



# Summary of the 2015 Off-Reservation Treaty Waterfowl Season

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## SUMMARY OF THE 2015 OFF-RESERVATION TREATY WATERFOWL SEASON

### INTRODUCTION

The fall of 2015 marked the 31<sup>st</sup> year of off-reservation treaty waterfowl 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, 2015 marked the 25<sup>th</sup> year of off-reservation treaty waterfowl hunting in the 1836 treaty area by the Bay Mills Indian Community in Michigan.

Hunting regulations proposed 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. Final regulations approved by the USFWS are summarized below.

Annual surveys to estimate the number of hunters, harvest, and effort by tribal waterfowl hunters were conducted via 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 began 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.

This report summarizes a survey conducted after the 2015 season. However, due to increasing difficulties associated with conducting phone surveys (see Methods section below) the 2015 survey was conducted by mail. As a result, harvest estimates may not be comparable to years phone surveys were used, since mail surveys induce a response bias not present in phone surveys.

### REGULATIONS

Season dates for zhiishiibag (ducks), aajigadeg (coot), manoominikeshiinh (rails), mergansers, gallinules, and ginwaa'okojiis (central/western dialect) or jiichiishkwenh (eastern dialect)(snipe) ran from September 1 - December 31 on all ceded lands. The nikag (goose) season opened September 1 for all species, and closed December 31, but also continued later for geese in any area that was open to state-licensed hunters after December 31. Badashka'anzhi (woodcock) hunting was open from September 8 - December 31. Three other species could be hunted only in the 1837 and 1842 ceded territories (Figure 1): a mourning dove [omiimii (central/western dialect) or miimii (eastern dialect)] season ran from September 1 - November 29; a gopii ajiijaak (central/western dialect) or jijaag (eastern dialect)(sandhill crane) season as ran concurrently with the duck season; and a waabizii (tundra and trumpeter swan) season ran from November 1 until December 31, or until 10 trumpeter swans were registered, which ever came first.

The daily bag limit for zhiishiibag (ducks) was 50 in the 1837 and 1842 ceded territories, and 30 in the 1836 ceded territory. There were no additional limits on individual duck species. The daily bag limit for nikag (geese), all species combined, was 20 in all 3 treaty ceded areas. Other bag limits in all ceded territories were: mergansers 10 (in the aggregate), coots and gallinules 20

(in the aggregate), rails 20 (in the aggregate), snipe 16, and woodcock 10. The bag limit (where allowed) for mourning doves was 15, cranes 2, and swans 2. Possession limits only applied to rails and swans, at 25 and 2 respectively. All cranes and swans harvested were required to be registered; cranes could be registered by phone; swans were required to be registered in-person.

