Summary of the 2020 Off-Reservation Treaty Waterfowl Season

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SUMMARY OF THE 2020 OFF-RESERVATION TREATY MIGRATORY BIRD SEASON

INTRODUCTION

The fall of 2020 marked the 36th 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, 2020 marked the 30th 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 third 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, 2018 and 2019 were again based on mail surveys, due to increasing difficulties associated with conducting phone surveys (see Methods section below). The 2020 survey was conducted by mail, similarly to the 2015, 2018 and 2019 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, by phone, or on-line while swans were required to be registered in-person to allow identification of the species. 2020 was just the third year that cranes could be hunted in the 1836 ceded territory. The only change in regulations from 2019 was that the threshold level of trumpeter swan harvest which would trigger emergency closure of the swan season was increased from 10 to 20.

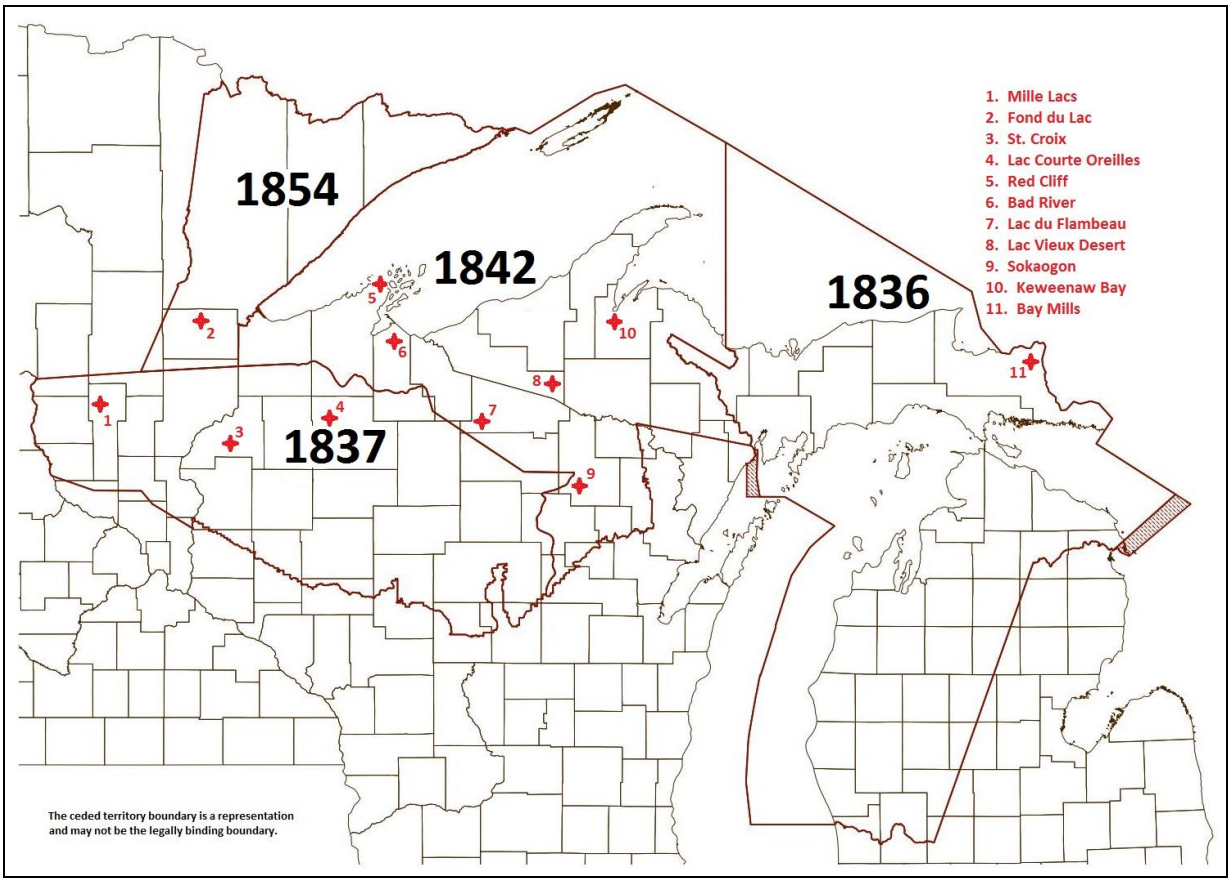

Figure 1. Map of the territories ceded in the treaties of 1836, 1837, 1842 and 1854 with approximate reservation locations.

