



**Biological and Commercial Catch Statistics  
from the Chippewa Inter-Tribal Gill Net Fishery  
within Michigan Waters of Lake Superior  
During 2015**

by  
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## ABSTRACT

The 2015 commercial inter-tribal fishery in the 1842 treaty-ceded waters of Michigan consisted of ten large boats and nine small boats, representing nineteen tribal licensees from the Keweenaw Bay, Bad River and Red Cliff Bands of Lake Superior Chippewa. Gill nets were the only gear used in the fishery.

The fishing season for whitefish and lake trout was closed from November 1 through November 27 for Bad River and Keweenaw Bay and from November 6 to November 27 for Red Cliff; commercial fishing was prohibited during October in seven seasonal refuges. Target fishing for lean lake trout (fishing in water less than 35 fathoms) in areas outside the refuges was prohibited during October to reduce the impact of fishing on spawning stocks of lake trout. The Keweenaw Bay tribe managed their cisco (lake herring) fishery through a quota system.

Fishermen reported fishing 8.1 million feet of gill net and harvesting 894,428 round pounds of fish. Whitefish was the primary target species, making up 86.2% of the total, followed by lake trout (11.0%), siscowet lake trout (1.2%), cisco or lake herring (0.7%), and with the remaining 0.9% consisting of walleye, suckers and a mix of other species including northern pike, memoninee and burbot.

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## INTRODUCTION

The Red Cliff, Bad River and Keweenaw Bay Bands of Lake Superior Chippewa entered into an agreement to establish an inter-tribal off-reservation assessment fishery in the western Michigan waters of Lake Superior (from the Wisconsin- Michigan state line to the West Entry in the Keweenaw Peninsula) on 23 August 1984. In 1988 tribal off-reservation commercial fishing expanded to include more fishermen and fishing in waters east of the Keweenaw Peninsula. An inter-tribal agreement was developed to manage this expanded fishery. Since 1990 Bad River and Red Cliff have followed the lake trout quota allocation formula of this inter-tribal agreement, while Keweenaw Bay has managed its fishery through a fisheries management plan. Results of the early assessment fishery and the expanded commercial fishery have been reported annually as administrative reports of the Great Lakes Indian Fish and Wildlife Commission.

Biological and commercial fishery statistics were summarized for calendar year 2015 from the inter-tribal fishery in the 1842 treaty-ceded territory within Michigan waters of Lake Superior (Figure 1), and compared to those from previous years. Statistics were reported by management unit, grid, and gear type as indicated on individual catch reports.

### **Description of the Fishery**

The 2015 commercial inter-tribal fishery in the 1842 treaty-ceded waters of Michigan consisted of ten large boats and nine small boats, representing nineteen tribal licensees from the Keweenaw Bay, Bad River, and Red Cliff Bands of Lake Superior Chippewa. As in previous years, the area south of a line from the East Entry of Keweenaw Peninsula to Point was open only to Keweenaw Bay small boat fishermen (Figure 1). Gill nets were the only gear used in the fishery during 2015.

The fishing season for whitefish and lake trout was closed from November 1 through November 27 for Bad River and Keweenaw Bay and from November 6 to November 27 for Red Cliff to reduce the impact of fishing on spawning stocks of whitefish. Fishing for siscowet was prohibited in water less than 35 fathoms during the closed season for lake trout and whitefish. Commercial fishing was prohibited during October in seasonal refuges, of which four were created in 1988, and three in 1989 (Figure 1). Target fishing for lean lake trout in other areas was prohibited during October to reduce the impact of fishing on spawning stocks of lake trout.

## Quota Management System

Since 1985, the tribes have used a quota management system to regulate lake trout harvest and to limit mortality on lake trout stocks in the 1842 inter-tribal gill net fishery within Michigan waters of Lake Superior. The Keweenaw Bay tribe has also used a quota management system for regulating cisco (lake herring) harvest by its fishermen. For lake trout, each gill net tug was assigned a lake trout quota of 3,750 or 15,000 pounds depending on tribal affiliation in 1985 and 1986. Starting with the 1987-1990 time period and for each of the four management units, total allowable catch (TAC, expressed as number of fish) values were estimated for each year within the time period. The average TAC was then calculated and used as the TAC for each fishing year within the time period. Harvest quotas applied only to lean lake trout (referred to as “lake trout” in this report). Harvest of siscowet, a form of lake trout that generally inhabits deeper water than lean lake trout, was not regulated by quotas. TAC’s and tribal quotas were generated from stock assessment model outputs developed by an ad hoc modeling group consisting of Tribal and State biologists. This group recommended TAC’s for each management unit and for each fishing year within a 1-6 year period were as follows:

UNIT		YEARS							
		Nov. 1987 Oct. 1990	Nov. 1990 Oct. 1994	Nov. 1994 Oct. 1999	Nov. 1999 Oct. 2005	Nov. 2006 Oct. 2010	Nov. 2010 Oct. 2011	Nov. 2011 Oct. 2016	
MI-2	TAC	19,800	10,400	9,700	6,606	6,606	2,500	6,000	
	Tribal	9,900	5,200	4,850	3,303	3,303	1,250	3,000	
MI-3	TAC	5,000	7,600	6,600	4,950	4,950	5,000	5,000	
	Tribal	2,500	3,800	3,300	2,475	2,475	2,500	2,500	
MI-4	TAC	20,600	53,400	46,920	40,440	43,200	50,000	50,000	
	Tribal	10,300	26,700	23,460	20,220	21,600	25,000	25,000	
MI-5	TAC	16,100	15,700	17,080	33,130	33,130	34,000	34,000	
	Tribal	4,830	4,710	5,124	16,565	16,565	17,000	17,000	
Total	TAC	61,500	87,100	80,300	85,126	87,886	91,500	95,000	
	Tribal	27,530	40,410	36,734	42,563	43,943	45,750	47,500	

## METHODS

Effort and harvest data were collected from mandatory daily catch reports filed bi-weekly by all fishermen who sold fish in their names, or by the boat captain who reported all effort and catch for his vessel. Gill net effort was reported as linear feet of gill net lifted. Harvest was reported in both dressed and round pounds. Species for which harvest was reported by fishermen as dressed pounds and conversion factors used to calculate round pounds are as follows:

<b>Species</b>	<b>Conversion</b>
Whitefish	1.17
Lake trout	1.25
Siscowet	1.25
Salmon and Trout	1.25
Cisco	1.20

Harvests of other species (walleye, suckers, burbot, northern pike, and menominee) were reported by fishermen as round pounds.

Biological statistics were derived from monitoring data. Biological monitoring of catches occurred through the cooperation of the Keweenaw Bay Natural Resources Department, the Red Cliff Fisheries Department, the Bad River Natural Resources Department, and the Great Lakes Indian Fish and Wildlife Commission.



## RESULTS AND DISCUSSION

### Commercial Catch and Effort Statistics

Fishermen reported fishing 8.1 million feet of gill net and harvesting 894,428 round pounds of fish (Table 1). Whitefish was the primary target species, making up 86.2% of the total, followed by lake trout (11.0%), siscowet lake trout (1.2%), cisco or lake herring (0.7%), and with the remaining 0.9% consisting of walleye, suckers and a mix of other species including northern pike, memoninee and burbot (Table 2).

#### Unit MI-2

Harvest. Twenty-three percent of the overall harvest was taken in MI-2 which was fished by two tribes (Tables 1 and 3). Of the 204,847 round pounds harvested in MI-2, 96.2% were whitefish, 3.2% lake trout and 0.6% a mix of siscowet, cisco, and other fish (Table 2). Harvest occurred in eight statistical grids. Lake trout harvest was greatest in grid 1414 (1,513 dressed pounds) and less than 1,500 dressed pounds in each of the remaining grids fished (Table 1). Whitefish harvest was greatest in grids 1316 and 1413 (52,937 and 42,087 dressed pounds respectively), followed by grid 1414 (20,741 dressed pounds). Less than 20,000 dressed pounds were harvested in each of the remaining grids fished (Table 1).

Effort. Nearly eighteen percent (17.6%) of the overall gill-net effort occurred in MI-2 (Tables 1 and 2). Fishing effort in MI-2 was 1,429,300 feet with 29.5% (421,400 feet) occurring in grid 1413, 19.7% (280,900 feet) occurring in grid 1316 and 19.4% (277,200) occurring in grid 1414. Greater than 100,000 feet was fished in grids (1315, 1317, and 1512) while little effort was fished in the remaining two grids (Table 1). Gill-nets of 4 ½ inch mesh accounted for all of the unit's effort (Table 2).

