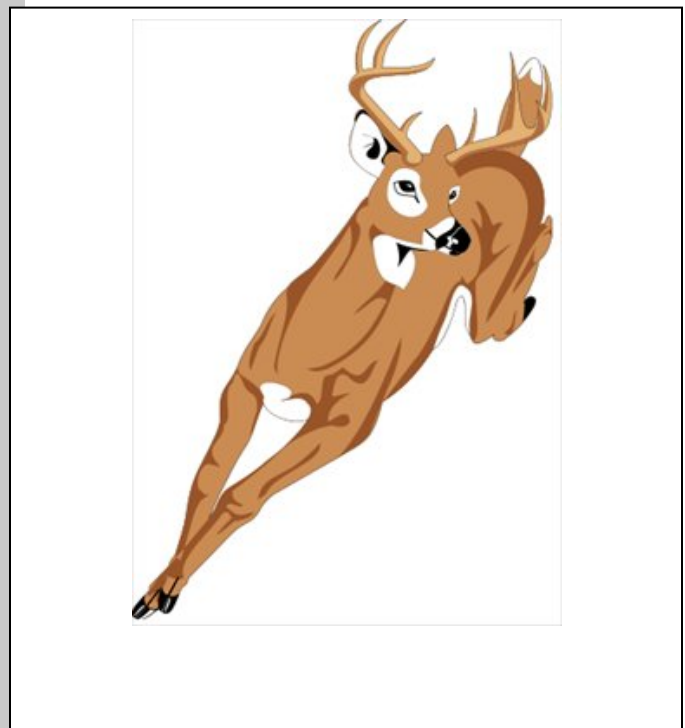

Final Report: Statewide Deer Hunter Survey – 2010



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EXECUTIVE SUMMARY

This report presents findings from a statewide mail survey of adult resident deer hunters conducted during March-April 2010. The main purposes of this survey were to: (1) develop a recent socio-demographic description of New York deer hunters, (2) assess hunters' opinions about whether and when a new deer-hunting opportunity for youth should be held, (3) assess hunters' attitudes about the possible legalization and use of crossbows, and (4) further investigate hunters' beliefs and attitudes about several deer management issues that emerged during public scoping meetings held statewide during fall 2009.

The New York State Department of Environmental Conservation (DEC) provided a statewide sample of 4,000 adult big game license holders for license year 2009-10, based on the proportion of all license holders in each Wildlife Management Unit (WMU). An additional random sample of 1,000 license buyers was drawn from WMUs where hunters had high odds of receiving a first DMP, but low or no chance of receiving a second DMP for the purpose of investigating DMP use in those situations. The total sample of 5,000 resulted in 4,791 deliverable questionnaires and 2,213 useable returns (46.2% response rate). Data for all variables based on survey returns were weighted to account for differences in response rates based on WMU of residence.

Description of New York deer hunters

- Most respondents were male and lived in rural areas.
- Average age of big game hunters was about 50, with 42% of hunters being 40-59 years of age and 27% being ≥ 60 years of age.
- The vast majority (91%) of big game license holders hunted at least one day for deer during the 2009 hunting seasons. Slightly more than one-half (53%) of those who hunted for deer hunted in the Northern Zone (NZ) and 86% of hunters pursued deer in the Southern Zone (SZ).
- On average, hunters spent about 17 days hunting deer, regardless of whether their primary place to hunt was in the NZ or SZ. Overall, 95% of respondents who hunted went afield during the regular firearms season. Many hunters also participated in either archery hunting (36%) or muzzleloader hunting (37%).
- Most (55%) of the respondents whose primary place to hunt was in the NZ hunted on more than one type of land (e.g., public, private with free access, hunt club, other land where they had to pay a fee). Also, 37% whose primary place to hunt was in Central-Western NY (DEC Regions 7, 8, and 9), and 29% of those whose primary place to hunt was in Southeastern NY (DEC Regions 3, and 4) hunted on more than one type of land.
- Among NZ hunters, 60% reported hunting most of their time on private land with free access, 25% hunted mostly on public land and about 12% hunted most of their time on hunt club properties.

- The vast majority of Central-Western hunters (86%) hunted most of their time on private land for free; another 11% hunted most of their time on public land.
- Among hunters in the Southeastern part of the state, 72% hunted most of their time on private land for free, 15% on public land, and 8% on hunt club properties.
- Very few hunters in any part of the state hunted on properties where they had to pay a lease or day-use fee.
- Statewide, hunters were split with respect to whether they were satisfied with their buck-hunting experiences; 46% dissatisfied and 40% satisfied.
- Regardless of whether they hunted in the NZ or the SZ, hunters saw more antlerless deer per day afield than either young, smaller-antlered bucks (YBs) or older, larger-antlered bucks (OBs).
- Sightings do not equate with harvest vulnerability which is defined as the hunter having a clear shot at a deer that is in-range and the hunter has an unfilled tag for that kind of deer. YBs were the most harvest-vulnerable deer in all parts of the state, followed by OBs and then antlerless deer.
- Hunters' willingness to take shots at harvest-vulnerable antlerless deer (important in the context of meeting deer population objectives) was lower in all parts of the state than their willingness to take shots at antlered bucks of any age. Overall, willingness to shoot at harvest-vulnerable antlerless deer was highest in the Central-Western part of the SZ, lowest in the Southeastern part of the SZ, and intermediate in the NZ.
- Hunters in all parts of the state passed-up shots in a substantial proportion of encounters with both YBs ($\geq 75\%$ of opportunities) and OBs ($\geq 40\%$ of opportunities). Although these rates of passing-up shots at bucks may seem high, they apparently reflect well hunters' harvest decisions during the season. Using findings pertaining to sightings of bucks, harvest vulnerability of bucks, and hunters' willingness to take shots at bucks, we estimated that about 103,450 antlered bucks were harvested in the combined NZ and SZ areas (not Long Island) during the 2009 season. This estimate is similar to the DEC estimate of 101,200 antlered bucks taken in the NZ and SZ.

Attitudes about a possible youth firearms hunt

- A majority of respondents (59%) thought it would be a good idea for DEC to create a new firearms hunting opportunity for 14-15 year-old youth during a weekend prior to regular firearms season.
- No clear preference emerged about the particular timing for such a weekend hunt.
- Many respondents (63%) supported the idea that each participating youth should be provided with a tag valid for a deer of either sex, and 51% thought it would be a good

idea if participating youth received a tag good for an antlerless deer in addition to the standard buck tag issued with each license.

- If a new youth firearms hunting opportunity was created, 49% of respondents indicated they were “very willing” to participate as a non-hunting adult companion to one or more participating youth.

Attitudes about possible legalization and use of crossbows

- At the time of the survey, crossbows were not legal implements for hunting deer in New York State. Just over one-half of respondents (53%) thought that crossbows should be legalized.
- Attitudes of bowhunters and big game hunters who do not hunt with a bow were nearly identical about this issue.
- If crossbows were legalized, about 43% of bowhunters and 39% of big game hunters who do not hunt with a bow “definitely” or “probably” would use one.
- About one-half of respondents (51%) thought crossbows should be legalized for all hunters during any season when bows currently are legal (i.e., archery and regular firearms season). Only 19% thought that use of crossbows should be limited to the regular firearms season. The vast majority of respondents also thought that crossbows should be legalized for senior hunters (68%) or for disabled hunters (78%).

Hunters’ Attitudes about various Management Options

We asked hunters about 14 possible management options pertaining broadly to (1) tag availability and structure of the season for various hunting implements, (2) harvest of antlerless deer, and (3) harvest of antlered bucks. Options considered a good idea by a majority of respondents:

- Start archery season earlier (51% good idea, 32% bad idea).
- In years when WMUs are temporarily closed to DMPs, allow archery and muzzleloader hunters to take only bucks in those WMUs during those years (52% good idea, 28% bad idea).
- In WMUs where the deer population is too high, make part of archery and muzzleloader seasons antlerless-only (55% good idea, 27% bad idea).
- Promote voluntary restraint on the part of hunters to pass-up shots at yearling bucks (54% good idea, 30% bad idea).
- Set mandatory antler restrictions to reduce harvest of yearling bucks during all deer hunting seasons (youth would be exempt) (57% good idea, 34% bad idea).

- Keep the current 2-buck bag limit, but make the second tag valid only for bucks with larger antlers, to be defined by regulation (50% good idea, 36% bad idea).

Options for which we found no majority expressing either positive or negative attitudes:

- Lengthen the late archery and muzzleloader season in the SZ (41% good idea, 36% bad idea).
- Allow antlerless harvest only through the use of DMPs (45% good idea, 39% bad idea).
- Create a new muzzleloader season in the SZ that only allows harvest of antlerless deer (45% good idea, 41% bad idea).
- Allow each hunter to harvest only one antlered buck annually (50% good idea, 39% bad idea).
- Set mandatory antler restrictions to reduce harvest of yearling bucks, but only for part of the hunting season (e.g., first half of regular firearms season; youth would be exempt) (41% good idea, 45% bad idea).
- Give hunters the choice to buy one tag valid for any antlered buck, or two tags valid only for bucks with larger antlers (to be set by regulation) (39% good idea, 44% bad idea).

Options considered to be a bad idea by a majority of respondents:

- Create a new season for flintlock, sidelock, and matchlock muzzleloaders (no scopes allowed) (20% good idea, 59% bad idea). Further, 70% of current muzzleloader hunters would be “not likely” or only “slightly likely” to participate in such a new season.
- Shorten the regular firearms season (18% good idea, 74% bad idea).

Trade-offs about the Focus of Hunting Regulations

- In the context of regulations related to season structure and harvest of *antlerless deer*, 48% of respondents indicated that it was most important that regulations “have the greatest effectiveness for managing the deer population,” 29% indicated it was most important that regulations “are as simple to understand as possible,” and 23% reported it was most important that regulations “provide the greatest diversity of deer hunting opportunities.”
- In the context of regulations that affect harvest of *antlered bucks*, 50% of respondents indicated it was most important to have “the greatest freedom to choose which antlered buck I harvest,” 40% reported it was most important to have “the greatest prospect of taking an older buck with large antlers,” and 10% indicated it was most important to have “the greatest opportunity to harvest more than one buck per year.”

Important Positive Aspects of Hunters Experiences

Based on insights from previous surveys of hunters, we knew hunters greatly valued two aspects of the hunting experience: (1) their “freedom to choose” which buck to harvest and (2) their perception of the amount of “protection from harvest” that young bucks seem to be afforded in their hunting area. The degree to which these two aspects of deer hunting are experienced or otherwise perceived affects hunting satisfaction. Consequently, in this study we compared the levels of “freedom to choose” and “protection of young bucks from harvest” that respondents said they experienced with the minimum levels they desired to be satisfied. Under current regulations, experienced level of “freedom to choose” is about equal to the minimum level of freedom desired by hunters. Conversely, experienced level of “protection from harvest” that young bucks are afforded is substantially lower than hunters’ minimum desired level.

Discussion and Conclusions

Most of New York’s big game license holders participated in deer hunting, with many hunters taking advantage of opportunities to use multiple hunting implements and to hunt in both the NZ and SZ. Hunters were split with respect to their satisfaction with buck-hunting in New York. About 40% of hunters were satisfied with their buck-hunting experiences during the 2009 hunting season, but a slightly greater proportion was dissatisfied. Given that hunters’ perceived level of “freedom to choose” which buck to try to harvest was at the minimum desired level, any perceived loss of “freedom to choose” is likely to diminish satisfaction for those hunters who greatly value this freedom. On the other hand, affording small-antlered bucks more protection from harvest would likely improve satisfaction for those hunters who greatly value the opportunity to take an older buck.

Many hunters value opportunities to use multiple hunting implements and to have regulations that are as simple to understand as possible, although changes in regulations that reflected these outcomes were not supported by large percentages of hunters. Of potential importance from a management perspective is that a plurality of hunters value regulations that “have the greatest effectiveness for managing the deer population.” Still, regulatory changes that would enhance DEC’s ability to control antlerless deer harvest were thought to be a bad idea by as many hunters as thought they would be a good idea. In addition, hunters who support the idea of ensuring effective management of the deer population exhibit the same low willingness as other hunters to shoot at harvest-vulnerable antlerless deer.

Despite the resistance to many changes to big game regulations explored in this study, hunters expressed support for two kinds of new opportunities. A majority of hunters – regardless of whether they currently hunt with a bow – support legalization of crossbows and their use during any season when bows currently can be used (e.g., archery, regular firearms seasons). About 40% of hunters “probably” or “definitely” would use a crossbow if they were legal. Strong support also exists for the idea of creating a new firearms hunt for youth deer hunters. Given no clear preference on the part of hunters for when a new youth hunt is held, additional stakeholder engagement may be needed to identify the most satisfactory timing.

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INTRODUCTION

In fall 2009, staff with the New York State Department of Environmental Conservation (DEC) held a series of public meetings throughout the state focused on deer management. The main purposes of those meetings were to: (1) review changes to DEC's deer management program that had been adopted as a result of a round of public meetings in 2000-02 (i.e., Future of Deer Hunting initiative, State of the Deer Herd meetings), (2) provide an update on the current status of deer management in the state, including current issues and challenges, (3) confirm feedback DEC had received from sportsmen about hunting-related issues, and (4) gain insights for prioritizing issues to address programmatically. To further refine the prioritization process and to examine some of the hunting-related issues in more detail, DEC asked the Human Dimensions Research Unit (HDRU) in the Department of Natural Resources at Cornell University to obtain standardized, scientific data by surveying a representative sample of sportsmen statewide.

This survey provided an opportunity to build on periodic monitoring of general deer hunter attitudes and behaviors on a statewide basis. Five major statewide surveys have been conducted since 1987 (i.e., Decker and Connelly 1988; Enck and Decker 1991, 1995; Lauber and Brown 2000 and Enck and Brown 2007). Each survey was developed to obtain data about some particularly pressing issue(s) at the time of the study. Yet, efforts were made with each survey to collect data pertaining to socio-demographic characteristics, attitudes, and behaviors of deer hunters across the state so that trends in these variables could be monitored. We continued that tradition of monitoring hunter behaviors and attitudes in this survey.

Study Objectives

1. Determine deer hunters' attitudes about several issues of management interest to DEC:
 - (a) a new youth deer-hunting weekend,
 - (b) legal use of crossbows for deer hunting, and
 - (c) structure of, and tags available for, various deer hunting seasons, options for managing antlerless deer, and options for managing buck harvest opportunity
2. Measure deer hunting participation, harvest, and satisfaction indicators.
3. Monitor demographic characteristics of deer hunters.

METHODS

Sampling Frame

We conducted a mail survey of 5,000 adult residents of New York State who purchased a big game hunting license during the 2009-2010 license year (or who held a lifetime license), out of a population of about 500,000 big game license buyers statewide. We stratified 4,000 of the sample into two geographic strata based on WMU of residence: (1) Northern Zone (NZ; n = 1,700) and (2) Southern Zone (SZ; n = 2,300). These sub-sample sizes were based on: (1) knowledge that only about 16.4% of big game license buyers lived in NZ WMUs in 2009, (2) the necessity to have two versions of the questionnaire to examine the full range of management options of interest to DEC, and (3) our desire to obtain ≥ 400 useable responses for each version of the questionnaire from each geographic stratum to provide precise and reliable area-specific findings.

The remaining 1,000 of the sample was included as part of a related study aimed at determining whether DMP misuse was higher in WMUs where hunters had a relatively high opportunity to purposefully misuse a DMP. Specifically, we obtained a sample of 1,000 hunters who had applied for ≥ 2 DMPs; a first DMP in WMU 8S (where hunters could only get one and were told that they had “low odds” of obtaining a DMP) and a second DMP in an adjacent WMU (i.e., 7R, 8J, or 8R) where hunters were told they had “high odds” of receiving a second DMP. License holders selected from this stratum were provided the same survey instruments as hunters in the other strata, and their responses are reflected in this report. We do not report findings related to possible DMP misuse in this report, but use responses from this “over-sample” to other questions in the questionnaire. Data from this “over-sample” of hunters from central NY were weighted as described below to account for differential response rates by WMU of residence.

Because the main sample of 4,000 was drawn based on the number of license holders living in each of the various wildlife management units (WMUs) across the state and we experienced a wide range of response rates among the WMUs, raising the possibility of response bias. To address this possibility, we developed weighting factors for each WMU using the formula:

$$WT_i = (\%LICinWMU_i \times TOTALRESP) / WMU_iRESP,$$

where,

WT_i = weighting factor for respondents living in WMU_i

$\%LICinWMU_i$ = proportion of all NY State resident license buyers who live in WMU_i

$TOTALRESP$ = total number of respondents from all WMUs combined, and

WMU_iRESP = number of respondents living in WMU_i .

