

HumanDimensions
Research Program

Hunter Participation, Harvest, and Hunting Behavior During the 2023 Illinois Conservation Order

Illinois Natural History Survey
Prairie Research Institute
University of Illinois at
Urbana-Champaign

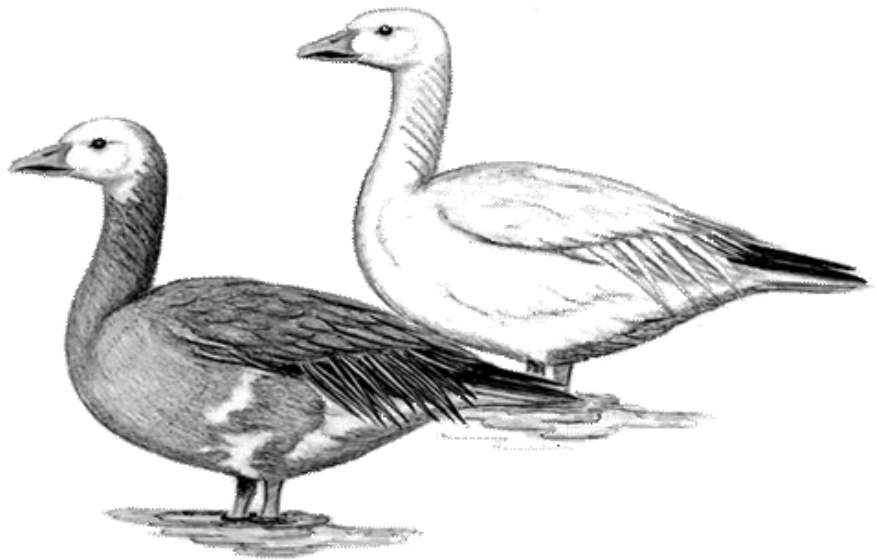


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Natalie Phelps Finnie,
Director Illinois Department
of Natural Resources

Jennifer Wellman,
Federal Aid Coordinator

Mike Wefer,
Chief, Division of Wildlife
Resources



Craig A. Miller, Ph.D.
Program Leader and Principal Investigator
Human Dimensions Research Program
Illinois Natural History Survey

Prepared by
Brent D. Williams, Craig A. Miller,
Lauren J. Stephens, and Eric M. Walberg



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HUNTER PARTICIPATION, HARVEST, AND HUNTING BEHAVIOR DURING THE 2023 ILLINOIS CONSERVATION ORDER

JOB COMPLETION REPORT

WILDLIFE HARVEST AND
HUMAN DIMENSIONS RESEARCH PROGRAM

STATE OF ILLINOIS

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STUDY 101
JOB NO. 101.4

Craig A. Miller, Ph.D.
Program Leader and Principal Investigator
Human Dimensions Research Program
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Federal Aid in Wildlife Restoration
W-112-R-32
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ABSTRACT

Harvest of light geese (*Anser caerulescens*, *Anser rossii*) during the 2023 Illinois Light Goose Conservation Order was estimated at 378,543. An estimated 7,459 hunters participated in the 2022 Illinois Light Goose Conservation Order. Hunters spent an estimated 101,739 days afield during 2023, and the majority (66.2%) of the snow (light) goose harvest occurred during the month of February. Hunters were sampled from Harvest Information Program (HIP) registrants who reported they hunted snow and other light geese (including Ross' and Blue geese) during the 2021 Light Goose Conservation Order. One in 3 hunters had increased harvest of light goose over the previous 5 years. Approximately 15.8% of active light goose hunters used a guide or outfitter while hunting light geese during the 2023 Order. Due to changes in sampling of addresses and calculation of estimates, comparisons should not be made to years prior to 2014.

OBJECTIVE

To survey hunters participating in the Light Goose Conservation Order (LGCO) to determine their activities and harvests in Illinois, as well as their opinions toward specific waterfowl management issues.

METHODS

A total of 2,498 waterfowl hunters were randomly selected from 2021-22 HIP registrants who reported they hunted snow geese during the 2021 Light Goose Conservation Order in Illinois and purchased a state waterfowl stamp. Hunters sampled were mailed a 4-page mail-back questionnaire (Appendix A) and cover letter (Appendix B) 08 June 2023. Non-respondents were mailed a thank you/reminder postcard (Appendix C) 07 July 2023, a second copy of the questionnaire and cover letter (Appendix D) 03 August 2023, and another thank you/reminder postcard 23 August 2023. A third copy of the questionnaire and cover letter (Appendix D) were mailed 12 September 2023.

The number of light goose hunters ($Hunt_{sp}$), days afield ($Days_{sp}$), birds crippled but not retrieved ($Crip_{sp}$) and harvest ($Harv_{sp}$) were calculated as follows:

$$\begin{aligned}
 Hunt_{sp} &= Hunt_r \frac{L_t}{n}, & Days_{sp} &= Days_r \frac{L_t}{n}, \\
 Crip_{sp} &= Crip_r \frac{L_t}{n}, & Harv_{sp} &= Harv_r \frac{L_t}{n}
 \end{aligned}$$

Where:

$Hunt_r$ = number of respondents to the 2023 Illinois Spring Light Goose Hunter Survey who reported hunting light geese (adjustment for non-hunters is inherent),

L_t = total number of 2022-23 Harvest Information Program (HIP) registrants who indicated they hunted light geese in Illinois during 2022 Light Goose Conservation Order,

n = number of respondents to the 2023 Illinois Spring Light Goose Hunter Survey,

$Days_r$ = total number of days spent hunting reported by respondents,

$Crip_r$ = total number of birds crippled but not retrieved reported by respondents,

$Harv_r$ = total harvest of each species reported by respondents.

The 2023 estimates for number of hunters, days hunted, and light geese harvested were based on 10,889 HIP registrants who reported they hunted during the 2022 LGCO on their 2022-23 HIP registration. Estimated light goose harvest was not adjusted for reporting bias using 0.478 as has been done in previous years (for discussion of this estimator related to waterfowl harvest, see Anderson et al. 1996). Ninety-five percent confidence intervals were calculated for number of hunters, days hunted, and geese harvested, as described in Lischka et al. (2006). We entered and analyzed data using SPSS 29.0 (IBM SPSS Inc. 2023). Due to changes in number of hunters sampled and calculation of estimates, comparisons to previous years' figures must be done with caution. The sample frame for this survey changed in 2014 and we recommend closely examining confidence intervals when making any comparisons of results between results prior to 2014. The 2014 Harvest Information Program (HIP) registration was the first year in which hunters were asked if they hunted light geese

during the Light Goose Conservation Order the previous year. Addition of this question allowed for more precise sampling of likely participants since the 2015 Light Goose Illinois Conservation Order than did a random sample of Illinois State Waterfowl Stamp purchasers, the sampling method used in previous light goose hunter surveys in Illinois (Williams et al. 2013).

ORDER DATES AND BAG LIMITS

The 2023 Light Goose Conservation Order took place from 21 January to 30 April in the North Zone and from 1 February to 30 April in the Central, South Central, and South Zones. The Order began in each zone the day after regular Canada goose (*Branta canadensis*) season closed. Hunters during the Light Goose Conservation Order were required to have a state waterfowl permit and hunting license, but were exempt from daily bag and possession limits, and needing a federal waterfowl stamp. Hunters were permitted to use unplugged shotguns, electronic calls, and to hunt from one half-hour before sunrise to half-hour after sunset; these liberalized regulations were not permitted during waterfowl seasons.

RESULTS

Harvest Results

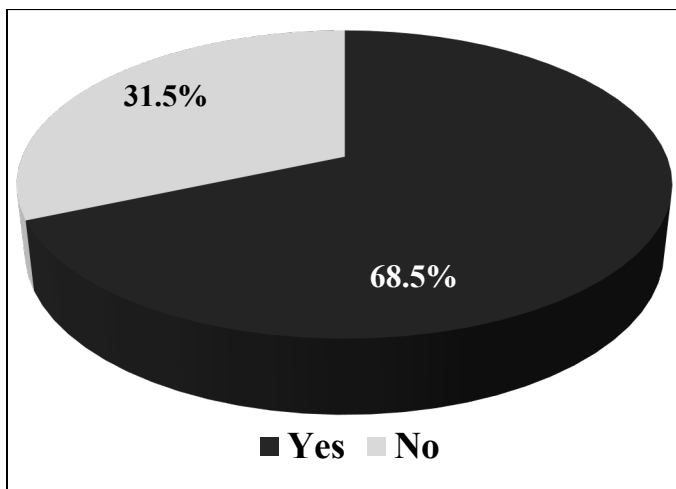


Figure 1. Percentage of survey respondents who hunted light geese in the 2023 Illinois LCGO ($n = 635$).

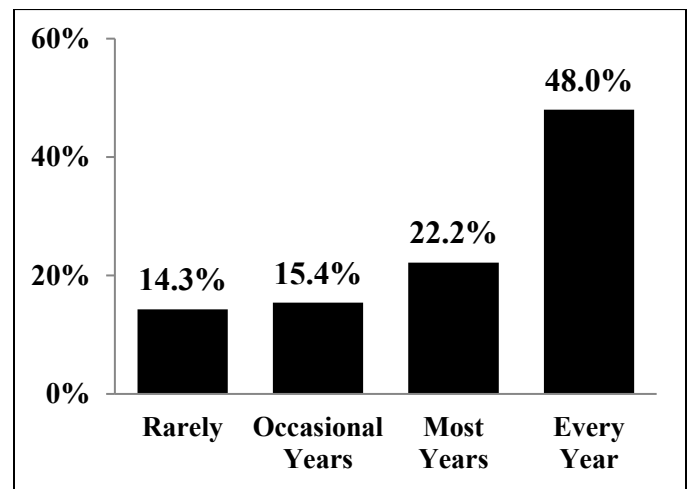


Figure 2. How often light goose hunters* hunt the LCGO in Illinois ($n = 435$).

*Hunters who reported they hunted light geese 1 day or more in Illinois during the 2023 Light Goose Conservation Order.

The questionnaire was undeliverable to 44 addresses, reducing the mailing list to 2,454 individuals. A total of 786 questionnaires were returned, of which 635 were considered usable, for a 26% response rate. Over half (68.7%) of respondents reported hunting light geese during the 2023 Light Goose Conservation Order (Figure 1). Two-thirds (67.4%) of active hunters, those who hunted at least one day during the 2023 LGCO, hunt light geese every year (Figure 2). Central zone was the most popular for hunters and over half (58.6%) of active hunters reported hunting the Central Zone most often for light geese (Figure 3).

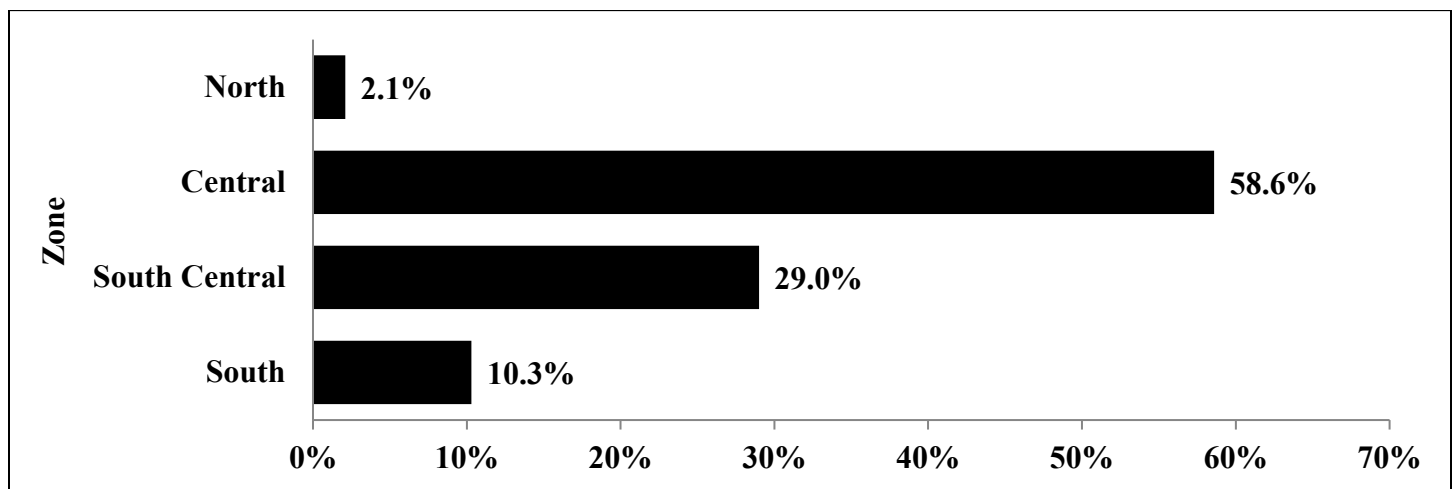


Figure 3. Zone hunted* most often during the 2023 LGCO ($n = 435$).

*Hunters who reported they hunted light geese 1 day or more in Illinois during the 2023 Light Goose Conservation Order.