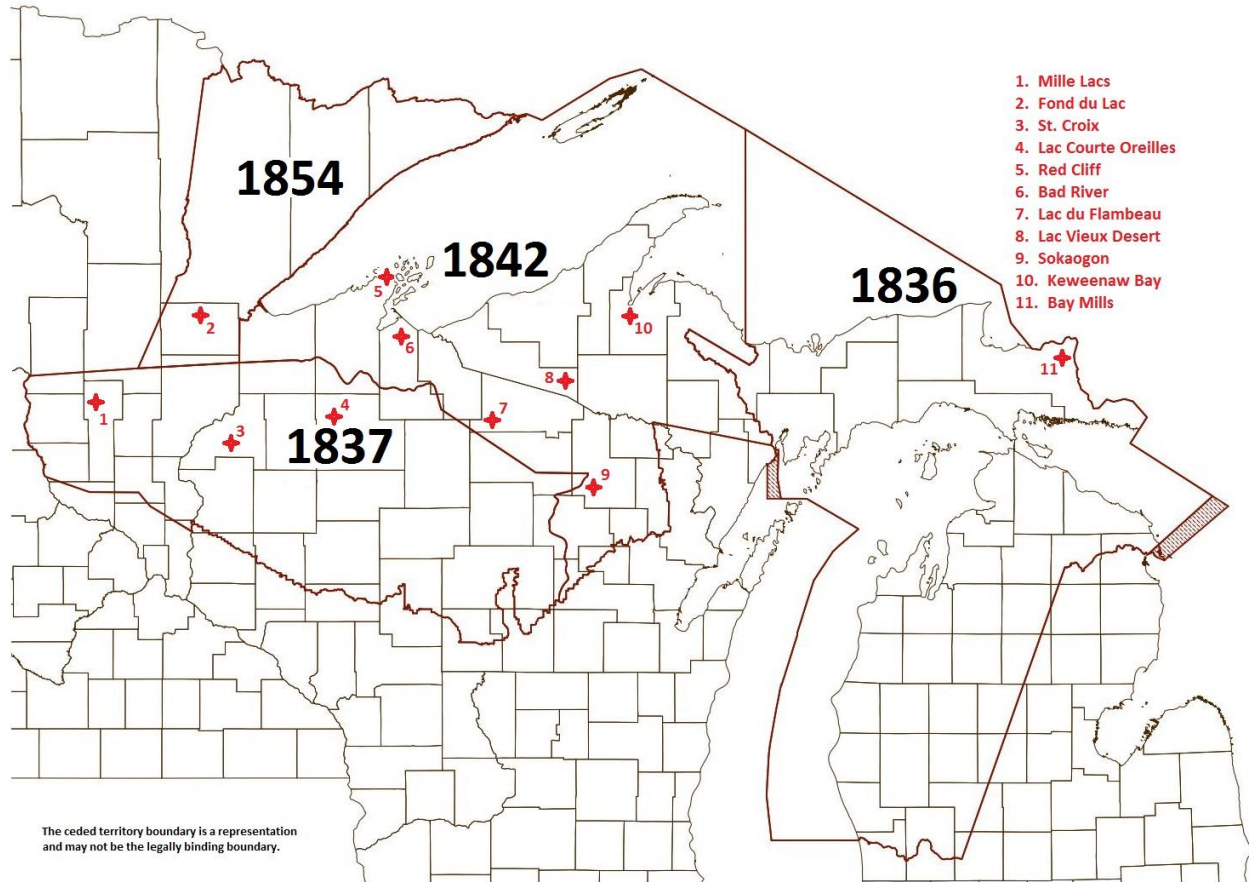


Figure 1. Map of the territories ceded in the treaties of 1836, 1837, 1842 and 1854 with reservation locations.

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.

## METHODS

Tribal waterfowl 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 1,736 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 370 of the 384 individuals in the high-activity group and to a randomly selected sample of 40% of the low-activity group (541 of 1,352 individuals). A small incentive to respond to the survey was provided: one survey respondent was randomly selected to receive 3 pounds of wild rice.

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

This is the first 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 10%) of tribal permit holders actively hunt waterfowl off-reservation in any given year, but these active hunters were 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 a mail survey was used, but as a result, harvest estimates for 2015 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 estimated number of days hunted was calculated in the same manner as harvest. However 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-inactive 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 2015 and no estimate of their 2015 harvest is included in this report (as was the case in 2012). In 2007, KB members accounted for 21.7% of the total harvest estimate of ducks, 56.6% of the estimated goose harvest, and none of the estimated coot harvest (David, 2008). However, because of the suspected positive response bias, these figures may over-represent the actual harvest levels by KB members that year.

Identification of the species harvested in 2015, 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.

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.

## **RESULTS**

Although the GLIFWC-issued tribal migratory bird harvesting permits were obtained by 1,736 individuals in 2015, the proportion of permit holders who hunt waterfowl is low. In 2015, 297 (17.1%) of the permit holders were estimated to have hunted waterfowl (Table 1).

The 33 active survey respondents in the “high-activity” group reported harvesting 447 ducks, 67 geese and 12 coots, in 248 days, yielding total harvest estimates of 2,384 ducks, 357 geese and 64 coots in 1,323 days for this group. The 6 active respondents in the “low-activity” group reported harvesting 17 ducks, 14 geese and 4 coots in 43 days, yielding total harvest estimates of 343 ducks, 282 geese and 81 coots in 867 days for this group. Summing these totals yields a total estimated harvest of 2,727 ducks, 639 geese (all but 16 of which were Canada geese) and 145 coots in 2,190 hunting-days by 297 hunters (Tables 2 and 3).

Activity Group	Total #	Surveyed		Returned		Number Active	Percent Active	Estimated Total Number Active
		#	%	#	%			
High-Activity*	384	370	96%	72	19.5%	33	45.8	176
Low-Activity*	1,352	541	40%	67	12.4%	6	9.0	121
Total	1,736	911	52%	139	15.3%	39	16.8	297

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

Activity Group	Respondent Reported Harvest				Total Estimated Harvest			
	Ducks	Geese	Coot	Days	Ducks	Geese	Coot	Days
High-Activity*	447	67	12	248	2,384	357	64	1,323
Low-Activity*	17	14	4	43	343	282	81	867
Total	464	81	16	291	2,727	639	145	2,190

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

The estimated numbers of active hunters and harvest assume there is no response bias in the survey. While it is not possible to measure the extent of any response bias which may exist in this survey, there are strong indications that active waterfowl hunters are more likely to return mail surveys than those who have not hunted. Where true activity rates are low, this bias can lead to an over-estimate of harvest.

