



Summary of the 2019 Off-Reservation Treaty Waterfowl Season

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SUMMARY OF THE 2019 OFF-RESERVATION TREATY MIGRATORY BIRD SEASON

INTRODUCTION

The fall of 2019 marked the 35th year of off-reservation treaty migratory bird hunting by Great Lakes Indian Fish and Wildlife Commission (GLIFWC) member tribes on lands ceded in the treaties of 1837 and 1842 (Figure 1). Participating tribes included Bad River, Lac Courte Oreilles, Lac du Flambeau, Mole Lake, Red Cliff and St. Croix in Wisconsin, Keweenaw Bay and Lac Vieux Desert in Michigan, and the Mille Lacs Band in Minnesota. In addition, 2019 marked the 29th year of off-reservation treaty waterfowl hunting in the 1836 treaty area by the Bay Mills Indian Community in Michigan.

Hunting regulations advanced by GLIFWC, as authorized by tribal governments, were reviewed by the U.S. Fish and Wildlife Service (USFWS) after consultation with GLIFWC and the Departments of Natural Resources of Wisconsin (WDNR), Michigan (MiDNR) and Minnesota (MnDNR), and published in the Federal Register for public comment. The final regulations approved by the USFWS are summarized below; they included, for the second year, two harvesting techniques under special experimental seasons: the use of electronic calls, and the taking of waterfowl by hand or hand operated nets.

Although tribal harvest is relatively minor, GLIFWC has conducted periodic harvest surveys to document tribal harvest. Annual surveys to estimate the number of hunters, harvest, and effort by tribal waterfowl hunters were conducted by mail from 1985 to 1994 and by telephone from 1995 to 1998. Due to the low harvest estimates and minimal biological impact of the harvest, GLIFWC then began to conduct waterfowl harvest surveys on a 3-year cycle, or when significant changes in regulations suggested a benefit from additional data collection. Telephone surveys were subsequently completed after the 2001, 2004, and 2007, 2008, 2011 and 2012 seasons.

Harvest estimates for 2015 and 2018 were again based on mail surveys, due to increasing difficulties associated with conducting phone surveys (see Methods section below). The 2019 survey was conducted by mail, similarly to the 2015 and 2018 surveys. Harvest estimates made by mail surveys may not be directly comparable to those made by phone, since mail surveys introduce a possible response bias not present in phone surveys. This is because a response is gained from each individual successfully contacted by phone, while individuals who are surveyed by mail may choose to respond or not, and non-active individuals often tend to respond at a lower rate than active ones.

It can be difficult to use the tribal waterfowl harvest data to draw solid inferences about the impact of particular harvest regulations. Estimates based on a small number of hunters can be greatly influenced by random variation and data outliers. Waterfowl harvest also tends to be influenced by weather, the strength of the fall flight, local wetland conditions, and other factors. The interplay of these variables can make it difficult if not impossible to discern the individual effect of any one, particularly in a given year. In general, tribal harvest estimates may be best used to evaluate long-term trends.

REGULATIONS

Season dates and bag limits for various migratory birds are summarized in Table 1. All cranes and swans harvested were required to be registered: cranes could be registered in-person or by phone while swans were required to be registered in-person to allow identification of the species. 2019 was just the second year that cranes could be hunted in the 1836 ceded territory. The only changes in regulations from 2018 were the sandhill crane daily bag limit increased from 1 to 3 in the 1836 ceded territory, and from 3 to 5 in the 1837 and 1842 ceded territories, and the daily bag limit for swans increased from 2 to 5 in the 1837 and 1842 ceded territories.

