2016 Spring Fishing Harvest Summary 1837 & 1854 Ceded Territories, Including Mille Lacs and Vermilion Lakes Fond du Lac Band of Lake Superior Chippewa

Summary prepared for the Ceded Territory & On-Reservation Conservation Committees

Submitted by Brian Borkholder, Fisheries Biologist

Organizational Planning:

Declarations: Declarations for walleye harvest were made on a total of 24 lakes within the 1837 Ceded Territory of Minnesota and another 15 lakes in the 1854 Ceded Territory (Table 1). No declarations were made for any Wisconsin 1837 or 1842 Ceded Territory lakes.

Bandmember Sign-Up: Again in 2016, Fond du Lac (FDL) Bandmembers had the opportunity to sign-up online for spearing and netting activities. By signing up online, individuals provided Resource Management Division (RMD) staff with contact phone numbers and email addresses. Individuals could also call RMD staff during regular work hours to sign up, if this was easier. A total of 61 individuals signed up using this online tool. It should be noted that there were several individuals that ultimately ended up participating that never did sign up, but rather called on a daily basis to inquire about available harvest opportunities.

Morning Notifications and Issuing Daily Permits: Each morning, RMD staff would determine lakes to open for that night and determine the number of available permits. Staff would send a mass email to all 61 individuals that signed up and provided email addresses. This email would state the lakes open for the night, and the number of permits available. Those individuals that were interested and able to participate were given until noon to either call in or respond to the email. RMD staff would then do a lottery-type drawing at noon to distribute the available permits amongst those interested in participating. Only those individuals that were drawn for permits were contacted.

Several individuals never did sign-up for the daily notifications, but rather called in to RMD each day that they were interested in participating. These individuals were added to the daily drawings.

Permits were available at the boat landings. RMD office staff notified Conservation Officers and field staff of the Bandmembers that would be participating each night.

One proposed change for the 2017 spring harvest season is to collect text numbers and cellular providers. With this information, the morning announcements can be delivered to individuals' cell phones text number thru the email system.

Harvest in 1837 Ceded Territory (Inland Lakes):

Due to the progression of spring and ice out, and the length of the season, FDL was only able to participate on eight inland lakes within the 1837 Ceded Territory (Table 1). Harvest activities began on 29 March, and continued thru 14 April. After which, FDL moved to Mille Lacs.

For the eight 1837 inland lakes, spearing was only opened on two of these lakes (Tables 2 & 3). Pounds of walleye harvested by both spearing and netting ranged from 6.6 pounds (Knife Lake, Table 2) to 513.2 pounds (Green Lake, Table 2). Harvest of walleyes ranged from five fish (Knife Lake, Table 3) to 230 fish (Green Lake, Table 3). Length frequency distributions of harvested walleyes and northern pike for most of the lakes are presented in Appendix 1.

The number of individual Bandmembers participating each night ranged from three to seven (Table 4). The number of boats actually participating each night was low (Table 5), often just one boat on each lake as FDL Bandmembers tended to carpool and team up together.

Additional species harvested in 1837 lakes included white sucker, black crappie, bluegill, carp, largemouth bass, rock bass, bullhead, redhorse, and pumpkinseed sunfish (Table 6).

Table 1. Declarations of walleye by the Fond du Lac Band for lakes within the Minnesota 1837 and 1854 Ceded Territories. Declarations can be in either numbers or pounds. Harvest to date and balance remaining at the end of the spring 2016 season is also presented. Highlighted rows indicate lakes where there was Band harvest activity.

	Most Recent Harvest		_					
Ceded Territory	Date 🖵 †	Lake 🔻	Acreage 🔻	County	Declaration (no.)	Declaration (lbs 🔻	Harvest to Date ▼	Balance Remaining 🔻
MN 1837		Borden	1,001	Crow Wing		37		37.0
MN 1837	3/31/2016	Chisago	873	Chisago		79	67.4	11.6
				000000000000000000000000000000000000000				
MN 1837		Crow Wing	318	Crow Wing	32			32
MN 1837		Eleven	290	Kanabec		58		58.0
MN 1837	3/31/2016	Green	1,715	Chisago		658	513.2	144.8
MN 1837		Grindstone	526	Pine	52			52
MN 1837	3/29/2016	Knife	1,220	Kanabec	61		5	56
MN 1837		Little Rock	1,450	Benton		68		68.0
MN 1837	No. 10 (10 (10 (10 (10 (10 (10 (10 (10 (10	Long	120	Morrison	12			12
MN 1837		Mille Lacs	128,227	Mille Lacs		3034		3034.0
				200				
MN 1837		North Center	726	Chisago	72			72
MN 1837	4/14/2016	Platte	1,674	Crow Wing		183	48.2	134.8

Ceded Territory	Most Recent Harvest Date	Lake	Acreage	County	Declaration (no.)	Declaration (lbs)	Harvest to Date	Balance Remaining
MN 1837		Pokegama	1,536	Pine		57		57.0
MN 1837		Razor	100	Pine	10			10
MN 1837	3/30/2016	Rush (East)	1,359	Chisago	68		11	57
MN 1837		Rush (West)	1,464	Chisago	73			73
MN 1837		Shakopee	675	Mille Lacs	45			45
MN 1837		South Big Pine	372	Aitkin		18		18.0
MN 1837		South Center	836	Chisago		160		160.0
MN 1837		South Lindstrom	450	Chisago		131		131.0
MN 1837	4/13/2016	South Long	1,313	Crow Wing	260		114	146
MN 1837		South Stanchfield	398	Isanti	40			40
MN 1837	3/31/2016	Spectacle	235	Isanti	47		35	12
MN 1837	4/13/2016	Sullivan	1,221	Morrison	48		6	42

0 1 17	Most Recent Harvest		A 2 4 2 5 7 5	Country	Declaration (no.)	Declaration (lbs)	Harvest to Date	Dalamaa Damainina
Ceded Territory	Date	Lake	Acreage	County	Declaration (no.)	Declaration (lbs)	Harvest to Date	Balance Remaining
MN 1854		Bassett	403	St. Louis		276		276.0
MN 1854	5/4/2016	Brule	4,327	Cook		682	7.2	674.8
MN 1854	5/4/2016	Cascade	452	Cook		156	76.2	79.8
MN 1854	5/2/2016	Crescent	755	Cook		351	117.6	233.4
MN 1854		Crooked	272	Lake		69		69.0
MN 1854	5/3/2016	Dumbbell	395	Lake		153	28.4	124.6
MN 1854	4/19/2016	Eagle	382	Carlton		275	95.2	179.8
MN 1854		Echo	1,139	St. Louis		848		848.0
MN 1854		Jeanette	612	St. Louis		354		354.0
MN 1854		Sea Gull	3,958	Cook		900		900.0
MN 1854	4/19/2016	Sturgeon	1,706	Pine		653	150.2	502.8
MN 1854		Tom	404	Cook		129		129.0
MN 1854	4/28/2016	Vermilion, West	11,372	St. Louis		2500	1757.8	742.2
MN 1854	4/22/2016	Whiteface Reservoir	4,567	St. Louis		2000	52.4	1947.6
MN 1854		Wilson	650	Lake		134		134.0

Table 2. Harvest (pounds) of walleye and northern pike on eight lakes within the MN portion of the 1837 Ceded Territory. Harvest is separated by spearing and netting, and is only for the Fond du Lac Band during spring 2016 harvest season.

