOTAL INCHES	MEAN LENGTH	NUMBER OF:							
			5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	MALE	FEMALE				UNKNOWN							
BARRON	BEAVER DAM L	1,112																																		40	754.5	18.9	35	4	1
BARRON	RED CEDAR L	1,841																																	280	4,378.8	16.8	254	5	1	
BURNETT	BIG MCKENZIE L	1,185																																281	4,454.4	17.1	226	14	21		
BURNETT	DEVILS L	1,001																																51	855.2	16.8	41	3	7		
BURNETT	SAND L	862																																49	841.7	19.2	33	3	13		
POLK	BALSAML	2,054																																384	6,385.0	16.7	338	8	25		
POLK	BIG BUTTERNUT L	378																																84	1,462.1	17.4	70	2	6		
POLK	BIG ROUND L	1,015																																34	743.7	21.9	6	8	28		
POLK	PIPE L	270																																47	785.2	16.9	40	3	7		
WASHBURN	BASSL	188																																17	653.0	16.3	37	1	3		
WASHBURN	LINCOLN	772																																255	4,771.0	18.7	228	1	9		
WASHBURN	LONG L	3,280																																32	536.4	16.6	31	18	9		
WASHBURN	MIDDLE MCKENZIE L	530																																1,554	27,058.7	17.4	1362	82	120		
WASHBURN	SUB-TOTAL:	68,834																																							
TOTAL FOR ALL TRIBES			1	3	1	4	45	245	905	2101	3636	4032	3111	1893	1323	812	589	308	218	146	120	101	80	54	33	27	12	1	19803	301712.9	15.2	16357	1959	1588							
PERCENT OF TOTAL (%):																																									

## APPENDIX D

Number of walleye per inch group taken during spearing seasons from 1985-1993.

Inch Group	Number of Walleye in:									9 Year Total	Percent of Total
	1985	1986	1987	1988	1989	1990	1991	1992	1993		
5									1	1	0.0%
6		1							3	4	0.0%
7							1	1	1	3	0.0%
8				3	1	4	4	3	4	19	0.0%
9	2	3	17	10	4	14	36	34	45	165	0.1%
10	5	49	123	121	60	183	229	243	245	1258	1.0%
11	31	358	558	678	306	649	957	957	905	5399	4.1%
12	140	680	1282	1688	925	1513	1979	2444	2101	12752	9.8%
13	265	928	1892	2755	1684	2370	2582	3507	3636	19619	15.0%
14	286	1068	2133	3289	2222	2917	2777	3252	4032	21976	16.8%
15	293	985	1895	2951	2154	2856	2543	2375	3111	19163	14.7%
16	247	939	1666	2311	1919	2295	2031	1696	1993	15097	11.5%
17	172	801	1374	1658	1390	1862	1687	1207	1323	11474	8.8%
18	145	458	1113	1297	1010	1288	1216	878	812	8217	6.3%
19	118	255	811	932	634	932	811	562	589	5644	4.3%
20	33	149	513	596	328	556	590	261	308	3334	2.6%
21	25	72	259	316	210	307	303	199	218	1909	1.5%
22	18	50	148	214	109	202	249	171	148	1309	1.0%
23	18	23	116	134	76	160	151	129	120	927	0.7%
24	11	9	86	124	67	100	111	85	101	694	0.5%
25	7	10	76	89	48	107	102	66	80	585	0.4%
26	9		57	75	45	71	86	65	54	462	0.4%
27	10	3	42	56	31	63	46	42	33	326	0.2%
28	5	1	28	32	18	30	39	25	27	205	0.2%
29	8		25	30	8	15	15	17	12	130	0.1%
30	11		8	9	3	5	6	6	1	49	0.0%
31	6		2		2	1		1		12	0.0%
32	2									2	0.0%
33	1									1	0.0%
Total No. Measured:	1,868	6,842	14,224	19,368	13,254	18,500	18,551	18,226	19,903	130,736	100.0%
Total Length:	30,382	106,051	226,789	306,926	211,645	295,047	291,543	275,331	301,713	2,045,427	
Average Length:	16.3	15.5	15.9	15.8	16	15.9	15.7	15.1	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	167,131	
Percent Measured:	67.7%	98.6%	66.7%	74.6%	82.6%	73.0%	80.6%	86.0%	81.1%	78.2%	

## APPENDIX E

Number, average length, and harvest per acre of muskellunge from various lakes during spring spearing in 1993.