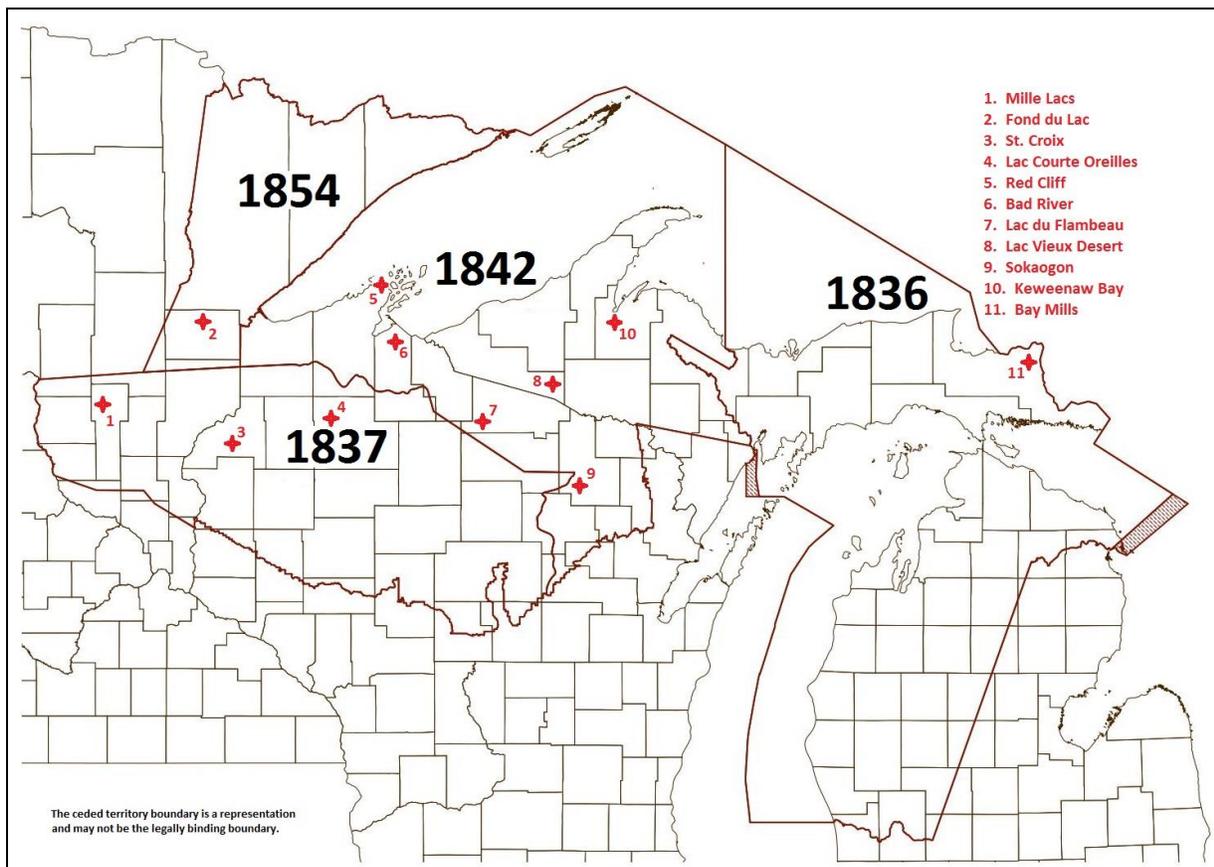


Figure 1. Map of the territories ceded in the treaties of 1836, 1837, 1842 and 1854 with approximate reservation locations.

All federal and state closed areas and method restrictions were adopted, with the exceptions of state open water hunting restrictions, Michigan state restrictions on decoy use, and shell limit restrictions on shotguns. Shooting hours were from ½ hour before sunrise to ½ hour after sunset.

Two experimental methods were available to tribal hunters for the second year in the 1837 and 1842 treaty territories: the use of electronic calls (e-calls), and harvesting by hand or hand-operated nets. Both methods required the hunter to obtain a special permit for that activity, and entailed special harvest reporting requirements. A maximum of 50 permits could be issued for the use of e-calls; the number of hand-harvesting permits issued was not limited.

Table 1. Summary of the 2019 migratory bird seasons and bag limits.