During the 2023 Illinois LGCO, an estimated 7,459 participants hunted for 101,739 days and harvested 378,543 light geese (Table 1). Those who hunted most often in the Central zone were responsible for 46.2% of the harvest and 59% of the days hunted (Table 2). In comparison to the 2022 Order, hunter participation increased 360% and light goose harvest increased 523% (Figure 4). Among active LGCO hunters, 51.8% hunted 10 days or less (Figure 5), and 8.2% reported not harvesting any light geese, whereas 13.5% harvested \geq 100 light geese. The fewest number of geese were harvested during January (<1%), 66.2% of the harvest occurred during February, 31.4% percent occurred in March, and 2.4% in April (Table 3).

Mean overall harvest was 53 geese per hunter, and 58 geese per hunter when unsuccessful hunters are excluded. A total of 13,770 light geese were estimated to be downed but not retrieved by hunters this Order.

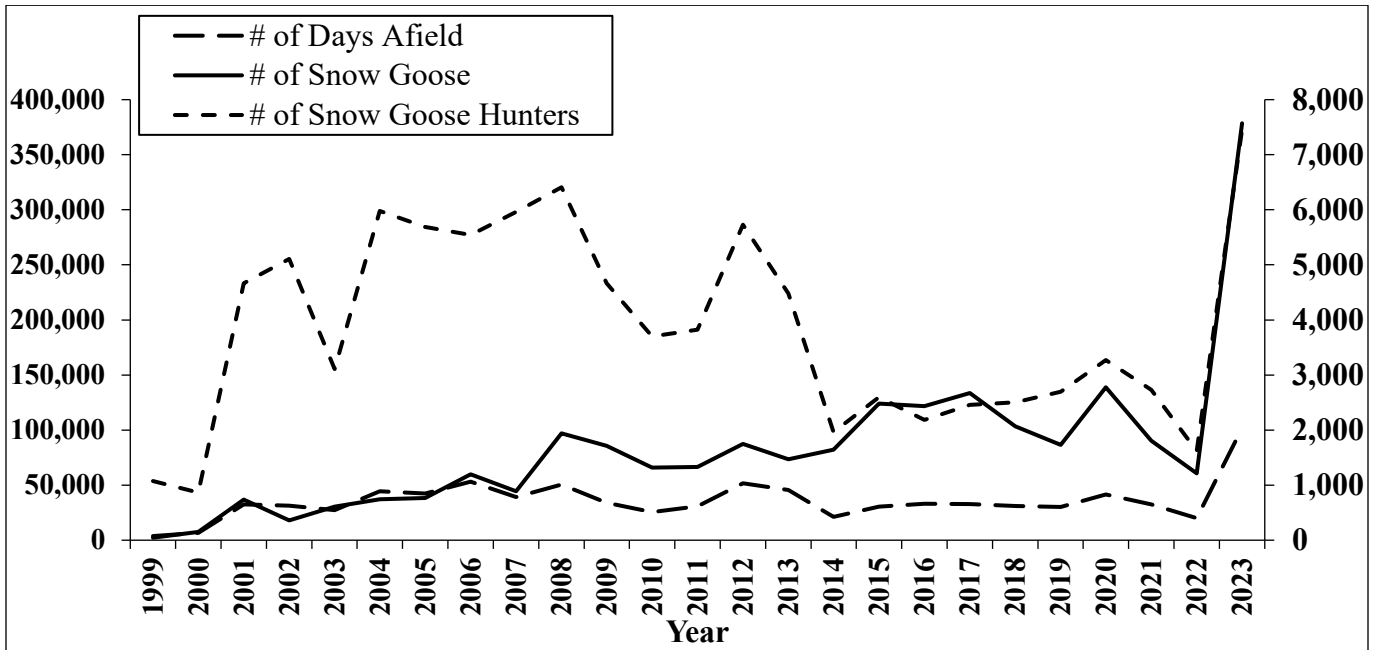


Figure 4. Estimated Illinois LGCO hunter participation and harvest across time.* Due to changes in number of hunters sampled and calculation of estimates, comparisons to previous years' figures must be done with caution.

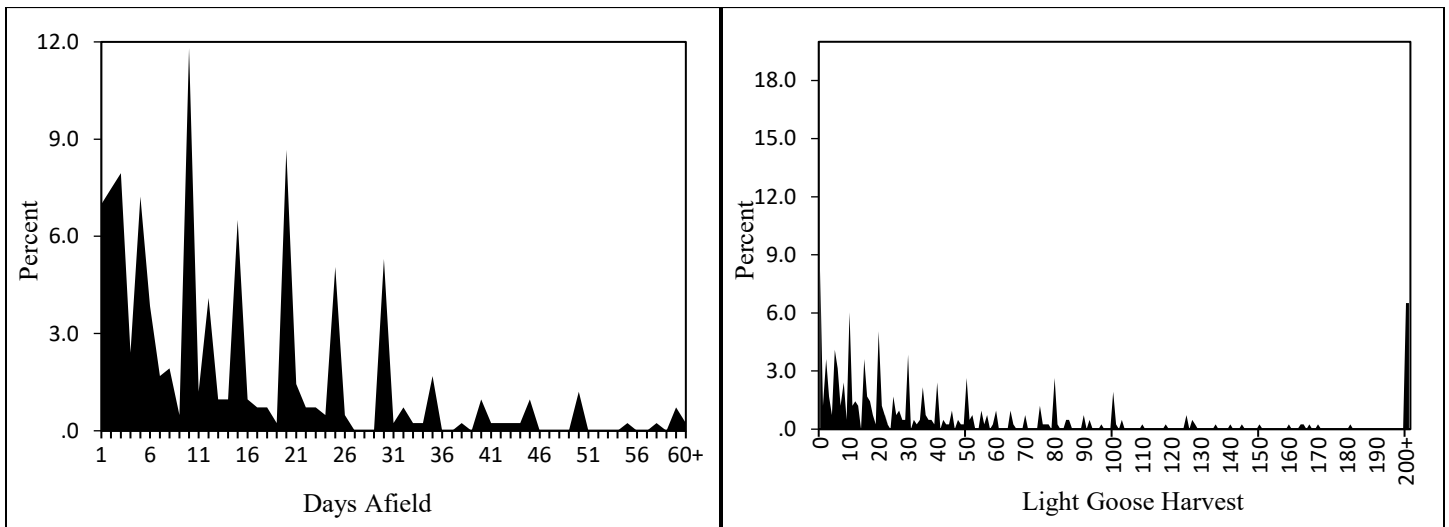


Figure 5. Distribution of days afield per hunter and light geese harvested per hunter for Illinois' during the 2023 Light Goose Conservation Order.

*Hunters who reported they hunted light geese 1 day or more in Illinois during the 2023 Light Goose Conservation Order.

Hunters hunted most frequently on private land they do not own (63.2%), followed by private land for a fee (29.0%) (Figure 6). Hunters averaged 5.5 days hunting public land and 13.9 days hunting private lands, traveling an average 62.1 miles to do so. There was no significant difference in average distance traveled typically traveled to participate in LCGO between those who hunted this year and those who did not.

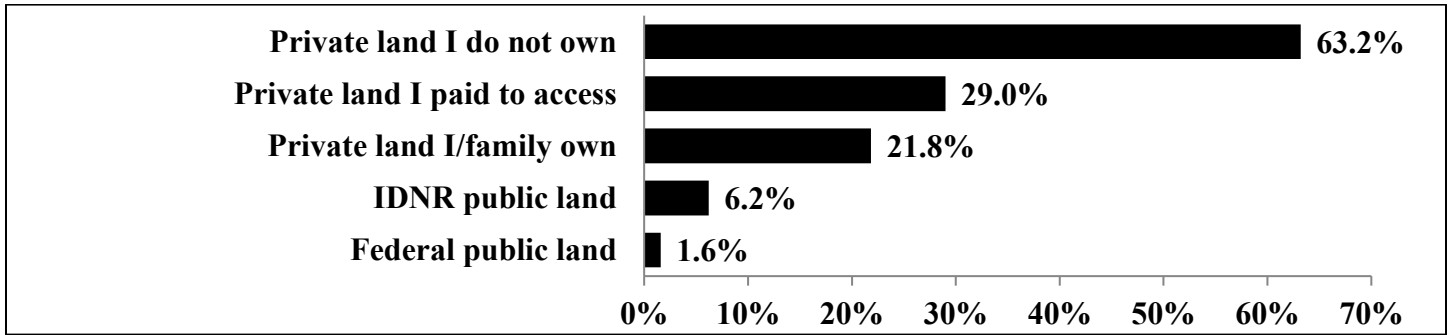


Figure 6. Type of land hunters* hunted during LGCO ($n = 435$).

*Hunters who reported they hunted light geese 1 day or more in Illinois during the 2023 Light Goose Conservation Order.

**Percentages do not add up to 100 because some hunters indicated they hunted multiple types of land.

Satisfaction with the 2023 Light Goose Conservation Order

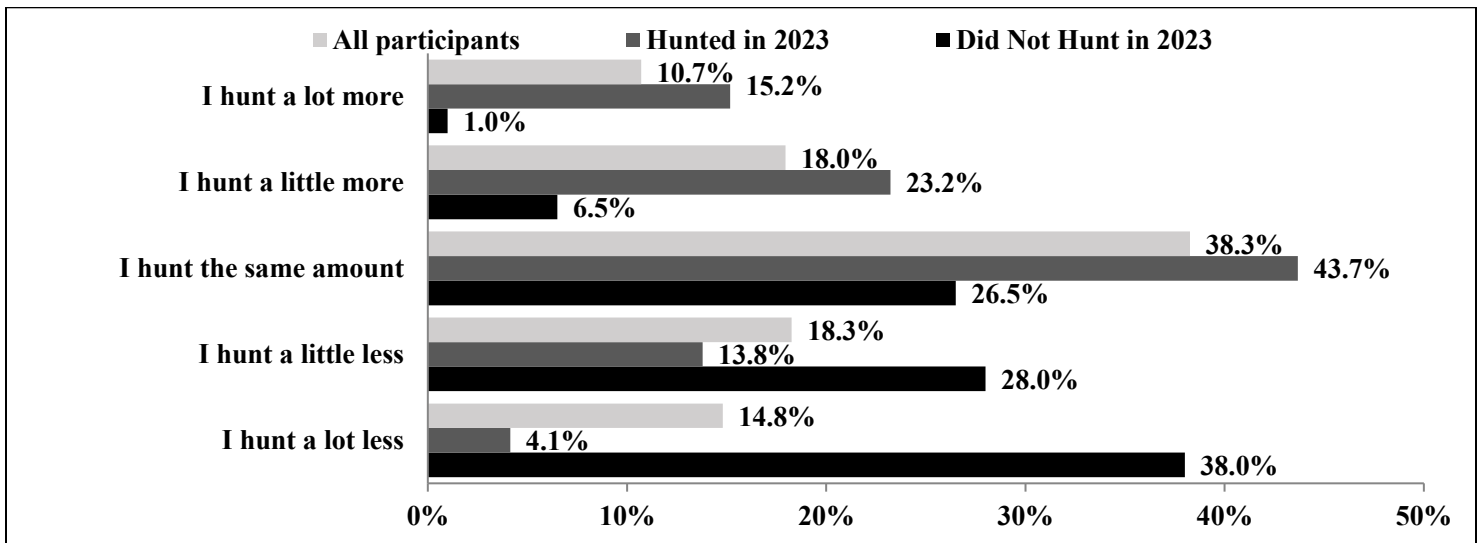


Figure 7. Change in how often hunters participated in LGCO over the last 5 years.

Those who hunted in the 2023 LGCO were much more likely to state they hunted about the same amount over the last 5 years as compared to those who did not hunt (Figure 7). Those who did not hunt in the LGCO were much more likely to “hunt a lot less”. When asked about the opening dates of the 2023 Light Goose Conservation Order, most active hunters (54.2%) felt that the dates were too late (Figure 8). Those who hunted the 2023 LCGO were more likely to select too late, whereas those who did not hunt were likely to choose “I’m not sure”. Regardless of the question asked, regarding season timing, those who did not hunt were consistently selected “I’m not sure” the most. When asked about closing timing 58.4% of those who hunted felt that the LGCO closing date was too late. Similarly, when asked about the arrival time of light geese for the

Order, 48.7% of those who hunted felt light geese arrived too late (Figure 10). Forty-six percent also felt light geese left too late and 39.1% felt they left too early (Figure 11).

