

2019 Spring Fishing Harvest Summary 1837 & 1854 Ceded Territories, Including Mille Lacs Fond du Lac Band of Lake Superior Chippewa

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

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Organizational Planning:

Declarations: Declarations for walleye harvest were made on a total of 7 lakes within the 1837 Ceded Territory of Minnesota and 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 2019, 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 93 individuals signed up using this online tool, compared to 62 in 2018, 90 in 2017 and 61 in 2016. It should be noted that there were a few individuals that ultimately ended up participating that never did sign up, but rather called RMD on a daily basis to inquire about available harvest opportunities. Also, many individuals that did sign up never actually participated.

Morning Notifications and Issuing Daily Permits: Each morning, RMD staff would choose lakes to open for that night and determine the number of available permits. Staff would send a mass email AND a mass text message to all individuals that had signed up and provided an email address and / or cell phone number. These email and texts would state the lakes open for the night. Those individuals that were interested and available to participate were given until noon to either call in or respond to the email. RMD staff planned to conduct a lottery-type drawing at noon to distribute the available permits amongst those interested in participating for that night. Daily drawings never did occur as we never had more Bandmembers interested than the number of available permits. Every Bandmember was able to participate on any night they were interested and available.

On most days, RMD staff sent out a subsequent email / text with advanced notification and plans for the next night, in order to give folks a full 36 hours to prepare and plan. This seemed to be well received by participants.

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.



Harvest in 1837 Ceded Territory (Inland Lakes):

Due to the progression of spring and very late ice out, FDL was only able to participate on three inland lakes within the 1837 Ceded Territory, i.e. not including Mille Lacs Lake (Table 1). Harvest activities within 1837 inland lakes were only on 24 April. Beginning on 25 April, FDL moved activities to Mille Lacs Lake.

For the three inland 1837 lakes, spearing opportunities were available on Chisago and South Lindstrom Lakes for only a single night (Table 1). No fish were actually harvested from South Lindstrom Lake. Gill netting was open on Green Lake for one night (Table 1). Pounds of walleye harvested within each lake ranged from 58.2 pounds (Chisago Lake, Table 2) to 121.0 pounds (Green Lake, Table 2). Harvest of walleyes within each lake ranged from 23 walleye (Chisago Lake, Table 3) to 53 fish (Green Lake, Table 3). Length frequency distributions of harvested walleyes for the 1837 lakes are presented in Appendix 1.

The number of individual Bandmembers participating within the 1837 Ceded Territory ranged from zero (South Lindstrom Lake) to seven individuals per night (Chisago Lake, Table 4). Note that on 24 April, ten individuals participated. Three individuals (ID's 3646, 4231, & 4886) set nets on Green Lake, and then travelled to Chisago Lake to spear for the night. Afterwards, they returned to Green Lake to retrieve and creel their gill nets.

Additional species harvested from 1837 lakes included white sucker, black crappie, bluegill, largemouth bass, bullhead, 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 2019 season is also presented. Highlighted rows indicate lakes where there was FDL Band harvest activity.

Ceded	Most Recent Harvest				Declaration	Declaration	Harvest to	Balance
Territory	Date	Lake	Acreage	County	(no.)	(lbs)	Date	Remaining
MN 1837	4/24/2019	Chisago	873	Chisago		271	58.2	212.8
MN 1837	4/24/2019	Green	1,715	Chisago	90		53	37.0
MN 1837	4/29/2019	Mille Lacs	128,227	Mille Lacs		11853	11386.8	466.2
MN 1837		Platte	1,674	Crow Wing	111			111
MN 1837	4/24/2019	South Lindstrom	450	Chisago		206	0	206
MN 1837		South Long	1,313	Crow Wing	43			43
MN 1837		Sullivan	1,221	Morrison		96		96
MN 1854		Bassett	403	St. Louis		276		276
MN 1854		Brule	4327	Cook		682		682
MN 1854		Cascade	452	Cook	118			118
MN 1854		Crescent	755	Cook		351		351
MN 1854		Crooked	272	Lake		69		69
MN 1854		Dumbbell	395	Lake		153		153
MN 1854	4/25/2019	Eagle	382	Carlton		275	204.8	70.2
MN 1854		Echo	1139	St. Louis		848		848
MN 1854		Jeanette	612	St. Louis		354		354
MN 1854		Sea Gull	3958	Cook		1048		1048
MN 1854	4/25/2019	Sturgeon	1706	Pine		653	176.8	476.2
MN 1854		Tom	404	Cook		129		129
MN 1854	5/9/2019	Vermilion, East	11372	St. Louis		2500	1458.6	1041.4
MN 1854		Whiteface Reservoir	4567	St. Louis		3388		3388
MN 1854		Wilson	650	Lake		134		134



Table 2. Harvest (pounds) of walleye and northern pike on two 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 2019 harvest season.

Ceded			
Territory	1837		
WALLEYE			
Sum of			
Walleye			
Pounds			
		Green	Grand
Row Labels	Chisago	(Chisago)	Total
4/24/2019			
Net		121	121
Cnoor	58.2		58.2
Spear	J0.Z		30.2

Sum of Northern Pike Pounds		Green	Grand
Row Labels	Chisago	(Chisago)	Total
4/24/2019			
Net		123.4	123.4
Spear			
Grand Total		123.4	123.4



Table 3. Harvest (number) of walleye and northern pike on two 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 2019 harvest season.

Net Spear	23	53	53 23
• •		53	53
7/24/2013			
4/24/2019			
Row Labels	Chisago	Green (Chisago)	Grand Total
Number			
Walleye			
Sum of			
WALLEYE			
Territory	1837		

Sum of Northern			
Pike	Column		
Number	Labels		
		Green	Grand
Row Labels	Chisago	(Chisago)	Total
4/24/2019			
4/24/2019 Net		34	34
		34	34



Table 4. Number of permits issued to Fond du Lac Bandmembers (identified using FDL license number) participating each night within 1837 Ceded Territory Lakes during the 2019 spring harvest season. One individual did receive two permits on one of the nights after filling out the first permit issued.

Count of Bandmember Tribal ID		
Row Labels	GN	SP
Chisago		
3646		2
4649		1
4886		1
4231		1
3123		1
6617		1
6509		1
Chisago Total		8
Green (Chisago)		
3091	1	
3646	1	
4886	1	
4533	1	
4231	1	
3085	1	
Green (Chisago) Total	6	

Table 5. The number of boats used each night and on each lake by Fond du Lac Bandmembers while participating in 2019 spring harvest activities within the 1837 Ceded Territory of Minnesota.

Count of Unique No. Boats		
Row Labels	GN	SP
4/24/2019		
Green (Chisago)		
MN3293LP	1	
MN5011JK	1	
MN6021HH	1	
MN9066BK	1	
MN9316GP	1	
Chisago		
MN3293LP		1
MN3559FH		1
MN9316GP		1
Grand Total	5	3



Table 6. Harvest of additional species by Fond du Lac Bandmembers within lakes in the 1837 Ceded Territory of Minnesota during spring 2019 harvest activities.