Species		Season Dates	Daily Bag Limit
Zhiishiibag	Ducks	September 1 - December 31	50 in the 1837 and 1842 ceded territories, and 30 in the 1836 CT
Aajigadeg	Coot		20 (in aggregate with gallinules)
Manoominikeshiinh	Rails		20 (all species combined)
Gopii ajijjaak	Sandhill crane		5 in the 1837 and 1842 ceded territories and 3 in the 1836 CT
Jiichiishkwenh or ginwaa'okojiis	Snipe		16
	Mergansers		10 (all species combined)
	Gallinules	20 (in aggregate with coots)	
Nikag	Geese		20 (all species combined)
Badashka'anzhi	Woodcock	September 4 - December 31	10
Miimii or omiimii	Mourning dove	September 1 - November 29	15 (1837 and 1842 ceded territories only)
Waabizii	Tundra and trumpeter swans	September 1 - December 31 or until 10 trumpeters were registered	5 (in the aggregate) (1837 and 1842 ceded territories only)

SURVEY METHODS

Tribal migratory bird hunters were required to possess a natural resource harvesting permit. All tribes with the exception of Keweenaw Bay (KB) used an off-reservation migratory bird harvesting permit provided by GLIFWC. This permit was obtained by 1,501 individuals. When tribal members obtained this permit they were asked if they harvested waterfowl (either on- or off-reservation) the previous year, and this information was used to group permit holders into “high-activity” and “low-activity” groups. Harvest surveys were mailed to all of the 268 individuals in the high-activity group and to a randomly selected sample of 50% of the low-activity group (617 of 1,233 individuals).

Separate participation and harvest estimates were then calculated for each group, and added to develop total harvest estimates.

This is the third time since 1994 that harvest surveys were conducted by mail rather than phone. The original switch to phone surveys was done in an effort to reduce response bias in the survey. Traditionally, a low percentage (generally less than 15%) of tribal permit holders actively hunt waterfowl off-reservation in any given year, but these active hunters are believed to return mail surveys at a higher rate than individuals who did not hunt, inflating harvest estimates. Phone surveys eliminated this bias. However, changes in phone technology (i.e. caller ID and message recorders) have made it increasingly expensive and difficult to conduct phone surveys. Thus, as in 2015 and 2018, a mail survey was used, but as a result, harvest estimates for 2015, 2018 and 2019 are likely not directly comparable to years when phone surveys were used.

Hunters were asked how many days they hunted waterfowl by county. The total number of days hunted was estimated separately for the high and low-activity groups, and summed. This number was then distributed by county in proportion to total reported hunting days, with all

respondents pooled (i.e. hunting days were not distributed separately for the high-activity and low-activity groups).

The Keweenaw Bay Indian Community issues a general, life-long hunting/fishing/trapping permit to their tribal members who participate in any of these activities, including migratory bird hunting. As a result, the waterfowl hunting activity rate among permit holders is very low: a mail survey sent to 350 of the 636 KB permit holders after the 2007 waterfowl season yielded only 4 active waterfowl hunters among 82 responses (David, 2008), and this number may be biased high by a positive response rate among active waterfowl hunters. As a result, KB tribal members were not surveyed in 2019 and no estimate of their 2019 harvest is included in this report.

Identification of the species harvested in 2019, as in previous years, is based on the hunters' skills and recollection, and may not be comparable to estimates from surveys based on parts collections. In this report, the composition of the duck bag is only broken down for a few common species (mallards, wood ducks, scaup, and blue-winged teal); all others are grouped.

Finally, the harvest of sandhill cranes and swans (all species) was not estimated, but compiled from the registration records required for these two species.

RESULTS

Effort and Harvest

Although the GLIFWC-issued tribal migratory bird harvesting permits were obtained by 1,501 individuals in 2019, the proportion of permit holders who hunt waterfowl is low. In 2019, 159 (10.6%) of the permit holders were estimated to have hunted waterfowl (Table 2), compared to the 197 estimated for 2018 (David, 2019).

The 15 active survey respondents in the “high-activity” group reported harvesting 155 ducks, 63 geese and 1 coot, in 103 days, yielding total harvest estimates of 919 ducks, 374 geese and 6 coots in 611 days for this group. The 5 active respondents in the “low-activity” group reported harvesting 34 ducks, 11 geese and 0 coots in 28 days, yielding total harvest estimates of 476 ducks, 154 geese and 0 coots in 392 days for this group. Summing these totals yields a total estimated harvest of 1,395 ducks, 528 geese (all but 21 of which were Canada geese) and 6 coots in 1,003 hunting-days by 159 hunters (Tables 3 and 4).

