

# PROJECT STATEMENT

STATE: DELAWARE

GRANT: W36R-11

GRANT TITLE: WILDIFE INVESTIGATIONS – SURVEYS

JOB SCHEDULE: OCTOBER 1, 2009 – SEPTEMBER 30, 2010



**STATE:** Delaware

**GRANT NUMBER AND TITLE:**

W 36R - Wildlife Investigation - Surveys

**OBJECTIVE:**

To provide population status and harvest information on several wildlife species in order to effectively manage their populations.

**JOB NUMBER AND TITLE:**

Job 1. Hunter Success Evaluation Survey

**JOB OBJECTIVE:**

To determine hunter activities and hunter take of game species in Delaware.

**ACTIVITY:**

Due to several major changes associated with the issuance of hunting licenses in 2010, no hunter survey was conducted during this segment.

**TARGET DATE:**

September 30, 2010

**STATUS:**

On schedule – pre approved extension.

**REMARKS:**

Effective during the 2010-2011 hunting season, all hunting licenses will be electronically-sold and all hunters who are exempt from purchasing a license to hunt will be required to obtain an annual Hunting and Trapping Identification Number at no cost. These changes will allow the Division to obtain license information in an electronic format, thereby eliminating the extensive data entry associated with the former paper copy licenses. The requirement that exempt hunters (those under 13 or 65 or older as well as those residents owning more than 20 acres of land in Delaware) obtain an annual identification number, will now allow the Division to survey an important segment of the hunter population previously missed in past surveys. Finally the statute allowing license information to be used for only law enforcement purposes was changed to include research purposes involving hunting/trapping harvest surveys. This change will allow research staff to obtain current license year information, something

previously not permitted. In past surveys, research staff were only permitted license information that was one or two years old, which frequently had unreliable address information.

**RECOMMENDATIONS:**

This job should be continued as it provides important information used in evaluating hunting regulations and game management programs. Effective during the 2010-2011 hunting season, several major changes associated with the issuance of hunting licenses will make surveying hunters more efficient, accurate and comprehensive. The Division will take advantage of these improvements by renewing the hunter survey in 2011.

**PREPARED BY:**

Rob Hossler  
Program Manager – Game Species

**STATE:** Delaware

**GRANT NUMBER AND TITLE:**

W-36-R - Wildlife Investigations – Surveys

**OBJECTIVE:**

To provide population status and harvest information on several wildlife species in order to effectively manage their populations.

**JOB NUMBER AND TITLE:**

Job 2. Trapper Success Evaluation Survey

**JOB OBJECTIVE:**

To determine furbearer harvest and trapper activities in order to more effectively manage this valuable resource.

**ACTIVITY:**

Due to several major changes associated with the issuance of trapping licenses in 2010, no trapper survey was conducted during this segment.

**TARGET DATE:**

September 30, 2010

**STATUS:**

On schedule - pre approved extension.

**REMARKS:**

During the 2010-2011 trapping season all trappers who are exempt from purchasing a license to trap will be required to obtain an annual Hunting and Trapping Identification Number at no cost. This requirement will now allow the Division to survey an important segment of the trapper population (those trappers under 13 or 65 or older as well as those residents owning more than 20 acres of land in Delaware) previously missed in past surveys. It is hope that this requirement will increase the sample size of trappers within the survey, because in 2008-09 Delaware only had 85 licensed trappers. Additionally the statute allowing license information to be used for only law enforcement purposes was changed to include research purposes involving hunting/trapping harvest surveys. This change will allow research staff to obtain current license year information, something previously not permitted. In past surveys, research staff were only

permitted license information that was one or two years old, which frequently had unreliable address information.

**RECOMMENDATIONS:**

This job should be continued as it is the only survey that measures furbearer harvest associated with trapping; however, methods to increase the response rate and number of trappers surveyed need to be developed. It is hoped that the requirement that all exempt-trappers obtain a free Hunting and Trapping Identification number addresses this problem, by providing the Division a more comprehensive list of trappers within the State. The Division will take advantage of this more comprehensive list by renewing the trapper survey in 2011.

**PREPARED BY:**

Rob Hossler  
Program Manager – Game Species

**STATE:** Delaware

**GRANT NUMBER AND TITLE:**

W 36R - Wildlife Investigations: Surveys

**OBJECTIVE:**

To provide population status and harvest information on several wildlife species in order to effectively manage their populations.

**JOB NUMBER AND TITLE:**

Job 3. Snow Goose Conservation Order Reporting Survey

**JOB OBJECTIVE:**

To satisfy the U.S. Fish and Wildlife Service's reporting requirements for state participation in a Snow Goose Conservation Order (CO).

**ACTIVITY:**

The Delaware Division of Fish and Wildlife authorized a Conservation Order (CO) for light geese that occurred 1 February to 17 April 2010. Online registration was required for any hunter participating in the CO in order to collect and report participation, success, and harvest data to the USFWS.

**TARGET DATE:**

September 30, 2010

**STATUS:**

On schedule- pre approved extension.