Ceded Territory	1837

Values	Chisago	Green (Chisago)
Sum of White Sucker No.	1	
Sum of White Sucker Lbs.	5.4	
Sum of Black Crappie No.	1	
Sum of Black Crappie Lbs.	0.4	
Sum of Bluegill No.	2	
Sum of Bluegill Lbs.	1.0	
Sum of Largemouth Bass No.	3	1
Sum of Largemouth Bass Lbs.	8.6	1.4
Sum of Bullhead Sp. No.		3
Sum of Bullhead Sp. Lbs.		2.4
Sum of Pumpkinseed No.		1
Sum of Pumpkinseed Lbs.		0.4

Mille Lacs Lake:

The Mille Lacs Band of Ojibwe started harvesting walleyes on 13 April 2019 (Table 7). Harvest activities continued thru the night of 24 May for the yellow perch fishery (Table 7). The Mille Lacs Band set a few nets again on 23 June and again on 7 July (Table 7).

The walleye quota for 2019 was agreed upon between the State of MN and the Bands at the Winter 1837 Fisheries Technical Committee Meeting at 150,000 lbs. Tribal Allocation for the 2019 fishing season was set at 62,200 pounds of walleye, 50,000 pounds of northern pike, and 135,000 pounds of yellow perch. The State of MN had an allocation for licensed anglers of 87,800 pounds.

For all participating Bands, total harvest on Mille Lacs Lake thru July was 47,701.3 pounds (Table 7), more than 20,000 pounds higher than the 2018 harvest of 27,528.1 lbs, and almost triple the 2017 harvest of 14,258.1 pounds of walleye. An additional 2163.1 pounds of northern pike were harvested by all Bands (Table 8), well above the 687.4 pounds of northern pike harvested in 2018. Yellow perch harvest by the Bands was 144.3 pounds (Table 9), also above the 2018 harvest of 33.3 pounds of yellow perch.

Fond du Lac's allocation for 2019 was 11,853 pounds of walleye for Mille Lacs. Fond du Lac started spearing activities on 26 April, and finished gill netting on the night of 29 April, for a total of four nights of harvest activities (Table 10, Figure 1). Total harvest for FDL was 11,386.8 pounds of walleye and 514.8 pounds of northern pike



(Tables 7, 8, & 10). FDL reserved the remaining 466.2 pounds of walleye to cover their open water angling fishery (11853 – 11386.8 = 466.2 lbs). Additional species harvested by FDL bandmembers on Mille Lacs Lake included smallmouth bass (3.6 lbs), yellow perch (6.4 lbs), white sucker (55.4 lbs), rock bass (5.6 lbs), bowfin (4.0 lbs), black crappie (0.8 lbs), and burbot (2.4 lbs) (Table 11).

Harvest by all participating Bands was concentrated at North Garrison (10046.5 pounds) and Liberty Beach (12404.5 pounds) access points (Table 12). No harvest was reported from the Marathon access point during the 2019 harvest season (Table 12). Gill net harvest rates (lbs walleye / gill net / night) were highest at the South Garrison access (just under 120 lbs / net), followed by Cedar Creek (just over 80 lbs / net) (Figure 2).

For the Fond du Lac harvesters, walleye catch rates, calculated as the number of pounds of walleye harvested per hour of effort, were highest on 27 April for spearers (19.5 lbs / hr of effort; Table 13) and on 26 April for netting (11.9 lbs / hour soaked; Table 13). For all participating Bands, gill net harvest per night peaked on 22 April, and declined thereafter (Figure 3).

Participation by FDL ranged from nine to 48 Bandmembers per night (Table 14). A total of 56 different FDL Band members participated at Mille Lacs Lake (Table 15), up from the 33 that participated in 2018. Twenty-eight members participated only a single night (Table 15), likely due to the very high catch rates relative to the last few years. Only three individuals participated for all four nights (Table 15). The number of boats used ranged from four to twelve boats per night (Table 16).

In April 2019, harvest ranged from 32.6 to 617.2 pounds of walleye per Bandmember (Table 15, Figure 4). The average harvest for walleyes per individual was 203.3 ± 30.5 pounds, essentially equal to the 193.3 ± 69.6 pounds observed in 2018, but up significantly from the 71.9 ± 20.1 pounds per member observed in 2017. This likely explains why half of the Fond du Lac harvesters only participated for a single evening. Median harvest per Bandmember was 185.2 pounds, double the 2018 observed value of 89.2 pounds and four times the 2017 observed value of 48.3 pounds. FDL Bandmembers speared for a total of 121.5 man-hours, harvesting approximately 4.8 walleye per hour of effort (Table 13). This effort is equivalent to the effort observed in 2018 (133.0 man-hours and 4.4 walleye harvested per hour).

A total of 6739 walleyes were harvested by FDL (Tables 10 & 13). Lengths of walleye harvested ranged from 13.9 to 28.4 inches (Figures 5a & 5b). Spearing accounted for a higher harvest of female walleyes compared to the gill nets (Figure 6), while netting targeted males (Figure 7a). Note that in Figures 5b and 7b, the males were removed to show the number of females and unknown-sex fish harvested.

RMD staff attempted to collect otoliths from five individuals per sex and per 0.5 inch group, e.g. five males and five females between 15.0 and 15.49 inches. Ages were interpreted from otoliths collected from 167 of the walleyes (Table 17). The most common ages observed were from the 2013 year class (age-6) (Table 17 and Figure 8). FDL can expect harvest (in pounds) of the 2013 year class to increase in the future as this cohort continues to get older and grow larger, but numbers will likely start to decline as State anglers and Bandmembers continue to target harvest and hooking mortality on this very strong 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 rate by sex is presented in Figure 9. Females are typically larger than males at the same age (Figure 9).



Table 7. Harvest of walleyes (pounds) on Mille Lacs Lake, spring 2019, by all participating Bands.

Sum of Walleye Lbs	olumn L								
Row Labels	BRV	FDL	LCO	LDF	MILLELACS	MOLELK	RCF	STC	Grand Total
Spear									
4/13/2019					10				10
4/16/2019					55.2				55.2
4/18/2019					47.4				47.4
4/20/2019					80.6				80.6
4/23/2019					146.4				146.4
4/24/2019					134.6				134.6
4/26/2019		855.6							855.6
4/27/2019		419.6					561	244.6	1225.2
4/28/2019					647.6				647.6
4/29/2019			423.2		80.2			251.8	755.2
4/30/2019			601.2	3038.6	57.6			487.8	4185.2
5/1/2019	64.8		1515.6	1549.8	101.4		55		3286.6
5/2/2019			1613.2		70		502.6	453.2	2639
5/3/2019			152.2		, ,		502.0	77.2	229.4
5/4/2019	597		132.2	83.2	16.8			410.2	1107.2
	357			65.2				410.2	
5/5/2019			244.2		40		404.0	505.0	40
5/6/2019			241.2		21.2	98.4	481.2	535.2	1377.2
5/7/2019	144.6		663		6.2	19.4		497	1330.2
5/9/2019	205.4		303.8						509.2
5/10/2019	93.4								93.4
5/13/2019								18.2	18.2
5/14/2019					56.2				56.2
pear Total	1105.2	1275.2	5513.4	4671.6	1571.4	117.8	1599.8	2975.2	18829.6
Net									
4/13/2019					122.9				122.9
4/15/2019					91.6				91.6
4/16/2019					165				165
4/18/2019					203.8				203.8
4/20/2019					661				661
4/21/2019					78.6				78.6
4/22/2019					214.6				214.6
4/23/2019					458.8				458.8
		4120.8			498.8				4619.6
4/26/2019							100.0	72.2	
4/27/2019		2434			270.8		169.8	72.2	2946.8
4/28/2019		1066.4			2508.4		979.8		4554.6
4/29/2019		2490.4			1436.3				3926.7
4/30/2019				52.6	925.8		454.4	891.6	2324.4
5/1/2019			165.6	98.2	1019.2		57.5		1340.5
5/2/2019			160.8		568.6				729.4
5/3/2019			146		233.6			261	640.6
5/4/2019				8.8	91.6			281.4	381.8
5/5/2019					1887.8				1887.8
5/6/2019					295.6	416		711.2	1422.8
5/7/2019					369.8	138.4			508.2
5/9/2019					147				147
5/12/2019					9				9
5/16/2019	223.5				,	284			507.5
	46								
5/17/2019					20.4	51.2			97.2
5/18/2019	120.6				20.4	186.4			327.4
5/19/2019	30.2					176.2			206.4
5/20/2019						121.4			121.4
5/23/2019	35.2								35.2
	66.6								66.6
5/24/2019					49.1				49.1
5/24/2019 6/23/2019					45.1				
6/23/2019 7/5/2019					25.4				25.4
6/23/2019	522.1	10111.6	472.4	159.6		1373.6	1661.5	2217.4	



