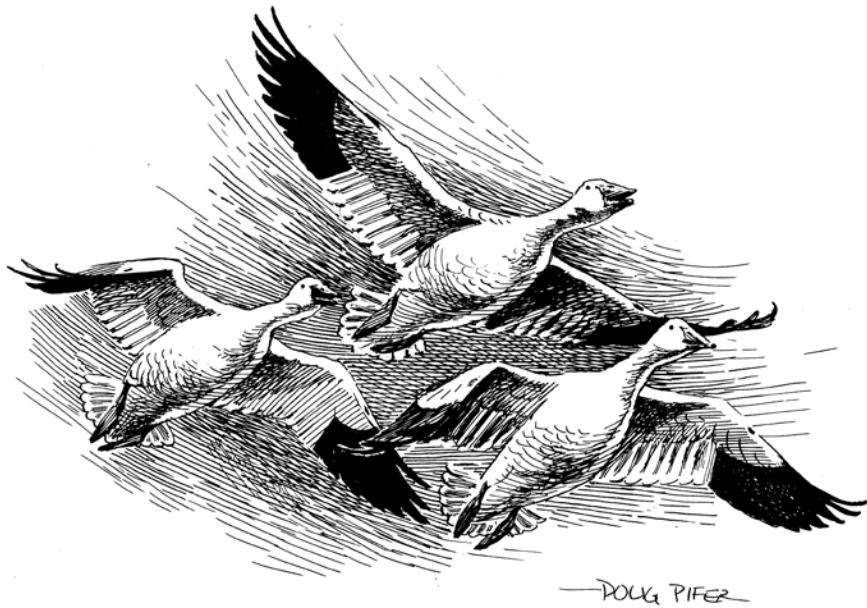


# 2019 Light Goose Conservation Season in Pennsylvania

## Harvest Summary Report



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## **Introduction**

The Atlantic Flyway Greater Snow Goose Management Plan (Atlantic Flyway Council 2009) established a breeding population goal of 500,000 to 750,000 greater snow geese to bring the birds in balance with their natural habitats and associated biodiversity, and to reduce crop damage on wintering and staging areas. In 9 of the past 10 years the point estimate of greater snow goose spring abundance has been above the upper end of this range, with estimates exceeding 1 million birds in 2012 (U.S. Fish and Wildlife Service 2018).

Concern surrounding the overabundance of snow and Ross's goose populations and the problems associated with high populations of these birds prompted the U.S. Fish and Wildlife Service (USFWS) to develop a Light Goose Environmental Impact Statement (EIS) (U.S. Fish and Wildlife Service 2007) aimed at addressing the overabundance of light geese. The Final EIS recommended federal regulations be modified to allow for additional hunting methods to increase harvest rates on snow geese and Ross's geese.

On November 5, 2008, the USFWS published a final rule (Federal Register 73:215) implementing a Conservation Order for light geese which included allowing the use of special hunting methods to increase the harvest of light geese across the country. Pennsylvania elected to participate in the Light Goose Conservation Order and state regulations were amended by the Board of Commissioners (BOC) in January 2009 to allow the use of electronic calls and extended hunting hours (to ½ hour after sunset) during the conservation order. In addition, in January 2011 the BOC legalized electronic decoys (otherwise prohibited under state regulations at that time) for the conservation season only, beginning with the 2011 season. (In September 2017 the BOC legalized electronic decoys for all waterfowl hunting seasons.)

## **Methods**

As in 2012-2018, season dates for the 2019 conservation season varied by goose hunting zone, in order to allow the expanded hunting methods to go into effect as soon as all other waterfowl seasons closed in a particular zone. Dates were as follows:

Atlantic Population (AP) Zone:	February 1 – April 19, 2019
Southern James Bay Population (SJPB) Zone:	January 21 – April 19, 2019
Resident Population (RP) Zone:	February 25 – April 19, 2019

The daily bag limit was 25 geese, with no possession limit. Additional hunting methods allowed included the use of electronic calls, and expanded hunting hours (½ hour after sunset). Unplugged guns were not permitted. Hunters were required to obtain a free Light Goose Conservation Permit either online or by mail. Along with the permit, all hunters were required to possess a general hunting license and a migratory game bird license (Harvest Information Program [HIP] registration), and those 16 and older were required to possess a federal duck stamp. Reporting of harvest and hunter activity was mandatory for all permit holders, even if they did not hunt, and harvest reports were due within 30 days of the close of the light goose conservation season.

