

**2005 Study of Deer Hunters participating in State Park Deer Hunts
with Special Regulations and Minnesota's Early Antlerless Deer
Season**

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Acknowledgements

This study is a cooperative effort supported by the Minnesota Department of Natural Resources, Division of Fish and Wildlife (MnDNR) and the U.S.G.S Minnesota Cooperative Fish and Wildlife Research Unit at the University of Minnesota. We especially wish to thank Michael DonCarlos and Edward Boggess for their support of this project. We also wish to thank the MnDNR deer management committee and numerous area wildlife managers who reviewed various drafts of the survey. Finally, we thank the many Minnesota deer hunters who pursued deer during these special seasons and took the time to complete the survey and furthered our understanding of this important segment of the hunting population.

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Introduction

In 2003, deer harvest regulations were liberalized to allow the taking of antlerless deer without making application for a special permit. This change was instituted mostly to offer additional opportunity to hunters with the goal of reducing deer populations. While this change can be considered a fundamental programmatic shift, it is likely not enough to lower deer densities appreciably in all areas. Consequently, other harvest strategies need to be developed that go beyond simply adding the number of days to the season or the number of deer in the bag. In several states, regulations such as earn-a-buck (EAB: where a hunter must kill an antlerless deer before being authorized to take a buck), antler point restrictions (APR), buck license lotteries, and special antlerless seasons have been used to varying degrees of success. In Missouri and Pennsylvania, antler point restrictions have been used for several years, while Wisconsin has implemented both earn-a-buck and special antlerless seasons. Additionally, both North and South Dakota have a lottery system for both buck and antlerless licenses. In Minnesota, more than two-thirds of all deer permit areas allow the taking of antlerless deer without making application. In the remaining one-third, hunters can take a buck but must apply for the opportunity to harvest antlerless deer.

Beginning with the 2005 deer season, Minnesota initiated a research project to evaluate the effects of alternative harvest regulations on deer populations. Alternative regulations were loosely defined as those harvest regulations that fall outside the traditional deer management paradigm of increasing season length and bag limits as means to promote additional deer harvest. Specifically, APR and EAB regulations were tested on 7 Minnesota State Parks, while a special antlerless season was enacted during mid-October on 8 deer permit areas (Table I-1). State Parks were selected because they generally require an application to participate. Consequently, it was believed that a more committed evaluation of the regulations could be made because hunters made application with the knowledge they would be hunting under a special regulation. The only exception is Itasca State Park, which does not require a special application. The 8 deer permit areas selected for the special antlerless season (herein referred to as early antlerless) were chosen due to chronically high deer populations. In essence, these areas have allowed the take of 5 deer per hunter for at least 5 years, yet have not exhibited appreciable deer population declines. Prior to implementation of the early antlerless season, extensive public comment was sought through public meetings and web-based solicitation of public comment. Ultimately, the public was supportive of the season, and it was implemented in October, 2005.

Concurrent with the implementation of alternative harvest regulations, Department of Natural Resources (DNR) staff began a process of surveying hunters regarding the effectiveness and support for these regulations from individuals who participated in the special hunts. Previous surveys of Minnesota deer hunters have assessed both satisfaction with deer management and preferences toward regulatory changes. Fulton et al. (2004) examined attitudes of northwest Minnesota deer hunters towards management for more antlered males and support for alternative harvest regulations. Fulton et al. (2006) also surveyed deer hunters regarding support and preference for regulatory changes.

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To reiterate, each group of study respondents experienced a different regulatory package. Those packages were:

- Antler point restrictions – hunters had to apply for the opportunity to hunt the park and could take any antlerless deer but could only take antlered males that possessed a minimum number of antler points.
- Itasca State Park- any hunter could participate in the hunt. They could take any antlerless deer but could only take antlered males that possessed a minimum number of antler points.
- Earn-a-buck – hunters had to apply for the opportunity to hunt the park and could take any antlerless deer but could not take an antlered buck until they had tagged an antlerless deer.
- Early antlerless – any hunter could participate and they could take only antlerless deer.
- Control - hunters from the general population who could take any deer (buck or antlerless).

Study Purpose and Objectives

The study was designed to collect information regarding motivations, hunting patterns, and opinions relative to hunting deer under special regulations. Ultimately, the purpose of this project is to assess support and participation in future hunts with special regulations.

The specific objectives of the project were:

1. Describe hunter effort and hunting patterns in Minnesota in 2005 including: type of land hunted, hunting methods and locations, and number of years hunting;
2. Describe hunting satisfaction with deer hunting in Minnesota in 2005, and identify activities and experiences that affect hunting satisfaction;
3. Determine support for special hunts and if hunters will continue to hunt under special regulations in the future.
4. Make comparisons among special hunt participants and the general deer hunting population.

Methods

Sampling

In total, 5 unique surveys were developed: earn-a-buck, antler point restriction, Itasca State Park, early antlerless, and control. The control survey was developed to determine whether or not hunter attitudes and hunting patterns differed from park and early antlerless hunters. While Itasca State Park (ISP) is an antler point restriction hunt, it was separated from the other antler point respondents because ISP does not have a special lottery drawing. Any hunter with a valid license can hunt ISP, whereas the other antler point hunts require an application due in early September. Consequently, the participants were differentiated and separate analyses were conducted. In all cases, the samples were drawn from a complete sample of hunters participating

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in the park hunts, while statistically representative samples of both early antlerless and control hunters were selected from the 2005 ELS license database.

Survey design

Each survey contained 3 sections. The first section contained questions that assessed recent hunter experiences and general perceptions about hunting deer in Minnesota. The second section included questions to quantify respondent's experiences during their 2005 deer hunt. The final section collected information hunting methods, patterns, and motivations.

Data collection

Data were collected using a mail-back survey questionnaire following the process outlined in Dillman (2000). The process involved development of a survey that was relatively easy to complete, and was not time consuming. The first mailing was sent in February, 2006. In the initial attempt, a cover letter, survey questionnaire, and postage-paid envelope were sent to participants. The cover letter attempted to convey the importance of completing and returning the survey. Approximately 30 days later, a second survey, postage-paid envelope and new cover letter was sent to non-respondents. Approximately 8 weeks after the first mailing, a third mailing was sent to non-respondents with another survey, postage-paid envelope, and cover letter. Returned surveys were collected through May, 2006.

Data entry and analysis

Data were analyzed using the Statistical Program for the Social Sciences (SPSS 14). For individual surveys, descriptive statistics and frequencies were computed. For continuous variables, descriptive statistics were analyzed and extreme outliers were removed from the analysis. Comparisons across samples were made using chi-square tests, analysis of variance (ANOVA), and cross-tabulations.

Survey response rate

Of the 3,625 questionnaires mailed, 107 were undeliverable, which resulted in 3,518 valid surveys. A total of 2,123 deer hunters completed and returned the questionnaire, yielding an overall response rate of 59%. By survey, control participants had the lowest response rates (53%), while hunters participating in antler point restriction hunts had the highest (76%: Table I-2). Also, while the number of antler point respondents is small ($n = 125$), it does represent the hunting population ($N = 168$).

Because the response rates for the control and early antlerless hunts did not exceed the pre-determined goal of 60%, an additional non-response survey to determine non-response bias was recently mailed. However, at the time of this report, these data have not been compiled.

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Table I-1. Locations selected for alternative harvest regulations in Minnesota.

Regulation	Location
Earn-A-Buck	St. Croix, Great River Bluffs, Maplewood, and Wild River State Parks
Antler Point Restriction	Itasca, Savanna-Portage, and Forestville State Parks
Early Antlerless Season	Deer permit areas 209, 210, 225, 227, 236, 252, 256, 257

Table I-2. Response rates for each survey.

Survey	Initial Sample Size	Number Undeliverable	Valid Sample Size	Number Returned	Response Rate (%)
Antler Point Restriction	168	4	164	125	76.2%
Control	1,000	20	980	517	52.8%
Early Antlerless	1,000	39	961	561	58.4%
Earn-a-Buck	900	16	884	584	66.1%
Itasca State Park	557	28	529	336	63.5%
Total	3,625	107	3,518	2,123	58.6%

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Findings

This suite of questions focused on hunter participation and effort for the study areas of interest. In general the questions were consistent across all 5 surveys.

Participation

Respondents were asked if they participated in their respective hunts during 2005. For all 5 study samples, over 97% of respondents participated in their hunts. These data were consistent with the findings of Fulton et al. (2006), where the vast majority of hunters actually participate in their hunt. By study sample, we detected no differences in participation rates (Table 1-1).

Days scouting

Respondents were asked how much time they spent scouting for deer for both the regular hunting seasons (archery, firearm, muzzleloader) and their special hunts (excepting the control). Overall, less than half of respondents indicated they did any pre-season scouting. For those who scouted, they spent an average of 1.9, 3.1, and 4.6 days scouting prior to the muzzleloader, firearm, and archery seasons, respectively (Table 1-2). With the exception of early antlerless respondents, the mean number of days spent scouting between treatment and control respondents were similar (Table 1-4).

For the 3 special hunts (Itasca, antler point restriction, earn-a-buck), respondents were asked how many days they scouted the area prior to hunting. Overall, hunters spent an average of nearly 2 days scouting their hunt area. By park, we observed significant differences between groups with Itasca hunters spending the least time scouting (mean = 1.5) and antler point restriction hunters spending the most time scouting (2.8 days; $F = 6.06, p = 0.002$; Table 1-5).

Days hunting

Respondents were asked how many days they participated in their special hunt. These data are slightly confounded by the fact that the number of available days varied by hunt area. For example, earn-a-buck parks had either a 4 or 6 day hunt, while control hunters had either a 6, 9, or 16 day season, depending on their zone. The only hunts that had a fixed number of available days were the early antlerless (2 days) and Itasca State Park (9 days). However, given that few hunters pursued deer throughout the entire season, we did not expect to see wide variation in average days even though it was possible. Indeed, with the exception of early antlerless hunters, the majority of respondents who hunted deer at least one day hunted less than 50% of the maximum possible time (Table 1-6). With respect to the early antlerless season, it appears hunters maximized their opportunity during those two days as the vast majority hunted both days (mean = 1.8 days).