**REMARKS:**

The spring 2010 Snow Goose Conservation Order (CO) ran from 1 February to 17 April 2010. Online registration was required for any hunter participating in the CO. Registrants were advised to record their daily activity and success while participating in the CO and were provided with a permit number they must carry on their person as they would their hunting license. At the end of the conservation order, registrants were asked to revisit the website report their success/activity information. The types of information collected included the number of days each individual participated in the CO, the number of individuals utilizing expanded take

options, and the number of snow geese killed or crippled by each participant using expanded take options (Attachment 1).

A total of 1,018 permits were issued, a 389% increase over 2009 CO. However, only 590 registrants, a 58% response rate, provided activity/success information, despite a reminder notice that was mailed out to all participants. This response rate was slightly less than the 63% response rate during the 2009 CO. Of the 590 hunters that submitted data to the registration system, only 370 individuals actually hunted during the CO. An estimated 16,414 snow geese were harvested during an estimated 2021 hunter days (8.12 geese/hunter day). This estimated harvest was 333% higher than the 2009 CO harvest of 4,917 geese; however the 2010 success rate (geese/hunter day) was only 36% higher than in 2009. Expanding harvest methods were met with differing utilization rates. Fifty-four percent of hunters reported using unplugged guns and harvested an estimated 2034 geese with the extra shells afforded by this measure. Electronic calls were used by 45% of hunters during the CO and assisted with the harvest of an estimated 3,363 geese. An estimated 711 snow geese were harvested during the extended shooting period from sunset and ½ hour after sunset; however, only 39% of hunters reported hunting during this time period. The 2011 Snow Goose Conservation Order will run from 1 February to 16 April 2010.

#### **RECOMMENDATIONS:**

This job should be continued but efforts need to be explored on how to increase the response rate.

#### **PREPARED BY:**

Matthew T. DiBona  
Game Bird Biologist

#### **REVIEWED BY:**

Rob Hossler  
Program Manager – Game Species

**STATE:** Delaware

**GRANT NUMBER AND TITLE:**

W 36R - Wildlife Investigations: Surveys

**OBJECTIVE:**

To provide population status and harvest information on several wildlife species in order to effectively manage their populations.

**JOB NUMBER AND TITLE:**

Job 4. Species Specific Harvest Surveys

**JOB OBJECTIVE:**

To collect population and harvest information related to specific game species (deer, turkey, waterfowl, migratory gamebirds, upland game and furbearers) and information on hunter attitudes related to game species management.

**ACTIVITY:**

The Division conducted two surveys focused on measuring the participation, effort, and opinion of public lands turkey hunters. The growing popularity of turkey hunting in Delaware has resulted in increased demand for a limited number of permits available for hunting on Delaware state lands during its current 18-day season.

**Target Date:**

September 30, 2010.

**Status:**

On schedule – per approved extension

**Remarks:**

The growing popularity of turkey hunting in Delaware has resulted in increased demand for a limited number of permits available for hunting on Delaware state lands during its current 18-day season, which ran from 10 April to 30 April 2010. Public land hunters are selected through a preseason lottery to hunt one of three, 6-day seasons during the same 18-day period. These seasons run from Saturday through the following Friday (no Sunday hunting).

A Delaware Public Lands Turkey Hunting Survey was mailed to all hunters (n=502) who submitted permit applications to hunt public lands ((for questions and results, see Attachment 2).

The purpose of this survey was to determine permit applicants priorities and criteria when filling out the permit application. Survey recipients were also asked to indicate their preference of several potential modifications to the public lands turkey hunting program intended to create additional hunting opportunities and accommodate some of the increased demand for hunting on public lands.

A total of 248 usable responses were received, a response rate of 49%. When asked whether it was more important to be selected for their public area of choice vs. season week of choice, 86% of respondents stated that being selected in the lottery for their preferred hunting area was more important to them than being selected for their preferred season week ((for questions and results, see Attachment 2). In addition, when presented with several possible factors that influence their selection of public hunting areas, respondents most frequently said they chose 1) areas near where they live and 2) areas where they believed the most turkeys could be found.

Survey recipients were presented with four potential modifications to the public lands turkey hunting program intended to create additional hunting opportunities and accommodate more hunters:

- 1) Increase the number of permits issued for each public area
- 2) Split the current 6-day permit into shorter duration permit
- 3) Go to a preference point system that would improve the odds of a hunter being selected in subsequent years
- 4) Add a 4<sup>th</sup> week to the turkey hunting season

Respondents were allowed to select any/all of the above options that they, as hunters, would be willing to accept. For individuals that chose only one option they would want to see the Division implement, adding a 4<sup>th</sup> week to the turkey season was the most popular option (Figure 1). A similar trend was found among respondents who selected two options. However, while adding a 4<sup>th</sup> week to the season was still the most popular choice (38%), it was closely followed by the option to split the current 6-day season into two permits, each of a shorter duration (30%; Figure 2). These results were also analyzed to see what combination of options was most popular among survey respondents that chose two modification options. Thirty-five percent of the respondents chose to 1) add a 4<sup>th</sup> week to the season and 2) split the current 6-day permit into two, shorter permits (Figure 3).

