

Results of the 2013-2014 Virginia Waterfowl Hunter Survey



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ABSTRACT

A survey was conducted in the late spring and early summer of 2014 to determine the preferences of Virginia waterfowl hunters on regulatory options and waterfowl hunting issues. A random sample of 3,000 names and addresses was selected from the pool of people that indicated they hunted either ducks or geese on their 2012-2013 Virginia Harvest Information Program (HIP) registration. Completed surveys were returned from 772 respondents for an adjusted response rate of 27.3%. This sample size and response rate results in a Margin of Error of +/- 3.44 at the 95% level of confidence. This means that no more than 1 time in 20 should chance variations in the sample cause the results to vary by more than +/- 3.44% from the answers that would be obtained if all waterfowl hunters in the HIP were surveyed. Among the HIP registrants who completed the survey, 87% said they hunted waterfowl in Virginia during the 2012-2014 season. Survey participants were questioned about several aspects of waterfowl hunting including issues such as resident Canada geese, duck bag limits, youth hunting, season adjustments, and issues related to the regulatory process. Survey respondents ranged in age from 11 to 85, with the average age being 51. Almost nine out of ten respondents reporting hunting waterfowl during the 2013-2014 season, and Accomack County was the most hunted county/city in the Commonwealth. Only 7% of hunters accompanied a youth on the designated youth hunting day. Regarding waterfowl dates and bag limits, hunters are mostly interested in maintaining the status quo. Just under 10% of hunters reporting shooting their daily bag limit. A strong majority of hunters supported a four-day October hunting season segment that went from Friday to Monday during the Columbus Day holiday, but hunters strongly preferred no change to the current 60-day season, 6-bird daily limit with all restrictions included. Hunters also strongly preferred keeping the current season with a daily 1-black duck bag for the full second and third season segments. A strong majority also supported maintaining the current statewide seasons (no zones) and 2 splits (3 season segments). Only 1% of hunters reported hunting teal. For the September Canada Goose Season, hunters most preferred to continue to allow hunting ½ hour after sunset during the September season, and next to allow the use of unplugged shotguns. Finally, with regard to waterfowl hunting regulations, hunters' preference for the timing of the 5-day AP goose season is mixed between aligning the season with duck season (37%) and extending the season as late as possible (35%).

INTRODUCTION

To assist in the development of regulations, the Virginia Department of Game and Inland Fisheries (VDGIF) solicits input from hunters and the public through a variety of methods, including public meetings, informal communications such as phone calls, e-mails, and mail correspondence, and surveys of hunters. This is the fourth survey of Virginia waterfowl hunters in the last 14-years. The first was carried out in 2000, followed by a second one in 2004, and the most recent one prior to the current study in 2010. The purpose of such waterfowl hunter surveys

is to offer another avenue for waterfowl hunters to provide valuable input to VDGIF in the process of developing regulations. As noted in the Introduction to the 2010 survey report, waterfowl managers attempt to design regulations that achieve several goals, including regulations that help maintain populations that are compatible with ecological and human interests and regulations that are acceptable to a diverse set of hunter interests so as to sustain participation in hunting over both the short and long term. Input, such as through random sample surveys and other modes of communication with hunters, is critical to creating regulations that meet these needs (Jagnow et al. 2010).

PURPOSE AND OBJECTIVES

The primary goal of waterfowl management in the United States, including Virginia, is to maintain populations that are compatible with ecological and human interests, including recreational and other uses. Regular surveys of waterfowl hunters are an integral part of managing waterfowl at the state, flyway, and national level to evaluate hunter satisfaction and hunter preferences. The process of setting harvest regulations annually in response to waterfowl population fluctuations (Nichols et al. 1995) has led to a rather complex system of waterfowl hunting regulations. A challenge for waterfowl managers is to take hunter desires into consideration when setting regulations and try to simplify regulations so they can be easily understood. Often, there is more than one biologically acceptable regulatory option and it is important to know which of these options is most appealing to hunters. Even “moderate changes” in seasons or bag limits have been shown to significantly affect waterfowl hunter satisfaction and retention (WMI 2004, p.5).

Waterfowl managers strive to develop regulations that are “acceptable to diverse hunter interests” that will “sustain participation of waterfowl hunters over both the short-and long-term” (WMI 2004, p.8). Input from waterfowl hunters is critical for creating regulations that are compatible with their desires. This feedback can also provide insight into constraints for participation in waterfowl hunting and options for improving hunter satisfaction.

STUDY METHODS

A random sample of 3,000 Virginia hunters (the sample) was drawn from those registered with the Harvest Information Program (HIP). HIP registration was used as the sampling frame

for this study to insure a valid cross section of Virginia waterfowl hunters. A HIP permit is required each year, in addition to a hunting license, to hunt migratory game birds. In Virginia, the permit is free and can be obtained by calling a toll-free phone number or via the internet. Any hunter who obtained a HIP permit for the 2012-2013 waterfowl hunting season was eligible to be included in the sample. The population of 16,016 HIP permits constituted the universe from which the sample of 3,000 was drawn.