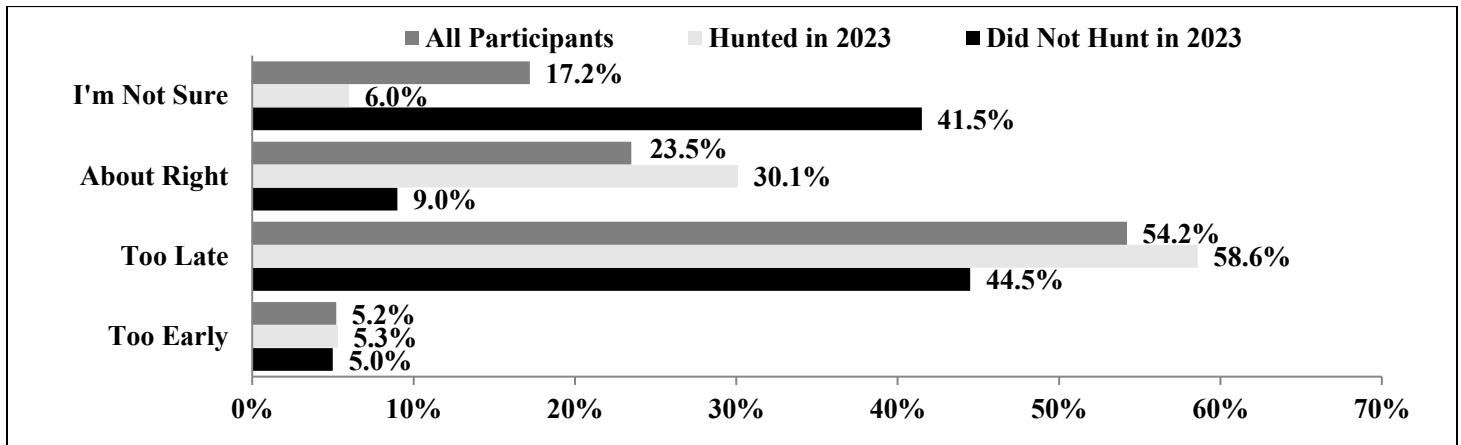


Figure 8. How hunters feel about the opening date of the 2023 LGCO for the area they hunt most often.

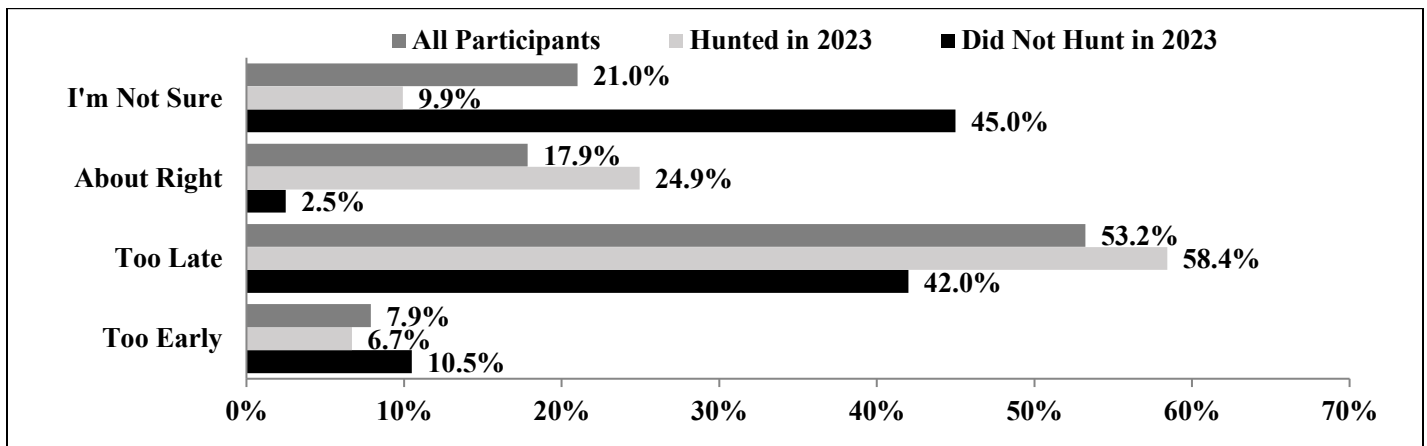


Figure 9. How hunters felt about the closing date of the 2023 LGCO for the area they hunt most often.

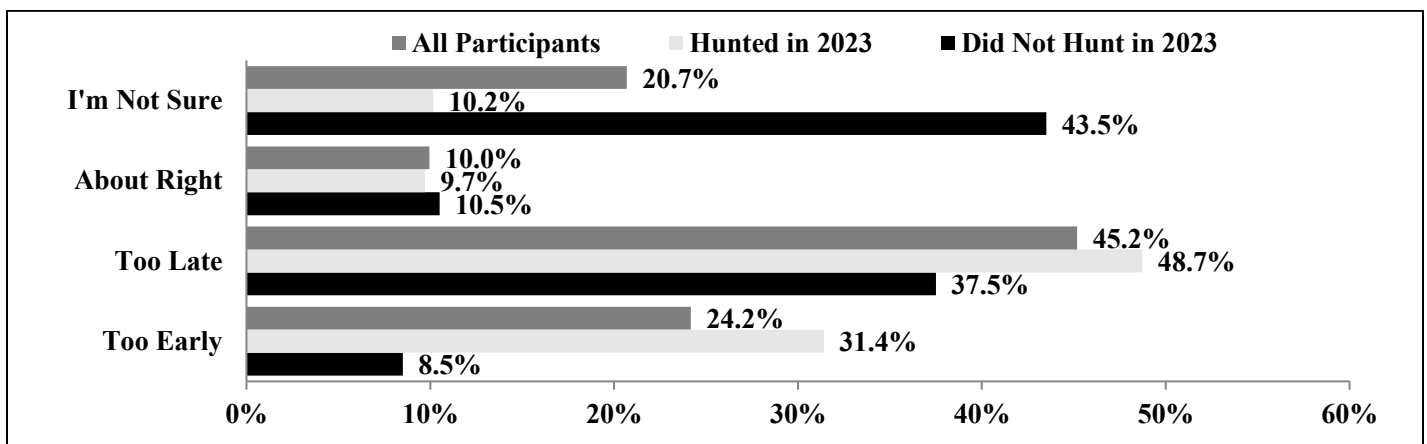


Figure 10. How hunters feel about when light geese began arriving to the area they hunt most often in 2023.

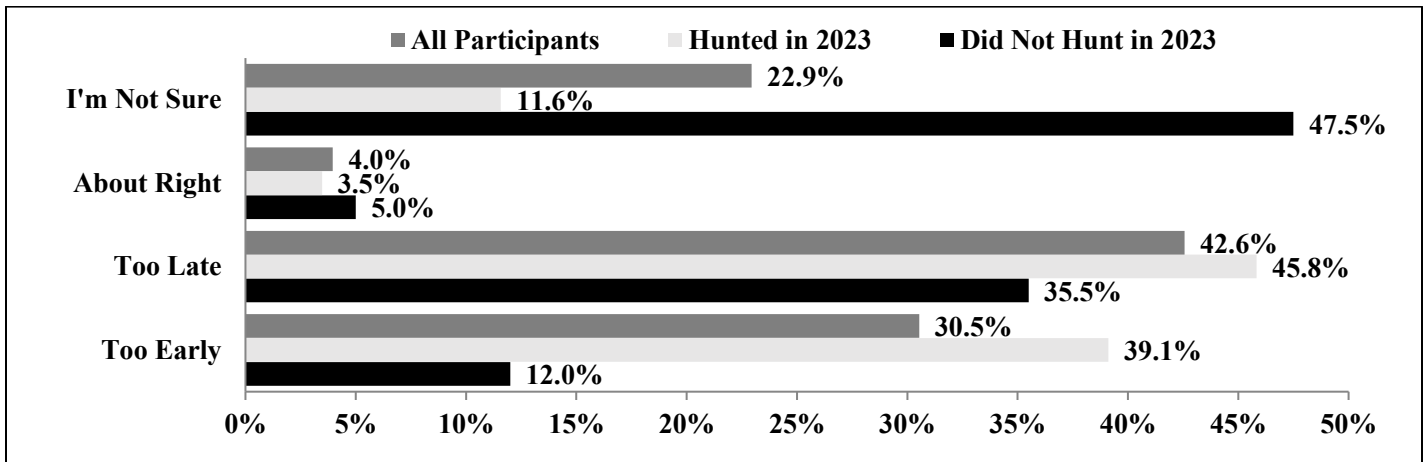


Figure 11. How hunters feel about when light geese began leaving the area they hunt most often in 2023.

One quarter (28.7%) of hunters perceived an increase in the number of light geese seen during the Conservation Order over the past 5 years, whereas over a third (41.8%) felt there was a decrease (Table 4). One in three hunters (31.5%) harvested more light geese than they had over the past 5 years and 42.3% harvested fewer (Table 5). Hunters were least satisfied with the amount of shooting they got in (35.9% dissatisfied) and the number of geese they harvested (35.3%). Hunters were most satisfied (54.0%) with the number of light geese they saw (Table 6.) The most selected reason for not hunting as much as desired was due to “not enough time” those who did not hunt were more likely to choose “no place to hunt” or a “lack of hunting partners” than those who hunted in the 2023 LGCO (Table 7).

Use of guides and outfitters

Most hunters, regardless of participation in the most recent Conservation Order, have never used an outfitter to hunt light geese (Figure 12), though those who hunted this year were more likely to have ever used outfitters than those who did not hunt. Among those who have ever used a guide 82.6% used one within the last five years and 37.5% used one in 2023. Of those who have ever used an outfitter one in four use an outfitter/guide every time (28.4%) and 37.2% use one rarely (Figure 13). Differences in frequency of use among those who hunted in the 2023 LCGO and those who did not were not reported due to small sub-sample size.

Approximately 15.8% of those who hunted LCGO this year used an outfitter/guide to do so. Most outfitter/guide users do so because they lack an area to hunt (51.1%) and 50.5% lack equipment (Figure 14). Most written in reasons were because hunters were new to light goose hunting, it was a free opportunity (gift, reward, etc.), and that they wanted to hunt somewhere different.

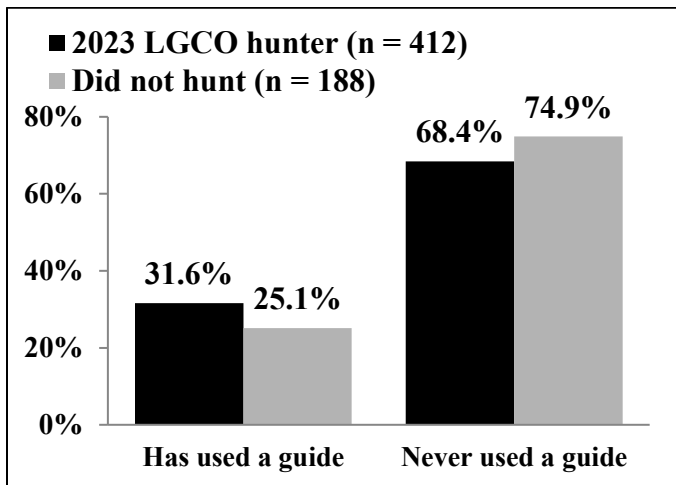


Figure 12. Percent of light goose hunters who have ever used a guide/outfitter for light goose hunting.

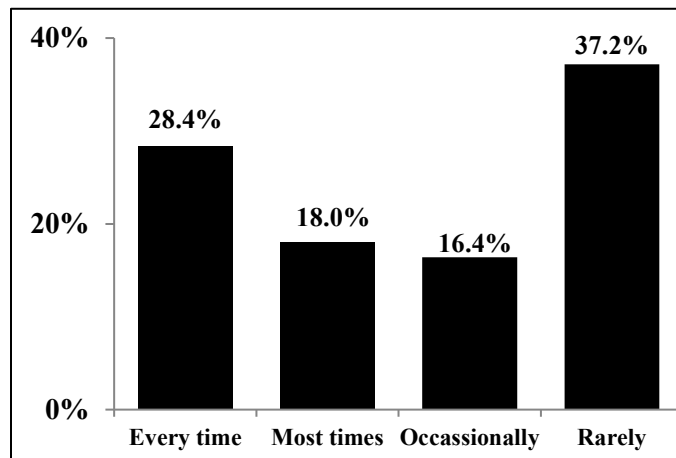


Figure 13. How frequently a guide is used for light goose hunting ($n = 183$).