A second survey was mailed out in May 2010 to hunters who were selected in the lottery to hunt turkeys on public lands during the spring 2010 season (n=295) (for questions and results, see Attachment 3). A total of 223 usable responses were received, a response rate of 76%. The survey was intended to collect data on hunter participation, effort, and success among the pool of individuals selected to hunt turkeys on public lands.

Survey recipients were first asked whether or not they utilized their public lands permit. Seventy-one percent reported hunting turkeys on public lands and of the 29% that did not use their permit, most individuals (17%) indicated they harvested a bird on private land before they could use their public lands permit. However, many of the respondents that did not use their permit selected 'Other' as the reason they did not use their permit, and the reasons provided often included unforeseen work/family obligations or medical/health issues that precluded them from hunting during their allotted season week. When asked whether or not they hunted on

private land during the spring 2010 season, 39% answered 'yes'. Twenty-eight percent of the survey respondents reported successfully harvesting a bird. Of those successful hunters, 59% harvested their bird on public land and the remaining 41% were on private land.

The majority of public lands hunters reported hunting throughout their 6-day season week (62%), while others hunted only on the Saturday (21%) or during the week (17%). Public lands hunters spent an average of 2.9 days hunting turkey. To measure whether the current permit allocation across hunting areas was too high or whether potential increases in permits might be possible without compromising hunt quality, two questions were asked regarding the number of hunters seen each day while hunting, and the number of days survey respondents encountered hunt inference attributable to other hunters in the woods. Only 24% of respondents reported encountering interference from other hunters that they feel negatively affected their hunting success, and among these individuals the number of interference days ranged from 1-3 days. On average, hunters reported seeing 0.8 hunters each day while hunting on public lands.

One potential option for increasing turkey hunting opportunities on public lands would be to expand the Division's current youth turkey day to include public lands (currently participation in youth day is restricted to private property). An overwhelming 70% of survey respondents supported this expansion. Finally, based on the results of the first survey (which indicated support for splitting the current 6-day permit into two, shorter permits) the Division asked a follow-up question on this survey to find out what was more important to public lands hunters: having better odds of being selected for a public lands permit (even if it meant fewer days to hunt) or having the full, 6 days to hunt (even if a person's odds for being picked decreased). This question confirmed the results of the first survey: 60% of respondents would prefer having better odds of being selected even if it meant fewer days to hunt.

Based on the results of these surveys, the Division has opted to experimentally extend the turkey hunting season from 3 to 4 weeks. This will create additional capacity to accommodate 100+ additional public lands turkey hunters.

### **RECOMMENDATIONS:**

This job should be continued as it provides important information used in evaluating hunting regulations and game management programs. The Division will continue to use the results of these two surveys to inform decision making regarding the public lands turkey hunting program. There is concern that nearly 30% of the permits being issued are going unused. Developing an efficient system to recycle these permits to applicants that were not initially selected would be another option for meeting rising demand. The Division will consider additional modifications to the public lands turkey hunting program after evaluating the impacts of the season extension on harvest pressure and hunter success.

### **PREPARED BY:**

Matthew T. DiBona  
Game Bird Biologist

**REVIEWED BY:**

Rob Hossler  
Program Manager – Game Species

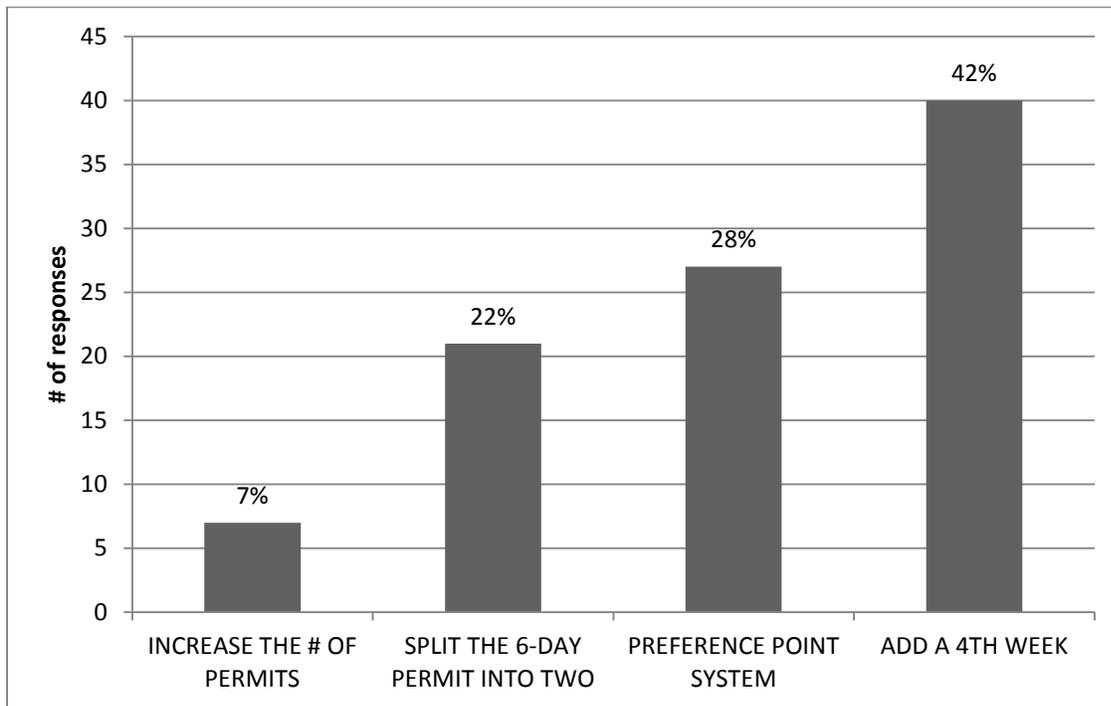


Figure 1. Survey response from individuals that selected only one potential option as a method to create addition turkey hunting opportunities on public hunting areas.