Compliance with the mandatory reporting requirement in Pennsylvania's conservation season declined each year from 2009-2012. In an effort to boost reporting rates, we have used e-mail reminders since 2013 (except 2018). In 2019, a single reminder was sent in mid-May to those permit holders for whom we had an e-mail address on file and who had not responded as required within the 30-day reporting period following the close of the season. Those permit holders for whom we did not have an e-mail address in our license database were not sent a reminder.

## Results and Discussion

We issued 1,656 permits to hunters to participate in the 2019 Light Goose Conservation Season. This total was similar to 2018 (1,634 permits) and 2017 (1,632 permits) and included 52 nonresident hunters. We received 600 participation / harvest reports (36.2% reporting rate).

Of the 600 reports received, 417 (69.5% of respondents or 25.2% of all permit holders, if non-respondents were assumed to be non-participants) indicated hunting during the conservation season. Their grand total retrieved harvest was 2,240 (Table 1). Total hunter days were 1,046 and the number of geese bagged per hunter day was 2.14. Data on harvest attributable to additional hunting methods of extended hours, electronic calls, and electronic decoys was not collected, as this information is no longer required by the U. S. Fish and Wildlife Service for states to participate in the conservation season. From 2009-15, electronic calls were used for approximately 34% of snow geese taken in the Pennsylvania conservation order and from 2012-15, electronic decoys were used for approximately 27% of geese taken. Extended hunting hours had less effect, with approximately 12% of the total geese taken after sunset between 2009-15. (It should be noted that these expanded methods categories are not mutually exclusive; for example, a goose taken after sunset while using both electronic calls and electronic decoys would be recorded as harvested under all 3 methods, although only counted once in the grand total retrieved harvest).

We believe the use of e-mail reminders has been somewhat effective in boosting reporting rates, as seen in the increased reporting rate in 2019 (36% with a reminder used) compared to 2018 (24% with no reminder). Analyses conducted in 2013 and 2014 of the per capita hunting activity and harvests of permit holders reporting after the distribution of reminders compared to those of earlier respondents showed that assuming non-respondents to be non-participants is probably inaccurate. However, we have not attempted to introduce correction factors. Thus, the overall percentage of permit holders participating in the season is likely somewhere between the calculations of 25% based on all permit holders and the 70% based on reports actually received, and the harvest totals presented herein should be considered minimum estimates that may not be completely comparable between years. We will continue to investigate options to improve our harvest estimates and/or revise previous estimates.

The conservation season has provided additional recreational opportunity for Pennsylvania hunters, and increased the harvest of greater snow geese in Pennsylvania, thus meeting the objectives of the Conservation Order. These effects are difficult to fully quantify in light of the reporting rate issues noted above, the limitations of USFWS HIP data at the individual state level, and the significant effects of annual weather variations on availability of

snow geese for harvest in Pennsylvania. However, it is noteworthy that estimates of average annual total snow goose harvest (HIP regular season estimate + Pennsylvania Game Commission conservation season minimum estimate) in Pennsylvania for the first 10 years with a conservation season were 42% higher than those for the 9 years prior to initiation of the conservation season (Table 2). Also, the lack of a statistically significant trend in spring estimates of greater snow goose abundance over the past 10 years suggests that increased harvests may have stabilized this overabundant population (U.S. Fish and Wildlife Service 2018).

### **Literature Cited**

Atlantic Flyway Council. 2009. Management plan for Greater Snow Geese in the Atlantic Flyway. Snow Goose, Swan and Brant Committee of the Atlantic Flyway Migratory Game Bird Technical Section.

U.S. Fish and Wildlife Service. 2018. Waterfowl population status, 2018. U.S. Department of the Interior, Washington, D.C. USA.