Table 8. Harvest of northern pike (pounds) on Mille Lacs Lake, spring 2019, by all participating Bands.

Sum of Northern Lbs										
Row Labels	BRV	FDL	LCO	LDF	٨	MILLELACS	MOLELK	RCF	STC	Grand
										Total 27.8
4/13/2019 4/15/2019						27.8 73				27.8 73
4/15/2019						73 34				73 34
4/18/2019						0				0
4/20/2019						81.4				81.4
4/20/2019						0				0
4/21/2019						22.4				22.4
4/23/2019						102.4				102.4
4/24/2019						0				0
4/26/2019		250.8				10				260.8
4/27/2019		172				8.2		23.6	0	203.8
4/28/2019		43.2				175.8		24.6	Ü	243.6
4/29/2019		48.8	0			108.2		24.0	0	157
4/30/2019		10.0	0		0	40.2		0	27.2	67.4
5/1/2019	0		0		0	24.6		0	_,	24.6
5/2/2019	ŭ		76.4			30.8		0	0	107.2
5/3/2019			163.8			5.6			25.4	194.8
5/4/2019	0				0	20.8			2	22.8
5/5/2019						126.4				126.4
5/6/2019			0			90	13.6	0	31.6	135.2
5/7/2019	0		0			5	28.8		0	33.8
5/9/2019	0		0			0				0
5/10/2019	0									0
5/12/2019						16.8				16.8
5/13/2019									0	0
5/14/2019						0				0
5/16/2019	45.1						29.4			74.5
5/17/2019	6.6						7.2			13.8
5/18/2019	6					0	9			15
5/19/2019	14.2						10.6			24.8
5/20/2019							24.8			24.8
5/23/2019	12									12
5/24/2019	43									43
6/23/2019						18				18
7/5/2019						2				2
Grand Total	126.9	514.8	240.2		0	1023.4	123.4	48.2	86.2	2163.1



Table 9. Harvest of yellow perch (pounds) on Mille Lacs Lake, spring 2019, by all participating Bands.

Sum of Perch Lbs									
Row Labels	BRV	FDL	LCO	MILLELACS	STC	RCF	LDF	MOLELK	Grand Total
Net									
4/13/2019									
4/15/2019				0					0
4/16/2019									
4/18/2019									
4/20/2019									
4/21/2019									
4/22/2019									
4/23/2019									
4/26/2019		1.6		0					1.6
4/27/2019		1.2		0	0	0			1.2
4/28/2019		2.2				0			2.2
4/29/2019		1.4		1					2.4
4/30/2019				0	1.2	0			1.2
5/1/2019			2.8	0					2.8
5/2/2019			26						26
5/3/2019			38.8	0	0				38.8
5/4/2019				0					0
5/5/2019									
5/6/2019					0			0	0
5/7/2019				0				1.2	1.2
5/9/2019				0					0
5/12/2019									
5/16/2019	10							15.5	25.5
5/17/2019	0							0	0
5/18/2019	3			1				6.8	10.8
5/19/2019	0.8							12	12.8
5/20/2019								15	15
5/23/2019	0								0
5/24/2019	1.6								1.6
6/23/2019				1.2					1.2
7/5/2019									
Net Total	15.4	6.4	67.6	3.2	1.2	0		50.5	144.3
Grand Total	15.4	6.4	67.6	3.2	1.2	0		50.5	144.3
	-					-			



Table 10. Harvest by night and by Landing for the Fond du Lac Band on Mille Lacs Lake, spring 2019.

	Column Labels				
Row Labels	4/26/2019	4/27/2019	4/28/2019	4/29/2019	Grand Total
Cedar					
Sum of Walleye Number				1512	1512
Sum of Walleye Lbs				2490.4	2490.4
Sum of Northern Number				15	15
Sum of Northern Lbs				48.8	48.8
Malmo					
Sum of Walleye Number			668		668
Sum of Walleye Lbs			1066.4		1066.4
Sum of Northern Number			9		9
Sum of Northern Lbs			43.2		43.2
NGarrison					
Sum of Walleye Number	2901				2901
Sum of Walleye Lbs	4976.4				4976.4
Sum of Northern Number	41				41
Sum of Northern Lbs	250.8				250.8
SGarrison					
Sum of Walleye Number		1658			1658
Sum of Walleye Lbs		2853.6			2853.6
Sum of Northern Number		36			36
Sum of Northern Lbs		172			172
Total Sum of Walleye Number	2901	1658	668	1512	6739
Total Sum of Walleye Lbs	4976.4	2853.6	1066.4	2490.4	11386.8
Total Sum of Northern Number	41	36	9	15	101
Total Sum of Northern Lbs	250.8	172	43.2	48.8	514.8



Table 11. Additional species harvested (lbs) on Mille Lacs Lake, spring 2019, by the Fond du Lac Band participating in harvest activities.

	Date				
Data	4/26/2019	4/27/2019	4/28/2019	4/29/2019	Grand Total
Sum of Perch Number	2	1	2	1	6
Sum of Perch Lbs	1.6	1.2	2.2	1.4	6.4
Sum of White Sucker No.	13	6	3	1	23
Sum of White Sucker Lbs.	38.4	11.0	4.6	1.4	55.4
Sum of Burbot No.	0	1	0	0	1
Sum of Burbot Lbs.	0	2.4	0	0	2.4
Sum of Rock Bass No.	4	6	0	0	10
Sum of Rock Bass Lbs.	2.2	3.4	0	0	5.6
Sum of Smallmouth Bass No.	2	0	0	1	3
Sum of Smallmouth Bass Lbs.	2	0	0	1.6	3.6
Sum of Bowfin No.	1	0	0	0	1
Sum of Bowfin Lbs	4	0	0	0	4.0
Sum of Black Crappie No.	0	2	0	0	2
Sum of Black Crappie Lbs.	0	0.8	0	0	0.8

Table 12. Harvest of walleye and northern pike (pounds) from each of the landings on Mille Lacs Lake used by Tribal fishers during the spring 2019 harvest season.