WALLEYE

Sum of Walleye Pounds	Column Labels								
Row Labels	Chisago	Green (Chisago)	Knife	Platte	Rush (East)	South Long	Spectacle	Sullivan	Grand Total
3/29/2016	Cilisago	(Cilisago)	Killie	Flatte	(Last)	Long	Speciacie	Juliivali	Total
Net		463.4	6.6						470
3/30/2016									
Net		31.6			41.8				73.4
3/31/2016									
Net		18.2							18.2
Spear	67.4						35		102.4
4/1/2016									
Net				15.2				4.8	20
4/10/2016									
Net						163.4			163.4
4/13/2016									
Net						81.6		10.6	92.2
4/14/2016									
Net				33					33
Grand Total	67.4	513.2	6.6	48.2	41.8	245	35	15.4	972.6

NORTHERN PIKE

Sum of Northern Pike Pounds	Column Labels								
		Green	Rush	South					Grand
Row Labels	Chisago	(Chisago)	(East)	Long	Platte	Knife	Spectacle	Sullivan	Total
3/29/2016									
Net		65.6				4.8			70.4
3/30/2016									
Net		7.8	38.8						46.6
3/31/2016									
Net		20.6							20.6
Spear									
4/1/2016									
Net					102.2			4.2	106.4
4/10/2016									
Net				27.6					27.6
4/13/2016									
Net				25.6				7.8	33.4
4/14/2016									
Net					49.8				49.8
Grand Total		94	38.8	53.2	152	4.8		12	354.8

Table 3. Harvest (number) of walleye and northern pike on eight lakes within the MN portion of the 1837 Ceded Territory. Harvest is separated by spearing and netting, and is only for the Fond du Lac Band during spring 2016 harvest season.

WALLEYE

Sum of Walleye Number	Column Labels								
Nullibel	Labels	Green			Rush	South			Grand
Row Labels	Chisago	(Chisago)	Knife	Platte	(East)	Long	Spectacle	Sullivan	Total
3/29/2016									
Net		209	5						214
3/30/2016									
Net		12			11				23
3/31/2016									
Net		9							9
Spear	32						17		49
4/1/2016									
Net				5				2	7
4/10/2016									
Net						76			76
4/13/2016									
Net						38		6	44
4/14/2016									
Net				17					17
Grand Total	32	230	5	22	11	114	17	8	439

NORTHERN PIKE

Sum of									
Northern Pike Number	Column Labels								
Row Labels	Chisago	Green (Chisago)	Knife	Platte	Rush (East)	South Long	Spectacle	Sullivan	Grand Total
3/29/2016									
Net		16	1						17
3/30/2016									
Net		3			7				10
3/31/2016									
Net Spear		5							5
4/1/2016									
Net				43				1	44
4/10/2016									
Net						11			11
4/13/2016									
Net						12		4	16
4/14/2016				21					21
Net Grand Total		24	1	21	7	22		5	21
Grand Total		24	1	64	,	23		5	124

Table 4. Number of Fond du Lac Bandmembers participating each night within 1837 Ceded Territory Lakes during the 2016 spring harvest season. Data is separated by netters (Net) and spearers (Spear). This is not the number of permits issued, as some individuals did receive multiple gill net or spearing permits on some of the nights.

Count of Number	Column	
of Permits	Labels	
Row Labels	Net	Spear
3/29/2016	1100	Spear
Green (Chisago)	6	
Knife	1	
3/29/2016 Total	7	
3/30/2016		
Green (Chisago)	1	
Rush (East)	2	
3/30/2016 Total	3	
3/31/2016		
Chisago		3
Green (Chisago)	1	
Spectacle		1
3/31/2016 Total	1	4
4/1/2016		
Platte	3	
Sullivan	1	
4/1/2016 Total	4	
4/10/2016		
South Long	3	
4/10/2016 Total	3	
4/13/2016		
South Long	2	
Sullivan	1	
4/13/2016 Total	3	
4/14/2016		
Platte	5	
4/14/2016 Total	5	

Table 5. The number of boats used each night and on each lake by Fond du Lac Bandmembers while participating in 2016 spring harvest activities within the 1837 Ceded Territory of Minnesota.

Count of Unique No. Boats	Column Labels	
Row Labels	GN	SP
3/29/2016		
Green (Chisago)	3	
Knife	1	
3/29/2016 Total	4	
3/30/2016		
Green (Chisago)	1	
East Rush	1	
3/30/2016 Total	2	
3/31/2016		
Green (Chisago)	1	
Chisago		1
Spectacle		
3/31/2016 Total	1	1
4/1/2016		
Sullivan	1	
Platte	1	
4/1/2016 Total	2	
4/10/2016		
South Long	1	
4/10/2016 Total	1	
4/13/2016		
Sullivan	1	
South Long	1	
4/13/2016 Total	2	
4/14/2016		
Platte	2	
4/14/2016 Total	2	

Table 6. Harvest of additional species by Fond du Lac Bandmembers within lakes in the 1837 Ceded Territory of Minnesota during spring 2016 harvest activities.

L	olumn abels iisago	Green (Chisago)	Knife	Platte	Rush (East)	South Long	Spectacle	Sullivan
Total Sum of White Sucker No.						2		
Total Sum of White Sucker Lbs.						3.8		
Total Sum of Smallmouth Bass No.								
Total Sum of Smallmouth Bass Lbs.								
Total Sum of Black Crappie No.		1.0	3.0	19.0				8.0
Total Sum of Black Crappie Lbs.		0.6	1.4	11.0				6.0
Total Sum of Bluegill No.				5.0				1.0
Total Sum of Bluegill Lbs.				2.0				0.6
Total Sum of Bowfin No.								
Total Sum of Bowfin Lbs								
Total Sum of Carp No.								
Total Sum of Carp Lbs								
Total Sum of Largemouth Bass No.		3.0		1.0		2.0		
Total Sum of Largemouth Bass Lbs.		4.6		3.2		2.4		
Total Sum of Rock Bass No.						1.0		
Total Sum of Rock Bass Lbs.						0.6		
Total Sum of Bullhead Sp. No.			6.0	7.0		1.0		
Total Sum of Bullhead Sp. Lbs.			5.2	9.0		1.0		
Total Count of Redhorse No.			1.0					
Total Count of Redhorse Lbs.			1.0					
Total Count of Pumkinseed No.				1.0				1.0
Total Count of Pumkinseed Lbs.				1.0				1.0

Mille Lacs Lake

The Mille Lacs Band started harvesting walleyes on 27 March 2016 (Tables 7 - 9). Including the four Wisconsin Bands netting thru the spring perch fishery, harvest activities continued thru the night of 12 May (Figure 1). For all participating Bands, total harvest on Mille Lacs Lake was 7912.3 pounds of walleye (Table 7), 1939.4 pounds of northern pike (Table 8), and 689.0 pounds of yellow perch (Table 9).

Fond du Lac started spearing activities on 8 April, and finished on the night of 17 April, for a total of five nights of spearing (Table 10). Fond du Lac's initial allocation was 2034.0 pounds. The Red Cliff and Lac du Flambeau Bands collectively transferred 1074.5 pounds from their allocations to Fond du Lac. Total harvest for FDL was 2924.2 pounds of walleye and 4.4 pounds of northern pike (Table 11). Additional species harvested by FDL bandmembers included white sucker (19.4 pounds) (Table 10) and smallmouth bass (10.8 pounds).