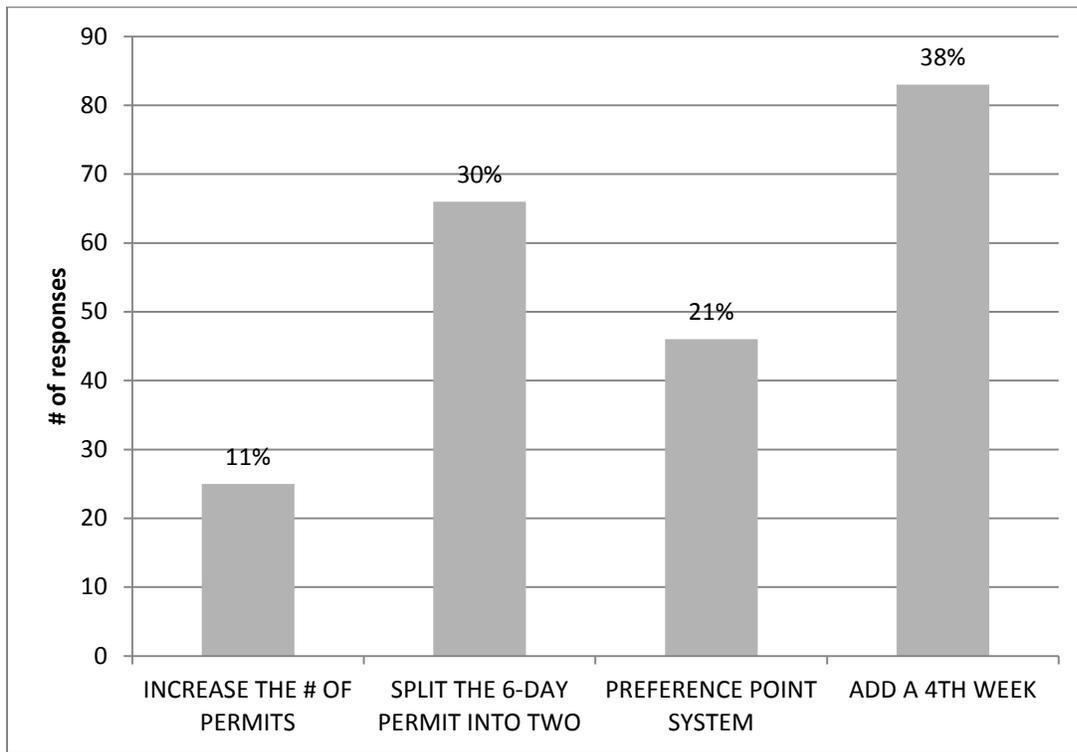


Figure 2. Survey response from individuals that selected two potential options as a method to create addition turkey hunting opportunities on public hunting areas.

