

CONSERVATION ORDER LIGHT GOOSE HARVEST in IOWA 14 January – 15 April 2012

Prepared by

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Introduction

On February 16, 1999, the U.S. Fish and Wildlife Service (Service) published a rule in the Federal Register (Vol. 4, No. 30, p. 7517-7529) that established a conservation order to increase the harvest of mid-continent light geese (lesser snow and Ross's geese). The Service and the Flyway Councils believed numbers of mid-continent light geese exceeded the carrying capacity of their breeding habitat. The foraging activity of these birds degraded Arctic and Subarctic salt-marsh habitats, posing a serious threat to the long-term health of Arctic ecosystems and their associated wildlife communities (Abraham and Jefferies 1997). This rule was subsequently withdrawn as a result of court actions initiated by the Humane Society of the U.S. Passage of the Arctic Tundra Habitat Emergency Conservation Act by Congress in November 1999 essentially reinstated the conservation order rule until an environmental impact statement could be prepared to address this issue, a process that was completed in 2008.

In response to concerns about overabundant light goose populations, the Iowa Department of Natural Resources (IADNR) promulgated rules to permit the taking of light geese in Iowa during 14 January through 15 April in 2012. The daily bag limit was 20 (same as the regular season), with no possession limit. In addition to the standard methods of take permitted during the regular light goose season, light geese could be taken with the aid of electronic calls and with guns holding more than 3 shells. Shooting hours were one-half hour before sunrise to one-half hour after sunset. Similar harvest opportunities were made available during 1999-2011.

As required during previous years, persons attempting to take light geese in Iowa from 14 January - 15 April 2012 were required to possess a valid 2012 Iowa small game hunting license (resident license = \$17.50, nonresident license = \$110.50), with paid habitat (\$11.50) and migratory bird fees (\$8.50), and be registered with the Harvest Information Program (HIP) for 2012. In 1999 and 2000, persons registered for HIP using a toll-free telephone number (1-800-WETLAND). During 2001-2012, anyone that purchased the state migratory bird fee through the electronic licensing system (ELSI) was automatically registered with HIP.

This report was prepared to fulfill the federal requirement that States implementing actions to take light geese under the authority of the conservation order must estimate the number of mid-continent light geese harvested and the methods by which they were taken.

Methods

The harvest of light geese in Iowa during 14 January - 15 April 2012 was estimated using standard postcard survey methods (Appendix A). A stratified random sample of 3,000 hunters was drawn from a population of 8,358 hunters that purchased the Iowa migratory bird fee between 15 December 2011 and 15 April 2012. The sample consisted of 12 strata: 3 levels of purchase date (Dec-Jan, Feb, Mar-Apr) and 4 levels of response to the HIP survey question regarding goose harvest. Postcards were initially mailed in mid-April and reminder postcards were mailed to non-respondents in late-May. No additional efforts were made to contact non-respondents. Twenty-three cards were undeliverable, resulting in an effective sample size of 2,977. Responses were received from 1,326 hunters, yielding a response rate of approximately 45%.

Postcards were electronically imaged and data were entered using OCR, ICR, and OMR technology. Data were verified by DNR personnel and validated through the use of predetermined validation rules. Further accuracy checks were performed by routines written in SAS programming language. Missing values were inputted using the Hot Deck procedure of PRECARP (Fuller et al. 1989), and the resulting participation and harvest estimates were made using SAS PROC SURVEYMEANS. The cost of conducting this survey was estimated at \$4,250.00 (\$2,150 for materials and postage, \$2,100 for salaries).

Results

Approximately $1,769 \pm 233$ people ($\pm 95\%$ CL) attempted to take light geese in Iowa during 14 January - 15 April 2012 (Table 1). Active participants pursued light geese for $10,050 \pm 2,041$ days and shot and retrieved $14,946 \pm 2,995$ light geese for an average seasonal retrieved harvest of 8.4 geese per active participant.

Discussion

Measures of uncertainty associated with harvest estimates in 2012 (i.e., standard deviation, variance, and 95% confidence intervals) were smaller than 2011. The precision of many estimates, however, have declined over the past 10 years, due in part to declining response rates, which fell to a new low of 45% this year. Preliminary federal harvest estimates for the 2011-2012 regular season indicate that 146 light geese were taken in Iowa during the 107 and 105-day seasons in North and South Zones, respectively. Ninety-nine percent of the light geese harvested in Iowa from Sept. 24, 2011, to April 15, 2012, were taken during the conservation order period.