Other Bands harvesting on Mille Lacs Lake were Bad River, Lac Courte Oreilles, Mole Lake, and St. Croix (Table 11). Harvest was concentrated at Cedar Creek access (3806.2 pounds), and evenly distributed amongst the other landings (Table 12). No harvest was reported from Liberty Beach during the 2016 harvest season, in part due to early ice conditions.

Spearing harvest peaked for FDL on 15 April, but on 17 April for total harvest (Figure 2). Harvest rates, measured by the number of pounds speared per boat, peaked on 15 April (Figure 3).

For FDL, participation ranged from four to 33 Band members per night (Table 13). A total of 38 different FDL Band members participated at Mille Lacs Lake (Table 14). Fourteen members participated only a single night, while five participated four of the five nights that FDL was open (Figure 4). The number of boats used ranged from two to 13 per night (Table 15).

For all nights of activities on Mille Lacs, harvest ranged from 0.0 to 287.1 pounds per bandmember (Table 14, Figure 5). For all 38 participating FDL Bandmembers, the average harvest for walleyes was 76.9 ± 12.6 pounds per member. Median harvest per member was 45.7 pounds. FDL Bandmembers speared for a total of 310.55 man-hours, harvesting approximately 2.3 walleye per hour of effort (Table 16).

A total of 705 walleyes were harvested by FDL (Table 17). Lengths of walleye harvested ranged from 12.6 to 29.5 inches (Figure 6). RMD staff attempted to collect otoliths from five individuals per sex and per 0.5 inch class, e.g. five males and five females between 15.0 and 15.49 inches. Ages were interpreted from otoliths collected from 219 of the walleyes (Table 18). The most common age observed was from the 2012 year class (age-4) (Figure 7). The 2013 year class is just starting to reach maturity. FDL can expect harvest of the 2013 year class to increase in the future if length-based limits aren't used to reduce harvest on this cohort. The 2013 year class is the first cohort since 2008 that has been above average as measured by Year Class Strength Index.

Walleye growth by sex is presented in Figure 8.

Table 7. Harvest of walleyes on Mille Lacs Lake, spring 2016, by all participating Bands.

Sum of Walleye Lbs	Column Labels						
Row Labels	BRV	FDL	LCO	MILLELACS	MOLELK	STC	Grand Total
Net							rotar
4/20/2016				34.2			34.2
4/24/2016			5.6				5.6
4/29/2016			18	30.6			48.6
5/1/2016			3	19.8			22.8
5/2/2016			0				0
5/3/2016				35			35
5/4/2016				42.2	78.8	5.2	126.2
5/5/2016	103		16		40.6	16.2	175.8
5/6/2016	32.4			19	80		131.4
5/7/2016	103.6				88.4		192
5/8/2016	97		2.6		75.8		175.4
5/9/2016	98.4						98.4
5/11/2016				45.8			45.8
5/12/2016				35.6			35.6
Net Total	434.4		45.2	262.2	363.6	21.4	1126.8
Spear							
3/27/2016				146.2			146.2
3/28/2016				134.2			134.2
3/29/2016				43.8			43.8
3/31/2016				1.2			1.2
4/1/2016				0			0
4/3/2016				99.6			99.6
4/4/2016				88.6			88.6
4/6/2016				21.2			21.2
4/8/2016		305.2		13.2			318.4
4/9/2016		52.2		5			57.2
4/10/2016				3.8			3.8
4/11/2016				105.2			105.2
4/12/2016				2.6			2.6
4/13/2016				146.2			146.2
4/14/2016				172.1			172.1
4/15/2016		1379					1379
4/16/2016		939.6	321				1260.6
4/17/2016		248.2		1276.6		199.4	1724.2
4/18/2016				373.8			373.8
4/19/2016				232.4			232.4
4/20/2016				156.8			156.8
4/21/2016				66.8			66.8
4/22/2016				79.2			79.2
4/23/2016				50.2			50.2
4/24/2016				42.2			42.2
4/25/2016				74.6			74.6
4/28/2016				5.4			5.4
Spear Total		2924.2	321	3340.9		199.4	6785.5
Grand Total	434.4	2924.2	366.2	3603.1	363.6	220.8	7912.3

Table 8. Harvest of northern pike on Mille Lacs Lake, spring 2016, by all participating Bands.

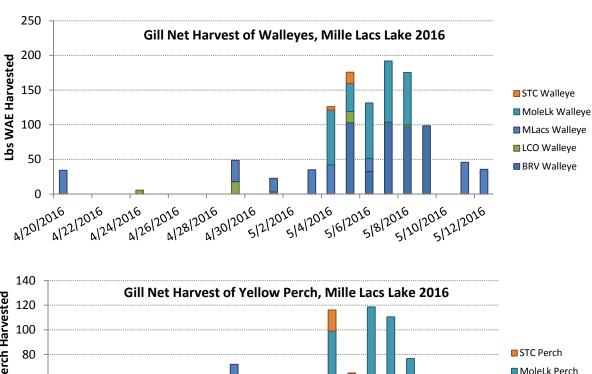
Sum of Northern Lbs	Column Labels						
Row Labels	BRV	FDL	LCO	MILLELACS	MOLELK	STC	Grand Total
Net							
4/20/2016				32.8			32.8
4/24/2016			15				15
4/29/2016			76.7	49.2			125.9
5/1/2016			77.6	32.6			110.2
5/2/2016			40.4				40.4
5/3/2016				37.8			37.8
5/4/2016				35.6	104.8	34.4	174.8
5/5/2016	58.6		87.4		156.9	41.4	344.3
5/6/2016	61.4			13.6	173.2		248.2
5/7/2016	186				69.8		255.8
5/8/2016	156		57		118.6		331.6
5/9/2016	58						58
5/11/2016				62.2			62.2
5/12/2016				15			15
Net Total	520		354.1	278.8	623.3	75.8	1852
Spear							
3/27/2016				3.6			3.6
3/28/2016				0			0
3/29/2016				6.2			6.2
3/31/2016				26.6			26.6
4/1/2016				0			0
4/3/2016				0			0
4/4/2016				0			0
4/6/2016				0			0
4/8/2016		4.4		0			4.4
4/9/2016		0		0			0
4/10/2016				36.4			36.4
4/11/2016				0			0
4/12/2016				0			0
4/13/2016				0			0
4/14/2016				0			0
4/15/2016		0					0
4/16/2016		0	0				0
4/17/2016		0		10.2		0	10.2
4/18/2016				0			0
4/19/2016				0			0
4/20/2016				0			0
4/21/2016				0			0
4/22/2016				0			0
4/23/2016				0			0
4/24/2016				0			0
4/25/2016				0			0
4/28/2016				0			0
Spear Total		4.4	0	83		0	87.4
Grand Total	520	4.4	354.1	361.8	623.3	75.8	1939.4

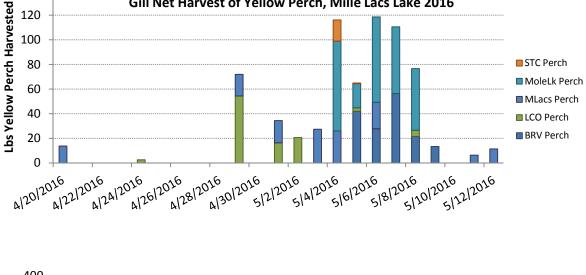
Table 9. Harvest of yellow perch by gill nets on Mille Lacs Lake, spring 2016, by all participating Bands.