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 third 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 2020 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 ajiijaak	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 1 - 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 20 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 1,525 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 247 individuals in the high-activity group; among the low-activity group (1,278 individuals) surveys were mailed to each hunter who obtained a special hand harvesting permit (n=95), and to a randomly selected sample of 50% of the remaining individuals (n=521), for a total mailing of 934 of all permit holders. (No hunters requested e-call permits in 2020.)

Separate participation and harvest estimates were then calculated for the high-activity and low-activity groups, and added to develop total harvest estimates.

This is the fourth 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, 2018 and 2019, a mail survey was used, but as a result, harvest estimates for 2015, 2018, 2019 and 2020 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 2020 and no estimate of their 2020 harvest is included in this report.

Identification of the species harvested in 2020, 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 1,525 individuals in 2020, the proportion of permit holders who hunt waterfowl is low. In 2020, 237 (15.5%) of the permit holders were estimated to have hunted waterfowl (Table 2), compared to the 159 estimated for 2019 and the 197 estimated for 2018 (David, 2020). The modest increase in the number active in 2020 seems consistent with the uptick in many outdoor activities observed during the Covid-19 pandemic.

The 11 active survey respondents in the "high-activity" group reported harvesting 271 ducks, 88 geese and 25 coot, in 85 days, yielding total harvest estimates of 1,873 ducks, 608 geese and 173 coots in 587 days for this group. The 12 active respondents in the "low-activity" group reported harvesting 127 ducks, 30 geese and 12 coots in 75 days, yielding total harvest estimates of 1704 ducks, 403 geese and 161 coots in 1007 days for this group. Summing these totals yields a total estimated harvest of 3,577 ducks, 1011 geese (all Canada geese) and 334 coots in 1,594 hunting-days by 237 hunters (Tables 3 and 4).

Table 2. Summary of the 2020 tribal off-reservation waterfowl harvest survey sampling.

Activity Group	Permits Issued	Surveyed		Returned		Number Active	% Active	Estimated Total Number Active
		Number	%	Number	%			
High-Activity[1]	247	247	100	36	14.6	11	30.6	76
Low-Activity[1]	1,278	687	54	95	13.8	12	12.6	161
Total	1,525	934	61	131	14.0	23	17.6	237

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

Unlike most past years when mail surveys were used, the response rate for the High-Activity and Low-Activity groups was fairly similar in 2020, reducing 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.

The high estimated harvest seems to reflect both higher than average participation, and above average success. The former may have been induced by Covid-19, but the latter is surprising, given that the average hunter may have had less experience than usual.

Table 3. Estimated 2020 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]	11	271	88	25	85	76	1,873	608	173	587
Low-Activity[1]	12	127	30	12	75	161	1,704	403	161	1,007
Total	23	398	118	37	160	237	3,577	1,011	334	1,594

[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 1996-2020.

Year of Harvest	Estimated # of Hunters	Estimated # of Days	Estimated Harvest			Ducks Per Day
			Ducks	Geese	Coot	
2020[1]	237	1,594	3,577	1,011	334	2.2
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
1996-2019 Average	130	859	1,332	321	154	1.6

[1] Year 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 35 sandhill cranes were harvested in Wisconsin, 32 from Burnett County, two from Saywer, and one Bayfield. A single sandhill was harvested in Michigan, from Chippewa County. No swans of any species were reported harvested in 2020. A total of 24 cranes and 9 Trumpeter Swans were harvested in 2019.

About 92% of the reported hunting days took place in Wisconsin, and 6% in Michigan (Figure 2). A single active respondent who did not report county of resided in Wisconsin but was a Mille Band member, and likely hunted in Wisconsin or Minnesota. As in past years, most hunting took place in or near counties with reservations.