Tribe	County	Lake	Area	Number Harvested	Number Measured	Total Inches	Average Length	Number Per Acre
RCF	BAYFIELD	PIKE L CHAIN	714	1	1	43.8	43.8	0.0014
STC	BURNETT	BIG MCKENZIE L	1185	5	5	207.9	41.6	0.0042
BRV	DOUGLAS	UPPER ST CROIX L	855	1	1	19.9	19.9	0.0012
MLK	FOREST	ROBERTS L	414	1	1	36	36	0.0024
MLK	LANGLADE	ENTERPRISE L	502	1	1	36	36	0.0020
LDF	LINCOLN	RICE RIVER FL	3764	4	4	138.8	34.7	0.0011
LDF	ONEIDA	BEARSKIN L	400	4	4	141.4	35.4	0.0100
MLK	ONEIDA	BIG STONE L	548	1	1	40	40	0.0018
LDF	ONEIDA	BUCKSKIN L	634	2	2	68.4	34.2	0.0032
LDF	ONEIDA	CRESCENT L	612	1	1	34.2	34.2	0.0016
LDF	ONEIDA	HASBROOK L	302	1	1	31	31	0.0033
LDF	ONEIDA	KATHERINE L	590	1	1	35.5	35.5	0.0017
LDF	ONEIDA	KAWAGUESAGA L	670	6	6	218	36.3	0.0090
LDF	ONEIDA	MINOCQUA L	1360	5	5	171.1	34.2	0.0037
MLK	ONEIDA	PELICAN L	3585	11	11	410.7	37.3	0.0031
MLK	ONEIDA	PLANTING GROUND L	1012	1	1	30.3	30.3	0.0010
LDF	ONEIDA	TOMAHAWK LAKE CHAIN	3552	12	12	434.9	36.2	0.0034
LDF	ONEIDA	TWO SISTERS L	705	2	2	71.8	35.9	0.0028
STC	POLK	BONE L	1781	10	10	371.4	37.1	0.0056
LDF	PRICE	PIKE L	806	1	1	34.9	34.9	0.0012
BRV	SAWYER	CONNORS L	429	1	1	36	36	0.0023
LCO	SAWYER	GRINDSTONE L	3111	5	5	194.8	39	0.0016
LCO	SAWYER	L CHIPPEWA	15300	8	8	299.4	37.4	0.0005
LCO	SAWYER	ROUND L	3054	16	16	688.4	43	0.0052
LCO	SAWYER	SAND L	928	3	3	108.6	36.2	0.0032
RCF	SAWYER	SISSABAGAMA L	719	4	4	126.9	31.7	0.0056
LCO	SAWYER	WHITEFISH L	786	2	2	73	36.5	0.0025
LDF	VILAS	BALLARD L	505	2	2	83.5	41.8	0.0040
LDF	VILAS	BIG ARBOR VITAE L	1090	6	6	201.2	33.5	0.0055
LDF	VILAS	BIG L	850	4	4	141.9	35.5	0.0047
LDF	VILAS	BIG MUSKELLUNGE L	930	3	3	121.6	40.5	0.0032
LDF	VILAS	BIG ST GERMAIN L	1617	6	6	209.4	34.9	0.0037
LDF	VILAS	BOULDER L	524	2	2	82	41	0.0038
LDF	VILAS	CATFISH L	1012	2	2	59	29.5	0.0020
LDF	VILAS	CLEAR L	555	5	5	184.4	38.9	0.0090
BRV	VILAS	CRAB L	949	1	1	42.8	42.8	0.0011
LDF	VILAS	HARRIS L	507	5	5	184.9	37	0.0099
LDF	VILAS	HIGH L	734	4	4	132	33	0.0054
LDF	VILAS	ISLAND L	1023	7	7	206.6	29.5	0.0068
LDF	VILAS	LITTLE ARBOR VITAE L	534	5	5	179.4	35.9	0.0094
LDF	VILAS	PAPOOSE L	428	3	3	102.9	34.3	0.0070
LDF	VILAS	PLUM L	1108	2	2	76	38	0.0018
LDF	VILAS	SPARKLING L	127	2	2	71.7	35.9	0.0157
LDF	VILAS	SPIDER L	272	3	3	96.1	32	0.0110
BRV	VILAS	SQUAW L	785	1	1	28	28	0.0013
LDF	VILAS	STAR L	1206	1	1	40	40	0.0008
LDF	VILAS	TROUT L	3816	4	4	156.4	39.1	0.0010
LDF	VILAS	TWIN CHAIN	3430	7	7	234.1	33.4	0.0020
LDF	VILAS	WHITE SAND L	728	2	2	75	37.5	0.0027
STC	WASHBURN	MIDDLE MCKENZIE L	530	1				0.0019
Total:			71578	188	187	6822		
Average:							36.5	0.0040

## APPENDIX F

Number of muskellunge per inch group taken during spring spearing seasons from 1985-1993.