Sum of Perch Lbs	Column Labels					
Row Labels	BRV	LCO	MILLELACS	MOLELK	STC	Grand Total
Net						
4/20/2016			13.8			13.8
4/24/2016		2.6				2.6
4/29/2016		54.4	17.6			72
5/1/2016		16.4	18			34.4
5/2/2016		20.6				20.6
5/3/2016			27.4			27.4
5/4/2016			26	73	17.2	116.2
5/5/2016	42	2.8		19.6	0.6	65
5/6/2016	27.8		21.6	69.2		118.6
5/7/2016	56.4			54.2		110.6
5/8/2016	21.6	5		50		76.6
5/9/2016	13.4					13.4
5/11/2016			6.4			6.4
5/12/2016			11.4			11.4
Net Total	161.2	101.8	142.2	266	17.8	689
Grand Total	161.2	101.8	142.2	266	17.8	689

Table 10. Harvest by night and by Landing (Cedar Creek and North Garrison) for the Fond du Lac Band on Mille Lacs Lake, Spring 2016.

	Column Labels					
Row Labels	4/8/2016	4/9/2016	4/15/2016	4/16/2016	4/17/2016	Grand Total
Cedar						
Sum of Number of Permits		14	33	26	4	77
Sum of Walleye Number		13	309	224	67	613
Sum of Walleye Lbs		52.2	1379	939.6	248.2	2619
Sum of Northern Number		0	0	0	0	0
Sum of Northern Lbs		0	0	0	0	0
Sum of White Sucker No.			5			5
Sum of White Sucker Lbs.			17.6			17.6
NGarrison						
Sum of Number of Permits	17					17
Sum of Walleye Number	92					92
Sum of Walleye Lbs	305.2					305.2
Sum of Northern Number	1					1
Sum of Northern Lbs	4.4					4.4
Sum of White Sucker No.	1					1
Sum of White Sucker Lbs.	1.8					1.8
Total Sum of Number of Permits	17	14	33	26	4	94
Total Sum of Walleye Number	92	13	309	224	67	705
Total Sum of Walleye Lbs	305.2	52.2	1379	939.6	248.2	2924.2
Total Sum of Northern Number	1	0	0	0	0	1
Total Sum of Northern Lbs	4.4	0	0	0	0	4.4
Total Sum of White Sucker No.	1		5			6
Total Sum of White Sucker Lbs.	1.8		17.6			19.4





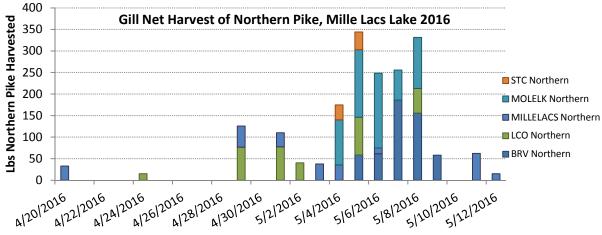


Figure 1. Pounds of walleye, yellow perch, and northern pike harvested by the Bands using gill nets in Mille Lacs Lake, Spring 2016.

Table 11. Harvest of walleye and northern pike by each Band participating in the Spring 2016 harvest season on Mille Lacs Lake.

	Values	
Row Labels	Sum of Walleye Lbs	Sum of Northern Lbs
BRV	434.4	520
FDL	2924.2	4.4
LCO	366.2	354.1
MILLELACS	3603.1	361.8
MOLELK	363.6	623.3
STC	220.8	75.8
Grand Total	7912.3	1939.4

Table 12. Harvest of walleye and northern pike from each of the landings on Mille Lacs Lake used by Tribal fishers during the Spring 2016 harvest season.

	Values	
Row Labels	Sum of Walleye Lbs	Sum of Northern Lbs
Cedar	3806.2	0
Cove	580.6	3.6
DNR	289.4	0
Hennepin	776.9	10.2
IndianPt	33.6	36.4
NGarrison	689.2	700.5
Wealthwood	881	1155.9
Wigwam	855.4	32.8
Grand Total	7912.3	1939.4

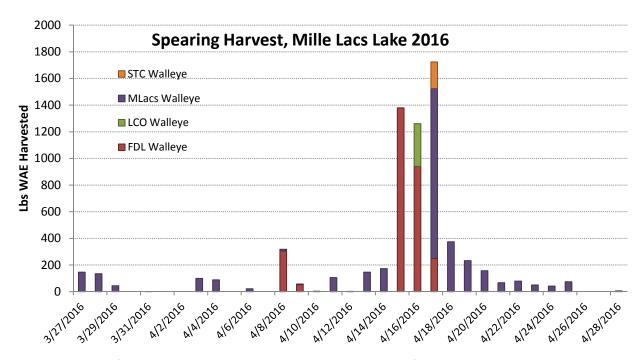


Figure 2. Pounds of walleye speared each night on Mille Lacs Lake by the four Bands that participated in spearing activities during spring 2016.

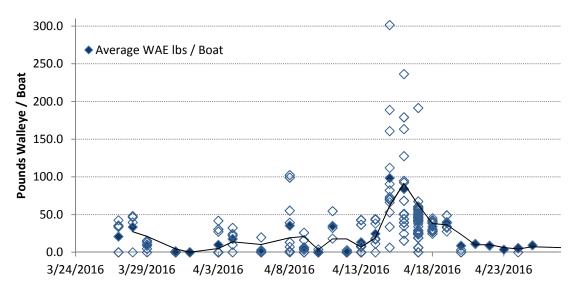


Figure 3. Average pounds of walleye speared per boat each night (dark blue diamonds) in Mille Lacs during spring 2016 activities. Hollow diamonds are actual individual catch rates for each boat. Line is the two-day moving average.

Table 13. Number of Fond du Lac Bandmembers participating in spearing activities on Mille Lacs Lake during spring 2016 harvest activities.

Row Labels	Count of Tribal ID Number
4/8/2016	17
4/9/2016	14
4/15/2016	33
4/16/2016	26
4/17/2016	4
Grand Total	94

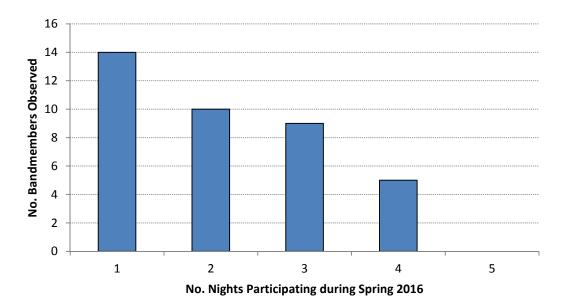


Figure 4. Number of nights individual Bandmembers participated in spearing activities at Mille Lacs Lake, Spring 2016. Fond du Lac opened Mille Lacs Lake for five nights. No Bandmembers participated all five nights.

Table 15. Number of unique boats participating on each night for the Fond du Lac Band on Mille Lacs Lake during Spring 2016 harvest activities.

Row Labels	Count of Unique Number of Boats
4/8/2016	5
4/9/2016	7
4/15/2016	13
4/16/2016	9
4/17/2016	2
Grand Total	36

Table 14. Sum of total walleye and northern pike pounds harvested per Fond du Lac Bandmember on Mille Lacs Lake during spring 2016 spearing activities. Count of Date1 indicates the total number of permits issued to each individual Bandmember, and does not reflect the number of nights participating as multiple permits were sometimes available to those that finished filling permits early and on nights when other Bandmembers failed to show and claim a reserved permit.