Target Effort and Harvest. All fishing effort (1,429,300) was targeted at whitefish and lake trout (Tables 4 and 5). Target effort (1.4 million feet) and harvest of whitefish (168,408 dressed pounds) was above the 1985-2015 average (502,920 feet and 88,630 dressed pounds, respectively). Target lake trout harvest (5,265 dressed pounds) was below the 1985-2015 average of 6,826 dressed pounds.

Catch Per Effort (CPE). Whitefish CPE (pounds harvested per 1,000 feet of gill-net) for targeted fishing in the eight grids fished in MI-2 ranged from 75-224 pounds (Table 4). Whitefish CPE for the eight grids combined was 118 and was highest in grids 1318 followed by grid 1218 (CPE 190) (Tables 4 and 5). Lake trout CPE for targeted fishing ranged from 2-7 per grid, was 4 for all grids combined, and was highest in grid 1318 (CPE 7) followed by grids 1315 and 1512 (CPE 6).

#### Unit MI-3

Harvest. Thirty-eight percent of the overall harvest was taken in MI-3 which was fished by three tribes (Tables 1 and 3). Of the 339,220 round pounds harvested in MI-3, 94.4% were whitefish, 2.7% lake trout, 1.8% suckers, and 1.1% siscowet (Table 2). Harvest occurred in nine statistical grids. Lake trout harvest was greatest in grid 1023 (1,736 dressed pounds) and was less than 1,500 dressed pounds in each of the other grids fished. Whitefish harvest was greatest in grid 1024 (60,056 dressed pounds) followed by grids 1023 and 1121 (55,778 and 55,122 dressed

pounds, respectively). Greater than 25,000 dressed pounds were taken in grids 1220, 1219 and 1122 (32,848, 32,710 and 26,128 dressed pounds respectively) while less than 10,000 dressed pounds were taken in the remaining grids (Table 1).

Effort. Forty-four percent of the overall gill-net effort occurred in MI-3 (Tables 1 and 2). Fishing effort in MI-3 was 3,585,100 feet with 32.9% (1,178,600 feet) occurring in grid 1121 followed by 16.7% (599,900 feet) in grid 1023, 15.1% (542,000 feet) in grid 1220, 13.3% (475,600 feet) in grid 1024, and 12.5% (446,400 feet) in grid 1122. Effort was less than 250,000 feet in the remaining grids fished (Table 1). Gill-nets of 4 ½ inch mesh accounted for 99.6% of the unit's effort (Table 2).

Target Effort and Harvest. All fishing effort (3,585,100 feet) was targeted at whitefish and lake trout (Tables 4 and 5). Target effort (3.6 million feet) was above the 1985-2015 average of 1,950,905. Target harvest of lake trout 7,315 dressed pounds was below the 1985-2015 averages of 16,159 dressed pounds. The target whitefish harvest of 273,638 dressed pounds was above the 1985-2015 average of 211,718 dressed pounds (Table 5).

Catch Per Effort (CPE). Whitefish CPE (pounds harvested per 1,000 feet of gill-net) for targeted fishing in the nine grids fished ranged from 47-469 pounds (Table 4). Whitefish CPE for the nine grids combined was 76 pounds and was highest in grid 1120 followed by grid 1219 (CPE 131) (Tables 4 and 5). Lake trout CPE for targeted fishing ranged from 1-12 pounds, was 2 for all grids combined and was highest in grids 925 and 1120 (CPE 12).

#### Unit MI-4

Harvest. Thirty-three percent of the overall harvest was taken in MI-4 which was fished by all three tribes (Tables 1 and 3). Of the 295,553 round pounds harvested, 73.5% were whitefish, 22.3% lake trout, 2.0% siscowet, and 1.8% cisco, with the remaining 0.4% a mix of salmon, trout, walleye, suckers, and other species (Table 2). Harvest occurred in eleven statistical grids. Lake trout harvests were highest in grids 1224 and 1323 (14,275 and 14,321 dressed pounds, respectively) followed by grids 1423 (9,446 dressed pounds) and 1125 (7,507 dressed pounds). Less than 5,000 dressed pounds were harvested in each of the other grids fished. Whitefish harvests were greatest in grids 1224, 1027, 1125 and 1323 (58,601, 41,169, 33,034, 22,634 dressed pounds, respectively). Less than 15,000 dressed pounds of whitefish were harvested from the remaining grids fished (Table 1).

Effort. Nearly thirty-three percent (32.6%) of the overall gill-net effort occurred in MI-4 (Tables 1 and 2). Fishing effort in MI-4 was 2,658,400 feet with 30.0% (797,800 feet) occurring in grid 1224, followed by 24.8% (660,100 feet) in grid 1323, 13.0% (346,800 feet) in grid 1423, 12.8% (340,000 feet) in grid 1027, 9.7% (257,000 feet) in grid 1125, and 7.2% (191,600 feet) in grid 1026. Less than 25,000 feet were fished in each of the remaining grids fished (Table 1). Gill-nets of 4 ½ inch mesh accounted for 93.1% of the unit's effort (Table 2).

Target Effort and Harvest. The majority of fishing effort (2,611,900 feet) was targeted at whitefish and lake trout with 46,500 feet directed at cisco (Table 4). Target effort for whitefish and lake trout (2.6 million feet) and target harvest of whitefish (185,643 dressed pounds) were near the 1985-2015 averages (2.8 million feet and 172,748 dressed pounds, respectively). Target harvest of lake trout (52,794 dressed pounds) was below the 1985-2015 average (65,249 dressed pounds) (Table 5). Target harvest was 3,894 dressed pounds for cisco (Table 4).

Catch Per Effort (CPE). Whitefish CPE (pounds harvested per 1,000 feet of gill-net) for targeted fishing in the eleven grids fished ranged from 5-178 pounds (Table 4). Whitefish CPE for all grids combined was 71 pounds and was greatest in grid 1225 (CPE 178) followed by grids 1027 and 1125 (CPE 129) (Tables 4 and 5). Lake trout CPE for targeted fishing ranged from 0-42 pounds and was 20 for all grids combined, and was highest in grid 1223 (CPE 42) followed by grid 1125 (CPE 29). CPE for targeted fishing of cisco was 84 pounds for the four grids fished (Table 4).

### Unit MI-5

Harvest. Six percent of the overall harvest was taken in MI-5 which was fished by three tribes (Tables 1 and 3). Of the 54,807 round pounds harvested in MI-5, 66.1% were whitefish, 30.7% lake trout, 1.9% cisco, 0.9% salmon and brown trout, and 0.5% siscowet and other fish (Table 2). Harvest occurred in three statistical grids. Lake trout harvest was 9,862 dressed pounds in grid 1327, 3,535 dressed pounds in grid 1529, and 47 dressed pounds in grid 1429 (Table 1). Whitefish harvest was 12,732 dressed pounds in grid 1529, 13,177 dressed pounds in grid 1327 and 5,040 dressed pounds in grid 1429 (Table 1). Harvest of cisco and salmon (chinook, coho and brown trout) from grid 1529 was 845 and 400 dressed pounds, respectively.

Effort. Six percent of the overall gill-net effort occurred in MI-5 (Tables 1 and 2). Fishing effort was 470,550 feet with 48.4% (227,600 feet) occurring in grid 1327 and 44.0% (206,950 feet) occurring in grid 1529, while 7.7% (36,000 feet) was fished in grid 1429 (Table 1). Gill-nets of 4 ½ inch mesh accounted for 74.4% and 5 ½ inch mesh accounted for 25.4% of the unit's effort (Table 2 and Figure 5).

Target Effort and Harvest. The majority of fishing effort (469,550 feet) was targeted at whitefish and lake trout with 1,000 feet directed at cisco (Table 4). Target effort for whitefish and lake trout (0.47 million feet) was near the 1985-2015 average of 0.42 million feet (Table 5). Target harvest of whitefish (30,949 dressed pounds) was above the 1986-2015 average (25,522 dressed pounds). Target harvest of lake trout (13,444 dressed pounds) was below the 1986-2015 average (19,568 dressed pounds).

