

**PENNSYLVANIA GAME COMMISSION  
BUREAU OF WILDLIFE MANAGEMENT  
PROJECT ANNUAL JOB REPORT**

**PROJECT CODE NO.:** 06210

**TITLE:** White-tailed Deer Research/Management

**PROJECT JOB NO.:** 21009

**TITLE:** Evaluation of Biological Effects and Social Acceptance of New Antler Restrictions for White-tailed Deer Hunting Season in Pennsylvania

**PERIOD COVERED:** 1 July 2007 through 30 June 2008

**COOPERATING AGENCIES:** Pennsylvania Cooperative Fish and Wildlife Research Unit, The Pennsylvania State University

**WORK LOCATION(S):** Centre and Armstrong counties and statewide

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**DATE:** 3 June 2008

**ABSTRACT** We compared deer hunter survey results from panel members who filled out a series of 6 surveys (n = 718) and panel members who began the series but did not complete it (n = 576). We found significant differences between the two groups in their responses to five questions chosen a priori, indicating a bias in the panel group. We also used responses from these groups to compare support for antler restrictions before their start and support for them after three years. About half of surveyed hunters had the same level of support for antler restrictions pre- and post implementation, but about 41% were less supportive of the deer management program. Based on previous survey results, we conclude that antler restrictions were not the cause of decreasing support for the deer management program. Final analyses on deer hunter surveys need to be conducted to complete the final objective. A final report is expected in 2009.

**OBJECTIVES**

1. To estimate survival and identify mortality causes of male white-tailed deer from 6 to 30 months of age.
2. To monitor movements of male white-tailed deer from 6 to 30 months of age.
3. To evaluate hunter acceptance and satisfaction with antler restrictions.

**METHODS**

Objectives 1 and 2 were completed in 2005-06. Objective 3 is the only objective that remains to be completed.

The deer hunter survey conducted in 2002-2005 included a panel of hunters who agreed to respond to all 6 deer hunter surveys over a 3-year period. This panel component was designed to monitor changes in attitudes and opinions over time. One critical component of the analysis of panel members is to determine if there is a bias between panel members who completed all 6 surveys and those who did not complete the surveys. We conducted a final survey in fall 2005 to panel members who did not complete all 6 surveys.

We used chi-square analyses on five survey questions chosen a priori to determine if panel members completing all six surveys differed in attitude regarding antler restrictions from those who dropped out from the panel. We also wanted to see what direction (more supportive or less supportive) panel respondents moved over the course of three years. To conduct this analysis, we used initial and final responses from panel members that completed all six surveys. In addition, we matched panelist dropouts that filled out the fall 2005 survey with their initial response in fall 2002.

## **RESULTS**

No final analyses on hunter survey data were conducted in 2007-08.

We found differences in attitudes between panel members who completed all six surveys ( $n = 718$ ) and panel members who did not complete the surveys ( $n = 576$ ) (Table 1). Of five questions chosen a priori to test for differences, four were different ( $p < 0.05$ ) between groups. Sixty-five percent of panelists supported a statewide antler restriction, while 54 percent of panel dropouts supported statewide antler restrictions (Table 1). Because of the bias detected between panelists and panel dropouts, we have concluded that trends based solely on responses of panel members will also be biased and therefore affect any inferences to the general hunting population.

About half of our respondents (6-survey panelists and dropouts who completed initial and final surveys) had the same level of support after 3 seasons of antler restrictions as before the initial season (Table 2). About 41% of hunters were less supportive of the deer management program after 3 years of antler restrictions. However, because our preliminary analyses found that hunters approved antler restrictions by a 2:1 margin (Wallingford et al. 2006), we do not believe that the reduction in approval of the deer management program was related to antler restrictions. It is important to note that this analysis only indicates direction of approval or disapproval, not their level of support.

## **RECOMMENDATIONS**

1. Complete data analysis of hunter satisfaction surveys.
2. Write final report.

## **LITERATURE CITED**

Wallingford, B. D., C. S. Rosenberry, and E. S. Long. 2006. Evaluation of Biological Effects and Social Acceptance of New Antler Restrictions for White-tailed Deer Hunting Season in Pennsylvania. Annual Job Report. Pennsylvania Game Commission, Harrisburg, USA.

Table 1. Chi-square ( $\chi^2$ ) tests for differences between responses of panel members completing all six deer hunter surveys and those who dropped out of the panel. Five survey questions were chosen a priori to evaluate differences between response groups. Percentages may not sum to 100 due to rounding.

Statement	%		df	$\chi^2$	Probability
	Panel n = 718	Panel dropouts n = 576			
I support a statewide antler restriction.			2	20.76	<0.0001
Agree	65	54			
Neither	11	19			
Disagree	24	27			
I support an antler restriction in the wildlife management units I principally hunt for deer.			2	20.71	<0.0001
Agree	64	53			
Neither	11	19			
Disagree	25	29			
I support a regulation that would increase the ratio of antlered bucks to antlerless deer in the statewide deer population.			2	9.57	0.0084
Agree	56	49			
Neither	18	25			
Disagree	25	26			
Current antler restrictions are a good change in Pennsylvania's deer management program.			2	3.43	0.1803
Agree	53	48			
Neither	22	25			
Disagree	25	27			
I would rate the PGC's deer management program as:			4	9.83	0.0435
Excellent	7	4			
Good	27	28			
Fair	28	33			
Poor	35	30			
Don't know	5	6			

Table 2 (cont). Comparison of initial (before) and after responses to five survey questions chosen a priori to determine what direction of support respondents moved over a three year period of antler restrictions. For questions 1-4, responses were on a Likert scale ranging from strongly agree, agree, neither agree or disagree, disagree, and strongly disagree. Question 5 was on a Likert scale of excellent, good, fair, poor, or don't know. Percentages may not sum to 100 due to rounding.

<b>Survey question</b>	<b><i>n</i></b>	<b>Before-after response comparison (%)</b>		
		<b>Less supportive</b>	<b>Same</b>	<b>More supportive</b>
I support a statewide antler restriction.	1,136	29	48	23
I support an antler restriction in the wildlife management units I principally hunt for deer.	1,125	30	48	23
I support a regulation that would increase the ratio of antlered bucks to antlerless deer in the statewide deer population.	1,119	42	42	17
Current antler restrictions are a good change in Pennsylvania's deer management program.	1,141	31	49	21
I would rate the PGC's deer management program as: Excellent, Good, Fair, Poor, or Don't know.	984	41	38	21