



**SPEAR FISHERY
OF THE
LAKE SUPERIOR TRIBES OF CHIPPEWA INDIANS
SPRING 1988
Summary Report**

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GREAT LAKES INDIAN FISH
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Abstract

For the fourth consecutive year, a spear fishery was conducted in off-Reservation waters of northern Wisconsin. Regulations governing the 1988 season were agreed to by negotiators for the State of Wisconsin and seven Chippewa Tribes. Safe harvest levels (Total Allowable Catch or TAC) were established for walleye in 148 ceded territory lakes 500 acres and larger, and 20% of the TAC allocated to the tribes. Also, 24 river segments were available for spearing.

A total of 426 tribal members from 7 Chippewa bands participated in the fishery. Spearing effort occurred on 92 lakes and 1 river in 13 Counties. A total of 26,477 fish were harvested with the majority (98% of the catch or 25,969 fish) being walleye. The number of other gamefish harvested was 158 muskellunge, 167 bass, 59 northern pike and 2 sturgeon. Average length was 15.8 inches for walleye and 36.7 inches for muskellunge. Except for three lakes where quotas were exceeded by 1 - 18 fish, harvest of walleye was maintained within the established limits by a nightly permit system and by a complete monitoring of the catch.

TABLE OF CONTENTS

	PAGE
LIST OF TABLES	ii
LIST OF FIGURES	iii
LIST OF APPENDICES	iv
INTRODUCTION	1
RESULTS AND DISCUSSION	4
Fishing Effort	4
Number of Spearers	4
Number of Spearer-nights	5
Number of Boat-hours	5
Number of Lakes	7
Total Harvest	8
Walleye Harvest	8
Lake Quotas	8
Mean Length	12
Catch per Effort (CPE)	13
Muskellunge Harvest	14
Bass Harvest	17
Northern Pike Harvest	18
CONCLUSION	19
ACKNOWLEDGEMENTS	20
LITERATURE CITED	20
APPENDICES	21

LIST OF TABLES

TABLE		PAGE
1	Number of tribal members that speared one or more nights on lakes named by seven Chippewa bands during the 1988 spring spear fishery	4
2	Number of spearers on lakes named by seven Chippewa tribes during spring 1987 and 1988	5
3	Number of spearer-nights on lakes named by seven Chippewa bands during the 1987 and 1988 spring spearing seasons	6
4	Number of boat-hours per tribe during the 1987 and 1988 spring spearing seasons	6
5	Number of nights that various waters were speared during the 1988 spring season	7
6	Number and percent of various fishes harvested by tribal spearers during spring 1985, 1986, 1987, and 1988	9
7	Number of lakes (total, with no quota, or with quota) and walleye quota for lakes in 23 ceded territory counties where lakes were speared or not speared during spring 1988	10
8	Number, area, walleye quota, and walleye harvest in 91 lakes that were speared during spring 1988 and where "percent of quota harvested" was 0 or within 5 ranges	12
9	Average and range of lengths of fish measured during the 1985 - 1988 spring spearing seasons	13
10	Average number of fish per spearer, per spearer-night, and per boat-hour during the 1988 spring spear fishery	15
11	Number of muskellunge, northern pike, and bass (largemouth and smallmouth combined) harvested from various waters during spring 1988. Data arranged alphabetically by tribe and by water body	16

LIST OF FIGURES

FIGURE		PAGE
1	Off-reservation treaty fishing permit used during spring 1988	3
2	Map depicting the ceded territory in northern Wisconsin with symbols noting location of 6 Chippewa Reservations and counties with quotas for walleye	11
3	Length frequency for walleye harvested during the 1988 spring spearing season	14
4	Length frequency for muskellunge harvested during the 1988 spring spearing season	17
5	Length frequency for bass (largemouth and smallmouth combined) harvested during the 1988 spring spearing season	18
6	Length frequency for northern pike harvested during the 1988 spring spearing season	19

LIST OF APPENDICES

APPENDIX		PAGE
A	1988 spring fishing regulations	21
B	List of rivers and river segments available for spearing during spring 1988	23
C	Catch report form used during spring 1988	25
D	Number of spearers on various nights during spring 1988. Also, CPE (walleye/spearer-night) on each lake. Data are arranged by tribe and lake	26
E	Number of boat-hours on various nights and per lake during spring 1988. Data are arranged by tribe and lake	29
F	Number of walleye speared on various nights and per lake during spring 1988. Also, initial and remaining quota. Data are arranged by tribe and lake	32
G	Number of total walleye per inch group that were harvested during the 1988 spring spearing season. Data arranged by tribe and by lake	35
H	Number of male walleye per inch group that were harvested during the 1988 spring spearing season. Data arranged by tribe and by lake	37
I	Number of female walleye per inch group that were harvested during the 1988 spring spearing season. Data arranged by tribe and by lake	39
J	CPE (walleye per boat-hour) on various nights and per lake during spring 1988. Data are arranged by tribe and by lake	41

INTRODUCTION

This report presents data on harvest and effort during the 1988 off-reservation spring spear fishery in northern Wisconsin, the fourth conducted in the ceded territory under interim tribal/state agreements. The agreement was effective from its execution date until 5 a.m. on May 6, 1988. Each Tribe was required to notify the Wisconsin Department of Natural Resources (WDNR) 48 hours prior to the initiation of its 15 day fishing season. Regulations governing the 1988 season are summarized in Appendix A.

During negotiations, the Tribal/State Technical Working Group (TWG) was directed to calculate, if possible, the total number of walleye and muskellunge that could be safely harvested by all user groups (Total Allowable Catch or TAC) in all ceded territory lakes 25 acres and larger. The TWG met on 4 dates and reviewed all "mark and recapture" population estimates conducted for these two species within the ceded territory.

First, estimates were evaluated for reliability and bias. Several estimates were identified as unreliable and eliminated from the data set. Biases in estimates of the spring spawning stock were identified and, whenever possible, an adjustment was made to minimize the bias. In cases where the number of fish in a lake had been estimated during more than one spring, then the mean of the estimates was generally used to develop a TAC. However, in cases where a population had substantially changed over time, then the more recent estimate was used for TAC purposes.

Second, WDNR used the data set for walleye and muskellunge estimates to calculate a regression formula using Log 10 transformations of population size (number of fish - Y axis, dependent variable) versus lake size in acres (X axis, independent variable). These formulae were used to calculate population size in lakes where no mark and recapture population estimate had been conducted.

Third, TAC's were then calculated by multiplying population size by the appropriate exploitation rate: 0.35 for walleye, 0.27 for muskellunge. For border lakes, TAC's were prorated by determining the percent of the lake within Wisconsin and off-Reservation. Border lakes included those partially on-Reservation, on the Michigan-Wisconsin border, or on the boundary line defining the ceded-territory within Wisconsin.

With a system developed for determining walleye and muskellunge TAC's in all ceded territory lakes 25 acres and larger, State/Tribal negotiators agreed that spearing would be limited to lakes 500 acres and larger. They also agreed that TAC's would apply to walleye, with 20% allocated to the tribes. TAC's did not apply to muskellunge but rather harvest was restricted by a nightly bag limit of two fish per spearer. Nevertheless, as a back-up system to control total harvest, harvest guidelines for each lake were established at 20% of the TAC.

The permit system for walleye was similar to the system used during spring 1987. Permits (Figure 1) 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 bag limit selected for that lake. Once the TQ was reached, the lake was closed to further walleye harvest.

Harvest of fish in 24 river segments was agreed upon for the first time in 1988 (Appendix B). The list of rivers where spearing could occur was developed by the TWG. Due to the paucity of data on river populations, negotiators agreed to regulate harvest on rivers with bag limits, and limits on the number of nights that a river could be named for spearing, and the number of permits per night.

The use of fyke nets as a harvest method also was permitted for the first time in 1988. Special restrictions governing use of this gear, as well as seines, were developed (Appendix A). However, no fyke nets or seines were used by any tribal members throughout the course of the season.

All spearing was monitored by creel clerks under the supervision of GLIFWC wardens and biologists. Creel clerk/warden teams were assigned to each lake where permits had been issued. 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 (Appendix C) was filled out. Fish were identified to species, counted, measured (up to 200 walleye per lake per night) and sex determined. In addition, permits were collected, and a record made of each person's tribal I.D. number, the time spearing started and the time it ended.

Nightly harvest and effort for each lake were totalled and reported by 9 a.m. the following day to the GLIFWC in Odanah. These data were then transmitted to tribal and WDNR representatives by 10 a.m. and used to update TQ's. At the same time, tribal representatives notified the GLIFWC of the lakes and bag limits selected for that night. Harvest was reported daily in newspapers throughout Wisconsin.

Figure 1. Off-Reservation treaty fishing permit used during Spring 1988.

1	2	3	4	5	6	7	8	9	10
21	Off-Reservation Treaty Fishing Permit Spearing Permit No 0332 Other								11
30	Tribal ID Number _____ of _____ Reservation Signature of Permittee: _____								12
29	Issued by: _____ of _____ Reservation Lake: _____ County: _____								13
28	Bag Limit: _____ Month: _____ Other Restrictions: _____								14
27									15
26									16
25	24	23	22	21	20	19	18	17	16

Front

Spearing Times:		Number of:	
Starting _____		Walleye per boat _____	
Ending _____		Musky per boat _____	
WALLEYE LENGTHS			
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Back

RESULTS AND DISCUSSION

FISHING EFFORT

Effort in the spring spear fishery has been gauged three ways: by the number of spearers, by the number of spearer-nights, and by the number of boat-hours. A fourth way, the total number of nights that all lakes were speared (lake-nights), is reported for the first time this year and may be useful for determining the amount of manpower needed to monitor the season.

Number of Spearers

A total of 426 tribal members participated in the 1988 fishery (Table 1). Approximately half (200 members or 46.9%) speared on lakes named by Lac du Flambeau. The number of persons spearing on lakes named by the other four tribes that speared in 1987 was much lower and similar: 35 at Bad River, 48 at LCO, 59 from St. Croix, and 63 from Mole Lake. Relatively few tribal members from Mille Lacs (7) and Red Cliff (14) speared, but this was the first year that these two tribes participated in the fishery.

Table 1. Number of tribal members that speared one or more nights on lakes named by seven Chippewa bands during the 1988 spring spear fishery.

NUMBER OF NIGHTS	BAD RIVER	LCO	LDF	MILLE LACS	MOLE LAKE	RED CLIFF	ST CROIX	TOTAL	% OF TOTAL	CUMULATIVE PERCENT
1	22	18	67	4	22	8	22	163	38.3%	38.3%
2	6	5	24	1	11	1	11	59	13.8%	52.1%
3	4	9	20		5	1	7	46	10.8%	62.9%
4	2	2	10		3	1	1	19	4.5%	67.4%
5	1	6	19		5		3	34	8.0%	75.4%
6		5	17		4	1	3	30	7.0%	82.4%
7		1	18		2	2	4	27	6.3%	88.7%
8			10	2	5		1	18	4.2%	93.0%
9			5		3		2	10	2.3%	95.3%
10			4		3		4	11	2.6%	97.9%
11			3				1	4	0.9%	98.8%
12		2	2					4	0.9%	99.8%
13								0	0.0%	99.8%
14			1					1	0.2%	100.0%
15								0	0.0%	100.0%
TOTAL:	35	48	200	7	63	14	59	426	100.0%	
PERCENT:	8.2%	11.3%	46.9%	1.6%	14.8%	3.3%	13.8%	100.0%		

Compared to 1987, the total number of persons spearing increased by 1.7% (Table 2). However, a decrease was noted for four of the five tribes which had speared in 1987.