Catch Per Effort (CPE). Whitefish CPE (pounds harvested per 1,000 feet of gill-net) for targeted fishing was 140 in grid 1429, 62 in grid 1529 and 58 in grid 1327 (Table 4). Whitefish CPE for all grids combined was 66 pounds (Table 5). Lake trout CPE for targeted fishing was 43 in grid 1327, 17 in grid 1529 and 1 in grid 1429 (Table 4). Lake trout CPE for all grids combined was 29 pounds. In grid 1529, cisco CPE for targeted fishing was 755 pounds and targeted salmon CPE was 188 pounds.

## Biological Statistics

### Lake Trout

MI-2. Thirteen year classes of wild trout (6-11, 14-17, 20, 23, 24) were represented in a sample of 33 lake trout aged from MI-2 (Table 6). Mean age was 11.9 years. Fish ten years and older made up 67% of the sample. Mean length was 25.0 inches and mean weight was 5.1 round pounds. Overall lamprey-marking rates were 0.0 wounds/100 fish (Table 7). Annual total mortality rate was estimated at 35% ( $Z=0.43, \pm 0.06$ ) for wild fish ages 8-12.

MI-3. Eight year classes of wild trout (8-12, 14, 15, 17) were represented in a sample of 17 lake trout aged from MI-3 (Table 6). Mean age was 10.9 years. Fish ten years and older made up 53% of the sample. Mean length was 22.7 inches and mean weight was 3.7 round pounds. Overall lamprey-marking rates were 0.0 wounds/100 fish (Table 7). Annual total mortality rate could not be estimated due to a small sample size.

MI-4. Twelve year classes of wild trout (6-17) were represented in a sample of 69 lake trout aged from MI-4 (Table 6). Mean age was 10.4 years. Fish ten years and older made up 64% of the sample. Mean length was 23.1 inches and mean weight was 4.0 round pounds. Overall lamprey-marking rates were 0.0 wounds/100 fish (Table 7). Annual total mortality rate was estimated at 32% ( $Z=0.38, \pm 0.06$ ) for wild fish ages 10-17.

MI-5. Four year classes of wild trout (9, 12, 17, 19) were represented in a sample of 5 lake trout aged from MI-3 (Table 6). Mean age was 15.2 years. Fish ten years and older made up 80% of the sample. Mean length was 25.5 inches and mean weight was 5.6 round pounds. Overall lamprey-marking rates were 0.0 wounds/100 fish (Table 7). Annual total mortality rate could not be estimated due to a small sample size.

### Whitefish

MI-2. Fourteen age groups (2, 6-14, 16-18, 25) were represented in the 247 whitefish aged in MI-2, which had a mean age of 9.5 years (Table 8). Mean length of 384 whitefish measured was 19.5 inches and mean weight of 336 weighed was 2.6 round pounds. Annual total mortality was estimated at 47% ( $Z=0.63 \pm 0.18$ ) for ages 9-14.

MI-3. Thirteen age groups (5-15, 19, 20) were represented in the 311 whitefish aged in MI-3, which had a mean age of 9.7 years (Table 8). Mean length of 519 whitefish measured was 19.5 inches and mean weight of 498 weighed was 2.6 round pounds. Annual total mortality was estimated at 38% ( $Z=0.48 \pm 0.05$ ) for ages 9-15.

MI-4. Twelve age groups (5-15, 17) were represented in the 156 whitefish aged in MI-4, which had a mean age of 9.2 years (Table 8). Mean length of 199 whitefish sampled was 20.1 inches and mean weight of 184 weighed was 2.7 round pounds. Annual total mortality was estimated at 50% ( $Z=0.70 \pm 0.15$ ) for ages 8-13.

MI-5. Nine age groups (9-17) were represented in the 40 whitefish aged in MI-5, which had a mean age of 13.8 years (Table 8). Mean length and weight of 40 whitefish sampled was 24.0 inches and 4.5 round pounds, respectively. Annual total mortality was estimated at 43% ( $Z=0.56 \pm 0.14$ ) for ages 14-17.

## REFERENCES CITED

- Ebener, M.P., J. Selgeby, M. Gallinat, and M. Donofrio. 1989. Methods for determining total allowable catch of lake trout in the 1842 treaty-ceded area within Michigan waters of Lake Superior, 1990-1995. Great Lakes Indian Fish and Wildlife Commission, Biological Services Division Administrative Report 89-11. Odanah, Wisconsin.
- GLIFWC. 1987. Calculation of lake trout total allowable catches for Michigan waters of Lake Superior. Intra-agency report dated January 16, 1987.

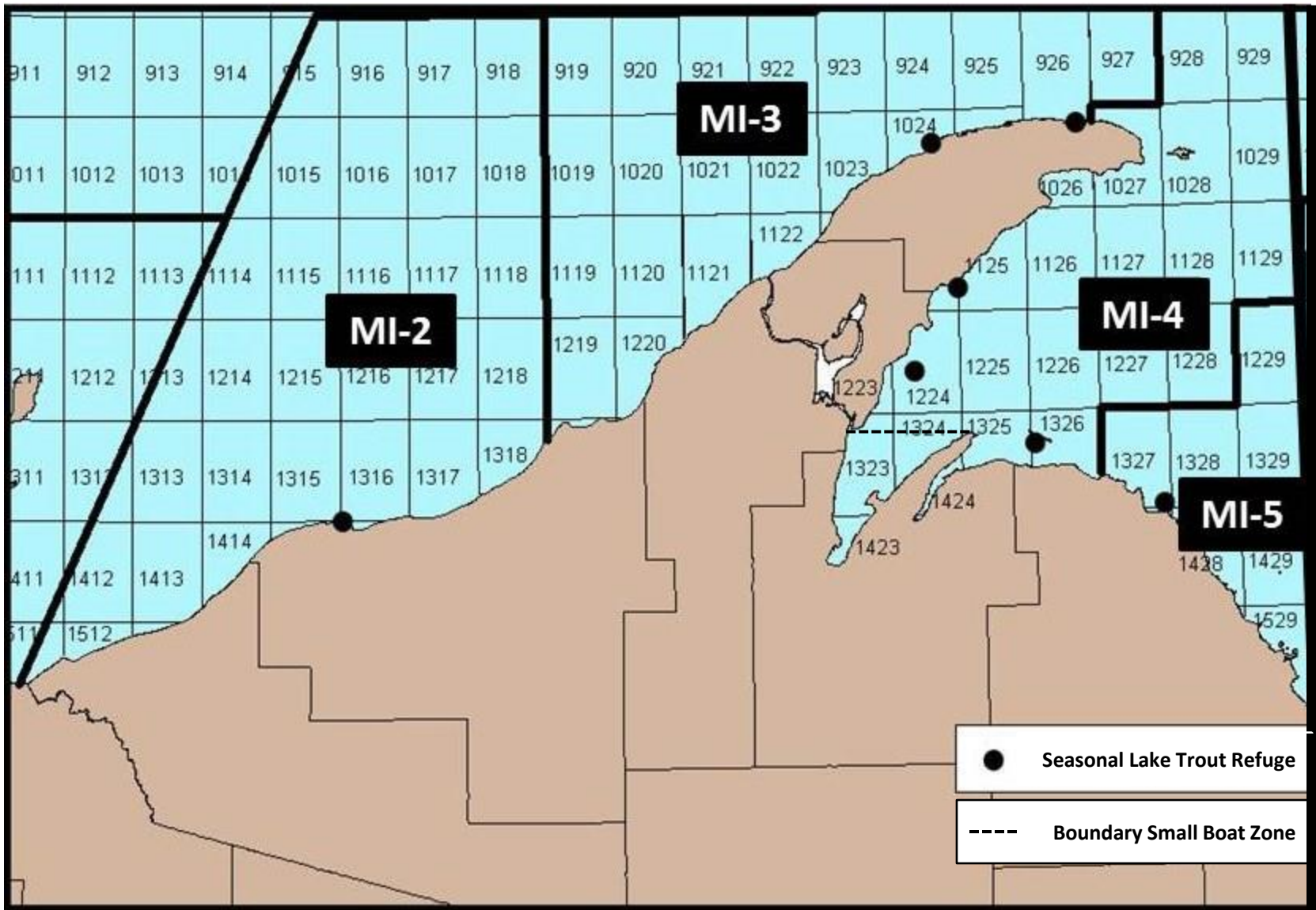


Figure 1. Management units and statistical grids in the 1842 treaty ceded area within Michigan waters of Lake Superior.