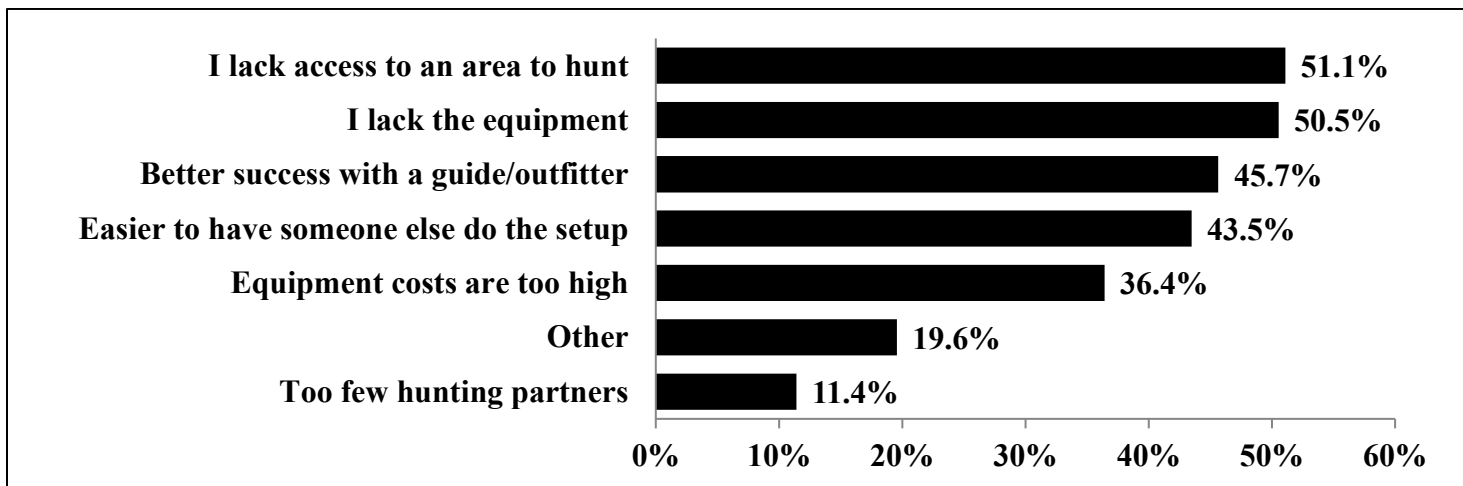


Figure 14. Reasons to use an outfitter or guide during LCGO ($n = 183$).

*Percentages do not add up to 100 because some hunters indicated they hunted multiple types of land.

Light Goose Populations and Avian Influenza

Regardless of whether they hunted in 2023 or not, most felt that it was very or extremely important to control the population of light geese (Figure 15). Hunters were undecided on how effective LGCO were at controlling the light goose population (Figure 16). Almost half (44.2%), felt it was neither effective or ineffective at controlling numbers of light geese, 31.2% felt it was effective, and 24.6% felt it was ineffective. Regardless of perceived effectiveness of the LGCO a minority of hunters (9.7%) feel the light goose population is decreasing (Figure 17).

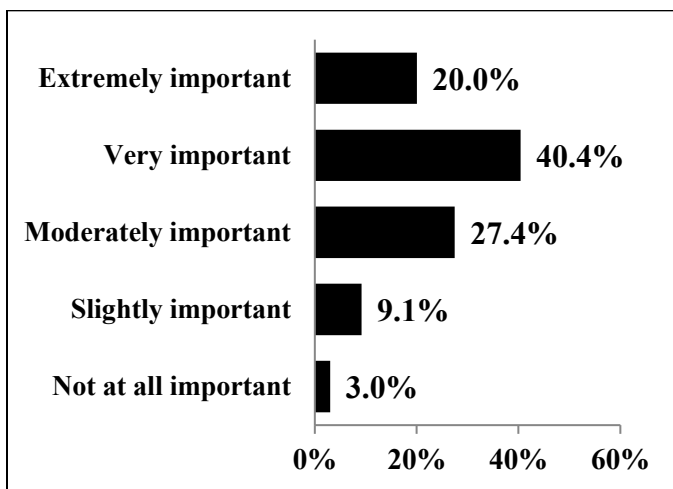


Figure 15. Importance of light goose population control ($n = 634$).

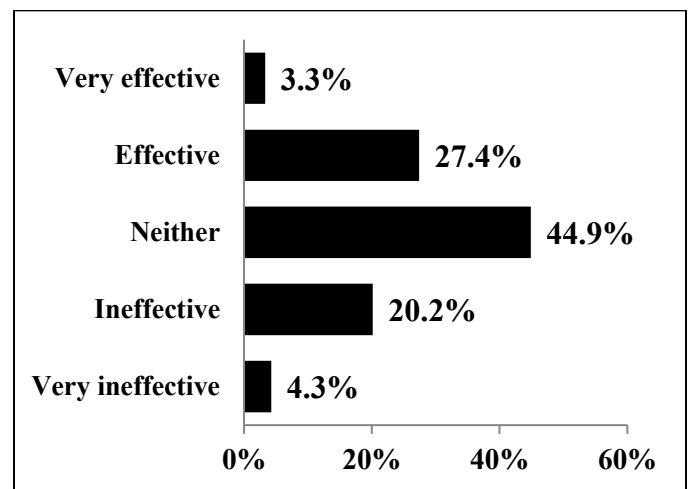


Figure 16. Perceived effectiveness of LCGO to control light goose population ($n = 635$).

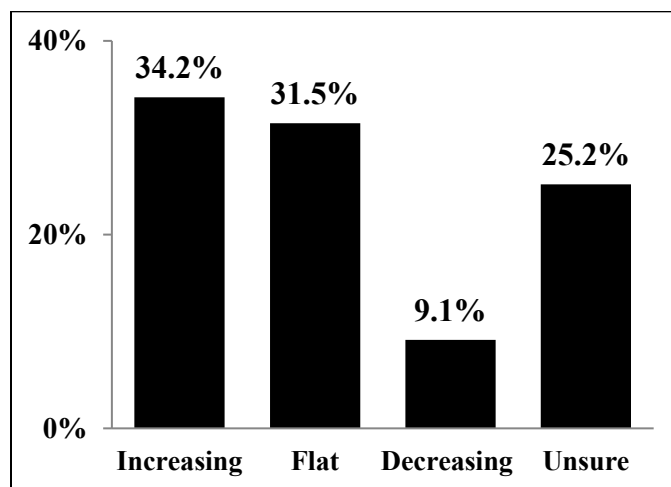


Figure 17. Participants perceived change in light goose population ($n = 635$).

When asked about precautions taken to protect themselves from avian influenza almost half (46.9%) never take any precautions (Figure 18). The lack of precautions corresponded with a low level of perceived risk posed by avian influenza (Table 8). When asked about the level of risk of contracting avian influenza 57.2% felt there was no risk at all and 36.2% felt there was a slight risk of contraction. Hunters perceived a similar lack of risk from avian influenza to their personal; 56.9%, no risk at all and 34.5%, a slight risk. Though they felt avian influenza posed the least risk to upland game birds, there were no statistical differences in opinion regarding risk to game and domestic birds. A slight majority of hunters felt it posed slight to no risk to birds.

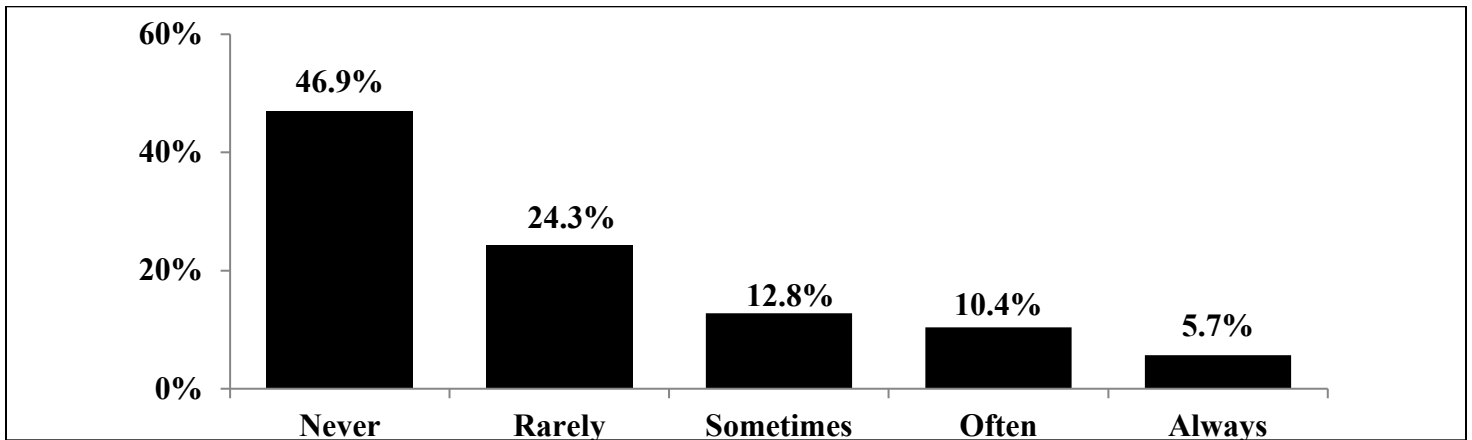


Figure 18. Frequency with which participants take precautions to protect themselves from avian influenza while hunting ($n = 635$).

Hunter characteristics

Participants who hunted in 2023 had hunted an average 4.4 of the previous five light goose conservation orders (Figure 19). Those who hunted in 2023 had participated in a statistically significant greater number of the last five LCGO ($M=4.4$) as compared to those who did not hunt ($M=2.7$) in 2023 [$F(1, 578) = 237.553, p <.001$]. Through a plurality more were supportive of delaying the start of the conservation order to extend regular goose season into February (Figure 20). There was a significant difference in the relationship between

zone hunted most often and support for delaying the start of LCGO $\chi^2(12, 435) = [\chi^2 = 27.512], p = [.007]$.

However the relationship between zone hunted and support was minimal ($\phi_c = 0.145$). Differences among those who hunted and those who did were examined as well. Those who did not hunt in the 2023 LCGO were much more likely to select “not sure” (44.5%) than those who hunted (25.1%). However, support for delaying LCGO among was more consistent between those who did not hunt (45.7%) and those who did (42.0%).

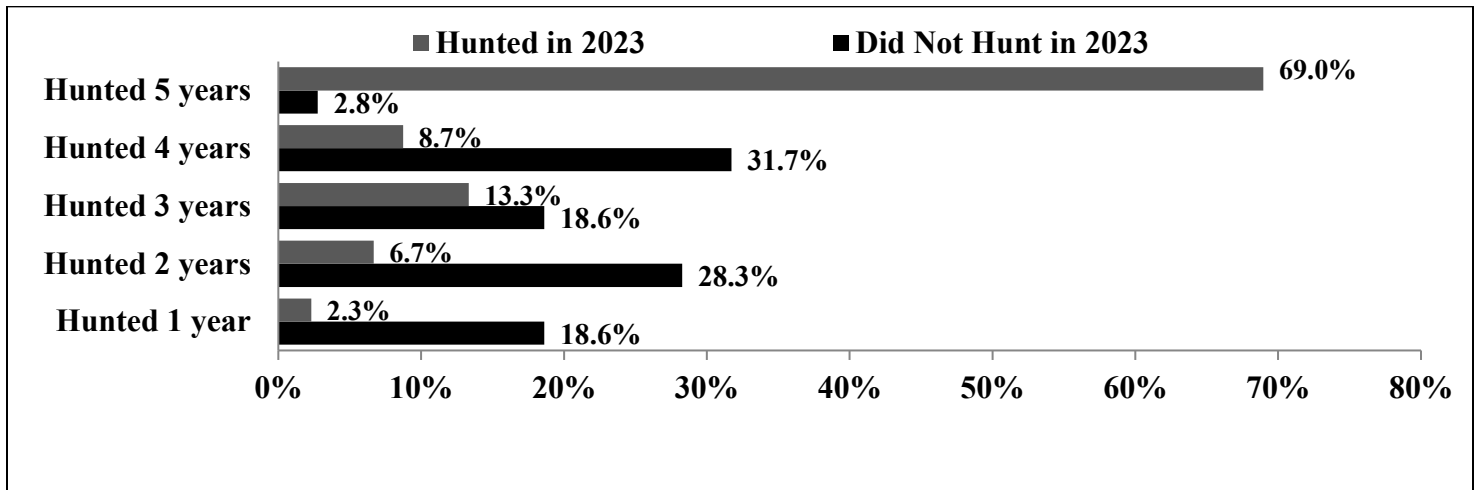


Figure 19. How many of the past 5 years participants had hunted in an Illinois Light Goose Conservation Order.

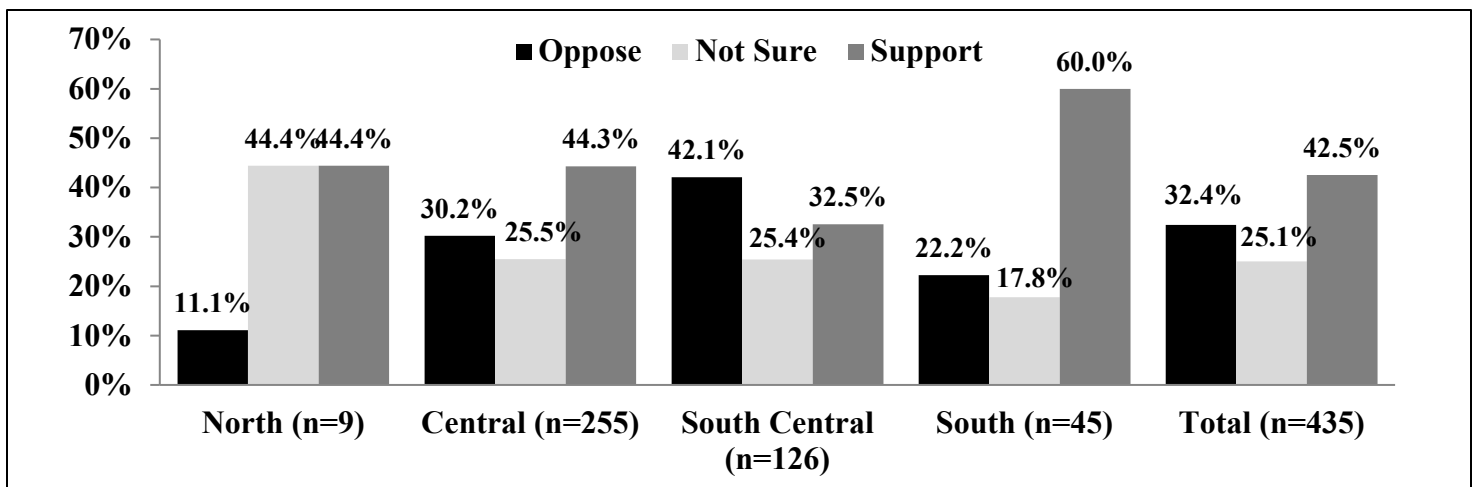


Figure 20. Support for delaying the start of LCGO to extend regular goose season into February ($n = 435^*$).
 * Selected for those who spent at least one day afield during the 2023 Light Goose Season.