Years of experience

Respondents were asked how many years they had participated in their special hunt, how many years they had hunted their preferred permit area, and how many years they had been hunting

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deer in Minnesota. Overall, respondents averaged 23 years of Minnesota deer hunting experience, which was comparable with Fulton et al. (2006). By study population, earn-a-buck respondents had the least experience (mean = 21 years), while Itasca hunters had the most (mean = 25 years; $F = 5.715, p < 0.001$; Table 1-7). Respondents were also asked how long they had been hunting their traditional deer permit area (other than their special hunt). Overall, earn-a-buck respondents had hunted the fewest number of years in one area (mean = 9.5), while the control group exhibited the highest site fidelity (mean = 16 years; Table 1-7). These results were expected because with the exception of Itasca State Park, hunters must apply annually to participate. So, while a hunter may exhibit annual fidelity to their hunting location, they may not hunt a park annually because they would likely not be drawn every year. The clear exception is Itasca, which has no application; hence the average number of years hunting the park and hunting their traditional permit area is nearly identical (they were functionally the same).

Hunting patterns

In total, a majority of hunters (64%) pursued deer on private land. To a lesser extent, hunters pursued deer on state forests (17%), wildlife management areas (10%), or other public lands (10%; Table 1-8). We observed statistical differences across all study seasons; however, some clear patterns emerged. For example, Itasca hunters tended to pursue deer on public land, which is further indication of high site fidelity of that hunting group. Conversely, the vast majority of early antlerless and control hunters pursued deer on private land (83% and 82%, respectively; Table 1-9), which is comparable to Fulton et al. (2006) who found that 85% of regular season firearm hunters pursued deer on private lands. Antler point restriction and earn-a-buck respondents were less reliant on any particular land type, which indicated those groups did not hunt exclusively at their special hunt location. Finally, we compared treatment versus control respondents and found that with the exception of the firearm season, there were no differences in the percentages of hunters who pursued deer on different land ownership types (Table 1-10).

State park hunters (earn-a-buck, antler point restriction, and Itasca) hunters were asked to state their primary reason for participating in their special hunt. Overall, the reasons for hunting the park differed between respondents ($\chi^2 = 144.84, p < 0.001$; Fig. 1-1). Itasca respondents typically hunted the park every year (51%) or hunted as a party with family or friends (43%). Additionally, very few Itasca hunters noted high deer populations as their primary reason (5%) as compared to earn-a-buck (34%) and antler point (32%) hunters (Figure 1-1). Early antlerless respondents were given slightly different reasons for hunting that season; thus, they are not comparable to the other group. Overall, early antlerless hunters indicated most often they normally hunted the permit area and were looking for more opportunities (40%). Secondarily, early antlerless respondents believed the season was a good chance to put venison in the freezer early (16%), 13% thought there were too many deer in the area, 10% had never hunted the permit area and were looking for more opportunity. Finally, another 10% listed 'other' as the reason with the majority indicating they wanted to take a youth hunting before the regular season.

Control hunters were given different options so they were not comparable to other study groups. Overall, hunting as part of a party (56%) and typically hunt the area (32%) were most frequently listed. The belief there were enough deer to increase personal odds of success (4%) and there

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were simply too many deer (1%) were also listed as reasons. Finally 7% of respondents noted 'other' with the most frequent reason being they owned the land they hunted.

Respondents were also asked if they hunted: new areas every year, new areas every 1 to 2 years, new areas every 3-5 years, or the same area every year. A large majority of hunters (83%) indicated they hunted the same area every year; however there were significant differences in those rates by study group. Hunters in the control group stayed in their traditional areas most often (91%), while hunters in antler point (71%) and earn-a-buck area (74%) were least likely to stay in the same locations every year (Table 1-11). These findings are consistent with Fulton et al. (2006) who found that 90% of hunters pursued deer in the same location every year. The contrast with previous research is with the draw-only hunts where respondents tended to hunt different areas. This makes intuitive sense as a hunter may apply every year for a park but they are not guaranteed a successful application. Consequently, if they are unsuccessful in the lottery, they still hunt but do so in another area.

Respondents were asked how they hunted deer throughout the season: 1 – hunt big bucks all season, 2 – hunt big bucks early, take any deer later, 3 – take any legal buck, 4 – take the first legal deer they can, 5 – take only antlerless deer. Overall, hunters were most inclined to take the first legal deer that presented a shot (64%). In total, 31% of respondents indicated they either hunted for big bucks all season (15%) or early in the season (16%). Only 2.4% of those surveyed indicated they exclusively hunted antlerless deer. By study group, the control group was most inclined to hunt all season for big bucks (18%), while Itasca state park hunters tended to take the first legal deer (73%; Table 1-12). The selection 'shoot only antlerless deer' was inadvertently omitted from the early antlerless survey; however, given only 2.4% of all respondents noted that as their primary answer, we do not feel the results were compromised.

Hunting methods

The majority of hunters in this study hunted deer from a tree stand (68%), while a much smaller percentage preferred to still hunt (13%). These results were nearly identical to Fulton et al. (2006) who found that 68% and 11% used tree stands or still hunted, respectively. In total, hunters were least likely to hunt from ground blinds (13%), participate in deer drives of at least 5 people (4%), or deer drives of less than 5 people (3%; Table 1-13).

Respondents participating in antler point restriction hunts were more inclined to either hunt from the ground (25%) or still hunt (24%). To a lesser extent, earn-a-buck and Itasca hunters were also inclined to hunt deer this way. These results are likely due to the fact that state park regulations do not allow a person to leave their tree stand overnight. Consequently, the effort required to remove a stand daily may contribute a higher percentage of hunters choosing to hunt from the ground.

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Table 1-1. Deer hunter participation rates for 5 study areas, 2005.

Hunting Region	<i>n</i>	% Who Hunted
Antler Point Restriction	119	97.5%
Control	485	97.3%
Earn-A-Buck	564	96.5%
Early Antlerless	532	96.2%
Itasca State Park	325	96.0%
Total	2,025	96.6%
$\chi^2=1.643$, n.s.		

Table 1-2. Mean number of days spent scouting deer prior to the three traditional deer seasons.

Season	Spent time scouting	<i>n</i>	Mean	SE
Archery	12.8%	325	4.59	0.39
Firearm	37.9%	963	3.13	0.15
Muzzleloader	10.5%	268	1.85	0.27

Table 1-3. Mean number of days spent scouting, by study group.

Study group	Season											
	Early Antlerless			Archery			Firearm			Muzzleloader		
	<i>n</i>	Mean	SE	<i>n</i>	Mean	SE	<i>n</i>	Mean	SE	<i>n</i>	Mean	SE
Antler Point Restriction	9	1.11	0.89	10	7.50	2.66	34	2.85	0.62	7	0.57	0.37
Control	112	1.29	0.29	141	4.48	0.61	451	3.40	0.24	117	2.17	0.47
Early Antlerless	489	2.33	0.19	98	3.85	0.61	205	2.85	0.30	94	1.82	0.47
Earn-a-Buck	26	1.27	0.45	52	6.29	1.03	183	3.20	0.32	34	1.26	0.30
Itasca State Park	10	0.20	0.20	14	2.57	1.77	83	2.28	0.26	14	1.43	0.57
Total	646	2.05	0.16	315	4.59	0.39	956	3.13	0.15	266	1.85	0.27

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Table 1-4. Comparison of days spent scouting for treatment versus control study group respondents.

Season		<i>n</i>	Mean	SE	95% Lower CI	95% Upper CI	F	<i>p</i>
Early antlerless	Treatment ¹	534	2.21	0.18	1.87	2.56	5.15	0.024
	Control ²	112	1.29	0.29	0.71	1.86		
	Total	646	2.05	0.16	1.75	2.36		
Archery	Treatment	174	4.68	0.51	3.67	5.70	0.07	<i>n.s</i>
	Control	141	4.48	0.61	3.28	5.68		
	Total	315	4.59	0.39	3.82	5.36		
Firearm	Treatment	507	2.89	0.18	2.54	3.24	3.04	<i>n.s</i>
	Control	451	3.40	0.24	2.93	3.86		
	Total	958	3.13	0.15	2.84	3.41		
Muzzleloader	Treatment	149	1.60	0.31	0.98	2.21	1.12	<i>n.s</i>
	Control	117	2.17	0.47	1.25	3.09		
	Total	266	1.85	0.27	1.32	2.38		

¹Treatment: early antlerless, Itasca, earn-a-buck, and antler point respondents

²Control: control survey respondents

Table 1-5. Mean number of days spent scouting prior to participating in a special hunt on a Minnesota State Park with special regulations.

Hunting Area	N	Mean	SE	95% Lower CI	95% Upper CI
Antler Point Restriction	121	2.79	0.53	1.76	3.82
Earn-A-Buck	543	2.01	0.14	1.73	2.29
Itasca State Park	311	1.49	0.15	1.19	1.79
Total	975	1.94	0.11	1.72	2.17

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Table 1-6. Mean number of days hunters participated in their special hunt.

Study group	Days hunting study area			
	Mean	SE	Maximum Available Days	Maximum Percent of Season
Antler Point Restriction	3.03	0.13	6	50.7%
Control	5.37	0.13	16	33.8%
Earn-a-buck	2.71	0.05	6	45.2%
Early antlerless	1.83	0.02	2	91.5%
Itasca State Park	3.62	0.10	9	40.2%
Total	3.31	0.05		

Table 1-7. Mean number of years respondents have hunted their special hunt area, their primary deer permit area, and Minnesota.

Study group	Years hunting survey area		Years hunting permit area		Years hunting in Minnesota	
	Mean	SE	Mean	SE	Mean	SE
Antler Point Restriction	4.2	0.5	10.0	1.1	22.6	1.4
Control	N/A	N/A	16.2	0.6	23.8	0.6
Earn-a-buck	4.5	0.2	9.5	0.4	21.0	0.6
Early antlerless	N/A	N/A	11.9	0.5	24.3	0.6
Itasca State Park	15.1	0.6	15.2	0.6	24.8	0.8
Total	7.9	0.3	12.7	0.3	23.2	0.3

Table 1-8. Percent of hunting activity on each land ownership type (all surveys combined).

Property	Early Antlerless	Archery	Firearm	Muzzleloader	Total
Wildlife Management Area	9.4	10.5	9.8	11.1	9.9
State Forest	5.4	5.9	25.6	6.8	16.9
Other Public Land	3.5	7.2	12.8	8.0	9.7
Private Land Posted	50.4	54.9	35.2	51.7	42.7
Private Land Not Posted	31.3	21.6	16.6	22.5	20.8

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Table 1-9. Percent of hunters pursuing deer on different land ownerships, by study group.