Table 1. Total tribal commercial gill net effort (feet) and harvest (pounds) by management unit, grid, and species from the 1842 ceded area within Michigan waters of Lake Superior in 2015.

Management Unit	Grid	Effort	Percent of Total Effort*	Whitefish	Lake trout	Siscowet	Cisco	Salmon Trout	Walleye	Suckers	Other	Total Harvest Round Pounds	Percent of Total Harvest
MI-2	1218	26,400	1.8%	5,025	133	140	0	0	0	0	0		
	1315	166,000	11.6%	17,396	1,049	31	0	0	0	0	0		
	1316	280,900	19.7%	52,937	764	0	0	0	0	0	0		
	1317	149,000	10.4%	15,793	366	0	0	0	0	0	0		
	1318	7,600	0.5%	1,699	54	0	0	0	0	0	0		
	1413	421,400	29.5%	42,087	764	138	264	0	0	0	24		
	1414	277,200	19.4%	20,741	1,513	138	75	18	0	0	218		
	1512	100,800	7.1%	12,730	622	0	0	0	0	0	0		
Subtotals:	Effort:	1,429,300	17.6%										
	Dressed Pounds:			168,408	5,265	446	339	18					
	Round Pounds:			197,037.4	6,581.3	557.5	406.8	22.5	0	0	242	204,847.4	22.9%
MI-3	925	8,000	0.2%	462	98	0	0	0	12	0	0		
	926	78,400	2.2%	7,160	284	516	0	0	0	0	0		
	1023	599,900	16.7%	55,778	1,736	355	0	0	68	583	0		
	1024	475,600	13.3%	60,056	882	1,095	0	4	55	0	0		
	1120	7,200	0.2%	3,375	85	0	0	0	0	0	0		
	1121	1,178,600	32.9%	55,122	1,099	455	0	0	4	0	0		
	1122	446,400	12.5%	26,128	446	42	0	0	12	4,583	0		
	1219	249,000	6.9%	32,710	1,449	197	0	0	0	0	0		
	1220	542,000	15.1%	32,848	1,238	219	0	0	0	1,000	0		
Subtotals:	Effort:	3,585,100	44.0%										
	Dressed Pounds:			273,638	7,315	2,879	0	4					
	Round Pounds:			320,156.5	9,143.8	3,598.8	0.0	5.0	151	6,165	0	339,220.0	37.9%
MI-4	1026	191,600	7.2%	13,353	4,605	26	1,550	0	3	0	0		
	1027	340,000	12.8%	41,169	1,446	4,683	1,555	6	3	0	165		
	1028	1,800	0.1%	53	45	0	0	0	0	0	0		
	1125	257,000	9.7%	33,034	7,507	0	0	0	147	0	0		
	1223	21,200	0.8%	778	900	0	0	0	0	0	0		
	1224	797,800	30.0%	58,601	14,275	66	0	0	0	0	0		
	1225	24,000	0.9%	4,278	0	0	0	0	0	0	0		
	1323	660,100	24.8%	22,634	14,321	34	299	0	0	12	95		
	1325	16,000	0.6%	700	270	0	0	0	0	0	0		
	1326	2,100	0.1%	10	10	0	0	0	0	0	0		
	1423	346,800	13.0%	11,068	9,446	0	929	320	0	0	240		
	Subtotals:	Effort:	2,658,400	32.6%									
	Dressed Pounds:			185,676	52,824	4,809	4,333	326					
	Round Pounds:			217,240.9	66,030.0	6,011.3	5,199.6	407.5	152	12	500	295,553.3	33.0%
MI-5	1327	227,600	48.4%	13,177	9,862	172	0	0	0	0	0		
	1429	36,000	7.7%	5,040	47	0	0	0	0	0	0		
	1529	206,950	44.0%	12,732	3,535	0	845	400	6	0	57		
Subtotals:	Effort:	470,550	5.8%										
	Dressed Pounds:			30,949	13,444	172	845	400					
	Round Pounds:			36,210.3	16,805.0	215.0	1,014.0	500.0	6	0	57	54,807.3	6.1%
Grand Totals:	Effort:	8,143,350											
	Dressed Pounds:			658,671	78,848	8,306	5,517	748					
	Round Pounds:			770,645.1	98,560.0	10,382.5	6,620.4	935.0	309.0	6,177.0	799.0	894,428.0	

\*For subtotals, percentage refers to percent of overall effort fished in unit.

Table 2. Tribal commercial gill net effort (feet) and harvest (pounds) by management unit, gill net mesh size, and species from the 1842 ceded area within Michigan waters of Lake Superior in 2015.

Unit	Mesh	Effort	Percent of		Salmon							Total Harvest Round Pounds
			Total Effort*	Whitefish	Lake trout	Siscowet	Cisco	Trout	Walleye	Suckers	Other	
MI-2	4.5	1,429,300	100.0%	168,408	5,265	446	339	18	0	0	242	
Subtotals:	Effort:	1,429,300	17.6%									
	Dressed Pounds:			168,408	5,265	446	339	18				
	Round Pounds:			197,037.4	6,581.3	557.5	406.8	22.5	0.0	0.0	242.0	204,847.4
	Percent of Unit Harvest:			96.2%	3.2%	0.3%	0.2%	0.0%	0.0%	0.0%	0.1%	
MI-3	4.5	3,570,000	99.6%	273,366	6,663	2,879	0	0	151	6,165	0	
MI-3	5.5	14,200	0.4%	260	640	0	0	0	0	0	0	
MI-3	4.5 >= 5.0	900	0.0%	12	12	0	0	4	0	0	0	
Subtotals:	Effort:	3,585,100	44.0%									
	Dressed Pounds:			273,638	7,315	2,879	0	4				
	Round Pounds:			320,156.5	9,143.8	3,598.8	0.0	5.0	151.0	6,165.0	0.0	339,220.0
	Percent of Unit Harvest:			94.4%	2.7%	1.1%	0.0%	0.0%	0.0%	1.8%	0.0%	
MI-4	3.0	46,500	1.7%	33	30	0	3,894	56	3	0	4	
MI-4	4.5	2,475,300	93.1%	180,745	50,731	4,789	414	184	149	12	486	
MI-4	5	6,000	0.2%	75	128	0	5	6	0	0	10	
MI-4	5.5	50,600	1.9%	3,140	1,305	0	20	80	0	0	0	
MI-4	4.5 >= 5.0	80,000	3.0%	1,683	630	20	0	0	0	0	0	
Subtotals:	Effort:	2,658,400	32.6%									
	Dressed Pounds:			185,676	52,824	4,809	4,333	326				
	Round Pounds:			217,240.9	66,030.0	6,011.3	5,199.6	407.5	152.0	12.0	500.0	295,553.3
	Percent of Unit Harvest:			73.5%	22.3%	2.0%	1.8%	0.1%	0.1%	0.0%	0.2%	
MI-5	3.0	1,000	0.2%	0	0	0	755	160	0	0	0	
MI-5	4.5	350,150	74.4%	20,404	12,031	172	68	67	6	0	52	
MI-5	5.5	119,400	25.4%	10,545	1,413	0	22	173	0	0	5	
Subtotals:	Effort:	470,550	5.8%									
	Dressed Pounds:			30,949	13,444	172	845	400				
	Round Pounds:			36,210.3	16,805.0	215.0	1,014.0	500.0	6.0	0.0	57.0	54,807.3
	Percent of Unit Harvest:			66.1%	30.7%	0.4%	1.9%	0.9%	0.0%	0.0%	0.1%	
Totals:	Effort:	8,143,350										
	Dressed Pounds:			658,671	78,848	8,306	5,517	748				
	Round Pounds:			770,645.1	98,560.0	10,382.5	6,620.4	935.0	309.0	6,177.0	799.0	894,428.0
	Percent of Total Harvest:			86.2%	11.0%	1.2%	0.7%	0.1%	0.0%	0.7%	0.1%	

\*For subtotals, percentage refers to percent of overall effort fished in unit.