Active hunters were younger ($M = 45.5 \pm 16.4$ years old) than inactive hunters ($M = 49.4 \pm 16.5$ years old). Those who hunted LCGO this year have been hunting light geese during the spring in Illinois for an average of 10.4 years as compared to 6.1 years for those who did not hunt. Similarly, they have hunted regular

waterfowl in Illinois for an average of 27.3 years as compared to 24.1 years for those who did not. When asked about their participation in the LCGO, 10.4% felt it was “the most enjoyable hunting” they do and 9.6% “would not miss it were it discontinued”. Almost half (47.7%) felt LCGO participation was “some of the most enjoyable hunting”, 32.3% felt it was “no more enjoyable than other hunting” they do. There was no statistical relationship between age, years hunting waterfowl, and opinion of LCGO participation. However, those who felt it was the most enjoyable hunting had spent more years hunting during LCGO. Similarly, they participated in more of the last 5 seasons, were more likely to hunt every year, and hunted more days. The counties with the most respondents were St. Clair (6.0%), Madison (4.4%), and Clinton (4.3%). The locations in Illinois where light goose hunters live and concentrated their efforts are presented in Appendix E.

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Table 1. Estimates of the number of hunters, days afield, light geese harvest, and number of birds crippled from 1999-2023 during the Illinois Light Goose Conservation Order.

	Hunters	Days Afield	Harvest	Crippled
1999	1,076	3,756	2,254	
2000	865	6,643	7,612	
2001	4,665	32,634	36,830	
2002	5,107	31,204	17,875	
2003	3,111	27,177	30,564	
2004	5,976	44,306	37,189	
2005	5,689	42,349	38,183 ^a	4,862
2006	5,543	53,154	59,799 ^a	8,892
2007	5,962 ± 1,147 ^b	39,170 ± 15,221	44,514 ± 25,794	11,078
2008	6,409 ± 1,046 ^b	50,471 ± 10,331	97,021 ± 40,811	11,050
2009	4,663 ± 950 ^b	33,947 ± 8,403	85,635 ± 36,479	5,547
2010	3,702 ± 820 ^b	25,581 ± 6,297	65,987 ± 42,519	3,561
2011	3,825 ± 826 ^b	30,753 ± 8,902	66,406 ± 30,962	7,810
2012	5,726 ± 943 ^b	51,763 ± 11,376	87,558 ± 41,316	4,157
2013	4,477 ± 1,192 ^b	45,724 ± 16,642	73,495 ± 52,191	3,686
2014	1,962 ± 188 ^b	21,170 ± 3,151	82,161 ^c ± 22,291	6,108
2015	2,599 ± 206 ^b	30,360 ± 3,213	123,944 ^c ± 29,265	5,491
2016	2,187 ± 81 ^b	33,048 ± 1,822	121,689 ^c ± 9,716	5,570
2017	2,459 ± 145 ^b	32,931 ± 2,403	133,629 ^c ± 24,576	5,774
2018	2,505 ± 141 ^b	30,989 ± 2,400	103,322 ^c ± 33,481	6,864
2019	2,694 ± 205 ^b	30,206 ± 3,138	86,683 ^c ± 34,461	5,558
2020	3,272 ± 186 ^b	41,621 ± 3,911	138,954 ^c ± 30,202	7,395
2021	2,748 ± 171 ^b	32,973 ± 2,702	91,488 ^c ± 30,313	5,630
2022	1,620 ± 100 ^b	20,109 ± 1,617	60,768 ^c ± 10,186	3,377
2023	7,459 ± 401 ^b	101,739 ± 8,882	378,543 ^c ± 77,084	13,700

^a Harvest data estimates differ from the original estimates and were restricted to Conservation Order only.

^b 95% confidence intervals

^c Reporting bias of .487 was not used for these years.

Table 2. Estimated of the number of hunters, days afield, and harvest of light geese by zone hunted most often in 2023.

Zone	Hunters	Days Afield	Harvest	Crippled
North	154	1,766	4,476	54
Central	4,150	59,332	174,893	8,149
South Central	2,109	32,770	167,348	4,138
South	703	7,871	31,827	1,234
Total	7,116 ^a	101,739	378,543	13,575

^aEstimates are based off “zone hunted most often” rather than county reported for harvest because some counties lie in multiple zones.

Table 3. Estimated light goose harvest by month during the Illinois Light Goose Conservation Order from 2004-2023.

	January ^{b,c}	February	March	April
2004 ^a	-	26,404	10,785	
2005	824	29,008	8,351	
2006	67	43,815	15,917	
2007	2,006	32,564	9,944	
2008	295	61,376	35,351	
2009	77	58,761	26,797	
2010	249	44,755	20,983	
2011	-	48,323	18,082	
2012	55	60,625	26,878	
2013	476 ^d	45,080	22,233	
2014	97	39,969	42,094	
2015	20	65,454	58,470	
2016	402	74,269	47,018	
2017	678	84,153	48,798	
2018	180	62,584	40,558	
2019	82	55,167	31,434	
2020	196	85,326	53,432	
2021	96	50,340	39,956	1,096
2022	16	33,572	26,045	1,134
2023	86	250,601	118,699	9,157

^a Monthly harvest data before 2004 are not available

^b January estimates include only North Zone harvest unless otherwise noted.

^c Harvest data are estimates for Conservation Order only.

^d Revised from reported 2013-14 harvest.

Table 4. Hunter comparison between the number of light geese SEEN during 2023 to the last 5 years ($n = 435$).

	Hunted in 2023	
	Number of Hunters	Percentage of Hunters (%)
Decreased Considerably	29	6.7
Decreased Moderately	43	9.9
Decreased Slightly	110	25.3
No Change	128	29.4
Increased Slightly	68	15.6
Increased Moderately	40	9.2
Increased Considerably	17	3.9

Table 5. Hunter comparison between the number of light geese HARVESTED during 2023 to the last 5 years ($n = 435$).

	Hunted in 2023	
	Number of Hunters	Percentage of Hunters (%)
Decreased Considerably	50	11.5
Decreased Moderately	41	9.4
Decreased Slightly	93	21.4
No Change	114	26.2
Increased Slightly	85	19.5
Increased Moderately	35	8.0
Increased Considerably	17	3.9

Table 6. Satisfaction with the 2023 Light Goose Conservation Order in Illinois.

	<i>n</i>	Very Dissatisfied %	Dissatisfied %	Neither %	Satisfied %	Very Satisfied %
Number of light geese you saw.	435	4.8	19.8	21.4	43.2	10.8
Mid-season matched peak of light goose migration.	434	8.3	25.6	35	27.6	3.5
Amount of shooting you got in.	435	10.1	25.7	22.8	36.3	5.1
Amount of time you spent light goose hunting.	435	5.3	21.1	26.9	40.5	6.2
Number of light geese you harvested.	434	9.4	25.8	25.6	35.5	3.7
The weather during the Conservation Order season.	435	3.7	13.8	36.1	42.1	4.4
Number of light geese that migrated through areas you hunted.	434	8.3	18.9	25.3	38.2	9.2

Table 7. Reasons why hunters did not hunt as much as they would prefer.

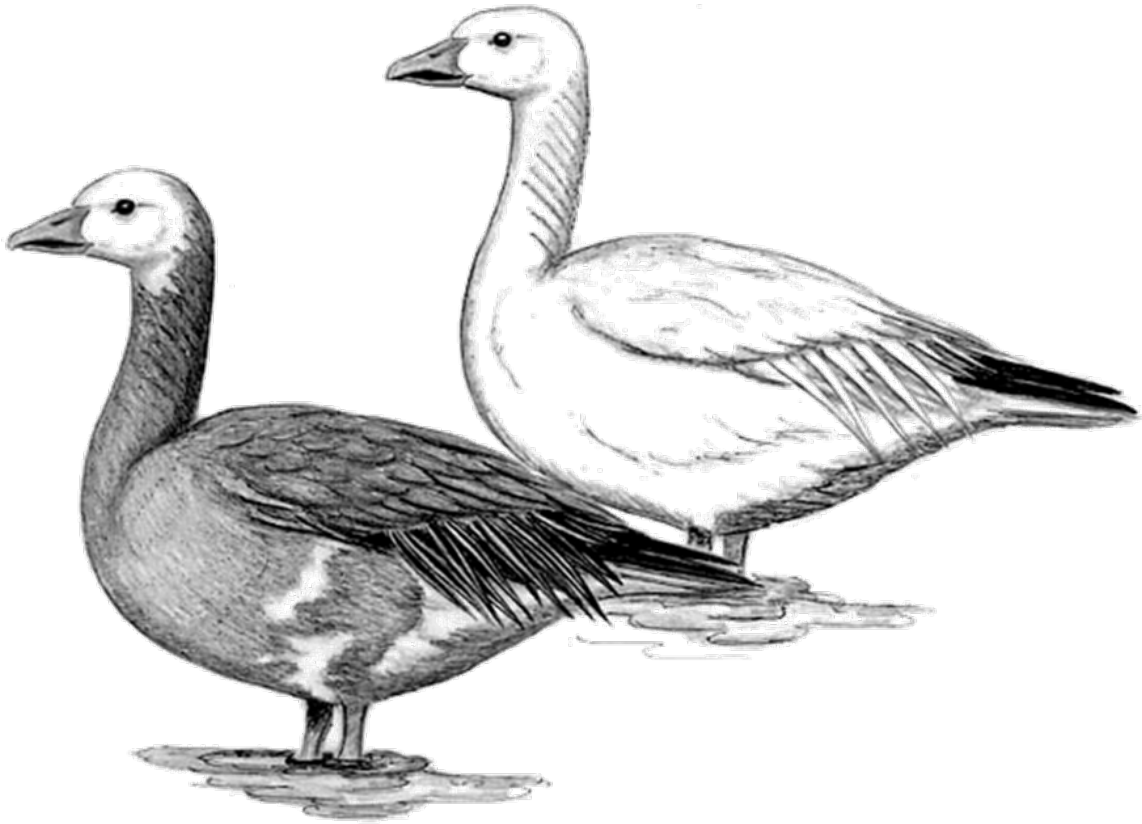
Why do you not hunt more:	Did not hunt (<i>n</i> =197) %	Hunted LG in 2023 (<i>n</i> =378) %
Not enough free time	55.3	63.0
Not seeing enough light geese	21.8	28.0
No places to hunt	28.4	20.1
It is too expensive	15.2	19.0
Have to travel too far to hunt them	21.8	18.5
Lack of equipment	21.3	18.0
Few/no hunting partners	20.8	13.2
Other	12.7	9.3
Worried there are too few juveniles	4.1	5.6

**Percentages add up to >100 because some hunters selected multiple reasons for not hunting more.

Table 8. Perceived level of risk avian influenza poses.

Risk of avian influenza (bird flu)...	<i>n</i>	No risk %	Slight risk %	Moderate risk %	High risk %	Extreme risk %
... being contracted by you	635	57.2	36.2	5.8	0.6	0.2
... to your health	635	56.9	34.5	7.9	0.6	0.2
... to light goose populations	635	23.6	24.7	30.7	15.1	5.8
... to duck populations	635	22.8	27.2	30.2	13.7	6.0
... to upland game bird populations	635	28.0	33.2	26.9	8.0	3.8
... to poultry (chicken, turkey, <i>etc.</i>)	635	26.6	28.0	26.6	11.8	6.9

Illinois Light Goose Conservation Order Survey 2023



Illinois Department of Natural Resources
Division of Wildlife Resources
&
The Illinois Natural History Survey

I ILLINOIS
Illinois Natural History Survey
PRAIRIE RESEARCH INSTITUTE

The Department of Natural Resources is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under the Illinois Compiled Statutes, The Wildlife Code, Chapter 520. Disclosure of information is voluntary. This study is funded by the federal Wildlife Restoration Fund through your purchase of sporting arms and ammunition.

THANK YOU FOR YOUR COOPERATION!

All of your responses will be kept confidential.

Please return this survey in the postage-paid return envelope provided.