Following procedures outlined in Bourque and Fielder (2003), the initial mailing of the survey questionnaire (Appendix A) was sent to the sample of hunters in late April 2014. The envelope included a cover letter (Appendix B) explaining the purpose and importance of the study. Each survey envelope also included a stamped and self-addressed return envelope. Approximately two-weeks after the initial mailing, a reminder postcard was sent to (Appendix C) was sent to all survey participants who had not yet returned the questionnaire. A second (and final) letter (Appendix D) was sent to all participants who had not returned the questionnaire in late May 2014.

Of the 3,000 surveys sent to HIP registrants, only 2,833 had valid addresses. Of these, 772 usable responses were received, resulting in an effective response rate of 27.3%. This sample size and response rate results in a Margin of Error of +/- 3.44 at the 95% level of confidence. This means that no more than 1 time in 20 should chance variations in the sample cause the results to vary by more than +/- 3.44% from the answers that would be obtained if all waterfowl hunters in the HIP were surveyed. All of the responses (n=772) were used in the analysis.

RESULTS AND DISCUSSION

Waterfowl Hunter Characteristics and Participation

Survey respondents ranged in age from 11 years old to 85 years old, with the average age being 51 years old (Median age = 51 and modal age = 54). Respondents had been hunting waterfowl for an average of 28 years, and had hunted waterfowl in Virginia for an average of 25 years (Questions 19 & 20). Waterfowl hunters are overwhelmingly male, with only 2% reporting to be female. While the sex ratio of waterfowl hunters appears to remain stable over time (the 2000, 2004, and 2010 surveys show a similar male-female proportion of hunters), the average

age of waterfowl hunters in Virginia appears to be increasing. The average age of hunters in the 2000 survey was 44 years, in 2004 it was 45 years, and in 2010 it was 48 years.

During the 2013-2014 hunting seasons, almost nine out of ten respondents (87%) reported hunting waterfowl (Qualification question, Appendix A), which was an increase in participation since the 2010 survey, when 79% of hunters reported hunting waterfowl during the season. Since 2000, participation has ranged from a low as 75% in 2000 to as high as 87% in 2014.

Accomack County was the county most often hunted in by waterfowl hunters during the 2013-2014 season. The top seven counties and cities were: Accomack County, Virginia Beach City, New Kent County, James City County, Isle of Wight County, King William County, and King George County.

Habitats and Hunting Methods Used

Virginia waterfowl hunters have a variety of locations and methods of hunting. Of the respondents who hunted waterfowl during the 2013-2014 season, 63% did so east of I-95, and 36% did so west of I-95. Private land was far more popular as a hunting location than public land, with 80% of respondents saying they had hunted on private land and only 29% saying they had hunted on public land. Nearly one in ten respondents (9%) hunted in a VDGIF Wildlife Management Area, and only 2% hunted on a USFWS Federal Refuge. Nearly three-fourths (73%) of respondents reported hunting from a stationary blind during the 2013-2014 season, while 28% reported hunting from a floating blind.

Youth Waterfowl Hunting

The USFWS added youth waterfowl days to the federal framework in the late 1990s, and in 1996 VDGIF initiated the first youth waterfowl day as a means to introduce youth to hunting. Since its inception, only one youth waterfowl day has been offered around the third Saturday in October. However, during the 2013-2014 season two youth hunting days were offered: October 26, 2014 and February 1, 2014. On both days, 7% of waterfowl hunters indicated that they took a youth hunting on a designated youth waterfowl day. These participation rates are similar to past surveys. In 2010 9% of respondents indicated they took a youth hunting on designated youth hunting day. In 2004 7% did, and in 2000 10% did.

Waterfowl Dates and Bag Limits

Federal regulations permit Virginia to offer up to 60 days of waterfowl hunting, with the option to split the season into three segments, a bag limit of up to 6 ducks, and the season must be held between October 1 and the last Sunday in January. In recent years, Virginia has selected a 60-day season with three segments, Early (October), Mid (Thanksgiving), and Late (December-January), and a daily bag limit of 6 ducks. The 2013-14 season was October 10-14, November 16 – 30, and December 7 – January 25. Respondents to the 2013-2014 waterfowl survey report shooting a full limit an average of 9.8% of the time (Question 5).

A change from the 2013-2014 season to the 2014-2015 season is that Sundays will be open for waterfowl hunting for the first time in Virginia. During the 2013-2014 season, there were 10 Sundays during duck season, which were closed to duck hunting. These Sundays served as breaks during the season, which spread the 60 allowable hunting days out over a period of about 70 days. With Sunday hunting Virginia is set to retain its 60 days of hunting, but these 60 days will span a shorter time period than during past seasons.