Table 2. Summary of the 2019 tribal off-reservation waterfowl harvest survey sampling.

Activity Group	Permits Issued	Surveyed Number	Surveyed %	Returned Number	Returned %	Number Active	% Active	Estimated Total Number Active
High-Activity ¹	268	268	100	45	16.8	15 ²	33.3	89
Low-Activity ¹	1,233	617	50	88	14.3	5	5.7	70
Total	1,501	885	59	133	15.0	20	10.6	159

¹Activity grouping is based on self-reported activity the previous year; see discussion in text.

²Two individuals who indicated they were active only for woodcock are not included here.

Unlike most past years when mail surveys were used, the response rate for the High-Activity and Low-Activity groups was fairly similar in 2019, reducing some of the concerns about

response bias in this year’s survey. However, it remains likely that individuals who hunted this year may have been more likely to return the survey than those who did not, potentially inflating harvest estimates.

Table 3. Estimated 2019 tribal off-reservation waterfowl harvest.

Activity Group	# of Active Respondents	Reported Harvest				Estimated Hunters	Estimated Harvest			
		Ducks	Geese	Coot	Days		Ducks	Geese	Coot	Days
High-Activity ¹	15	155	63	1	103	89	919	374	6	611
Low-Activity ¹	5	34	11	0	28	70	476	154	0	392
Total	20	189	74	1	131	159	1,395	528	6	1,003

¹ Activity grouping is based on self-reported activity the previous year; see discussion in text.

Table 4. Estimated treaty waterfowl harvest and effort in years surveyed from 1996-2019.

Year of Harvest	Estimated # of Hunters	Estimated # of Days	Estimated Harvest			Ducks Per Day
			Ducks	Geese	Coot	
2019 ¹	159	1,003	1,395	528	6	1.4
2018 ¹	197	1,421	1,980	495	5	1.4
2015 ¹	297	2,190	2,727	639	145	1.2
2012 ¹	86	1,090	1,799	822	36	1.7
2011 ¹	89	394	759	28	0	1.9
2008 ¹	76	504	1,124	213	137	2.2
2007	146	780	1,644	535	892	2.1
2004 ¹	63	421	645	84	91	1.5
2001	75	353	1,014	81	146	2.9
1998	92	625	599	177	172	1.0
1997	151	951	1,022	183	164	1.1
1996	125	572	1,278	72	57	2.2
1996-2018 Average	127	846	1,326	303	168	1.6

¹2004, 2008, 2011, 2012, 2015, 2018 and 2019 estimates do not include the Keweenaw Bay Tribe.

All sandhill cranes and swans harvested had to be registered, so they were not included in the harvest survey. A total of twenty sandhill cranes were harvested in Wisconsin, 18 from Burnett County and one each from Polk and Forest. Four sandhills were harvested in Michigan, all from Chippewa County. Nine swans, all trumpeters, were registered in 2019, all from Wisconsin: 8 from Burnett County and 1 from Polk.

About 81% of the estimated hunting days took place in Wisconsin, with the remainder occurring in Michigan (Figure 2). As in past years, most hunting took place in or near counties with reservations.