Section 1. Light Goose Conservation Order (Spring Light Goose) Hunting Effort and Harvest. Please take a few minutes to complete the following questionnaire to help us evaluate the *2023 Light Goose Conservation Order*

(LGCO) even if you did not hunt. All questions pertain to Illinois hunting. Please note: "Light geese" includes Snow, Ross', and Blue geese.

1. Which of the following best describes how often you hunt **light geese** in Illinois?

_____ Every year _____ Most years _____ Occasional years _____ Rarely

2. In how many of the previous 5 LGCO seasons have you participated? _____ Number of seasons hunted

3. How has your participation in LGCO changed over the past 5 years?

I hunt a lot less	I hunt a little less	I hunt the same amount	I hunt a little more	I hunt a lot more
1	2	3	4	5

4. Did you hunt in Illinois during the **2023 LGCO (spring light goose)** (North Zone: **Jan. 20 - April 30, 2023**; Central, South Central, and South Zones: **Feb. 1 - April 30, 2023**)? **Do not include** hunting light geese during the regular Canada goose season. (Please check **one**.)

_____ Yes _____ No (If "No," please go to **Question 11**)

5. Which zone did you **hunt light geese most often** during the **2023 LGCO**? (Check **one**.)

_____ North Zone _____ Central Zone _____ South Central Zone _____ South Zone

6. On which of the following types of land did you hunt light geese during the **2023 LGCO**? (Check **all that apply**.)

_____ Private land I paid to access _____ Private land (I/family own) _____ IDNR public land
 _____ Private land I do not own _____ Federal public land

7. How many days did you hunt light geese in Illinois during the 2023 LGCO? Please indicate total days for each.

Public lands: _____ Days **Private property:** _____ Days

8. Please indicate **your personal** effort (**not** your party's effort) and harvest in the following table. **Include only harvest that occurred during the spring LGCO (light, blue, & Ross');** do **not include light geese harvested during the regular Canada goose seasons**. Count part of 1 day as 1 day. **Please refer to the county/zone map on the backside the cover letter if needed. Please note, during January only the North zone is open to hunts.**

	County hunted	Days hunted	Geese harvested	Geese hit, but not retrieved
January (North zone only)				
February:				
March:				
April:				

9. How do the following aspects of the **2023 LGCO** compare to the **last 5 years**? Please circle the number that matches your response.

	Decreased Considerably	Decreased Moderately	Decreased Slightly	No Change	Increased Slightly	Increased Moderately	Increased Considerably
Number of light geese seen	1	2	3	4	5	6	7
Number of light geese harvested	1	2	3	4	5	6	7

10. Please rate your **SATISFACTION with the 2023 LGCO in Illinois** for each of the following by circling the number that matches your response.

	Very Dissatisfied	Dissatisfied	Neither	Satisfied	Very Satisfied
Number of light geese you saw.	1	2	3	4	5
Mid-season matched peak of light goose migration.	1	2	3	4	5
Amount of shooting you got in.	1	2	3	4	5
Amount of time you spent light goose hunting.	1	2	3	4	5
Number of light geese you harvested.	1	2	3	4	5
Weather during the season.	1	2	3	4	5
Number of light geese that migrated through areas you hunted.	1	2	3	4	5

11. How did you feel about the timing of the following aspects of the **2023 LGCO** for the area you hunt **most often**?

	Too early	About right	Too late	I am not sure
The LGCO opening date	1	2	3	4
The LGCO closing date	1	2	3	4
When light geese began arriving	1	2	3	4
When light geese began leaving	1	2	3	4

12. If you hunt **light geese** less often than you want, which describes why you do not hunt more? Select all that apply.

- Worried there are too few juveniles
 Few/no hunting partners
 Not enough free time
 Not seeing enough light geese
 It is too expensive
 Lack of equipment
 Have to travel too far to hunt them
 No places to hunt
 Other (Identify): _____

13. About how far, on average, do you typically travel to hunt light geese in Illinois? _____ Miles

14. Have you **ever** used a guide or outfitter while hunting light geese during the **LGCO in Illinois**?

- Yes
 No (If "No," please go to **Question 15**)

14a. What year did you last use a guide or outfitter while hunting light geese in Illinois? _____ Year

14b. How often do you use a guide or outfitter while hunting light geese in Illinois during the **LGCO**?

- Every time
 Most times
 Occasionally
 Rarely

14c. Why do you use a guide or outfitter to hunt light geese in Illinois? (Please select **all that apply**.)

- Equipment costs are too high
 Easier to have someone else do the setup
 I lack the equipment
 Too few hunting partners
 I lack access to an area to hunt
 Better success with a guide/outfitter
 Other (Please identify): _____

15. How much do you support delaying the start of the LGCO to extend the regular goose season into February?

- Strongly Oppose
 Oppose
 Not sure
 Support
 Strongly Support

16. While hunting, how often do you take precautions to protect yourself from avian influenza? Please select one.

- Never
 Rarely
 Sometimes
 Often
 Always



ILLINOIS NATURAL HISTORY SURVEY

Prairie Research Institute

University of Illinois at Urbana-Champaign

Dear Illinois Hunter,

You have been chosen as one of a select group of Illinois light goose hunters to provide information about your hunting activities. Enclosed is a survey questionnaire regarding your hunting experiences in Illinois during the 2023 Light Goose Conservation Order (spring) season. **Even if you did not hunt in Illinois during the 2023 season, we ask that you please take a few minutes to complete the portions of the questionnaire that pertain to you.** A postage paid envelope is provided for returning the questionnaire to us.

This study by the Illinois Department of Natural Resources and the Illinois Natural History Survey is being done to gather information about the economic contributions for light goose hunting in Illinois. Results of this study will help wildlife managers make decisions to improve hunting opportunities and to better manage Illinois' wildlife populations. **Your responses are voluntary and completely confidential.** By responding you will help us more effectively manage wildlife and hunting in Illinois.

If you do not wish to participate, please return the blank questionnaire so we can remove your name from our mailing list.

You may access the results of this and other studies of hunters and hunting in Illinois at <https://publish.illinois.edu/human-dimensions/>. You may also find information about Illinois Department of Natural Resources wildlife management programs and wildlife in Illinois at <http://dnr.state.illinois.gov/hunting/>.

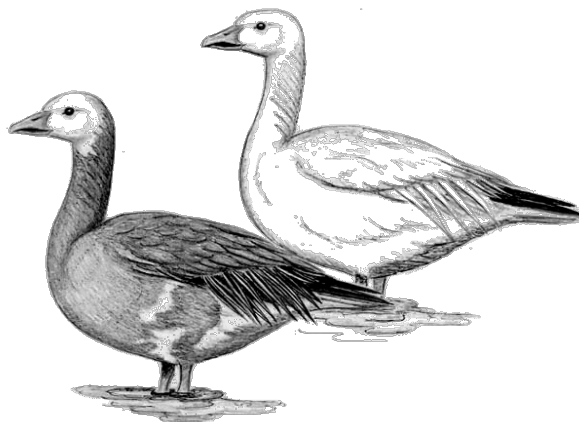
If you have questions regarding this study, please call us at (217) 244-5121 or email us at laurenjs@illinois.edu.

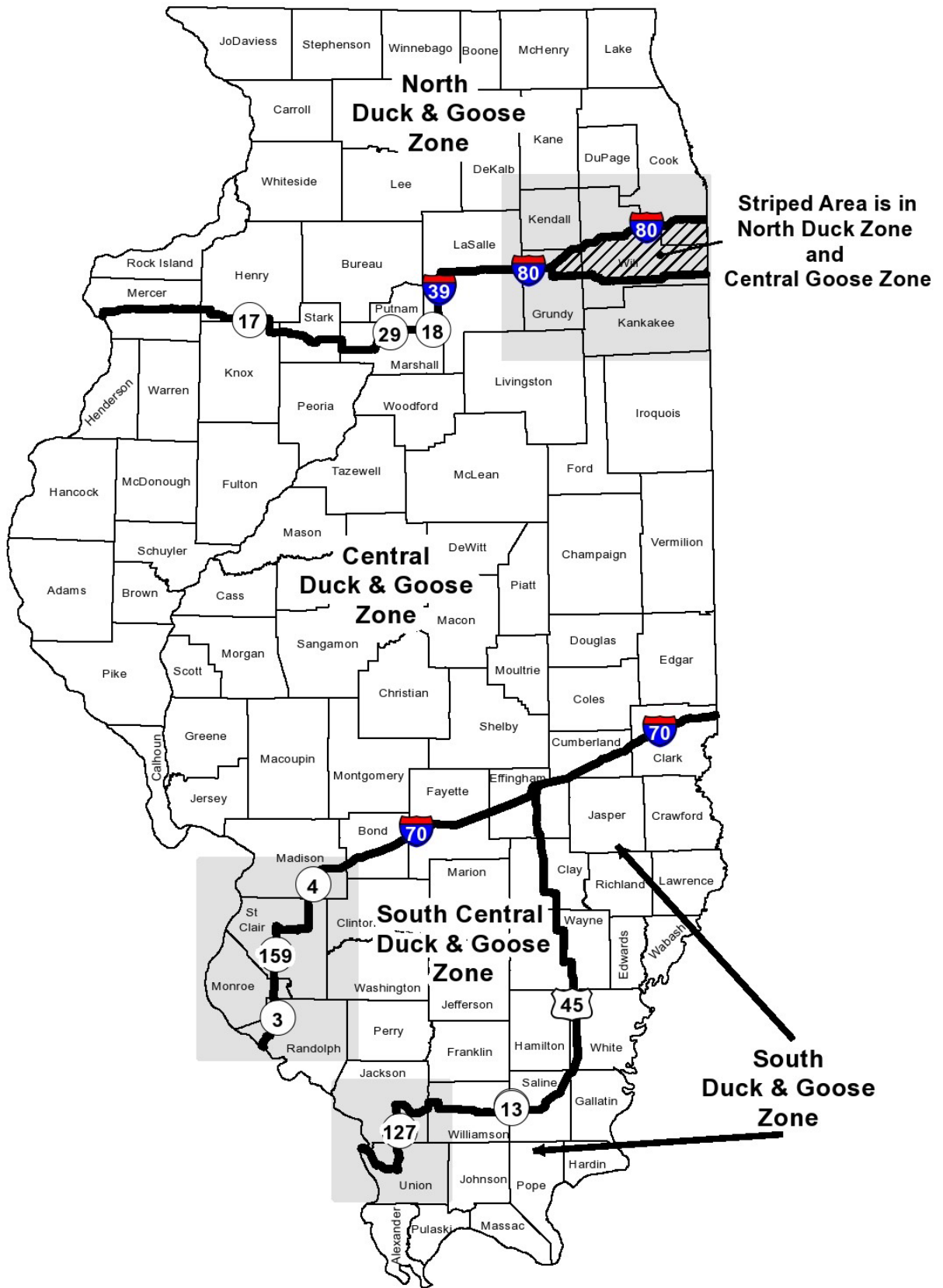
Thank you for your time and assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Craig A. Miller".

Craig A. Miller
Human Dimensions Research Program





Appendix C

Dear Illinois Hunter,

Recently you were mailed a questionnaire about your light goose hunting during the Illinois Light Goose Conservation Order (spring) season. We have not yet received your response. **If you have already returned the questionnaire, we thank you. If you have not returned the questionnaire, please do so as soon as possible. Your input is very important!**

Your name and address will be deleted from our mailing list when your questionnaire is received.

Thank you for your time and cooperation.



ILLINOIS NATURAL HISTORY SURVEY

Prairie Research Institute
University of Illinois at Urbana-Champaign

We recently mailed you a questionnaire regarding your hunting experiences during the 2023 Light Goose Conservation Order (spring) season. **Even if you did not hunt in Illinois during the 2023 season, we ask that you please take a few minutes to complete the portions of the questionnaire that pertain to you.** A postage paid envelope is provided for returning the questionnaire to us. If you have already returned the questionnaire, we thank you.

If you have not returned your completed questionnaire, please do so as soon as possible. We have enclosed another copy for your use. This study by the Illinois Department of Natural Resources and the Illinois Natural History Survey is being done to gather information about the economic contributions for light goose hunting in Illinois. Results of this study will help wildlife managers make decisions to improve hunting opportunities and to better manage Illinois' wildlife populations. **Your responses are voluntary and completely confidential.** By responding you will help us more effectively manage wildlife and hunting in Illinois.

If you do not wish to participate, please return the blank questionnaire so we can remove your name from our mailing list.

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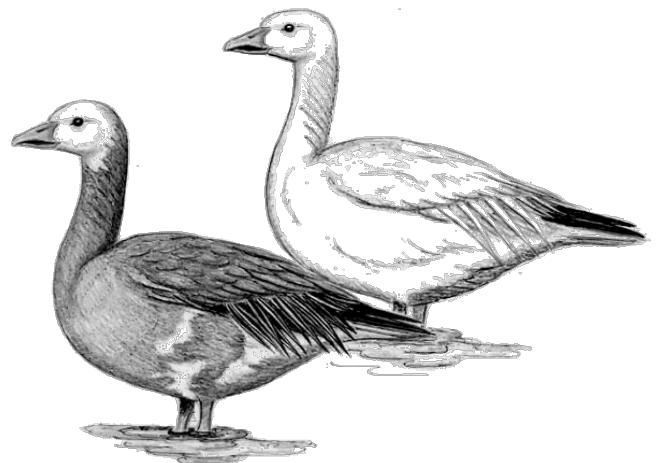
If you have questions regarding this study, please call us at (217) 244-5121 or email us at laurenjs@illinois.edu.