One example of response bias is evident within the 2015 survey. Hunters in the “high-activity” group were 1.57x more likely to return surveys than individuals in the “low-activity” group (19.5% returned versus 12.4%, Table 1). In addition, the percentage of respondents estimated to have hunted in 2015 in the high-activity and low-activity groups (45.8% and 9% respectively) was far higher than the average estimates from the last two harvest surveys (2012 and 2008) conducted by phone (20.2% and 1.4% respectively)(David, 2013; 2010). If harvest estimates for 2015 are calculated using these latter figures to estimate activity rates (but using average harvest per hunter as reported for 2015) the 2015 harvest estimates decline to 1,111 ducks and 202 geese harvested in 722 days by 97 active hunters, while the number of ducks harvested per day increases to 1.5. These harvest estimates are quite similar to long-term averages (Table 3) and may be a better estimate of actual tribal harvest.

Year of Harvest	Estimated # of Hunters	Estimated # of Days	Estimated Harvest			Ducks Per Day
			Ducks	Geese	Coot	
2015*	297	2,190	2,727	639	145	1.2
2012*	86	1,090	1,799	822	36	1.7
2011*	89	394	759	28	0	1.9
2008*	76	504	1,124	213	137	2.2
2007	146	780	1,644	535	892	2.1
2004*	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
1996-2012 Ave.	100	632	1,098	244	188	1.7

\*2004, 2008, 2011, 2012 and 2015 estimates do not include the Keweenaw Bay Tribe.

^ The lower estimates in parenthesis reflect estimates made using the average activity rates from the past two surveys conducted using phone surveys; see text for further explanation.

For the sandhill crane season, phone-in registration was required for all cranes harvested. Three cranes were registered, all from Burnett County in Wisconsin. For the second consecutive year, no swans were registered.

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.

Among the 139 survey respondents, 12 reported hunting woodcock (35 harvested), 2 reported hunting doves (7 harvested), and 1 reported hunting snipe (1 harvested). No survey respondents reported hunting rails. Estimates of total harvest for these species were not made.

Among active hunters with an opinion (n=36): 0% felt the 2015 fall flight was much better than in an average year, 3% felt it was better, 56% felt it was about the same, 36% thought it was worse, and 5% thought it was much worse. Individuals who did not hunt, but still indicated an opinion (n=41) rated the flight somewhat better: 0% felt it was much better, 10% felt it was better, 71% felt it was about the same, 17% felt it was worse, and 2% felt it was much worse.