Row Labels	Sum of Walleye Lbs	Sum of Northern Lbs
Cedar	6171.6	148.8
Cove	1860.4	89
DNR	5564.5	348.2
Hennepin	1212	125.6
IndianPt	2103.7	318.8
Liberty	12404.5	5
Malmo	1883.4	70.2
NGarrison	10046.5	652.8
SGarrison	5023	205
Wealthwood	901.9	167.1
Wigwam	529.8	32.6
Grand Total	47701.3	2163.1



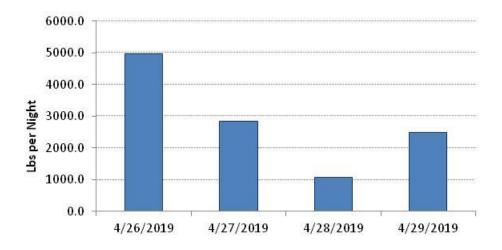


Figure 1. Harvest by walleye pounds for each night of harvest activities by FDL Bandmembers on Mille Lacs Lake, spring 2019.

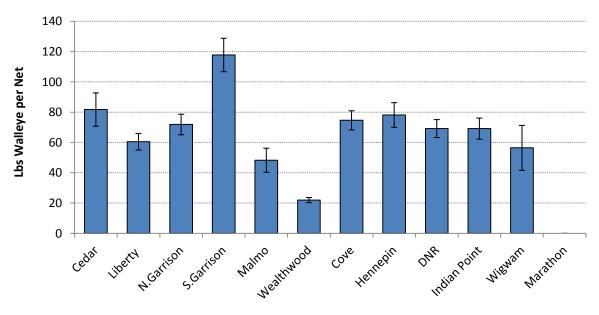


Figure 2. Mean (average) pounds of walleye harvested per gill net at each landing on Mille Lacs Lake, spring 2019, by all participating Bands. Error bars represent the standard error of the mean.



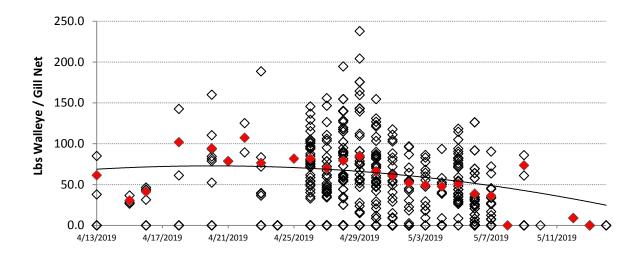


Figure 3. Pounds of walleye harvested per gill net each night of netting on Mille Lacs Lake, spring 2019. Data is from all participating Bands, and not just Fond du Lac. Hollow diamonds are weights from individual nets, whereas red diamonds indicate nightly averages.

Table 13. Harvest effort (no. and lbs. per hour) for Fond du Lac Bandmembers spearing (Panel A) and netting (Panel B) walleyes on Mille Lacs Lake, spring 2019.

Danal	Λ.	Speari	inσ	Data
Panei	А-	· Sbeari	1115	Data

Date	Man Hours	WAE Harvested (no)	WAE Harvested (Lbs)	No. WAE / Hour	Lbs WAE / Hour
4/26/2019	100	373	855.6	3.7	8.6
4/27/2019	21.5	216	419.6	10.0	19.5
Total Spearing	121.5	589	1275.2	4.8	10.5

Panel B - Netting Data

Date	Man Hours	WAE Harvested (no)	WAE Harvested (Lbs)	No. WAE / Hour	Lbs WAE / Hour
4/26/2019	345.3	2528	4120.8	7.3	11.9
4/27/2019	242	1442	2434.0	6.0	10.1
4/28/2019	105.9	668	1066.4	6.3	10.1
4/29/2019	157.2	1512	2490.4	0.7	1.2
Total Netting	850.4	6150	10111.6	7.2	11.9



Table 14. Number of Fond du Lac Bandmembers participating in spring harvest activities on Mille Lacs Lake during spring 2019.

Row Labels	Count of Tribal ID Number
4/26/2019	48
4/27/2019	25
4/28/2019	9
4/29/2019	13
Grand Total	95

Table 15. Sum of total walleye and northern pike pounds harvested per Fond du Lac Bandmember on Mille Lacs Lake during spring 2019 spearing and netting activities. Days Participating presents the number of nights each individual participated. Bandmembers participated on average 1.7 ± 0.2 nights.

Count of Days	Sum of Walleye	Sum of Northern Pike
Participating	Pounds	Pounds
1	204.8	7
1	182.2	7.2
1	351.0	
1	237.8	20.8
1	123.6	9.2
1	67.8	
2	173.8	13.8
1	37.9	
1	212.2	30.8
1	124.2	
1	80.2	3.2
1	293.0	
1	170.4	3.8
1	32.6	
2	212.4	18
2	229.0	3.6
1	87.6	
2	376.6	26.8
2	256.3	
2	174.5	
1	291.2	
2	256.4	
1	93.0	4.2
2	334.0	4.4
2	90.2	
1	32.6	2
3	256.3	29.6
	Participating 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 1 1 1 2 2 1 1 2 2 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 2 1 2 1 1 2 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1	Participating Pounds 1 204.8 1 182.2 1 351.0 1 237.8 1 123.6 1 67.8 2 173.8 1 37.9 1 212.2 1 124.2 1 80.2 1 293.0 1 170.4 1 32.6 2 212.4 2 229.0 1 87.6 2 256.3 2 174.5 1 291.2 2 256.4 1 93.0 2 334.0 2 90.2 1 32.6



4087	2	106.9	
4119	4	434.2	60.4
4153	1	219.0	10.6
4246	1	157.0	10.0
4253	1	82.2	4.8
4299	1	169.8	32.4
4439	2	210.2	2.6
4445	2	169.6	24.6
4481	2	188.1	24.0
4533	1	150.2	3.8
4611	1	207.2	13
4649	4	617.2	15.6
404 <i>9</i> 4701	2	182.2	9.4
4701 4717	1	80.4	8.4
4717 4769	4	215.6	3.6
4866	1	328.8	5.0
4886	2	251.0	13.2
4935	2	317.0	5.4
4956	1	101.0	5.4
4956 4957	3	478.6	45.2
5561	3	283.8	45.2 2.6
5616	2		
		220.3	5.6
5803	1	94.0 161.7	3.4
5831	2		0.4
5898	3	284.9	9.4
5912	3	166.5	27.6
5954	1	70.0	27.6
6219	2	170.7	10.4
6432	2	287.3	18.4
Grand Total	95	11386.8	514.8



Table 16. Number of unique boats participating on each night for the Fond du Lac Band on Mille Lacs Lake during spring 2019 spearing harvest activity.

Row Labels	Count of Unique Number of Boats
4/26/2019	12
4/27/2019	9
4/28/2019	4
4/29/2019	6
Grand Total	31

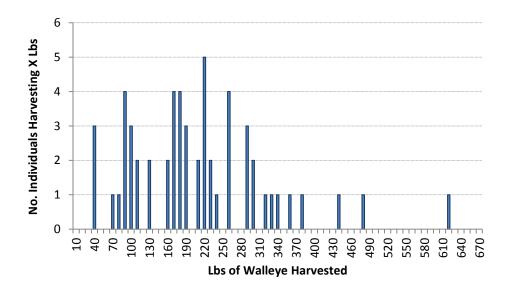


Figure 4. Amount of walleye pounds harvested in Mille Lacs Lake during spring 2019 by the number of Fond du Lac Bandmembers. Category values represent a maximum value, e.g. 40 means that three individuals came to Mille Lacs and harvested between 30.1 and 40.0 pounds of walleye, whereas one individual harvested between 610.1 and 620.0 pounds of walleye. Mean harvest was 203.3 ± 30.5 lbs / member (min 32.6, max 617.2), while median value was 185.2 lbs.