Thank you for your time and assistance.

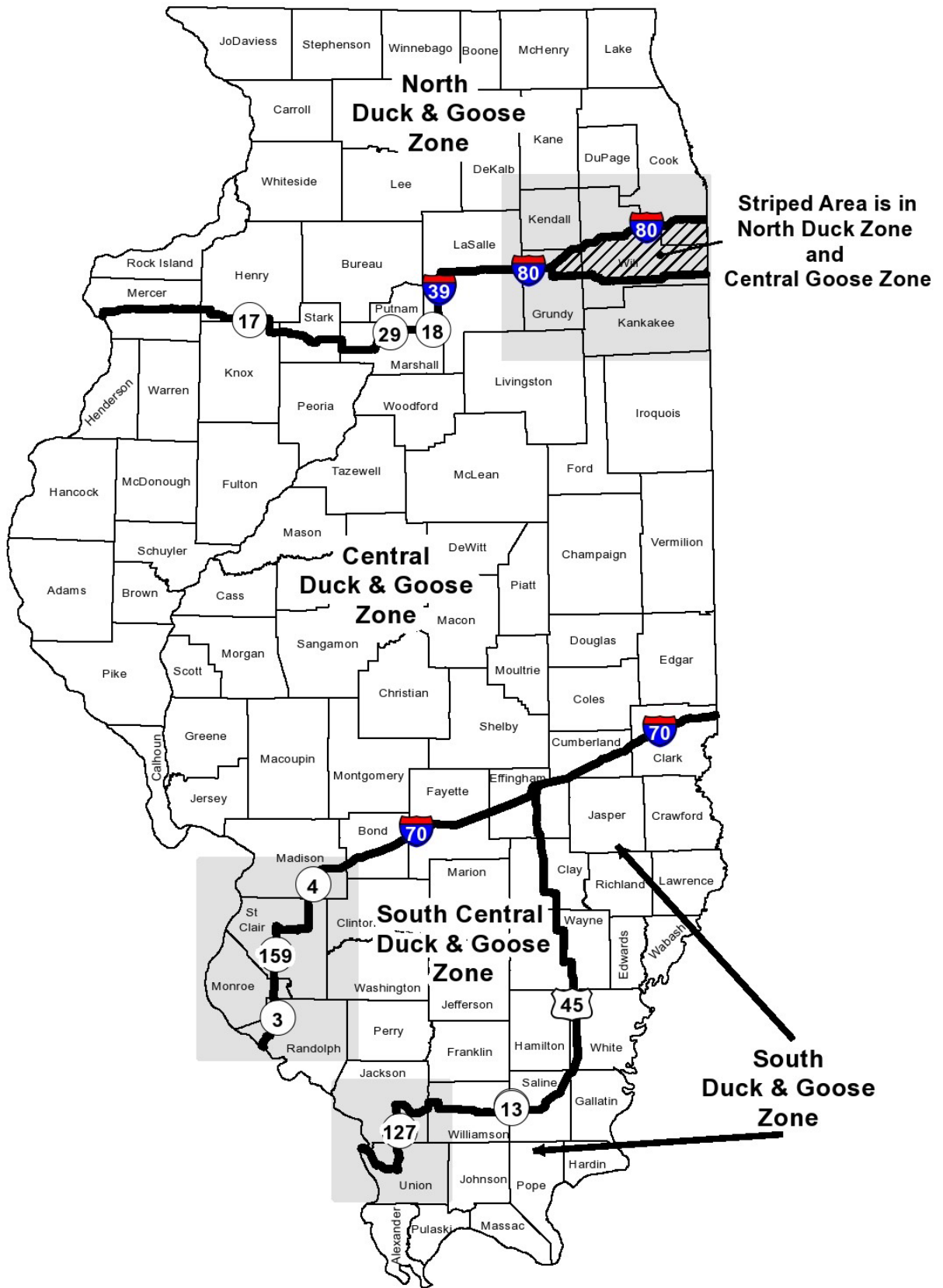
Sincerely,

A handwritten signature in black ink, appearing to read "Craig A. Miller".

Craig A. Miller
Human Dimensions Research Program



1816 South Oak Street,
Champaign, Illinois 61820 USA



Appendix E

Table E-1. Distribution of respondents by county of residence ($n = 635$).

County	<i>n</i>	County	<i>n</i>	County	<i>n</i>
Adams	14	Hardin	0	Morgan	6
Alexander	2	Henderson	2	Moultrie	4
Bond	5	Henry	8	Ogle	1
Boone	1	Iroquois	7	Peoria	11
Brown	1	Jackson	9	Perry	7
Bureau	8	Jasper	4	Piatt	1
Calhoun	9	Jefferson	14	Pike	6
Carroll	1	Jersey	12	Pope	0
Cass	8	Jo Daviess	0	Pulaski	1
Champaign	10	Johnson	1	Putnam	5
Christian	3	Kane	5	Randolph	9
Clark	2	Kankakee	4	Richland	1
Clay	2	Kendall	1	Rock Island	8
Clinton	27	Knox	8	St. Clair	38
Coles	3	Lake	7	Saline	1
Cook	8	LaSalle	17	Sangamon	18
Crawford	6	Lawrence	2	Schuyler	8
Cumberland	2	Lee	1	Scott	0
De Kalb	1	Livingston	2	Shelby	1
DeWitt	3	Logan	8	Stark	0
Douglas	0	McDonough	7	Stephenson	1
Du Page	6	McHenry	1	Tazewell	19
Edgar	4	McLean	12	Union	5
Edwards	1	Macon	9	Vermillion	2
Effingham	1	Macoupin	13	Wabash	0
Fayette	11	Madison	28	Warren	2
Ford	2	Marion	8	Washington	8
Franklin	6	Marshall	3	Wayne	2
Fulton	10	Mason	16	White	3
Gallatin	0	Massac	9	Whiteside	6
Greene	6	Menard	3	Will	13
Grundy	2	Mercer	3	Williamson	12
Hamilton	0	Monroe	22	Winnebago	1
Hancock	6	Montgomery	9	Woodford	9

Table E-2. Distribution of light geese harvested per county ($n = 401$).

County	Light Geese	County	Light Geese	County	Light Geese
Adams	296	Hardin	0	Morgan	170
Alexander	387	Henderson	61	Moultrie	91
Bond	1507	Henry	182	Ogle	0
Boone	0	Iroquois	0	Peoria	142
Brown	13	Jackson	541	Perry	335
Bureau	14	Jasper	340	Piatt	0
Calhoun	218	Jefferson	1042	Pike	788
Carroll	0	Jersey	735	Pope	0
Cass	330	Jo Daviess	0	Pulaski	59
Champaign	0	Johnson	0	Putnam	0
Christian	25	Kane	0	Randolph	440
Clark	11	Kankakee	0	Richland	52
Clay	0	Kendall	0	Rock Island	2
Clinton	1930	Knox	216	St. Clair	86
Coles	131	Lake	0	Saline	0
Cook	0	LaSalle	37	Sangamon	277
Crawford	0	Lawrence	0	Schuyler	145
Cumberland	6	Lee	2	Scott	4
De Kalb	0	Livingston	2	Shelby	14
DeWitt	0	Logan	30	Stark	0
Douglas	0	McDonough	115	Stephenson	0
Du Page	0	McHenry	0	Tazewell	32
Edgar	60	McLean	16	Union	1324
Edwards	9	Macon	20	Vermillion	20
Effingham	15	Macoupin	522	Wabash	0
Fayette	2562	Madison	56	Warren	16
Ford	0	Marion	121	Washington	172
Franklin	40	Marshall	8	Wayne	9
Fulton	774	Mason	1971	White	0
Gallatin	0	Massac	68	Whiteside	1
Greene	127	Menard	36	Will	0
Grundy	35	Mercer	29	Williamson	103
Hamilton	40	Monroe	598	Winnebago	0
Hancock	60	Montgomery	850	Woodford	24

Table E-3. Distribution of days hunted per county by county hunted ($n=401$).

County	Days	County	Days	County	Days
Adams	166	Hardin	0	Morgan	36
Alexander	85	Henderson	26	Moultrie	68
Bond	227	Henry	56	Ogle	0
Boone	0	Iroquois	0	Peoria	20
Brown	4	Jackson	158	Perry	160
Bureau	12	Jasper	20	Piatt	0
Calhoun	183	Jefferson	147	Pike	196
Carroll	0	Jersey	193	Pope	0
Cass	86	Jo Daviess	0	Pulaski	17
Champaign	0	Johnson	0	Putnam	0
Christian	5	Kane	0	Randolph	117
Clark	3	Kankakee	0	Richland	13
Clay	0	Kendall	0	Rock Island	3
Clinton	339	Knox	94	St. Clair	93
Coles	82	Lake	0	Saline	0
Cook	0	LaSalle	22	Sangamon	57
Crawford	0	Lawrence	0	Schuyler	66
Cumberland	3	Lee	3	Scott	6
De Kalb	0	Livingston	11	Shelby	5
DeWitt	11	Logan	10	Stark	0
Douglas	0	McDonough	57	Stephenson	0
Du Page	0	McHenry	0	Tazewell	39
Edgar	5	McLean	8	Union	110
Edwards	6	Macon	10	Vermillion	10
Effingham	3	Macoupin	243	Wabash	0
Fayette	419	Madison	45	Warren	19
Ford	0	Marion	56	Washington	98
Franklin	7	Marshall	5	Wayne	6
Fulton	334	Mason	412	White	0
Gallatin	0	Massac	43	Whiteside	2
Greene	88	Menard	15	Will	0
Grundy	25	Mercer	26	Williamson	24
Hamilton	10	Monroe	251	Winnebago	0
Hancock	61	Montgomery	245	Woodford	48

Table E-4. Distribution of hunters* per county ($n = 401$).

County	n	County	n	County	n
Adams	15	Hardin	0	Morgan	4
Alexander	7	Henderson	2	Moultrie	10
Bond	20	Henry	6	Ogle	0
Boone	0	Iroquois	0	Peoria	4
Brown	1	Jackson	17	Perry	15
Bureau	3	Jasper	5	Piatt	0
Calhoun	17	Jefferson	16	Pike	16
Carroll	0	Jersey	18	Pope	0
Cass	17	Jo Daviess	0	Pulaski	5
Champaign	0	Johnson	0	Putnam	0
Christian	2	Kane	0	Randolph	15
Clark	1	Kankakee	0	Richland	2
Clay	0	Kendall	0	Rock Island	1
Clinton	52	Knox	20	St. Clair	15
Coles	4	Lake	0	Saline	0
Cook	0	LaSalle	2	Sangamon	7
Crawford	0	Lawrence	0	Schuyler	9
Cumberland	1	Lee	1	Scott	1
De Kalb	0	Livingston	1	Shelby	1
DeWitt	3	Logan	1	Stark	0
Douglas	0	McDonough	7	Stephenson	0
Du Page	0	McHenry	0	Tazewell	7
Edgar	3	McLean	2	Union	14
Edwards	1	Macon	1	Vermillion	1
Effingham	1	Macoupin	21	Wabash	0
Fayette	52	Madison	4	Warren	2
Ford	0	Marion	7	Washington	8
Franklin	2	Marshall	1	Wayne	1
Fulton	42	Mason	51	White	0
Gallatin	0	Massac	6	Whiteside	1
Greene	11	Menard	3	Will	0
Grundy	3	Mercer	6	Williamson	3
Hamilton	1	Monroe	32	Winnebago	0
Hancock	7	Montgomery	24	Woodford	10

*Sum is greater than n because some hunters participated in multiple counties.