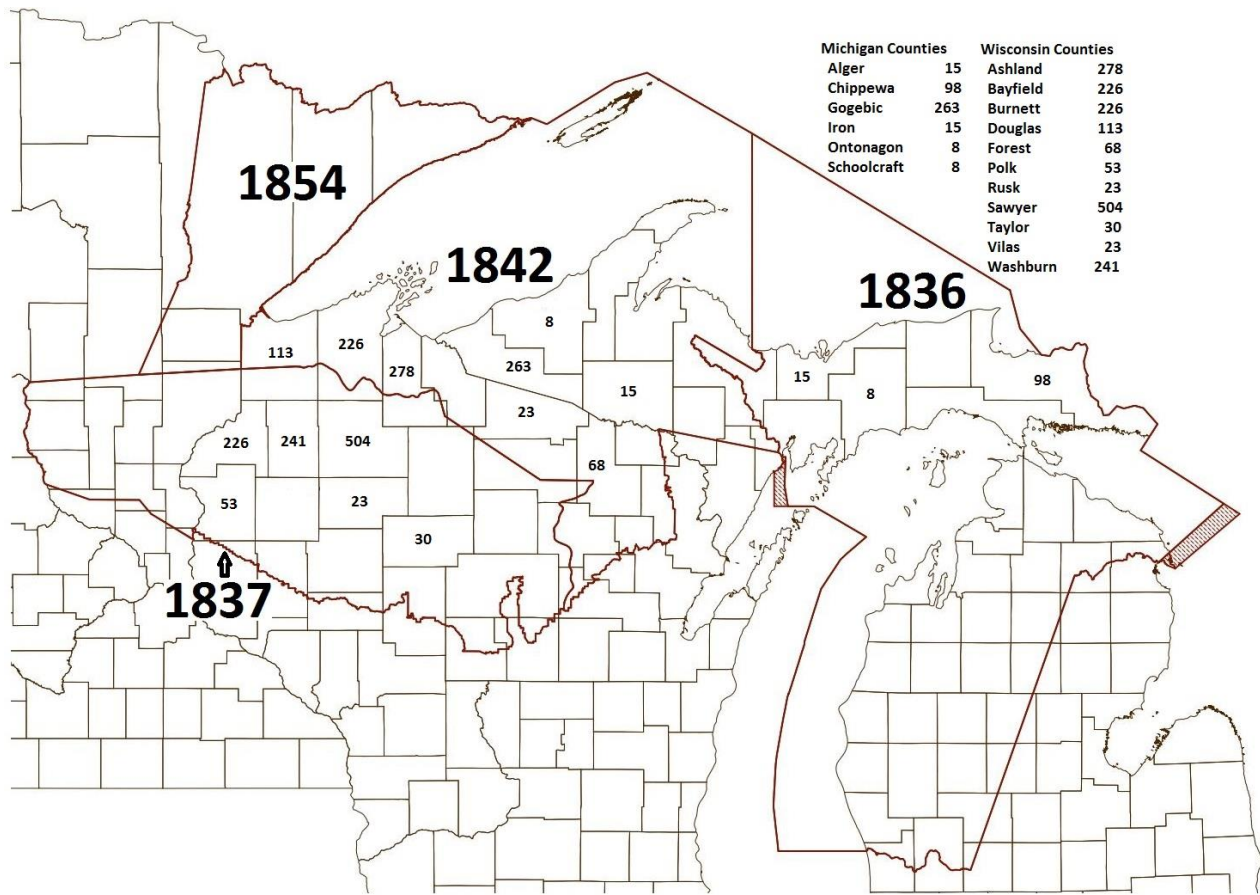


Figure 2. Estimated waterfowl hunting days by county in 2015.

Permit holders were asked how likely they would be to use electronic calls if they were legal. Of the 124 individuals who responded to the question, 15 (12%) indicated “very likely”, 19 (15%) indicated “moderately likely”, 63 (51%) indicated “not very likely” and 27 (22%) indicated they were not sure.

Permit holders were asked what changes from existing regulations they thought would most likely increase their harvest of migratory birds. Little consensus existed in responses. Among the 139 survey respondents, 3 individuals indicated earlier seasons; 2 each supported gaining access to private land or other areas, hunting at night, allowing electronic calls, and closing the season in poor production years. No other suggestions were made by more than one respondent.

As in 2007, 2008, 2011 and 2012, hunters were asked to report the largest number of ducks and geese they harvested on a single day of hunting. For 2015, the greatest number of ducks reported harvested in a single day was 10, while the average harvest was 1.2 ducks per hunting-day. The highest number of geese reported taken on a single outing was 6, and the average harvest was 0.3 geese per hunting-day. These responses are similar to what was reported in previous years (Table 4). It is clear that hunter harvest is generally determined by factors other than the bag limit. Although total duck harvest remained low in 2015 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.



Table 4. Highest single day duck and goose harvest as reported by active respondents in 2007, 2008, 2011, 2012 and 2015.

Most Birds Harvested in a Single Day	Number of active hunters reporting for:											
	Ducks						Geese					
	2015	2012	2011	2008	2007	Total	2015	2012	2011	2008	2007	Total
0-3	26	18	16	18	17	95	36	23	22	27	25	133
4-6	8	6	2	6	9	31	3	1	0	2	2	8
7-10	5	1	2	3	1	12	0	1	0	1	1	3
10+	0	0	2	3	1	6	0	0	0	0	0	0

Survey respondents were asked to report the composition of their duck harvest. The reported composition in 2015 differed in some respects from the collective composition from the 14 previous surveys (Figure 3). The percentage of mallards and scaup in the bag were below the long-term average, while the percentage of wood ducks, blue-winged teal and “other” species (including mergansers) in 2015 were each about 50% above the long-term average (Figure 4).

Over time, the percentage of scaup in the duck harvest has been declining, while the percentage of mallards has generally been increasing (Figure 4). Wood ducks and “all other species combined” have shown great variability, but no clear trend. In 2015, green-winged teal were the most common bird in the “other” category at 28%; buffleheads and ringnecks each accounted for 12%, and no other species accounted for more than 10% of the “other” category.