U.S. Fish and Wildlife Service. 2007. Final Environmental Impact Statement – Light Goose Management. Washington, D.C., USA.

Table 1. Number of permits issued, reports received, hunter days and number of geese taken by hunting method during the 2009 to 2019 Light Goose Conservation Season in Pennsylvania.

Year	Permits Issued	No. Hunted	% Hunted based on all permits	% Hunted based on reports submitted	Days Hunted	Grand Total Geese Bagged	Grand Total Geese Lost	After Sunset	W/ e <sup>a</sup> calls	W/ e <sup>a</sup> decoys
2009 <sup>b</sup>	3,276	1,724	53	59	3,840	5,903	317	736	1,522	- <sup>f</sup>
2010 <sup>c</sup>	3,107	668	21	50	2,409	2,985	141	330	1,101	- <sup>f</sup>
2011 <sup>c</sup>	3,401	900	26	69	2,959	5,197	259	475	1,845	Unknown <sup>g</sup>
2012 <sup>c</sup>	2,649	568	21	62	2,123	3,420	134	542	1,356	1,091
2013 <sup>d</sup>	2,606	578	22	59	2,051	3,162	162	457	1,049	739
2014 <sup>e</sup>	2,741	773	28	66	2,011	3,433	155	521	1,336	1,027
2015 <sup>e</sup>	2,661	806	30	66	2,260	4,684	147	475	1,452	1,130
2016 <sup>d</sup>	2,000	501	25	63	1,311	1,953	78	Unknown <sup>g</sup>	Unknown <sup>g</sup>	Unknown <sup>g</sup>
2017 <sup>d</sup>	1,632	351	22	62	1,043	1,852	62	Unknown <sup>g</sup>	Unknown <sup>g</sup>	Unknown <sup>g</sup>
2018 <sup>c</sup>	1,634	260	16	67	770	1,170	31	Unknown <sup>g</sup>	Unknown <sup>g</sup>	Unknown <sup>g</sup>
2019 <sup>d</sup>	1,656	417	25	70	1,046	2,240	81	Unknown <sup>g</sup>	Unknown <sup>g</sup>	Unknown <sup>g</sup>

<sup>a</sup> e = electronic

<sup>b</sup> Reporting reminder postcard sent; 89% reporting rate by permit holders

<sup>c</sup> No reminders used; reporting rates by permit holders varied between 24-43%

<sup>d</sup> Reporting reminder sent to non-respondents for whom we had an e-mail address; overall 35-40% reporting rate by permit holders

<sup>e</sup> One reporting reminder sent to all permit holders for whom we had an e-mail address at the close of the season, and a second reporting reminder sent after the close of the mandatory reporting period to non-respondents for whom we had an e-mail address; overall 43-46% reporting rate by permit holders

<sup>f</sup> Method prohibited by state regulation

<sup>g</sup> No data collected on this method

Table 2. Snow goose harvest estimates for Pennsylvania, 1999-2000 through 2017-18 hunting seasons.

Season	Regular Season Harvest Estimate <sup>a</sup>	Conservation Season Harvest Estimate <sup>b</sup>	Total Harvest Estimate	Average total harvest estimate
1999-2000	4,700		4,700	7,111
2000-01	10,500		10,500	
2001-02	5,900		5,900	
2002-03	1,900		1,900	
2003-04	5,700		5,700	
2004-05	3,600		3,600	
2005-06	8,300		8,300	
2006-07	11,400		11,400	
2007-08	12,000		12,000	
2008-09	10,000	5,903	15,903	10,106
2009-10	6,800	2,985	9,785	
2010-11	2,200	5,197	7,397	
2011-12	21,700	3,420	25,120	
2012-13	11,200	3,162	14,362	
2013-14	5,300	3,433	8,733	
2014-15	2,300	4,684	6,984	
2015-16	2,300	1,953	4,253	
2016-17	3,700	1,852	5,552	
2017-18	1,800	1,170	2,970	

<sup>a</sup> USFWS Harvest Information Program

<sup>b</sup> Pennsylvania Game Commission data