DEC staff provided us with an electronic file of names, addresses, and telephone numbers of all 5,000 persons in the sample. We implemented the mail survey on 25 March 2010 following Dilman's (2000) four-wave procedure. Our last reminder letter was mailed to non-respondents on 22 April, and we included in our analysis all questionnaires returned by 10 May. Although assessing the possibility of non-response bias is our standard practice, funding was not available for such an assessment in this case. Typically, nonrespondents tend to be less active participants and to express more ambivalent attitudes than respondents.

Questionnaire Development

We developed two versions of the questionnaire to reduce response fatigue associated with long questionnaires. One version (Appendix A) included questions pertaining to different options for changing the structure or tags available for various deer hunting seasons and options for managing antlerless deer harvest. The second version (Appendix B) replaced these questions with items focused on management of buck harvest opportunities. Both versions of the questionnaire included items about use of crossbows, a new youth hunting opportunity, the harvest reporting system, possible misuse of DMPs, deer hunting behaviors, satisfaction with hunting experiences, and socio-demographic characteristics of deer hunters. Each version of the questionnaire was provided to 50% of the license holders in all sub-strata in the sample.

General Deer-hunting Information:

In both versions of the questionnaire, we asked hunters the total number of years they had hunted deer, and whether they had hunted for the first time in 2009. We also asked if they had hunted deer in New York State in 2009. Also included in this section were questions about the number of DMPs hunters applied for, received and filled; the county in New York State where their primary place to hunt is located; and their level of satisfaction with their buck-hunting experiences in that county. We also asked if they had hunted on each of four types of property: (1) public land, (2) private land for free, (3) a hunting club, and (3) other property where they had to pay (e.g., a season lease or day-use fee). Finally, we assessed hunting effort by asking the number of days they hunted during each of eight separate 2009 deer-hunting seasons (e.g., muzzleloader, archery, regular firearms, and various geographic zones).

We asked hunters about their sightings and harvest of deer while hunting to calibrate their level of buck-hunting satisfaction with their hunting experiences. With specific reference to antlerless deer, young bucks with smaller antlers, and older bucks with larger antlers, we asked: (1) how many deer of each type they saw while hunting, (2) how many they could have shot at (had an unfilled tag and deer was in range), (3) how many they shot at, (4) how many they harvested, and (5) how many total shots they took. The number they reported seeing provided an index to observability of each type of deer. The percentage of observed deer that they could have shot at if they had wanted to provided an index to vulnerability of each type of deer. Their willingness to shoot at deer of each type was assessed via the percentage of vulnerable deer shot at. Harvest effectiveness for each type of deer was assessed through the percentage of shot at deer that were harvested. Finally, shooting efficiency was indexed for each type of deer as the average number of shots taken to harvest a deer.

Attitudes Regarding a Possible Youth Deer Hunt:

We used a 5-point scale (from extremely bad idea to extremely good idea) to determine respondents' attitudes about: (1) each of four possible times during the fall for a new youth hunt, (2) the possibility of having the youth weekend on the same vs. different weekends in the Southern Zone and Northern Zone, (3) two possibilities for types of deer tags that could be valid for youth during the weekend hunt, and (4) the general idea of having a new firearms hunt for youth on some weekend prior to regular firearms season. We also asked how willing respondents were (from not at all willing to very willing) to accompany any youths the respondents knew who wanted to participate. Finally, to obtain a very coarse index to possible demand for a youth deer-hunting weekend, we asked whether the respondents had any children ≤ 15 years of age in their households, and if so, how many were boys and how many were girls.

Attitudes Regarding Legalization and Possible Use of Crossbows:

At the time of the survey, crossbows were not legal hunting implements in New York State, according to state law (not DEC regulation). DEC has indicated support for legalization of crossbows. We first asked respondents if they agreed or disagreed (along a 5-point scale) that crossbows should never be legalized for deer hunting in New York. We then asked respondents to indicate if they agreed or disagreed with each of five possible options for use of crossbows, including use in particular seasons, locations, or by specific categories of hunters. Finally, we asked if respondents would use a crossbow if it was legalized, measured on a 5-point scale from definitely no to definitely yes.

Attitudes Regarding Management Options:

As noted previously, we developed two versions of the questionnaire to assess attitudes about a broader range of possible management options than we could ask about in a single instrument. Version One (Appendix A) included questions about options for changing the structure or tags available for various deer hunting seasons and options for managing antlerless deer harvest. Version Two (Appendix B) replaced these questions with items focused on management of buck harvest opportunities.

The eight options examined in Version One were (1) lengthening the late archery and muzzleloader seasons in the Southern Zone, (2) shortening the regular firearms season, (3) creating a new season for flintlock, sidelock, and matchlock muzzleloaders, (4) starting archery season earlier, (5) making part of archery and muzzleloader seasons antlerless-only in WMUs with high deer populations, (6) restricting antlerless harvest to use of DMPs, (7) restricting archery and muzzleloader hunters to take only antlered bucks in WMUs that are temporarily closed to DMPs, and (8) creating a new, early muzzleloader season in the Southern Zone during which only antlerless deer may be taken. For each option, we listed two to four potential effects (on hunters' experiences or on DEC's management capability) to indicate likely trade-offs associated with that option. We then asked respondents to indicate on a five-point scale whether each option was a good idea or a bad idea. Finally, to help us understand which of the trade-offs seemed to resonate most strongly with the hunters, we asked respondents which effect had the most influence on their attitude about each option.

In Version Two of the questionnaire we used a similar format to assess respondents' attitudes towards six options for managing buck harvest opportunity, and to determine the specific effects of those options that most influenced respondents' attitudes. The six options examined in Version Two were: (1) allowing each hunter to take only one antlered buck per year, (2) maintaining the current two-buck bag limit, but making the second tag valid only for bucks with larger antlers (to be defined by regulation), (3) setting mandatory antler restrictions to reduce harvest of young bucks with smaller antlers during all deer hunting seasons, (4) setting mandatory antler restrictions to reduce harvest of young bucks with smaller antlers, but only for part of the hunting season (e.g., first half of regular firearms season), (5) promoting voluntary restraint on the part of hunters to pass-up shots at young bucks with smaller antlers, and (6) giving hunters a choice to buy one tag valid for any antlered buck, or two tags valid only for bucks with larger antlers (to be set by regulation).

For additional insights about tradeoffs of greatest importance to hunters, we asked recipients of Version One of the questionnaire to indicate which type of tradeoff is most important to them personally when considering potential options for changes in season structure or hunting of antlerless deer: (1) having regulations that have the greatest effectiveness for managing the deer population, (2) having regulations that are as simple to understand as possible, or (3) having regulations that provide the greatest diversity of deer hunting opportunities. Similarly, we asked recipients of Version Two of the questionnaire to indicate which type of tradeoff is most important to them personally when considering potential options for changes in hunting of antlered bucks: (1) having the greatest opportunity to harvest more than one buck per year, (2) having the greatest prospects of taking an older buck with large antlers, or (3) having the greatest freedom to choose which antlered buck to harvest.

Social and Demographic Characteristics:

We asked hunters to indicate their gender and residence category (from rural to urban). We also asked them to indicate their primary source of information about deer-hunting regulations from a list of five possible sources. We accessed data about the year in which they were born from license records, yielding an average age for all hunters in the sample (not only respondents).

Data Analysis:

We analyzed all survey data using SPSS-X (Version 18.0), and used $p = 0.05$ as the significance threshold for all analyses unless indicated otherwise. We used one-way analysis of variance with Scheffe's multiple-comparison t-test to compare means among geographic substrata. We used Person Chi-square tests or Fisher's Exact Tests (identical to Chi-square analysis, but robust enough to handle cells with values <5) to compare categorical data.

Results

Survey Response Rates and Data Accuracy

The initial sample of 5,000 big game license holders resulted in 4,791 deliverable questionnaires and 2,213 useable returns (46.2% response rate). We received 696 useable returns for hunters who live in the northern Zone (NZ) and 1,514 useable responses for hunters who lived in the Southern Zone (SZ) including New York City and Long Island. The margin of error associated with the findings varies according to the number of respondents and the percentage of respondents giving a particular answer to each question. In this study, the maximum expected margin of error at the 95% confidence level is $\pm 5.0\%$ for hunters whose primary hunting location was in the NZ, $\pm 4.7\%$ for those hunting in the central/western portion of the SZ and $\pm 3.2\%$ for those hunting in the southeastern portion of the SZ. For aggregated data reported at the statewide level, the maximum expected margin of error is $\pm 2.2\%$.

Characteristics of Deer Hunters

Approximately 91% of respondents were male, compared to 92% of all 5,000 hunters in the sample. Thus, we had no gender-based response bias in our study. Respondents were slightly older, however, than all hunters in the sample (53.3 years vs. 49.5 years). Respondents ranged in age from 18 to 98. About 42% of hunters were 40-59 years of age, with another 36% >60 years-old (Table 1).

Table 1. Age and gender of respondents.

Ageclass (years of age)	<u>n</u>	Percent of all <u>respondents</u>	Percent female <u>in each age class</u>
18-19	39	1.8	7.9
20-29	177	8.0	9.4
30-39	252	11.4	8.9
40-49	457	20.7	10.6
50-59	480	21.7	9.3
60-69	485	21.9	8.7
≥ 70	<u>320</u>	<u>14.5</u>	8.8
	2,210	100.0	

On average, respondents had hunted deer in New York or elsewhere for 30.8 years. Overall, 90.8% of respondents hunted at least one day during the 2009 deer-hunting seasons. Of the 9.2% of license buyers who did not hunt deer in 2009, nearly all had hunted deer at some point in their lives, with only 18 persons indicating that they had never hunted deer (Table 2).

Table 2. Most recent time period during which deer hunting activity occurred for those respondents who held a big game license for 2009 but who did not go deer hunting that year.

<u>Time period most recently hunted</u>	<u>n</u>	<u>% who hunted most recently during this period</u>
prior to 1980	4	3.4
1980s	10	8.5
1990s	16	13.8
2000-2005	23	14.9
2006	2	1.0
2007	12	10.6
2008	<u>50</u>	<u>46.4</u>
	117	100.0

More than one-half of respondents reported living in rural areas (55%) with another 17% living in hamlets or small villages. Twenty percent of deer hunters lived in suburban areas, and 8% lived in an urban area. In general, most respondents reported that their primary hunting location was in the same geographic part of the state as their residence (Table 3).

The vast majority of respondents (87%) reported that DEC's annual regulations guide was a primary source of information about deer-hunting regulations in New York. Other primary sources included: word of mouth (42%), hunting press (36%), local newspapers (26%) and DEC's web site (26%).

Table 3. Where respondents live compared to location of their primary hunting area.

<u>Of those respondents living in...</u>	<u>n</u>	<u>...percent whose primary hunting area is in...</u>			<u>Totals by area of residence</u>
		<u>Northern Zone</u>	<u>Central/western</u>	<u>Southeastern</u>	
Northern Zone	574	82	9	9	100%
Central/Western	869	3	96	1	100%
Southeastern and LI/NYC	<u>529</u> 1,733	4	11	85	100%

Deer-hunting Experiences in 2009

Application for, and use of, deer management permits (DMPs). Respondents whose primary place to hunt was in Central-Western NY were more likely than hunters from either the southeastern part of the state or the Northern Zone to have applied for a DMP and were most likely to have applied for the maximum number of DMPs (n = 2) available per hunter during the initial application period (Table 4). In general, SZ hunters filled a higher percentage of received DMPs than NZ hunters, with hunters from Central-Western NY filling the highest percentage on average. In all three geographic areas, hunters reported filling about a quarter of the DMPs they received. Also, 4-6% of hunters from all three parts of the state reported filling one or more DMPs that had been consigned to them from other hunters.

Table 4. Application and use of deer management permits (DMPs) by respondents.

DMP-related variables	Area that is hunter's primary hunting location		
	Northern	Central-Western	Southeastern
DMPs for which hunters applied			
Mean number applied for	1.0	1.6	1.5
% of hunters who applied for 0 DMPs	39.1	12.3	28.3
% of hunters who applied for 1 DMP	21.7	11.1	28.6
% of hunters who applied for 2 DMPs	<u>39.2</u>	<u>76.6</u>	<u>43.1</u>
	100.0	100.0	100.0
Considering each of these hunters could have applied for 2 DMPs during the initial application period, % of possible DMPs for which these hunters applied:	50.0	82.1	57.5
DMPs received by hunters			
Mean number of DMPs received	0.7	1.5	0.9
DMPs filled by hunters			
Mean number of DMPs filled	0.2	0.4	0.3
% of received DMPs that were filled	27.0	25.2	25.1
% of hunters in this region who filled ≥ 1 DMPs consigned to them from other hunters	6.2	5.0	4.2

General hunting activity during the 2009 deer-hunting seasons. Overall, respondents hunting in the Northern Zone hunted about the same number of total days for deer as respondents who hunted in the Southern Zone (Table 5). Respondents hunted more days in the NZ than SZ during the regular firearms season, but more days in the SZ during archery season. Muzzleloader hunters spent about the same number of day afield in both Zones.

The vast majority (95.1%) of respondents who hunted at least one day reported hunting during one of the regular firearms seasons. More than one-half (55.6%) of respondents who hunted during the regular firearms season went afield only in the SZ whereas 22.1% of respondents hunted only in the NZ during the regular firearms season. The other 22.3% of regular firearms hunters participated in both Zones.

About one-third of respondents (36.5%) reported hunting at least one day during an archery season (NZ or SZ). This effort was strongly concentrated in the SZ: most of those (70.8%) hunted only in the SZ whereas 10.4% hunted only in the NZ. About 19% hunted during archery season in both Zones. About one-third of all respondents (37.1%) hunted with a muzzleloader. Compared to bowhunter effort, muzzleloader effort was more evenly divided between the zones: 25.4% hunted in both the NZ and SZ, whereas 43.4% hunted with a muzzleloader only in the SZ, and 31.2% used a muzzleloader only in the NZ.

Type of land hunted. Private land where access was free was the type of property hunted by the vast majority of respondents from each of the three geographic areas of the state (Table 6, top) and where a majority of hunters in all three areas of the state hunted most of their time. A greater percentage of hunters whose primary place to hunt deer was in the NZ hunted at least some of their time on public land and on hunt club properties compared to hunters whose primary place to hunt was in either the Central/Western or Southeastern portions of the SZ (Table 6, bottom right). Few hunters in any area hunted on private property where they had to pay a fee for access. Various combinations of land types hunted by respondents from the three areas of the state are provided in Appendix C.

Table 5. Participation by respondents in the various deer-hunting seasons in New York in 2009.

2009 deer-hunting season	Season length (days)	Mean ^a days hunted	Percent of all respondents hunting this season	Distribution of effort within each season				row total
				% of season participants who hunted...				
				1-7 days	8-14 days	15-21 days	>21 days	
Days hunted in NZ								
Early and late muzzleloader	14	4.3	30.8	91.0	9.0	NA	NA	100.0
Archery	27	6.7	16.6	67.3	20.9	10.0	1.8	100.0
Rifle	44	12.1	53.1	39.9	27.2	20.2	12.7	100.0
Days hunted in SZ								
Early archery	35	10.6	47.7	42.6	30.4	19.8	7.2	100.0
Regular gun	23	8.4	86.0	48.6	38.5	11.0	1.9	100.0
Muzzleloader	8	3.7	40.9	93.2	6.8	NA	NA	100.0
Late archery	9	3.2	11.3	92.0	8.0	NA	NA	100.0
Suffolk or Westchester archery or firearm seasons	variable	8.8	4.2	67.4	10.9	13.7	8.0	100.0
All seasons combined	NA	17.7	90.8	27.2	24.1	16.8	31.9	100.0

^aMean calculated for those hunters who participated in that season (i.e., 0s were eliminated).

Table 6. Types of land hunted during 2009 deer-hunting seasons in New York State by area of the state containing respondents' primary location to hunt deer.