Table 3. Total and target gill net harvest and effort statistics by tribe for lake trout, whitefish, and siscowet in Michigan waters of Lake Superior in 2015.\*

Unit	Tribe	TOTAL HARVEST							TARGET HARVEST							
		Effort	Whitefish		Lake trout		Siscowet		Effort	Whitefish		Lake trout		Siscowet		
			pounds	CPE	pounds	CPE	pounds	CPE		pounds	CPE	pounds	CPE	Effort	pounds	CPE
MI-2	Bad River	842,400	90,883	108	4,499	5	171	0	842,400	90,883	108	4,499	5	0	0	0
	Keweenaw Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Red Cliff	586,900	77,525	132	766	1	275	0	586,900	77,525	132	766	1	0	0	0
	subtotal	1,429,300	168,408	118	5,265	4	446	0	1,429,300	168,408	118	5,265	4	0	0	0
MI-3	Bad River	1,069,400	128,631	120	2,582	2	2,169	2	1,069,400	128,631	120	2,582	2	0	0	0
	Keweenaw Bay	15,100	272	18	652	43	0	0	15,100	272	18	652	43	0	0	0
	Red Cliff	2,500,600	144,735	58	4,081	2	710	0	2,500,600	144,735	58	4,081	2	0	0	0
	subtotal	3,585,100	273,638	76	7,315	2	2,879	1	3,585,100	273,638	76	7,315	2	0	0	0
MI-4	Bad River	933,600	75,033	80	11,135	12	4,723	5	933,600	75,033	80	11,135	12	0	0	0
	Keweenaw Bay	1,128,600	38,915	34	29,425	26	34	0	1,122,100	38,882	35	29,395	26	0	0	0
	Red Cliff	596,200	71,728	120	12,264	21	52	0	556,200	71,728	129	12,264	22	0	0	0
	subtotal	2,658,400	185,676	70	52,824	20	4,809	2	2,611,900	185,643	71	52,794	20	0	0	0
MI-5	Bad River	45,600	2,597	57	2,477	54	0	0	45,600	2,597	57	2,477	54	0	0	0
	Keweenaw Bay	232,950	13,652	59	4,375	19	0	0	231,950	13,652	59	4,375	19	0	0	0
	Red Cliff	192,000	14,700	77	6,592	34	172	1	192,000	14,700	77	6,592	34	0	0	0
	subtotal	470,550	30,949	66	13,444	29	172	0	469,550	30,949	66	13,444	29	0	0	0
Total	Bad River	2,891,000	297,144	103	20,693	7	7,063	2	2,891,000	297,144	103	20,693	7	0	0	0
	Keweenaw Bay	1,376,650	52,839	38	34,452	25	34	0	1,369,150	52,806	39	34,422	25	0	0	0
	Red Cliff	3,875,700	308,688	80	23,703	6	1,209	0	3,835,700	308,688	80	23,703	6	0	0	0
	All Tribes	8,143,350	658,671	81	78,848	10	8,306	1	8,095,850	658,638	81	78,818	10	0	0	0

\*Pounds are in dressed weight, effort is feet of net lifted and CPE is pounds/1000 ft of net lifted. Target species was assigned to each lift based on reported target species from individual catch reports. Target effort for whitefish and lake trout was combined.

Table 4. Gill net harvest and effort statistics for target species by grid and management unit in Michigan waters of Lake Superior in 2015.\*

Unit	Grid	Whitefish			Lake trout			Cisco			Salmon		
		Effort	pounds	CPE	Effort	pounds	CPE	Effort	pounds	CPE	Effort	pounds	CPE
MI-2	1218	26,400	5,025	190	26,400	133	5						
	1315	166,000	17,396	105	166,000	1,049	6						
	1316	280,900	52,937	188	280,900	764	3						
	1317	149,000	15,793	106	149,000	366	2						
	1318	7,600	1,699	224	7,600	54	7						
	1413	421,400	42,087	100	421,400	764	2						
	1414	277,200	20,741	75	277,200	1,513	5						
	1512	100,800	12,730	126	100,800	622	6						
	subtotal	1,429,300	168,408	118	1,429,300	5,265	4	0	0	0	0	0	0
MI-3	925	8,000	462	58	8,000	98	12						
	926	78,400	7,160	91	78,400	284	4						
	1023	599,900	55,778	93	599,900	1,736	3						
	1024	475,600	60,056	126	475,600	882	2						
	1120	7,200	3,375	469	7,200	85	12						
	1121	1,178,600	55,122	47	1,178,600	1,099	1						
	1122	446,400	26,128	59	446,400	446	1						
	1219	249,000	32,710	131	249,000	1,449	6						
	1220	542,000	32,848	61	542,000	1,238	2						
	subtotal	3,585,100	273,638	76	3,585,100	7,315	2	0	0	0	0	0	0
MI-4	1026	171,600	13,353	78	171,600	4,605	27	20,000	1,550	78			
	1027	320,000	41,169	129	320,000	1,446	5	20,000	1,550	78			
	1028	1,800	53	29	1,800	45	25						
	1125	257,000	33,034	129	257,000	7,507	29						
	1223	21,200	778	37	21,200	900	42						
	1224	797,800	58,601	73	797,800	14,275	18						
	1225	24,000	4,278	178	24,000	0	0						
	1323	659,600	22,634	34	659,600	14,321	22	500	0	0			
	1325	16,000	700	44	16,000	270	17						
	1326	2,100	10	5	2,100	10	5						
	1423	340,800	11,035	32	340,800	9,416	28	6,000	794	132			
	subtotal	2,611,900	185,643	71	2,611,900	52,794	20	46,500	3,894	84	0	0	0
	MI-5	1327	227,600	13,177	58	227,600	9,862	43					
1429		36,000	5,040	140	36,000	47	1						
1529		205,950	12,732	62	205,950	3,535	17	1,000	755	755	900	169	188
subtotal		469,550	30,949	66	469,550	13,444	29	1,000	755	755	900	169	188
Grand Total		8,095,850	658,638	81	8,095,850	78,818	10	47,500	4,649	98	900	169	188

\*Pounds are in dressed weight, effort is feet of net lifted and CPE is pounds/1,000 ft of net lifted. Target species was assigned to each lift based on reported target species from individual catch reports. Target effort for whitefish and lake trout was combined.

Table 5. Tribal commercial gill net effort (feet), harvest (dressed pounds), and catch per unit effort (CPE, pounds/1,000 feet) statistics for whitefish, lake trout and siscowet by management unit and year from the 1842 ceded area within Michigan waters of Lake Superior from 1985-2014. Target effort for whitefish and lake trout was combined.