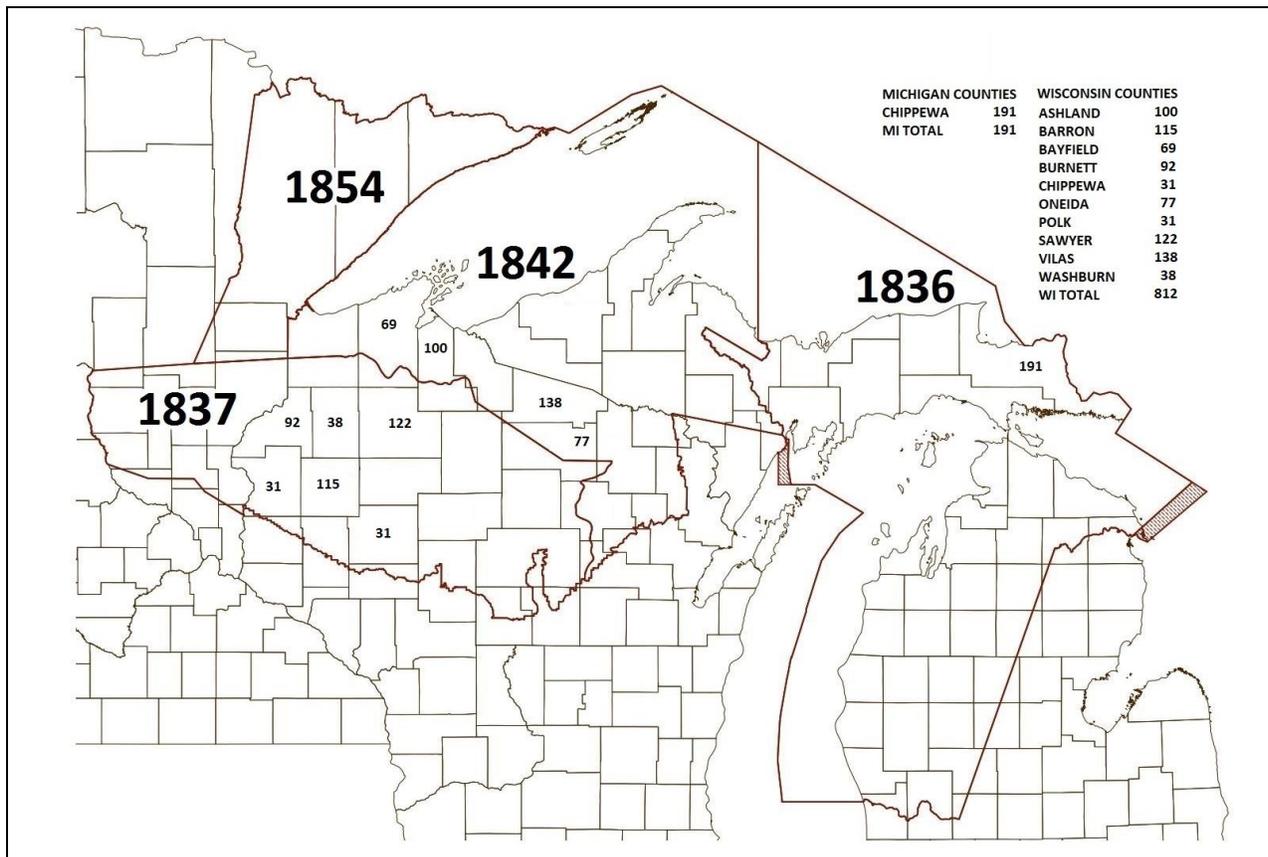


Figure 2. Estimated waterfowl hunting days by county in 2019. (Total estimated hunting days distributed in proportion to reported hunting days.)

Among the 133 survey respondents, 9 reported hunting woodcock, with a collective harvest of 19. No respondent reported harvesting doves, snipe, or rails.

As in the previous 6 harvest surveys, hunters were asked to report the largest number of ducks and geese they harvested on a single day of hunting. For 2019, the greatest number of ducks reported harvested in a single day was 11 (reported by 2 individuals), while the average harvest was 1.4 ducks per day. The highest number of geese reported taken on a single outing was 5 (by 3 individuals), and the average harvest was 0.53 geese per hunting-day. These responses are similar to what was reported in previous years (Table 5). It is clear that hunter harvest is generally determined by factors other than the bag limit. Although total duck harvest remained low in 2019 even with a 30 - 50 bird bag limit, the large bag limit is important to tribal hunters because it may allow those individuals who do locate ducks on a particular hunting trip a greater opportunity to meet their subsistence needs.