Season	Property	Study Group											
		Antler point restriction		Control		Earn-a-buck		Early antlerless		Itasca State Park		Total	
		<i>n</i>	Percent	<i>N</i>	Percent	<i>n</i>	Percent	<i>n</i>	Percent	<i>n</i>	Percent	<i>n</i>	Percent
Early antlerless	Wildlife Management Area	0	0.0	1	2.3	5	10.9	50	10.0	1	12.5	57	9.4
	State Forest	6	60.0	3	7.0	9	19.6	11	2.2	4	50.0	33	5.4
	Other Public	1	10.0	2	4.7	6	13.0	11	2.2	1	12.5	21	3.5
	Private Posted	1	10.0	18	41.9	19	41.3	266	53.2	2	25.0	306	50.4
	Private Not Posted	2	20.0	19	44.2	7	15.2	162	32.4	0	0.0	190	31.3
		$\chi^2 = 147.72, p < 0.001$											

Archery	Wildlife Management Area	0	0.0	3	3.4	24	15.0	18	11.0	3	9.7	48	10.5
	State Forest	1	6.3	6	6.8	12	7.5	6	3.7	2	6.5	27	5.9
	Other Public	2	12.5	4	4.5	18	11.3	5	3.0	4	12.9	33	7.2
	Private Posted	7	43.8	54	61.4	83	51.9	92	56.1	16	51.6	252	54.9
	Private Not Posted	6	37.5	21	23.9	23	14.4	43	26.2	6	19.4	99	21.6
		$\chi^2 = 30.83, p = 0.014$											

Firearm	Wildlife Management Area	10	9.6	23	5.5	76	16.3	36	7.3	28	10.0	173	9.8
	State Forest	49	47.1	31	7.3	175	37.5	25	5.1	172	61.2	452	25.6
	Other Public	21	20.2	21	5.0	86	18.4	25	5.1	73	26.0	226	12.8
	Private Posted	16	15.4	245	58.1	99	21.2	259	52.4	4	1.4	623	35.2
	Private Not Posted	8	7.7	102	24.2	31	6.6	149	30.2	4	1.4	294	16.6
		$\chi^2 = 822.99, p < 0.001$											

Muzzleloader	Wildlife Management Area	0	0.0	4	6.7	10	13.2	22	13.6	0	0.0	36	11.1
	State Forest	2	25.0	3	5.0	6	7.9	7	4.3	4	21.1	22	6.8
	Other Public	1	12.5	3	5.0	7	9.2	9	5.6	6	31.6	26	8.0
	Private Posted	5	62.5	35	58.3	43	56.6	80	49.4	5	26.3	168	51.7
	Private Not Posted	0	0.0	15	25.0	10	13.2	44	27.2	4	21.1	73	22.5
		$\chi^2 = 42.28, p < 0.001$											

Section 1: Experience, Background, and Hunter Participation

Table 1-10. Comparison of property hunted between treatment and control study groups.

Season	Property	Treatment		Control	
		<i>n</i>	Percent	<i>n</i>	Percent
Early antlerless	Wildlife Management Area	56	9.9	1	2.3
	State Forest	30	5.3	3	7.0
	Other Public	19	3.4	2	4.7
	Private Posted	288	51.1	18	41.9
	Private Not Posted	171	30.3	19	44.2
$\chi^2 = 5.977$		$p = 0.201$			

Archery	Wildlife Management Area	45	12.1	3	3.4
	State Forest	21	5.7	6	6.8
	Other Public	29	7.8	4	4.5
	Private Posted	198	53.4	54	61.4
	Private Not Posted	78	21.0	21	23.9
$\chi^2 = 7.48$		$p = 0.112$			

Firearm	Wildlife Management Area	150	11.1	23	5.5
	State Forest	421	31.3	31	7.3
	Other Public	205	15.2	21	5.0
	Private Posted	378	28.1	245	58.1
	Private Not Posted	192	14.3	102	24.2
$\chi^2 = 209.92$		$p < .001$			

Muzzleloader	Wildlife Management Area	32	12.1	4	6.7
	State Forest	19	7.2	3	5.0
	Other Public	23	8.7	3	5.0
	Private Posted	133	50.2	35	58.3
	Private Not Posted	58	21.9	15	25.0
$\chi^2 = 3.299$		$p = 0.509$			

Section 1: Experience, Background, and Hunter Participation

Table 1-11. Percent of hunters who change hunting locations.

Study Group	<i>n</i>	Where do you primarily hunt every year (%)			
		Never same area every year	Change every 1 to 2 years	Change every 3 to 5 years	Same place every year
Antler Point Restriction	122	0.8	12.3	15.6	71.3
Control	479	1.5	2.1	5.8	90.6
Earn-a-Buck	558	4.3	8.8	12.7	74.2
Early Antlerless	540	2.6	3.7	5.9	87.8
Itasca State Park	324	1.5	6.5	10.8	81.2
Total	2,023	2.5	5.7	9.1	82.6
$\chi^2=83.892, p < 0.001$					

Table 1-12. Preferred type of deer pursued by hunters.

Study Group	<i>n</i>	Preferred type of deer pursued (%)				
		Hunt big bucks all season	Hunt big bucks early, any deer later	Shoot any legal buck	Shoot first legal deer	Shoot only antlerless deer
Antler Point Restriction	119	17.6	10.9	0.8	65.5	5.0
Control	464	18.5	21.6	4.5	51.9	3.4
Earn-a-Buck	535	12.3	13.3	3.0	67.3	4.1
Early Antlerless	515	16.5	16.1	2.7	64.7	*
Itasca State Park	313	7.7	13.4	4.8	73.5	0.6
Total	1,946	14.5	15.9	3.4	63.8	2.4
$\chi^2=85.602, p < 0.001$						

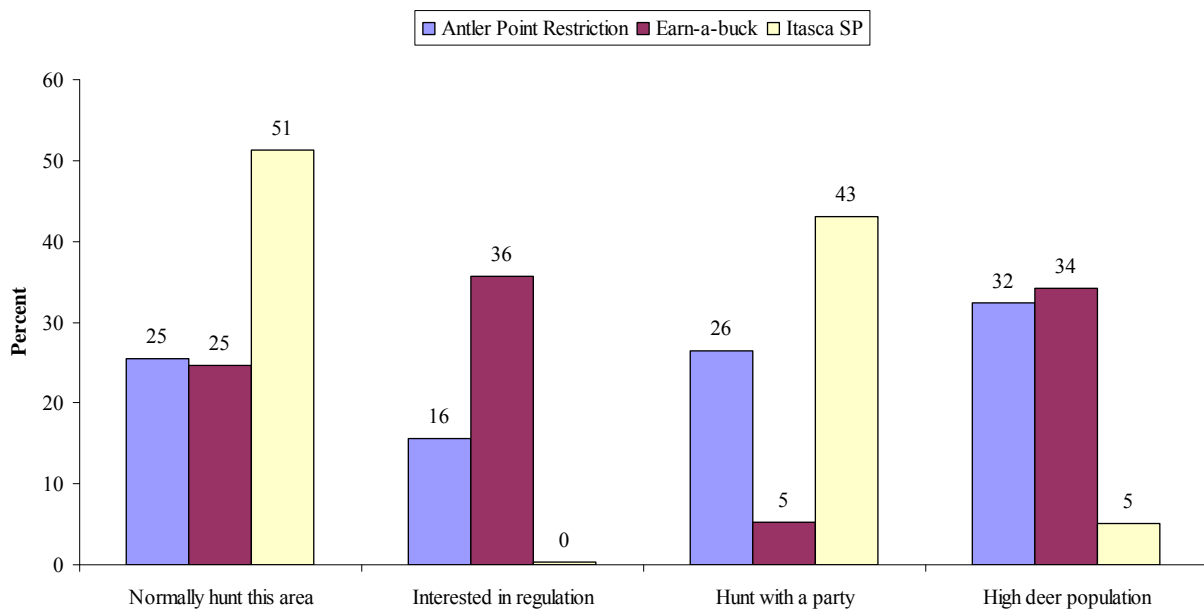
*Choice was inadvertently omitted from this survey

Section 1: Experience, Background, and Hunter Participation

Table 1-13. Hunting techniques.

Region	<i>n</i>	Percent indicating their primary method of hunting					
		Deer drive < 5 people	Deer drive > 4 people	Tree stand	Ground blind	Still hunt	Other
Antler Point Restriction	118	3.4	2.5	44.1	24.6	23.7	1.7
Control	469	3.6	9.0	68.2	9.4	8.1	1.7
Earn-a-Buck	537	2.6	1.7	65.4	12.7	16.9	0.7
Early Antlerless	521	2.5	4.2	75.0	8.4	7.7	2.1
Itasca State Park	319	0.3	1.3	67.7	13.5	16.0	1.3
Total	1,964	2.5	4.1	67.7	11.6	12.6	1.5
$\chi^2=133.937, p < 0.001$							

Figure 1-1. Reasons given for participating in a special hunt, by study group.



Section 2: Hunter Observations, Harvest, and Satisfaction

Findings

This suite of questions examined the observations, harvest, and overall satisfaction of respondents. Some questions varied by study group and were analyzed and compared whenever possible.

Hunter observations

Respondents were asked to note how many deer they observed while participating in their special hunt. For control hunters, that period of time was the regular deer season, early antlerless were asked to indicate deer seen only during the 2-day hunt. For the park hunts, the requested numbers of deer were animals seen just during their time spent at the park. Overall, the average number of legal bucks observed varied from 0.76 at Itasca State Park to 3.3 on the control areas. Similarly, the average number of antlerless deer observed varied from 3.3 at Itasca to 8.9 on the antler point restriction hunts. For the hunts with special regulations, only hunters at Itasca observed fewer sub-legal bucks than legal bucks (Table 2-1). Also, there was a significant relationship between the number of legal bucks ($F = 54.255, p < 0.001$) and antlerless deer observed ($F = 33.593, p < 0.001$) and the number of days spent hunting, when controlling for season length (Table 2-2). Consequently, the longer a hunter stayed in the field, the more opportunity they had for seeing both antlered and antlerless deer.