Table 17. Ages assigned to 167 aged walleyes harvested from Mille Lacs Lake during spring 2019 activities by the Fond du Lac Band. Ages were interpreted using otoliths, and are separated by female (F) and male (M) fish.

	Count of Age	Column Labels		
Cohort	Row Labels	F	M	Grand Total
2016	3		9	9
2015	4	1	5	6
2014	5	7	9	16
2013	6	41	30	71
2012	7	3	8	11
2011	8	1	3	4
2010	9	3	3	6
2009	10	1		1
2008	11	4	4	8
2007	12	2	4	6
2006	13	3	2	5
2005	14	4	1	5
2004	15	2		2
2003	16	6	1	7
2002	17	5	3	8
1996	23	1	1	2
	Grand Total	84	83	167



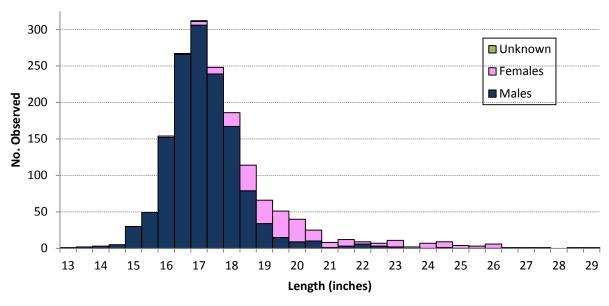


Figure 5a. Length frequency distribution of all walleyes harvested by Fond du Lac Bandmembers on Mille Lacs Lake during spring 2019 harvest activities. Harvest is separated by males (blue bars), females (pink bars), and unknown individuals (green bars). Harvest was from both spearing and netting. Per the protocols, Fond du Lac measured the first 100 fish each night and those from the last two (2) gill nets every morning.

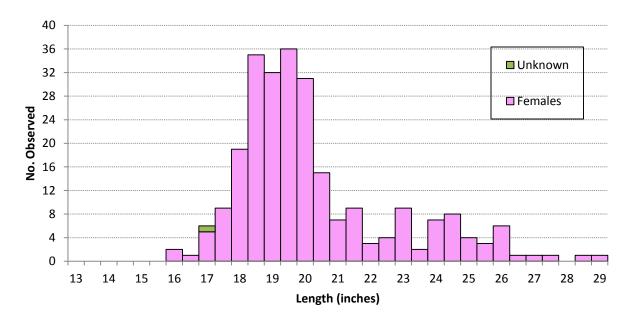


Figure 5b. Length frequency distribution of all female and unknown walleyes harvested by the Fond du Lac Band on Mille Lacs Lake during spring 2019 harvest activities. Harvest was from both spearing and netting. Per the protocols, Fond du Lac measured the first 100 fish and from the last two (2) gill nets every morning. This is the same data presented in Figure 7a, with the males removed to change the scale on the No. Observed axis.



Spearing Data Only

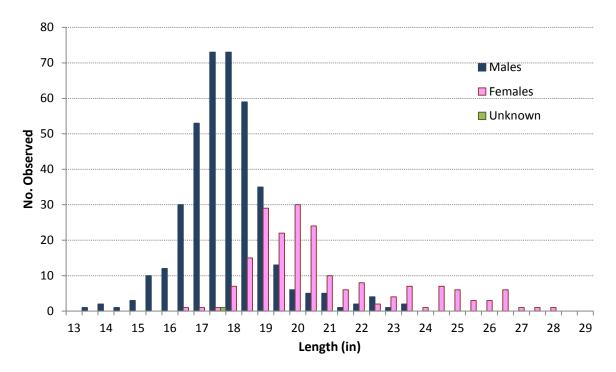


Figure 6. Length frequency distribution of all walleyes harvested by Fond du Lac Bandmembers spearing on Mille Lacs Lake during spring 2019 spearing activities. Harvest is separated by males (blue bars), females (pink bars), and unknown individuals (green bars).



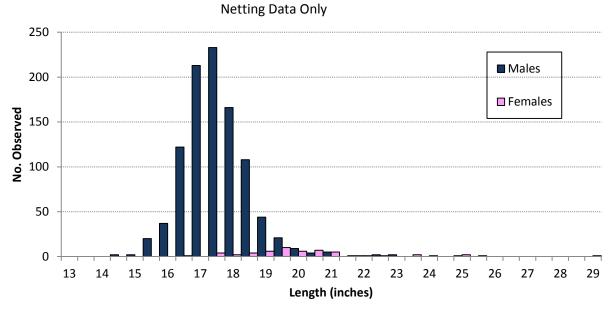


Figure 7a. Length frequency distribution of all walleyes harvested by netting by Fond du Lac Band members netting on Mille Lacs Lake, spring 2019. Per the protocols, Fond du Lac measured the first 100 fish and those from the last two (2) gill nets every morning.

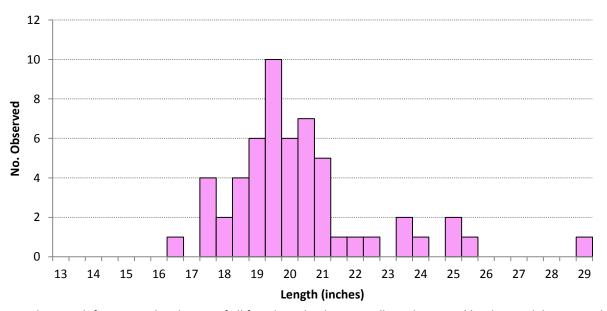


Figure 7b. Length frequency distribution of all female and unknown walleyes harvested by the Fond du Lac Band netting on Mille Lacs Lake during spring 2019 gill netting activities. Per the protocols, Fond du Lac measured the first 100 fish and from the last two (2) gill nets every morning. This is the same data presented in Figure 7a, with the males removed to change the scale on the No. Observed axis.



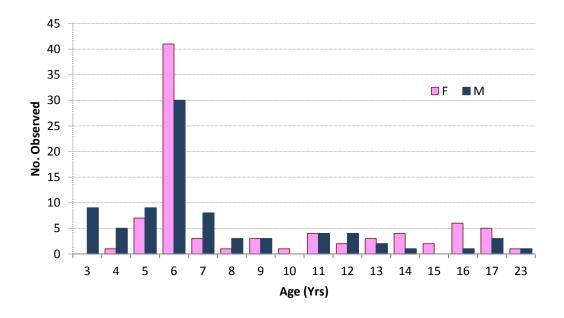


Figure 8. Age Frequency distribution of walleyes collected from Mille Lacs Lake during spring 2019 harvest activities. Ages were interpreted using otoliths, and are separated by males (blue bars) and females (pink bars).