Survey respondents were asked to report the composition of their duck harvest. The reported composition in 2019 differed in some respects from the collective composition from the 16 previous surveys (Figure 3). While the percentage of mallards, wood ducks and blue-winged teal in the bag were fairly similar to the long-term average, scaup were well below the long-term

average, while the percentage of “other” species (including mergansers) in 2019 were above the long-term average (Figure 4). Ring-necked ducks, buffleheads and green-winged teal made up 76% of the “other” category in 2019.

Table 5. Highest single day duck and goose harvest as reported by active respondents in 2007, 2008, 2011, 2012, 2015, 2018 and 2019.

Year	Number of active hunters reporting:							
	Number of Ducks Taken on Best Day				Number of Geese Taken on Best Day			
	0-3	4-6	7-10	10+	0-3	4-6	7-10	10+
2019	7	7	4	2	15	5	0	0
2018	12	4	4	0	17	2	1	0
2015	26	8	5	0	36	3	0	0
2012	18	6	1	0	23	1	1	0
2011	16	2	2	2	22	0	0	0
2008	18	6	3	3	27	2	1	0
2007	17	9	1	1	25	2	1	0
Total	114	42	20	8	165	15	4	0
Percent	62.0%	22.8%	10.9%	4.3%	89.7%	8.1%	2.2%	0.0%

Over time, the percentage of scaup in the duck harvest has been declining, while the percentage of blue-winged teal and “other” ducks has been slowly trending upwards (Figure 4). Wood ducks and mallards have shown great variability, but no clear long-term trend.

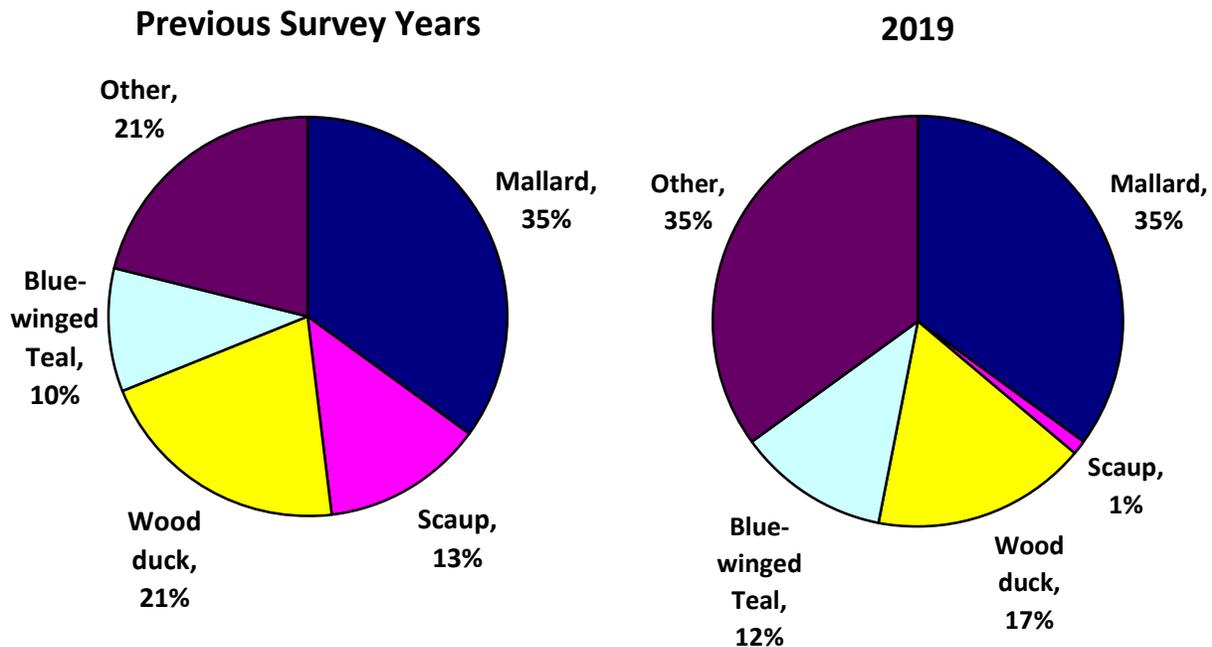


Figure 3. Species composition of the treaty duck harvest in 2019 versus the collective estimated harvest from the 16 previous survey years (1991-1998, 2001, 2004, 2007, 2008, 2011, 2012, 2015 and 2018 combined).