Hunter were asked their views about the October duck hunting season segment, which has been held the weekend immediately prior to Columbus Day holiday, including the Monday of the holiday weekend. Hunters were split on their views, with 31% saying they would like to continue to offer the October segment, and seven-of-ten (of the 31%) said they would prefer a four-day segment from Friday to Monday during the Columbus Day holiday. The remaining three-of-ten (of that 31%) said they would prefer a three-day segment from Saturday to Monday during the Columbus Day holiday. Just over one-fourth (25%) of hunters said they would prefer to eliminate the October season all together. Another 9% said they would prefer to always have the October season during the second weekend in October whether it was over Columbus Day weekend or not, and the remaining 7% said they would prefer to always have the October season during the first weekend in October whether it was over Columbus Day weekend or not (Question 6).

For the second and third duck hunting season segment dates, respondents ranked their top preference as November 15 to November 30 (9 days) and December 10 to January 25 (47 days). Next was November 15 to November 30 (16 days) and December 17 to January 25 (40 days), and third was November 12 to November 30 (19 days) and December 20 to January 25 (37 days) (Question 7).

Waterfowl hunters were asked their views on lowering the daily bag limit or reducing the number of hunting days in return for eliminating some of the individual species-specific bag restrictions that currently exist. Hunters strongly prefer no change to the current 60-day season, 6-bird daily limit with all restrictions included over any other option presented to them (Question 8). Hunters indicated an interest in retaining as long a duck season as possible. Asked how short a duck season they would be willing to have and still actively participate in duck hunting, 56% said 50-days, 18% said 45-days, 14% said 40-days, 2% said 35-days, and 11% said 30-days (Question 9).

The 2013-14 duck hunting regulations allowed hunters in VA to take 1 black duck per day for the entire second and third hunting season segments (Nov. 16 – 30 and Dec. 7 – Jan. 25), for a total of 56 hunting days. Hunters were asked their views about increasing the daily bag limit on black ducks to 2 per day for a specified number of days during the season, but then closing black duck hunting for an equal number of days during the season. A strong majority (63%) supporting keeping the current season with a daily 1-black duck bag for the full second and third segments (Question 10).

Federal Regulations allow states to modify their duck hunting zones/splits every 5 years. Virginia is eligible to change its zone/split structure in 2016-2017, and the option chosen would remain in effect through the 2020-2021 duck hunting season. Currently, Virginia does not have separate zones, but there are three season segments (or two splits). Hunters were given other options for zones/splits and asked their preferences, include: A) 4 zones with no splits and B) Up to 3 zones with 1 split (2 segments) in each zone. A strong majority (60%) supporting maintaining the current statewide seasons (no zones) and 2 splits (3 season segments), with no other option reaching higher than 11% support (Question 11).

September Teal Season

Almost all hunters indicated that they did not hunt during the September teal season, but of the 1% who did, they hunted on average two days East of I-95 and .4 days West of I-95, harvesting an average 4 teal East of I-95 and .4 teal West of I-95 (Question 12). The special measures available for hunting Canada geese in September (1/2 hour after sunset, unplugged shotguns, electronic calls) cannot be offered when other migratory waterfowl seasons (such as the teal season) are open. Hunters were asked their preferences for the September teal season east

of I-95. No one option commands a strong preference among hunters, with 30% preferring overlapping the teal season as much as possible with the September Canada goose season, and 26% each preferring holding the September teal season from September 16 to September 30 and holding a shorter September teal season from September 26 to September 30, after the Canada goose season is over. Only 18% prefer to discontinue the September teal season altogether (Question 13). Asked specifically about the September teal season West of I-95 as it relates to federal regulations that do not permit special measures for Canada goose hunting while the teal season is open, the majority of hunters have no preference on changes. Over a quarter (28%) would prefer to maintain the season as it is now, and 9% each prefer to increase the season or decrease the season.

September Canada Goose Season

Waterfowl hunters were asked about their Canada goose hunting activity and harvest East and West of I-95 and from ½ hour before sunrise to sunset and from sunset to ½ after sunset. East of I-95 the mean number of days hunted from ½ hour before sunrise to sunset was 1.8, and the average harvest was 2.3 geese per day. West of I-95 the mean number of days hunted from ½ hour before sunrise to sunset was 1 and the mean harvest was 1.3 geese per day. East of I-95 the mean number of days hunted from sunset to ½ hour after sunset was .7 and the average harvest was .7 geese per day. West of I-95 the mean number of days hunted from sunset to ½ hour after sunset was .4 and the average harvest was .4 geese per day (Question 15).

In Question 16, waterfowl hunters were asked about special hunting measures that have become available for use during the September Canada goose seasons. The most preferred measure (67% strongly agree) was to continue to allow hunting ½ hour after sunset during the September season, with the next most favored option to allow the use of unplugged shotguns in the September season. Less favored options included allowing the use of electronic calls and increasing the bag limit during the September season.