Type of land	% who hunted this type of land <i>at least once during 2009</i> within these areas of the state		
	Northern Zone (NZ)	Central- Western	Southeast
Public land	53.8	38.4	34.2
Private land for free	80.4	92.2	81.0
Hunt club	27.9	4.2	15.8
Other land with fee	7.3	4.5	4.4

	% who hunted this type of land the MOST while hunting deer			% who ONLY hunted this type		
	NZ	Cent-West	Southeast	NZ	Cent-West	Southeast
Public land	25.4	11.1	15.2	9.7	6.3	10.1
Private land for free	60.1	86.3	73.2	30.8	55.4	52.8
Hunt club	12.4	0.6	8.3	3.7	0.3	5.6
Other land with fee	2.1	2.0	3.3	0.6	1.0	2.3
	100.0	100.0	100.0	44.8	63.0	70.8

Hunters' encounters with deer during the regular firearms season. Regardless of the Zone where respondents' primary hunting area was located, hunters saw more antlerless deer per day afield (Table 7) than younger, smaller-antlered bucks (YBs; Table 8) or older, larger-antlered bucks (OBs; Table 9). On average, hunters saw more deer of all types per day in Central-Western and Southeastern NY than in the NZ. In all areas of the state, antlerless deer were less vulnerable to harvest than antlered bucks of any age/size (compare Tables 7-9), based on the percentage of sightings in which shots could have been taken (i.e., clear shot available, deer was in-range, hunter had an unfilled tag for that deer). YBs were the most harvest-vulnerable type of deer in all regions. In all parts of the state, hunters were least likely to take shots when harvest-vulnerable antlerless deer were encountered, and most likely to take shots when harvest-vulnerable OBs were encountered.

Despite passing-up shots in $\geq 75\%$ of their encounters with harvest-vulnerable YBs and $>40\%$ of encounters with harvest-vulnerable OBs, hunters still harvested a considerable number of antlered bucks. Using the total number of big game hunting licenses sold in 2009 (492,000) and data from Tables 8 and 9 (see Appendix D), we estimated that about 103,450 antlered bucks were taken in the state during the 2009 hunting season (not including Long Island). Based on data from the mail survey, we estimated about 58,550 (57%) were YBs and 44,900 (43%) were OBs. These are very similar to DEC's estimates of 59% YBs and 41% OBs from harvest data.

Table 7. Respondents' interactions with antlerless deer during the 2009 regular firearms season.

<u>Hunter interactions and effects with antlerless deer</u>	<u>Northern Zone</u>		<u>Central-Western NY</u>		<u>Southeastern NY</u>		<u>Comparison</u> <u>p</u>
	<u>n^a</u>	<u>Mean</u>	<u>n</u>	<u>Mean</u>	<u>n</u>	<u>Mean</u>	
Number of antlerless deer seen per day of hunting	211	1.1	431	1.7	209	2.2	<0.001 ^b
% harvest-vulnerable (of # seen, % that could have been shot at; i.e., hunter had tag, deer was in-range)	223	37.8	677	39.4	333	44.0	0.082
index to willingness to shoot (of harvest-vulnerable deer, % that were shot at)	153	10.7	514	18.3	244	8.2	<0.001
index to shooting effectiveness (of deer shot at, % harvested)	77	55.9	359	52.0	101	61.6	0.169
index to shooting efficiency (total shots taken / antlerless deer harvested)	61	1.4	267	1.5	89	1.3	0.426
# antlerless deer harvested/hunter	272	0.3	786	0.4	397	0.2	<0.001
harvested 0	216 (79.4%)		542 (69.0%)		321 (81.1%)		
harvested 1	43 (15.8%)		164 (20.9%)		56 (14.1%)		
harvested 2	9 (3.3%)		67 (8.5%)		19 (4.8%)		
harvested 3	4 (1.5%)		12 (1.5%)		0 (0.0%)		

^anumber of respondents.

^bdenotes a difference between geographic areas.

Table 8. Respondents' interactions with younger, smaller-antlered bucks (YBs) during the 2009 regular firearms season.

Hunter interactions and effects with younger, smaller-antlered bucks (YBs)	Northern Zone		Central-Western NY		Southeastern NY		Comparison <u>p</u>
	<u>n</u> ^a	<u>Mean</u>	<u>n</u>	<u>Mean</u>	<u>n</u>	<u>Mean</u>	
Number of YBs seen per day of hunting	218	0.1	473	0.3	231	0.2	<0.001 ^b
% harvest-vulnerable (of # seen, % that could have been shot at; i.e., hunter had tag, deer was in-range)	144	64.6	467	59.9	214	60.1	0.453
index to willingness to shoot (of harvest-vulnerable deer, % that were shot at)	117	25.4	368	22.7	166	18.2	0.242
index to shooting effectiveness (of deer shot at, % harvested)	57	59.4	172	49.8	65	58.2	0.292
index to shooting efficiency (total shots taken / YB harvested)	45	1.0	127	1.0	59	1.1	0.580
# YBs harvested/hunter	246	0.2	654	0.2	340	0.1	0.566
harvested 0	205 (83.3%)		557 (85.0%)		293 (85.9%)		
harvested 1	36 (14.6%)		85 (13.0%)		43 (12.6%)		
harvested 2	5 (2.1%)		13 (2.0%)		5 (1.5%)		

^anumber of respondents.

^bdenotes a difference between geographic areas.

Table 9. Respondents' interactions with older, larger-antlered bucks (OBs) during the 2009 regular firearms season.

Hunter interactions and effects with older, larger-antlered bucks (OBs)		Northern Zone		Central-Western NY		Southeastern NY		Comparison <u>p</u>
		<u>n</u> ^a	<u>Mean</u>	<u>n</u>	<u>Mean</u>	<u>n</u>	<u>Mean</u>	
Number of OBs seen per day of hunting		231	0.04	543	0.11	281	0.12	<0.001 ^b
% harvest-vulnerable (of # seen, % that could have been shot at; i.e., hunter had tag, deer was in-range)		80	52.6	315	41.1	147	49.6	0.035
index to willingness to shoot (of harvest-vulnerable deer, % that were shot at)		69	56.0	219	52.9	107	55.6	0.831
index to shooting effectiveness (of deer shot at, % harvested)		62	53.0	185	44.0	97	64.3	0.004
index to shooting efficiency (total shots taken / OB harvested)		41	1.2	123	1.2	79	1.0	0.548
#OBs harvested/hunter		245	0.2	645	0.1	342	0.2	0.069
	harvested 0	209 (85.3%)		551 (85.4%)		274 (80.1%)		
	harvested 1	34 (13.9%)		92 (14.3%)		65 (19.0%)		
	harvested 2	2 (0.8%)		2 (0.3%)		3 (0.9%)		

^anumber of respondents.

^bdenotes a difference between geographic areas.

Satisfaction with buck-hunting experiences in the county containing respondents' primary place to hunt deer. Statewide 46% of deer hunters were dissatisfied with their buck-hunting experiences during the 2009 hunting season and about 40% were satisfied. Percentages of satisfied and dissatisfied hunters differed depending on location of respondents' primary hunting area, with a higher percentage of hunters in Central-Western NY satisfied compared to those hunting primarily in the NZ (Table 10).

Table 10. Satisfaction with buck-hunting experiences during the 2009 hunting season by location of respondents' primary areas to hunt deer.

<u>Level of satisfaction or dissatisfaction with buck-hunting experiences</u>	<u>Primary place to hunt deer was in...</u>		
	<u>Northern Zone (NZ)</u>	<u>Southern Zone (SZ)</u>	
		<u>Central/Western</u>	<u>Southeastern</u>
% Greatly dissatisfied	20.1	12.7	22.7
% Moderately dissatisfied	15.0	12.6	13.2
%S lightly dissatisfied	13.2	17.6	10.4
	48.3	42.9	46.3
% Neither satisfied nor dissatisfied	17.9	14.8	15.1
% Slightly satisfied	11.3	12.8	14.3
% Moderately satisfied	16.0	19.5	14.0
% Greatly satisfied	6.5	10.0	10.3
	33.8	42.3	38.6
	100.0%	100.0%	100.0%

Attitudes Regarding a Possible Youth Firearms Deer Hunt Prior to the Regular Season

Statewide, a slight majority of respondents (59%) thought a firearms hunt, prior to regular firearms season, for youths aged 14-15 years would be a good idea. More respondents with children than without children thought it would be a good idea (70% vs. 56%). Despite majority agreement that a youth hunt would be a good idea, little agreement was found with respect to timing (Table 11). At least one-half of respondents (recall that these all are adults) supported both scenarios presented about the kinds of deer tags that youth should be issued if a new firearms youth hunt was held; 63% thought it would be a good idea if each participating youth received one tag good for a deer or either sex, and 51% thought it would be a good idea to provide each youth with a tag good for an antlerless deer in addition to the standard buck tag that comes with the purchase of a big game license.

If a new youth firearms hunting opportunity was created, about one-half of respondents (49%) said they would be “very willing” and 23% said they would be “moderately willing” to accompany a youth hunter as a non-hunting adult companion. Among respondents with young children, 85% indicated they were “moderately” or “very” willing to be a non-hunting adult on a youth hunt. Nearly two-thirds of respondents without young children (67%) also were at least “moderately willing.”

Table 11. Respondents’ attitudes about possible timing of a new firearms hunt for youth on a weekend prior to regular firearms season.

If the youth hunt was held...	Percent who thought this would be ...						
	Extremely bad idea	Bad idea	(total bad)	Neither good nor bad idea	Good idea	Extremely good idea	(total good)
Weekend in early November	21.7	21.0	(42.7)	29.2	23.6	4.4	(28.0)
Weekend in late October	19.2	22.1	(41.3)	27.6	23.2	8.0	(31.2)
Columbus Day wkend (3 days)	17.6	19.3	(36.9)	28.5	24.6	9.8	(34.4)
The weekend immediately prior to regular firearms season	25.8	21.1	(46.9)	16.3	28.8	8.0	(36.8)
Same weekend in both the NZ and SZ	14.4	21.7	(36.1)	27.4	28.4	8.1	(36.5)
Different weekends in the NZ and SZ	14.8	19.5	(34.3)	37.1	23.2	5.3	(28.5)

Attitudes Regarding Legalization and Possible Use of Crossbows

At the time of the survey, crossbows were not legal implements for hunting deer in New York State.¹ Slightly more than one-half of all hunters disagreed and slightly less than one-third agreed that crossbows should never be legalized for deer hunting (Table 12). Attitudes of respondents who participated in the 2009 archery season did not differ from those who had not bowhunted. Bowhunters and other hunters expressed similar intentions about their use of crossbows if they became legal hunting implements in New York, with about 40% indicating they “probably” or “definitely” would use a crossbow and about 38% indicating the “probably” or “definitely” would not.

Table 12. Respondents’ attitudes about legalization and use of crossbows for deer hunting in New York State.

<u>Type of deer hunter</u>	<u>Crossbows should never be legalized for deer hunting</u>						
	<u>Strongly disagree</u>	<u>Disagree</u>	<u>(total disagree)</u>	<u>Neither agree nor disagree</u>	<u>Agree</u>	<u>Strongly agree</u>	<u>(total agree)</u>
Bowhunters	32.6%	21.8%	(54.4)	15.4%	11.6%	18.6%	(30.2)
Other hunters (e.g., Regular season and Muzzleloader)	29.9%	22.9%	(52.8)	21.5%	9.2%	16.5%	(25.7)

No difference in agreement/disagreement between bowhunters and other hunters (p = 0.163).

<u>If crossbows were legal in NY, would you use one?</u>	<u>% bow-hunters</u>	<u>% other hunters</u>
Definitely No	18.2	21.3
Probably No	20.0	17.6
Not sure	18.4	22.2
Probably Yes	20.2	20.3
Definitely Yes	23.2	18.6
	100.0	100.0

(No difference in likely crossbow use between bowhunters and other hunters (p = 0.246).)

¹ In September 2010, the Governor of New York signed a law providing for the use of crossbows during the regular firearms season or any subsequent season in which firearms could be used (i.e., not during archery season). That law will take effect in 2011.

When presented with different circumstances under which crossbows might be used for deer hunting, bowhunters and other hunters differed in terms of the magnitude of their agreement or disagreement although the pattern of responses was similar (Table 13). For example, most bowhunters and other hunters disagreed that crossbows should be allowed statewide for all hunters only during regular firearms season (contrary to the legislation that was passed after the survey was implemented). Bowhunters generally were less supportive than other hunters of allowing crossbows to be used during any season when archery equipment could be used. Substantial majorities of both bowhunters and other hunters agreed that crossbows should be allowed for disabled and senior (≥ 70 years old) deer hunters.

Hunters' Attitudes About Possible Management Options

We asked hunters about their attitudes toward four possible changes to the structure of hunting seasons, four possible options about harvest of antlerless deer, and six possible options about opportunities for harvesting antlered bucks. For each of the options assessed, we listed two to four possible outcomes or consequences that would likely occur if the option were implemented. Some of the listed outcomes were positive while others were negative, reflecting the reality that each management option has trade-offs associated with it. We also asked respondents to indicate the one outcome that had the greatest influence on their evaluation of the option as a good idea or a bad idea. If respondents did not find their most important reason in the list provided, they had the option to write it in on a blank line.

Table 13. Agreement or disagreement by New York State deer hunters about which hunting seasons and by whom crossbows should be made legal for hunting deer.

<u>Crossbows should be legal for...</u>	<u>% of all hunters statewide who:</u>			<u>% of bowhunters who:</u>			<u>% of non-bowhunters who:</u>		
	<u>Agree</u>	<u>Neither agree nor disagree</u>	<u>Disagree</u>	<u>Agree</u>	<u>Neither agree nor disagree</u>	<u>Disagree</u>	<u>Agree</u>	<u>Neither agree nor disagree</u>	<u>Disagree</u>
All hunters, but during seasons when bows are legal (archery, regular firearms) ^a	51.0	11.1	37.9	42.2	11.3	46.5	53.5	11.7	35.8
All hunters, but only during regular season ^b	19.0	19.0	62.0	27.9	20.5	51.6	15.9	19.8	64.3
Areas where more deer harvest is needed ^c	39.0	23.0	38.0	30.2	26.4	43.4	44.6	22.1	33.3
Disabled hunters ^d	77.7	8.6	13.7	87.5	5.5	7.0	76.3	9.6	14.1
Senior hunters (≥70 years of age) ^e	67.9	12.9	19.2	73.1	12.2	14.7	65.4	14.5	20.1

^aX² = 12.542, df = 2, p = 0.002

^bX² = 20.505, df = 2, p < 0.001

^cX² = 18.690, df = 2, p < 0.001

^dX² = 16.790, df = 2, p < 0.001

^eX² = 6.289, df = 2, p = 0.043

Four possible changes to the season structure:

1. Shorten the regular firearms season. Most deer hunters (73.9%) thought shortening the regular firearms season would be a bad idea (Table 14). We found no differences between hunters whose primary place to hunt was in the NZ vs. Central-western vs. Southeast NY. The main reason for disliking this option was that it would reduce the number of days for those who wanted to hunt during the regular season (Table 15). Most of the write in responses about why this option was a bad idea related to the belief that it would reduce license sales. The main reason for liking the idea of shortening the regular season was that it could allow for lengthening other seasons.

Table 14. Respondents' attitudes toward the idea of shortening the regular firearms season.

<u>Management option</u>	<u>Percent of deer hunters who thought this option was...</u>				
	<u>Extremely good idea</u>	<u>Somewhat good idea</u>	<u>Neither a good nor bad idea</u>	<u>Somewhat bad idea</u>	<u>Extremely bad idea</u>
Shorten the regular firearms season	6.9	11.2	8.0	25.7	48.2
	18.1			73.9	

Table 15. Reasons for disliking or liking the idea of shortening the regular firearms season.

This option would be a <u>bad idea</u> because (n = 145):	<u>%</u>
Could slightly reduce buck harvest	8.3
Could allow for lengthening other seasons or creating new opportunities	2.8
Would reduce the number of weekdays and weekends for gun hunters	84.5
Other	<u>4.3</u>
	100.0
This option would be a <u>good idea</u> because (n = 613):	<u>%</u>
Could slightly reduce buck harvest	29.0
Could allow for lengthening other seasons or creating new opportunities	53.8
Would reduce the number of weekdays and weekends for gun hunters	10.3
Other	<u>6.9</u>
	100.0

2. Start archery season earlier. Overall, about one-half of respondents thought this option was a good idea and about one-third thought it was a bad idea (Table 16). We found no differences among hunters whose primary place to hunt was in the NZ vs. Central-western vs. Southeast NY. More bowhunters (69%) than other hunters (47%) evaluated the idea positively, however. Among respondents who liked the idea of starting the archery season earlier, most believed it would provide additional bowhunting opportunity during mild weather (Table 17). Most of those who thought it would be a bad idea believed it would shorten the time during fall small game and furbearer seasons without an overlapping deer season. Most hunters who disliked this option and wrote in an “other” reason mentioned concerns that venison would spoil in the warm weather.