	Data		
Tribal ID Number	Count of Date1	Sum of Walleye Pounds	Sum of Northern Pike Pounds
3049	1	23.7	
3085	5	155.9	
3091	3	125.6	
3120	1	0.0	
3121	4	18.4	1.46666667
3129	3	148.8	
3140	1	34.2	
3179	1	34.2	
3295	1	23.7	
3313	2	97.2	
3596	2	75.6	
3597	2	75.6	
3645	1	27.6	
3646	2	76.8	
3778	4	18.4	1.46666667
3814	6	287.1	
3889	1	23.7	
4119	4	44.1	
4481	3	148.8	
4611	3	83.8	
4649	6	287.1	
4714	1	1.6	
4719	1	3.1	
4887	1	34.9	
4947	3	26.7	
4956	6	287.1	
4957	1	47.3	
4963	3	121.0	
5019	2	93.4	
5050	3	115.5	
5136	2	4.6	
5209	2	4.6	
5616	3	148.8	
5898	4	18.4	1.46666667
5935	1	37.8	
6252	3	83.8	
6363	1	37.8	
6364	1	47.3	
Grand Total	94	2924.2	4.4

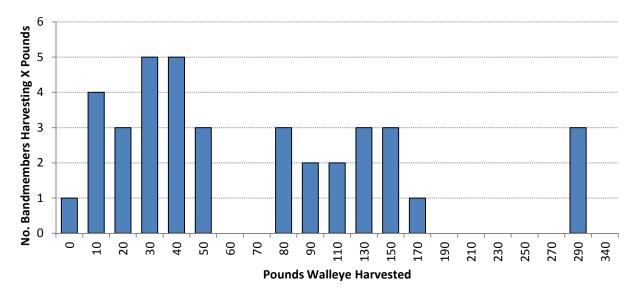


Figure 5. Amount of walleye pounds harvested in Mille Lacs Lake during spring 2016 spearing activities by the number of Fond du Lac Bandmembers. Category values represent a maximum value, e.g. 0 means that one individual came to Mille Lacs and failed to harvest any walleye, whereas three individuals harvested between 270.1 and 290.0 pounds of walleye.

Table 18. Ages assigned to 219 aged walleyes harvested from Mille Lacs Lake during spring 2016 activities by the Fond du Lac Band. Ages were interpreted using otoliths, and are separeated by females (F), males (M), and unknown fish (U).

Count of Age	Column Labels			
Row Labels	F	M	U	Grand Total
3		14		14
4		24		24
5	1	10		11
6	2	16		18
7	5	8	1	14
8	11	11		22
9	8	1		9
10	4	5		9
11	16	3		19
12	2			2
13	14	5		19
14	18	11		29
17	5	4		9
18	4	1		5
19	3	3		6
20	2	2		4
22		2		2
23		1		1
24		2		2
Grand Total	95	123	1	219

Table 16. Harvest effort (no. and lbs. per hour) for Fond du Lac Bandmembers spearing walleyes on Mille Lacs Lake, Spring 2016.

Row Labels	Sum of Man Hours Fished	WAE Harvested (no)	WAE Harvested (Lbs)	No. WAE / Hour	Lbs WAE / Hour
4/8/2016	55.15	92	305.2	1.7	5.5
NGarrison	55.15				
4/9/2016	36.85	13	52.2	0.4	1.4
Cedar	36.85				
4/15/2016	146.3	309	1379	2.1	9.4
Cedar	146.3				
4/16/2016	63	224	939.6	3.6	14.9
Cedar	63				
4/17/2016	9.25	67	248.2	7.2	26.8
Cedar	9.25				
Grand Total	310.55	705	2924.2	2.3	9.4

Table 17. Harvest of male, female, and unknown sexed walleyes each night by Fond du Lac Bandmembers on Mille Lacs Lake, Spring 2016.

Count of Sex	Column Labels			
Row Labels	F	M	U	Grand Total
4/8/2016	18	73	1	92
4/9/2016	5	7	1	13
4/15/2016	182	124	3	309
4/16/2016	123	100	1	224
4/17/2016	32	35		67
Grand Total	360	339	6	705

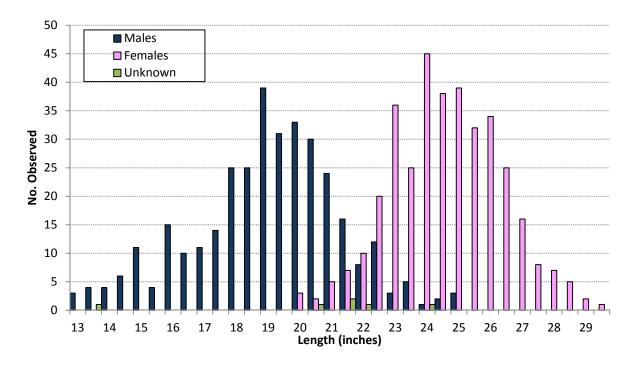


Figure 6. Length frequency distribution of all walleyes harvested by Fond du Lac Bandmembers on Mille Lacs Lake during spring 2016 spearing activities. Harvest was from both Cedar Creek and North Garrison landings, and are separated by males (blue bars), females (pink bars), and unknown individuals (green bars).

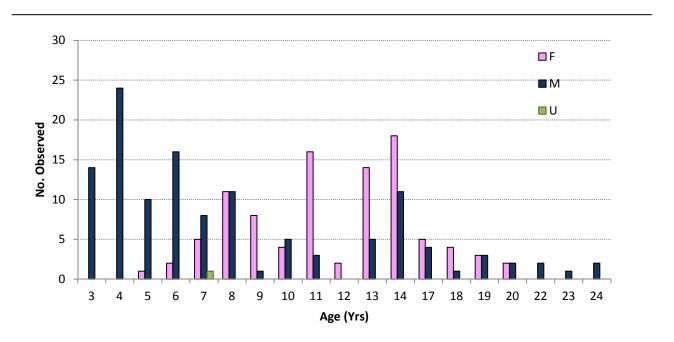


Figure 7. Age Frequency distribution of walleyes collected from Mille Lacs Lake during spring 2016 harvest activities. Ages were interpreted using otoliths, and are separated by males (blue bars), females (pink bars), and unknown individuals (green bars).

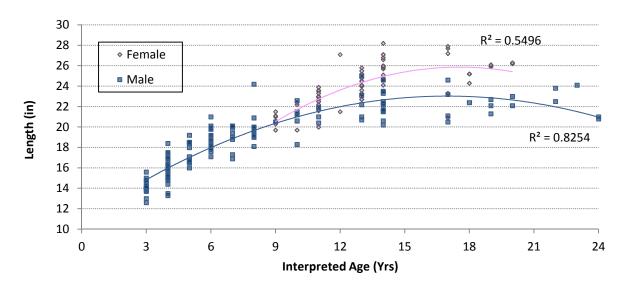


Figure 8. Length at age for male (blue squares) and female (pink diamonds) walleyes collected from Mille Lacs Lake during spring 2016 harvest activities.

Harvest in 1854 Ceded Territory:

Due to the progression of spring and ice out, and the length of the season, FDL was only able to participate on eight inland lakes within the 1854 Ceded Territory (Table 1). Harvest activities began on 18 April, and continued thru 4 May. FDL participated in the west basin of Lake Vermilion for three nights beginning on 26 April.