Virginia has three Canada goose management zones, the Resident Zone (western part of the state), the Southern James Bay Zone, and the Atlantic Zone (Eastern coastal plains). Hunters were asked to indicate the number of times they hunted each zone and the number of geese harvested in each zone during the 2013-2014 season. The Atlantic Zone is the most hunted and most productive zone, hunted an average of 3.9 times and yielding an average harvest of 3.7

geese. The Southern James Bay Zone was hunted an average 2.2 times, and yielded an average harvest of 2.9 geese, and the Resident Zone was hunted an average 1.4 times, and yielded an average harvest of 2 geese (Question 17).

WATERFOWL HUNTING REGULATIONS

Federal regulations allow Virginia to offer up to 50 days of hunting for migrant Atlantic Population (AP) Canada geese, with the option to split the season into two segments. The migrant AP goose season cannot open before November 15 and cannot run later than February 5. In recent years, Virginia has selected a 50-day season with two segments: Early (mid-November - Friday after Thanksgiving) and Late (mid- December - late January). The dates for the 2013 - 2014 AP Canada goose seasons were November 16 – 30 (13 days) and December 18 – January 29 (37 days). Hunters were asked to give their preference for the timing of the 50-day AP goose season, and two options had nearly equal supports: 37% preferred aligning the season with duck season as much as possible, and 35% preferred extending the season as late as possible. A smaller (7%) preferred extending the season to the Wednesday following the general duck season, but not as late as February 5, and 20% had no preference either way.

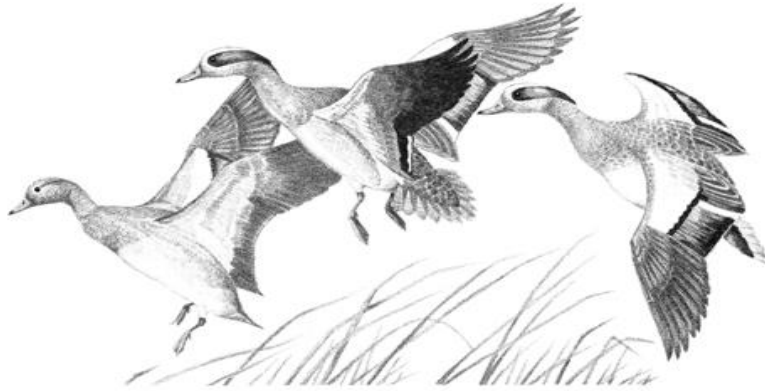
SUMMARY

As with previous surveys of waterfowl hunters in Virginia, the results of this survey will provide valuable information for regulatory decision in Virginia as it relates to waterfowl season dates, bag limits, and hunting zones. This survey is based upon a sampling frame of 3,000 randomly selected hunters drawn from the 16,016 HIP permits, which constitutes the population. The ensuing response rate of 772 hunters results in a Margin of Error for the survey of +/- 3.44% at the 95% level of confidence. This methodology produces a set of scientifically sound and reliable data from which conclusions about the preferences of the entire population of waterfowl hunters in Virginia can be inferred.

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APPENDIX A



Virginia Department of Game and Inland Fisheries 2013-2014 Waterfowl Hunter Survey

You have been selected for this survey based on your 2013-2014 Harvest Information Program (HIP) registration. Please answer each of the following questions completely. Results from this study will be reported only in an aggregate total and no individual responses will be reported.

Qualification: Did you hunt waterfowl during the 2013-2014 season?

Yes - **87% (668)**
No - **13% (104)**

→ If **NO**, do not go any further. Please place the questionnaire in the envelope provided and return it as soon as possible. Thank you for your time.

→ If **YES**, please indicate in which regions of the state you hunted ducks and geese using the map below as a reference.

Region	Ducks ^A	Geese ^B
1.	Yes – 65% No – 35%	Yes – 55% No – 45%
2.	Yes – 13% No – 87%	Yes – 11% No – 89%
3.	Yes – 4% No – 96%	Yes – 4% No – 96%
4.	Yes – 6% No – 94%	Yes – 6% No – 94%
5.	Yes – 26% No – 74%	Yes – 26% No – 74%



1. In which county did you most often hunt waterfowl? **Mode – Accomack County; Top Seven: Accomack, Virginia Beach, New Kent, James City, Isle of Wight, King William, King George**

2. Indicate which species of waterfowl you hunted during the 2013-2014 season and the number of birds taken.

A. Ducks	Yes – 95%	No – 5%	Number harvested – 14.3 (Mean)
B. Geese	Yes – 84%	No – 16%	Number harvested – 6.2 (Mean)
C. Sea Ducks	Yes – 7%	No – 93%	Number harvested – 10.0 (Mean)
D. Brant	Yes – 3%	No – 97%	Number harvested – 7.0 (Mean)

3. Which of the following waterfowl hunting methods did you use in 2013-2014 in Virginia? (Check all that apply)

73% - Hunted from a stationary blind	80% - Hunted on Private Land
28% - Hunted from a floating blind	29% - Hunted on Public Land
63% - Hunted east of I-95	2% - Hunted on USFWS Federal Refuge
36% - Hunted west of I-95	9% - Hunted on a VDGIF Wildlife Management Area

4. Did you take a youth waterfowl hunting in Virginia on either of the designated youth waterfowl hunting day?

A. October 26, 2013	B. February 1, 2014
7% - Yes 93% - No	7% - Yes 93% - No

5. In the past 3 seasons that you have hunted ducks during the regular season, approximately how often have you shot a full limit (6) of ducks?