Table 16. Respondents’ attitudes toward the idea of starting archery season earlier.

<u>Management option</u>	<u>Percent of respondents who thought this option was...</u>				
	<u>Extremely good idea</u>	<u>Somewhat good idea</u>	<u>Neither a good nor bad idea</u>	<u>Somewhat bad idea</u>	<u>Extremely bad idea</u>
Start archery season earlier	20.4	30.8	16.4	15.1	17.3
	51.2			32.4	

Table 17. Reasons for disliking or liking the idea of starting archery season earlier.

This option would be a <u>bad idea</u> because (n = 201):	<u>%</u>
Would shorten the time during small game and furbearer seasons without an overlapping deer season	46.3
Could allow time for a new or longer muzzleloader season	13.4
Could increase the number of days for bowhunters during mild weather	18.4
Other	<u>21.9</u>
	100.0
This option would be a <u>good idea</u> because (n = 441):	<u>%</u>
Would shorten the time during small game and furbearer seasons without an overlapping deer season	3.2
Could allow time for a new or longer muzzleloader season	33.8
Could increase the number of days for bowhunters during mild weather	62.6
Other	<u>0.4</u>
	100.0

3. Lengthen the late archery and muzzleloader seasons in the Southern Zone. Hunters statewide were relatively evenly divided about the idea of lengthening the late SZ seasons (Table 18). A majority (62%) of SZ bowhunters and muzzleloader hunters (i.e., who hunted in one or more of these late seasons in the SZ in 2009) thought this option would be a good idea. Opinions differed based on location of primary hunting area, with a plurality of NZ hunters believing it would be a bad idea, a plurality of hunters in Central-Western NY thinking it would be a good idea, and hunters in Southeast NY evenly split (42% good idea vs. 41% bad idea). The main reason why respondents thought this option would be a bad idea was that some adult bucks would have lost their antlers by then (Table 19). Two most numerous “other” reasons for disliking this option were that it would put too much stress on deer during winter and it would result in too many wounded deer. The main reason for liking this option was that it would increase the number of days for those who wanted to hunt in the SZ late seasons.

Table 18. Respondents’ attitudes toward lengthening the late special seasons in the SZ.

<u>Management option</u>	<u>Percent of deer hunters who thought this option was...</u>				
	<u>Extremely good idea</u>	<u>Somewhat good idea</u>	<u>Neither a good nor bad idea</u>	<u>Somewhat bad idea</u>	<u>Extremely bad idea</u>
Lengthen the late archery and muzzleloader seasons in SZ	16.6	24.9	22.5	21.2	14.8
	41.5			36.0	

Table 19. Reasons for disliking or liking the idea of lengthening the late archery and muzzleloader seasons in the Southern Zone.

This option would be a <u>bad idea</u> because (n = 258):	<u>%</u>
Would increase the number of days for late season hunters in the SZ	14.3
Some adult bucks that shed their antlers could be harvested	47.3
Would shorten the time during small game and furbearer seasons without an overlapping deer season	28.3
Other	<u>10.1</u>
	100.0
This option would be a <u>good idea</u> because (n = 355):	<u>%</u>
Would increase the number of days for late season hunters in the SZ	81.4
Some adult bucks that shed their antlers could be harvested	10.7
Would shorten the time during small game and furbearer seasons without an overlapping deer season	6.5
Other	<u>1.4</u>
	100.0

4. Create a new season for flintlock, sidelock, and matchlock muzzleloaders (no scopes allowed). Creating a new primitive firearms season was unpopular among hunters statewide (Table 20), and was equally unpopular in the NZ and SZ ($p = 0.975$). Even among those who participated in a muzzleloading season in 2009, about 62% thought it was a bad idea compared to only 23% who thought it would be a good idea. The main reasons it would be considered a bad idea is that it could decrease the length of other deer seasons, depending on when it occurred (Table 21). Most of the additional write-in reasons for disliking this option reflect the belief that muzzleloader season already is long enough or that too many deer would be wounded by the primitive firearms. The main reason why it would be a good idea is that it would provide a new kind of hunting opportunity. Only about 18% of all hunters and 29% of respondents who hunted with a muzzleloader in 2009 were moderately or very likely to participate in a new muzzleloader season (Table 22).

Table 20. Respondents' attitudes toward the idea of creating a new, early-season opportunity for primitive Muzzleloaders.

<u>Management option</u>	<u>Percent of deer hunters who thought this option was...</u>				
	<u>Extremely good idea</u>	<u>Somewhat good idea</u>	<u>Neither a good nor bad idea</u>	<u>Somewhat bad idea</u>	<u>Extremely bad idea</u>
Create a new season for flintlock, sidelock and matchlock muzzleloaders (no scopes allowed)	7.6	12.4	21.1	28.7	30.2
	20.0			58.9	

Table 21. Reasons for disliking or liking the creation of a new, early-season opportunity for primitive muzzleloaders.

This option would be a <u>bad idea</u> because (n = 446):	<u>%</u>
Would provide new opportunities for muzzleloader hunters	2.9
Depending on when it was, it could decrease the length of other deer seasons	86.8
Other	<u>10.3</u>
	100.0
This option would be a <u>good idea</u> because (n = 161):	<u>%</u>
Would provide new opportunities for muzzleloader hunters	73.3
Depending on when was, it could decrease the length of other deer seasons	23.6
Other	<u>3.1</u>
	100.0

Table 22. Potential participation in a new, early-season opportunity for primitive muzzleloaders.

<u>Likelihood of participating in a new muzzleloader season</u>	<u>All hunters statewide (%)</u>	<u>Respondents who hunted with a muzzleloader in 2009 (%)</u>
Not likely	65.7	50.3
Slightly likely	16.3	20.1
Moderately likely	8.1	10.7
Very likely	<u>9.9</u>	<u>18.9</u>
	100.0	100.0

Four possible changes to opportunities for harvesting antlerless deer:

1. In WMU's where the deer population is too high, make part of archery and muzzleloader seasons antlerless-only. Statewide, slightly more than one-half of respondents thought this change would be a good idea and about one-quarter thought it would be a bad idea (Table 23). This option was thought to be a good idea by similar percentages of hunters who participated in archery and muzzleloader seasons in 2009 (54%) and those who only participated in regular firearms seasons (53%). Hunters' attitudes differed depending on whether their primary place to hunt was in the NZ or the SZ. Slightly more hunters in Southeastern NY (61%) and the NZ (55%) thought this option would be a good idea, compared to those who hunted primarily in Central-Western NY (48%). About 31% of those whose primary place to hunt was in Central-Western NY thought this option would be a bad idea, compared to 24% who hunted primarily in the NZ and 28% who hunted primarily in Southeastern NY. The main reason for disliking this option was that it would reduce some opportunity for bowhunters and muzzleloader hunters to take antlered bucks in some WMUs (Table 24). Most of the additional write-in reasons for disliking it related to lost opportunities for bow and muzzleloader hunters to take a "buck of a lifetime." The main reason for liking it was that it would help control the deer population in WMUs with too many deer.

Table 23. Respondents' attitudes toward the idea of archery and muzzleloader seasons antlerless-only in WMUs with too many deer.

<u>Management option</u>	<u>Percent of deer hunters who thought this option was...</u>				
	<u>Extremely good idea</u>	<u>Somewhat good idea</u>	<u>Neither a good nor bad idea</u>	<u>Somewhat bad idea</u>	<u>Extremely bad idea</u>
In WMUs where the deer population is too high, make part of archery and muzzleloader seasons antlerless-only	19.1	36.0	17.3	16.1	11.4
	55.1			27.5	

Table 24. Reasons for disliking or liking the idea of making part of archery and muzzleloader seasons antlerless-only in WMUs with too many deer.

This option would be a <u>bad idea</u> because (n = 186):	<u>%</u>
Would help control the deer population in those WMUs	5.9
Would reduce some opportunity for archery and muzzleloader hunters to take antlered bucks in some WMUs	83.3
Other	<u>10.8</u>
	100.0
This option would be a <u>good idea</u> because (n = 475):	<u>%</u>
Would help control the deer population in those WMUs	91.3
Would reduce some opportunity for archery and muzzleloader hunters to take antlered bucks in some WMUs	8.5
Other	<u>0.2</u>
	100.0

2. Allow antlerless harvest only through use of DMP's. Attitudes about this option were split among all hunters statewide (Table 25), and differed by implement type. Among archery/muzzleloader hunters, about one-half (52%) thought this option would be a bad idea; 37% thought it would be a good idea. About 55% of regular firearms hunters thought it would be a good idea and 28% thought it would be a bad idea. Attitude did not differ by geographic area of the state. The main reason for disliking this option was that archery and muzzleloader hunters could no longer get either-sex or antlerless-only tags (Table 26). "Other" reasons offered for disliking this option reflected a wide variety of concerns. The main reason for liking the idea was that it would help avoid overharvesting does in WMUs with low deer populations.

Table 25. Respondents' attitudes toward the idea of allowing antlerless harvest to occur only through the use of DMPs, and not through either-sex archery or muzzleloader tags.

<u>Management option</u>	<u>Percent of deer hunters who thought this option was...</u>				
	<u>Extremely good idea</u>	<u>Somewhat good idea</u>	<u>Neither a good nor bad idea</u>	<u>Somewhat bad idea</u>	<u>Extremely bad idea</u>
Allow antlerless harvest only through use of DMPs	16.4	29.1	15.1	22.2	17.2
	45.5			39.4	

Table 26. Reasons for disliking or liking the idea of allowing antlerless harvest to occur only through the use of DMPs.

This option would be a <u>bad idea</u> because (n = 316):		<u>%</u>
Would help avoid overharvesting does in WMUs with low populations		4.1
Archery and muzzleloader hunters no longer would be able to get either-sex or antlerless-only tags		80.4
Some hunters would get >2 DMPs in WMUs with high deer populations		12.7
Other		<u>2.8</u>
		100.0
This option would be a <u>good idea</u> because (n = 399):		<u>%</u>
Would help avoid overharvesting does in WMUs with low populations		71.2
Archery and muzzleloader hunters no longer would be able to get either-sex or antlerless-only tags		8.0
Some hunters would get >2 DMPs in WMUs with high deer populations		20.5
Other		<u>0.3</u>
		100.0

3. In years when WMU's are temporarily closed to DMPs, allow archery and muzzleloader hunters to take only bucks in those WMU's during that year. This option was evaluated as a good idea by more than one-half of hunters statewide, and as a bad idea by slightly more than one-quarter (Table 27). Hunters' attitudes did not differ based on the kind of hunting implement they used (i.e., archery/muzzleloader vs. regular firearms) nor whether they hunted in NZ vs. Central-western vs. Southeast NY. The main reason given for a positive evaluation was avoiding overharvest of does in WMU's with low deer populations (Table 28). Among those who thought it would be a bad idea, most believed that this option would reduce the opportunity for archery and muzzleloader hunters to take antlerless deer in some WMUs.

Table 27. Respondents' attitudes towards the idea of allowing archery and muzzleloader hunters to only take bucks in WMUs that are temporarily closed to DMPs.

<u>Management option</u>	<u>Percent of deer hunters who thought this option was...</u>				
	<u>Extremely good idea</u>	<u>Somewhat good idea</u>	<u>Neither a good nor bad idea</u>	<u>Somewhat bad idea</u>	<u>Extremely bad idea</u>
In years when WMUs are closed to DMPs, allow archery and muzzle-loader hunters to take only bucks	16.2	36.3	19.0	16.6	11.9
	52.5			28.5	

Table 28. Reasons for disliking or liking the idea of allowing archery and muzzleloader hunters to only take bucks in WMUs that are temporarily closed to DMPs.

This option would be a <u>bad idea</u> because (n = 183):	<u>%</u>
Would help avoid overharvesting does in WMUs with low populations	15.3
Would reduce the opportunity for archery and muzzleloader hunters to take antlerless deer in some WMUs	73.2
Other	<u>11.5</u>
	100.0
This option would be a <u>good idea</u> because (n = 452):	<u>%</u>
Would help avoid overharvesting does in WMUs with low populations	89.8
Would reduce the opportunity for archery and muzzleloader hunters to take antlerless deer in some WMUs	8.8
Other	<u>1.4</u>
	100.0

4. Create a new, early muzzleloader season in the SZ that only allows harvest of antlerless deer. Statewide, a slightly higher percentage of hunters thought this option would be a good idea than a bad idea (Table 29). A higher percentage of muzzleloader hunters (59%) than other hunters (38%) thought the option would be a good idea, and a lower percentage of muzzleloader hunters (31%) than other hunters (45%) thought it would be a bad idea. More than one-half of NZ hunters thought this option was a good idea (55%) compared to 44% who hunted primarily in Central-Western NY and 38% in Southeastern NY. About twice the proportion of SZ hunters (45% in Central-Western NY and 49% in Southeastern NY) than NZ hunters (22%) thought it would be a bad idea.

The two main reasons why this option would be a bad idea are that it could occur in the middle of the archery season or that it could occur immediately before the regular firearms season (Table 30). An additional 49 respondents wrote-in reasons why this option would be a bad idea, with most of those relating to disturbance of deer prior to regular firearms season or disturbance of bowhunters' experiences. The main reason for liking this option is that it would provide a new opportunity for muzzleloader hunters.

Table 29. Respondents' attitudes towards the idea of creating a new, early muzzleloader season in the Southern Zone that only allows harvest of antlerless deer.

<u>Management option</u>	<u>Percent of deer hunters who thought this option was...</u>				
	<u>Extremely good idea</u>	<u>Somewhat good idea</u>	<u>Neither a good nor bad idea</u>	<u>Somewhat bad idea</u>	<u>Extremely bad idea</u>
Create a new early muzzle-loader season in the SZ that only allows harvest of antlerless deer	16.0	29.2	13.3	18.2	23.2
	45.2			41.4	

Table 30. Reasons for disliking or liking the idea of creating a new, early muzzleloader season in the Southern Zone that only allows harvest of antlerless deer.

This option would be a <u>bad idea</u> because (n = 239):	<u>%</u>
Would provide a new opportunity for muzzleloader hunters	5.4
Would help control the deer population in WMUs with too many deer	7.1
Could occur during the middle of the archery season although bowhunters still could hunt during the new muzzleloader season	36.0
Could occur immediately before regular firearms season	31.0
Other	<u>20.5</u>
	100.0
This option would be a <u>good idea</u> because (n = 391):	<u>%</u>
Would provide a new opportunity for muzzleloader hunters	43.0
Would help control the deer population in WMUs with too many deer	28.4
Could occur during the middle of the archery season although bowhunters still could hunt during the new muzzleloader season	12.5
Could occur immediately before regular firearms season	15.9
Other	<u>0.2</u>
	100.0

Six possible changes to opportunities for harvesting antlered bucks:

1. Allow each hunter to take only one antlered buck per year. About one-half of all respondents thought this would be a good idea (Table 31). Hunters' attitudes did not differ based on whether they hunted primarily in the NZ or in Central-western or Southeast NY). Muzzleloader and archery hunters (i.e., those who were most likely to be affected directly by this option) evaluated this option more negatively than other hunters. About 35% of muzzleloader and archery hunters vs. 61% of other hunters thought this option would be a good idea. Conversely, 53% of archery and muzzleloader hunters vs. 28% of other hunters thought it would be a bad idea. The main reason for opposition was that hunters using more than one implement (e.g., bow and gun) would no longer be able take an antlered buck with each one (Table 32). An additional 33 respondents who thought it was a bad idea wrote-in reasons that generally grouped into three categories: loss of opportunity, possible increase in buck poaching, and possible reduction in hunter numbers. The main reason for support of this option was that a few more antlered bucks might survive hunting season compared to the current system (Table 32).

Table 31. Respondents' attitudes towards the idea of allowing each hunter to take only one antlered buck per year.

<u>Management option</u>	<u>Percent of deer hunters who thought this option was...</u>				
	<u>Extremely good idea</u>	<u>Somewhat good idea</u>	<u>Neither a good nor bad idea</u>	<u>Somewhat bad idea</u>	<u>Extremely bad idea</u>
Allow each hunter to take only one antlered buck per year	24.6	25.1	11.3	19.1	19.9
	49.7			39.0	

Table 32. Reasons for disliking or liking the idea of allowing each hunter to take only one antlered buck per year.