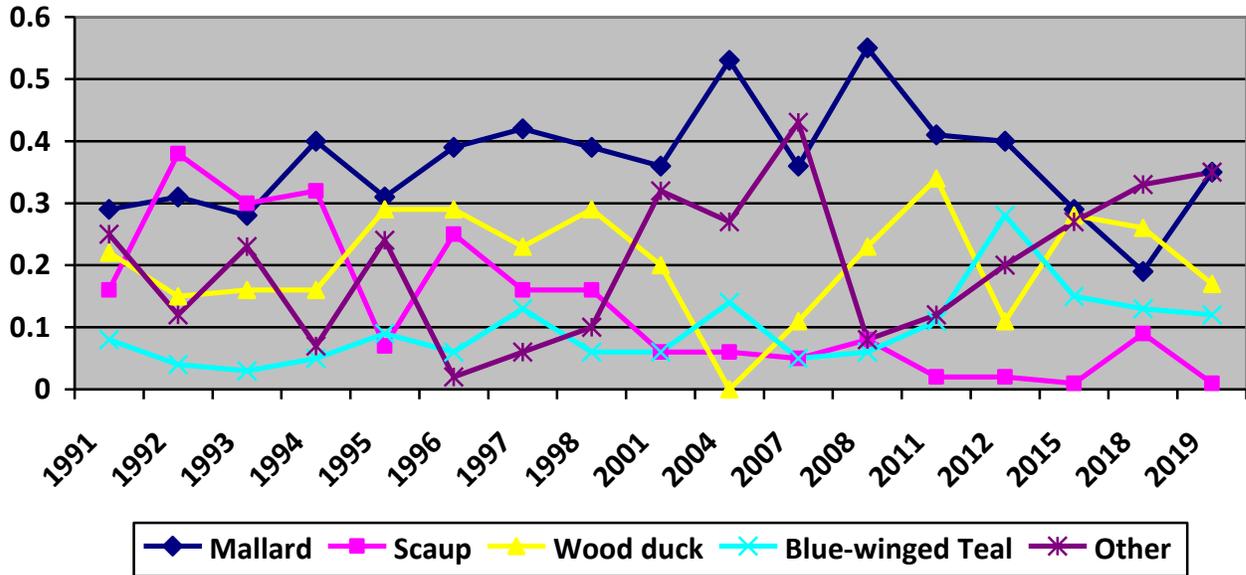


Figure 4. Duck harvest species composition by survey year.

Respondent Opinions

Collectively, among individuals who hunted or did not, but had an opinion on the fall flight (n=61), 0% felt the 2019 fall flight was much better than in an average year, 5% felt it was better, 66% felt it was about the same, 22% thought it was worse, and 8% thought it was much worse. A fall migration survey GLIFWC conducts annually on Lake Superior’s Chequamegon Bay recorded a relatively weak migration in 2019, with the total number of dabblers and divers observed being the 3rd and 4th lowest respectively in the 35 years the survey has been conducted. In addition, the regional manoomin (wild rice) crop was below average (GLIFWC unpublished data) and many ceded territory areas recorded an early freeze-up. Thus the relatively low 2019 harvest estimate may be largely due to a weak regional flight and limited hunting opportunity. Active hunters made about one less trip per season in 2019 versus 2018 (Table 4), and some hunters may have opted to forgo the season entirely.

Permit holders were asked how likely they would be to use electronic calls if they became permanently legal. Individuals who hunted waterfowl in 2019 (n=20) tended to have greater interest in using e-calls than those who did not (n=113). Among individuals who hunted in 2019, 45% indicated would be very likely to use calls, 15% moderately likely, 35% not very likely, and 5% not sure. Among the individuals who did not hunt waterfowl in 2019, 8% responded they would be very likely, 18% moderately likely, 34% not very likely, and 42% not sure.