Prior to enacting the earn-a-buck and antler point restriction regulations, DNR staff heard anecdotally that the regulations would not be supported for a variety of reasons. One frequently cited reason was hunters want the opportunity to harvest a buck and if restrictive regulations were in place, they would be denied that opportunity because invariably a ‘buck of a lifetime’ would present itself for a shot and the hunter would be unable to take the deer. Consequently, we asked hunters in all study groups what type of deer they observed first and how that interaction ultimately concluded. We also asked them if they harvested the deer and if not, why. Overall, we observed differences in the type of deer seen first by study group. Earn-a-buck (27.5%) and Itasca State Park (27.1%) hunters were more likely to see a buck first, while antler point hunters were most likely to see an antlerless deer first (Table 2-3). Although there were disparities in the first deer seen, ultimately nearly one-third were able to harvest the deer and we observed no differences between study groups ($\chi^2 = 4.42, p = 0.352$; Table 2-3).

Respondents were also asked why they were unable to take the first deer they observed. Reasons given to respondents varied by study group as not all were germane for each respondents. For example, only earn-a-buck respondents had the choice ‘had not shot an antlerless deer first’ and only control respondents were given the choices of ‘too small a buck’ and ‘too early in the season’. However, choices were consolidated and standardized where possible. Overall, most hunters noted they failed to harvest the first deer they saw because it did not present a good shot or they shot and missed. That response was consistent across study groups. Interestingly, less than one-half (44%) of earn-a-buck hunters did not take their first deer because it was a buck and they hadn’t harvested an antlerless deer yet. Conversely, a small minority of respondents participating in antler point hunts definitively identified a sub-legal buck (Table 2-4). These results indicate that for earn-a-buck hunters, they were forced to stay in the field because they legally could not harvest a buck first. For antler point hunters, few were sure they observed sub-

Section 2: Hunter Observations, Harvest, and Satisfaction

legal bucks but exercised caution because they weren't sure if the deer was legal or not. However, a majority of respondents had opportunities and either failed to shoot or missed the deer.

Harvest

Special hunt

One of the objectives of the alternative research program is to design a regulation that encourages hunters to harvest antlerless deer. Analysis of Minnesota DNR harvest data indicates that almost 75% of hunters harvest only one deer and an additional 20% take two deer. Consequently, regulations that allow for more deer in the bag likely reach a point of diminishing returns when the bag limit exceeds two. In other words, less than 5% of the hunting population is impacted by increasing the bag limit; thus increasing the bag limit to infinity would have the same overall effect on the population as a limit of three.

Overall, we observed significant differences in success rates and the types of deer harvested. Early antlerless hunters were the least successful (36%), while control hunters had the highest success (61%; Table 2-5). Interestingly, a high proportion of early antlerless hunters failed to take a deer because they indicated, 1) the season was an opportunity to take a youth hunting, or 2) they did not want to take a fawn so early in the year or the doe had fawns. Consequently, this may have contributed to the lower observed success rates. While we do not infer causation, it is certainly plausible that hunters perceived the early antlerless season as a chance to get out and if they did not harvest a deer, they would just wait until the regular season.

By deer type (antlered vs. antlerless), we observed significant differences in deer harvest between study groups. Itasca State Park hunters were least likely (29%) to take an antlerless deer, while earn-a-buck hunters were most likely (59%). These data should be compared to the control respondents (43%), who can be considered the reference group. Interestingly, there was nearly a 20% difference in the percentage of Itasca and other antler point respondents who took an antlerless deer. For antlered bucks, success ranged from 15% for antler point respondents to 37% for the control group. As expected, buck harvest success was lower on all three special hunt study groups than the control group (Table 2-5).

Statewide

We also examined the total number of deer killed during all seasons combined (early antlerless, archery, firearm, muzzleloader). In theory, the control group should serve as a reference point for comparing harvest between treatments. For example, control hunters could legally take any deer (antlered or antlerless), while treatment hunters were restricted to taking a certain type of deer. Theoretically, we should see differences between the type of deer taken by area and also the average number of antlerless deer taken per respondent. Additionally, because of the multitude of opportunity that is offered to Minnesota hunters, they can legally hunt in more than one season and take deer during all of those seasons. Thus, total annual kill is cumulative and we expected hunters to hunt and take deer in more than one season. Indeed, our results indicate that total harvest is cumulative and hunters are taking deer in more than one season. By study group, the average number of antlered deer per respondent during the firearm season ranged

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from 0.17 during the antler point hunt to 0.40 for early antlerless hunters (control hunters = 0.33; Table 2-6). As expected, the average number of antlerless deer taken during the firearm season was much higher for the hunts with special regulations than for the control group. The exception was Itasca state park, where a mean of 0.38 antlerless deer per hunter was observed. This was the lowest observed rate for all study groups and may be another indicator of the fact that Itasca hunters may not perceive the deer population as too high and are unwilling to take antlerless deer. For the archery and muzzleloader seasons, there were generally no statistical differences between study groups (Table 2-6).

In looking at total number of deer taken (per respondent) over the course of all seasons, we detected some apparent trends between all hunters and only successful hunters (respondents indicating they killed at least one deer). For example, the control group (reference) killed an average of 0.69 deer/hunter and 1.61 deer per successful hunter (bucks and antlerless deer combined). Presumably, we should see an overall increase in averages for the treatment groups. Indeed, this was observed for all study groups, with early antlerless hunters taking the highest number of deer overall. In total, they killed nearly 2 deer per person for all hunters, while successful hunters took 2.5 deer per person (Table 2-7). Smaller increases were noted for Itasca (mean = 1.03), antler point restriction (mean = 1.04), and earn-a-buck hunters (1.29). These data indicate that in 2005, the early antlerless season was the most aggressive as hunters were inclined to take more than 1 deer/season. Given one of those deer (by definition of their season) was antlerless, we believe this season may be the most aggressive management strategy. However, its limitation is evident because participation is not mandatory and individual increases in harvest (per hunter) may not translate into a population level increase in harvest (all hunters).

Satisfaction

Overall satisfaction

Study participants were asked to rate their satisfaction as: 1 = Very Satisfied, 2 = Slightly Satisfied, 3 = Neither, 4 = Slightly Dissatisfied, and 5 = Very Dissatisfied. Respondent's were also asked whether they agree or disagree with the quality and number of mature bucks, and numbers of both antlerless and total deer observed. These ratings were similar to the satisfaction rating where 1 = Strongly Agree, 2 = Slightly Agree, 3 = Neither, 4 = Slightly Disagree, and 5 = Strongly Disagree.

Respondents appeared generally satisfied with the outcome of their 2005 special hunt. In total, 65% of respondents indicated they were very satisfied (43%) or slightly satisfied (22%) with their season. Only 23% said they were slightly dissatisfied (13%) or very dissatisfied (10%). By study group, antler point restriction hunters were most satisfied (91%), while hunters at Itasca State Park expressed the highest dissatisfaction rates (41%; Table 2-8). The overall high dissatisfaction rates at Itasca State Park is troubling given this was the only special hunt location where hunters did not have to apply. As the project is scheduled to last for three years with hunters being evaluated annually, attention should be paid to Itasca hunter patterns, fidelity, and satisfaction levels. Conversely, we observed extremely high satisfaction among lottery-only antler point restriction hunters; thus, more research will be needed to determine the confounding

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effects and which will impact participation and management. Finally, control group satisfaction (62%) was lower than the 2005 satisfaction level (76%) noted by Fulton et al. (2005).

Satisfaction with deer numbers and quality

Respondent's were also asked whether they agree or disagree with the quality and number of mature bucks, and numbers of both antlerless and total deer observed. These ratings were similar to the satisfaction rating where 1 = Strongly Agree, 2 = Slightly Agree, 3 = Neither, 4 = Slightly Disagree, and 5 = Strongly Disagree. Early antlerless hunters were not presented with this suite of questions because their hunt did not allow the taking of antlered males.

Legal bucks

While a majority of hunters indicated they had heard about or seen legal bucks in the area they hunted (66%; Table 2-9), they were nearly split as to whether they agreed with the statement "I am satisfied with the quality of bucks in the area I hunt" (44% agree and 38% disagree; Table 2-10). Additionally, only 39% of respondents indicated disagreement with the statement "I am satisfied with the number of legal bucks" in the area they hunt (Table 2-11). These results suggest that, although hunters had seen (or heard about) mature bucks, they were inclined to believe there should be a higher proportion in the total deer population. In all cases, Itasca State Park hunters noted the lowest level of agreement as compared to all other study groups.

Antlerless deer and total population

Overall, respondents were generally satisfied (59%) with the total number of antlerless deer they observed while hunting (Table 2-12). We did observe significant differences between study groups, in that antler point respondents had the highest level of agreement (81%), while Itasca hunters had the lowest (43%). With respect to total deer numbers, a majority of hunters agreed with the statement "I am satisfied with the number of deer I see while hunting", although there was a wide disparity between study groups (Table 2-13).

The clear pattern that has developed with this data is the consistent belief among Itasca hunters that deer populations are not too high. They also uniformly disagree with all aspect of the deer population (bucks, antlerless, and total numbers) and have noticeably lower satisfaction when compared to other groups.

Comparison of satisfaction levels

In comparing overall satisfaction with the 2005 deer hunt (Table 2-8) with opinions relative to deer population structure (legal bucks; Table 2-9) and total numbers of deer (Table 2-13), we observed a significant trend among respondents. After removing neutral responses, a large proportion of hunters who classified their deer season as slightly or very dissatisfying disagreed with the statement "I am satisfied with the number of legal bucks" (75%). Conversely, hunters who rated their season as very or slightly satisfied were more inclined to agree with the above statement (58%) (Table 2-14).

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We observed similar trends for overall satisfaction and the total number of deer in the population. Hunters who classified their season as very or slightly satisfying were much more likely to agree with the statement “I am satisfied with the number of deer I see while hunting” (77% and 58%, respectively) than hunters who were either slightly (36%) or very dissatisfied (28%) with their deer season (Table 2-15). These findings suggest that hunter satisfaction is likely to decrease as deer densities decrease, regardless of the proportion of mature bucks in the deer population.

Interpretation of mean scores

Overall, Bonferroni adjusted ANOVA results indicated significant regional differences in satisfaction regarding deer quality, legal bucks, antlerless deer, and total populations. Antler point restriction respondents were generally satisfied with antlerless and total deer numbers. Conversely, Itasca hunters were not satisfied with 4 of 5 items (legal bucks, buck quality antlerless deer, total deer). In fact, Itasca hunters were the only group with a mean score (> 3) indicating that on average they were dissatisfied with total deer numbers (Table 2-16).