Table 2. Number of spearers on lakes named by seven Chippewa tribes during spring 1987 and 1988.

Tribe	Number of Spearers		Percent Change
	1987	1988	
Bad River	22	35	+ 59%
LDF	206	200	- 6%
LCO	58	48	- 10%
St. Croix	63	59	- 4%
Mole Lake	70	63	- 7%
Red Cliff		14	
Mille Lacs		7	
Total:	419	426	+ 1.7%

Number of Spearer-Nights

A total of 1,549 spearer-nights (number of persons times number of nights speared) were observed in 1988 (Table 3; Appendix D), an increase of 23% over that reported for the 1987 season (1,264 spearer-nights) (Kmiecik and Shively 1988). This increase in effort occurred for each of the tribes that speared both in 1987 and 1988.

Number of Boat-Hours

A total of 2,241 boat-hours of effort was recorded (Appendix E), an increase of 31% over the 1,717 boat-hours observed in 1987. This increase occurred for each of the tribes that speared in 1987 (Table 4). These statistics are slightly biased by the fact that boat-hour effort was incomplete both years and because boat-hour effort was recorded for a greater percentage of each tribe's catch in 1988 than in 1987. Overall, effort was recorded for 98% of

Table 3. Number of spearer-nights on lakes named by seven Chippewa bands during the 1987 and 1988 spring spearing seasons.

Tribe	Number of Spearer-Nights		Percent Change
	1987	1988	
Bad River	43	64	+ 48%
LCO	140	165	+ 18%
LDF	695	788	+ 13%
Mole Lake	205	249	+ 21%
St. Croix	181	224	+ 24%
Red Cliff		37	
Mille Lacs		22	
Total:	1264	1549	+ 23%

Table 4. Number of boat-hours per tribe during the 1987 and 1988 spring spearing seasons.

Tribe	Boat-Hours		Percent Change
	1987	1988	
Bad River*	46.3	172.9	+ 273%
LCO	163.0	247.0	+ 52%
LDF	975.5	1093.7	+ 12%
Mole Lake	252.0	393.2	+ 56%
St. Croix	280.1	289.9	+ 3%
Mille Lacs		43.9	
Total:	1716.9	2240.6	+ 30.5%

* Includes Red Cliff in 1988.

the walleye caught in 1988 (25,443 of 25,969) and 97% of those taken in 1987 (20,686 of 21,321).

Number of Lakes

A total of 93 lakes and one river were fished with spears in 1988 (Table 5). Of these waters, five lakes and one river were speared by two tribes (Appendix D). Altogether, these 94 waters were speared a total of 277 nights, with the majority of waters (68 of 94) speared from 1-3 nights. The two waters speared most often were the Chippewa and Turtle-Flambeau Flowages (14 and 12 nights, respectively).

Table 5. Number of nights that various waters were speared during the 1988 spring season.

Number of Nights (a)	Number of Waters (b)	Total Number of Nights (a * b)
1	37	37
2	17	34
3	14	42
4	6	24
5	6	30
6	5	30
7	4	28
8	1	8
9	2	18
10		
11		
12	1	12
13		
14	1	14
15		
Total:	94	277

TOTAL HARVEST

Fifteen taxa of fish were harvested during the 1988 spring spear fishery (Table 6). Of the 26,477 fish harvested, 98% were walleye. Both muskellunge and bass made up 0.6% of the catch, while both northern pike and crappie accounted for 0.2% of the harvest. Two sturgeon were taken. Other species (panfish and roughfish) combined made up less than 0.3% of the harvest.

WALLEYE HARVEST

Lake Quotas

The ceded territory has 197 lakes 500 acres and larger (Table 7). Walleye quotas were established for 148 lakes within 21 counties (Figure 2). Quotas were not set on the other 49 lakes for several reasons: some lakes did not contain walleye (33 lakes), some contained only "remnant" populations (5 lakes), some had no public access (4 lakes), and some were entirely within Reservation boundaries (7 lakes).

Tribal spearers harvested a total of 25,969 walleye. All but five of these fish were taken from 91 lakes with a quota (Table 7). Four walleye were harvested from Big Sand Lake (Burnett Co.), a lake where the population is being rebuilt through stocking and thus, because of the extremely low number of adults, no quota was established. Another lake with no quota (Upper Clam in Burnett Co.) was speared but no walleye were taken. One walleye was taken from a segment of the St. Croix River in Burnett Co. One other river and nine other lakes were named for potential harvest but not speared (Appendix F).

Overall, 36.7% of the total walleye quota (70,727 fish) was harvested. However, this percentage includes the quota for 57 lakes that were not speared (Table 7). For only the 91 lakes where fishing occurred, 48.6% of the combined quota (53,408 walleye) was taken. Also, within this set of 91 lakes, at least 75% of the individual lake quota was harvested from 49 lakes (Table 8).

Table 6. Number and percent of various fishes harvested by tribal spearers during spring 1985, 1986, 1987, and 1988.

TAXA	NUMBER OF FISH				PERCENT OF TOTAL			
	1985	1986	1987	1988	1985	1986	1987	1988
Walleye	2761	6940	21321	25969	94.75	98.06	97.25	98.08
Muskellunge	86	55	196	158	2.95	0.78	0.89	0.60
Bass sp. *	21	39	275	167	0.72	0.55	1.25	0.63
Northern Pike	2	13	41	59	0.07	0.18	0.19	0.22
Lake Sturgeon	1		6	2	0.03		0.03	0.01
Trout sp.			2				0.01	
Rock Bass	12	3	1	23	0.41	0.04	0.00	0.09
Crappie sp.		9	22	47		0.13	0.10	0.18
Bluegill	2	2	8	9	0.07	0.03	0.04	0.03
Yellow Perch				17				0.06
Bullhead sp.	1	1	4	2	0.03	0.01	0.02	0.01
Sucker sp.	27	15	48	21	0.93	0.21	0.22	0.08
Carp	1		1	1	0.03		0.00	0.00
Burbot				1				0.00
Bowfin				1				0.00
TOTAL	2914	7077	21925	26477	100	100	100	100

* Of the total, 122 were identified as largemouth and 20 as smallmouth.

Table 7. Number of lakes (total, with no quota, or with quota) and walleye quota in 23 ceded territory counties where lakes were speared or not speared during spring 1988.

COUNTY CATEGORY	COUNTY	NUMBER OF LAKES								TOTAL QUOTA
		TOTAL	WITH NO QUOTA	BUT NOT SPEARED	WITH QUOTA	AND SPEARED	QUOTA	WALLEYE HARVEST	% OF QUOTA	
WITH WALLEYE QUOTA AND WHERE LAKES WERE SPEARED (N = 13)	BARRON	8	1	6	1553	1	109	82	75.2%	1662
	BAYFIELD	5	1	0	0	4	1517	1376	90.7%	1517
	BURNETT	15	10	2	405	3	1087	352	32.4%	1492
	DOUGLAS	5	1	2	240	2	444	17	3.8%	684
	FLORENCE	1	0	0	0	1	133	56	42.1%	133
	FOREST	8	3	0	0	5	1900	1760	92.6%	1900
	IRON	4	1	1	206	2	7805	6245	80.0%	8011
	ONEIDA	29	2	5	2089	22	8435	4081	48.4%	10524
	POLK	9	3	3	682	3	691	347	50.2%	1373
	PRICE	7	1	3	521	3	1379	628	45.5%	1900
	SAWYER	16	1	5	1986	10	18711	3058	16.3%	20697
	VILAS	48	9	8	1241	31	9367	7604	81.2%	10608
	WASHBURN	7	2	1	80	4	1830	358	19.6%	1910
	subtotal:	162	35	36	9003	91	53408	25964	48.6%	62411
WITH WALLEYE QUOTA BUT WITH NO SPEARING (N = 8)	CHIPPEWA	6	0	6	3848					3848
	DUNN	1	0	1	476					476
	EAU CLAIRE	3	0	3	420					420
	LANGLADE	4	2	2	171					171
	LINCOLN	4	0	4	765					765
	MARATHON	9	8	1	1561					1561
MARINETTE	2	0	2	464					464	
RUSK	3	1	2	611					611	
	subtotal:	32	11	21	8316					8316
WITH NO QUOTA BUT WITH LAKE(S) > 500 ACRES (N = 2)	ASHLAND	2	2							
	TAYLOR	1	1							
	subtotal:	3	3							
	TOTAL:	197	49	57	17319	91	53408	25964	48.6%	70727

CHIPPEWA RESERVATIONS

- ① Red Cliff
- ② Bad River
- ③ Lac du Flambeau
- ④ St. Croix
- ⑤ Lac Courte Oreilles
- ⑥ Mole Lake