9.8% of time (Mean response)

Questions 6-11 relate to preferences for duck season dates and bag limits. Federal regulations permit Virginia to offer up to 60 days of waterfowl hunting, with the option to split the season into three segments, a bag limit of up to 6 ducks, and the season must be held between October 1 and the last Sunday in January. In recent years, Virginia has selected a 60-day season with three segments, Early (October), Mid (Thanksgiving), and Late (December-January), and a daily bag limit of 6 ducks. The 2013-14 season was October 10-14, November 16 – 30, and December 7 – January 25.

A change from last year is that Sundays will be open for waterfowl hunting for the first time in Virginia for the upcoming 2014-15 season. Last year, there were 10 Sundays during our duck season, which were closed to duck hunting. These Sundays served as breaks during the season, which spread the 60 allowable hunting days out over a period of about 70 days. With Sunday hunting we will retain our 60 days of hunting, but these 60 days will span a shorter time period than during past seasons.

6. For the past several years the October duck hunting segment has been held the weekend immediately prior to the Columbus Day Holiday and includes that Monday holiday. Would you like to continue to hold this segment during this Columbus Day weekend or hold this season at some other time? (Choose one option)

31% - Continue to offer Oct. segment during the Columbus Day weekend, whether it is the first or second weekend in October. For 2014-2015, I would prefer:

- ↳ **70%** - October 10-13, 2014 (Friday – Monday, Columbus Day), 4 days.
- ↳ **30%** - October 11-13, 2014 (Saturday – Monday, Columbus Day), 3 days.

7% - Always offer Oct. segment during the first weekend in October whether it is Columbus Day weekend or not. For 2014-2015, I would prefer:

- ↳ **23%** - A 2-day season, Saturday and Sunday, October 4 – 5.
- ↳ **19%** - A 3-day season, Friday through Sunday, October 3 – 5.
- ↳ **30%** - A 4-day season, Thursday through Sunday, October 2 – 5.
- ↳ **28%** - A 4-day season, Friday through Monday, October 3 – 6.

9% - Always offer Oct. segment during the second weekend in October whether it is Columbus Day weekend or not. If it is not Columbus Day weekend, I would prefer:

- ↳ **19%** - A 2-day season, Saturday and Sunday.
- ↳ **16%** - A 3-day season, Friday through Sunday.
- ↳ **36%** - A 4-day season, Thursday through Sunday.
- ↳ **29%** - A 4-day season, Friday through Monday.

26% - Eliminate the October season.

- ↳ **64%** - Yes
- ↳ **36%** - No

[**5%** - did not answer; **22%** answered multiple choices, and are NOT included in the above percentages]

7. Please indicate your preference for the second and third season segments for the 2014-15 duck hunting season. Place a 1 for your first preference, a 2 for your second, and so on (Thanksgiving is November 27, 2014).

Rank	Second and Third Duck Hunting Season Segments
3	Nov. 12 – Nov. 30 (19 days), Dec. 20 – Jan. 25 (37 days)
2	Nov. 15 – Nov. 30 (16 days), Dec. 17 – Jan. 25 (40 days)
1	Nov. 22 – Nov. 30 (9 days), Dec. 10 – Jan. 25 (47 days)
4	None, Dec. 1 – Jan. 25 (56 days)

See Appendix E: ___^F other (write in preference) _____

8. Some hunters are concerned about all the individual species-specific bag limit restrictions for duck hunting that are included within the current 6 duck bag limit. These include: 4 mallards (only 2 can be hens), 4 scoters, 3 wood ducks, 2 pintail, 2 scaup, 2 redheads, 1 black duck, 1 canvasback, 1 mottled duck and 1 fulvous whistling duck. There may be potential to eliminate some of these individual species-specific bag restrictions (i.e.: 2 pintails, 2 scaup, 2 redheads, ...), but we would have to lower the overall daily bag limit or reduce the number of hunting days. Please indicate your support of the following options for the duck hunting season.