Unit	Year	Whitefish				Lake trout				Siscowet			
		Target effort	Target harvest	CPE	Total Harvest	Target effort	Target harvest	CPE	Total Harvest	Target effort	Target harvest	CPE	Total Harvest
MI-2	1985	101,100	5,664	56	5,664	101,100	9,238	91	9,238	0	0	0	45
	1986	128,000	16,234	127	16,234	128,000	7,550	59	7,550	0	0	0	63
	1987	576,200	80,246	139	80,246	576,200	18,568	32	18,633	3,200	0	0	2,059
	1988	98,000	2,809	29	2,809	98,000	17,374	177	17,374	24,000	4,945	206	432
	1989	178,000	33,511	188	33,511	178,000	13,488	76	13,488	0	0	0	4,181
	1990	113,000	22,867	202	24,012	113,000	2,789	25	3,269	28,000	8,145	291	5,163
	1991	136,800	32,003	234	32,003	136,800	5,273	39	5,273	0	0	0	812
	1992	217,000	44,814	207	45,377	217,000	2,290	11	2,332	166,000	25,946	156	1,530
	1993	419,100	74,220	177	74,473	419,100	7,780	19	8,263	52,400	10,029	191	8,201
	1994	148,200	17,629	119	17,629	148,200	7,790	53	7,790	5,000	747	149	1,243
	1995	155,000	11,236	73	12,160	155,000	9,729	63	10,104	15,000	3,307	221	3,025
	1996	89,600	4,418	49	4,418	89,600	7,777	87	7,777	1,200	3	3	186
	1997	196,300	19,512	99	19,512	196,300	10,675	54	11,302	5,000	1,608	322	703
	1998	85,400	10,250	120	10,250	85,400	3,125	37	3,125	0	0	0	250
	1999	170,100	31,466	185	31,466	170,100	1,130	7	1,130	0	0	0	3,628
	2000	391,800	120,494	308	120,494	391,800	3,925	10	3,925	0	0	0	3,911
	2001	95,000	16,944	178	16,944	95,000	463	5	463	0	0	0	1,483
	2002	371,800	43,377	117	43,377	371,800	3,582	10	3,582	0	0	0	6,667
	2003	261,600	37,887	145	37,887	261,600	2,910	11	2,910	0	0	0	1,700
	2004	526,900	80,959	154	80,959	526,900	5,745	11	5,745	0	0	0	26
	2005	577,600	129,062	223	129,062	577,600	7,103	12	7,103	0	0	0	280
	2006	1,642,450	360,434	219	360,434	1,642,450	9,072	6	9,072	0	0	0	705
	2007	1,171,600	207,745	177	207,745	1,171,600	11,582	10	11,582	0	0	0	1,339
	2008	987,600	213,266	216	213,266	987,600	7,660	8	7,660	0	0	0	1,077
	2009	475,900	112,789	237	112,789	475,900	1,830	4	1,830	0	0	0	561
2010	1,036,800	173,173	167	173,173	1,036,800	2,221	2	2,221	0	0	0	144	
2011	448,800	84,596	188	84,596	448,800	1,919	4	1,919	0	0	0	0	
2012	1,376,600	268,914	195	268,914	1,376,600	7,922	6	7,922	0	0	0	0	
2013	748,800	155,816	208	155,816	748,800	8,117	11	8,117	0	0	0	0	
2014	1,236,160	163,896	133	163,896	1,236,160	7,700	6	7,700	0	0	0	630	
2015	1,429,300	168,408	118	168,408	1,429,300	5,265	4	5,265	0	0	0	446	
Average:		502,920	88,537	176	88,630	502,920	6,826	14	6,892	9,671	1,765	183	1,629
MI-3	1985	2,475,200	309,525	125	309,525	2,475,200	31,501	13	31,501	0	0	0	6,098
	1986	2,936,200	265,269	90	266,919	2,936,200	39,682	14	39,888	161,000	26,172	163	44,384
	1987	2,098,900	136,353	65	145,245	2,098,900	36,409	17	37,340	538,800	58,797	109	78,320
	1988	2,427,300	222,321	92	225,440	2,427,300	32,677	14	33,158	176,400	21,934	124	34,289
	1989	1,596,000	134,078	84	134,182	1,596,000	28,215	18	28,224	68,000	10,660	157	22,461
	1990	2,127,500	110,615	52	110,615	2,127,500	28,361	13	28,361	20,000	2,967	148	28,771
	1991	1,329,900	62,714	47	65,264	1,329,900	22,507	17	23,790	123,400	14,458	117	30,005
	1992	1,675,200	119,291	71	120,176	1,675,200	19,537	12	19,912	84,600	8,272	98	27,350
	1993	2,100,100	172,270	82	172,488	2,100,100	16,958	8	17,255	63,700	5,933	93	22,052
	1994	1,703,800	73,556	43	74,632	1,703,800	12,651	7	13,433	71,000	5,053	71	22,099
	1995	1,408,400	91,358	65	91,358	1,408,400	8,013	6	8,013	0	0	0	9,774
	1996	1,359,700	135,822	100	136,622	1,359,700	9,843	7	10,798	56,000	2,750	49	6,277
	1997	1,854,100	136,221	74	136,971	1,854,100	15,954	9	16,435	18,000	1,546	86	13,270
	1998	2,556,700	267,336	105	267,411	2,556,700	24,629	10	24,759	9,500	400	42	11,706
	1999	1,706,300	178,485	105	178,485	1,706,300	12,430	7	12,430	0	0	0	11,455
	2000	1,609,300	204,065	127	204,065	1,609,300	8,951	6	8,951	0	0	0	3,389
	2001	1,711,600	154,154	90	154,154	1,711,600	17,246	10	17,246	0	0	0	7,819
	2002	1,879,000	85,980	46	85,980	1,879,000	19,558	10	19,558	0	0	0	8,986
	2003	1,759,000	196,274	112	196,274	1,759,000	12,585	7	12,585	0	0	0	0
	2004	1,255,400	67,579	54	67,579	1,255,400	9,973	8	9,973	0	0	0	0
	2005	1,246,000	118,185	95	118,185	1,246,000	4,738	4	4,738	0	0	0	0
	2006	1,731,000	264,460	153	264,460	1,731,000	12,714	7	12,714	0	0	0	56
	2007	1,466,400	249,555	170	249,555	1,466,400	5,414	4	5,414	0	0	0	0
	2008	1,871,150	373,411	200	373,411	1,871,150	12,697	7	12,697	0	0	0	1,155
	2009	2,073,300	475,227	229	475,227	2,073,300	15,392	7	15,392	0	0	0	3,881
2010	2,042,500	265,459	130	265,459	2,042,500	5,547	3	5,547	0	0	0	1,439	
2011	2,148,400	353,164	164	353,164	2,148,400	5,334	3	5,334	0	0	0	0	
2012	2,604,000	401,374	154	401,374	2,604,000	7,083	3	7,083	0	0	0	97	
2013	2,447,200	445,528	182	445,528	2,447,200	8,808	4	8,808	0	0	0	131	
2014	1,693,400	219,986	130	219,986	1,693,400	8,196	5	8,196	0	0	0	3,008	
2015	3,585,100	273,638	76	273,638	3,585,100	7,315	2	7,315	0	0	0	2,879	
Average:		1,950,905	211,718	109	212,367	1,950,905	16,159	8	16,350	44,852	5,127	114	12,940

Table 5. Continued.