Overall support

Special hunt respondents were asked to indicate their level of support for the regulations they hunted under during 2005. Hunters had to apply for the opportunity to hunt both earn-a-buck and antler point restrictions areas, Itasca state park was open to anyone with a valid license (although it has high site fidelity), and the early antlerless season was open in 8 permit areas only and was available to anyone with a valid license.

Overall, 63% of respondents supported the regulations they hunted under in 2005. It was anticipated that the early antlerless season would be supported (80%) because this was a voluntary season that offered additional hunting opportunity for a relatively low cost. However, we were unsure if applicants who were hunting their traditional areas would also be supportive. For the application hunts, 74% of antler point hunters were supportive, while 56% of earn-a-buck hunters indicated support. Itasca hunters were the only group who expressed less than one-half support for their regulation (40%). Itasca hunters were also likely to indicate strong opposition (34%), as compared to all other groups (Table 2-17).

Future hunt participation

As mentioned previously, these special hunts will continue for 3 consecutive years. In order to assess future participation, respondents were also asked if they intended either to hunt (early antlerless, Itasca) or apply in 2006 (antler point restriction, earn-a-buck). Overall, the majority of respondents indicated they would either definitely (57%) or probably (22%) participate in the 2006 hunt. Similar to previous questions, Itasca hunters were different from the other respondents in that they were less inclined to indicate their intentions to hunt next year (Table 2-18). Indeed, a query of the 2006 deer hunter database found that nearly one-third of 2005 Itasca hunters failed to indicate that permit area in 2006. However, an equal number of hunters indicated Itasca in 2006 but didn't in 2005; thus, the same number of hunters were observed in both years. The 2006 special hunt study will likely include several ‘new’ hunters, and we are

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interested to see if group attitudes and perceptions changed with the addition of these new study subjects.

In comparing overall hunt satisfaction with respondent's intentions to hunt in 2006, we found that nearly all hunters who were very satisfied (96%) or slightly satisfied (87%) would participate in the season again and even hunters who were slightly dissatisfied intended to participate in 2006 (61%). Only half of those who were very dissatisfied with their 2005 hunt (50%) planned on not hunting their area in 2006 (Table 2-19). By study area, antler point restriction and early antlerless respondents were nearly unanimous in their interest in participating in 2006. Earn-a-buck and Itasca state park respondents were likely to apply if they were either satisfied or neither, while they were unlikely to apply if they were dissatisfied with their 2005 hunt (Table 2-20).

Finally, we looked at whether or not a respondent harvested at least one deer during their special hunt to determine if killing a deer influenced the likelihood to hunt in 2006. Overall, antler point hunters intended to apply regardless of harvest success while earn-a-buck, early antlerless, and Itasca hunters were more likely to hunt if they killed a deer. While we did find statistical significance on the influence of success on intent to hunt next year while statistically significant in most cases was not very strong (Table 2-21). Functionally, harvest success should not be considered a primary motivating factor in predicting participation.

Cross-tagging

Minnesota is one of the few states that allow hunters to shoot and tag deer for one another. The method is most often referred to as party hunting; however, we have opted to call it cross-tagging, which more accurately describes the procedure. Currently, there has been discussion regarding making this practice illegal for either all deer or just antlered bucks. Consequently, we asked respondents to indicate their level of support for prohibiting cross-tagging of all deer (buck and antlerless). In a recent study of deer hunters, Fulton et al. (2006) observed 46% support for ending buck cross-tagging and only 28% support ending all cross-tagging. For this study, we asked identical questions to determine if our respondents differed by study group and from Fulton et al. (2006). Overall, only 26% supported eliminating all cross-tagging with control and Itasca hunters least likely to support (26%) and earn-a-buck hunters most likely (32%; Table 2-22), which was consistent with the previous study.

Slightly higher support was observed for instituting a regulation that would eliminate only buck cross-tagging. In total, 38% percent of hunters supported this regulation, which was 8% lower than the support reported by Fulton et al. (2006). By study group, Itasca and control hunters were least likely to support the regulation (34%), while antler point hunters most often indicated support (45%; Table 2-23).

We also asked respondents if they had either killed a deer for another member of their party or if someone from their party had killed a deer for them. Interestingly, more people indicated they had killed a deer for someone (22%) than admitted having a deer killed for them (14%). With respect to killing a deer for someone else, only 13% of Itasca hunters indicated doing it while 33% of early antlerless hunters killed a deer for someone at some point in the deer season (Table

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2-24). These results are slightly contradicted by the percent support for banning cross-tagging in that Itasca hunters, who kill proportionately fewer deer than other respondents were most likely to oppose restricting cross-tagging.

Finally, we compared support for banning buck party hunting with both questions regarding killing a deer for someone or someone killing a deer for a person. In both cases we found no relationship between buck cross-tagging and killing a deer for someone ($\chi^2 = 5.372, p = 0.251$) or someone killing a deer for the respondent ($\chi^2 = 2.391, p = 0.664$). These results suggest cross-tagging is ingrained in the Minnesota hunting culture and whether or not an individual participates in the practice is largely irrelevant.

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Table 2-1. Average number of deer seen, by study group.

Study group	Legal bucks seen		Sub-legal bucks seen		Antlerless deer seen		Deer seen, couldn't identify	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Antler Point Restriction	1.89	0.22	1.68	0.18	8.97	0.66	1.93	0.25
Control	3.33	0.19	*	*	7.78	0.35	2.09	0.16
Earn-a-Buck	1.65	0.09	0.90	0.06	4.83	0.22	**	**
Early Antlerless	2.20	0.16	*	*	5.88	0.31	1.37	0.12
Itasca State Park	0.76	0.07	0.82	0.07	3.35	0.26	1.57	0.12
Total	2.04	0.07	0.97	0.05	5.68	0.14	1.69	0.07

*For these surveys, there was no sub-legal category

**Deer seen but not identified was not presented as an option on the earn-a-buck survey

Table 2-2. Average number of deer seen as compared to days hunted, controlling for season length.

Deer Type	Means		Correlations		ANOVA	
	Deer seen	Days hunted	partial r	<i>p</i>	F	<i>p</i>
Legal Buck	2.05	3.38	0.244	< 0.001	54.255	< 0.001
Antlerless	5.74	3.23	0.200	< 0.001	33.593	< 0.001

Table 2-3. First deer observed, and whether the respondent was able to harvest the deer.

Study group	<i>n</i>	First Deer Observed (%)				Killed first deer (% Yes)
		Antlered buck	Antlerless deer	Mixed group	Did not see a deer	
Antler Point Restriction	119	12.6	62.2	21.0	4.2	31.8
Control	475	21.1	59.4	10.9	8.6	33.7
Earn-a-Buck	546	27.5	53.7	7.3	11.5	32.7
Early Antlerless	519	18.9	55.3	6.0	19.8	32.4
Itasca State Park	295	27.1	48.1	9.5	15.3	26.4
Total	1,954	22.7	55.2	9.0	13.2	31.9
$\chi^2=85.220, p < 0.001$						$\chi^2= 4.42, n.s$

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Table 2-4. Reasons for not harvesting the first deer observed.

Study group	<i>n</i>	Had not killed antlerless first	Unsure it was legal or was not legal	Did not present a good shot	Shot and missed	Sub-legal buck	Don't shoot antlerless deer	Too small a buck	Too early to take antlerless
Antler Point Restriction	63	N/A	12.7	47.6	19.0	15.9	4.8	N/A	N/A
Control	278	N/A	0.0	41.0	14.4	N/A	6.8	13.3	24.5
Earn-a-Buck	313	44.4	8.6	35.5	10.2	N/A	1.3	N/A	N/A
Early Antlerless	144	N/A	15.3	84.7		N/A	N/A	N/A	N/A
Itasca State Park	178	N/A	40.4	32.0	6.2	15.7	5.6	N/A	N/A

Table 2-5. Success rates and types of deer taken, by study group.

Study group	Harvest at least one deer	Antlered Buck		Antlerless Deer			
	Percent	<i>n</i>	Percent	<i>n</i>	Percent		
Antler Point Restriction	58.3	17	14.8	54	47.8		
Control	61.0	162	37.3	187	43.2		
Earn-a-Buck	59.7	90	18.4	285	58.9		
Early Antlerless	35.6	No Season		121	35.6		
Itasca State Park	46.9	64	23.6	77	29.3		
				$\chi^2=76.993, p < 0.001$		$\chi^2=52.642, p < 0.001$	

Table 2-6. Average number of deer taken by respondents during all the deer seasons.

Study group	Average number of deer taken by respondents						
	Early Antlerless	Archery		Firearm		Muzzleloader	
	Antlerless	Buck	Antlerless	Buck	Antlerless	Buck	Antlerless
Antler Point Restriction	0.05	0.08	0.12	0.17	0.78	0.00	0.02
Control	0.02	0.05	0.13	0.33	0.55	0.03	0.15
Earn-a-Buck	0.05	0.08	0.25	0.26	0.89	0.02	0.10
Early Antlerless	0.50	0.06	0.17	0.40	0.85	0.05	0.23
Itasca State Park	0.01	0.03	0.06	0.25	0.38	0.04	0.07
Total	0.24	0.06	0.17	0.31	0.71	0.04	0.15
	F=44.628 <i>p</i> < 0.001	F=1.188 n.s.	F=3.363 <i>p</i> = 0.009	F=7.823 <i>p</i> < 0.001	F=17.719 <i>p</i> < 0.001	F=0.855 n.s.	F=3.890 <i>p</i> = 0.003

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Table 2-7. Average number of deer taken for all hunters and successful hunters, by study group.

Study group	All Hunters					Successful Hunters				
	<i>n</i>	Mean	SE	LCLM	UCLM	<i>n</i>	Mean	SE	LCLM	UCLM
Antler Point Restriction	124	1.04	0.11	0.83	1.25	75	1.72	0.12	1.48	1.96
Control	335	0.69	0.06	0.58	0.81	144	1.61	0.09	1.43	1.79
Earn-a-Buck	580	1.29	0.06	1.17	1.42	344	2.18	0.08	2.03	2.33
Early Antlerless	557	1.97	0.08	1.82	2.12	428	2.56	0.08	2.40	2.71
Itasca State Park	516	1.03	0.06	0.92	1.14	291	1.83	0.07	1.69	1.97
Total	2,112	1.30	0.03	1.23	1.36	1,282	2.14	0.04	2.06	2.22
$F = 47.853, p < 0.001$					$F = 19.696, p < 0.001$					

Table 2-8. Respondent's satisfaction with their 2005 special hunt.