	Strongly Support	Does not Matter	Strongly Oppose	Median category	
Retain 60-day season, 6-bird daily limit with all restrictions included	70%	12%	14%	3% 2%	1
Go to 60-day season, 4-bird daily limit with only 3 or 4 species restrictions	15%	22%	24%	15% 24%	3
Go to 60-days, 3-bird daily limit with only 1 or 2 species restrictions	4%	7%	25%	18% 46%	4
Go to 50-days, 6-bird daily limit with only 3 or 4 species restrictions	6%	10%	25%	16% 43%	4
Go to 50-days, 4-bird daily limit with only 1 or 2 species restrictions	4%	6%	23%	17% 50%	5

9. In general, how short of a duck season would you be willing to have and still actively participate in duck hunting?

11% - 30-days 2% - 35-days 14% - 40-days 18% - 45-days 56% - 50-days **Median = Category 5**

10. The 2013-14 duck hunting regulations allowed hunters in VA to take 1 black duck per day for the entire second and third hunting season segments (Nov. 16 – 30 and Dec. 7 – Jan. 25), for a total of 56 hunting days. Would you be in favor of increasing the daily bag limit on black ducks to 2 per day for a specified number of days during the season, but then closing black duck hunting for an equal number of days during the season. Please indicate your preference for a potential change to the black duck hunting season. Note that all responses refer to the second and third season segments, as the October segment would remain closed to black ducks. (Choose only one option)

63% - Keep our current season with a daily 1-black duck bag for the full second and third segments

10% - Allow a bag limit of 2 black ducks per day for at least 10 days, no black ducks for 10 days and 1 black duck per day for 36 days

4% - Allow a bag limit of 2 black ducks per day for at least 20 days, no black ducks for 20 days and 1 black duck per day for 16 days

7% - Allow a bag limit of 2 black ducks per day for 28 days and no black ducks for 28 days.

16% - No opinion

11. Federal Regulations allow states to modify their duck hunting zones/splits every 5 years. Virginia is eligible to change our zone/split structure in 2016-2017, and the option chosen would remain in effect through the 2020-2021 duck hunting season.

Currently, we have no separate zones in Virginia but we have three season segments (or two splits). Other options for zones/splits include: A) 4 zones with no splits and B) Up to 3 zones with 1 split (2 segments) in each zone. Please indicate your preference for zone/split options that would be in effect in Virginia from 2016-2020. (Choose only one option)

60% - Maintain the current statewide seasons (no zones) with 2 splits (3 season segments)

11% - Create 4 Duck hunting zones, no splits in any zone, with a continuous 60-day seasons in each zone.

11% - Two Duck Hunting Zones with one split (2 season segments) in each zone.

↳ 29% - Create a North and South zone (for example – a zone boundary of I-64)

↳ 71% - Create an East and West zone (for example – a zone boundary at I-95).

5% - Three Duck Hunting Zones with one split (2 season segments) in each zone.

↳ 14% - Create a North, Central and South zone.

↳ 86% - Create an East, Central and West zone (for example - the Canada goose zones).

[14% did not answer]

Questions 12-14 relate to teal. Virginia has held a special teal season since 1999 to take advantage of early migrating teal. Federal regulations allow a 9-day September teal season if teal populations are above 3.3 million, and a 16-day season if teal populations are above 4.7 million.

12. Please indicate if, where and how many teal you harvested in September 2013.

99% - I did not hunt during the September teal season (skip to question 13)

Of the 1% who did hunt, the mean response is...

Number of times you hunted teal East of I-95? = **2**

Number teal harvested East of I-95? = **4**

Number of times you hunted teal West of I-95? = **.4**

Number teal harvested West of I-95? = **.4**

13. The special measures available for hunting Canada geese in September (1/2 hour after sunset, unplugged shotguns, electronic calls) cannot be offered when other migratory waterfowl seasons (such as the teal season) are open. With this in mind, please indicate your preference for the September Teal season East of I-95 below. (Choose only one option) (The September Goose season is held Sept. 1 - 25)

26% - Hold the September teal season from Sept. 16th to September 30th to allow use of special measures during the first portion of the goose season

26% - Hold a short September teal season from September 26th to September 30th (after the Sept. Canada goose is over) to allow special measures for the entire goose season

30% - Overlap teal season as much as possible with the September Canada goose season, to provide opportunities for both (special measures for goose hunting would not be allowed when teal is open)

18% - Discontinue the September teal season

14. A September teal season has been held west of I-95 since 2011, but it is shorter than the season offered East of I-95. As with question 12 above, federal regulations do not permit us to offer the special measures (1/2 hour after sunset, unplugged shotguns, electronic calls) for Canada goose hunting when the teal season is open. Please indicate your preference for the September teal season West of I-95. (Choose only one option)

28% - Maintain the season as it is now.