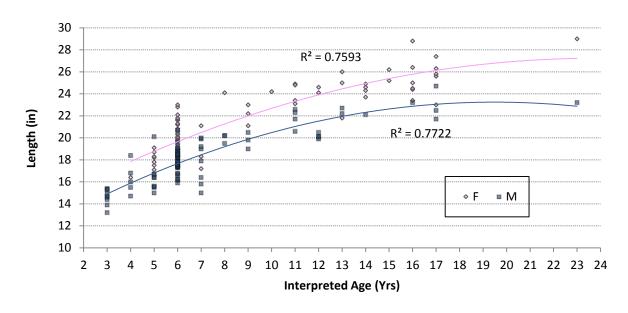


Figure 9. Length at age for male (blue squares) and female (pink diamonds) walleyes collected from Mille Lacs Lake during spring 2019 harvest activities. Interpreted ages were made using otoliths collected at the time of creeling.



Harvest in 1854 Ceded Territory:

Due to the progression of spring and the late ice out occurring in northeast MN, many of the 1854 lakes didn't become ice-free until after the State Fishing Opener. FDL only participated on three of the 15 declared lakes within the 1854 Ceded Territory (Table 1).

On 25 April, Fond du Lac opened up Eagle and Sturgeon Lakes for netting. Five individuals set nets on each lake (Table 18). The five FDL netters harvested 204.8 pounds of walleye (N=117 walleye) from Eagle Lake (Tables 19 & 20). The five netters harvested 176.8 pounds of walleye (N = 97 walleye) from Sturgeon Lake (Tables 19 & 20). Bandmembers only set nets in Lake Vermilion in 2019, and harvested 1458.6 pounds of walleye (N=1048 walleye) (Tables 19 & 20). Harvest was in the East Basin in 2019, with creeling activities stations at Hoodoo Point (Pike Bay).

Total harvest of walleye in the 1854 Ceded Territory was 1840.2 pounds of walleye (Table 20). Fond du Lac harvesters took 1262 walleyes from 1854 Ceded Territory Lakes (Table 20). Total harvest of northern pike from 1854 Ceded Territory lakes was 262.9 pounds (Table 20) and 77 fish (Table 20). Length frequency distributions of harvested walleyes from all inland lakes are presented in Appendix 1.

The number of Bandmembers participating each night ranged from five (Sturgeon and Eagle Lakes, Table 19) to thirteen individuals (Lake Vermilion, Table 18). A total of 37 different individuals participated on 1854 lakes (Table 18). The number of boats actually participating each night was again low, from two boats on Sturgeon Lake to perhaps five boats on Lake Vermilion (Table 21). Boat ID's were not noted on ten of the permits issued on Lake Vermilion on 3 May, and not completely noted on an additional two boats (Table 21).

A complete list of all additional species harvested from 1854 lakes are included in Table 22.

Gill Netting within Inland Lakes:

Mille Lacs Lake represents a unique opportunity for Bandmembers to net for walleyes and experience exceptional and highly efficient harvest rates (Table 23). Harvest rates for walleyes on Mille Lacs Lake (80.9 \pm 6.3 pounds per net average; Table 23) do not necessarily translate to similar harvest rates on the inland bodies of water. Within both the 1837 and 1854 Ceded Territories, the FDL Band set nets in four of the inland lakes (Table 23). The number of nets set ranged from five (Eagle Lake) to 109 nets (Lake Vermilion) (Table 23). Mean harvest rates, as measured by pounds of walleye / net, ranged from 13.6 \pm 5.0 pounds (Sturgeon Lake) to 17.3 \pm 17.4 pounds (Green Lake) (Table 24). Overall catch rates averaged 17.3 \pm 17.4 pounds of walleye per net in the 1837 Ceded Territory inland lakes and 21.2 \pm 10.7 pounds of walleye per net in the 1854 Ceded Territory Lakes (Table 23). Combining data from all of the inland lakes within both of the Ceded Territories produced a harvest rate of 20.1 \pm 8.4 pounds of walleye per net (Table 24). Harvest rates are also presented for northern pike, and were highly influenced by the high harvests in Green Lake (Table 23).



Bandmember Harvest and Participation:

Total walleye harvest within all lakes in the 1837 and 1854 Ceded Territories of Minnesota was 13,404.6 pounds (Table 24), nearly double the 6894.6 pounds taken in 2018 and well above the 2017 total of 3753.8 pounds. Total harvest of northern pike was 901.1 pounds (Table 24) above the 2018 total of 438.9 pounds, and the 2017's harvest of 785.6 pounds.

Seventy different Bandmembers participated in spearing and netting activities during the spring 2019 fishing season (Table 24). This is well above the 42 that participated in 2018, perhaps due to word spreading throughout the community that the catch rates in Mille Lacs were better than those observed during the last decade. Bandmembers harvested between 0.0 and 617.2 pounds of walleye per individual (Table 24, Figure 10), and between 0.0 to 72.2 pounds of northern pike (Table 24). Average walleye harvest per individual Bandmember increased well above the 2018 observed harvest, from 48.9 ± 7.6 pounds per harvester in 2018 to 194.3 ± 32.7 pounds per member in 2019 (median increased from 34.6 pounds in 2018 to 173.8 pounds in 2019). This is most likely influenced by the Mille Lacs harvest (Figure 4). The number of permits claimed per individual ranged from one (six individuals) to 22 permits (two individuals) (Figure 11). The majority of participants claimed between two and four total permits (Figure 11). Note that several individuals participated in both spearing and netting on a given evening (thus two permits), or set more than one gill net per night (one permit per gill net set). This does not imply that two individuals participated for 22 nights of harvest activities.

Fond du Lac Bandmembers have recently expressed concern that the Band is "leaving fish on the table" that could / should be going to the community. Participating Bandmembers need to start looking around the community for members of the next generation, and begin mentoring these youngsters. If no one shows the next generation how to participate in the springtime harvest opportunities available to the community, interest will continue to decline as it has over the last two decades. RMD will continue to provide opportunities, but to get fish into the community will require increased interest and participation by Bandmembers in the future.



Table 18. Fond du Lac Bandmembers participating each night within 1854 Ceded Territory Lakes during the 2019 spring harvest season. There was no spearing permits issued for any of the 1854 Lakes in 2019. Data presented are the number of permits issued to each individual, as some individuals did receive multiple gill net permits on some of the nights.

Bandmember Tribal ID	Column Labels
Row Labels	GN
Sturgeon	
4/25/2019	
3698	1
3814	1
4445	1
4957	1
5898	1
Eagle	
4/25/2019	_
3085	1
3117	1
4153	1
5019	1
5050	1
Vermilion (East)	
5/2/2019 3117	2
3435	2
3587	2
3588	2
4119	2
4294	2
4439	2
6432	2
6433	2
5/3/2019	2
3117	1
3129	2
3366	3
3587	2
3588	2
3776	1
4294	1
4481	2
4533	1
5050	1
5166	1
5616	2
6432	1
5/6/2019	



	_	
3587	2	
3588	2	
4119	2	
4714	3	
4947	2	
5050	2	
5166	2	
5209	3	
6432	2	
5/7/2019		
3366	5	
4714	5	
4947	5	
5209	5	
5/8/2019		
4714	10	
5209	10	
5/9/2019		
3588	3	
3651	4	
4714	3	
4947	3	
5209	4	
6432	3	
Grand Total	128	



Table 19. Harvest (pounds) of walleye and northern pike on three lakes within the MN portion of the 1854 Ceded Territory during spring 2019 harvest season.