There were spearing opportunities available on five of the eight lakes, and netting available on four of the eight lakes (Tables 19 & 20). Pounds of walleye harvested ranged from 7.2 pounds (Brule Lake, Table 19A) to 1757.8 pounds (Vermilion Lake, Table 19A). Total harvest of walleye in the 1854 Ceded Territory was 2285.0 pounds of walleye (Table 19A). Harvest of walleyes ranged from six fish to 723 fish (Table 20A). Fond du Lac harvesters took 1061 walleyes from 1854 Ceded Territory Lakes (Table 20A). Total harvest of northern pike from 1854 Ceded Territory lakes was 791.6 pounds (Table 19B) and 201 fish (Table 20B). Length frequency distributions of harvested walleyes and northern pike for most of the lakes are presented in Appendix 1.

The number of individual Bandmembers participating each night ranged from two (Dumbbell Lake, Table 21) to 20 (Vermilion Lake, Table 21). A total of 41 different individuals participated on 1854 lakes. The number of boats actually participating each night was again low (Table 22). It should be noted that on Lake Vermilion, the same boats participated in both spearing and netting each night.

Additional species harvested in 1854 lakes included yellow perch, tullibee / lake whitefish, burbot, white sucker, black crappie, bluegill, rock bass, bullhead, muskie, and pumpkinseed sunfish (Table 23).

Tables 19A & B. Harvest (pounds) of walleye and northern pike on eight lakes within the MN portion of the 1854 Ceded Territory during spring 2016 harvest season. Harvest is separated by spearing and netting.

A. Pounds of Walleye

A. Pounds of	vvalleye								
Sum of									
Walleye	Column								
Pounds	Labels								
					Eagle			Whiteface	Grand
Row Labels	Brule	Cascade	Crescent	Dumbbell	(Carlton)	Sturgeon	Vermilion	Reservoir	Total
4/18/2016									
Net						69.2			69.2
4/19/2016									
Net						81			81
Spear					95.2				95.2
4/21/2016									
Net								25	25
4/22/2016									
Net								27.4	27.4
4/26/2016									
Net							38.8		38.8
4/27/2016									
Net							391.2		391.2
Spear							203.8		203.8
4/28/2016									
Net							610.6		610.6
Spear							294.8		294.8
4/29/2016									
Net							60.2		60.2
Spear							158.4		158.4
5/2/2016									
Spear			117.6						117.6
5/3/2016									
Spear				28.4					28.4
5/4/2016									
Net	7.2								7.2
Spear	0.0	76.2							76.2
Grand									
Total	7.2	76.2	117.6	28.4	95.2	150.2	1757.8	52.4	2285

B. Pounds of Northern Pike

Sum of									
Northern									
Pike	Column								
Pounds	Labels								
					Eagle			Whiteface	Grand
Row Labels	Brule	Cascade	Crescent	Dumbbell	(Carlton)	Sturgeon	Vermilion	Reservoir	Total
4/18/2016						42.2			42.2
Net						42.2			42.2
4/19/2016						8.4			8.4
Net						8.4			8.4
Spear									
4/21/2016								51.6	51.6
Net								51.6	51.6
4/22/2016									
Net									
4/26/2016							152.6		152.6
Net							152.6		152.6
4/27/2016							114.4		114.4
Net							114.4		114.4
Spear									
4/28/2016							254.6		254.6
Net							254.6		254.6
Spear									
4/29/2016							165.2		165.2
Net							158.6		158.6
Spear							6.6		6.6
5/2/2016									
Spear									
5/3/2016									
Spear									
5/4/2016	2.6								2.6
Net	2.6								2.6
Spear									
Grand Total	2.6					50.6	686.8	51.6	791.6

Tables 20A and B. Harvest (number) of walleye and northern pike on eight lakes within the MN portion of the 1837 Ceded Territory. Harvest is separated by spearing and netting, and is only for the Fond du Lac Band during spring 2016 harvest season.

A. Walleye Numbers

Sum of Walleye	Column								
Number	Labels								
					Eagle			Whiteface	Grand
Row Labels	Brule	Cascade	Crescent	Dumbbell	(Carlton)	Sturgeon	Vermilion	Reservoir	Total
4/18/2016									
Net						32			32
4/19/2016									
Net						36			36
Spear					60				60
4/21/2016									
Net								18	18
4/22/2016									
Net								25	25
4/26/2016									
Net							13		13
4/27/2016									
Net							154		154
Spear							83		83
4/28/2016									
Net							255		255
Spear							131		131
4/29/2016									
Net							25		25
Spear							62		62
5/2/2016									
Spear			83						83
5/3/2016				_					
Spear				22					22
5/4/2016									
Net	6								6
Spear	0	56							56
Grand Total	6	56	83	22	60	68	723	43	1061

B. Northern Pike Numbers

Sum of Northern Pike Number	Column Labels								
					Eagle			Whiteface	Grand
Row Labels	Brule	Cascade	Crescent	Dumbbell	(Carlton)	Sturgeon	Vermilion	Reservoir	Total
4/18/2016						10			10
Net						10			10
4/19/2016						3			3
Net						3			3
Spear									
4/21/2016								14	14
Net								14	14
4/22/2016									
Net									
4/26/2016							37		37
Net							37		37
4/27/2016							34		34
Net							34		34
Spear									
4/28/2016							63		63
Net							63		63
Spear									
4/29/2016							39		39
Net							38		38
Spear							1		1
5/2/2016									
Spear									
5/3/2016									
Spear	_								
5/4/2016	1								1
Net	1								1
Spear									
Grand Total	1					13	173	14	201

Table 21. Number of Fond du Lac Bandmembers participating each night within 1854 Ceded Territory Lakes during the 2016 spring harvest season. Data is separated by netters (Net) and spearers (Spear). This is not the number of permits issued, as some individuals did receive multiple gill net or spearing permits on some of the nights.

Count of Number of Permits	Column Labels	
Row Labels	Net	Spear
4/18/2016	_	
Sturgeon	7	
4/18/2016 Total	7	
4/19/2016		
Sturgeon	6	_
Eagle (Carlton)		2
4/19/2016 Total	6	2
4/21/2016		
Whiteface Reservoir	9	
4/21/2016 Total	9	
4/22/2016		
Whiteface Reservoir	8	
4/22/2016 Total	8	
4/26/2016		
Vermilion	18	
4/26/2016 Total	18	
4/27/2016		
Vermilion	20	20
4/27/2016 Total	20	20
4/28/2016		
Vermilion	20	8
4/28/2016 Total	20	8
4/29/2016		
Vermilion	11	3
4/29/2016 Total	11	3
5/2/2016		
Crescent		3
5/2/2016 Total		3
5/3/2016		
Dumbbell		2
5/3/2016 Total		2
5/4/2016		
Brule	4	4
Cascade		2
5/4/2016 Total	4	6
-, .,	•	

Table 22. The number of boats used each night and on each lake by Fond du Lac Bandmembers while participating in 2016 spring harvest activities within the 1854 Ceded Territory of Minnesota.

Count of Unique No.	Column	
Boats	Labels	
Row Labels	GN	SP
NOW Educis	GIV .	J.
4/18/2016		
Sturgeon	2	
4/18/2016 Total	2	
4/19/2016		
Sturgeon	3	
Eagle Lake		2
4/19/2016 Total	3	2
4/21/2016		
Whiteface	5	
4/21/2016 Total	5	
4/22/2016		
Whiteface	3	
4/22/2016 Total	3	
4/26/2016		
Vermilion (West)	6	
4/26/2016 Total	6	
4/27/2016		
Vermilion (West)	6	6
4/27/2016 Total	6	6
4/28/2016		
Vermilion (West)	5	2
4/28/2016 Total	5	2
4/29/2016		
Vermilion (West)	5	3
4/29/2016 Total	5	3
5/2/2016		
Crescent		2
5/2/2016 Total		2
5/3/2016		
Dumbbell		1
5/3/2016 Total		1
5/4/2016		
Cascade		1
Brule	2	
5/4/2016 Total	2	1

Table 23 Harvest of additional species by Fond du Lac Bandmembers within lakes in the 1854 Ceded Territory of Minnesota during spring 2016 harvest activities.