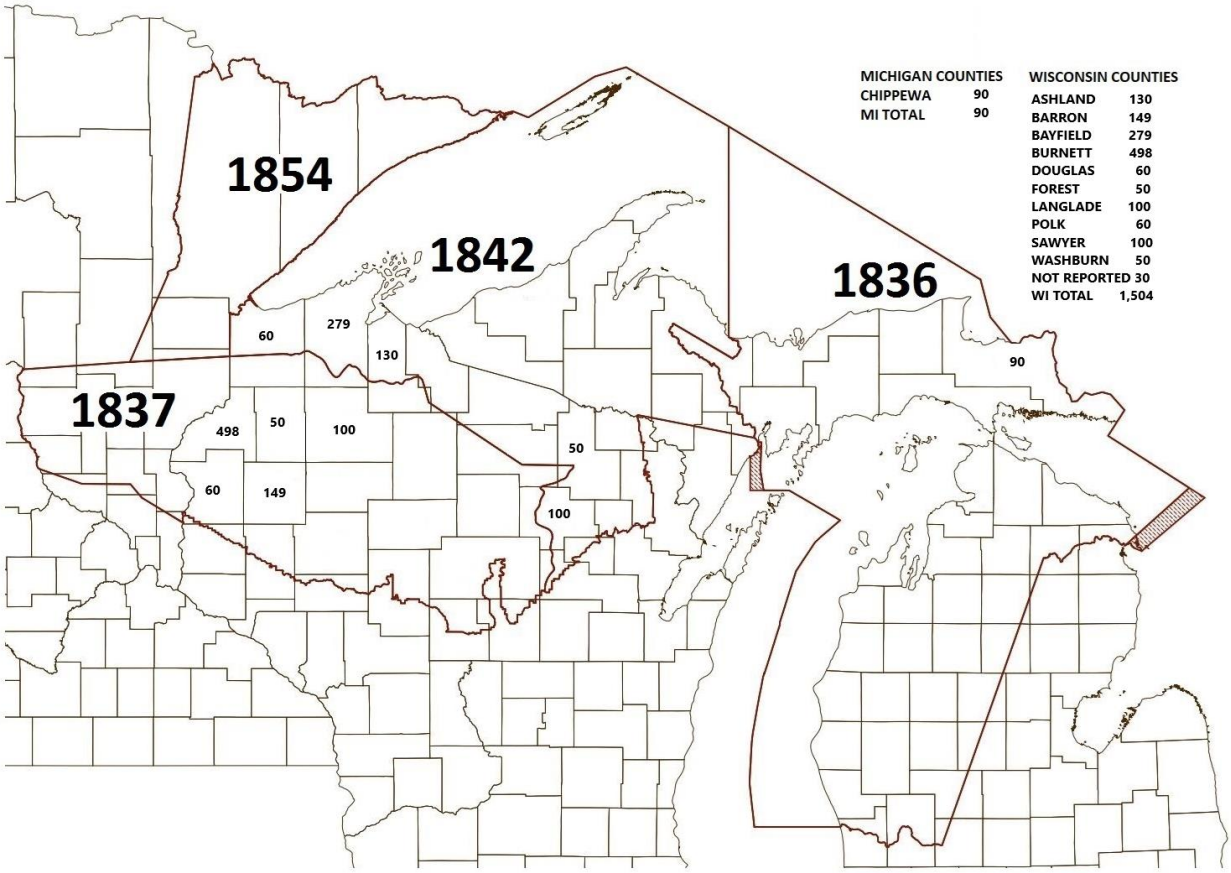

Figure 2. Estimated waterfowl hunting days by county in 2020. (Total estimated hunting days distributed in proportion to reported hunting days.)

Among the 131 survey respondents, 2 reported hunting woodcock, with a collective harvest of 6. No respondent reported harvesting doves, snipe, or rails. (Dove hunting was not allowed for Bay Mills Band members.)