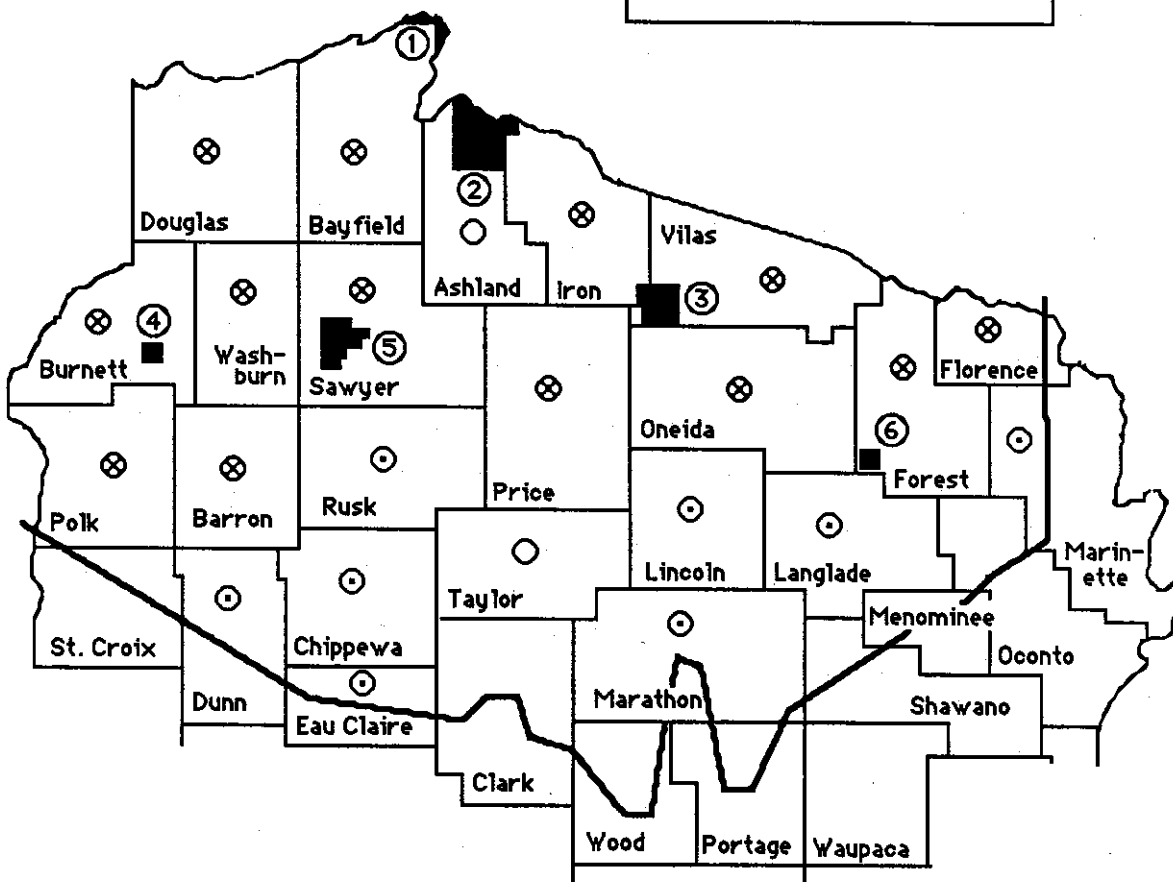
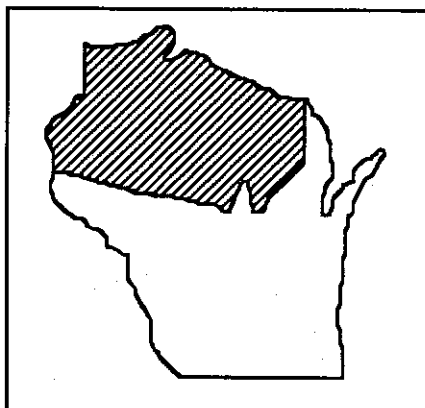


Figure 2. Map depicting the ceded territory in northern Wisconsin. Heavy line indicates approximate ceded territory boundary.

- ⊗ = County where spearing occurred.
- ⊙ = County with walleye quota but no spearing occurred.
- = County with lake(s) ≥ 500 acres but no walleye quota.
- No Symbol = County with no lakes ≥ 500 acres.

Table 8. Number, area, walleye quota, and walleye harvest in 91 lakes that were speared during spring 1988 and where "percent of quota harvested" was 0 or within 5 ranges.

Percent of Quota Harvested	Number of Lakes	Area (acres)	Number of Walleye	
			in Quota	Harvested
0	2	2,386	647	0
1 - 24.9	21	46,425	24,964	2,700
25 - 49.9	10	14,355	3,521	1,412
50 - 74.9	9	6,982	1,911	1,297
75 - 99.9	44	71,827	20,619	18,776
100+	5	7,676	1,746	1,779
Total	91	149,631	53,408	25,964

Mean Length

A total of 19,368 walleye or 75% of the catch was measured. Length of walleye ranged from 7.9 - 30.7 inches (Table 9; Figure 3) and averaged 15.8 inches (Appendix G), similar to the average in 1987 (15.9 inches). Size restrictions were identical during these two seasons. Average length was highest in 1985 (17.2 inches) when regulations allowed one fish 20 inches and larger to be harvested and lowest in 1986 (15.5 inches) when one walleye from 20-24 inches and no walleye over 24 inches could be taken.

The majority of speared fish were male, i.e. 16,193 of 19,368 walleye measured or 83.6%. Females (2,033 fish) comprised 10.5% of the catch, while those whose sex could not be determined (1,142 fish) made up 5.9% of the measured harvest. Average length was 15.3 for males (Appendix H) and 19.3 inches for females (Appendix I).

Of the walleye measured, 8.6% (1,676 of 19,368 walleye) were 20 inches and larger (Appendix G). Of these, 791 (47.2%) were female and 618 (36.9%) were male. By applying these percentages to the total harvest (25,969 walleye), an

Table 9. Average and range of lengths (inches) of fish measured during the 1985 - 1988 spring spearing seasons.

Species	Year	Sample Size	Average Length	Range
Walleye	1985	1,622	17.3	9.2 - 33.0
	1986	6,842	15.5	6.5 - 27.0
	1987	14,224	15.9	9.0 - 31.0
	1988	19,368	15.8	7.9 - 30.7
Muskellunge	1985	68	35.4	25.0 - 50.0
	1986	55	36.2	23.0 - 52.0
	1987	180	36.2	16.0 - 49.0
	1988	158	36.7	17.0 - 51.2
Northern Pike	1985		Not Available	
	1986	13	24.0	12.6 - 40.5
	1987	28	25.9	15.4 - 32.5
	1988	45	25.6	13.7 - 41.5
Bass *	1985		Not Available	
	1986	39	15.3	9.0 - 21.0
	1987	210	15.2	8.4 - 22.0
	1988	144	15.8	10.0 - 25.6

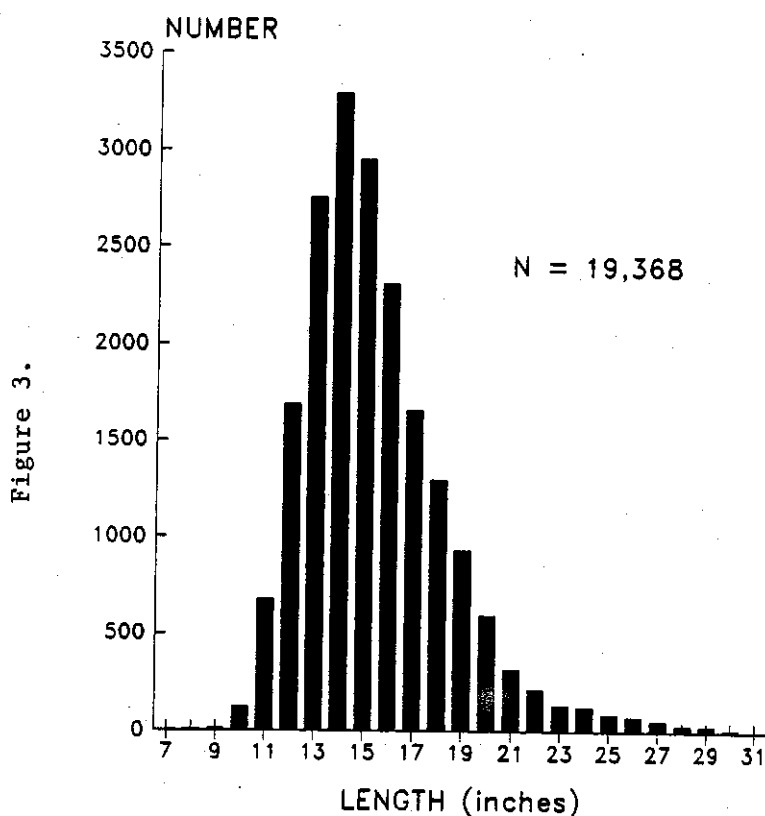
* = Largemouth and smallmouth combined.

estimated 2,247 walleye 20 inches and larger were harvested (1,060 female, 829 male, and 358 sex unknown).

Catch per Effort (CPE)

Although CPE's have been calculated using three separate measures of effort (Table 10), the TWG has agreed that relative efficiency of spearing is best measured in "boat-hour" effort. In 1988 a total of 2,240.6 boat-hours of spearing was recorded (Table 10, Appendix J) in which 25,443 walleye were caught. Hence, catch per effort was 11.4 walleye per boat-hour. This CPE for all data pooled was slightly lower than the catch rate of 12.0 walleye per boat hour in 1987 (Kmiecik and Shively 1988).

LENGTH FREQUENCY OF WALLEYE 1988 SPRING SPEARING SEASON



Catch rates for 91 lakes speared in 1988 ranged from 0.0 to 84.1 walleye per hour (Appendix G) and averaged 14.2 per hour (Biological Issues Group 1988). This unweighted catch rate by lake was slightly higher than the average of 12.2 walleye per hour (range = 0.0 - 46.4 per hour) noted for 66 lakes speared in 1987.

MUSKELLUNGE HARVEST

A total of 158 muskellunge were speared from 35 lakes in eight counties (Table 11). The majority of muskellunge were harvested on lakes named by Lac du Flambeau (72), followed by St. Croix (36), Lac Courte Oreille (30), Mole Lake (20), and Red Cliff (1) (Table 10). Harvest of muskellunge was lower than in 1987 when 196 were speared but higher than in 1985 (86 fish) and 1986 (55 fish) (Table 6).

Length of muskellunge ranged from 17.0 - 51.2 inches (Figure 4) and averaged 36.7 inches (Table 9). This average is slightly higher than average length in both 1986 and 1987 (36.2 inches) and in 1985 (35.4 inches). During the 1988 season, 29 musky (18.4% of the harvest) were less than 32 inches.

Table 10. Average number of fish per spearer, per spearer-night, and per boat-hour during the 1988 spring spear fishery.

SPECIES	TRIBE	EFFORT:			HARVEST: NUMBER OF FISH	CATCH PER EFFORT (CPE):		
		NUMBER OF SPEARERS	NUMBER OF SPEARER- NIGHTS	NUMBER OF BOAT- HOURS		FISH PER SPEARER	FISH PER SPEARER- NIGHT	FISH PER BOAT-HOUR *
WALLEYE								
	BAD RIVER	35	64	172.9	1099	31.4	17.2	8.5
	LAC COURTE OREILLES	48	165	247.0	1854	38.6	11.2	7.5
	LAC DU FLAMBEAU	200	788	1093.7	16934	84.7	21.5	15.5
	MILLE LACS	7	22	43.9	86	12.3	3.9	2.0
	MOLE LAKE	63	249	393.2	4549	72.2	18.3	11.6
	RED CLIFF	14	37		372	26.6	10.1	
	ST. CROIX	59	224	289.9	1075	18.2	4.8	3.7
	ALL TRIBES	426	1549	2240.6	25969	61.0	16.8	11.4
MUSKELLUNGE								
	BAD RIVER				0	0.00	0.00	0.01
	LAC COURTE OREILLES				30	0.63	0.18	0.12
	LAC DU FLAMBEAU				72	0.36	0.09	0.07
	MILLE LACS				0	0.00	0.00	0.00
	MOLE LAKE				20	0.32	0.08	0.05
	RED CLIFF				1	0.07	0.03	
	ST. CROIX				36	0.61	0.16	0.12
	ALL TRIBES				158	0.37	0.10	0.07
NORTHERN PIKE								
	BAD RIVER				0	0.00	0.00	0.02
	LAC COURTE OREILLES				3	0.06	0.02	0.01
	LAC DU FLAMBEAU				1	0.01	0.00	0.00
	MILLE LACS				6	0.86	0.27	0.14
	MOLE LAKE				20	0.32	0.08	0.05
	RED CLIFF				3	0.21	0.08	
	ST. CROIX				26	0.44	0.12	0.09
	ALL TRIBES				59	0.14	0.04	0.03
BASS **								
	BAD RIVER				3	0.09	0.05	0.03
	LAC COURTE OREILLES				5	0.10	0.03	0.02
	LAC DU FLAMBEAU				4	0.02	0.01	0.00
	MILLE LACS				1	0.14	0.05	0.02
	MOLE LAKE				26	0.41	0.10	0.07
	RED CLIFF				3	0.21	0.08	
	ST. CROIX				125	2.12	0.56	0.43
	ALL TRIBES				167	0.39	0.11	0.07