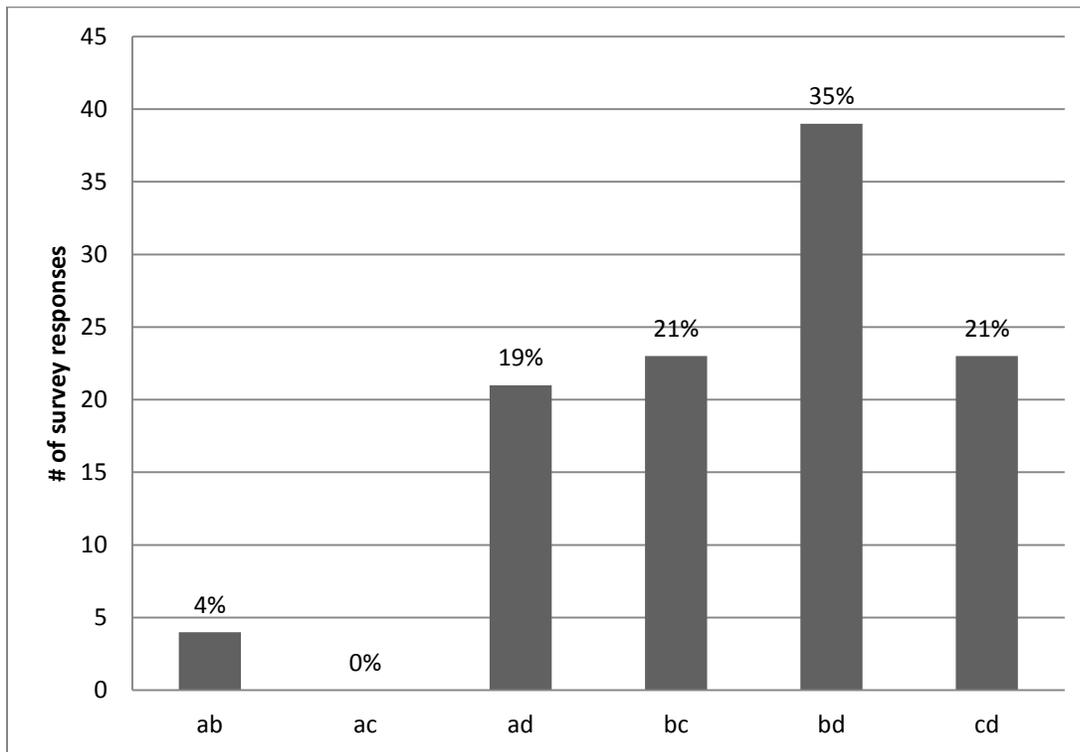


Figure 3. Combination responses from individuals that selected two potential options as a method to create addition turkey hunting opportunities on public hunting areas.

- a = Increase the number of permits
- b = Split the current 6-day permit into two permits
- c = Go to a preference point system
- d = Add a 4<sup>th</sup> week to the turkey season

## ATTACHMENT 1 - 2010 Snow Goose Conservation Order Reporting Form

Please use this form to keep a daily record of your hunting activity under the Conservation Order. For each day you hunt geese please record the date, the county where you were hunting, and the number of geese you harvested (*even if you harvested zero geese!*). When reporting harvested geese please separate your harvest into the total number of geese you shot and retrieved and as well as any geese you shot but were unable to retrieve. In addition to the total harvest, please indicate if any of the geese you killed were harvested using 1) the extra shells allowed in unplugged shotguns, 2) electronic calls, and/or 3) during the extended shooting hours from sunset to 1/2 hour after sunset. At the bottom of the form, please tally your harvest activities for each column. Please visit the Conservation Order website [www.dehip.com](http://www.dehip.com) and submit your results by May 31, 2010 (Note: additional sheets are available by visiting the website). *Even if you did not harvest any geese you must report this on the website. Failure to report your information may make you ineligible to participate in the 2011 spring season!*

Date	County	# of Geese Shot and Retrieved				# of Geese Downed and <b>NOT</b> Retrieved					
		Total	Using 4 <sup>th</sup> , 5 <sup>th</sup> , or 6 <sup>th</sup> Shell	Using an Electronic Call	After Sunset	Total	Using 4 <sup>th</sup> , 5 <sup>th</sup> , or 6 <sup>th</sup> Shell	Using an Electronic Call	After Sunset		
Ex. 3/12/2009	Kent	0				1		1	1		
Ex. 4/11/2009	Sussex	25	5		4	1			1		
Total each column here:	BOX 1	Total Harvest:	BOX 2	BOX 3	BOX 4	BOX 5	Total Harvest:	BOX 6	BOX 7	BOX 8	BOX 9

POST-SEASON SUMMARY

Please tell us the total # of days you hunted and the total # of geese shot and retrieved in each county:

New Castle: \_\_ days / \_\_ killed    Kent: \_\_ days / \_\_ killed    Sussex: \_\_ days/ \_\_ killed

Please describe you weekly hunting activity and success during the Conservation Order:

	Feb 1 - 15	Feb 16-28	March 1 - March 15	March 16-31	Apr 1 - Apr 17
Total # of days hunted					
Total # of geese shot and retrieved					
Total # of geese downed and NOT retrieved					

## ATTACHMENT 2 - 2010-11 Delaware Public Lands Turkey Hunting Survey

The Delaware Division of Fish and Wildlife is currently reviewing its process for permitting turkey hunting on private lands. As an applicant in the public lottery, your opinion and preferences are very important to us. Please complete this survey and mail it to: Delaware Division of Fish and Wildlife, 6180 Hay Point Landing Road, Smyrna, DE 19977.

### 1. Which is more important to you when filling out the lottery application form? (CHECK ONLY ONE!)

Being selected for my first choice of public hunting area (the WEEK is NOT as important) N=211 OR 86%

Being selected for the first week of turkey hunting (the AREA is NOT as important) N=13 OR 14%

### 2. Please describe your selection preference when filling out the public lands turkey hunting lottery application form (CHECK ALL THAT APPLY):