As in the previous 7 harvest surveys, hunters were asked to report the largest number of ducks and geese they harvested on a single day of hunting. For 2020, the greatest number of ducks reported harvested in a single day was 24 (reported by 2 individuals), while the average harvest was 2.2 ducks per day. The highest number of geese reported taken on a single outing was 10 (by 1 individual), and the average harvest was 0.63 geese per hunting-day. The high percentage of individuals (30.4%) who harvested 10 or more ducks on their best day was very unusual, and about

4 times the long-term average (Table 5). While it is clear that harvest is generally determined by factors other than the bag limit, the 30-50 bird bag limits that were in place did allow some hunters a greater opportunity to meet their subsistence needs in 2020.

Table 5. Highest single day duck and goose harvest as reported by active respondents in 2007, 2008, 2011, 2012, 2015, 2018, 2019 and 2020.

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+
2020	12	2	2	7	18	3	2	0
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	126	44	22	15	183	18	6	0
Percent	60.9%	21.3%	10.6%	7.2%	88.4%	8.7%	2.9%	0.0%

Survey respondents were asked to report the composition of their duck harvest. The reported composition in 2020 generally differed from the collective composition from the 17 previous surveys (Figure 3). All 4 of the species which have traditionally made up relatively large components of the harvest (Mallard, scaup, wood ducks and blue-winged teal) were below their long-term averages, while “other” species collectively were well above 48% versus 22%). In 2020, much of the “other” harvest was made up of ring-necked ducks (15% of total harvest), buffleheads (10%) and green-winged teal (8%). No other specie made up more than 4% of the total harvest.

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

Respondent Opinions

Collectively, among individuals who hunted and had an opinion on the fall flight (n=20), 0% felt the 2020 fall flight was much better than in an average year, 35% felt it was better, 40% felt it was about the same, 20% thought it was worse, and 5% thought it was much worse. Given the relatively high harvest levels, it is perhaps surprising that the fall flight was not viewed more positively.

Surveyed individuals were asked how likely they would be to use electronic calls if they became permanently legal. Individuals who hunted waterfowl in 2020 (n=23) tended to have greater interest in using e-calls than those who did not (n=108). Among individuals who hunted in 2020, 22% indicated would be very likely to use calls, 35% moderately likely, 30% not very likely, and 13% not sure. Among the individuals who did not hunt waterfowl in 2020, 11% responded they would be very likely, 19% moderately likely, 35% not very likely, and 34% not sure.