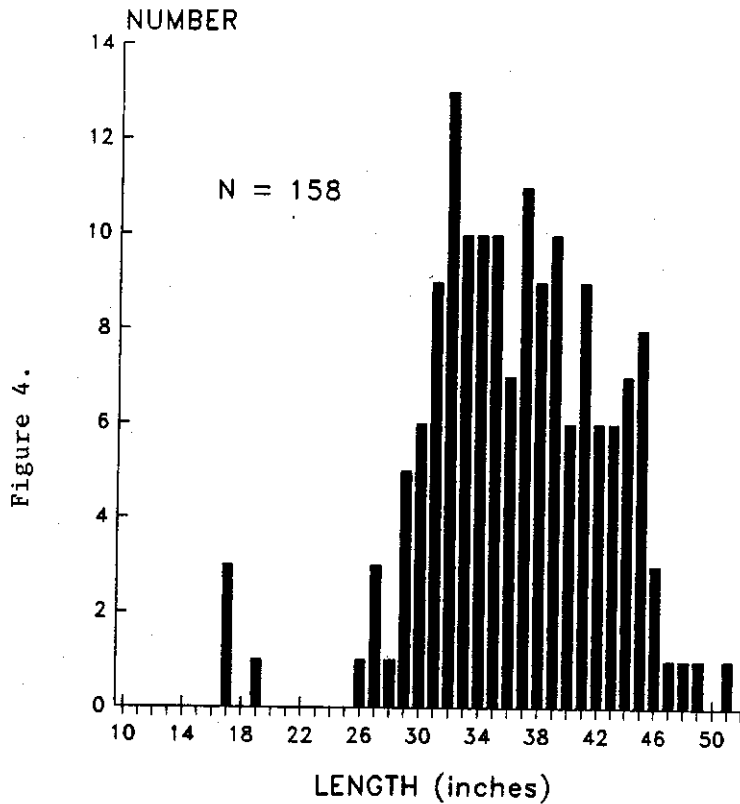
* For walleye per boat-hour only, 2 adjustments were made 1) harvest by Bad River and Red Cliff were combined and divided by boat-hours combined, 2) only the total number of walleye harvested in the reported boat-hour effort was used.

** Smallmouth and largemouth bass combined.

Table 11. Number of muskellunge, northern pike, and bass (largemouth and smallmouth combined) harvested from various waters during spring 1988. Data arranged alphabetically by tribe and by water body.

WATER BODY	COUNTY	TRIBE	MUSKELLUNGE	NORTHERN PIKE	BASS SP.
Middle Eau Claire L	Bayfield	BR/RC		2	2
Upper Eau Claire L	Bayfield	BR/RC	1	1	3
Chippewa Fl	Sawyer	LCO/LDF	17	1	
Grindstone L	Sawyer	LCO	4	1	
Lac Courte Oreilles	Sawyer	LCO	4		
Lost Land L	Sawyer	LCO	2		2
Round L	Sawyer	LCO	9	1	
Sissabagama L	Sawyer	LCO	6		3
Tiger Cat Fl	Sawyer	LCO	1		
Big Arbor Vitae L	Vilas	LDF	4		
Big Muskellunge L	Vilas	LDF	8		
Big St Germain L	Vilas	LDF	3	1	
Butternut L	Price	LDF	1		
Catfish L	Vilas	LDF	1		
Clear L	Vilas	LDF	1		1
Crab L	Vilas	LDF	1		
Crescent L	Oneida	LDF	5		1
Katherine L	Oneida	LDF	1		1
L Nokomis	Oneida	LDF			1
Laura L	Vilas	LDF	2		
Little Arbor Vitae L	Vilas	LDF	4		
Little St Germain L	Vilas	LDF	1		
Manitowish L	Vilas	LDF	3		
Minocqua L	Oneida	LDF	6		
Palmer L	Vilas	LDF	1		
Plum L	Vilas	LDF	3		
Rest L	Vilas	LDF	4		
Star L	Vilas	LDF	1		
Tomahawk L	Oneida	LDF	3		
Trout L	Vilas	LDF	5		
Turtle Flambeau Fl	Iron	LDF	1		1
Bardon L	Douglas	Mille Lacs			1
L Nancy	Washburn	Mille Lacs		2	
Minong Fl	Washburn	Mille Lacs		3	
Big Fork L	Oneida	Mole Lake	1		
Butternut L	Forest	Mole Lake		5	7
Franklin L	Forest	Mole Lake		1	
Long L	Oneida	Mole Lake	2		
Lucerne L	Forest	Mole Lake			1
Metonga	Forest	Mole Lake			1
Pelican L	Oneida	Mole Lake	14		
Pine L	Forest	Mole Lake		13	17
Planting Ground L	Oneida	Mole Lake	3	1	
Balsam L	Polk	St Croix		5	22
Beaver Dam L	Barron	St Croix		1	6
Big Round L	Polk	St Croix		3	40
Big Sand L	Burnett	St Croix			22
Halfmoon L	Polk	St Croix		2	16
Long L	Washburn	St Croix		1	2
North Sand L	Burnett	St Croix		2	3
Shell L	Washburn	St Croix	26	4	2
St Croix River	Burnett	St Croix		2	
Upper Clam L	Burnett	St Croix			1
Yellow L	Burnett	St Croix	9	7	11
		Total:	158	59	167

LENGTH FREQUENCY OF MUSKELLUNGE
1988 SPRING SPEARING SEASON



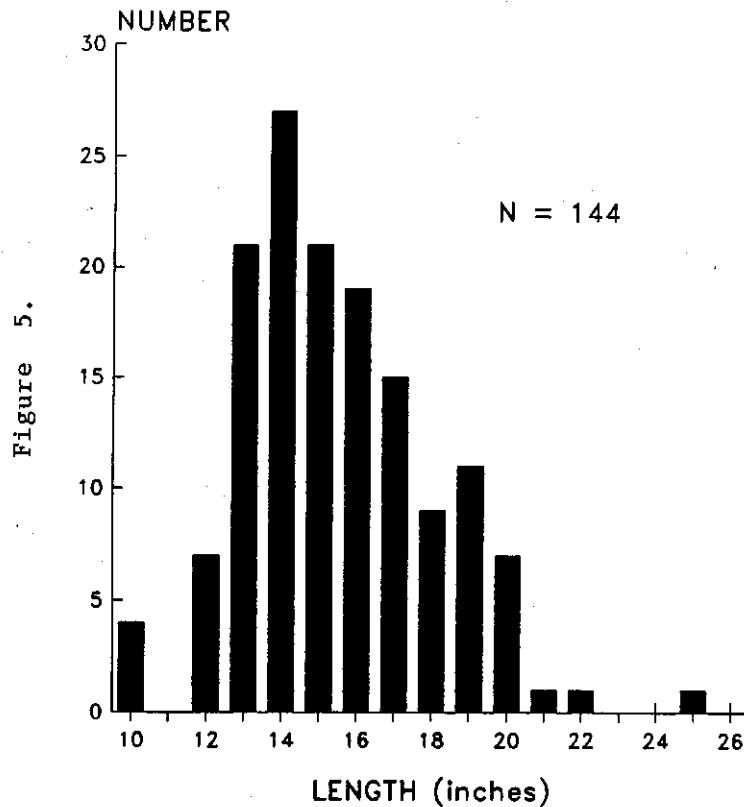
The number of muskellunge per spearer averaged 0.37 for all tribes combined (Table 10); it was higher for Lac Courte Oreilles (0.63) and St. Croix spearkers (0.61) than for Lac du Flambeau (0.36) and Mole Lake spearkers (0.32). Catch per boat-hour averaged 0.07 muskellunge. Both these CPE figures were lower than values in 1987, 0.47 per spearker and 0.11 per boat-hour (Kmiecik and Shively 1988).

BASS HARVEST

A total of 167 bass were harvested from 24 lakes in 11 Counties (Table 11). The majority of bass (125 or 75% of the total) were harvested by St. Croix spearkers from 10 lakes. Total harvest was lower than in 1987 when 196 bass were spearked but higher than in 1985 (21 fish) and 1986 (55 fish) (Table 6).

Length of 144 bass measured ranged from 10.0 - 25.6 inches (Figure 5) and averaged 15.8 inches (Table 9), a slightly higher value than average length in 1986 (15.3 inches) and 1987 (15.2 inches).

LENGTH FREQUENCY OF BASS
1988 SPRING SPEARING SEASON

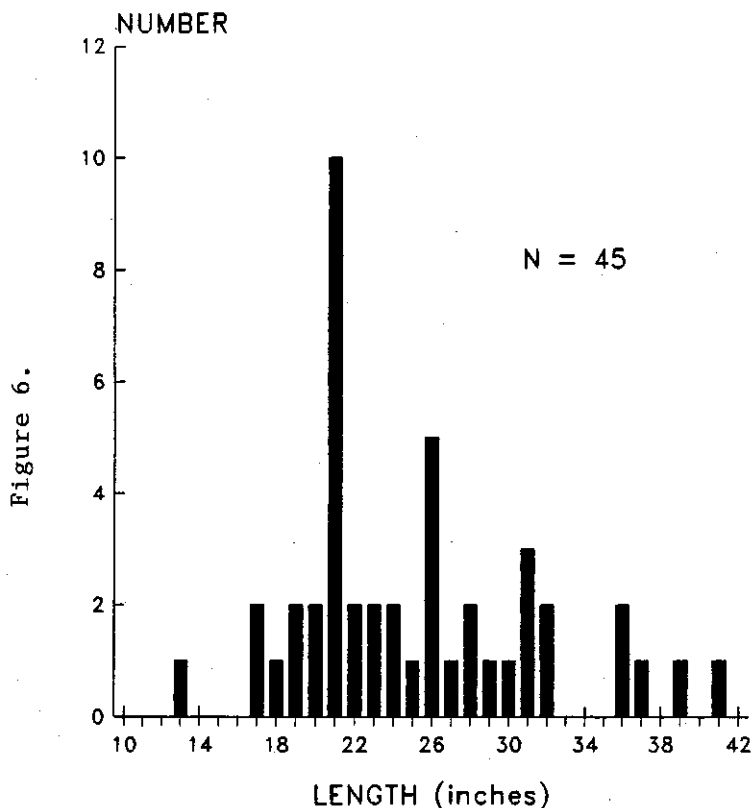


The number of bass per spearer was 0.39 for all tribes combined (Table 10) and highest for St. Croix (2.12). Catch per boat-hour was 0.07 bass. Both values are approximately half those found in 1987; 0.66 bass/spearer and 0.15 bass/boat-hour (Kmiecik and Shively 1988).