9% - Increase the number of days for teal hunting west of I-95

9% - Decrease the number of days for teal hunting west of I-95

54% - No opinion

Questions 15 and 16 relate to September Canada goose hunting

15. Indicate how many times you hunted and how many geese you harvested during the September 2013 Canada goose season.

	<u>East of Interstate I-95</u>		<u>West of Interstate I-95</u>	
	Days Hunted	Geese Harvested	Days Hunted	Geese Harvested
A. From 1/2 hour before sunrise to sunset	1. Mean=1.8	2. Mean=2.3	3. Mean=1	4. Mean=1.3
B. From sunset to 1/2 hour after sunset	1. Mean=.7	2. Mean=.8	3. Mean=.4	4. Mean=.4

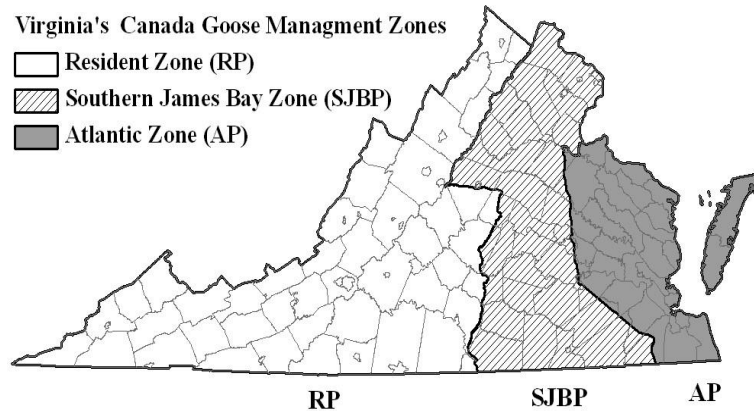
16. Other hunting methods have become available for use during the September Canada goose seasons. Please indicate your level of agreement for each of the following:

	Strongly Agree		Does Not Matter		Strongly Disagree	Median Category
a) Continue to allow hunting 1/2 hour after sunset during the September season	67%	12%	17%	2%	2%	1
b) Allow the use of electronic calls during September season	30%	7%	35%	6%	22%	3
c) Increase the bag limit during the September season (current bag limit is 10 geese per day)	32%	10%	35%	7%	16%	3
d) Allow the use of unplugged shotguns in September season	41%	10%	26%	6%	17%	2

Questions 17 and 18 relate to Canada goose management in Virginia. In recent years there have been several liberalizations in Canada goose hunting seasons. This includes dividing the state into 3 Canada goose Hunt Zones (see map below).

17. Indicated the number of times you hunted and the number of geese you harvested in each of the Canada goose hunting zones in 2013-14?

	Number times hunted	Number of Geese harvested
A. Atlantic Hunt Zone (Nov 16-30 & Dec 18-Jan 29)	1. Mean=3.9	2. Mean=3.7
B. SJBP Hunt Zone (Nov 16-30 & Dec 14-Feb 15)	1. Mean=2.2	2. Mean=2.9
C. Resident Population Zone (Nov 16-30 & Dec 7-Feb 22)	1. Mean=1.4	2. Mean=2.0



Federal regulations allow Virginia to offer up to 50 days of hunting for migrant Atlantic Population (AP) Canada geese, with the option to split the season into two segments. The migrant AP goose season cannot open before November 15 and cannot run later than February 5. In recent years, Virginia has selected a 50-day season with two segments: Early (mid-November - Friday after Thanksgiving) and Late (mid- December - late January). The dates for the 2013 - 2014 AP Canada goose seasons were November 16 – 30 (13 days) and December 18 – January 29 (37 days).

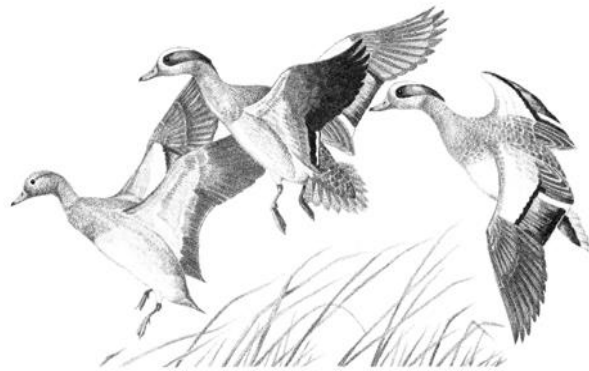
18. Please indicate your preference for the timing of the 50 day Atlantic Population (AP) Canada goose season (Choose One).

- 37% - Align the season with duck season as much as possible. Season would end on the last Sunday in January.
- 35% - Extend the season as late as possible. Season would end on February 5th.
- 7% - Extend the season to the Wednesday following the general duck season but do not extend as late as February 5th. (This would be similar to the 2013-2014 hunting season in which the duck season closed on Saturday January 25 and the AP season closed on Wednesday January 29th).
- 20% - No opinion.

Questions 18-22 will help us understand some basic information about waterfowl hunters in Virginia. Please answer each question.