Study group	<i>n</i>	Percent indicating their satisfaction with their 2005 special hunt.				
		Very Satisfied	Slightly Satisfied	Neither	Slightly Dissatisfied	Very Dissatisfied
Antler Point Restriction	118	68.6	22.9	3.4	1.7	3.4
Control	483	36.0	26.1	15.3	14.3	8.3
Earn-a-Buck	549	39.7	27.5	9.8	13.7	9.3
Early Antlerless	520	54.2	15.6	14.4	8.3	7.5
Itasca State Park	313	28.8	17.9	12.5	19.8	21.1
Total	1,983	42.6	22.2	12.4	12.7	10.1
$\chi^2 = 175.498, p < 0.001$						

Table 2-9. Agreement/disagreement with having heard about or seen big bucks in the area.

Study group	<i>N</i>	Percent agreement with the statement that hunters had heard about or seen big bucks in the area they hunt				
		Strongly Agree	Slightly Agree	Neither	Slightly Disagree	Strongly Disagree
Antler Point Restriction	112	44.6	29.5	8.9	4.5	12.5
Control	431	42.7	30.6	11.4	6.7	8.6
Earn-a-Buck	495	35.6	28.5	13.9	6.7	15.4
Itasca State Park	286	23.4	31.1	13.6	8.0	23.8
Total	1,324	36.0	29.8	12.6	6.8	14.7
$\chi^2 = 52.489, p < 0.001$						

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Table 2-10. Agreement/disagreement with satisfaction related to buck quality.

		Percent agreement with hunter satisfaction regarding the quality of bucks in the area they hunt				
Study group	<i>n</i>	Strongly Agree	Slightly Agree	Neither	Slightly Disagree	Strongly Disagree
Antler Point Restriction	108	33.3	23.1	18.5	13.9	11.1
Control	433	16.2	26.6	14.3	19.6	23.3
Earn-a-Buck	479	20.3	26.1	18.0	16.3	19.4
Itasca State Park	279	11.8	24.0	21.1	16.8	26.2
Total	1,299	18.2	25.6	17.5	17.3	21.5
$\chi^2=39.720, p < 0.001$						

Table 2-11. Agreement/disagreement with the number of legal bucks present in the area hunted.

		Percent agreement with hunter satisfaction regarding the number of legal bucks in the area they hunt				
Study group	<i>N</i>	Strongly Agree	Slightly Agree	Neither	Slightly Disagree	Strongly Disagree
Antler Point Restriction	110	29.1	20.9	16.4	17.3	16.4
Control	434	16.6	23.0	14.1	22.1	24.2
Earn-a-Buck	485	18.4	24.5	17.7	17.1	22.3
Itasca State Park	283	6.7	18.0	14.8	20.1	40.3
Total	1,312	16.2	22.3	15.8	19.4	26.3
$\chi^2=66.473, p < 0.001$						

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Table 2-12. Agreement/disagreement with the number of antlerless deer present in the area hunted.

		Percent agreement with hunter satisfaction regarding the number of antlerless deer in the area they hunt				
Study group	<i>N</i>	Strongly Agree	Slightly Agree	Neither	Slightly Disagree	Strongly Disagree
Antler Point Restriction	115	54.8	27.0	5.2	7.8	5.2
Control	437	43.5	22.9	13.5	11.0	9.2
Earn-a-Buck	509	32.8	24.4	9.4	18.1	15.3
Itasca State Park	282	20.9	22.0	17.0	12.8	27.3
Total	1,343	35.7	23.6	12.0	13.8	15.0
$\chi^2=111.026, p < 0.001$						

Table 2-13. Agreement/disagreement with the total number of deer present in the area hunted.

		Percent agreement with hunter satisfaction regarding the total number of deer in the area they hunt				
Study group	<i>N</i>	Strongly Agree	Slightly Agree	Neither	Slightly Disagree	Strongly Disagree
Antler Point Restriction	114	56.1	28.9	0.9	7.0	7.0
Control	437	34.3	28.1	9.8	13.0	14.6
Earn-a-Buck	513	28.1	27.1	6.8	17.2	20.9
Itasca State Park	298	19.8	20.1	10.7	19.8	29.5
Total	1,362	30.6	26.1	8.1	15.6	19.6
$\chi^2=97.988, p < 0.001$						

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Table 2-14. Agreement/Disagreement with the number of legal bucks present, as compared to hunt satisfaction.

		Percent agreement with hunter satisfaction regarding the number of legal bucks in the area they hunted				
Overall satisfaction with the deer season	<i>N</i>	Strongly Agree	Slightly Agree	Neither	Slightly Disagree	Strongly Disagree
Very Satisfied	492	25.6	27.4	17.5	16.7	12.8
Slightly Satisfied	313	11.5	28.8	15.3	23.0	21.4
Neither	135	8.9	17.0	24.4	20.7	28.9
Slightly Dissatisfied	184	10.3	13.0	10.3	27.7	38.6
Very Dissatisfied	150	10.0	10.7	12.7	6.7	60.0
Total	1,274	16.3	22.6	16.1	19.1	25.9
$\chi^2=221.048, p < 0.001$						

Table 2-15. Agreement/Disagreement with the total number of present, as compared to hunt satisfaction.

		Percent agreement with hunter satisfaction regarding the total number of deer in the area they hunted				
Overall satisfaction with the deer season	<i>N</i>	Strongly Agree	Slightly Agree	Neither	Slightly Disagree	Strongly Disagree
Very Satisfied	509	49.9	26.9	4.5	11.0	7.7
Slightly Satisfied	326	22.4	35.6	9.2	19.6	13.2
Neither	147	15.6	23.8	15.0	20.4	25.2
Slightly Dissatisfied	190	16.8	19.5	9.5	20.5	33.7
Very Dissatisfied	150	15.3	13.3	10.0	8.0	53.3
Total	1,322	30.6	26.1	8.2	15.2	19.9
$\chi^2=316.793, p < 0.001$						

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Table 2-16. Mean scores of ratings for agreements with deer population composition and numbers.

Issue	Average rating of satisfaction for the number and quality of deer				F	p
	Antler Point Restriction	Control	Earn-a-Buck	Itasca State Park		
<i>n responses</i>	124	517	583	335		
Satisfied with legal bucks	2.71	3.14	3.00	3.69	19.006	< 0.001
Satisfied with quality of bucks	2.46	3.07	2.89	3.22	8.820	< 0.001
Heard about or saw legal bucks	2.11	2.08	2.38	2.78	15.864	< 0.001
Satisfied with antlerless deer	1.82	2.19	2.59	3.04	29.678	< 0.001
Satisfied with total deer	1.80	2.46	2.76	3.19	29.218	< 0.001

Notes:

- 1 – Strongly Agree
- 2 – Slightly Agree
- 3 – Neither
- 4 – Slightly Disagree
- 5 – Strongly Disagree

Table 2-17. Support for alternative deer regulations indicated by special hunt participants.

Study group	N	Percent support for alternative deer regulations				
		Strongly Support	Moderately Support	Neither	Moderately Oppose	Strongly Oppose
Antler Point Restrictions	115	53.0	20.9	11.3	11.3	3.5
Earn-A-Buck	548	26.5	29.7	15.1	13.5	15.1
Early Antlerless	515	59.6	20.6	9.3	3.9	6.6
Itasca State Park	307	18.9	21.5	12.1	13.7	33.9
Total	1,485	38.5	24.2	12.2	10.0	15.2
$\chi^2 = 272.548, p < 0.001$						

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Table 2-18. Percent indicating their intentions to participate in a 2006 special hunt, by study group.

		Percent indicating their intentions to either apply for or hunt in the special area next year (2006)				
Study group	<i>N</i>	Definitely will hunt/apply	Probably will hunt/apply	Not sure	Probably not hunt/apply	Definitely not hunt/apply
Antler Point Restriction	120	71.7	17.5	7.5	1.7	1.7
Earn-a-Buck	555	57.8	20.5	12.3	5.4	4.0
Early Antlerless	531	63.1	21.5	8.9	3.6	3.0
Itasca State Park	314	39.5	29.6	15.0	8.0	8.0
Total	1,520	57.0	22.5	11.3	5.0	4.3
$\chi^2=67.619, p < 0.001$						

Table 2-19. Comparison of hunt satisfaction and whether or not respondents will participate in their special hunt in 2006.

		Percent indicating their intentions to either apply for or hunt in the special area next year (2006) versus overall satisfaction				
Study group	<i>N</i>	Definitely will hunt/apply	Probably will hunt/apply	Not sure	Probably will not hunt/apply	Definitely will not hunt/apply
Very Satisfied	671	82.7	13.7	2.8	0.3	0.4
Slightly Satisfied	315	50.8	36.2	10.2	1.6	1.3
Neither	172	36.0	34.3	22.7	5.2	1.7
Slightly Dissatisfied	180	29.4	31.7	21.1	13.9	3.9
Very Dissatisfied	160	15.0	11.3	23.8	20.0	30.0
Total	1,498	57.0	22.7	11.1	4.9	4.3
$\chi^2=760.285, p < 0.001$						

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Table 2-20. Likelihood a respondent will participate in their special hunt in 2006 based on their overall hunt satisfaction, by study group.

Study group	Satisfaction (3 levels)	<i>n</i>	Percent indicating their likelihood of participating in a special hunt next year (2006)			χ^2	<i>p</i>
			Yes	Maybe	No		
Antler Point Restriction	Satisfied	108	93.5	5.6	0.9	54.211	< 0.001
	Neither	4	50.0	50.0	0.0		
	Dissatisfied	6	33.3	16.7	50.0		
Earn-a-Buck	Satisfied	369	90.8	7.0	2.2	137.722	< 0.001
	Neither	54	70.4	24.1	5.6		
	Dissatisfied	125	46.4	21.6	32.0		
Early Antlerless	Satisfied	363	96.1	3.6	0.3	150.809	< 0.001
	Neither	75	72.0	17.3	10.7		
	Dissatisfied	82	47.6	22.0	30.5		
Itasca State Park	Satisfied	146	93.2	4.1	2.7	97.139	< 0.001
	Neither	39	69.2	28.2	2.6		
	Dissatisfied	127	41.7	23.6	34.6		
Total		1,498	79.7	11.1	9.2		

Table 2-21. Likelihood a respondent will participate in their special hunt in 2006 based on their harvest success, by study group.