Inch Group	NUMBER OF MUSKELLUNGE IN:									9 YEARS	PERCENT OF
	1985	1986	1987	1988	1989	1990	1991	1992	1993	TOTAL	TOTAL
13						1				1	0.1%
14										0	0.0%
15										0	0.0%
16			1							1	0.1%
17				3			1			4	0.3%
18								1		1	0.1%
19				1					1	2	0.1%
20			2							2	0.1%
21										0	0.0%
22						1				1	0.1%
23		1					1			2	0.1%
24		1						1		2	0.1%
25	1		1		1	1			2	6	0.4%
26				1	2	3	1	1	3	11	0.8%
27			3	3	2	2		1	1	12	0.9%
28	2		3	1	5	4	5	1	3	24	1.7%
29	2	2	7	5	3	6	4	8	4	41	2.9%
30	8	3	4	6	6	15	6	5	6	59	4.2%
31	6	3	14	9	9	24	12	8	9	94	6.7%
32	7	2	15	13	11	18	10	7	11	94	6.7%
33	3	6	12	10	8	25	11	18	12	105	7.4%
34	8	1	16	10	8	20	20	13	21	117	8.3%
35	7	7	12	10	10	26	17	11	10	110	7.8%
36	2	4	12	7	6	20	18	18	22	109	7.7%
37	8	8	17	11	10	29	20	14	15	132	9.4%
38		6	12	9	7	27	11	12	14	98	7.0%
39	2	1	10	10	6	16	7	11	10	73	5.2%
40	1	2	8	6	5	19	16	11	11	79	5.6%
41	1	2	5	9	3	12	4	5	5	46	3.3%
42	1	1	4	6	5	6	3	4	8	38	2.7%
43	2	2	3	6	3	6	5	4	4	35	2.5%
44	2		3	7		5		4	6	27	1.9%
45			4	8	2	1	5	1	1	22	1.6%
46		1	4	3		2	2		1	13	0.9%
47	3		2	1	2	3	1	1	1	14	1.0%
48		1	4	1	1	2	3	2	3	17	1.2%
49	1		2	1	1	3	1		2	11	0.8%
50	1				1		1		1	4	0.3%
51				1		1				2	0.1%
52										0	0.0%
53		1								1	0.1%
TOTAL NO. MEASURED:	68	55	180	158	117	298	185	162	187	1410	100%
TOTAL LENGTH:	2,407	1,994	6,507	5,805	4,175	10,761	6,725	5,845	6822	51,041	
AVERAGE LENGTH:	35.4	36.2	36.2	36.7	35.7	36.1	36.4	36.1	36.5	36.2	
TOTAL NO. SPEARED:	86	55	196	158	118	303	185	165	188	1454	
PERCENT MEASURED:	79.1%	100.0%	91.8%	100.0%	99.2%	98.3%	100.0%	98.2%	99.5%	97.0%	

## APPENDIX G

Number, average length, and harvest per acre of bass (largemouth and smallmouth) and northern pike from various lakes during spring spearing in 1993.