It is not surprising that the most active waterfowl hunters would be the ones most interested in utilizing this technique. However, the results suggest that some hunters may not be willing to invest in the necessary equipment until they know the technique will be permanently legal, as there has been minimal utilization of this technique under the first two experimental seasons (see below).

Permit holders were also asked how likely they might be to use hand-harvesting techniques if this option became permanently legal to use. Overall, there was somewhat less interest in these

techniques at this time, but interestingly, interest was slightly higher, and uncertainty greater, among those who did not hunt waterfowl in 2019 than those who did. Among the 20 who hunted, 10% indicated they would very likely do this, 5% moderately likely, 65% not very likely, and 20% not sure. Among the 113 who did not hunt, 9% were very likely, 10% moderately likely, 34% not very likely, and 48% unsure. It is unknown why individuals selected the option they did, but it is possible that some non-avid waterfowl hunters view hand-harvesting techniques as a relatively inexpensive way to again gather a traditional subsistence resource.

Permit holders were asked what changes from existing regulations they thought would most likely increase their harvest of migratory birds. Only 11 suggestions were offered, and no concept was advanced by more than 4 individuals. Four individuals suggested making it legal to hunt private land; 2 each supported urban goose hunting opportunities and improved habitat restoration; and 1 individual each suggested providing maps of hunting locations, providing hand harvesting training, and permanently legalizing e-calls and hand harvesting.

E-calls and Hand Harvesting Techniques

In 2019, e-call and hand harvesting techniques were legal for the second year under special experimental conditions. Both activities required the hunter to obtain a special permit. The number of e-call permits to be issued was limited to 50; there was no limit placed on the number of hand harvesting permits issued. Hunters were directed to submit a special hunt diary each time either method was used; paper copies of the diary were available at registration stations, but hunters were encouraged to use an on-line form developed using the KoBoToolbox application. Individuals who never used the special technique after getting a permit were instructed to submit one diary at the end of the year indicating the method had not been utilized. However, it is apparent that several problems exist in initiating and evaluating these special seasons.

Only 3 e-call permits were issued in 2019, all to members of a single tribe. No e-call diaries were received from these individuals, nor did they return mailed harvest surveys.

Hand harvesting permits were issued to 61 individuals in 2019, (including the 3 who also obtained e-call permits) compared to 165 in 2018. This is likely due to additional direction provided to license clerks, some of which appeared to issue this permit to everyone who obtained a general migratory bird harvesting permit in 2018, even when it was not requested. This additional direction appeared to be heeded by all but one license outlet; this single outlet issued 33 of the 61 hand-harvesting permits given out in 2019.

No hunt diaries were submitted by hand-harvest permit holders, but 10 of these 61 individuals returned harvest surveys mailed to them. Out of these 10, 9 did not hunt waterfowl at all. The remaining individual reported hunting waterfowl one day, but did not use this technique.

The lack of submitted hunt diaries is clearly unfortunate, but it seems due largely to very limited - at best - utilization of the experimental techniques. GLIFWC had hoped to increase compliance by requiring submittal of at least one diary per year in order for the individual to be eligible for a permit in the subsequent year. However, our licensing vendor has been unable to incorporate this restriction into the functioning of our licensing package. Nevertheless, it is clear that utilization of these methods in 2019 was, at most, minimal, and did not result in a biologically detrimental level of harvest.

LITERATURE CITED

David, P. 2019. Summary of the 2018 Off-Reservation Treaty Waterfowl Season. Great Lakes Indian Fish and Wildlife Commission Administrative Report 19-10. 11 pp.

David, P. 2013. Summary of the 2012 Off-Reservation Treaty Waterfowl Season. Great Lakes Indian Fish and Wildlife Commission Administrative Report 13-07. 8 pp.

David, P. 2010. Summary of the 2008 Off-Reservation Treaty Waterfowl Season. Great Lakes Indian Fish and Wildlife Commission Administrative Report 10-05. 7 pp.

David, P. 2008. Summary of the 2007 Off-Reservation Treaty Waterfowl Season. Great Lakes Indian Fish and Wildlife Commission Administrative Report 08-09. 7 pp.