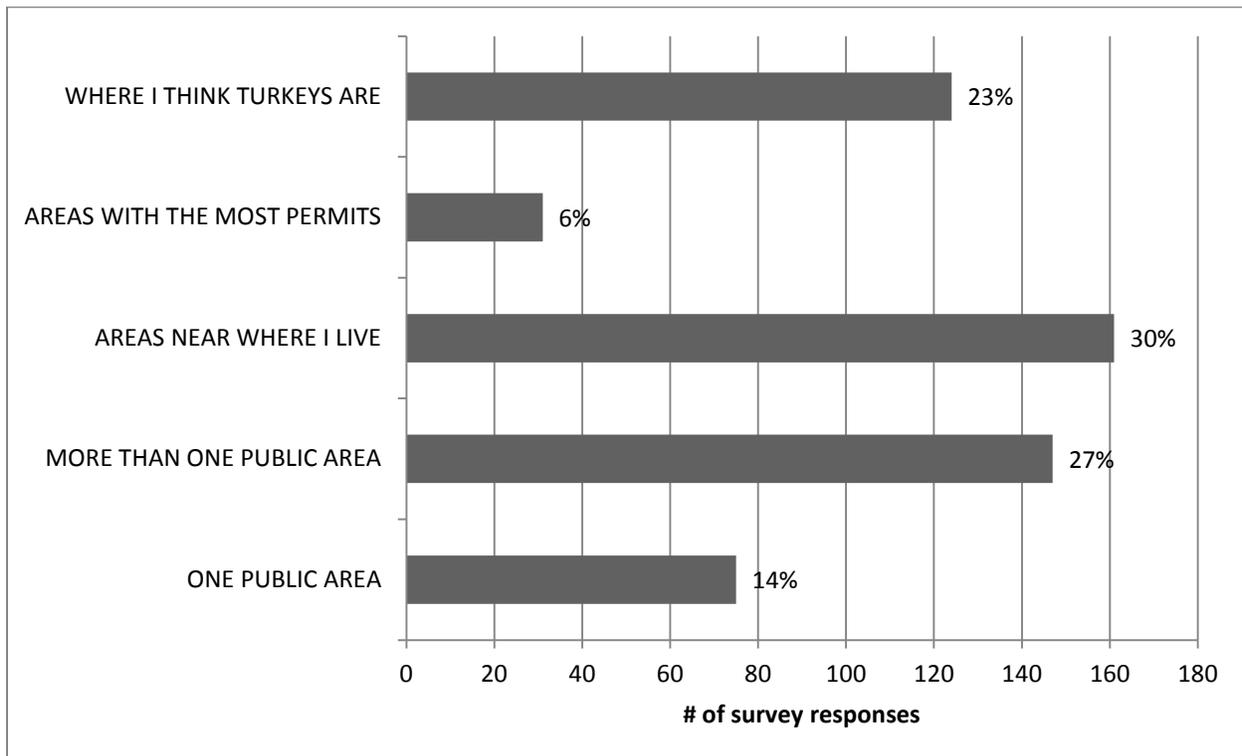
I choose ONE public area to hunt in the lottery N=75

I choose MORE THAN ONE public area to hunt in the lottery N=147

I select public areas that are near where I live N=161

I select public areas that have the most permits available N=31

I select public areas based on where I believe there are the most turkeys N=124



3. Did you enter the Spring 2009 turkey public hunting lottery?  YES  NO YES 80% NO 20%  
(N=194/49)

If YES, where you issued a permit?  YES  NO YES 61% NO 39% (N=118/76)

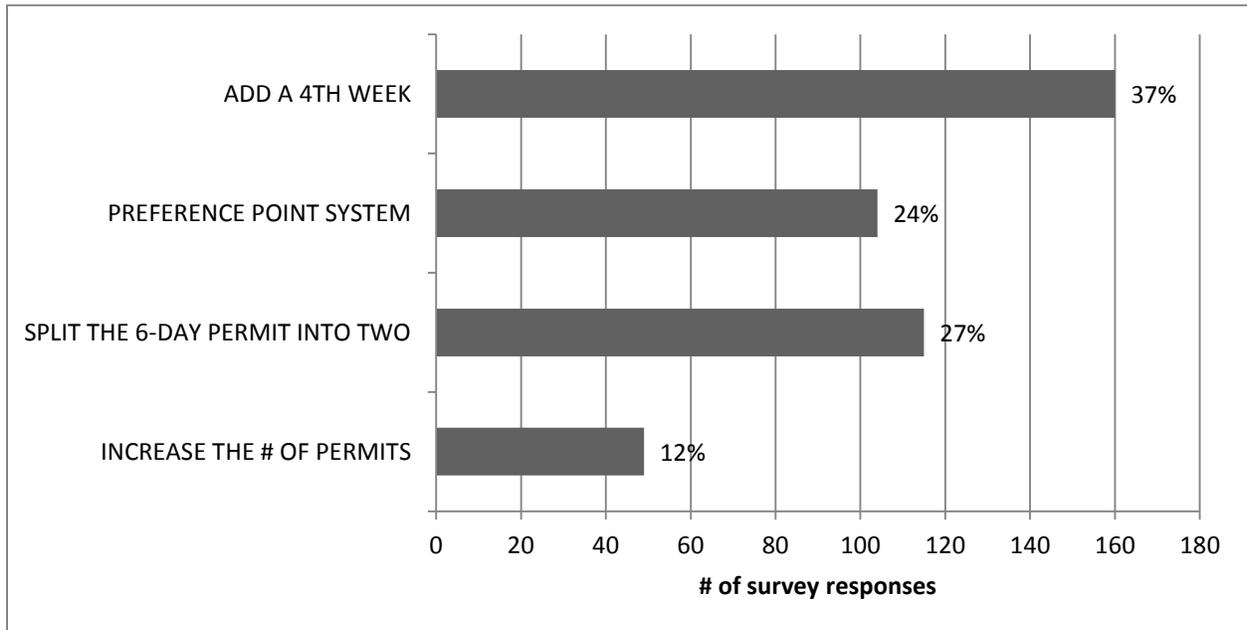
4. Given the increasing popularity of turkey hunting in Delaware, the Division of Fish and Wildlife needs to find ways to create additional opportunities for quality turkey hunting on public lands, while ensuring the sustainability of our wild turkey population. Please indicate which of the following options you would like the Division to implement in order to create additional turkey hunting opportunities (you may select more than one choice):