Tribe	County	Lake	Area	Species	Number Harvested	Number Measured	Total Inches	Average Length	Number Per Acre
RCF	BAYFIELD	PIKE L CHAIN	714	BAS	1	1	13.9	13.9	0.0014
MLK	FLORENCE	HALSEY L	512	BAS	2	2	28.1	14.1	0.0039
MLK	FOREST	BUTTERNUT L	1292	BAS	1	1	13.1	13.1	0.0008
MLK	FOREST	L METONGA	2157	BAS	2	2	21.9	11.0	0.0009
MLK	LANGLADE	ENTERPRISE L	502	BAS	1	1	16.6	16.6	0.0020
LDF	ONEIDA	GEORGE L	435	BAS	1	1	12.1	12.1	0.0023
MLK	ONEIDA	LONE STONE L	172	BAS	1	1	16.2	16.2	0.0058
LDF	ONEIDA	SQUIRREL L	1317	BAS	1	1	14.8	14.8	0.0008
MLK	ONEIDA	WHITEFISH L	205	BAS	5	5	76.8	15.4	0.0244
STC	POLK	BALSAM L	2054	BAS	26	26	409.7	15.8	0.0127
STC	POLK	BIG ROUND L	1015	BAS	34	33	456.3	13.8	0.0335
LCO	SAWYER	L CHIPPEWA	15300	BAS	1	1	15.2	15.2	0.0001
LCO	SAWYER	LITTLE ROUND L	229	BAS	1	1	15.9	15.9	0.0044
LCO	SAWYER	ROUND L	3054	BAS	1	1	15.1	15.1	0.0003
STC	WASHBURN	LONG L	3290	BAS	1	1	12.7	12.7	0.0003
Total Number Measured:						78	1138.4	14.6	
			Total Number Harvested:	32248	79				0.0024
MLK	FLORENCE	PATTEN L	255	LMB	1	1	15.7	15.7	0.0039
MLK	FOREST	LILY L	211	LMB	1	1	18.1	18.1	0.0047
LDF	LINCOLN	RICE RIVER FL	3764	LMB	1	1	20.0	20.0	0.0003
LDF	ONEIDA	BUCKSKIN L	634	LMB	2	2	28.9	14.5	0.0032
STC	POLK	BALSAM L	2054	LMB	48	48	751.5	15.7	0.0234
STC	POLK	BIG BUTTERNUT L	378	LMB	1	1	14.4	14.4	0.0026
STC	POLK	BIG ROUND L	1015	LMB	25	24	370.6	15.4	0.0246
RCF	SAWYER	NELSON L	2503	LMB	7	7	107.1	15.3	0.0028
STC	WASHBURN	LONG L	3290	LMB	14	14	199.8	14.3	0.0043
Total Number Measured:						99	1526.1	15.4	
			Total Number Harvested:	14104	100				0.0071
RCF	BAYFIELD	L OWEN	1323	SMB	1	1	15.3	15.3	0.0008
MLK	FOREST	L METONGA	2157	SMB	2	2	25.7	12.9	0.0009
MLK	FOREST	ROBERTS L	414	SMB	1	1	14.6	14.6	0.0024
LDF	ONEIDA	HASBROOK L	302	SMB	1	1	19.3	19.3	0.0033
STC	POLK	BALSAM L	2054	SMB	1	1	14.6	14.6	0.0005
RCF	SAWYER	NELSON L	2503	SMB	5	5	78.3	15.7	0.0020
LCO	SAWYER	ROUND L	3054	SMB	8	8	137.6	17.2	0.0026
RCF	SAWYER	SISSABAGAMA L	719	SMB	1	1	15.2	15.2	0.0014
LDF	VILAS	HARRIS L	507	SMB	1	1	17.3	17.3	0.0020
Total Number Measured:						21	337.9	16.1	
			Total Number Harvested:	13033	21				0.0016
RCF	BAYFIELD	L OWEN	1323	NOP	1	1	20.3	20.3	0.0008
STC	BURNETT	DEVILS L	1001	NOP	1	1	31.0	31.0	0.0010
STC	BURNETT	SAND L	962	NOP	1	1	22.2	22.2	0.0010
RCF	DOUGLAS	UPPER ST CROIX L	855	NOP	1	1	19.9	19.9	0.0012
MLK	FOREST	L LUCERNE	1026	NOP	1	1	28.6	28.6	0.0010
LDF	IRON	TURTLE-FLAMBEAU FL	13545	NOP	1	1	21.4	21.4	0.0001
LDF	ONEIDA	MINOCQUA L	1360	NOP	1	1	37.5	37.5	0.0007
LDF	ONEIDA	MUSKELLUNGE L	284	NOP	1	1	30.6	30.6	0.0035
MLK	ONEIDA	PLANTING GROUND L	1012	NOP	4	4	100.7	25.2	0.0040
LDF	ONEIDA	SQUIRREL L	1317	NOP	1	1	24.9	24.9	0.0008
MLK	ONEIDA	WHITEFISH L	205	NOP	1	1	29.9	29.9	0.0049
STC	POLK	BALSAM L	2054	NOP	1	1	22.3	22.3	0.0006
LCO	SAWYER	ROUND L	3054	NOP	2	2	80.8	40.4	0.0007
LDF	VILAS	BIG ST GERMAIN L	1617	NOP	1	1	32.5	32.5	0.0006
STC	WASHBURN	MIDDLE MCKENZIE L	530	NOP	1	1	24.2	24.2	0.0019
Total Number Measured:						19	526.8	27.7	
			Total Number Harvested:	30145	19				0.0006