This option would be a <u>bad idea</u> because (n = 260):	<u>%</u>
A few more antlered bucks could survive to the next year	6.5
Could shift some harvest from bucks to does	10.0
Hunters could no longer take an antlered buck with more than one implement in a year (e.g., with a bow and a gun)	71.5
Other	<u>11.9</u>
	100.0
This option would be a <u>good idea</u> because (n = 338):	<u>%</u>
A few more antlered bucks could survive to the next year	53.8
Could shift some harvest from bucks to does	23.1
Hunters could no longer take an antlered buck with more than one implement in a year (e.g., with a bow and a gun)	19.8
Other	<u>3.3</u>
	100.0

2. Keep the current two-buck bag limit, but make the second tag valid only for bucks with larger antlers (to be defined by regulation). Statewide, one-half of respondents thought this option would be a good idea, and about one-third thought it would be a bad idea (Table 33). Hunters' attitudes about this option did not differ based on whether they hunted primarily in the NZ or in Central-western or Southeast NY. More muzzleloader and archery hunters (57%) than other hunters (45%) thought this option would be a good idea. This option was evaluated as a bad idea by 33% of muzzleloader/archery hunters, and 42% of other hunters. The main reason why this option would be a good idea is that a few more, young, antlered bucks might survive the hunting season compared to current regulations (Table 34). The main reason for why it would be a bad idea was that it would reduce hunters' freedom to choose which antlered buck to harvest. An additional 31 respondents wrote in reasons why they thought this option would be a bad idea, and most related to two main points: it will be difficult to determine if a buck is legal to shoot, and enforcement of the regulation would be difficult.

Table 33. Respondents' attitudes towards the idea of keeping the current 2-buck bag limit, but making the second tag valid only for a buck with larger antlers.

<u>Management option</u>	<u>Percent of deer hunters who thought this option was...</u>				
	<u>Extremely good idea</u>	<u>Somewhat good idea</u>	<u>Neither a good nor bad idea</u>	<u>Somewhat bad idea</u>	<u>Extremely bad idea</u>
Keep the current bag limit, but make the 2 nd tag valid only for larger-antlered bucks	21.1	29.1	13.3	18.7	17.8
	50.2			36.5	

Table 34. Reasons for disliking or liking the idea of keeping the 2-buck bag limit, but making the second tag valid only for a buck with larger antlers.

This option would be a <u>bad idea</u> because (n = 233):	<u>%</u>
A few more young, smaller-antlered bucks could survive to next year	15.9
Would reduce hunters' freedom to choose what buck they want to shoot to fill their second tag	70.8
Other	13.3
	100.0
This option would be a <u>good idea</u> because (n = 375):	<u>%</u>
A few more young, smaller-antlered bucks could survive to next year	84.8
Would reduce hunters' freedom to choose what buck they want to shoot to fill their second tag	12.3
Other	2.9
	100.0

3. Set mandatory antler restrictions to reduce harvest of yearling bucks during all deer hunting seasons (youth hunters would be exempt). More hunters thought this option was a good idea than thought it was a bad idea (Table 35). We found no differences between NZ and SZ hunters. The vast majority of those who evaluated this option as a good idea believed that most young antlered bucks could survive the hunting season (Table 36). Among those who evaluated this option negatively, most thought it would reduce adult hunters' freedom to choose which antlered buck to harvest. An additional 34 respondents who thought this option would be a bad idea wrote in a wide range of reasons that were not easily grouped.

Table 35. Respondents' attitudes towards the idea of setting mandatory antler restrictions for all hunting seasons (exempting youth).

<u>Management option</u>	<u>Percent of deer hunters who thought this option was...</u>				
	<u>Extremely good idea</u>	<u>Somewhat good idea</u>	<u>Neither a good nor bad idea</u>	<u>Somewhat bad idea</u>	<u>Extremely bad idea</u>
Set <u>mandatory</u> antler restrictions to reduce harvest of yearling bucks during all deer hunting seasons (exempting youth)	32.5	24.9	8.1	18.0	16.4
	57.4			34.4	

Table 36. Reasons for disliking or liking the idea setting mandatory antler restrictions for all hunting seasons.

This option would be a <u>bad idea</u> because (n = 208):	<u>%</u>
A majority of young, smaller-antlered bucks could survive to next year	5.8
Would reduce hunters' freedom to choose what buck they want to shoot to fill their second tag	90.4
Other	<u>3.8</u>
	100.0
This option would be a <u>good idea</u> because (n = 450):	<u>%</u>
A majority of young, smaller-antlered bucks could survive to next year	84.4
Would reduce hunters' freedom to choose what buck they want to shoot to fill their second tag	8.0
Other	<u>7.6</u>
	100.0

4. Set mandatory antler restrictions to reduce harvest of yearling bucks, but only for part of the hunting season (e.g., first half of regular firearms season; and youth hunters would be exempt). Hunters expressed split attitudes about this option (Table 37). We found no differences in attitude based on where respondents hunted in the state. The main reason why hunters liked this option was that a moderate number of young antlered bucks could survive the hunting season (Table 38). The main reason for disliking this option was that it would reduce freedom of choice about which buck to harvest. The most common “other” reason provided was that some hunters will be confused about when in the season antler restrictions will be in place and that it likely will be difficult to enforce.

Table 37. Respondents’ attitudes towards the idea of setting mandatory antler restrictions but for only part of the hunting season.

<u>Management option</u>	<u>Percent of deer hunters who thought this option was...</u>				
	<u>Extremely good idea</u>	<u>Somewhat good idea</u>	<u>Neither a good nor bad idea</u>	<u>Somewhat bad idea</u>	<u>Extremely bad idea</u>
Set <u>mandatory</u> restrictions, but only for part of the season	12.6	28.6	14.0	21.4	23.4
	41.2			44.8	

Table 38. Reasons for disliking or liking the idea of setting antler restrictions, but only for part of the hunting season.

This option would be a <u>bad idea</u> because (n = 285):	<u>%</u>
A moderate number of young, smaller-antlered bucks could survive	19.6
Would reduce hunters’ freedom to choose what buck they want to shoot to fill their tag during part of the season	60.0
Would allow hunters to have part of the season when they could choose what type of buck to shoot	7.7
Other	<u>12.6</u>
	100.0
This option would be a <u>good idea</u> because (n = 314):	<u>%</u>
A moderate number of young, smaller-antlered bucks could survive	63.1
Would reduce hunters’ freedom to choose what buck they want to shoot to fill fill their tag during part of the season	6.1
Would allow hunters to have part of the season when they could choose what type of buck to shoot	30.2
Other	<u>0.6</u>
	100.0

5. Promote voluntary restraint on the part of hunters to pass-up shots at yearling bucks.

This option was considered a good idea by nearly twice as many respondents as thought it was a bad idea (Table 39). Attitudes did not differ based on location of one's primary hunting area. More muzzleloader/archery hunters (56%) than other hunters (47%) thought it would be a good idea, with similar percentages of muzzleloader/archery hunters (31%) and other hunters (31%) thinking it would be a bad idea. The main reason for liking this option was that it would allow more antlered bucks to survive the hunting season compared to the current situation (Table 40). The main reason for disliking this option was that only those hunters who voluntarily participated would be protecting young bucks from harvest. The most common "other" reasons reflected the belief that too few people will participate for it to protect bucks.

Table 39. Respondents' attitudes towards the idea of promoting voluntary restraint on the part of hunters to pass-up shots at young, smaller-antlered bucks.

<u>Management option</u>	<u>Percent of deer hunters who thought this option was...</u>				
	<u>Extremely good idea</u>	<u>Somewhat good idea</u>	<u>Neither a good nor bad idea</u>	<u>Somewhat bad idea</u>	<u>Extremely bad idea</u>
Promote <u>voluntary</u> restraint on the part of hunters to pass-up shots at young bucks	25.7	27.9	16.6	14.8	14.9
	53.6			29.7	

Table 40. Reasons for disliking or liking the idea of promoting voluntary restraint on the part of hunters to pass-up young bucks.

This option would be a <u>bad idea</u> because (n = 209):	<u>%</u>
Could allow "some" to "many" more young bucks to survive to next year, depending on how many hunters participate	8.6
Would allow all hunters to choose which antlered buck to harvest	9.1
Only those hunters who voluntarily participate would be involved	71.8
Other	<u>10.5</u>
	100.0
This option would be a <u>good idea</u> because (n = 403):	<u>%</u>
Could allow "some" to "many" more young bucks to survive to next year, depending on how many hunters participate	50.6
Would allow all hunters to choose which antlered buck to harvest	26.8
Only those hunters who voluntarily participate will be involved	22.3
Other	<u>0.3</u>
	100.0

6. Give hunters the choice to buy one tag valid for any antlered buck, or two tags valid only for bucks with larger antlers (to be set by regulation). Attitudes about this option were split among hunters (Table 41). We found no differences between the attitudes of hunters who used multiple implements – those who could obtain two buck tags – vs. those who used only one implement. Also, we found no differences in attitudes based on location of hunters’ primary place to hunt. The two main reasons hunters supported this option were that it could allow additional antlered bucks to survive compared to current regulations, and that hunters would be able to choose which tag type they wanted (Table 42). Among those who evaluated this option negatively, most did not like that some hunters would get tags for two bucks whereas others would get only one tag (which is the current situation). Three concerns dominated the “other” reasons for disliking this option: perception that this option would be more expensive than the current system, that it would make regulations more complex, and that it would not provide young bucks with enough protection from harvest.

Table 41. Respondents’ attitudes towards the idea of giving deer hunters the choice to buy a single tag valid for any antlered buck or two tags valid only for bucks with larger antlers.

<u>Management option</u>	<u>Percent of deer hunters who thought this option was...</u>				
	<u>Extremely good idea</u>	<u>Somewhat good idea</u>	<u>Neither a good nor bad idea</u>	<u>Somewhat bad idea</u>	<u>Extremely bad idea</u>
Give hunters the choice to buy a single tag valid for any buck OR 2 tags valid only for bucks with larger antlers	12.1	26.6	17.7	20.0	23.7
	38.7			43.7	

Table 42. Reasons for disliking or liking the idea of giving deer hunters the choice to buy a single tag valid for any antlered buck or two tags valid only for bucks with larger antlers.

This option would be a <u>bad idea</u> because (n = 267):	%
Could allow “some” to “many” more young bucks to survive to next year, depending on how many hunters choose each tag type	10.8
Would allow hunters to choose type of tag to buy and buck to harvest	12.4
Some hunters would get tags for 2 bucks, some would get a single tag	52.1
Other	<u>24.7</u>
	100.0
This option would be a <u>good idea</u> because (n = 296):	%
Could allow “some” to “many” more young bucks to survive to next year, depending on how many hunters choose each tag type	44.9
Would allow hunters to choose type of tag to buy and buck to harvest	44.9
Some hunters would get tags for 2 bucks, some would get a single tag	9.2
Other	<u>1.0</u>
	100.0

Differences in Attitudes and Behaviors Expressed by Different Types of Deer Hunters

The previous section provides insights into specific trade-offs of importance for the various management options examined, but yield less information about the general filters hunters use to evaluate regulatory options. To gain insights about the kinds of outcomes that are most important to deer hunters when multiple trade-offs exist, we developed two different approaches for characterizing deer hunters. The first approach was based on the importance hunters placed on experiences associated with the season structure and opportunities for harvesting antlerless deer. The second approach was based on the importance hunters placed on experiences associated with harvesting antlered bucks. We used one approach in each version of the questionnaire, so results from the two approaches cannot be compared.

Approach One – Season Structure and Harvest of Antlerless Deer:

Nearly one-half of respondents (48%) indicated that it was most important to have regulations “that have the greatest effectiveness for managing the deer population” (i.e., **management hunters**). About 29% of respondents indicated it was most important to have regulations “that are as simple to understand as possible” (i.e., **simple-regulations hunters**). One-quarter of hunters (23%) said it was most important to have regulations “that provided the greatest diversity of deer hunting opportunities” (i.e., **diverse-opportunities hunters**).

Given that **management hunters** placed the most importance on regulations that have the greatest effectiveness for managing deer, one could expect that they would be more willing to take shots at harvest vulnerable antlerless deer than either of the other types of hunters. This expectation was not borne out as willingness to shoot at antlerless deer did not differ among the three types of hunters (Table 43). Could **management hunters'** willingness to harvest antlerless deer have been affected by seeing few deer compared to the other types of hunters? No, they saw the same number of antlerless deer per day as other hunters. Could their willingness been affected by having relatively few encounters with harvest-vulnerable antlerless deer? Again, no, as the percentage of encounters they had in which the deer were harvest-vulnerable was similar to other hunters. These findings suggest that willingness to harvest antlerless deer likely is influenced by factor(s) unrelated to the kind of regulation **that management hunters** reported being of greatest importance. One possibility to consider is that some hunters may have interpreted the phrase "...managing the deer population" as pertaining to the sex and age ratios rather than population abundance.

Table 43. Interactions between hunters and antlerless deer reported by deer hunters in New York State characterized by the kind of hunting regulations of greatest importance to them, from a mail survey conducted in 2010.

Interactions with antlerless deer	Management hunters ^a	Simple-regulations hunters ^b	Diverse opportunities hunters ^c	F ^d	p
Mean number of antlerless deer observed per day of hunting	1.5 deer	1.7 deer	1.3 deer	1.137	0.322
Percent of observed antlerless deer that were harvest-vulnerable	42%	38%	39%	0.904	0.406
Willingness to harvest antlerless deer expressed as a percentage of harvest-vulnerable antlerless deer that were shot at	11%	14%	16%	1.524	0.219

^aMost important to have regulations with greatest effectiveness for management deer herd.

^bMost important to have regulations that are simple to understand.

^cMost important to have regulations that provide the most diverse hunting opportunities.

^dBased on one-way analysis of variance.

Approach Two – Harvest of Antlered Bucks:

Regarding regulations about opportunities for harvesting antlered bucks, 50% of respondents indicated it was most important to have “the greatest freedom to choose which antlered buck I harvest” (i.e., **freedom to choose hunters**). About 40% indicated it was most important to have “the greatest prospect of taking an older buck with large antlers” (i.e., **older-buck hunters**). The remaining 10% indicated it was most important to have “the greatest opportunity to harvest more than one buck per year” (i.e., **multiple-buck hunters**).

Additional questions in this version of the questionnaire provided evidence that “freedom of choice” is manifested in at least two ways by deer hunters in New York: (1) choosing to take the first legal buck encountered, and (2) usually choosing not to shoot young bucks with small antlers (Table 44). That the percentage of hunters agreeing with statements describing these contradictory choices total more than 100% likely can be explained to some degree by other contextual factors. For example, hunters may change their behavior depending on whether they have been seeing evidence of bucks in the area, other hunters in the area seem to be passing-up shots at small bucks, or if they believe there are important benefits to passing-up shots at smaller-antlered bucks. Note that about 42% of respondents agreed that they would be more likely to pass-up shots at young bucks with small antlers in the future if DEC gave them information about the benefits of passing-up shots at those deer.

Respondents’ agreement or disagreement with statements about their harvest behaviors were consistent with the type of regulations they indicated as being most important. **Freedom to choose hunters** reported shooting at three times as many harvest-vulnerable, smaller-antlered bucks that they encountered as **older-buck hunters** (33% vs. 11%). Similarly, hunters who agreed with the statement “I usually try to take the first legal buck that I can safely shoot” reported taking shots in three times as many encounters with smaller-antlered bucks as did hunters who disagreed with that statement (35% vs. 11%). Consistent with these findings, hunters who disagreed with the statement, “I usually do not shoot young bucks” shot at 32% of harvest-vulnerable small bucks whereas those who agreed that they usually do not shoot at those bucks shot at only 11%. Finally, hunters who agreed with the statement, “size of antlers and buck age are not very important in my decision about whether to shoot” reportedly shot at about 34% of small bucks they encountered vs. 12% shot at by those who disagreed with the statement.

Table 44. Percentage of deer hunters in New York State who agree or disagree with statements about specific buck-harvest behaviors.