	Sturgeon	Eagle	Whiteface	Vermilion	Crescent	Dumbbelll	Brule	Cascade
Total Sum of Yellow Perch Number			23	1				
Total Sum of Yellow Perch Pounds			16.2	0.6				
Total Sum of Tullibee / Lk Whitefish	No.			83			8	
Total Sum of Tullibee / Lk Whitefish				101			11.8	
Total Sum of Burbot No.			2					
Total Sum of Burbot Lbs.			3.2					
Total Sum of White Sucker No.			37	26			3	
Total Sum of White Sucker Lbs.			70.4	55.6			8	
Total Sum of Black Crappie No.			16	8				
Total Sum of Black Crappie Lbs.			10.6	5.8				
Total Sum of Rock Bass No.	21		12	4				
Total Sum of Rock Bass Lbs.	11		6.2	1.8				
Total Sum of Bluegill No.	9		17	1				
Total Sum of Bluegill Lbs.	4.6		7.8	0.4				
Total Sum of Pumkinseed No.	4		1					
Total Sum of Pumkinseed Lbs.	1.8		0.4					
Total Sum of Bullhead No.				8				
Total Sum of Bullhead Lbs.				8.6				
Total Sum of Muskie No.						1		
Total Sum of Muskie Lbs						8.8		

Gill Netting within Inland Lakes:

Within both the 1837 and 1854 Ceded Territories, the FDL Band set nets on ten of the lakes (Table 24). The number of nets set per night ranged from 2 (East Rush Lake) to 69 nets (Vermilion) (Table 24). Mean harvest rates, as measured by pounds of walleye / net, ranged from 1.8 (Brule Lake) to 64.2 pounds (Green Lake) (Table 24). Overall catch rates averaged 16.6 ± 2.3 pounds of walleye per net (Table 25). The median catch rate was 5.8 pounds of walleye / net for the 147 nets set during the 2016 harvest season.

Catch rates for walleye were significantly higher within 1837 Lakes, both in terms of number or walleye per net (P = 0.0124) and pounds of walleye per net (P = 0.0140). This same pattern was also observed for catch rates of northern pike in terms of numbers of fish per net (P = 0.0090). But for catch rates as measured by pounds of northern pike per net, no significant differences were observed between 1837 and 1854 ceded territory lakes (P = 0.1005).

Bandmember Participation and Harvest:

Sixty-one different Bandmembers participated in spearing and netting activities during the spring 2016 fishing season (Table 25). Bandmembers harvested between 0.0 and 506.1 pounds of walleye per individual, and between 0.0 to 87.4 pounds of northern pike (Table 25). Bandmembers harvested an average of 101.6 ± 13.6 pounds of walleye per individual (median value of 69.3 pounds), and 16.2 ± 2.8 pounds of northern pike (median value of 3.7 pounds).

Total walleye harvest within all lakes in the 1837 and 1854 Ceded Territories of Minnesota totaled 6195.6 pounds (Table 25). Total harvest of northern pike was 973.6 pounds (Table 25).

Table 24. Mean (average) and median gill net catch rates for walleye and northern pike within 1837 and 1854 Ceded Territory lakes of Minnesota during spring 2016 harvest activities.

Row Labels	Sum of No. Nets Set	Sum of Walleye Pounds	Sum of NOP Pounds	Mean Walleye No. / Net	Mean Walleye Lbs / Net	Median Walleye Lbs. / Net	Mean NOP No. / Net	Mean NOP Lbs / Net	Median NOP Lbs / Net
1837									
Green (Chisago)	8	513.2	94	28.8	64.2	43.9	3.0	11.8	6.2
Knife	2	6.6	4.8	2.5	3.3	3.3	0.5	2.4	2.4
Platte	14	48.2	152	1.9	4.0	1.5	4.0	9.5	7.0
Rush (East)	2	41.8	38.8	5.5	20.9	20.9	3.5	19.4	19.4
South Long	5	245	53.2	22.8	49.0	46.0	4.6	10.6	10.8
Sullivan	4	15.4	12	2.0	3.9	3.9	1.3	3.0	3.0
1837 Total	35	870.2	354.8	14.5 ± 3.8	32.4 ± 8.4	15.2	3.4 ± 0.6	10.4 ± 2.1	4.8
1854									
Brule	4	7.2	2.6	1.5	1.8	2.2	0.3	0.7	0.0
Sturgeon	13	150.2	50.6	5.2	11.6	2.6	1.0	3.9	0.0
Vermilion	69	1100.8	680.2	6.5	16.0	8.0	2.5	9.9	7.6
Whiteface	26	52.4	51.6	1.7	2.0	1.0	0.5	1.8	0.0
1854 Total	112	1310.6	785	5.3 ± 0.7	12.5 ± 1.8	4.8	1.9 ± 0.2	7.4 ± 0.9	3.6
Grand Total	147	2180.8	1139.8	7.2 ± 1.0	16.6 ± 2.3	5.8	2.2 ± 0.2	8.0 ± 0.8	4.4

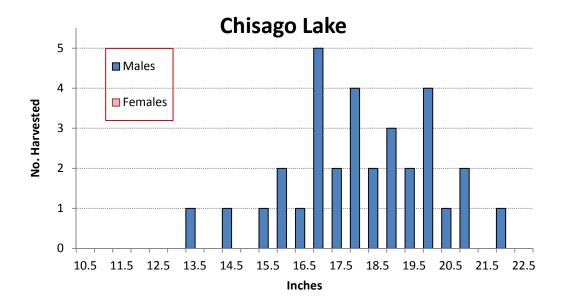
Table 25. Total pounds of walleye and northern pike harvested per Bandmember within 1837 and 1854 Ceded Territory lakes of Minnesota during spring 2016 harvest activities.

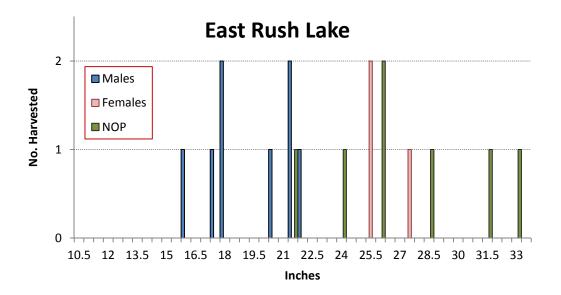
Bandmember Tribal ID	Sum of Lbs WAE	Sum of	TOTAL POUNDS
		Lbs NOP	
3049	75.2	19.7	94.9
3085	203.6	0.0	203.6
3091	422.3	30.8	453.1
3117	166.4	30.6	197.0
3120	0.0		0.0
3121	102.2	4.1	106.3
3129	205.5	38.2	243.7
3140	34.2		34.2
3179	34.2		34.2
3235	17.1		17.1
3275	69.3	10.8	80.1
3295	23.7		23.7
3313	97.2	0.0	97.2
3366	122.7	29.6	152.3
3435	6.8	6.4	13.2
3580	25.2	3.4	28.6
3587	154.3	22.2	176.5
3588	176.1	42.0	218.1
3596	75.6	0.0	75.6
3597	75.6	0.0	75.6
3646	215.2	55.6	270.8
3672	2.8	2.6	5.4
3778	20.2	1.5	21.7
3814	506.1	30.8	536.9
3889	23.7		23.7
3949	144.1	33.4	177.5
4119	106.3	73.2	179.5
4153	18.2	87.4	105.6
4158	8.0		8.0
4338	50.7	4.2	54.9
4456	144.2	38.5	182.7
4481	194.7	0.0	194.7
4533	12.2	32.4	44.6
4611	186.2	52.5	238.7
4649	379.3	9.0	388.3
4714	42.8	9.4	52.2
4719	3.1		3.1
4769	41.9	24.4	66.3
4866	49.1		49.1
4886	67.4		67.4
4887	38.8	0.0	38.8
4947	61.1	0.0	61.1