NORTHERN PIKE

A total of 59 northern pike were speared from 21 lakes in nine counties (Table 11). The greatest number of pike was taken by St. Croix members (26), followed by Mole Lake (20). Length of 45 northerns ranged from 13.7 - 41.5 inches (Figure 6) and averaged 25.6 inches (Table 9). Over the past 4 seasons, harvest of northerns has gradually increased (Table 6). However, harvest of pike appears to be incidental and remains an insignificant component of the fishery.

LENGTH FREQUENCY OF NORTHERN PIKE
1988 SPRING SPEARING SEASON



The number of northern pike taken per spearer averaged 0.14 for all tribes combined (Table 10). CPE was greatest for Mille Lacs (0.86 pike/spearer), followed by St. Croix (0.44) and Mole Lake (0.32). The average number of pike per boat hour was 0.03. Both CPE values are similar to those found in 1987; 0.10 pike/spearer and 0.02 northern/boat-hour (Kmiecik and Shively 1988).

CONCLUSION

For the second year in a row, the permit and monitoring system was responsible for maintaining walleye harvest within established quotas. On 86 of 89 lakes where walleye were speared, 100% or less of the quota was taken. Administrative error resulted in the quota being exceeded on 2 lakes: by 1 fish on Sevenmile Lake (Oneida Co.) and by 14 walleye on Big Muskellunge Lake (Vilas Co.). A bag limit violation resulted in the quota on Lake Namekagon (Bayfield Co.) being exceeded by 18 fish.

Muskellunge bag limits effectively controlled harvest. Although harvest guidelines were in place, less than 50% of the guideline was harvested from 31 of the 35 lakes where musky were taken. Percentages of the guideline harvested from three other lakes were 50% in Big Muskellunge Lake, 81% in Shell Lake, and 100% in Sissabagama Lake. Also, four muskellunge were mistakenly speared in Little Arbor Vitae Lake, a lake with a muskellunge study in place. Lakes with such studies were closed to the harvest of muskellunge and thus, citations were issued.

ACKNOWLEDGEMENTS

The authors wish to thank the many tribal workers from Bad River, Lac Courte Oreilles, Lac du Flambeau, Mille Lacs, Mole Lake, Red Cliff, and St. Croix who monitored the fishery, issued permits, and assisted in updating and compiling harvest data each day. A special thanks is due Toni Englehardt for her diligence in updating and coordinating data exchange between the tribes, the GLIFWC, and the WDNR. Also, Toni deserves credit for entering and proofing the majority of length data. Gratitude is due GLIFWC wardens who were responsible for supervising and setting up work assignments for the creel clerks. Also, we are grateful to the many law enforcement personnel (Commission and WDNR wardens, and County Sherrifs' Department officers) who ensured that work areas were safe. Finally, we appreciate the patience shown by tribal members during the nightly counting and measuring of fish.

LITERATURE CITED

- Kmiecik, N. and J. D. Shively. 1988. Spear fishery of the Lake Superior Tribes of Chippewa Indians, spring 1987. Great Lakes Indian Fish and Wildlife Commission, Administrative Report 88-2. 48 pp.
- 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.

APPENDIX

Appendix A

1988 SPRING FISHING REGULATIONS

This is a summary of tribal fishing regulations for the 1988 spring fishing season. If you have questions contact your tribal office or the Great Lakes Indian Fish and Wildlife Commission (715/682-6619).

IMPORTANT: The specific regulations of your tribe might be different and the status of lakes can change from night to night (whether a lake is open, whether a permit is required, what the bag limit is, etc.). Make sure that you check with your tribe as to its particular regulations and that you have current information each night before you go fishing. You must comply with your tribe's ordinance.

Season: Each tribe can spear for 15 consecutive days. The season must end by 5:00 a.m. on May 6. Check with your Conservation Department to find out when your tribe's season begins.

Nightly Hours: Dusk to 5:00 a.m.

Waters Open to Fishing: Except for Mille Lacs, up to 10 lakes and streams can be selected by your tribe each night. The Mille Lacs Tribe may select one lake or stream per night. You may only fish in a lake or stream selected by your tribe, or by another tribe, for that night.

Permits: A permit may be needed for a lake. Check with your Conservation Department or Task Force representative to find out if a permit is required for the lake you plan to spear. Permits can be picked up during the day at the Conservation Department or tribal headquarters. Permits will be issued on a "first come, first served" basis. At night, if permits are available, they may be issued at the designated boat landing. If you plan to spear on a lake selected by another tribe, be sure to find out if a permit is required by that tribe. You must comply with all the terms of any permit that has been issued to you.

Landings: You may only use landings designated by the tribe which named the body of water. Alternate landings may be designated if weather conditions or safety concerns warrant.

Bag and Size Limits:

<u>Species</u>	<u>Bag Limit</u>	<u>Size Limit</u>
Lake Sturgeon	1 per person per season 1 per night per stream (all boats). Sturgeon must be registered with your tribe before 4:30 p.m. of the next day	Any size
Bass	10 per night	Any size
Lake Trout	4 per night	Any size
Muskellunge	1 per person per night on lakes; 1 per boat per night on streams	Any size
Walleye	Variable on lakes. Check with your Conservation Department or Task Force representative for information. The bag limit can vary each night on each lake. 5 per person per night on streams	All walleye must be 20" or less, except 1 can be between 20-24" and one can be any size.

Allowable Methods: Spearing, dip netting, seining, and trap netting are the only methods allowed. No hook and line fishing, gill netting, or snagging.

Spearing and Dipnetting: Spears must have a minimum of three barbed tines which are at least 4½ inches long. Dip nets may be used on all lakes selected for spearing.

Seining: You may seine only if your Tribe names a lake open for seining; this lake cannot be used for spearing. Only one seine may be used on the lake per night, and seines must have a mesh size (stretch measure) of 2" or less. You must obtain a seining permit from your Tribe.

Trap Netting: You may set trap nets only if your Tribe names a lake open for trap netting; this lake cannot be used for spearing. You must comply with special restrictions. Only five trap nets may be set in a lake per night. You must obtain a permit for each net you set. No female walleyes may be kept and only male walleyes 20" or less may be kept. No muskellunge, lake trout or sturgeon may be kept. Only 10 bass per net may be kept. Nets must be made of cotton or nylon and must be lifted once every 24 hours. You must notify your tribal Conservation Department or GLIFWC before lifting any net. No net may be lifted without a biological monitor present.

Closed Areas: No fishing allowed in lakes, rivers, and streams not designated by the Tribe as open for fishing; within 50 yards of a DNR or tribal assessment net or its leads; or in fish refuges. (NOTE: Two lakes contain refuges--Gile Flowage (Iron Co.) and Turtle-Flambeau Flowage (Iron Co.). Also, many streams contain refuges in which you may not fish. Check with your Conservation Department for the location of these refuges.)

Experimental Lakes: Special restrictions will apply to lakes where DNR is conducting fish management experiments. Check with your Conservation Department for a list of these lakes.

Tribal I.D.: I.D.'s must be carried and presented upon request to any law enforcement officer or biologist, whether tribal or state.

Non-Members: Tribal fishers may not share gear or fish with an individual who is not a tribal member, except that immediate family or household members may assist in the operation of the boat.

Sale of Fish: Prohibited except that fish may be sold, traded, or bartered among tribal members.

Creel Surveys: You must cooperate with the people conducting creel surveys on all lakes fished each night. All fish will be counted and up to 200 walleye will be measured on each lake per night.

Lakes Partially On-Reservation: These rules apply to the off-reservation portions of lakes partially on the reservation. Any fish in your possession, off-reservation will be considered taken off-reservation unless tagged as on-reservation fish before leaving the reservation. Check with your Conservation Department on how crossing on-water reservation boundaries will be handled.

Appendix B

List of rivers and river segments available for spearing during spring 1988.

1. Big Rib River in Marathon County from the Highway S crossing at Rib Falls to its confluence with Lake Wausau.
2. Black River in Taylor County from its junction with the Little Black River to Highway A near the Taylor County line.
3. Chippewa River from 500 feet below the Arpin Dam in Sawyer County to Highway E in Rusk County near its confluence with the Flambeau River.
4. Couderay River in Sawyer County from the outlet of Little Lac Courte Oreilles to the Grimh Flowage.
5. Flambeau River in Rusk County from Highway 27 to the Port Arthur Dam.
6. Flambeau River, North Fork, from the Crowley Dam in Price County to its confluence with the South Fork in Sawyer County.
7. Flambeau River, South Fork, from the outlet of Round Lake in Price County to its confluence with the North Fork in Sawyer County, including the Elk River from the Lac Sault Dore Dam in Price County to its confluence with the South Fork.
8. Jump River, North Fork, from Highway 8 in Price County to the Taylor County Line.
9. Jump River, South Fork, from the town of Prentice in Price County to its confluence with the Nork Fork.
10. Jump River from the Rusk County/Taylor County line to Highway H near the Chippewa County line.
11. Namekagon River from Lake Hayward in Sawyer County to Highway E in Washburn County above the Trego Flowage.
12. Namekagon River from the Trego Dam in Washburn County to its confluence with the St. Croix River in Burnett County.
13. Red Cedar River in Barron County from the Rice Lake Dam to the Colfax Dam, including the Chetek River below the Lake Chetek Dam and the Yellow River below the Barron Dam.

14. St. Croix River from the Gordon Dam in Douglas County to the St. Croix Falls Dam in Polk County, including the Yellow River below the Danbury Dam, Loon Creek from the Minerva Dam to its confluence with the Yellow River, the Clam River below the Clam River Dam, and the Wood River below Wood Lake.
15. Totagatic River from the Minong Flowage Dam in Washburn County to its confluence with the Namekagon River in Burnett County.
16. Tomahawk River in Oneida County from the upstream Highway 70 crossing to the WVIC bridge above Cedar Falls, including the Squirrel River below Squirrel Lake Road.
17. Tomahawk River in Oneida County from the Willow Flowage to Swamp Creek.
18. Wisconsin River in Vilas County from Lac Vieux Desert to Highway G near Eagle River.
19. Wisconsin River in Vilas County from River Road to Black Lake Road.
20. Wisconsin River in Oneida County from the Rhinelander Dam to Hat Rapids Dam, including the Pelican River below Pelican Lake and the North Branch of the Pelican River from the outlet of 5th Lake (Moens Lake Chain) to its confluence with the Pelican River.
21. Wisconsin River from Merrill in Lincoln County to Brokaw in Marathon County.
22. Wolf River from the Little Rice Flowage in Forest County to Highway B in Oneida County.
23. Wolf River in Langlade County from Lower Post Lake to Highway T near Pearson.
24. Yellow River in Taylor County from the Miller Dam down to Highway S & H at the Chippewa County line.

Regulations: Spearing will be limited to two nights per river. Persons may only spear from boats and no more than four boats and twelve persons may spear per night. The maximum nightly bag limits are 5 walleye per spearer, 1 musky per boat, and 1 sturgeon per river. Spearing is prohibited in existing refuges.