\_\_\_ Increase the number of permits issued on each parcel for each Season week (A, B, C). *This option will allow us to accommodate more hunters but will equate to "more hunters in the woods" for permit holders.* N=49

\_\_\_ Split the current 6-day permit into two permits: the 1<sup>st</sup> permit to hunt Monday through Thursday and a 2<sup>nd</sup> permit to hunt the Friday and Saturday. *This option will effectively double the number of hunters we can accommodate on our public areas but each hunter will have fewer days to harvest a bird.* N=115

\_\_\_ Go to a Preference Points System. Hunters receive a preference point each year that they enter the turkey hunting lottery and are unsuccessful in drawing a permit. In the drawing, applicants with the greatest number of points in each hunt are issued permits first. Upon selection for a permit, an applicant's preference points will return to zero. *This approach does not create additional hunting opportunities, but ensures that everyone will eventually have an opportunity to turkey hunt on public lands.* N=104

\_\_\_ Add a 4<sup>th</sup> week to the turkey hunting season. N=160



### ATTACHMENT 3 - 2010 Delaware Public Lands Turkey Hunting Survey

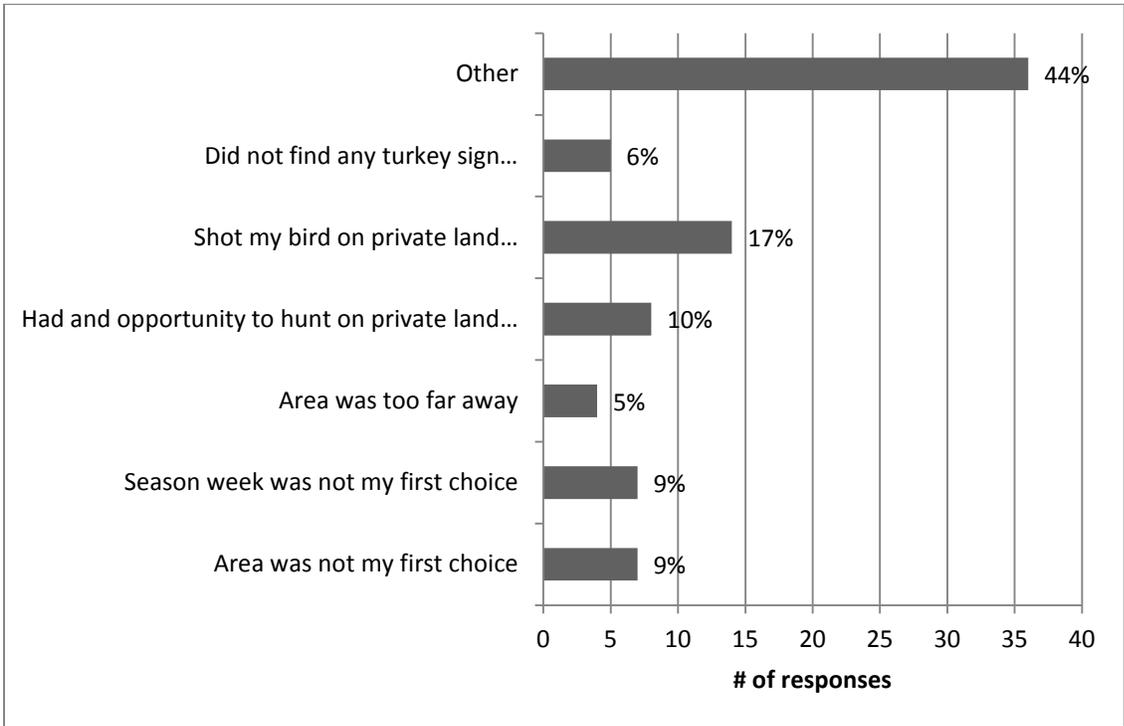
Our records indicate that you were issued a public lands permit for turkey hunting during the Spring 2010 season. Please complete this survey and mail it to: Delaware Division of Fish and Wildlife, 6180 Hay Point Landing Road, Smyrna, DE 19977.