## APPENDIX H

Number of bass per inch group (largemouth and smallmouth) taken during spring spearing seasons from 1985-1993.

Inch Group	Number of Bass in:									9 Year Total	Percent of Total
	1985	1986	1987	1988	1989	1990	1991	1992	1993		
5											
6											0.0%
7					1					1	0.1%
8			1							1	0.1%
9	1	1	2			1	1			6	0.5%
10			2	4	1	1	2	1	2	13	1.1%
11	1	1	8		7	3	1	5	1	27	2.3%
12	2	2	16	7	10	30	11	11	7	96	8.1%
13	3	6	43	21	14	35	36	16	18	192	16.1%
14		2	33	27	17	47	34	20	42	222	18.7%
15	7	8	25	21	17	26	21	21	40	186	15.6%
16		12	30	19	19	25	11	13	29	158	13.3%
17		3	20	15	11	19	9	5	16	98	8.2%
18	1	2	15	9	4	16	9	11	13	80	6.7%
19	1		7	11	8	9	6	6	15	63	5.3%
20		1	5	7	1	2	2	3	12	33	2.8%
21	1	1	2	1		1			2	8	0.7%
22			1	1	1		1		1	5	0.4%
23										0	0.0%
24										0	0.0%
25				1						1	0.1%
Total No. Measured:	17	39	210	144	111	215	144	112	198	1190	100%
Total Length:	255	602	3199	2275	1694	3246	2165	1708	3002	18147	
Average Length:	15	15.4	15.2	15.8	15.3	15.1	15	15.3	15.2	15.2	
Total No. Speared:	21	39	275	167	113	219	147	136	201	1318	
Percent Measured:	0.81	1	0.764	0.862	0.982	0.982	0.98	0.824	0.985	0.903	

## APPENDIX I

Number of northern pike per inch group taken during spring spearing seasons from 1985-1993.

Inch Group	Number of Northern Pike in:									9 Year Total	Percent of Total
	1985	1986	1987	1988	1989	1990	1991	1992	1993		
11										0	0.0%
12		1						1		2	1.0%
13				1						1	0.5%
14										0	0.0%
15			1			1				2	1.0%
16						2				2	1.0%
17		1	1	2	1		1	1		7	3.4%
18			1	1	1	4	4			11	5.3%
19				2	1	1	4		1	9	4.3%
20		2		2	5	1	6	1	1	18	8.7%
21			2	10	1	3		1	1	18	8.7%
22		2	3	2		4	4	2	2	19	9.1%
23		1	2	2		2	1	3	2	13	6.3%
24		1	3	2		3	6	1	3	19	9.1%
25			1	1			2	1		5	2.4%
26				5		1	2	2		10	4.8%
27			1	1	1	2	1	1		7	3.4%
28			7	2	1	1	1		1	13	6.3%
29				1	1	2	1		2	7	3.4%
30			1	1			1		1	4	1.9%
31			2	3		1		1	1	8	3.8%
32			3	2		1			1	7	3.4%
33		1			1	1	2	1		6	2.9%
34							1			1	0.5%
35							1	1		2	1.0%
36		1		2		1	1	1		6	2.9%
37				1	1				1	3	1.4%
38						1				1	0.5%
39		1		1					1	3	1.4%
40		1					1			2	1.0%
41				1					1	2	0.5%
Total No. Measured:	0	12	28	45	14	32	40	18	19	208	100%
Total Length:	0	312	724	1,152	334	776	986	453	526.8	5,263	
Average Length:	N/A	26.0	25.9	25.6	23.9	24.2	24.6	25.2	27.7	25.3	
Total No. Speared:	2	13	41	59	14	34	41	30	19	253	
Percent Measured:	0.0%	92.3%	68.3%	76.3%	100.0%	94.1%	97.6%	60.0%	100.0%	82.2%	