Approximately 67% of the participants used electronic calls in 2012 compared to 60% in 2011 and 67% in 2010. Similar proportions of the harvested geese were taken with the aid of electronic calls in 2012 (78%) as were taken in 2011 (79%) and 2010 (75%). A similar proportion of geese appeared to have been taken with the 4th, 5th, or 6th shells by hunters using unplugged guns in 2012 (21%) compared to 2011 (23%). A lower proportion of the harvest was reported to have been taken during the half-hour after sunset period in 2012 (9%) compared to 2011 (14%). Overall, the light goose harvest for the conservation order period in 2012 was near the 1999-2011 average of 18,362 and similar to the 2011 harvest.

Table 1. Light goose Conservation Order harvest summary for Iowa, 2008 - 2012.

	2008		2009		2010		2011		2012	
	No.	±95% CL	No.	±95% CL	No.	±95% CL	No.	±95% CL	No.	±95% CL
Active Hunters	2,116	260	1,975	234	1,360	177	1,582	251	1,769	233
Days Hunted	10,706	2,164	14,348	3,033	7,877	1,564	9,013	2,692	10,050	2,041
Light Goose Harvest^a	15,198	6,473	23,652	7,034	8,153	2,544	15,139	4,689	14,946	2,995
Average Seasonal Bag ^b	7.2		12.0		6.0		9.6		8.4	
Hunters that used electronic calls	1,261	216	1,213	194	905	157	952	194	1,175	302
Geese killed using electronic calls	11,614	6,323	16,810	5,886	6,144	2,290	12,021	4,087	11,614	2,849
Hunters that used guns with > 3 shells	1,224	214	1,306	202	864	157	1,046	222	1,135	197
Geese killed with guns with > 3 shells	11,450	6,335	18,577	6,711	5,646	2,232	11,311	4,381	11,358	2,882
Geese killed with the 4 th , 5 th or 6 th shell	5,930	5,820	5,969	2,167	1,723	697	3,492	1,686	3,077	876
Hunters hunting 1/2 hour after sunset	793	179	964	185	556	133	456	166	678	168
Geese shot 1/2 hour after sunset	2,192	2,203	4,178	1,734	1,622	1,066	2,174	1,741	1,313	492
Season Dates	Jan 14 - April 15		Jan 12 - April 15		Jan 11 - April 15		Jan 15 - April 15		Jan 14 - April 15	
Season Length (days)	92		94		95		91		92	
HIP registrants ^d (Dec 15 to March 31)	8,353		8,198		7,165		7,545		8,358	
HIP registrants sampled	2,929		2,961		2,969		2,973		2,976	
Usable responses	1,598		1,591		1,593		1,429		1,325	
Response rate	55%		54%		54%		48%		45%	

^a Shot and retrieved

^b Retrieved harvest per active hunter

^c Hunters called a toll-free number to register for HIP in 1999 and 2000.

^d Hunters automatically registered with the HIP when paying the migratory bird fee via the electronic licensing system beginning in 2001.

Literature Cited

- Abraham, K. F., and R. L. Jefferies. 1997. High goose populations: causes, impacts and implications. Pages 7–72 in B. D. J. Batt, ed. Arctic Ecosystems in Peril: Report of the Arctic Goose Habitat Working Group. Arctic Goose Joint Venture Special Publication. U. S. Fish and Wildlife Service, Washington, D.C. and Canadian Wildlife Service, Ottawa, Ontario. 120pp.
- Fuller, W. A., W. Kennedy, D. Schnell, G. Sullivan, and H. J. Park. 1989. PC CARP. Statistical Laboratory, Iowa State University, Ames, Iowa. 136pp.

Appendix A

2012 IOWA Light Goose Harvest Survey

You were selected to help measure Iowa's harvest of light geese (snow, blue, and Ross geese) during Jan. 14 - Apr. 15, 2012. Please return this card regardless of whether you hunted light geese. DO NOT Report any hunting or harvest of light geese prior to Jan. 14, 2012. Thank you!

Please respond only in the spaces provided.

Did you hunt light geese during Jan. 14 - Apr. 15, 2012? Yes No

What Iowa county did you hunt most often for light geese?

(first 6 letters ONLY)

Number of days hunted:



How many light geese did YOU PERSONALLY shoot and retrieve?

How many light geese did YOU PERSONALLY shoot, but were UNABLE to retrieve?

Did you hunt light geese with a gun that was holding more than 3 shells? Yes No

How many light geese did you shoot with gun(s) holding more than 3 shells?

How many light geese did you shoot with the 4th, 5th, or 6th shell?

Did you hunt light geese with the aid of an electronic caller? Yes No

If YES, how many light geese did you shoot with the aid of an electronic caller?

Did you hunt light geese during the 1/2 hour after sunset period? Yes No

If YES, how many light geese did you shoot during the 1/2 hour after sunset period?

DO NOT make unnecessary marks on this form.

Please print neatly using BLUE or BLACK ballpoint pen only.