- 19. What year were you born? **Mean = 1963; Median = 1963; Mode = 1960; Range = 11 to 85**
- 20. How many years have you been hunting waterfowl? **Mean = 28**
- 21. How many years have you been hunting waterfowl in Virginia? **Mean = 25**
- 22. What county (or city) do you live in? **Top five: Virginia Beach, Richmond, Midlothian, Mechanicsville, Fredericksburg**
- 23. Gender: **98% - Male 2% - Female**

APPENDIX B



Virginia Department of Game and Inland Fisheries 2013-2014 Waterfowl Hunter Survey

DAY MONTH, 2014

First Name Last Name
Street Address
City, State, Zip

Dear ????:

Enclosed you will find the 2013-14 Virginia Waterfowl Harvest Survey. This survey is being conducted by the Wason Center for Public Policy at Christopher Newport University for the Virginia Department of Game and Inland Fisheries. I would appreciate your assistance in this voluntary survey designed to estimate the statewide harvest for waterfowl during the 2013-14 hunting season.

This survey is being sent to a random sample of waterfowl hunters based upon your 2013-2014 Harvest Information Program (HIP) registration, and it is important that every recipient send in a response. All information on this survey is **completely confidential**. No personally identifiable information is being collected so that responses cannot be tied to an individual. A postage-paid envelope has been enclosed for your convenience in returning the completed questionnaire.

If you have questions or comments about this survey, please do not hesitate to contact me via phone at (757) 594-8499, email at qkidd@cnu.edu, or mail at Wason Center for Public Policy, Christopher Newport University, McMurrin Hall 264, Newport News, VA 23601. You may also contact Gary Costanzo with the Virginia Department of Game and Inland Fisheries at (804) 829-6581, or gary.costanzo@dgif.virginia.gov.

Your assistance in providing information is appreciated and important for an effective waterfowl management program in Virginia. Please complete and return the questionnaire **within the next 10 days**.

Sincerely,

Dr. Quentin Kidd
Christopher Newport University

APPENDIX C

2013-2014



**Virginia Waterfowl
Hunter Survey**



This is a friendly reminder to fill out and return your 2013-2014 Virginia Waterfowl Hunter Survey. The information gathered through this survey helps produce an effective waterfowl management program in Virginia for future hunters. If you have any questions, please e-mail or call: qkidd@cnu.edu or 757-594-8499.

Thank you,

Quentin Kidd

APPENDIX D



2

Virginia Department of Game and Inland Fisheries 2013-2014 Waterfowl Hunter Survey

DAY MONTH, 2014

First Name Last Name
Street Address
City, State, Zip

Dear First Name:

A few weeks ago we sent you the 2013-14 Virginia Waterfowl Harvest Survey. Sometimes there is a delay in our recording survey results, so if you have completed and returned the survey already, thank you and please disregard this reminder. Do not complete and return a second survey. If you have not yet completed the 2013-2014 Virginia Waterfowl Harvest Survey, we ask you to please do so now. This will be your last opportunity to participate in this year's study. I would appreciate your assistance in this voluntary survey designed to estimate the statewide harvest for waterfowl during the 2013-14 hunting season.

This survey is being sent to a random sample of waterfowl hunters based upon your 2013-2014 Harvest Information Program (HIP) registration, and it is important that every recipient send in a response. All information on this survey is **completely confidential**. No personally identifiable information is being collected so that responses cannot be tied to an individual. A postage-paid envelope has been enclosed for your convenience in returning the completed questionnaire.

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Your assistance in providing information is appreciated and important for an effective waterfowl management program in Virginia. Please complete and return the questionnaire **within the next 10 days**.

Sincerely,

Dr. Quentin Kidd
Christopher Newport University

APPENDIX E

Open ended answers to Question 7:

When the ducks are here

Start later

Season should be later

RESTRICT WATERFOWL HUNTING ON SUNDAYS AND KEEP AS IS

November 5- January 25

November 27-January 25

November 27-January 2

November 26-30

November 24-3-, December 13-January 25

November 22-November 30, December 6- January 26

November 22-26, December 2- January 30

November 15-December 15

November 15-30, December 10-January 25

November 12-November 30, December 10-January 15

November 11-30, December 21-January 25

Nov 27-Nov 30

Nov 27-Nov 30

Nov 27-29; Dec 19-Feb 10

Nov 25-Dec 3, Dec 10-Jan 25

Nov 22- Jan 25

Nov 12-Nov 30, Dec 17- Jan 25

Nov 15-Nov 29

No Sundays

No Sundays

No Sunday hunting

No Sunday

No preference

No Opinion

More days in November and December and Less or no days in January

March/April

Leave first segment as is with a longer break

Later into February

Later in January

January and February

January 1-February 28

January 1- December 31

February 1-February 21

Extend Season as long as possible

Extend season as late in January as possible and eliminate early days

Every day that gun season is open in Virginia, you should be able to take waterfowl if you come upon them

Don't hunt until after Deer Season

December 3-January 31

December 20th - February 16

December 20-February 25
December 15-February 15
December 15-February 15
December 15-56 days
December 15- February 9
December 14-February 15
December 13-February 8
December 1-January 29
December 1-February 20
December 1- February 14
Add 1 week on end of season
4 days in November, rest until January 31
3 (November 15-30, December 1-January 25)
2- November 27-January 25