<u>Statements about buck harvest</u>	<u>Percentages of hunters who...</u>				
	<u>Stongly agree</u>	<u>Agree</u>	<u>Neither agree nor disagree</u>	<u>Disagree</u>	<u>Strongly disagree</u>
I usually try to take the first legal buck I can safely shoot	16.9	28.0	16.0	23.2	15.8
I usually do not shoot young bucks with small antlers	35.1	32.1	17.1	11.4	4.2
Size of antlers and buck age are not very important in my decision about whether to shoot at a buck I see	12.2	22.3	17.9	27.2	20.4
I am most likely to pass-up shots at young bucks with small antlers if there is evidence of bigger bucks in the area	38.3	38.7	14.5	5.2	3.3
I would be more likely to pass-up shots at young bucks with small antlers if hunters in my hunting area would do the same	33.5	34.2	18.4	8.7	5.2
I would be more likely to pass-up shots at young bucks with small antlers if DEC gave me information about the benefits of passing-up young bucks	15.9	26.1	33.7	14.4	9.9

Examination of Impacts Associated with Hunter-Deer Interactions

As hunters experience interactions with deer while hunting (e.g., see deer of different ages/sexes, encounter deer that are in-range for shots, take shots, etc.), they may recognize and experience a variety of effects from those interactions (Riley et al. 2003). Some of those effects may be positive and some negative. Also, any effect may be of relatively little importance to hunters whereas other effects may be very important. Two premises of adaptive impact management are (Enck et al. 2006): (1) that positive impacts are “very important” effects of these interactions (negative impacts are those about which the stakeholders are “very concerned), and (2) that satisfaction with hunting-related experiences will be affected greatly by whether positive impacts are perceived to occur at levels above the minimum level desired, and by whether negative impacts occur at levels below a maximum tolerable level. Stakeholder-defined impacts have been referred to as the “fundamental ends” of management (Riley et al. 2002), and,

depending on whether impacts are perceived to exist at desirable or tolerable levels, they may deserve additional management attention.

Based on insights from previous surveys of hunters, we examined two positive impacts associated with hunters’ deer-related interactions: (1) hunters’ perception of their “freedom to choose” which buck to harvest and (2) their perception of the amount of “protection from harvest” that young bucks seem to be afforded in their hunting area. Further, we compared the levels of these impacts that respondents said they experienced along a 0-10 scale (experienced level) with the minimum levels they desired to experience in order to be satisfied (desired level). This comparison helps determine if those impacts deserve any additional management attention.

Experienced level of “freedom of choice” was just at the minimum desired level for **freedom to choose hunters** – arguably the group for whom “freedom of choice” is an impact to be managed rather than simply a recognized effect of regulations (Figure 1). Experienced level of “protection from harvest” was substantially lower than the minimum desirable level for **older-buck hunters**.

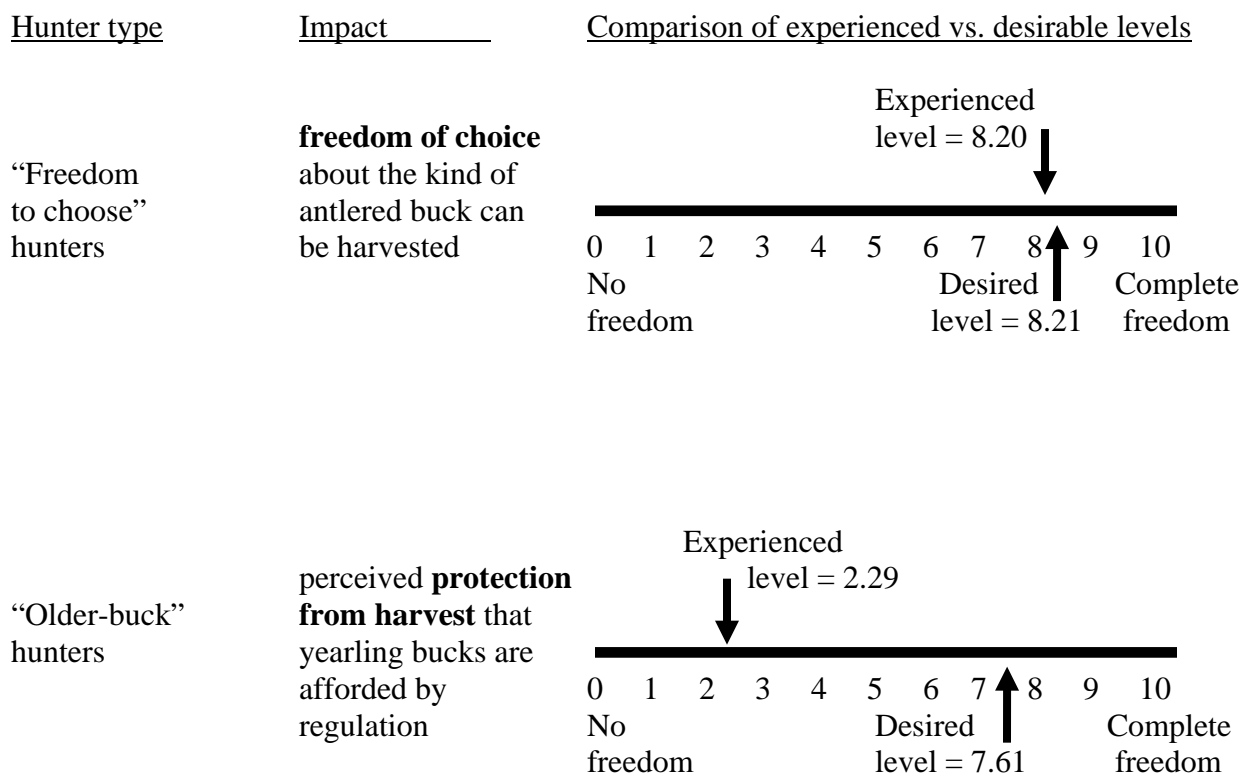


Figure 1. Comparison of the level experienced by New York deer hunters vs. their minimum desired level for two hunting-related impacts.

Relationship Between Hunters' Satisfaction and Size of the Gap in Experienced vs. Desired Levels of Impacts

Whether gaps (i.e., deficit) exist between the experienced vs. desired levels of a hunter-identified impact, and especially the size of such a deficit, has a significant influence on hunters' satisfaction. For respondents characterized as **older-buck hunters**, a deficit between experienced vs. desired levels of "protection from harvest" existed for both dissatisfied and satisfied hunters (Figure 2), but the size of the deficit was only about half as large for satisfied hunters as for dissatisfied hunters. For **freedom of choice hunters**, satisfaction with buck-hunting experiences was related not to the size of the deficit between experienced vs. desired levels, but to whether experienced level exceeded the minimum desirable level (Figure 3). It should be noted that neither that small deficit for dissatisfied freedom of choice hunters nor the small excess of experienced vs. desired freedom of choice for hunters who are satisfied are statistically significant although the differences may be meaningful in terms of hunters' attitudes. Additional factors that may affect if hunters are satisfied or dissatisfied – including the possibility that excesses exist for other positive impacts – should be explored.

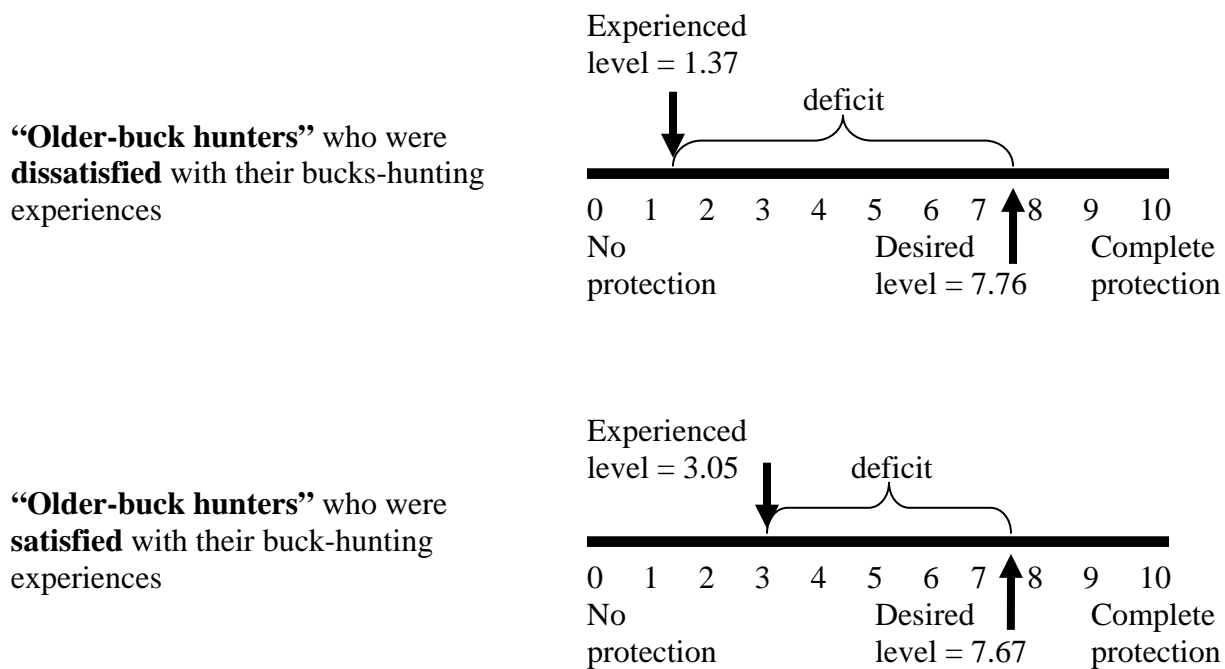
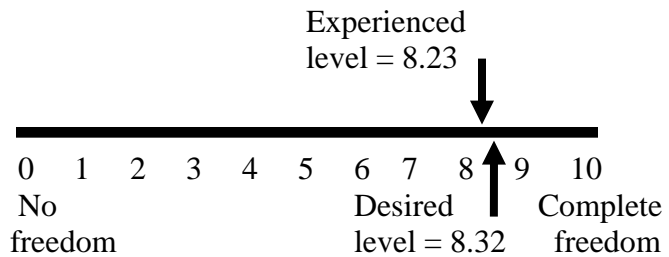


Figure 2. Comparison of experienced level vs. minimum desired level of perceived “protection from harvest” that yearling bucks are afforded by regulations, for dissatisfied and for satisfied respondents characterized as “older-buck” hunters.

“Freedom of Choice hunters”
who were **dissatisfied** with their
buck-hunting experiences



“Freedom of Choice hunters”
who were **satisfied** with their
buck-hunting experiences

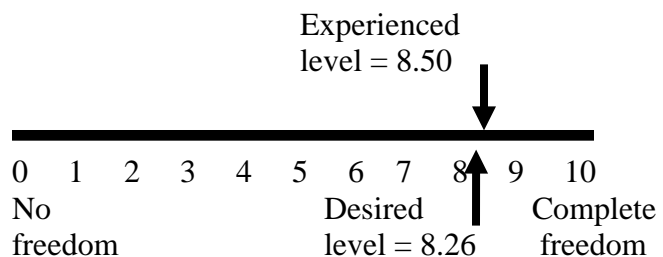


Figure 3. Comparison of experienced vs. minimum desired level of perceived “freedom of choice” about the type of bucks that can be harvested for dissatisfied and satisfied respondents characterized as “freedom of choice” hunters in New York State.

DISCUSSION AND CONCLUSIONS

Results from the 2010 statewide survey of deer hunters in New York reflect a major challenge for wildlife agencies – developing hunting regulations that provide for highly satisfying experiences while also achieving deer management objectives. These outcomes – satisfied hunters and achieved deer management objectives – long have been goals of DEC. This statewide survey of deer hunters examined hunters’ attitudes about a variety of management options to gain insights about how hunter satisfaction and participation in management of deer populations might be affected.

In general, hunters are divided about whether their hunting experiences are satisfying or dissatisfying, especially experiences directly related to antlered bucks. Some of the management options examined in this survey may increase satisfaction. Strong support exists for the idea of creating a new firearms hunt for youth deer hunters although no clear preference emerged with respect to when such a new opportunity should be created, leaving DEC to work with

stakeholders to decide when it might best fit into the existing structure of hunting seasons. Further, a substantial percentage of adult hunters – including those without children – indicated they would be willing to serve as non-hunting mentors for youth during such a hunt.

A majority of respondents support the legalization of crossbows and their use during any season when bows currently can be used (e.g., archery, regular firearms seasons). About 40% of hunters “probably” or “definitely” would use a crossbow if they were legal. Both the support for legalization of crossbows and likelihood of using one were similar for current bowhunters as well as hunters who do not currently hunt with a bow.

About one-half or slightly more of the respondents indicated support for various management options examined. These included changes in the season structure (i.e., starting archery season earlier), opportunities for harvesting antlerless deer (i.e., making part of archery and muzzleloader seasons antlerless-only in WMUs with too many deer, allowing archery and muzzleloader hunters to take only antlered bucks in WMUs with too few deer), and opportunities for harvesting antlered bucks (i.e., either voluntary restraint or some form of mandatory antler restrictions). None of the options examined are particularly popular as one-quarter to one-third of respondents thought each of these particular changes would be a bad idea. Hunters were more evenly split about six of the options we examined, and most disliked the idea of shortening the regular firearms season or creating a new “primitive” muzzleloader season.

Whether any changes would substantially increase hunter satisfaction is complicated by the reality that hunter satisfaction is multi-faceted. Although higher levels of positive impacts desired by hunters generally may be related to higher levels of satisfaction, two positive impacts examined in this study are somewhat contradictory in their nature. Both “freedom to choose” which buck to harvest and “protection from harvest” afforded to smaller-antlered bucks are highly-valued by deer hunters in New York and seemingly are important influences on satisfaction. Increasing one, however, could mean decreasing the other.

Under current regulations, the level of “freedom to choose” which hunters experience is just about at the minimum level desired. Any perceived loss of “freedom to choose” is likely to diminish satisfaction for those hunters who greatly value this freedom. On the other hand, “protection from harvest” for young bucks is substantially below a level desired by hunters. Affording small-antlered bucks more “protection from harvest” would likely improve satisfaction for those hunters who greatly value the opportunity to take an older, larger-antlered buck. Decisions about which, if any, management options to implement would benefit greatly from considerations about how freedom to choose and protection of young bucks would be affected.

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Appendix A:

Study Questionnaire

**Version one of the questionnaire containing items about season structure and management
of antlerless deer**

**Survey of Deer Hunters
in New York State
-2010-**



Cornell University
Human Dimensions Research Unit

SURVEY OF DEER HUNTERS IN NEW YORK STATE

*Last fall, DEC held public meetings about deer management around the state. Those meetings generated many suggestions about how to improve your deer-hunting experiences. To add to that information, DEC asked researchers at Cornell University to develop this scientific survey. Please take a few minutes now to complete it. Your participation in the survey is voluntary. Your identity will be kept confidential and the information you give us will never be associated with your name. **Thank you for your assistance!***

GENERAL DEER HUNTING QUESTIONS

- 1. About how many total years have you hunted deer?** *(If none, write in 0.)*

___ years

(If you hunted deer for the first time in 2009, check here:)

- 2. Did you hunt deer in New York State during the 2009 hunting season?** *(Check either “no” or “yes”.)*

No (In what year did you last hunt deer in NY? _____)
If you checked “No” go to Question 15.

Yes (If “yes,” continue with question 3.)

- 3. How many Deer Management Permits (DMPs) did you apply for, receive, and fill during the 2009 deer-hunting season in NY?** *(Write in a number for each line. If none, write in 0.)*

a. I applied for ___ DMPs.

b. I received ___ DMPs.

c. Of DMPs I applied for and received, I filled ___.

d. In addition, I filled ___ DMPs that other hunters signed-over to me.

4. **About how many days did you hunt during each of these 2009-10 deer hunting seasons in New York?** (Write a number on each line to indicate days you hunted. Do not write the word “all” to indicate that you hunted every day during the season. If none, write in 0.)

<u>Days</u>	<u>Northern Zone</u>	<u>Days</u>	<u>Southern Zone</u>
___	muzzleloader season	___	early archery season
___	archery season	___	regular firearms season
___	regular rifle season	___	muzzleloader season
		___	late archery season
<u>Days</u>	<u>Downstate Opportunities</u>		
___	Suffolk or Westchester County archery or gun seasons		

5. **Which of the following kinds of land did you hunt on in New York during the 2009 deer seasons?** (Check all that apply – then circle the letter of the one that you hunted on for the most time.)