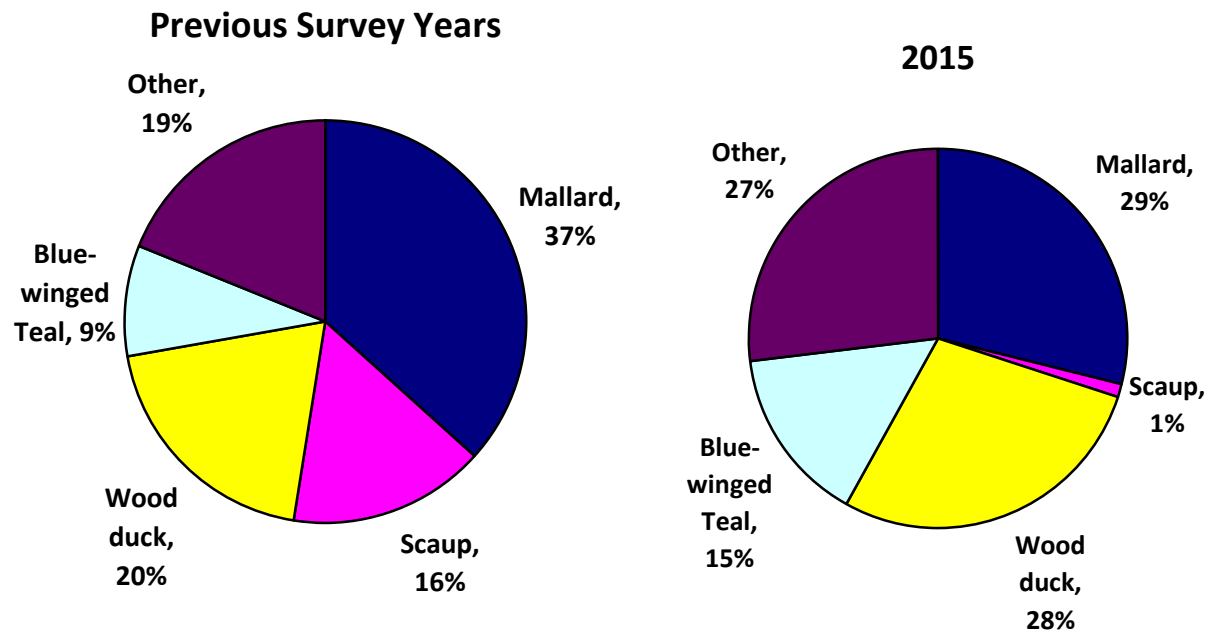


Figure 3. Species composition of the treaty duck harvest in 2015 versus the collective estimated harvest from the 14 previous survey years (1991-1998, 2001, 2004, 2007, 2008, 2011 and 2012 combined).

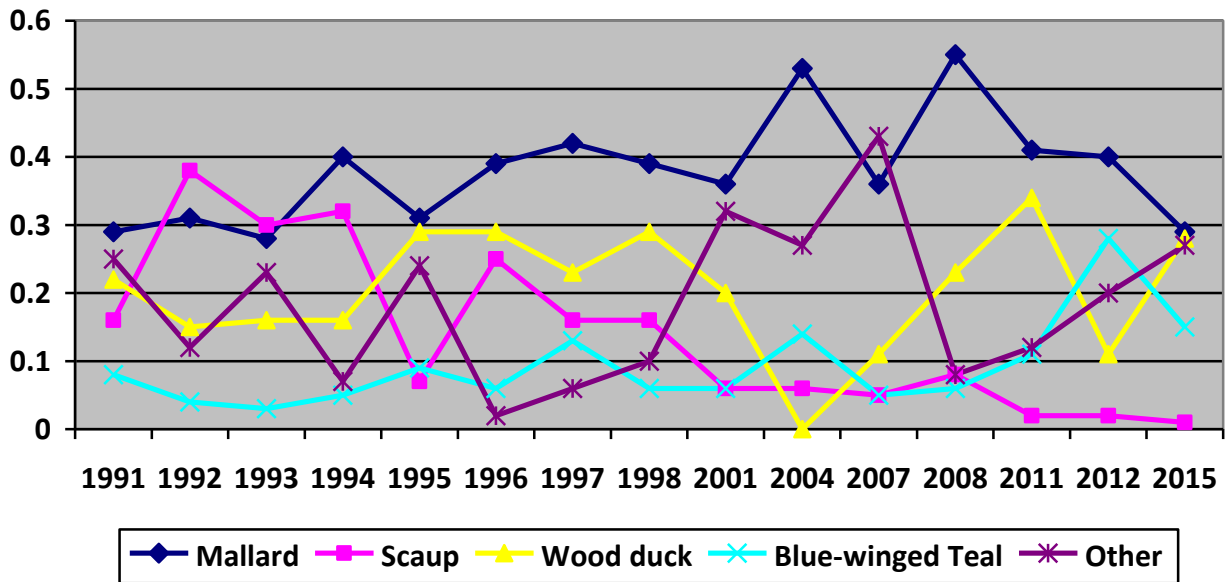


Figure 4. Duck species composition by survey year.

**LITERATURE CITED**

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