Study group	Killed at least one deer	<i>n</i>	Percent indicating their likelihood of participating in a special hunt next year (2006)			χ^2	<i>p</i>
			Yes	Maybe	No		
Antler Point Restriction	No	48	89.6	8.3	2.1	0.307	0.858
	Yes	67	92.5	6.0	1.5		
Earn-a-Buck	No	199	69.8	16.1	14.1	26.028	< 0.001
	Yes	295	87.5	8.8	3.7		
Early Antlerless	No	219	81.7	10.0	8.2	9.117	0.010
	Yes	121	91.7	7.4	0.8		
Itasca State Park	No	142	64.8	14.8	20.4	7.167	0.028
	Yes	127	78.0	12.6	9.4		
Total		1,218	80.7	11.0	8.3		

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Table 2-22. Percent indicating support for eliminating all cross-tagging.

Study group	<i>n</i>	Percent indicating support restricting cross-tagging for all deer				
		Strongly Support	Moderately Support	Neither	Moderately Oppose	Strongly Oppose
Antler Point Restriction	121	23.1	8.3	12.4	14.9	41.3
Control	477	16.6	9.0	8.8	13.0	52.6
Earn-a-Buck	550	19.6	12.2	9.8	14.5	43.8
Itasca State Park	538	17.3	8.4	8.2	11.7	54.5
Total	1,686	17.3	9.2	9.3	13.3	50.9
$\chi^2=34.731, p = 0.004$						

Table 2-23. Percent indicating support for eliminating buck cross-tagging.

Study group	<i>n</i>	Percent indicating support for eliminating buck cross-tagging				
		Strongly Support	Moderately Support	Neither	Moderately Oppose	Strongly Oppose
Antler Point Restriction	123	28.5	16.3	9.8	13.8	31.7
Control	468	17.7	16.0	11.3	14.7	40.2
Earn-a-Buck	554	24.0	17.0	13.7	13.4	31.9
Itasca State Park	523	22.0	12.2	10.7	14.1	40.9
Total	1,668	20.4	15.3	12.0	13.9	38.3
$\chi^2=40.561, p < 0.001$						

Table 2-24. Percent indicating participation in cross-tagging of deer during any of the Minnesota seasons.

Study group	Killed a deer for someone		Someone killed a deer for you	
	<i>n</i>	% Yes	<i>n</i>	% Yes
Antler Point Restriction	123	14.6	123	8.9
Control	488	20.3	484	13.8
Earn-a-Buck	559	22.5	*	
Early Antlerless	550	33.3	544	17.6
Itasca State Park	325	13.5	325	12.3
Total	2,045	22.2	1,529	14.5
$\chi^2 = 56.185, p < 0.001$		$\chi^2 = 8.838, p = 0.031$		

*Question was omitted from this survey

Section 3: Importance of experiences and feelings towards MDNR

Findings

This suite of questions focused on the importance of experiences on deer hunting satisfaction and respondents' opinions regarding the management of deer by DNR staff.

Important considerations – Regulation changes

Respondents were asked indicate their level of agreement with several statements regarding considerations that should be taken before regulations were changed. The issues ranged from personal (e.g., increasing your own opportunity) to landscape-level (e.g., forest protection, public land crowding).

Regulations that lead to a better image of hunters and hunting were important to the vast majority of respondents (82%) and 80% agree the interest of farmers was an important consideration to take before changing regulations (Table 3-1). Reduction of public land crowding (75%) and protection of forested areas from deer damage (70%) also ranked very high. A majority of respondents believed that regulations that led to increased firearm opportunity (65%), increased opportunity to take a mature buck (63%), increase DNR's ability to control deer populations (62%), and encourage new people to take up hunting (61%) should also be considered.

Regionally, ANOVA results indicated significant differences among the study groups for all item except regulations that do not result in decreased private land access. All other issues yielded significant differences in mean scores (Table 3-2).

Important consideration – Hunter experiences

Respondents were asked to indicate the level of importance of several statements regarding how an experience contributes to overall satisfaction. The experiences varied from the importance of killing a deer to sharing skills and knowledge.

Overall, nearly all respondents indicated that good behavior among hunters (91%) and enjoying nature (91%) was either very or extremely important. Getting away from crowds of people (81%), hunting with family (76%) and friend (69%), and reducing tension and stress (62%) were very important to overall hunting satisfaction (Table 3-3). Interestingly, the act of killing a deer was less important than the issues that focused on internalized attributes. Only half of hunters noted that seeing a lot of deer was very or extremely important and less than one-half thought it was important to harvest any deer (46%) or at least one deer (46%), seeing a lot of bucks (32%), and harvesting a large buck (28%). These data strongly indicate that the experience of getting away, enjoying the company of family and friends, and relaxing were much more important than actually killing a deer. This finding further highlights the management challenge of encouraging increased harvest rates.

Section 3: Importance of experiences and feelings towards MDNR

Regionally, ANOVA results indicated significant differences among the study groups for 14 of the 21 listed factors. Generally, early antlerless hunters were more interested in harvesting any deer or at least one deer, and having access to different hunting areas, as compared to other respondents. Earn-a-buck hunters were more interested in harvesting a large buck, having access to different hunting areas, and seeing a lot of bucks, as compared to the other respondents. Conversely, Itasca hunters were less inclined to select access to different hunting areas and finding open public areas (Table 3-4).

Trust in DNR

The Minnesota deer program has been in a state of transition in recent years. Licensing procedures and types have changed, zone boundaries have been modified, new seasons have been instituted, and DNR has embarked on a large project to find assess alternative deer management programs. Because all of this has occurred in a relatively brief period of time (*circa* 2003), we opted to ask a series of questions related to respondents' trust in DNR decisions and staff.

Overall, 62% of respondents believed DNR did a good job of managing deer in Minnesota and 58% agreed DNR would make fair deer management decisions. Trust in good resource decisions (57%), honesty about management decisions (56%), and well-trained managers (55%) ranked next. Slightly less than one-half (49%) of respondents believed DNR listened to deer hunter concerns (Table 3-5). The neutral category did garner 25% to 40% of responses, while the percent disagreeing with each statement ranged from 5% (well-trained biologists) to 16% (DNR listens to deer hunter concerns).

While the mean of all issues exceeded three (neutral) for all issues and study groups, we found differences between all six issues. In general, Itasca hunters were less inclined to indicate agreement with all six issues, as compared to other respondents. Conversely, antler point and earn-a-buck hunters tended to indicate higher levels of agreement with the issues (Table 3-6).

We also examined the effects of overall hunt satisfaction with the trust metrics. In all cases, the vast majority of respondents who were satisfied with their hunt also agreed with the trust statements. However, even those who noted dissatisfaction with their deer season still indicated majority agreement with the trust statements. Of hunters who expressed dissatisfaction, only the statements 'MDNR makes fair decisions' (49%) and 'MDNR has well-trained managers' (48%) achieved less than majority agreement (Table 3-7).

Section 3: Importance of experiences and feelings towards MDNR

Table 3-1. Importance of selected items that should be considered prior to changing deer hunting regulations.

	<i>n</i>	Percent of hunters indicating they agree/disagree this is important when considering changing deer regulations					Mean ¹
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	
Do not result in an increased total buck harvest.	1,910	14.2	24.8	43.4	12.2	5.4	2.70
Do not result in an increased doe harvest.	1,930	4.9	13.5	39.5	27.9	14.1	3.33
Increase DNR's ability to control the deer population.	1,960	15.6	46.7	24.6	8.1	5.0	2.40
Increase hunting opportunity for bowhunters.	1,929	18.4	24.4	42.1	9.2	5.9	2.60
Increase hunting opportunity for muzzleloader hunters.	1,907	15.4	24.1	45.6	9.1	5.9	2.66
Increase hunting opportunity for firearm hunters.	1,998	24.9	40.4	26.7	5.9	2.1	2.20
Increase my own chances of taking an antlered buck.	1,998	22.5	35.0	34.2	6.0	2.4	2.31
Increase my own chances of taking a large antlered buck.	2,002	29.9	33.1	28.9	5.6	2.5	2.18
Increase my own chances of taking antlerless deer.	2,006	18.8	39.4	35.5	4.2	2.1	2.31
Encourage new people to take up deer hunting.	1,983	25.9	35.4	30.4	5.3	3.0	2.24
Lead to a better public image of hunters and hunting.	2,004	44.7	37.1	14.9	1.8	1.4	1.78
Protect the interests of farmers and other landowners.	2,004	39.8	40.2	16.0	2.6	1.5	1.86
Protect areas so that deer do not cause forest and other habitat damages	2,000	26.9	43.1	23.6	4.6	2.0	2.12
Reduce crowding of hunters on public lands.	2,000	36.4	38.9	20.4	2.6	1.8	1.95
Do not result in decreased access to private land	1,944	25.8	33.6	32.0	4.9	3.6	2.27

¹Notes: 1 – Strongly Agree, 2 – Agree, 3 – Neutral, 4 – Disagree, 5 – Strongly Disagree

Section 3: Importance of experiences and feelings towards MDNR

Table 3-2. Importance of selected items that should be considered prior to changing deer hunting regulations, by region.

Issue	Average rating of importance when considering changing deer hunting regulations					Overall mean ¹	F	p
	Antler Point Restriction	Control	Earn-A-Buck	Early Antlerless	Itasca State Park			
<i>(n) range of responses</i>	110 - 119	450 - 476	523 - 562	517 - 541	298 - 318			
Do not result in an increased total buck harvest	2.84	2.57	2.71	2.62	2.96	2.70	7.756	<0.001
Do not result in an increased doe harvest.	3.30	3.29	3.32	3.47	3.16	3.33	4.773	0.001
Increase DNR's ability to control the deer population	2.09	2.59	2.33	2.36	2.45	2.40	7.976	<0.001
Increase hunting opportunity for bowhunters	2.60	2.70	2.47	2.49	2.87	2.60	9.501	<0.001
Increase hunting opportunity for muzzleloader hunters	2.74	2.73	2.72	2.41	2.87	2.66	12.441	<0.001
Increase hunting opportunity for firearm hunters	2.19	2.34	2.22	2.11	2.10	2.20	4.845	0.001
Increase my own chances of taking an antlered buck	2.14	2.35	2.22	2.37	2.36	2.31	3.072	0.016
Increase my own chances of taking a large antlered buck	2.03	2.16	2.06	2.22	2.37	2.18	5.808	<0.001
Increase my own chances of taking antlerless deer	2.13	2.52	2.32	2.12	2.52	2.31	15.203	<0.001
Encourage new people to take up deer hunting	2.14	2.21	2.34	2.13	2.35	2.24	4.217	0.002
Lead to a better public image of hunters and hunting	1.67	1.72	1.85	1.71	1.93	1.78	5.226	<0.001
Protect the interests of farmers and other landowners	1.80	1.68	2.00	1.75	2.10	1.86	16.909	<0.001
Protect areas so that deer do not cause forest and other habitat damage	1.93	2.15	2.09	2.08	2.25	2.12	3.191	0.013
Reduce crowding of hunters on public lands	1.70	1.99	1.84	2.04	2.01	1.95	6.354	<0.001
Do not result in decreased access to private land	2.16	2.37	2.21	2.28	2.24	2.27	2.127	n.s.