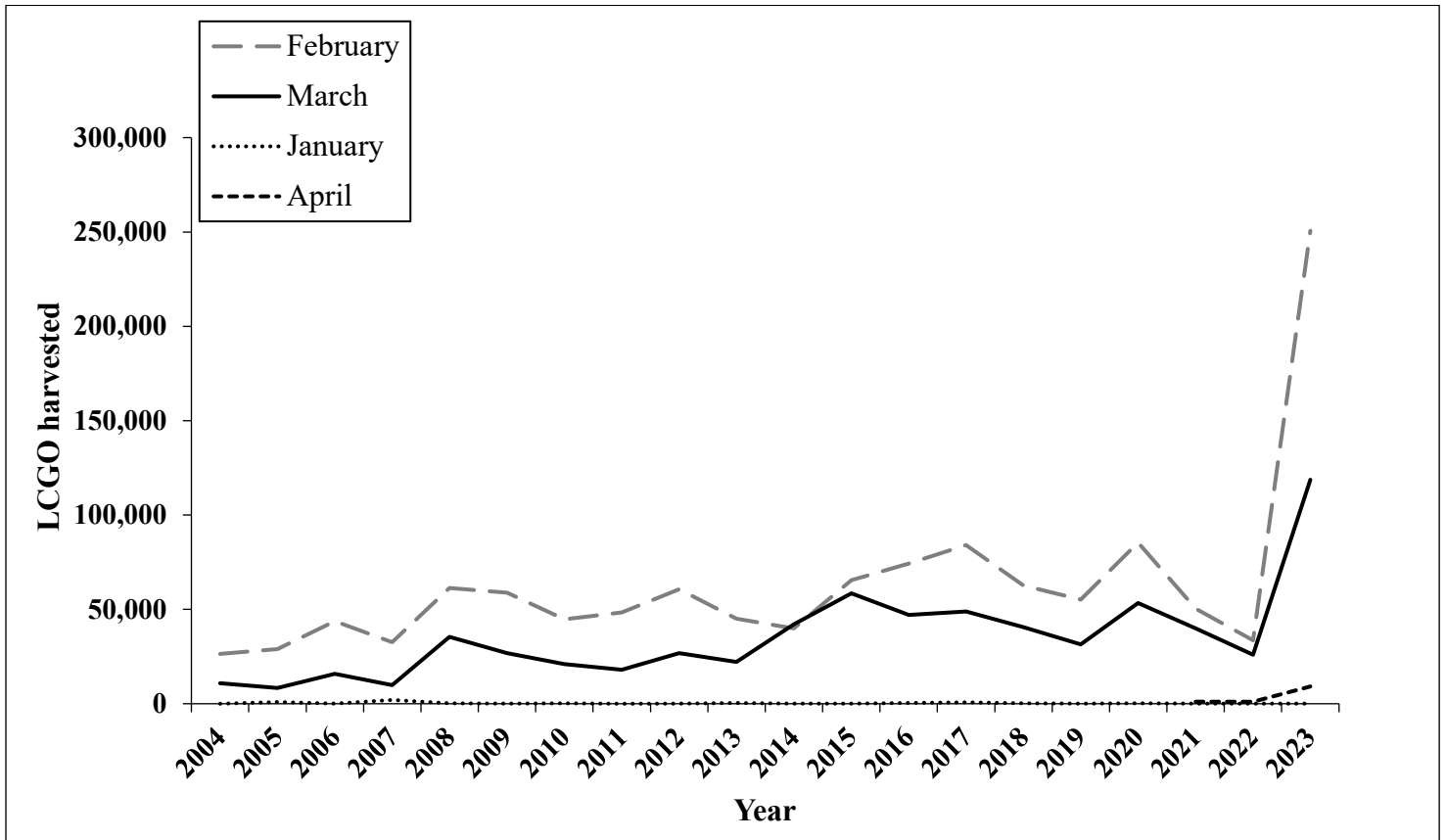


Figure E-1. Estimated number of LCGO harvested by month.* Due to changes in number of hunters sampled and calculation of estimates, comparisons to previous years' figures must be done with caution.

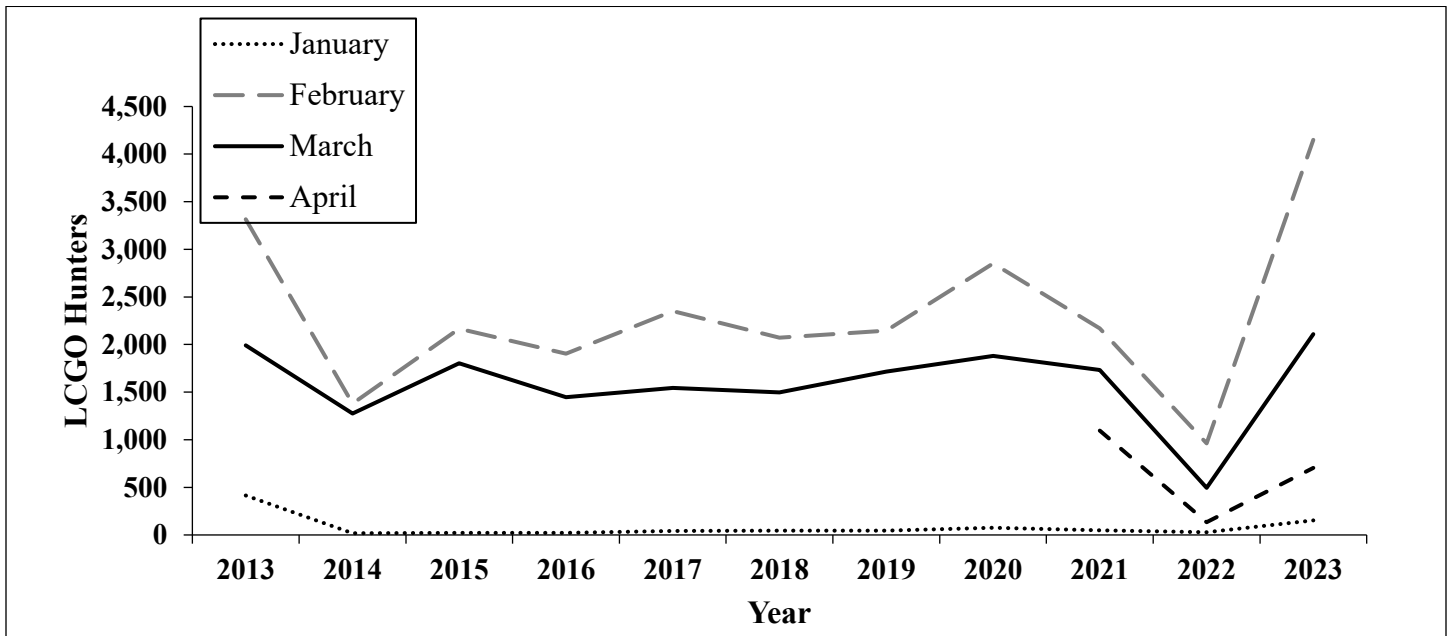


Figure E-2. Estimated number of LCGO hunters by month.* Due to changes in number of hunters sampled and calculation of estimates, comparisons to previous years' figures must be done with caution.

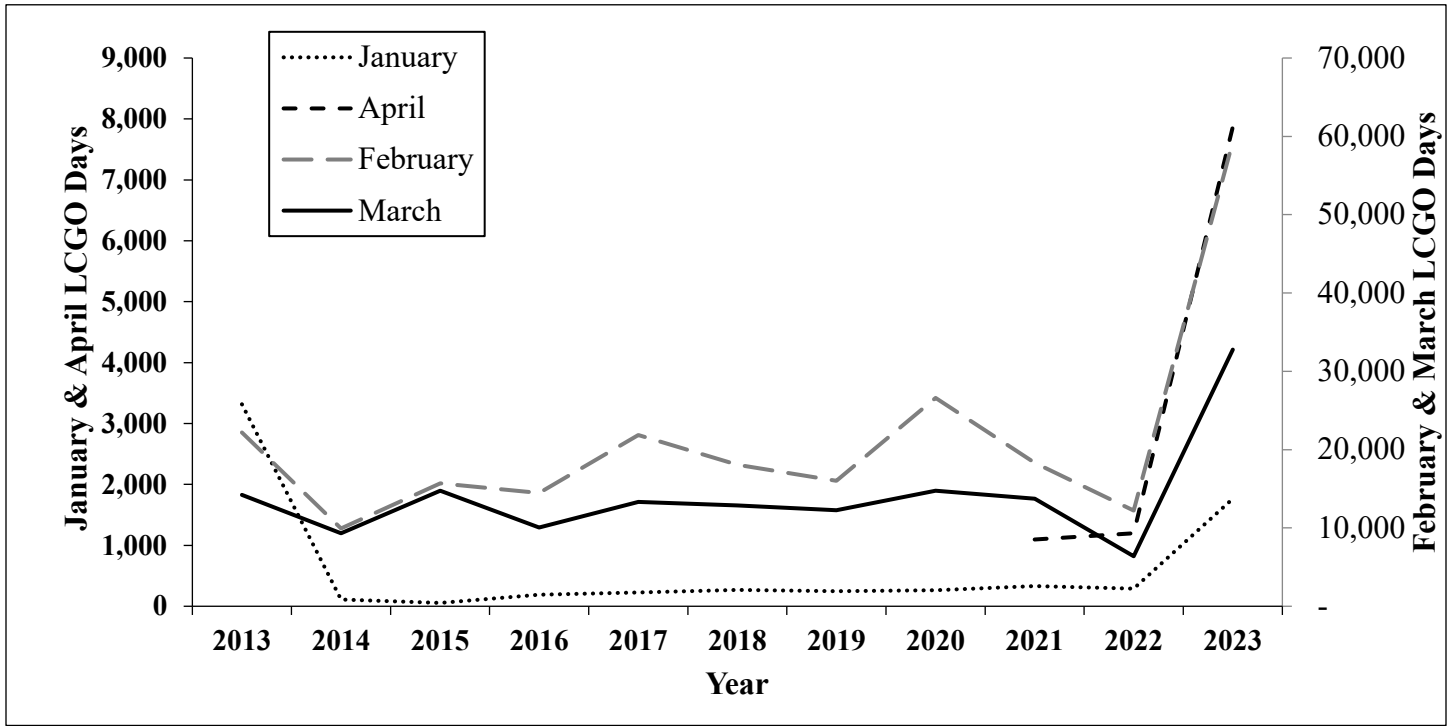


Figure E-3. Estimated number of days afield hunting LCGO by month.* Due to changes in number of hunters sampled and calculation of estimates, comparisons to previous years' figures must be done with caution.

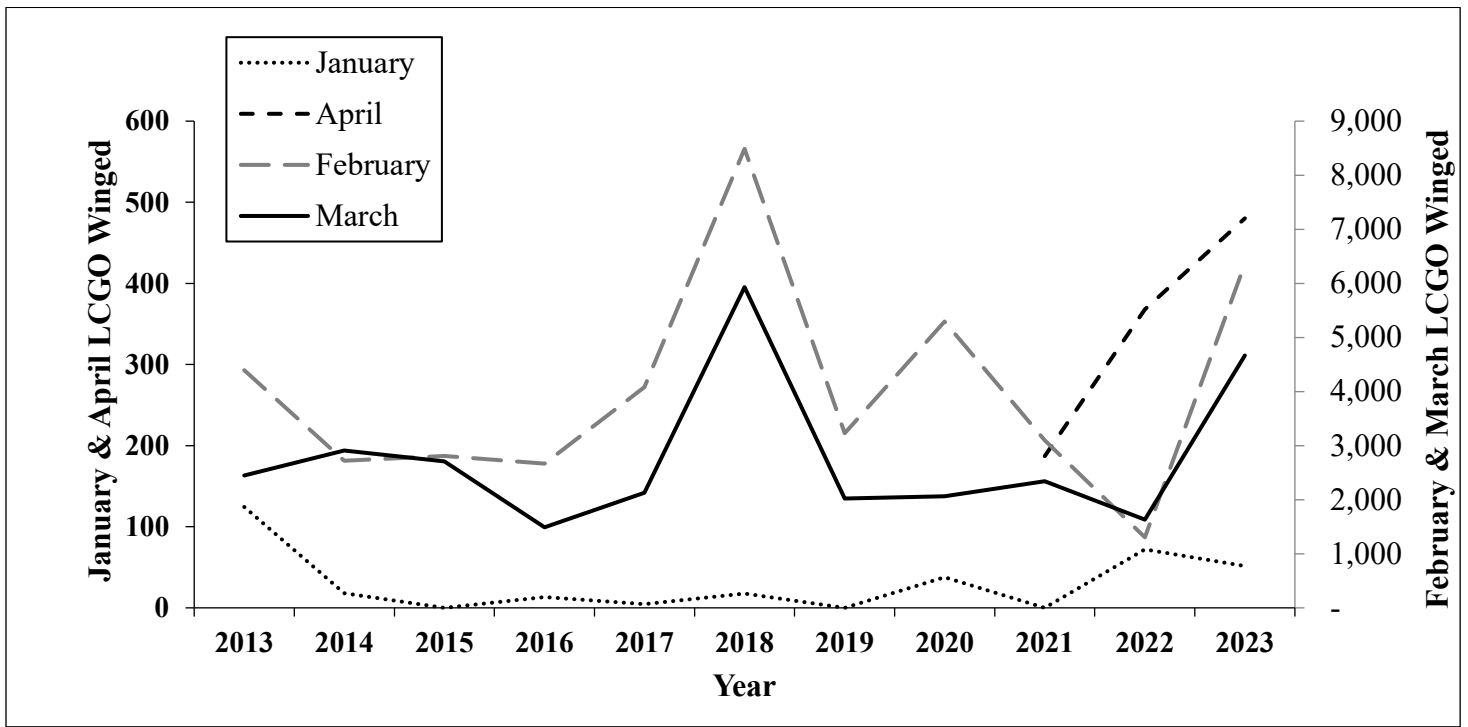


Figure E-4. Estimated number of hit but not retrieved LCGO by month.* Due to changes in number of hunters sampled and calculation of estimates, comparisons to previous years' figures must be done with caution.