- a. Public land (federal, state, county, etc.)
- b. Private land for free
- c. Hunt club
- d. Other land where you had to pay (e.g., season lease or day-use fee)

6. **In which County is the primary place where you hunt in New York State?**

_____ County

7. **How satisfied were you with your buck-hunting experiences in this County during the 2009 deer season?** (Circle one response only.)

Neither

Greatly Moderately Slightly Neither Slightly Moderately Greatly
dissatisfied dissatisfied dissatisfied satisfied nor satisfied satisfied satisfied

DEER SIGHTINGS AND HARVEST DURING GUN SEASON

8. How many deer of the following types did you see, shoot at, and take **during the 2009 regular firearms deer season?** (Write a number in each box. Write in 0 if you saw no deer of a particular type, took no shots, or harvested no deer.)

Sightings, shots, and harvest in 2009 (# = number)	All antlerless deer (does and fawns)	Younger, smaller-antlered bucks	Older, larger-antlered bucks
# I saw while hunting			
# I <u>could</u> have shot at if I wanted (had an unfilled tag and a clear shot in range)			
# I shot at			
# I harvested			
# of total shots I took at these deer			

IMPROVING HARVEST REPORTING AND USE OF DMPS

9. Did you try to use the **toll-free telephone number** to report a deer you harvested during the 2009 hunting season? (Check either “no” or “yes,” then follow the instructions below.)

- No (go to question 11)
- Yes (continue with question 10)

10. What was your experience when using telephone reporting system? (Check all that apply if you reported more than one deer.)

- I was successful on my first try
- I got cut off at least once before I could finish the report
- I got frustrated with the telephone system and gave up using it

11. Did you try to use the DEC website to report a deer you harvested during the 2009 hunting season? (Check either “no” or “yes” then follow the instructions below.)

- No (go to question 13)
- Yes (continue with question 12)

12. What was your experience when using the DEC website? (Check all that apply if you reported more than one deer.)

- The link to the reporting system was hard to find on the DEC web site
- I was successful on my first try
- The site crashed at least once before I could finish the report
- I got frustrated with the website and gave up using it

13. To what extent do you agree or disagree with each of the following statements about the harvest reporting system? (Circle one number for each statement.)

<i>Statement about the harvest reporting system</i>	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know
Having 48 hours to report a deer is plenty for me	1	2	3	4	5	8
Having to know the WMU where I shot a deer is a problem for me	1	2	3	4	5	8
Having to know the Town where I shot a deer is a problem for me	1	2	3	4	5	8

If you did not report any harvested deer in New York in 2009, go to question 15.

14. How satisfied were you with your overall experience using the reporting system in 2009? (Circle one response.)

		Neither		
Very	Somewhat	satisfied nor	Somewhat	Very
dissatisfied	dissatisfied	dissatisfied	satisfied	satisfied

15. Some of the six statements below may apply to you while others may not. Count the number of statements that do apply to you, and circle that total number in the set of numbers at the bottom of the page. (Do not mark the statements themselves.)

- I signed-over (i.e., “consigned”) a deer management permit (DMP) to another hunter during the 2009 hunting season.
- I forgot to report a deer I harvested on a DMP during the 2009 hunting season within the required 48-hour time period.
- I tagged a button-buck with a (DMP) during the 2009 season.
- I tagged an antlerless deer in 2009 with a DMP valid for a management unit (WMU) different from where I shot the deer.
- In 2009, I passed up a clear, safe shot at an antlerless deer when I had an unused DMP.
- I forgot to sign my carcass tag after filling my DMP in 2009.

How many of the statements above apply to you? (Circle one number below.)

0 1 2 3 4 5 6

HUNTING OPPORTUNITIES FOR YOUTH HUNTERS

Many hunters have asked DEC to add deer-hunting opportunities for youth hunters (ages 14 and 15). A basic idea is to create a youth firearms deer hunt to be held on a weekend before the regular firearms season. To make this a special hunt for youngsters, there would be no archery or muzzleloader hunting by adults on that weekend. Please think about whether your primary place to hunt is in the Northern Zone (NZ) or Southern Zone (SZ) when marking your choices below.

16. Given this basic idea, how do you personally feel about each of the following possible details for a weekend youth hunt? (Circle one number for each option.)

<i>What if the youth hunt...</i>	Extremely bad idea	Bad idea	Is neither good nor bad	Good idea	Extremely good idea
was held on the <i>same</i> weekend in both the NZ and SZ?	1	2	3	4	5
was held on <i>different</i> weekends in the NZ and SZ?	1	2	3	4	5
allowed youth to take one deer of either sex?	1	2	3	4	5
provided all youth a nontransferable antlerless tag in addition to their buck tag?	1	2	3	4	5
was held on the weekend just prior to the start of regular firearms season?	1	2	3	4	5
was held on a weekend in early November?	1	2	3	4	5
was held on a weekend in October?	1	2	3	4	5
was held on Columbus Day weekend so youth can hunt for 3 days rather than just 2 days?	1	2	3	4	5

17. Overall, how do you feel about youth deer hunters having a new firearms hunt on some weekend before regular firearms season? (Circle one response below.)

		Idea is		
Extremely	Somewhat	neither	Somewhat	Extremely
good idea	good idea	good or bad	bad idea	bad idea

18. During the special youth hunt, youth hunters will need to be accompanied by an adult who cannot harvest deer during the youth hunt. How willing would you be to accompany any youths you know who want to participate? (Circle one response.)

Not at all	Slightly	Moderately	Very
willing	willing	willing	willing

19. Do you have any children 15 years old or younger living in your household?

- No
- Yes How many are boys? _____
How many are girls? _____

EFFECTS OF POSSIBLE REGULATION CHANGES

DEC gets many suggestions from hunters each year about changing hunting regulations. Any change would affect other aspects of deer hunting. Some suggested changes are presented as a series of tables below, along with various consequences or effects of those changes.

Instructions for this section: Carefully read each option (left column in each table) and the possible effects that might occur if DEC changed regulations and adopted that option (middle column of each table). Write-in any other effects that are important to you personally. Then answer the question in the right column of the table. Finally, answer the question at the bottom of the table.

Option 1	Possible effects of Option 1	Considering these effects, how do you feel about Option 1? (Circle one response.)
Lengthen the late archery and muzzleloader seasons in the Southern Zone	(a) Would increase the number of weekdays and weekends for late season archery and muzzleloader hunters in the SZ.	Extremely good idea
	(b) Some adult bucks that shed their antlers could be harvested	Somewhat good idea
	(c) Would shorten the time during small game and furbearer hunting seasons without an overlapping deer season	Idea is neither good nor bad
	(d) Other? _____	Somewhat bad idea
Finally, which effect above (“a” through “d”) has the most influence on how you feel about Option 1 (Circle one letter.)		

Option 2	Possible effects of Option 2	How do you feel about Option 2? (Circle one response.)
Shorten the regular firearms season.	(a) Could slightly reduce buck harvest.	Extremely good idea
	(b) Could allow for lengthening other seasons or creating new opportunities.	Somewhat good idea
	(c) Would reduce the number of weekdays and weekends for gun hunters.	Idea is neither good nor bad
	(d) Other? _____	Somewhat bad idea
Finally, which effect above (“a” through “d”) has the most influence on how you feel about Option 2 (Circle one letter.)		

Option 3	Possible effects of Option 3	Considering these effects, how do you feel about Option 3? (Circle one response.)
Create a new season for flintlock, sidelock and matchlock muzzleloaders (no scopes allowed).	(a) Would provide new opportunities for muzzleloader hunters.	Extremely good idea
	(b) Depending on when it occurred, it could decrease the length of other deer hunting seasons.	Somewhat good idea Idea is neither good nor bad
	(c) Other _____	Somewhat bad idea Extremely bad idea
Finally, which effect above (“a” through “c”) has the most influence on how you feel about Option 3 (Circle one letter.)		

If DEC created a new season for flintlock, sidelock, and matchlock muzzleloaders (no scopes allowed), how likely would you be to participate? (Circle one response.)

Not at all likely Slightly likely Moderately likely Very likely

Option 4	Possible effects of Option 4	How do you feel about Option 4? <i>(Circle one response.)</i>
Start archery season earlier.	(a) Would shorten the time during small game and furbearer hunting seasons without an overlapping deer season.	Extremely good idea
	(b) Could allow time for a new or longer muzzleloader season without shortening bow season.	Somewhat good idea
	(c) Could increase the number of weekdays or weekends for for bowhunters during mild weather.	Idea is neither good nor bad
	(d) Other? _____	Somewhat bad idea
Finally, which effect above (“a” through “d”) has the most influence on how you feel about Option 4 <i>(Circle one letter.)</i>		

Option 5	Possible effects of Option 1	How do you feel about Option 5? <i>(Circle one response.)</i>
In WMUs where the deer population is too high, make part of archery and muzzleloader seasons antlerless-only.	(a) Would help control the deer population in WMUs with too many deer.	Extremely good idea
	(b) Would reduce some opportunity for archery and muzzleloader hunters to take antlered bucks in some WMUs.	Somewhat good idea
	(c) Other? _____	Idea is neither good nor bad
Finally, which effect above (“a” through “c”) has the most influence on how you feel about Option 5 <i>(Circle one letter.)</i>		

Option 6	Possible effects of Option 6	How do you feel about Option 6? <i>(Circle one response.)</i>
Allow antlerless harvest only through use of DMPs.	(a) Would help avoid over harvesting does in WMUs with low deer populations.	Extremely good idea
	(b) Archery and muzzleloader hunters no longer would be able to get either-sex or antlerless-only tags.	Somewhat good idea
	(c) Some hunters would get more than 2 DMPs in WMUs with high deer populations.	Idea is neither good nor bad
	(d) Other? _____	Somewhat bad idea Extremely bad idea
Finally, which effect above (“a” through “d”) has the most influence on how you feel about Option 6 <i>(Circle one letter.)</i>		

Option 7	Possible effects of Option 7	How do you feel about Option 7? <i>(Circle one response.)</i>
In years when WMUs are temporarily closed to DMPs, only allow archery and muzzleloader hunters to take bucks in those WMUs during that year.	(a) Would help avoid over harvesting does in WMUs with low deer populations.	Extremely good idea
	(b) Would reduce the opportunity for archery and muzzleloader hunters to take antlerless deer in some WMU.s	Somewhat good idea
	(c) Other? _____	Idea is neither good nor bad Somewhat bad idea Extremely bad idea
Finally, which effect above (“a” through “c”) has the most influence on how you feel about Option 7 <i>(Circle one letter.)</i>		

Option 8	Possible effects of Option 8	Considering these effects, how do you feel about Option 8? (Circle one response.)
Create a new, early muzzleloader season in the Southern Zone that only allows harvest of antlerless deer.	(a) Would provide a new opportunity for muzzleloader hunters.	Extremely good idea
	(b) Would help control the deer population in WMUs with too many deer.	Somewhat good idea
	(c) Could occur during the middle of archery season although bowhunters could still hunt during the new muzzleloader season.	Idea is neither good nor bad
	(d) Could occur immediately before regular firearms season.	Somewhat bad idea
	(e) Other? _____	Extremely bad idea
Finally, which effect above (“a” through “e”) has the most influence on how you feel about Option 8 (Circle one letter.)		

20. Which of these experiences is most important to you personally? (Check only one box.)

- Having regulations that have the greatest effectiveness for managing the deer population.
- Having regulations that are as simple to understand as possible.
- Having regulations that provide the greatest diversity of deer hunting opportunities.

OPINIONS ABOUT CROSSBOWS

21. **Currently, crossbows are not legal for hunting in New York. To what extent do you agree or disagree that crossbows should never be legalized for deer in New York.**
(Circle one response.)

Strongly agree Agree Neither agree nor disagree Disagree Strongly disagree

22. **Crossbows could be legalized just for particular seasons or for use by certain categories of hunters. To what extent would you agree or disagree with each of the following options?** *(Circle one number on each line below.)*

<i>Legalize crossbows for...</i>	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
all hunters, but only during seasons when bows are legal (archery, regular gun)	1	2	3	4	5
all hunters, but only during regular firearms season	1	2	3	4	5
areas where more deer harvest is needed	1	2	3	4	5
disabled deer hunters	1	2	3	4	5
senior hunters	1	2	3	4	5

23. **If crossbows were legal in New York, would you use one?**
(Circle one response.)

Definitely no Probably no Not sure Probably yes Definitely yes

SOME QUESTIONS ABOUT YOU

24. Are you...? (*Check one.*) Female Male

25. How would you describe the type of area where you live?

(*Check only one.*)

- Rural area Suburban area
 Village or hamlet Urban area or city

26. What is your primary source of information about deer hunting regulations?

(*Check all that apply.*)

- Annual hunting and trapping regulations guide
 Local newspapers
 Hunting newspapers and magazines
 Word-of-mouth (from friends or family members)
 DEC web site

THANK YOU VERY MUCH FOR YOUR ASSISTANCE.

To return this questionnaire, simply seal it and drop it in the mail. Return postage has been provided.

Appendix B:

Study Questionnaire

**Version two of the questionnaire containing items about managing hunting opportunities
for antlered bucks.**

**Survey of Deer Hunters
in New York State
-2010-**



Cornell University
Human Dimensions Research Unit

SURVEY OF DEER HUNTERS IN NEW YORK STATE

*Last fall, DEC held public meetings about deer management around the state. Those meetings generated many suggestions about how to improve your deer-hunting experiences. To add to that information, DEC asked researchers at Cornell University to develop this scientific survey. Please take a few minutes now to complete it. Your participation in the survey is voluntary. Your identity will be kept confidential and the information you give us will never be associated with your name. **Thank you for your assistance!***

GENERAL DEER HUNTING QUESTIONS

- 1. About how many total years have you hunted deer?** *(If none, write in 0.)*

___ years

(If you hunted deer for the first time in 2009, check here:)

- 2. Did you hunt deer in New York State during the 2009 hunting season?** *(Check either “no” or “yes”.)*

No (In what year did you last hunt deer in NY? _____)

If you checked “No” go to Question 15.

Yes (If “yes,” continue with question 3.)

- 3. How many Deer Management Permits (DMPs) did you apply for, receive, and fill during the 2009 deer-hunting season in NY?** *(Write in a number for each line. If none, write in 0.)*

a. I applied for ___ DMPs.

b. I received ___ DMPs.

c. Of DMPs I applied for and received, I filled ___.

d. In addition, I filled ___ DMPs that other hunters signed-over to me.

4. **About how many days did you hunt during each of these 2009-10 deer hunting seasons in New York?** (Write a number on each line to indicate days you hunted. Do not write the word “all” to indicate that you hunted every day during the season. If none, write in 0.)

<u>Days</u>	<u>Northern Zone</u>	<u>Days</u>	<u>Southern Zone</u>
___	muzzleloader season	___	early archery season
___	archery season	___	regular firearms season
___	regular rifle season	___	muzzleloader season
		___	late archery season

Days Downstate Opportunities
 ___ Suffolk or Westchester County archery or gun seasons

5. **Which of the following kinds of land did you hunt on in New York during the 2009 deer seasons?** (Check all that apply – then circle the letter of the one that you hunted on for the most time.)

- a. Public land (federal, state, county, etc.)
- b. Private land for free
- c. Hunt club
- d. Other land where you had to pay (e.g., season lease or day-use fee)

6. **In which County is the primary place where you hunt in New York State?**

_____ County

7. **How satisfied were you with your buck-hunting experiences in this County during the 2009 deer season?** (Circle one response only.)

Neither
 Greatly Moderately Slightly Satisfied nor Slightly Moderately Greatly
 dissatisfied dissatisfied dissatisfied dissatisfied satisfied satisfied satisfied

DEER SIGHTINGS AND HARVEST DURING GUN SEASON

8. How many deer of the following types did you see, shoot at, and take **during the 2009 regular firearms deer season?** (Write a number in each box. Write in 0 if you saw no deer of a particular type, took no shots, or harvested no deer.)

Sightings, shots, and harvest in 2009 (# = number)	All antlerless deer (does and fawns)	Younger, smaller-antlered bucks	Older, larger-antlered bucks
# I saw while hunting			
# I could have shot at if I wanted (had an unfilled tag and a clear shot in range)			
# I shot at			
# I harvested			
# of total shots I took at these deer			

IMPROVING HARVEST REPORTING AND USE OF DMPs

9. Did you try to use the **toll-free telephone number** to report a deer you harvested during the 2009 hunting season? (Check either “no” or “yes,” then follow the instructions below.)