Ceded	
Territory	1854
WALLEYE	

Sum of Walleye I	Pounds			
Row Labels	Eagle	Sturgeon	Vermilion (East)	Grand Total
4/25/2019	204.8	176.8		381.6
5/2/2019			479	479
5/3/2019			323.6	323.6
5/6/2019			288.2	288.2
5/7/2019			179	179
5/8/2019			117	117
5/9/2019			71.8	71.8
Grand Total	204.8	176.8	1458.6	1840.2

Sum of Northern	Pike Pounds			
Row Labels	Eagle	Sturgeon	Vermilion (East)	Grand Total
4/25/2019	60.6	59.6		120.2
5/2/2019			15.8	15.8
5/3/2019			32.9	32.9
5/6/2019			24.2	24.2
5/7/2019			35.6	35.6
5/8/2019			26.6	26.6
5/9/2019			7.6	7.6
Grand Total	60.6	59.6	142.7	262.9



Table 20. Harvest (number) of walleye and northern pike on three lakes within the MN portion of the 1854 Ceded Territory during spring 2019 harvest season.

WALLEYE

Sum of Walleye Number								
Row Labels	Eaglo	Sturgeon	Vermilion (East)	Grand Total				
4/25/2019	Eagle 117	97	(EdSL)	214				
	11/	97						
5/2/2019			353	353				
5/3/2019			229	229				
5/6/2019			204	204				
5/7/2019			134	134				
5/8/2019			77	77				
5/9/2019			51	51				
Grand Total	117	97	1048	1262				

NONTHERN PIKE	<u> </u>						
Sum of Northern Pike Number							
			Vermilion				
Row Labels	Eagle	Sturgeon	(East)	Grand Total			
4/25/2019	22	15		37			
5/2/2019			8	8			
5/3/2019			6	6			
5/6/2019			5	5			
5/7/2019			12	12			
5/8/2019			6	6			
5/9/2019			3	3			
Grand Total	22	15	40	77			



Table 21. The number of boats used each night and on each lake by Fond du Lac Bandmembers while participating in 2019 spring harvest activities within the 1854 Ceded Territory of Minnesota.

Count of Unique No. Boats	Column Labels
Row Labels	GN
4/25/2019	
Eagle	
MN0532HE	1
MN9066KB	1
FDL Warden Boat	1
Sturgeon	
MN9975HP	1
MN8644HT	1
5/2/2019	
Vermilion (East)	
MN0532HE	2
MN6339HB	2
MN4736HV	1
MN8646DT	1
5/3/2019	
Vermilion (East)	
MN0532HE	1
MN4736HV	2
FDL Warden Boat	2
No Idea, Data not	
entered onto Permit	10
MN5430????	1
MN8313?????	1
5/6/2019	
Vermilion (East)	
MN4736HV	1
OK2151KB	1
FDL Warden Boat	2
5/7/2019	
Vermilion (East)	_
FDL Warden Boat	4
5/8/2019	
Vermilion (East)	_
FDL Warden Boat	2
5/9/2019	
Vermilion (East)	4
MN4736HV	1
FDL Warden Boat	4
Grand Total	43



Table 22. Harvest of additional species by Fond du Lac Bandmembers within lakes in the 1854 Ceded Territory of Minnesota during spring 2019 harvest activities.

Parulahala	
Row Labels Eagle	
4/25/2019	
Sum of Rock Bass No.	2
Sum of Rock Bass Lbs.	0.8
Sum of Black Crappie No.	1
Sum of Black Crappie Lbs.	0.6
Sum of Bluegill No.	2
Sum of Bluegill Lbs.	0.8
Sturgeon	
4/25/2019	
Sum of Rock Bass No.	5
Sum of Rock Bass Lbs.	3.4
Sum of Bluegill No.	3
Sum of Bluegill Lbs.	1.2
Vermilion (East)	
Sum of Tullibee / Lk Whitefish No.	194
Sum of Tullibee / Lk Whitefish Lbs.	222.5
Sum of White Sucker No.	119
Sum of White Sucker Lbs.	197.8
Sum of Rock Bass No.	22
Sum of Rock Bass Lbs.	13.4
Sum of Black Crappie No.	11
Sum of Black Crappie Lbs.	7.6
Sum of Smallmouth Bass No. Sum of Smallmouth Bass Lbs.	7 11.4
Sum of Smallmouth Bass Lbs. Sum of Muskie No.	
Sum of Muskie Lbs	2 33.2
Sum of Burbot No.	33.2
Sum of Burbot No.	1.4
Julii di Bulbut Ebs.	1.4



Table 23. Mean (average) and median gill net catch rates for walleye and northern pike within 1837 and 1854 Ceded Territory lakes of Minnesota during spring 2019 harvest activities. Note that the 1837 Total is for Platte and South Long ONLY, and does not include data from Mille Lacs Lake. Grand Total also does not include data from Mille Lacs Lake.

			Sum of								
	Sum of	Sum of	WAE	Sum of	Sum of	Mean No.	Mean Lbs	Median Lbs	Mean No.	Mean Lbs	Median Lbs
Row Labels	No. Nets	WAE No.	Lbs	NOP No.	NOP Lbs	WAE / Net	WAE / Net	WAE / Net	NOP / Net	NOP / Net	NOP / Net
1837											
Mille Lacs	125	6150	10111.6	99	494.4	49.2 ± 3.9	80.9 ± 6.3	76.0	0.8	4.0	1.9
Green (Chisago)	7	53	121	34	123.4	7.6 ± 7.8	17.3 ± 17.4	8.4	5.7	20.6	21.5
1837 Total	132	6203	10232.6	133	617.8						
1854											
Eagle	5	117	204.8	22	60.6	23.4 ± 22.3	41.0 ± 40.7	30.4	4.4	12.1	11.0
Sturgeon	13	97	176.8	15	59.6	7.5 ± 3.0	13.6 ± 5.0	11.6	1.5	6.0	6.2
Vermilion (East)	109	1048	1458.64	40	142.66	9.9 ± 2.8	13.8 ± 3.8	7.6	1.0 ± 0.2	3.8 ± 1.1	2.8
1854 Total (Inland											
Lakes ONLY)	18	218	381.6	37	120.2	11.9 ± 6.0	21.2 ± 10.7	16.2	2.5 ± 0.9	8.0 ± 2.1	6.3
Grand Total (Inland											
Lakes ONLY)	25	267	502.6	71	243.6	10.7 ± 4.6	20.1 ± 8.4	15.2	3.4 ± 1.1	11.6 ± 4.2	9.0



Table 24. Total pounds of walleye and northern pike harvested per Bandmember within 1837 and 1854 Ceded Territory lakes of Minnesota during spring 2019 harvest activities. Data includes harvest from Mille Lacs Lake and all inlands lakes. Row Labels are Tribal License Numbers.