Appendix C

BOAT OR PARTY CATCH REPORT - SPRING SPEARING 1988

Lake _____ County _____ Date _____

QUOTA: _____ Bag Limit _____ Time Out: Start-_____ End-_____ Hours-_____

Gear: Spear _____, Seine _____, Dip Net _____, Fyke Net _____, Boat Registration # _____

Walleye

	TRIBAL ID/NAME		TRIBAL ID/NAME		TRIBAL ID/NAME		TRIBAL ID/NAME		
	Length	Sex & Clip	Length	Sex & Clip	Length	Sex & Clip	Length	Sex & Clip	
1.									
2.									
3.									
4.									
5.									
6.									
7.									
8.									
9.									
10.									
11.									
12.									
13.									
14.									
15.									
16.									
17.									
18.									
19.									
20.									
21.									
22.									
23.									
24.									
25.									
Total No. Walleye		X		X		X		X	<u>Total</u>

Muskellunge Length (in.) _____

Monitoring Team: _____

- Note:
1. Begin entering lengths for fish 20" and larger on line 25 and continue adding lengths upwards.
 2. If other gamefish, such as northern pike, are taken enter data on back of page.
 3. Female fish identified with F, male with M, and unknown with U.

Appendix D

Number of spears on various nights during spring 1988. Also, CPE (walleye/spearer-night) on each lake. Data are arranged by tribe and lake.
 ** = Lake was used by two tribes.

TRIBE	LAKE	COUNTY	DATE IN APRIL												DATE IN MAY						# SPEARER-NIGHTS	# OF WALLEYE-NIGHT	WALLEYE/SPEARER-NIGHT			
			13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30				1	2	3
WILLE LACS	Minors Flowage	Washburn	2	0	2	0	0	0	2	2	0	2	2	0	2	4	0	4						4	0	0.0
	Whitefish	Douglas								2	0	2	2	0	2	0	4							8	14	1.8
	Nancy	Washburn														4							6	72	12.0	
	St. Croix River	Burnett																					4	0	0.0	
	Subtotal spears		2	0	2	0	0	2	2	2	0	2	2	0	2	4	0	4						22	88	3.9
ST CROIX	Balsam	Polk	13	8					4	2	0	1											26	289	10.3	
	Beaver Dam	Barron	0			3	0	2	2				5	0	0	3							15	62	5.5	
	Big McKenzie	Burnett											2	7	3	5	2	2	4				6	30	5.0	
	Big Round	Polk	12	4	0	0						2	7	3	5	2	2	4					41	83	1.5	
	Big Sand	Burnett										4											4	4	1.0	
	Halfmoon	Polk	0	2	3				2	0													7	15	2.1	
	Long	Washburn								2	0												21	188	9.4	
	North Sand	Burnett	6	6	6	3	6	0		6			0	0	0	1							28	256	9.1	
	Shell	Washburn	0	0	2	4	0	5		4			4	0	5	6	6	6					47	88	1.9	
	Upper Clay	Burnett																					2	0	0.0	
Whitefish	Douglas																					3	3	1.0		
Yellow	Burnett	0	5	9	0	0	4						0	3	0							18	88	3.7		
St. Croix River	Burnett																					6	1	0.2		
Subtotal spears		25	12	17	23	11	6	14	17	16	12	11	14	15	10	19							224	1075	4.8	
LAC COURTE	Big LEO	Sawyer				4	2			4	5	0	2	4	0	2							23	187	8.1	
	Chippewa Fl.	Sawyer	2	4		2	4	3	3	5	0	0	0	0	0	0	0	5	7	5	2	4	44	513	11.7	
	Grindstone	Sawyer	10	8	0	2	6	4	2														32	348	10.9	
	Chetac	Sawyer				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	
	Loat Land	Sawyer				0																	10	13	1.3	
	Moose	Sawyer	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0.3	
	Nelson	Sawyer	0	0	0	0	0	0	3	0	2	2	0	0	0	0	0	0	0	0	0	0	9	107	11.9	
	Round	Sawyer	0	4	2	4	7	6	0	5	0	5	0	0	0	0	0	0	0	0	0	0	28	494	17.6	
	Siesabagane	Sawyer				0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	10	87	8.7	
	Spider	Sawyer																					0	0	0.0	
	Teal	Sawyer																					0	0	0.0	
	Tiger Cat Flowage	Sawyer																					2	4	2.0	
	Whitefish	Sawyer																					4	93	24.8	
Subtotal spears					16	18	6	13	16	21	11	11	14	15	10	19	7	4	6	14	12	9	4	6	185	11.2
MOLE LAKE	Big Fork	Oneida																					0	180	30.0	
	Big Sand	Oneida																					9	140	15.6	
	Big Stone	Vilas																					0	0	0.0	
	Butternut	Forest	0	0	2	4	0	3	0	6	18	4	4	3									42	543	12.9	
	Crescent	Oneida																					0	0	0.0	
	Franklin	Forest	2	8	2	0	0																16	229	14.3	
	Halley	Forest	4	0	0	0																	4	56	14.0	
	Kentuck	Vilas	6																				0	450	75.0	
	Lac Vieux Desert	Vilas	0	0	2	4	6	0	6	0	3	18	3	18	3	4	2	3					9	1008	25.1	
	Long	Oneida																					9	131	14.6	
	Lucas	Forest	2	7	5	3																	17	361	21.2	
	Metonga	Forest	2	8	8	7																	29	569	19.6	
	Pelican	Oneida	11	0	0	6	12																41	426	10.4	
Pine	Forest	1	0	0	0	2																9	58	6.4		
Planting Ground	Oneida	0	0	0	0	2																10	242	24.2		
Seven Mile	Oneida																					4	132	33.0		

Appendix D (continued)

Number of spears on various nights during spring 1988. Also, CPE (walleye/spearer-night) on each lake. Data are arranged by tribe and lake.
 ** = Lake was named by two tribes.

TRIBE	LAKE	COUNTY	DATE IN APRIL							DATE IN MAY							# SPEARER-NIGHTS	WALLEYE/ SPEARER-NIGHT						
			13	14	15	16	17	18	19	20	21	22	23	24	25	26			27	28	29	30	1	2
	Thunder	Oneida				3	0	0	0	0	0	0	0	0										0
	Willow Flowage	Oneida																						17
	Subtotal spears		30	24	18	24	20	20	17	10	8	21	20	9	21	13	8	5					248	
**	Gile Flowage	Iron																						0
**	Lower Eau Claire	Douglas																						0
**	Middle Eau Claire	Bayfield																						0
**	Nasekagon	Bayfield																						33
**	Nelson	Sawyer																						861
**	Oren	Bayfield																						81
**	T-Flambeau Fl.	Iron																						349
**	Upper Eau Claire	Bayfield																						14
	Subtotal spears		12	18	6	19	7	2	6	4	9	0	7	3	4	4								1471
LAC DU	Ballard	Vilas	4																					4
FLAMBEAU	Big (S4)	Vilas								4	4													120
FLAMBEAU	Big (S24)	Vilas																						143
FLAMBEAU	Big Arbor Vitae	Vilas																						180
FLAMBEAU	Big Muskellunge	Vilas																						53
FLAMBEAU	Big Portage	Vilas																						748
FLAMBEAU	Big St. Germaine	Vilas																						261
FLAMBEAU	Big Sand	Vilas																						0
FLAMBEAU	Birch	Vilas																						183
FLAMBEAU	Boulder	Vilas																						12
FLAMBEAU	Butternut	Price																						31
FLAMBEAU	Catfish	Vilas																						103
FLAMBEAU	Chippewa Flowage	Sawyer																						149
FLAMBEAU	Clear	Oneida																						1123
FLAMBEAU	Clear	Oneida																						8
FLAMBEAU	Cranberry	Vilas																						110
FLAMBEAU	Crab	Vilas																						60
FLAMBEAU	Crescent	Oneida																						188
FLAMBEAU	Daw	Oneida																						144
FLAMBEAU	Eagle	Vilas																						81
FLAMBEAU	Gile Flowage	Iron																						138
FLAMBEAU	High	Vilas																						189
FLAMBEAU	Island	Vilas																						120
FLAMBEAU	Katherine	Oneida																						138
FLAMBEAU	Kawagousaga	Oneida																						224
FLAMBEAU	Laura	Vilas																						151
FLAMBEAU	Lit. Arbor Vitae	Vilas																						270
FLAMBEAU	Lit. St. Germaine	Vilas																						149
FLAMBEAU	Manitowish	Vilas																						223
FLAMBEAU	Minocqua	Oneida																						78
FLAMBEAU	Nokomis	Oneida																						72
FLAMBEAU	North Twin	Vilas																						498
FLAMBEAU	Oxbow	Vilas																						60
FLAMBEAU	Palmer	Vilas																						327
FLAMBEAU	Subtotal spears		5																					55

Appendix D (concluded)

Number of spearmen on various nights during spring 1888. Also, CPE (walleye/spearer-night) on each lake. Data are arranged by tribe and lake.
 ** Lake was raised by two tribes.

TRIBE	LAKE	COUNTY	DATE IN APRIL							DATE IN MAY							# SPEARER-NIGHTS	# OF WALLEYE-NIGHTS	WALLEYE/SPEARER-NIGHT														
			13	14	15	16	17	18	19	20	21	22	23	24	25	26				27	28	29	30	1	2	3	4	5					
	Pickers) Oneida												5												5	175	35.0						
	Pike Price						8	3	7			1			0											19	236	12.4					
	Plum Vilas								5																	5	82	16.4					
	Presque Isle Vilas								10																10	319	31.9						
	Rest Vilas													0	4										4	152	38.0						
	Round Price						7	3																	10	289	28.9						
	Sand Oneida						0	4																	4	41	10.3						
	Shishabogama Oneida						0	0		2															2	3	1.5						
	Solberg Price						0	0																	0	0	0.0						
	South Twin Vilas						0						0												0	0	0.0						
	Squaw Oneida						4								2										6	148	24.7						
	Squirrel Oneida								14			4													18	490	27.2						
	Star Vilas									9															9	239	26.6						
	Tomahawk Oneida												15	4											22	482	21.0						
	Trout Vilas								3		11				23	16	7	2	3						65	1085	16.4						
	Truds Iron						0																		0	0	0.0						
**	T-Flambeau Fl. Iron						53	58					8	3	2	20	13	5	0	0					281	6042	21.5						
	Two Sisters Oneida						3																		3	177	59.0						
	White Sand Vilas								3										3						6	164	30.7						
	Tomahawk R. (#16) Oneida																								0	0	0.0						
	Subtotal spearmen						87	83	65	59	92	86	57	50	49	34	38	49	28	14	17				788	16934	21.5						
	TOTAL: SPEARER NIGHTS						25	12	19	53	37	114	137	122	102	139	121	121	121	115	84	84	63	79	54	23	28	9	4	4	1549	25869	16.8

Appendix E (continued)

Number of speacer boat-hours on various nights and per lake during spring 1988. Data are arranged by tribe and lake. ** = Lake was named by two tribes.