Unit	Year	Whitefish			Lake trout			Siscowet					
		Target effort	Target harvest	Total CPE	Target effort	Target harvest	Total CPE	Target effort	Target harvest	Total CPE			
MI-4	1985	1,083,275	218,666	202	219,376	1,083,275	43,118	40	44,289	0	0	0	241
	1986	4,864,900	526,710	108	527,148	4,864,900	129,258	27	129,565	105,800	25,924	245	32,038
	1987	4,110,190	300,332	73	301,898	4,110,190	71,863	18	72,864	768,200	136,596	178	160,297
	1988	5,547,065	245,246	44	246,854	5,547,065	117,982	21	119,281	266,000	34,653	130	53,689
	1989	6,781,675	371,247	55	372,637	6,781,675	112,829	17	114,353	70,000	21,781	311	58,127
	1990	8,557,900	377,190	44	382,839	8,557,900	133,645	16	139,272	600,500	38,606	64	81,902
	1991	5,945,200	278,295	47	286,046	5,945,200	94,581	16	104,481	789,300	55,800	71	96,699
	1992	5,152,100	299,967	58	313,370	5,152,100	74,849	15	86,074	950,750	46,489	49	96,550
	1993	3,939,425	165,440	42	176,357	3,939,425	65,184	17	76,105	747,500	55,090	74	92,518
	1994	2,801,325	88,866	32	95,085	2,801,325	53,075	19	62,290	559,050	38,703	69	60,395
	1995	1,529,225	74,466	49	84,682	1,529,225	47,471	31	61,986	376,000	35,363	94	51,510
	1996	2,096,400	101,931	49	108,219	2,096,400	43,737	21	50,828	336,900	23,662	70	38,361
	1997	2,238,988	127,998	57	129,103	2,238,988	54,929	25	56,302	137,986	41,753	303	65,555
	1998	2,202,700	136,100	62	139,384	2,202,700	60,014	27	63,419	196,870	19,377	98	33,038
	1999	2,338,100	141,873	61	143,432	2,338,100	69,671	30	70,896	79,400	14,920	188	25,154
	2000	1,922,025	128,261	67	129,288	1,922,025	78,318	41	79,097	43,700	6,616	151	17,851
	2001	2,193,800	114,051	52	114,867	2,193,800	66,726	30	67,347	22,800	6,949	305	34,091
	2002	2,735,450	160,561	59	160,564	2,735,450	91,897	34	91,897	0	0	0	19,050
	2003	1,714,600	158,437	92	158,437	1,714,600	45,406	27	45,406	0	0	0	500
	2004	1,864,550	147,536	79	147,594	1,864,550	49,185	26	49,208	0	0	0	664
2005	1,660,670	142,676	86	142,676	1,660,670	41,026	25	41,026	0	0	0	123	
2006	1,601,855	90,777	57	90,833	1,601,855	52,758	33	52,857	3,375	165	49	1,538	
2007	1,345,140	87,772	65	87,807	1,345,140	40,856	30	40,891	0	0	0	514	
2008	1,465,750	113,059	77	113,059	1,465,750	46,669	32	46,669	0	0	0	2,480	
2009	1,553,550	122,643	79	122,717	1,553,550	46,568	30	46,572	0	0	0	3,175	
2010	1,211,300	72,394	60	72,832	1,211,300	33,990	28	34,428	2,400	82	34	1,569	
2011	1,217,600	95,936	79	96,026	1,217,600	37,065	30	37,160	7,200	210	29	1,593	
2012	1,750,850	98,882	57	98,882	1,750,850	62,018	35	62,018	0	0	0	52	
2013	1,499,775	72,796	49	72,841	1,499,775	57,829	39	57,834	0	0	0	136	
2014	1,463,200	109,432	75	109,435	1,463,200	47,399	32	47,399	0	0	0	1,365	
2015	2,611,900	185,643	71	185,676	2,611,900	52,794	20	52,824	0	0	0	4,809	
Average:		2,806,467	172,748	62	175,160	2,806,467	65,249	23	67,892	195,604	19,443	99	33,406
MI-5	1986	180,000	25,205	140	25,205	180,000	10,667	59	10,667	4,000	750	188	1,772
	1987	440,000	32,095	73	33,126	440,000	13,509	31	13,509	48,000	2,502	52	6,269
	1988	551,900	47,233	86	47,363	551,900	32,105	58	32,105	6,000	333	56	5,449
	1989	225,500	42,809	190	42,809	225,500	12,661	56	12,661	0	0	0	2,785
	1990	706,000	80,394	114	80,394	706,000	18,490	26	18,490	0	0	0	10,026
	1991	305,500	24,355	80	24,540	305,500	7,789	26	7,899	36,000	405	11	9,787
	1992	426,000	35,827	84	37,169	426,000	8,042	19	8,977	72,000	2,970	41	8,672
	1993	416,000	21,375	51	21,522	416,000	25,555	61	25,597	4,500	206	46	2,833
	1994	211,000	5,318	25	5,388	211,000	24,974	118	24,974	14,000	290	21	2,878
	1995	113,400	9,288	82	9,288	113,400	8,445	75	8,445	0	0	0	1,839
	1996	161,400	7,672	48	7,672	161,400	8,040	50	8,040	0	0	0	1,033
	1997	102,300	17,997	176	18,831	102,300	5,249	51	6,105	8,000	200	25	1,855
	1998	280,300	23,950	85	24,452	280,300	14,942	53	16,247	74,000	1,989	27	4,023
	1999	178,000	12,213	69	12,813	178,000	18,342	103	19,824	15,500	1,222	79	4,038
	2000	481,800	44,454	92	44,842	481,800	48,030	100	48,479	7,500	578	77	3,073
	2001	292,700	22,949	78	22,949	292,700	6,377	22	7,321	0	0	0	0
	2002	576,600	31,159	54	31,329	576,600	23,010	40	23,010	0	0	0	1,849
	2003	454,500	14,988	33	14,988	454,500	37,706	83	37,706	0	0	0	5
	2004	705,700	20,742	29	20,742	705,700	31,827	45	31,827	0	0	0	480
	2005	835,070	29,985	36	29,988	835,070	29,505	35	29,530	1,190	60	50	383
2006	738,700	44,839	61	44,839	738,700	36,650	50	36,668	0	0	0	0	
2007	820,500	29,254	36	29,313	820,500	32,988	40	32,988	0	0	0	0	
2008	508,500	7,691	15	7,691	508,500	11,949	24	11,949	0	0	0	0	
2009	551,722	21,070	38	21,134	551,722	21,042	38	21,042	0	0	0	0	
2010	450,000	18,554	41	18,708	450,000	12,966	29	12,966	0	0	0	0	
2011	353,900	15,896	45	15,906	353,900	18,293	52	18,293	0	0	0	0	
2012	390,100	19,645	50	19,645	390,100	19,144	49	19,144	0	0	0	480	
2013	402,500	15,384	38	15,384	402,500	20,807	52	20,807	0	0	0	383	
2014	201,300	12,368	61	12,712	201,300	8,330	41	8,337	0	0	0	0	
2015	469,550	30,949	66	30,949	469,550	13,444	29	13,444	0	0	0	172	
Average:		417,681	25,522	61	25,723	417,681	19,363	47	19,568	9,690	384	40	2,336

Table 5. Continued.

Unit	Year	Whitefish				Lake trout				Siscowet			
		Target effort	Target harvest	CPE	Total Harvest	Target effort	Target harvest	CPE	Total Harvest	Target effort	Target harvest	CPE	Total Harvest
All units	1985	3,659,575	533,855	146	534,565	3,659,575	83,857	23	85,028	0	0	0	6,384
	1986	8,109,100	833,418	103	835,506	8,109,100	187,157	23	187,670	270,800	52,846	195	78,257
	1987	7,225,290	549,026	76	560,515	7,225,290	140,349	19	142,346	1,358,200	197,895	146	246,945
	1988	8,624,265	517,609	60	522,466	8,624,265	200,138	23	201,918	472,400	61,865	131	93,859
	1989	8,781,175	581,645	66	583,139	8,781,175	167,193	19	168,726	138,000	32,441	235	87,554
	1990	11,504,400	591,066	51	597,860	11,504,400	183,285	16	189,392	648,500	49,718	77	125,862
	1991	7,717,400	397,367	51	407,853	7,717,400	130,150	17	141,443	948,700	70,663	74	137,303
	1992	7,470,300	499,899	67	516,092	7,470,300	104,718	14	117,295	1,273,350	83,677	66	134,102
	1993	6,874,625	433,305	63	444,840	6,874,625	115,477	17	127,220	868,100	71,258	82	125,604
	1994	4,864,325	185,369	38	192,734	4,864,325	98,490	20	108,487	649,050	44,793	69	86,615
	1995	3,206,025	186,348	58	197,488	3,206,025	73,658	23	88,548	391,000	38,670	99	66,148
	1996	3,707,100	249,843	67	256,931	3,707,100	69,397	19	77,443	394,100	26,415	67	45,857
	1997	4,391,688	301,728	69	304,417	4,391,688	86,807	20	90,144	168,986	45,107	267	81,383
	1998	5,125,100	437,636	85	441,497	5,125,100	102,710	20	107,550	280,370	21,766	78	49,017
	1999	4,392,500	364,037	83	366,196	4,392,500	101,573	23	104,280	94,900	16,142	170	44,275
	2000	4,404,925	497,274	113	498,689	4,404,925	139,224	32	140,452	51,200	7,194	141	28,224
	2001	4,293,100	308,098	72	308,914	4,293,100	90,812	21	92,377	22,800	6,949	305	43,393
	2002	5,562,850	321,077	58	321,250	5,562,850	138,047	25	138,047	0	0	0	36,552
	2003	4,189,700	407,586	97	407,586	4,189,700	98,607	24	98,607	0	0	0	2,205
	2004	4,352,550	316,816	73	316,874	4,352,550	96,730	22	96,753	0	0	0	1,170
	2005	4,319,340	419,908	97	419,911	4,319,340	82,372	19	82,397	1,190	60	50	786
	2006	5,714,005	760,510	133	760,566	5,714,005	111,194	19	111,311	3,375	165	49	2,299
	2007	4,803,640	574,326	120	574,420	4,803,640	90,840	19	90,875	0	0	0	1,853
	2008	4,833,000	707,427	146	707,427	4,833,000	78,975	16	78,975	0	0	0	4,712
	2009	4,654,472	731,729	157	731,867	4,654,472	84,832	18	84,836	0	0	0	7,617
	2010	4,740,600	529,580	112	530,172	4,740,600	54,724	12	55,162	2,400	82	34	3,152
	2011	4,168,700	549,592	132	549,692	4,168,700	62,611	15	62,706	7,200	210	29	1,593
	2012	6,121,550	788,815	129	788,815	6,121,550	96,167	17	96,167	0	0	0	629
	2013	5,726,075	802,622	140	689,569	5,726,075	95,366	17	95,371	0	0	0	650
	2014	4,594,060	505,682	110	506,029	4,594,060	71,625	16	71,632	0	0	0	5,003
	2015	8,095,850	658,638	81	658,671	8,095,850	78,818	10	78,848	0	0	0	8,306
Average:		5,684,751	501,349	88	501,050	5,684,751	106,965	19	110,065	259,504	26,707	103	50,236

Table 6. Age and size composition of wild lake trout by unit from tribal commercial harvests during 2015. Weight is in round pounds, length is in inches, and sd=standard deviation.