	Sum of		Sum of	
Tribal ID	Number of	Sum of Walleye	Northern Pike	TOTAL
Number	Permits	Pounds	Pounds	POUNDS
3047	2	204.8	7	211.8
3084	2	182.2	7.2	189.4
3085	4	436.8	21.8	458.6
3091	3	267.0	24	291.0
3094	2	123.6	9.2	132.8
3117	5	222.7	16.1	238.8
3121	2	173.8	13.8	187.6
3123	2	37.9		37.9
3129	2	9.2		9.2
3140	2	212.2	30.8	243.0
3173	2	124.2		124.2
3179	2	80.2	3.2	83.4
3235	2	293.0		293.0
3252	2	170.4	3.8	174.2
3262	1	32.6		32.6
3264	3	212.4	18	230.4
3313	3	229.0	3.6	232.6
3366	10	188.8	11.2	200.0
3435	6	392.0	28	420.0
3587	8	410.5	6.4	416.9
3588	12	381.9	11.6	393.5
3627	2	291.2		291.2
3646	6	299.8	38.4	338.2
3651	4	12.8		12.8
3672	2	93.0	4.2	97.2
3698	5	362.8	13.2	376.0
3776	2	36.8		36.8
3778	2	90.2		90.2
3805	1	32.6	2	34.6
3814	7	326.9	48.4	375.3
4087	3	106.9		106.9
4119	11	512.4	72.2	584.6
4153	3	262.8	26.2	289.0
4231	2	21.4	28	49.4
4240	2	157.0		157.0
4253	2	82.2	4.8	87.0
4294	3	26.0		26.0
4299	2	169.8	32.4	202.2
4439	4	221.0	8.4	229.4
4445	4	189.4	26.6	216.0
4481	5	193.7		193.7
4533	4	164.5	29.8	194.3



4611	2	207.2	13	220.2
4649	6	617.2	15.6	632.8
4701	2	182.2	9.4	191.6
4714	22	126.6	12.6	139.2
4717	2	80.4	8.4	88.8
4769	4	215.6	3.6	219.2
4866	2	328.8		328.8
4886	5	274.6	30.2	304.8
4935	3	317.0	5.4	322.4
4947	10	98.8	6	104.8
4956	1	101.0		101.0
4957	8	528.6	62.2	590.8
5019	1	24.0	14	38.0
5050	4	53.6	9	62.6
5166	3	33.6		33.6
5209	22	120.2	44	164.2
5561	3	283.8	2.6	286.4
5616	5	233.9	9	242.9
5803	2	94.0	3.4	97.4
5831	3	161.7		161.7
5898	7	292.5	22.4	314.9
5912	3	166.5		166.5
5954	2	70.0	27.6	97.6
6219	3	170.7	10.4	181.1
6432	11	438.3	42	480.3
6433	2	145.6		145.6
6509	1			0.0
6617	1			0.0
Grand Total	293	13404.6	901.1	14305.7



Pounds per Bandmember Participating

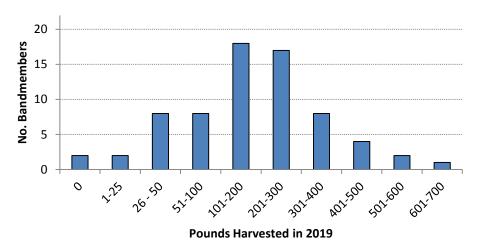


Figure 10. Pounds of walleye harvested per FDL Bandmember during the 2019 spring harvest season, and the number of individuals harvesting at each category.

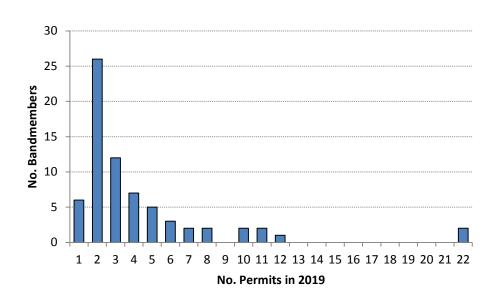
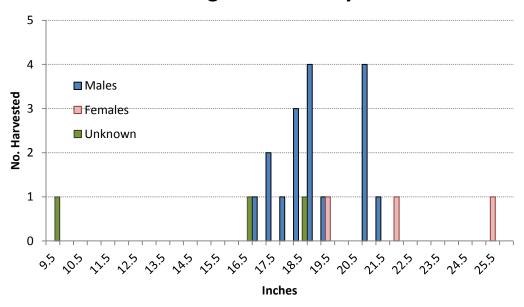


Figure 11. Number of permits claimed by individual Bandmembers during spring 2019 harvest activities in the 1837 & 1854 Ceded Territory lakes.

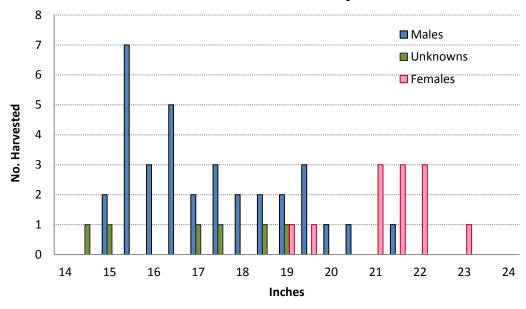


1837 Ceded Territory Lakes:

Chisago Lake Walleye

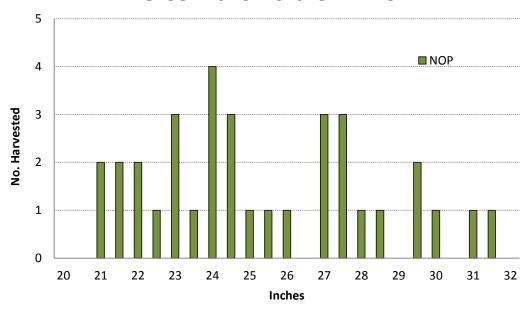


Green Lake Walleye



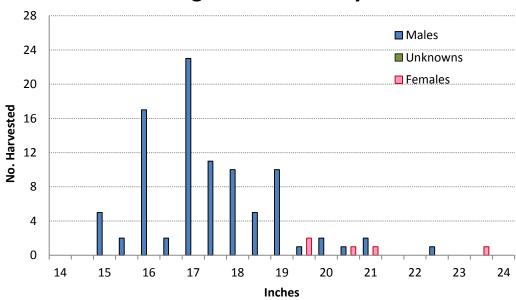


Green Lake Northern Pike



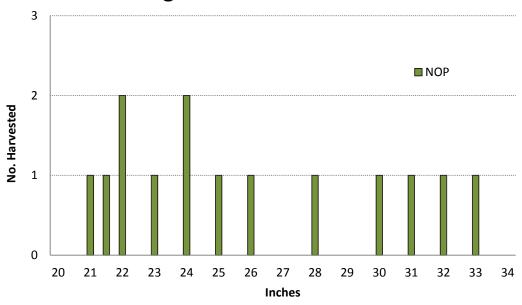
1854 Ceded Territory Lakes:

Sturgeon Lake Walleye

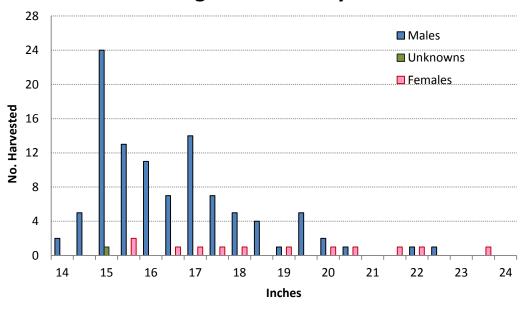




Sturgeon Lake Northern Pike



Eagle Lake Walleye





Eagle Lake Northern Pike