- No (go to question 11)
- Yes (continue with question 10)

10. What was your experience when using telephone reporting system? (Check all that apply if you reported more than one deer.)

- I was successful on my first try
- I got cut off at least once before I could finish the report
- I got frustrated with the telephone system and gave up using it

11. Did you try to use the DEC website to report a deer you harvested during the 2009 hunting season? (Check either “no” or “yes” then follow the instructions below.)

- No (go to question 13)
- Yes (continue with question 12)

12. What was your experience when using the DEC website? (Check all that apply if you reported more than one deer.)

- The link to the reporting system was hard to find on the DEC web site
- I was successful on my first try
- The site crashed at least once before I could finish the report
- I got frustrated with the website and gave up using it

13. To what extent do you agree or disagree with each of the following statements about the harvest reporting system? (Circle one number for each aspect.)

<i>Statement about the harvest reporting system</i>	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know
Having 48 hours to report a deer is plenty for me	1	2	3	4	5	8
Having to know the WMU where I shot a deer is a problem for me	1	2	3	4	5	8
Having to know the Town where I shot a deer is a problem for me	1	2	3	4	5	8

If you did not report any harvested deer in New York in 2009, go to question 15.

14. How satisfied were you with your overall experience using the reporting system in 2009? (Circle one response.)

		Neither		
Very	Somewhat	satisfied nor	Somewhat	Very
dissatisfied	dissatisfied	dissatisfied	satisfied	satisfied

15. Some of the five statements below may apply to you while others may not. Count the number of statements that do apply to you, and circle that total number in the set of numbers at the bottom of the page. (Do not mark the statements themselves.)

- I signed-over (i.e., “consigned”) a deer management permit (DMP) to another hunter during the 2009 hunting season.
- I forgot to report a deer I harvested on a DMP during the 2009 hunting season within the required 48-hour time period.
- I tagged a button-buck with a (DMP) during the 2009 season.
- In 2009, I passed-up a clear, safe shot at an antlerless deer when I had an unused DMP.
- I forgot to sign my carcass tag after filling my DMP in 2009.

How many of the statements above apply to you? (Circle one number below.)

0 1 2 3 4 5

HUNTING OPPORTUNITIES FOR YOUTH HUNTERS

Many hunters have asked DEC to add deer-hunting opportunities for youth hunters (ages 14 and 15). A basic idea is to create a youth firearms deer hunt to be held on a weekend before the regular firearms season. To make this a special hunt for youngsters, there would be no archery or muzzleloader hunting by adults on that weekend. Please think about whether your primary place to hunt is in the Northern Zone (NZ) or Southern Zone (SZ) when marking your choices below.

16. Given this basic idea, how do you personally feel about each of the following possible details for a weekend youth hunt? (Circle one number for each option.)

<i>What if the youth hunt...</i>	Extremely bad idea	Bad idea	Is neither good nor bad	Good idea	Extremely good idea
was held on the <i>same</i> weekend in both the NZ and SZ?	1	2	3	4	5
was held on <i>different</i> weekends in the NZ and SZ?	1	2	3	4	5
allowed youth to take one deer of either sex?	1	2	3	4	5
provided all youth a nontransferable antlerless tag in addition to their buck tag?	1	2	3	4	5
was held on the weekend just prior to the start of regular firearms season?	1	2	3	4	5
was held on a weekend in early November?	1	2	3	4	5
was held on a weekend in October?	1	2	3	4	5
was held on Columbus Day weekend so youth can hunt for 3 days rather than just 2 days?	1	2	3	4	5

17. Overall, how do you feel about the idea of having a new firearms hunting opportunity for youth deer hunters? (Circle one response below.)

Idea is				
Extremely good idea	Somewhat good idea	neither good or bad	Somewhat bad idea	Extremely bad idea

18. During the special youth hunt, youth hunters would need to be accompanied by an adult who cannot harvest deer during the youth hunt. How willing would you be to accompany any youths you know who want to participate? (Circle one response.)

Not at all willing	Slightly willing	Moderately willing	Very willing
-----------------------	---------------------	-----------------------	-----------------

19. Do you have any children 15 years old or younger living in your household?

No

Yes How many are boys? ____

How many are girls? ____

EFFECTS OF POSSIBLE REGULATION CHANGES

DEC gets many suggestions from hunters each year about changing hunting regulations. Any change would affect other aspects of deer hunting. Some suggested changes are presented as a series of tables below, along with various consequences or effects of those changes.

Instructions for this section: Carefully read each option (left column in each table) and the possible effects that might occur if DEC changed regulations and adopted that option (middle column of each table). Write in any other effects that are important to you personally. Next, answer the question in the right column of the table. Finally, answer the question that follows the table.

Option 1	Possible effects of Option 1	Considering these effects, how do you feel about Option 1? (Circle one response.)
Allow each hunter to take only one antlered buck per year.	(a) A few more antlered bucks could survive to the next year.	Extremely good idea
	(b) Could shift some harvest from bucks to does.	Somewhat good idea
	(c) Hunters could no longer take an antlered buck with more than one implement in a year (e.g., with a bow and a gun).	Idea is neither good nor bad
	(d) Other? _____	Somewhat bad idea Extremely bad idea

Now, circle the letter for the effect above (“a” through “d”) that has the most influence on how you feel about Option 1.

Option 2	Possible effects of Option 2	Considering these effects, how do you feel about Option 2? (Circle one response.)
Keep the current 2-buck bag limit, but make the second tag valid only for bucks with larger antlers (to be defined by regulation).	(a) A few more young smaller-antlered bucks could survive to the next year.	Extremely good idea
	(b) Would reduce hunters’ freedom to choose what buck they want to shoot to fill their second tag.	Somewhat good idea Idea is neither good nor bad
	(c) Other? _____	Somewhat bad idea Extremely bad idea

Now, circle the letter for the effect above (“a” through “c”) that has the most influence on how you feel about Option 2.

Option 3	Possible effects of Option 3	How do you feel about Option 3? (Circle one response.)
Set mandatory antler restrictions to reduce harvest of yearling bucks during all deer hunting seasons (youth hunters would be exempt).	(a) A majority of young, smaller-antlered bucks could survive to the next year.	Extremely good idea
	(b) Would reduce adult hunters' freedom to choose what buck they want to shoot to fill their tag.	Somewhat good idea
	(c) Other? _____	Idea is neither good nor bad
		Somewhat bad idea
		Extremely bad idea

Now, circle the letter for the effect above (“a” through “c”) that has the most influence on how you feel about Option 3.

Option 4	Possible effects of Option 4	How do you feel about Option 4? (Circle one response.)
Set mandatory antler restrictions to reduce harvest of yearling bucks, but only for part of the hunting season (e.g., first half of regular firearms season; and youth hunters would be exempt).	(a) A moderate number of young, smaller-antlered bucks could survive to the next year.	Extremely good idea
	(b) Would reduce adult hunters' freedom to choose what buck they want to shoot to fill their tag during part of the season.	Somewhat good idea
	(c) Would allow hunters to have part of the season to choose what buck they want to harvest.	Idea is neither good nor bad
	(d) Other? _____	Somewhat bad idea
		Extremely bad idea

Now, circle the letter for the effect above (“a” through “d”) that has the most influence on how you feel about Option 4.

Option 5	Possible effects of Option 5	How do you feel about Option 5? <i>(Circle one response.)</i>
Promote voluntary restraint on the part of hunters to pass-up shots at yearling bucks.	(a) Could allow “some” to “many” more young bucks survive to the next year, depending on how many hunters participate.	Extremely good idea
	(b) Would allow all hunters to choose which antlered buck they want to harvest.	Somewhat good idea
	(c) Only those hunters who wanted to voluntarily protect yearling bucks from harvest would be involved.	Idea is neither good nor bad
	(d) Other? _____	Somewhat bad idea Extremely bad idea

Now, circle the letter for the effect above (“a” through “d”) that has the most influence on how you feel about Option 5.

Option 6	Possible effects of Option 6	How do you feel about Option 6? <i>(Circle one response.)</i>
Give hunters the choice to buy 1 tag valid for any antlered buck OR 2 tags valid only for bucks with larger antlers (to be set by regulation).	(a) Could allow “some” to “many” more young bucks survive to the next year, depending on how many hunters choose each tag type.	Extremely good idea
	(b) Would allow hunters to choose the type of tag and buck they want to harvest.	Somewhat good idea
	(c) Some hunters would get tags for 2 bucks but others would have only 1 buck tag.	Idea is neither good nor bad
	(d) Other? _____	Somewhat bad idea Extremely bad idea

Now, circle the letter for the effect above (“a” through “d”) that has the most influence on how you feel about Option 6.

20. Which of these experiences is most important to you personally? (Check only one line.)

- Having the greatest opportunity to harvest more than one buck per year.
- Having the greatest prospects of taking an older buck with large antlers.
- Having the greatest freedom to choose which antlered buck I harvest.

21. To what extent do you agree or disagree with the following statements about your decisions whether to try to harvest bucks you see. (Circle one choice for each statement.)

<i>Statements</i>	Strongly agree	Agree	Neither Agree nor disagree	Disagree	Strongly disagree
I usually try to take the first legal buck that I can safely shoot	1	2	3	4	5
I usually do not shoot young bucks with small antlers	1	2	3	4	5
Size of antlers and buck age are not very important in my decision about whether to shoot at a particular buck I see	1	2	3	4	5
I would be more likely to pass-up shots at young bucks with small antlers if hunters in my hunting area would do the same	1	2	3	4	5
I would be more likely to pass-up shots at young bucks with small antlers if DEC gave me information about benefits of passing-up young bucks	1	2	3	4	5
I am most likely to pass-up shots at young bucks with small antlers if there is evidence of bigger bucks in the area	1	2	3	4	5

Managing opportunities for hunters to harvest the kinds of bucks they prefer to take involves trade-offs. Some hunters want to see a greater number of older bucks with larger antlers. DEC could use regulations to protect young, smaller-antlered bucks so they live longer and grow larger antlers. The more protection provided to young bucks, however, the less choice all hunters would have about the size or age of buck they can harvest.

22. Having a lot of freedom of choice to take any antlered buck is important for some hunters.

How much freedom of choice do you feel you have under current statewide regulations?

no complete
freedom freedom
 0 1 2 3 4 5 6 7 8 9 10

How much freedom of choice do you need to feel in order to be a satisfied hunter?

no complete
freedom freedom
 0 1 2 3 4 5 6 7 8 9 10

23. Having a lot of young bucks protected from harvest is important for some hunters.

How much protection from harvest do you feel young bucks get under current statewide regulations?

no complete
protection protection
 0 1 2 3 4 5 6 7 8 9 10

How much protection from harvest do you feel young bucks need to get for you to be a satisfied hunter?

no complete
protection protection
 0 1 2 3 4 5 6 7 8 9 10

OPINIONS ABOUT CROSSBOWS

24. Currently, crossbows are **not** legal for hunting in New York. To what extent do you agree or disagree that crossbows should **never** be legalized for deer in New York.
(Circle one response.)

Strongly agree Agree Neither agree nor disagree Disagree Strongly disagree

25. Crossbows could be legalized just for particular seasons or for use by certain categories of hunters. To what extent would you agree or disagree with each of the following options? (Circle one number on each line below.)

<i>Legalize crossbows for...</i>	Strongly agree	Agree	Neither Agree nor disagree	Disagree	Strongly disagree
all hunters, but only during seasons when bows are legal (archery, regular gun)	1	2	3	4	5
all hunters, but only during regular firearms season	1	2	3	4	5
Areas where more deer harvest is needed	1	2	3	4	5
disabled deer hunters	1	2	3	4	5
senior hunters	1	2	3	4	5

26. If crossbows were legal in New York, would you use one?
(Circle one response.)

Definitely no Probably no Not sure Probably yes Definitely yes

SOME QUESTIONS ABOUT YOU

27. Are you...? (*Check one.*) Female Male

28. How would you describe the type of area where you live?

- Rural area Suburban area
 Village or hamlet Urban area or city

29. What is your primary source of information about deer hunting regulations?
(*Check all that apply.*)

- Annual hunting and trapping regulations guide
 Local newspaper
 Hunting newspapers and magazines
 Word-of-mouth (from friends or family members)
 DEC web site

THANK YOU VERY MUCH FOR YOUR ASSISTANCE.

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Appendix C:

Combinations of types of land hunted by respondents whose primary place to hunt deer in New York was in one of three particular geographic regions, based on a mail survey of deer hunters in 2010.

<u>Combinations of land types hunted</u>	% of hunters whose primary place to hunt deer is...		
	<u>Northern Zone</u>	<u>Southern Zone</u>	
		<u>Central- Western</u>	<u>Southeastern</u>
Only public land	9.7	6.3	10.1
Only private land (free)	30.8	55.4	52.8
Only hunt club land	3.7	0.3	5.6
Only other private land for a fee	0.6	1.0	2.3
Public + private (free)	27.1	30.2	18.1
Public + hunt club	4.0	0.2	1.0
Public + other land for a fee	0.3	0.1	0.0
Private (free) + hunt club	8.1	1.8	3.7
Private (free) + other land for a fee	0.6	1.7	0.2
Hunt club + other land for a fee	0.9	0.1	0.4
Public + private (free) + hunt club	9.0	1.4	4.3
Public + private (free) + other land for a fee	2.8	1.2	0.8
Public + hunt club + other land for a fee	0.6	0.0	0.0
Private (free) + hunt club + other land for a fee	0.9	0.1	0.6
Public + private (free) + hunt club + other land for a fee	<u>0.6</u>	<u>0.1</u>	<u>0.0</u>
	100.0	100.0	100.0

Here, public land is defined as federal, state, and county properties. Private is defined as private property where access for hunting is free of charge. Access to Hunt Club properties did not specify whether dues or other fees were charged. Other land where hunters have to pay for access was defined as having a season lease or day-use fee.

Appendix D:

Calculations for estimating the numbers of antlered bucks harvested in the Northern Zone and Southern Zone in NY during the 2009 deer-hunting season.

Calculations for young, smaller-antlered bucks (YBs) harvested

Variable	<u>Northern Zone</u>		<u>Southern Zone</u>			
	<u>Input</u>	<u>Output</u>	<u>Central-Western</u>		<u>Southeastern</u>	
	Input	Output	Input	Output	Input	Output
Number of deer-hunting licenses sold in NY in 2009		492,000		492,000		492,000
Percent of license buyers who hunted in 2009	0.908	446,736	0.908	446,736	0.908	446,736
Percent of participants who hunted in this region	0.185	82,646	0.534	238,557	0.28	125,533
Percent of regional hunters who hunted firearms season	0.986	81,489	0.917	218,757	0.865	108,586
Mean number of days hunted in firearms season	12.1	986,018	8.4	1,837,557	8.4	912,121
Mean number of YBs seen per day afield	0.1	98,602	0.3	551,267	0.2	182,424
Percent of encounters in which YBs were harvest vulnerable	0.646	63,697	0.599	330,209	0.601	109,637
Percent of encounters with harvest-vulnerable YBs in which shots were taken	0.254	16,179	0.227	74,957	0.182	19,954
Percent of those encounters in which deer was harvested	0.594	9,610	0.498	37,329	0.582	11,613

Total YBs harvested = 9,610 + 37,329 + 11,613 = 58,552

Calculations for older, larger-antlered bucks (OBs) harvested

Variable	<u>Northern Zone</u>		<u>Southern Zone</u>			
	Input	Output	Input	Output	Input	Output
Number of deer-hunting licenses sold in NY in 2009		492,000		492,000		492,000
Percent of license buyers who hunted in 2009	0.908	446,736	0.908	446,736	0.908	446,736
Percent of participants who hunted in this region	0.185	82,646	0.534	238,557	0.28	125,533
Percent of regional hunters who hunted firearms season	0.986	81,489	0.917	218,757	0.865	108,586
Mean number of days hunted in firearms season	12.1	986,018	8.4	1,837,557	8.4	912,121
Mean number of OBs seen per day afield	0.04	39,441	0.11	202,131	0.12	109,455
Percent of encounters in which OBs were harvest vulnerable	0.526	20,745	0.411	83,076	0.496	54,289
Percent of encounters with harvest-vulnerable OBs in which shots were taken	0.560	11,618	0.529	43,947	0.556	30,185
Percent of those encounters in which deer was harvested	0.530	6,157	0.440	19,337	0.643	19,409

Total OBs harvested = 6,157 + 19,337 + 19,409 = 44,903

Total antlered bucks harvested = 58,552 + 44,903 = 103,455