Unit	Origin	Age	Number Aged	Number Measured	Length (in.)		Number Weighed	Weight (lbs)	
					mean	sd		mean	sd
MI-2									
		6	2	2	22.4	0.0	2	3.4	0.1
		7	4	4	23.7	4.3	4	4.4	2.1
		8	2	2	23.1	0.2	2	3.0	0.2
		9	3	3	23.4	1.7	3	4.1	0.7
		10	3	3	25.5	1.6	3	5.1	1.2
		11	8	8	24.0	2.8	8	4.7	2.0
		14	3	3	25.0	5.0	3	4.9	3.2
		15	1	1	25.1		1	4.6	
		16	2	2	26.8	1.3	2	5.8	0.7
		17	1	1	26.1		1	5.7	
		20	2	2	27.9	1.3	2	6.2	0.6
		23	1	1	28.8		1	6.6	
		24	1	1	36.2		1	18.6	
Sample Size:			33	33			33		
Means:			11.9		25.0	3.5		5.1	2.9
MI-3									
		8	5	5	22.4	2.9	5	3.6	0.9
		9	3	3	21.7	5.1	3	3.2	2.0
		10	2	2	19.9	0.7	2	2.3	0.2
		11	1	1	20.3		1	2.5	
		12	1	1	22.3		1	3.2	
		14	2	2	23.8	0.4	2	3.7	0.0
		15	2	2	26.5	1.6	2	5.6	1.6
		17	1	1	26.5		1	6.1	
Sample Size:			17	17			17		
Means:			10.9		22.7	3.2		3.7	1.5
MI-4									
		6	8	8	22.8	1.7	8	3.9	1.1
		7	4	4	24.2	1.9	4	4.8	1.4
		8	5	5	23.8	3.8	5	4.6	2.0
		9	8	8	23.3	4.6	8	4.4	2.7
		10	12	12	21.6	2.1	12	3.1	1.1
		11	8	8	21.5	2.0	8	2.9	1.1
		12	10	10	23.5	2.0	10	4.3	1.6
		13	4	4	23.1	0.8	4	3.9	0.5
		14	6	6	25.2	2.7	6	5.2	2.7
		15	2	2	25.4	0.7	2	5.1	1.0
		16	1	1	25.5		1	4.4	
		17	1	1	24.4		1	3.6	
Sample Size:			69	69			69		
Means:			10.4		23.1	2.7		4.0	1.7
MI-5									
		9	1	1	19.5		1	2.6	
		12	1	1	22.6		1	3.5	
		17	1	1	26.6		1	6.6	
		19	2	2	29.5	1.6	2	7.7	1.6
Sample Size:			5	5			5		
Means:			15.2		25.5	4.5		5.6	2.5

Table 7. Lamprey wounding and scarring rates (marks/100 fish) on lake trout, per Lake Superior Technical Committee protocol, captured in the tribal commercial harvests from management units in the 1842 ceded area within Michigan waters of Lake Superior during 2015.

Unit	Length Category (Inches)	Fish Examined	Type AI, AII, AIII Wounds	Wounds per 100 fish	Scars	Scars per 100 fish
MI-2						
	2: 17-20.9	1	0	0.0	0	0.0
	3: 21-24.9	16	0	0.0	0	0.0
	4: 25-28.9	13	0	0.0	0	0.0
	5: > 29	3	0	0.0	0	0.0
	Total:	33	0	0.0	0	0.0
MI-3						
	2: 17-20.9	7	0	0.0	0	0.0
	3: 21-24.9	6	0	0.0	0	0.0
	4: 25-28.9	5	0	0.0	0	0.0
	Total:	18	0	0.0	0	0.0
MI-4						
	2: 17-20.9	17	0	0.0	0	0.0
	3: 21-24.9	35	0	0.0	1	2.9
	4: 25-28.9	18	0	0.0	0	0.0
	5: > 29	1	0	0.0	0	0.0
	Total:	71	0	0.0	1	1.4
MI-5						
	2: 17-20.9	1	0	0.0	0	0.0
	3: 21-24.9	1	0	0.0	0	0.0
	4: 25-28.9	2	0	0.0	0	0.0
	5: > 29	1	0	0.0	0	0.0
	Total:	5	0	0.0	0	0.0

Table 8. Age and size composition of whitefish in tribal commercial harvests from management units in the 1842 ceded area within Michigan waters of Lake Superior during 2015. Weight is in round pounds, length is in inches, and sd=standard deviation.

Unit	Age	Number	Number	Length (in.)		Number	Weight (lbs)	
		Aged	Measured	mean	sd	Weighed	mean	sd
MI-2								
		0	137	19.4	1.2	89	2.5	0.6
	2	1	1	18.9		1	2.1	
	6	3	3	18.7	0.7	3	2.3	0.3
	7	12	12	17.8	0.7	12	3.4	4.5
	8	56	56	18.5	0.5	56	2.2	0.2
	9	75	75	19.2	0.4	75	2.4	0.2
	10	51	51	20.0	0.8	51	2.7	0.3
	11	30	30	20.7	0.9	30	2.8	0.6
	12	3	3	21.9	2.0	3	3.7	0.9
	13	5	5	20.8	1.7	5	3.2	0.5
	14	6	6	21.9	2.3	6	3.5	1.1
	16	1	1	25.8		1	6.4	
	17	1	1	27.7		1	7.2	
	18	2	2	23.1	5.8	2	4.9	3.3
	25	1	1	19.5		1	2.6	
Sample Size:		247	384			336		
Means:		9.5		19.5	1.3		2.6	1.1
MI-3								
		0	208	19.2	0.8	187	2.4	0.3
	5	3	3	19.8	1.0	3	2.2	0.2
	6	7	7	19.2	1.0	7	2.4	0.4
	7	19	19	18.6	1.3	19	2.2	0.4
	8	64	64	19.0	1.1	64	2.4	0.4
	9	77	77	19.3	0.7	77	2.5	0.4
	10	49	49	19.9	0.9	49	2.7	0.4
	11	29	29	20.0	1.3	29	2.8	0.6
	12	36	36	20.2	1.4	36	3.0	0.6
	13	13	13	21.3	1.4	13	3.6	0.9
	14	8	8	20.5	2.0	8	2.9	0.5
	15	4	4	21.4	1.9	4	3.0	0.8
	19	1	1	20.3		1	3.1	
	20	1	1	23.8		1	4.4	
Sample Size:		311	519			498		
Means:		9.7		19.5	1.1		2.6	0.5



Table 8. Continued.

Unit	Age	Number		Length (in.)		Number	Weight (lbs)	
		Aged	Measured	mean	sd	Weighed	mean	sd
MI-4								
		0	43	20.4	1.3	28	2.6	0.3
	5	1	1	19.7		1	2.5	
	6	3	3	20.0	0.8	3	2.9	0.5
	7	16	16	19.3	1.0	16	2.4	0.4
	8	42	42	19.3	0.9	42	2.4	0.3
	9	37	37	19.7	0.8	37	2.5	0.5
	10	31	31	20.3	0.8	31	2.8	0.4
	11	11	11	20.8	1.3	11	3.1	0.5
	12	8	8	22.3	0.9	8	3.3	1.3
	13	1	1	19.9		1	2.5	
	14	2	2	24.2	0.1	2	4.5	0.3
	15	2	2	24.7	0.4	2	3.1	3.8
	17	2	2	23.1	2.8	2	4.3	2.3
Sample Size:		156	199			184		
Means:		9.2		20.1	1.4		2.7	0.7
MI-5								
	9	2	2	19.3	0.5	2	2.1	0.1
	10	1	1	19.4		1	2.3	
	11	4	4	21.4	0.5	4	3.0	0.3
	12	2	2	22.3	0.2	2	3.5	0.3
	13	4	4	23.4	0.5	4	3.9	0.3
	14	13	13	24.4	0.5	13	4.7	0.7
	15	6	6	25.3	0.6	6	5.4	0.3
	16	6	6	26.2	0.5	6	5.7	0.5
	17	2	2	26.4	0.7	2	6.1	0.4
Sample Size:		40	40			40		
Means:		13.8		24.0	2.0		4.5	1.2