TRIBE	LAKE	COUNTY	DATE IN APRIL										# BOAT-HOURS													
			13	14	15	16	17	18	19	20	21	22		23	24	25	26	27	28	29	30	1	2	3	4	5
	Willow Flowage	Oneida				3.9	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	0.0	0.0	0.0	0.0	13.4
	Subtotal boat-hours					49.2	38.4	27.6	30.6	38.6	30.8	10.9	12.2	31.5	35.0	9.8	37.8	22.4	10.6	6.3						393.2
**	Gile Flowage	Iron														1.7	0.0									1.7
**	Lower Eau Claire	Douglas									0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4
**	Middle Eau Claire	Bayfield									0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	7.5
**	Naukagon	Bayfield									0.0	43.6	12.7	4.5												60.8
**	Nelson	Sawyer														0.9	0.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.9
**	Owen	Bayfield									25.1	0.0	0.0	14.5	8.3											47.8
**	T-Flambeau Fl.	Iron									0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3	6.8	6.4	6.4	
**	Upper Eau Claire	Bayfield									25.1	43.6	12.7	22.4	9.9	2.5	6.9	0.0	20.1	0.0	10.3	6.8	6.3	6.4	172.9	
Subtotal boat-hours																										
LAC DU	Ballard	Vilas				3.0					5.9	9.3														3.0
FLAMBEAU	Big (S4)	Vilas																								15.2
	Big (S24)	Vilas														5.5										5.5
	Big Arbor Vitae	Vilas				34.0					0.0	0.0	11.3	0.0	3.7											49.0
	Big Muskellunge	Vilas				6.7					8.3															16.9
	Big Portage	Vilas																				0.0				0.0
**	Big St. Germaine	Vilas				3.0					9.4					0.0	0.0	3.8								16.3
	Big Sand	Vilas										10.3														10.3
	Birch	Vilas																								0.0
	Boulder	Vilas									1.1	4.3														5.3
	Butternut	Price																								17.1
	Catfish	Vilas																								10.8
**	Chippewa Flowage	Sawyer																								89.0
	Clear	Oneida																								8.8
	Clear	Vilas				4.8																				4.8
	Cranberry	Vilas																								2.2
	Crab	Vilas									0.0	11.2														11.2
**	Crescent	Oneida																								7.4
	Das	Oneida																								3.9
	Eagle	Vilas				2.5	1.4																			4.0
**	Gile Flowage	Iron				0.0					7.1	0.0	5.2													12.3
	Harris	Vilas									4.3															4.3
	High	Vilas									10.7															10.7
	Island	Vilas																								6.3
	Katherine	Oneida				6.3																				6.3
	Kawagouga	Oneida														5.9	5.8									11.7
	Laura	Vilas																								9.8
	Lit. Arbor Vitae	Vilas									0.0	0.0	4.8	0.0	5.8											10.6
	Lit. St. Germaine	Vilas									6.5					0.0	0.0	2.5								8.0
	Manitowish	Vilas									0.0															6.7
	Minocqua	Oneida														12.8	4.2	4.6	4.0							25.5
	Nokomis	Oneida																								6.0
	North Twin	Vilas																								8.4
	ONBOW	Vilas																								0.0
	Palmer	Vilas									7.7															7.7
	Pickersel	Oneida																								8.7
	Pike	Price				8.8	9.1	8.0			3.2															28.0

Appendix E (concluded)

Number of speaker boat-hours on various nights and per lake during spring 1988. Data are arranged by tribe and lake. ** = Lake was named by two tribes.

TRIBE	LAKE	COUNTY	DATE IN APRIL								DATE IN MAY					# BOAT-HOURS										
			13	14	15	16	17	18	19	20	21	22	23	24	25		26	27	28	29	30	1	2	3	4	5
	Pium	Vilas							10.2																10.2	
	Presque Isle	Vilas						8.2																	9.2	
	Rest	Vilas																							6.8	
	Round	Price					9.8	6.9																	6.8	
	Sand	Oneida					0.0	1.5																	16.8	
	Shishobogama	Oneida					0.0	0.0																	1.5	
	Solberg	Price					0.0	0.0		1.2															1.2	
	South Twin	Vilas					0.0	0.0																	0.0	
	Squaw	Oneida					4.0																		0.0	
	Squirrel	Oneida					0.0	18.6																	0.0	
	Star	Vilas							10.9																23.6	
	Tomahawk	Oneida																							10.9	
	Trout	Vilas								11.5															36.3	
	Trude	Iron					0.0																		76.4	
**	T-Flambeau Fl.	Iron					76.7	84.2		70.1	86.7	15.6	12.9		4.0	4.0	36.9	17.4	12.3						0.0	
	Two Sisters	Oneida					5.0																		430.8	
	White Sand	Vilas																							5.0	
	Tomahawk R. (#10)	Oneida													2.9										6.4	
	Subtotal boat-hours						107.6	128.2	91.4	80.3	98.9	124.3	72.8	66.0	63.8	37.1	99.0	86.3	47.0	17.0	12.3				1093.7	
	TOTAL BOAT-HOURS		35.5	17.5	22.5	70.9	55.5	148.9	203.2	179.6	143.6	180.5	225.4	165.6	163.8	107.2	124.6	95.1	127.1	92.8	36.5	30.1	27.1	6.3	6.4	2240.5

Appendix F

Number of walleye speared on various nights and per lake during spring 1988. Also, initial and remaining quota. Data are arranged by tribe and lake. es = Lake was named by two tribes.

TRIBE	LAKE	COUNTY	DATE IN APRIL								DATE IN MAY					Walleys Quota	Initial Quota	Remaining Quota										
			13	14	15	16	17	18	19	20	21	22	23	24	25				26	27	28	29	30	1	2	3	4	5
MILLE LACS	Winnong Flowage	Washburn																										
	Whitefish	Douglas																										
	Nancy	Washburn																										
	St. Croix River	Burnett																										
Subtotal walleyes																												
ST. CROIX	Satawa	Polk	104	93																								
	Beaver Dam	Barron	0				7	25	30	0	17																	
	Big McKenzie	Burnett																										
	Big Round	Polk	15	2	0	0																						
	Big Sand	Burnett																										
	Halfmoon	Polk	0	7	7																							
	Long	Washburn																										
	North Sand	Burnett	57	62	33	12	60	0																				
	Shell	Washburn	0	0	14	31	0	4																				
	Upper Clam	Burnett																										
	Whitefish	Douglas																										
Yellow	Burnett	0	28	15	0	0	22	1																				
St. Croix River	Burnett																											
Subtotal walleyes			119	150	100	76	66	110	28	78	91	48	24	22	80	16	64											
**	Big LCO	Sawyer							49	31	16	21	0	5	47	0	16											
	Chippewa Fl.	Sawyer							84	25	4	28	20	97	97	0	0	0	0	0	0	0	0	0	0	0	0	
	Grindstone	Sawyer							104	83	0	28	72	91	20													
	Lake Chatac	Sawyer									0	0	0	0	0													
	Lost Land	Sawyer									0	0	0	0	0													
	Moose	Sawyer									0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
	Neilson	Sawyer									0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Round	Sawyer									0	0	0	0	68	0	22	17	0	0	0	0	0	0	0	0	0	
	Sissabegasa	Sawyer									0	77	38	47	82	138	0	111	0	0	0	0	0	0	0	0	0	
	Spider	Sawyer									0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Teal	Sawyer																										
	Tiger Cat Flowage	Sawyer																										
	Whitefish	Sawyer																										
	Subtotal walleyes									217	226	58	125	174	296	124	133	35	68	80	84	43	29	159				
	* * *	Big Fork	Oneida																									
		Big Sand	Vilas																									
Big Stone		Oneida																										
Butternut		Forest																										
Crescent		Oneida																										
Franklin		Forest																										
Halley		Florence																										
Kentuck		Vilas																										
Lac Vieux Desert		Vilas																										
Long		Oneida																										
Lucerne		Forest																										
Metonga		Forest																										
Netican		Oneida																										
Pine		Forest																										
Planting Ground		Oneida																										
Seven Mile	Oneida																											
Thunder	Oneida																											
Subtotal walleyes									1854	18972	1854	18972	1854	18972	1854	18972	1854	18972	1854	18972	1854	18972	1854	18972	1854	18972		

Appendix F (continued)

Number of walleye speared on various nights and per lake during spring 1988. Also, initial and remaining quota. Data are arranged by tribe and lake. ** Lake was named by two tribes.

TRIBE	LAKE	COUNTY	DATE IN APRIL															DATE IN MAY	Walleye Quota	Initial Remaining Quota							
			13	14	15	16	17	18	19	20	21	22	23	24	25	26	27				28	29	30	1	2	3	4
	Willow Flowage	Oneida	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	1482	1482
	Subtotal walleye		942	340	350	478	268	201	207	186	368	373	136	588	274	104	88								4948	8119	8111
**	Gile Flowage	Iron																						0	942	753	
BAD RIVER &	Lower Eau Claire	Douglas																						0	224	224	
RED CLIFF	Middle Eau Claire	Bayfield																						32	178	143	
**	Manakagon	Bayfield																						861	843	~18	
**	Nelson	Sawyer																						81	3872	3885	
**	Owen	Bayfield																						349	356	7	
**	T-Flambeau Fl.	Iron																						14	8863	788	
**	Upper Eau Claire	Bayfield																						133	142	9	
	Subtotal walleye		178	588	144	229	76	0	13	26	75	0	50	39	44	14								1471	13419	5592	
LAC DU	Ballard	Vilas	120																					120	131	11	
FLAMBEAU	Big (34)	Vilas																						145	225	82	
**	Big (324)	Vilas																						160	181	1	
**	Big Arbor Vitae	Vilas																						746	788	40	
**	Big Muckellunge	Vilas																						281	247	-14	
**	Big Portage	Vilas																						0	187	187	
**	Big SE. Germaine	Vilas																						163	388	218	
**	Big Sand	Vilas																						315	380	83	
**	Birch	Vilas																						18	137	119	
**	Boulder	Vilas																						130	136	6	
**	Butternut	Price																						103	428	325	
**	Catfish	Vilas																						148	270	121	
**	Chippewa Flowage	Sawyer																						1123	12036	10400	
**	Clear	Oneida																						164	224	60	
**	Cranberry	Vilas																						110	145	35	
**	Crab	Vilas																						80	234	184	
**	Crescent	Oneida																						188	252	64	
**	Dam	Oneida																						144	160	16	
**	Eagle	Vilas																						81	186	115	
**	Gile Flowage	Iron																						136	148	11	
**	Harris	Vilas																						189	942	753	
**	High	Vilas																						120	132	12	
**	Island	Vilas																						138	183	55	
**	Katherine	Oneida																						224	279	48	
**	Kawagagesaga	Oneida																						151	154	3	
**	Laura	Vilas																						270	338	68	
**	Lt. Arbor Vitae	Vilas																						149	157	8	
**	Lt. St. Germaine	Vilas																						223	312	89	
**	Manitowish	Vilas																						78	261	183	
**	Minocqua	Oneida																						72	131	59	
**	Nokomis	Oneida																						438	482	54	
**	North Twin	Vilas																						80	1388	1338	
**	Oxbow	Vilas																						327	410	83	
**	Palmer	Vilas																						0	133	133	
**	Pickera	Oneida																						55	168	111	
**	Pike	Price																						175	184	18	
	Subtotal walleye		69	119	44																			238	976	384	

Appendix F (concluded)

Number of walleye speared on various nights and per lake during spring 1988. Also, initial and remaining quota. Data are arranged by tribe and lake. ** = Lake was named by two tribes.