¹Notes: 1 – Strongly Agree, 2 – Agree, 3 – Neutral, 4 – Disagree, 5 – Strongly Disagree

Section 3: Importance of experiences and feelings towards MDNR

Table 3-3. Importance of different experiences that contribute to overall hunt satisfaction.

	<i>n</i>	Percent of hunters indicating importance of various experiences to their overall hunting satisfaction					Mean
		Not at all important	Slightly important	Somewhat important	Very important	Extremely important	
Harvest at least one deer	2,025	9.7	16.0	28.6	27.3	18.4	3.28
Access to different hunting areas	2,008	16.3	18.1	26.4	25.8	13.4	3.02
Harvesting any deer	1,995	12.5	15.6	26.1	25.7	20.1	3.25
Being on my own	2,010	21.0	16.9	27.7	21.7	12.7	2.88
Hunting with friends	2,016	5.6	6.7	18.8	37.3	31.6	3.83
Developing skills and abilities	2,019	6.2	9.3	25.7	37.2	21.5	3.58
Hunting with family	2,015	6.1	5.1	12.9	32.8	43.3	4.02
Enjoying nature	2,023	0.7	1.5	7.1	31.4	59.4	4.47
Getting away from crowds	2,010	1.6	4.5	12.6	31.2	50.1	4.24
Getting food for my family	2,011	25.2	19.2	23.6	17.5	14.6	2.77
Getting information about hunting seasons	2,003	6.6	14.6	29.7	31.7	17.4	3.39
Seeing a lot of bucks	2,003	12.3	20.7	34.8	20.2	12.0	2.99
Good behavior among deer hunters	2,024	1.0	1.5	6.3	28.3	62.9	4.51
Having a long deer season	2,014	6.7	13.6	28.5	25.7	25.6	3.50
Hunting areas open to the public	2,011	11.8	11.0	22.0	26.9	28.3	3.49
Harvesting a large buck	1,738	19.9	20.9	30.8	14.6	13.7	2.81
Reducing tension and stress	2,009	6.5	9.4	30.7	30.7	31.2	3.71
Seeing a lot of deer	2,020	3.9	11.0	35.0	31.0	19.1	3.50
Sharing my hunting skills and knowledge	2,012	7.5	12.3	30.1	31.7	18.5	3.42
Thinking about my personal values	2,017	5.3	9.8	24.9	33.6	26.4	3.66
Using my deer hunting equipment	2,021	6.5	12.7	28.8	30.2	21.8	3.48

¹Notes: 1 – Not at all Important, 2 – Slightly Important, 3 – Somewhat Important, 4 – Very Important, 5 – Extremely Important

Section 3: Importance of experiences and feelings towards MDNR

Table 3-4. Importance of different factors that contribute to overall hunting satisfaction, by study group.

Issue	Mean scores for factors that contribute to overall hunting satisfaction					Overall mean	F	p
	Antler Point Restriction	Control	Earn-A-Buck	Early Antlerless	Itasca State Park			
<i>(n) range of responses</i>	97 - 122	291 - 327	447 - 565	422 - 539	397 - 477			
Harvest at least one deer	3.11	3.07	3.36	3.46	3.25	3.28	7.701	<0.001
Access to different hunting areas	3.17	2.61	3.40	2.91	3.07	3.02	27.848	<0.001
Harvesting any deer	3.11	3.06	3.33	3.43	3.16	3.25	6.351	<0.001
Being on my own	2.82	2.73	2.87	3.00	2.95	2.88	3.011	0.017
Hunting with friends	3.84	3.81	3.84	3.69	4.06	3.83	5.636	<0.001
Developing skills and abilities	3.57	3.54	3.64	3.63	3.49	3.58	1.283	n.s.
Hunting with family	4.12	4.07	3.95	4.02	4.03	4.02	1.018	n.s.
Enjoying nature	4.56	4.42	4.50	4.49	4.44	4.47	1.363	n.s.
Getting away from crowds	4.27	4.21	4.27	4.26	4.16	4.24	0.845	n.s.
Getting food for my family	2.44	2.68	2.76	3.15	2.43	2.77	17.764	<0.001
Getting information about hunting seasons	3.45	3.27	3.49	3.54	3.11	3.39	10.124	<0.001
Seeing a lot of bucks	2.87	3.04	3.16	2.88	2.84	2.99	6.048	<0.001
Good behavior among deer hunters	4.60	4.50	4.51	4.51	4.46	4.51	0.681	n.s.
Having a long deer season	3.29	3.42	3.54	3.81	3.10	3.50	20.494	<0.001
Hunting areas open to the public	3.86	2.90	3.90	3.21	3.95	3.49	61.813	<0.001
Harvesting a large buck	2.55	2.80	3.06	2.70	2.70	2.81	8.126	<0.001
Reducing tension and stress	3.78	3.66	3.74	3.79	3.56	3.71	2.234	n.s.
Seeing a lot of deer	3.62	3.43	3.57	3.51	3.42	3.50	2.091	n.s.
Sharing my hunting skills and knowledge	3.46	3.45	3.41	3.50	3.22	3.42	3.460	0.008
Thinking about my personal values	3.77	3.68	3.66	3.73	3.48	3.66	3.054	0.016
Using my deer hunting equipment	3.25	3.45	3.50	3.60	3.38	3.48	3.510	0.007

¹Notes: 1 – Not at all Important, 2 – Slightly Important, 3 – Somewhat Important, 4 – Very Important, 5 – Extremely Important

Section 3: Importance of experiences and feelings towards MDNR

Table 3-5. Respondents' opinions of DNR deer management program, trust in DNR, and professional staff.

	n	Percent indicating how respondents feel about the MDNR and deer management program					Mean ¹
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	
The MDNR does a good job of managing deer in Minnesota	2,022	10.9	51.2	25.2	9.8	2.9	3.57
When deciding about deer management in Minnesota, the MDNR will be open and honest in the things they do and say	2,024	10.5	45.2	33.3	8.3	2.6	3.53
The MDNR can be trusted to make decisions about deer management that are good for the resource	2,026	9.6	46.9	29.9	10.4	3.1	3.50
The MDNR will make decisions about deer management in a way that is fair	2,026	9.2	48.3	31.7	8.4	2.4	3.54
The MDNR has deer managers and biologists who are well-trained for their jobs	2,019	12.8	42.2	39.7	3.7	1.5	3.61
The MDNR listens to deer hunters' concerns	2,024	8.3	40.2	35.9	11.4	4.2	3.37

¹Notes: 1 – Strongly Disagree, 2 – Disagree, 3 – Neither, 4 – Agree, 5 – Strongly Agree

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Table 3-6. Respondents believe that DNR is trustworthy, makes good decisions, and listens to deer hunters.

Issue	Mean score for DNR trust-related issues					Overall mean ¹	F	<i>p</i>
	Antler Point Restriction	Control	Earn-A-Buck	Early Antlerless	Itasca State Park			
<i>(n) range of responses</i>	121 - 122	324 - 327	561 - 564	532 - 538	477 - 479			
The MDNR does a good job of managing deer in Minnesota	3.79	3.47	3.66	3.61	3.46	3.57	6.188	<0.001
When deciding about deer management in Minnesota, the MDNR will be open and honest in the things they do and say	3.71	3.41	3.62	3.56	3.41	3.53	6.615	<0.001
The MDNR can be trusted to make decisions about deer management that are good for the resource	3.70	3.42	3.60	3.49	3.36	3.50	5.771	<0.001
The MDNR will make decisions about deer management in a way that is fair	3.73	3.44	3.66	3.54	3.39	3.54	8.246	<0.001
The MDNR has deer managers and biologists who are well-trained for their jobs	3.84	3.51	3.72	3.61	3.50	3.61	8.665	<0.001
The MDNR listens to deer hunters' concerns	3.52	3.25	3.48	3.40	3.25	3.37	6.129	<0.001

¹Notes: 1 – Strongly Disagree, 2 – Disagree, 3 – Neither, 4 – Agree, 5 – Strongly Agree

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Table 3-7. Percent indicating their agreement with DNR trust questions as compared to overall hunt satisfaction.

Issue	Hunt Satisfaction (3 levels)	<i>n</i>	Percent indicating agreement levels			χ^2	<i>p</i>
			Agree	Neither	Disagree		
The MDNR does a good job of managing deer in Minnesota	Satisfied	1,207	71.3	9.9	18.7	78.377	<0.001
	Neither	487	56.9	17.9	25.3		
	Dissatisfied	242	47.9	13.2	38.8		
When deciding about deer management in Minnesota, the MDNR will be open and honest in the things they do and say	Satisfied	1,080	71.1	10.4	18.5	59.872	<0.001
	Neither	646	59.8	15.5	24.8		
	Dissatisfied	210	49.0	11.9	39.0		
The MDNR can be trusted to make decisions about deer management that are good for the resource	Satisfied	1,099	71.8	10.4	17.8	65.662	<0.001
	Neither	581	57.0	16.4	26.7		
	Dissatisfied	258	51.9	12.4	35.7		
The MDNR will make decisions about deer management in a way that is fair	Satisfied	1,116	72.3	11.0	16.7	79.779	<0.001
	Neither	612	56.5	14.9	28.6		
	Dissatisfied	210	48.6	12.9	38.6		
The MDNR has deer managers and biologists who are well-trained for their jobs	Satisfied	1,066	70.2	11.2	18.7	43.305	<0.001
	Neither	768	59.6	14.3	26.0		
	Dissatisfied	98	48.0	10.2	41.8		
The MDNR listens to deer hunters' concerns	Satisfied	945	72.8	11.1	16.1	69.623	<0.001
	Neither	696	60.2	13.4	26.4		
	Dissatisfied	296	49.7	14.5	35.8		