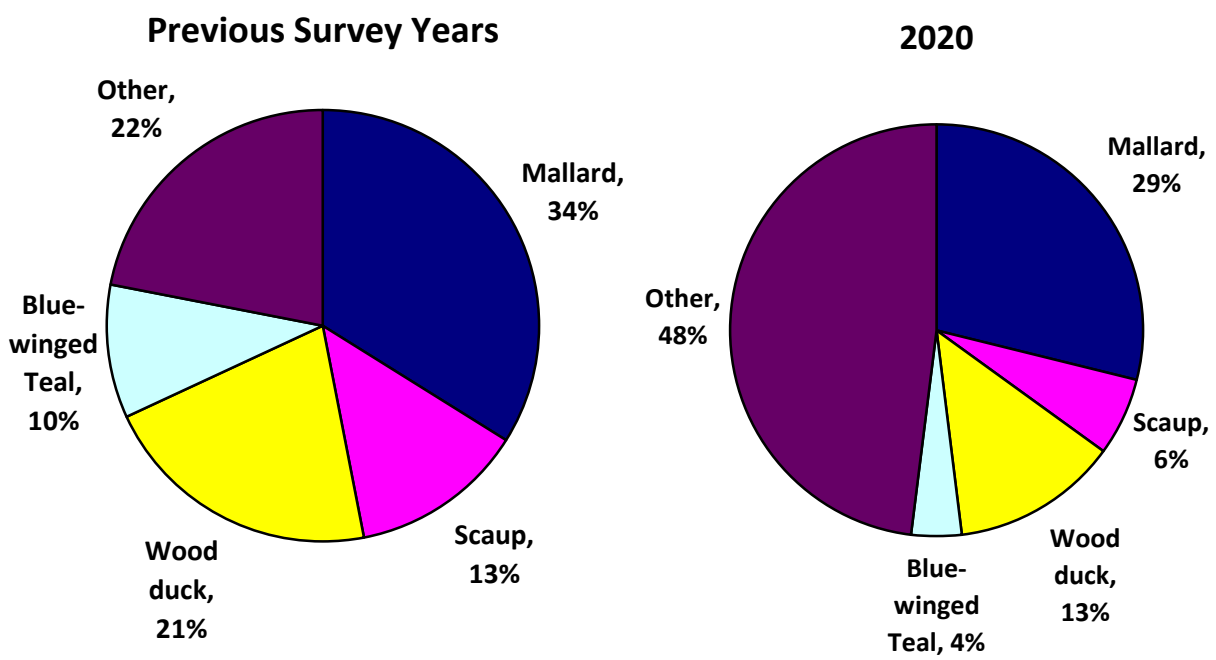

Figure 3. Species composition of the treaty duck harvest in 2020 versus the collective estimated harvest from the 17 previous survey years (1991-1998, 2001, 2004, 2007, 2008, 2011, 2012, 2015, 2018 and 2019 combined).

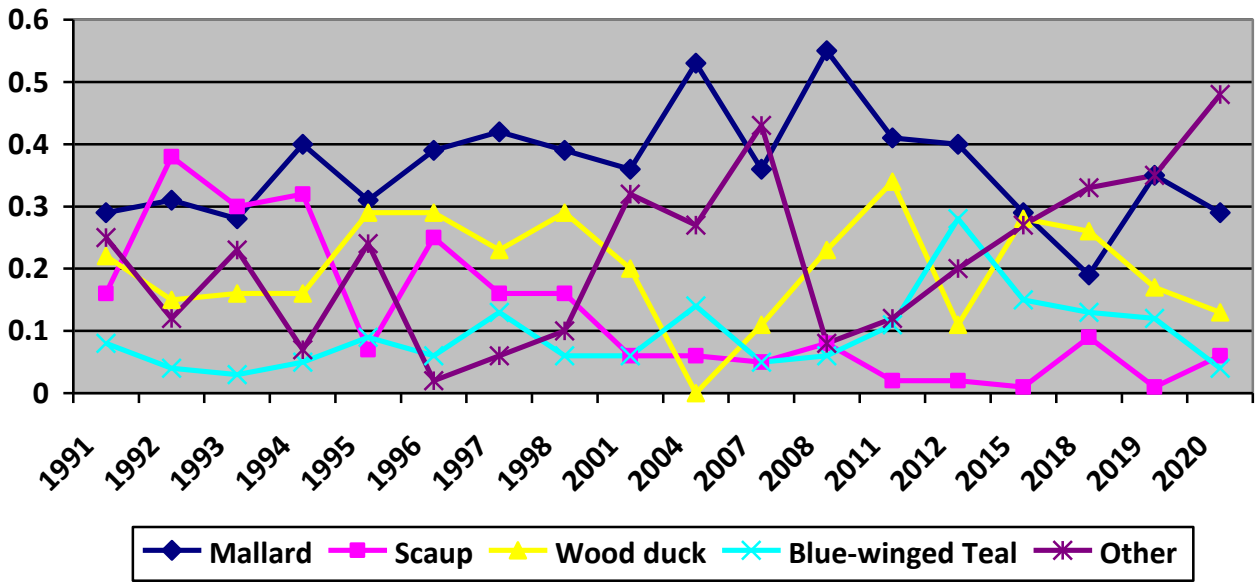

Figure 4. Duck harvest species composition by survey year.

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 three 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 less interest in these techniques at

this time. Among the 23 who hunted, 9% indicated they would very likely do this, 9% moderately likely, 57% not very likely, and 26% not sure. Among the 108 who did not hunt, 8% were very likely, 9% moderately likely, 45% not very likely, and 37% unsure.