TRIBE	LAKE	COUNTY	DATE IN APRIL										DATE IN MAY					Walleye: Initial/Remaining Quota										
			13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5			
	Plum	Vilas							82																82	109	27	
	Presque Isle	Vilas							319																	319	344	25
	Reat	Vilas																	152							152	188	17
	Round	Price						207	82																	207	281	82
	Sand	Oneida						0	41																	41	141	100
	Shishobogans	Oneida						0	0																	0	188	188
	Solberg	Price						0	0			3														0	228	228
	South Twin	Vilas						0	0				0													0	188	188
	Squaw	Oneida						0	130																	0	188	188
	Squirrel	Oneida							370																	0	188	188
	Star	Vilas								239																0	188	188
	Tomahawk	Oneida																								0	188	188
	Trout	Vilas								30																0	188	188
	Trude	Iron									104															0	188	188
**	T-Flambeau Fl.	Iron																								0	188	188
	Two Sisters	Oneida						1189	1596																	0	188	188
	White Sand	Vilas						177																		0	188	188
	Tomahawk R. (#16)	Oneida								88																0	188	188
	Subtotal walleye							1771	2285	1457	1936	1248	2056	1931	1057	1179	581	508	993	886	251	89				18834	34880	17389
	TOTAL WALLEYE		119	150	100	718	408	2171	2939	2036	1882	1807	3037	2419	1883	1537	1216	885	1204	931	294	188	197	44	14	25888		

Appendix J

CPE (walleye per boat-hour) on various nights and per lake during spring 1988. Data are arranged by tribe and lake. ** = Lake was named by two tribes.

TRIBE	LAKE	COUNTY	DATE IN APRIL												DATE IN MAY					CPE					
			13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29		30	1	2	3	4
MILLE LACS	Minong Flowage	Washburn	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	1.8	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1				0.0	
	Whitefish	Douglas																						1.0	
	Nancy	Washburn																						6.2	
	St. Croix River	Burnett																						0.0	
	Subtotal CPE:																							2.0	
	ST. CROIX	Salmon	Polk	9.0	8.1							3.6	5.0	0.0	4.8										9.5
		Beaver Dam	Barron	0.0								1.4	0.0	0.5	1.3										2.3
Big McKenzie		Burnett																						2.5	
Polk		Polk	1.0	0.0	0.0	0.0					0.2	0.3	2.5	1.7	1.4	1.5	0.8							6.0	
Big Sand		Burnett																						1.1	
Halfmoon		Polk	0.0	2.3	1.8						1.2													1.2	
Long		Washburn																						1.8	
North Sand		Burnett	9.5	7.8	5.5	8.6	9.2	0.0			0.0	0.0	0.0	8.6										7.0	
Shell		Washburn	0.0	0.0	6.2	7.0	0.0	0.4			1.3	0.0	0.3	0.0	6.1	1.8	0.0							8.1	
Upper Ciss		Burnett																						1.8	
Whitefish		Douglas	0.0	3.8	2.1	0.0	0.0	2.7			0.0	0.6	0.0											0.0	
Yellow	Burnett																							0.8	
St. Croix River	Burnett																							3.0	
Subtotal CPE:																								0.2	
LAC COURTE	Big LCO	Sawyer	3.3	8.6	5.3	3.2	5.3	7.5	1.2	3.5	4.3	4.1	1.2	1.2	5.3	1.4	2.2							3.7	
	Chippewa Fl.	Sawyer									10.7	11.9	4.4	4.2	0.0	3.6	9.3	0.0	4.8					7.2	
	Grindstone	Sawyer									0.0	23.3	8.1	2.1	14.0	6.3	8.6	4.8	0.0	0.0	1.4	4.9	2.0	6.8	14.5
	Lake Chatac	Sawyer									7.8	6.7	0.0	17.1	11.8	6.8	7.1								8.3
	Lost Land	Sawyer									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
	Hoose	Sawyer									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	1.5
	Nelson	Sawyer									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	0.8
	Round	Sawyer									0.0	0.0	0.0	0.0	10.3	0.0	6.3	4.9	0.0	0.0	0.0	0.0	0.8	0.0	8.3
	Sissabagaa	Sawyer									0.0	20.3	12.6	9.2	7.4	12.0	0.0	12.3	0.0	0.0	0.0	0.0	0.0	0.0	11.3
	Spider	Sawyer									0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	2.7	4.1	1.8	3.6
	Teal	Sawyer																			0.0	0.0	0.0	0.0	0.0
	Tiger Cat Flowage	Sawyer																			0.0	0.0	0.0	0.0	0.0
Whitefish	Sawyer																			0.0	0.0	0.0	0.0	0.0	
Subtotal CPE:																								12.4	
MOLE LAKE	Big	Oneida								10.5	9.7	6.9	9.0	8.5	9.7	6.3	10.6	4.8	9.6	3.6	4.3	2.2	3.9	11.0	7.5
	Big Fork	Oneida																							16.4
	Vilas	Oneida																			0.0	18.4			10.3
	Big Stone	Oneida																							0.0
	Butternut	Forest																			4.1	0.0	0.0		4.1
	Crescent	Oneida																							9.1
	Franklin	Forest																							0.0
	Halsey	Florence																							11.3
	Kentuck	Vilas																							8.5
	Lac Vieux Desert	Vilas																							84.1
	Long	Oneida																							16.0
	Lucerne	Forest																							6.0
	Metonga	Forest																							10.4
	Pelican	Oneida																							12.7
	Pine	Forest																							5.6
	Planting Ground	Oneida																							3.5
Seven Mile	Oneida																							11.0	
Thunder	Oneida																							16.0	
Subtotal CPE:																								0.0	

Appendix J (continued)

CPE (value per boat-hour) on various nights and per lake during spring 1988. Data are arranged by tribe and lake. ** = Lake was used by two tribes.

TRIBE	LAKE	COUNTY	DATE IN APRIL										DATE IN MAY					CPE							
			13	14	15	16	17	18	19	20	21	22	23	24	25	26	27		28	29	30	1	2	3	4
	Willow Flowage Oneida			4.4	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	0.0	0.0	0.0	0.0	0.0	1.3
	Subtotal CPE:			13.0	8.6	12.7	12.8	6.8	6.5	19.0	15.2	11.7	9.6	13.8	14.2	9.6	4.1	19.8							11.0
**	Oile Flowage Iron			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	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Lower Eau Claire Douglas			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	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Middle Eau Claire Bayfield			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	0.0	0.0	0.0	0.0	0.0	0.0	0.9
	Red Cliff Namekagon Bayfield			0.0	13.4	11.3	29.8																		14.2
**	Nelson Sawyer			7.1	0.0	0.0	6.6	9.2																	3.7
	Owen Bayfield			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	0.0	0.0	0.0	0.0	0.0	0.0	7.3
**	T-Flambeau Fl. Iron			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	0.0	0.0	0.0	0.0	0.0	0.0	2.2
	Upper Eau Claire Bayfield			7.1	13.4	11.3	10.2	7.6	0.0	1.9	0.0	3.7	0.0	4.9	5.6	7.0	2.2								5.7
	Subtotal CPE:			7.1	13.4	11.3	10.2	7.6	0.0	1.9	0.0	3.7	0.0	4.9	5.6	7.0	2.2								6.4
LAC DU	Ballard Vilas			40.0																					40.0
FLAMBEAU	Big (94) Vilas			9.8	9.1																				9.4
	Big (924) Vilas			14.9					29.4																28.4
	Big Arbor Vilas			0.0	0.0	15.5	0.0	17.6																	15.2
	Big Muskellunge Vilas			10.6	20.5																				15.4
	Big Portage Vilas			19.3	12.9																				11.3
**	Big Sand Vilas			30.7																					30.7
	Birch Vilas			0.0																					0.0
	Boulder Vilas			15.5	26.6																				24.3
	Butternut Price			2.9																					0.0
	Catfish Vilas			13.9																					13.9
**	Chippewa Flowage Sawyer			23.2																					18.7
	Clear Oneida			27.3																					23.9
	Clear Vilas			0.0	16.6																				16.6
**	Crab Vilas			30.0	4.3																				19.5
	Crescent Oneida			0.0																					16.0
	Dem Oneida			0.0																					19.5
	Eagle Vilas			14.9																					20.8
**	Oile Flowage Iron			0.0																					34.5
	Harris Vilas			27.9																					27.9
	High Vilas			27.1																					27.1
	Island Vilas			20.9																					20.9
	Katherine Oneida			0.0	23.6																				23.6
	Kawapuasaga Oneida			15.3																					23.1
	Laura Vilas			0.0																					15.3
	Lit. Arbor Vilas			0.0	7.4																				15.3
	Lit. St. Germaine Vilas			0.0	0.0	16.7	0.0	24.7																	21.0
	Manitowish Vilas			0.0	0.0																				6.7
	Minocqua Oneida			14.2	15.7	17.4	14.0																		10.7
	Nokomis Oneida			10.1																					10.1
	North Twin Vilas			38.7																					38.7
	Oxbow Vilas			0.0																					0.0
	Palmer Vilas			7.1																					0.0
	Pickersel Oneida			20.1																					20.1
	Pike Price			7.9	13.1	5.5	1.3	0.0	0.0																8.1

Appendix J (concluded)

CPE (valleys per boat-hour) on various nights and per lake during spring 1966. Data are arranged by tribe and lake. ** = Lake was named by two tribes.

TRIBE	LAKE	COUNTY	DATE IN APRIL								DATE IN MAY					CPE									
			13	14	15	16	17	18	19	20	21	22	23	24	25		26	27	28	29	30	1	2	3	4
	Pium	Vilas								8.1															8.1
	Presque Isle	Vilas								34.7															34.7
	Reet	Vilas																							23.0
	Round	Price																							23.0
	Sand	Oneida							20.9	11.9															23.0
	Shishobogans	Oneida							0.0	27.3															17.2
	Solberg	Price							0.0	0.0															27.3
	South Twin	Vilas							0.0	0.0															2.5
	Squam	Oneida							0.0	0.0															0.0
	Squirrel	Oneida							0.0	32.5															0.0
	Star	Vilas							18.9																21.4
	Tomahawk	Oneida							21.9																20.8
	Trout	Vilas																							21.9
	Trude	Iron							10.0																12.7
**	T-Flebeau Fl.	Iron																							12.6
	Two Steers	Oneida							9.0																0.0
	White Sand	Vilas																							14.0
	Tomahawk R. (S16)	Oneida							11.1	18.6	14.2	10.0	21.6	11.8	7.3	9.5	11.5								35.4
	Subtotal CPE:								25.1																28.8
	TOTAL CPE:								15.8	17.4	15.8	16.6	12.7	16.5	21.3	14.7	18.4	12.9	6.6	11.5	12.8	14.6	7.3		15.3
																									11.4