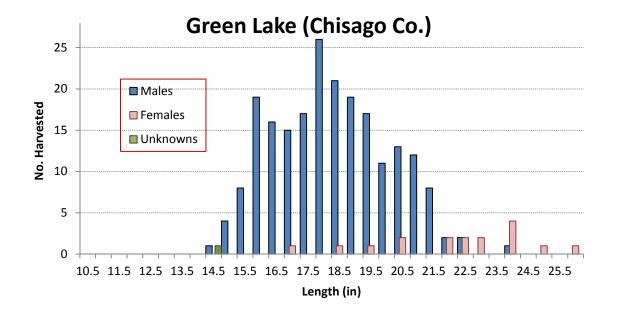
4956	352.5	0.0	352.5
4957	190.3	38.2	228.5
4963	121.0		121.0
5019	93.4		93.4
5050	115.5		115.5
5136	6.2		6.2
5198	0.0	0.0	0.0
5209	24.4	19.2	43.6
5391	33.7	54.8	88.5
5561	187.1	48.6	235.7
5610	37.0		37.0
5616	200.1	6.0	206.1
5748	17.1		17.1
5898	83.6	46.3	129.9
5935	41.7	0.0	41.7
6171	82.5	7.6	90.1
6252	121.0	60.5	181.5
6363	37.8		37.8
6364	47.3		47.3
Grand Total	6195.6	973.6	7169.2

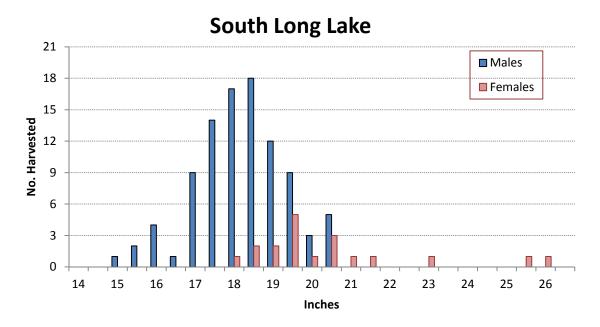
Appendix 1. Length frequency distribution graphs for most of the lakes where the Fond du Lac Band harvested walleyes and northern pike during the spring 2016 harvest season. On lakes with little or no harvest, no length data is presented. Lakes are separated by either 1837 or 1854 Ceded Territories.

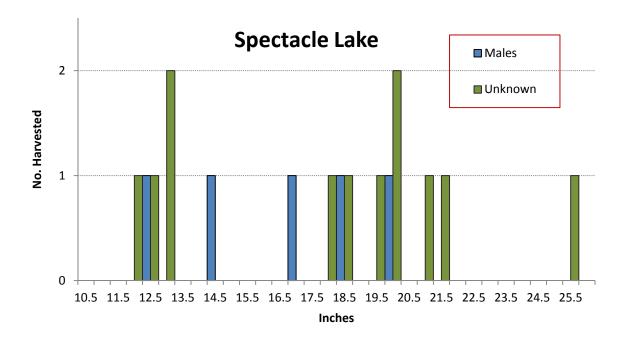
1837 Ceded Territory Lakes:





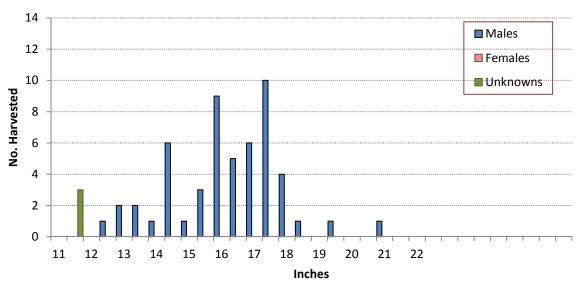




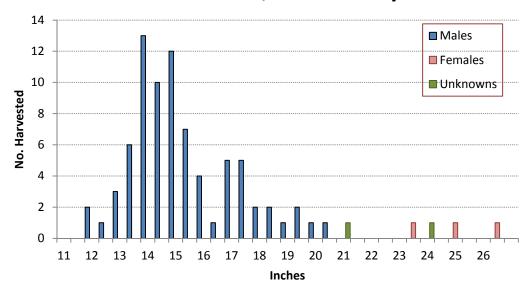


1854 Ceded Territory Lakes:

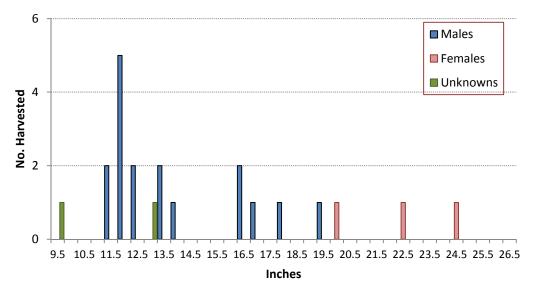




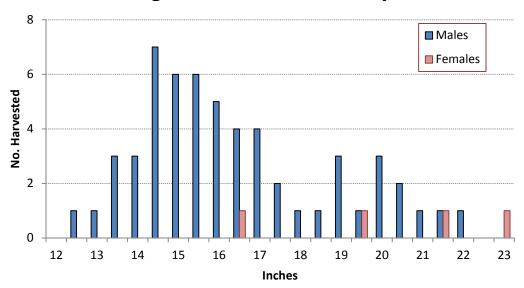
Crescent Lake, Cook County



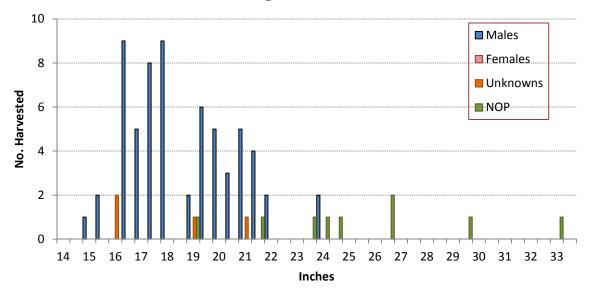
Dumbbell Lake, Lake County



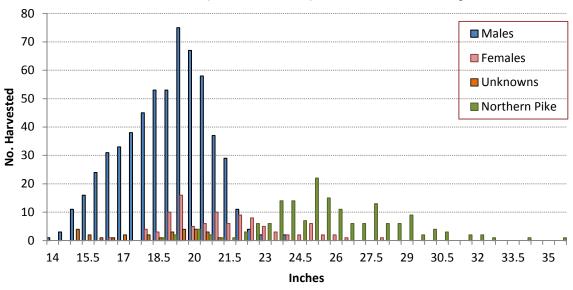
Eagle Lake, Carlton County



Sturgeon Lake



Vermilion Lake (West Basin), St. Louis County



Whiteface Reservoir, St. Louis County