1. Did you hunt turkeys on public land during the Spring 2010 season? YES  NO

YES=159 (71%) NO=64 (29%)

IF NO, please check the reason(s) you did not use your permit (Check all that apply):

- Area was not my first choice N=7 (9%)
- Season week was not my first choice N=7 (9%)
- Area was too far away from where I live N=4 (5%)
- Had an opportunity to hunt on private land instead N=8 (10%)
- Shot my bird on private land before I was able to utilize my public land permit N=14 (17%)
- Did not find any turkey sign where I scouted so I did not hunt N=5 (6%)
- Other: \_\_\_\_\_ N=36 (44%)



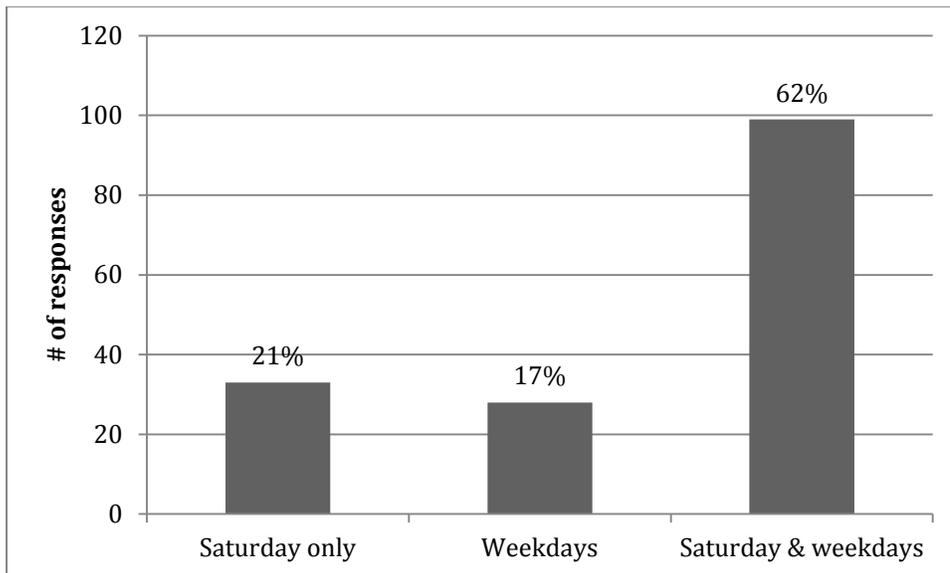
2. Did you hunt on **PRIVATE LAND** for any portion of the Spring 2010 turkey season? YES  NO

YES=84 (39%) NO=134 (62%)

3. Did you harvest a turkey during the Spring 2010 Season? YES  NO  YES=62 (28%) NO=159 (80%)

If YES, was the bird harvested on \_\_\_ PUBLIC N=32 (59%) or \_\_\_ PRIVATE land? N=22 (41%)

4. If you hunted on **PUBLIC LAND**, what days did you hunt? Sat. only  Weekdays  Sat. + Weekdays

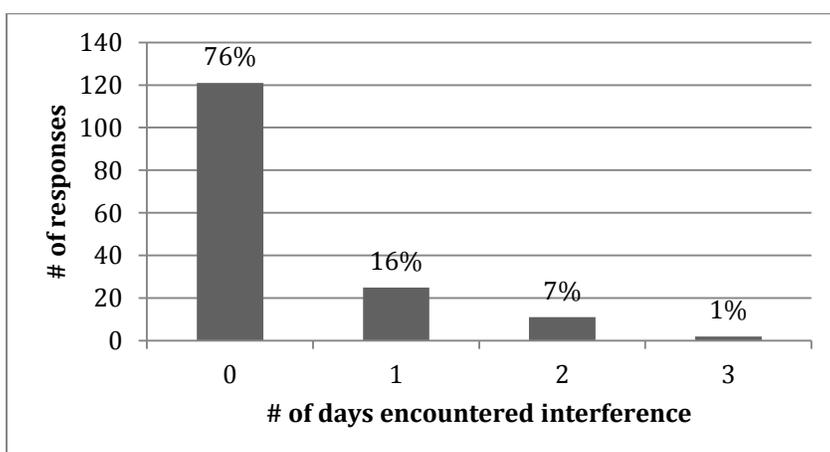


5. How many days did you hunt on **PUBLIC LAND** during the Spring 2010 season? \_\_\_ DAYS

MEAN = 2.9 DAYS (MIN=1, MAX=7, N=159)

6. While hunting on **PUBLIC LAND**, how many days did you encounter interference from other hunters that you feel negatively affected your turkey hunting success? \_\_\_\_**DAYS**

MEAN = 0.3 DAYS (MIN=0, MAX=3, N=159)



7. On average, how many hunters did you see each day while hunting on **PUBLIC LAND**? \_\_\_\_\_

MEAN = 0.8 HUNTERS (MIN=0, MAX=8, N=158)

8. Delaware currently has a youth turkey hunting day on the Saturday preceding opening day of the spring turkey season for **private property only**. Are you in favor of expanding the youth turkey hunting day to **include public land as well**? YES  NO  YES=145 (70%) NO=61 (30%)

This year, 502 applicants entered the preseason lottery for turkey hunting on public lands, which currently can only accommodate 309 hunters. One potential way to increase hunting capacity on public lands would be to reduce the number of days each hunter had to hunt turkeys on public lands

9. Which is more important to you as a public lands turkey hunter? (choose one)

\_\_\_ Having better odds of being selected for a hunting permit, even if it meant fewer days to hunt

N=129 (60%)

—or—

\_\_\_ Having 6-days to hunt on public land (if selected), but with the possibility of not being selected for a public lands permit each year.

N=87 (40%)