Permit holders were asked what changes from existing regulations they thought would most likely increase their harvest of migratory birds. Only 6 suggestions were offered, and no concept was advanced by more than 1 individual. Suggestions made included making it legal to hunt private land with permission; legalizing e-calls, having tribal-only hunting areas, allowing night hunting, allowing the use of lead in field hunting, and delaying the opening for state and tribal hunters.

E-calls and Hand Harvesting Techniques

2020 Results

In 2020, e-call and hand harvesting techniques were legal for the third 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, particularly under covid health protocols. 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.

No e-call permits were issued in 2020, compared to 3 in 2019, and 15 in 2018.

Hand harvesting permits were issued to 132 individuals in 2020, compared to 61 individuals in 2019 and 165 in 2018. No hunt diaries were submitted by hand-harvest permit holders, but 10 of these 132 individuals returned harvest surveys mailed to them. Out of these 10, 9 did not hunt waterfowl at all. The remaining individual reported hunting waterfowl only one day, and did not use this technique.

Three-Year Summary

Evaluation of the level of use of the two techniques was hampered to an extent by limitations in our licensing program. Our commercial vendor was not able to incorporate measures to prevent an individual who failed to submit a hunt diary from one year from obtaining a permit for that activity the next year. Nevertheless, it is clear that utilization of both techniques was very low.

Only 18 e-call permits were issued over the 3 years, with 15 of those being in the first year, when we believe one licensing station was actively encouraging people to get them. Only 3 e-call hunt diaries were submitted; two of those individuals did not use the technique, while one diary indicated that an e-call had been used on a single trip, with 3 individuals hunting together; they reported a total harvest of 2 mallards and 4 wood ducks. The respondent indicated he felt the call made little difference, but planned on trying it again. He also reported there was another hunting party a few hundred yards away, but they could not determine if the calls impacted the other party's hunting experience.

While modest numbers of individuals obtained the unlimited hand-harvesting permits, (358 over the 3 years) it appears that this figure reflected more the practices of certain license stations than interest in the technique, with just 2 of the participatory tribes' registration stations accounting for over 75% of the hand-harvesting permits issued. These stations appeared to frequently automatically issue permits for all harvesting activities available, without asking if the individual desired them.

As result, only one hand hunt diary was submitted, from a group of 3 hunters who attempted to use the technique on one outing without success. Of 25 other hand-harvest permit holders who responded to post-season harvest surveys, only two reported hunting migratory birds at all, and neither utilized the technique. (It was not unusual for post-season harvest survey respondents to indicate they were not in the practice of hunting migratory birds.)

Despite the very low participation in the e-call study, there was more interest in this technique than in hand harvesting (Table 6). Pooling responses from all 3 years, 60% of active hunters (n=64) indicated they were very or moderately likely to use e-calls if they became permanently legal, compared to 24% for hand harvesting techniques. Among non-active survey respondents, 29% indicated they were very or moderately likely to use e-calls if they became permanently legal, compared to 19% for hand harvesting techniques. Most respondents from both groups indicated they were not very likely, or were unsure, about using hand harvest techniques.

Table 6. Interest in using e-calls and hand harvesting techniques expressed by respondents to annual migratory bird harvest surveys, 2018-2020 harvest years combined

	Active Individuals		Inactive Individuals	
	# Respondents	%	# Respondents	%
E-Calls				
Very likely	21	33%	39	13%
Moderately likely	17	27%	48	16%
Not very likely	20	31%	113	37%
Not sure	6	9%	106	35%
Total	64	100%	306	100%
Hand Harvesting				
Very likely	8	13%	30	10%
Moderately likely	7	11%	28	9%
Not very likely	36	56%	128	42%
Not sure	13	20%	118	39%
Total	100	100%	304	100%

Not surprisingly, no detectable impact on harvest levels was apparent as a result of the limited application of these techniques. It is possible that hunters were not willing to invest in either electronic calls or hand harvesting nets without knowing if they would be able to use them when the experimental period ended, but even had use been relatively common among the small community of tribal waterfowl hunters, there is no reason to believe that detrimental impacts to migratory bird populations would occur.

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