

SURVEY OF SOUTHEAST AND CENTRAL DEER HUNTER PREFERENCES FOR PROPOSED REGULATION CHANGES IN MINNESOTA

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SUMMARY OF FINDINGS

The Minnesota Department of Natural Resources (MNDNR) Section of Wildlife conducted a survey of firearm white-tailed deer (*Odocoileus virginianus*) hunters to assess support for proposed alternative hunting regulations. Alternative regulations are designed to shift white-tailed deer harvests from yearling bucks to mature bucks and antlerless deer and may be applied in areas that exceed population goals. However, hunter support is critical before the MNDNR can implement the regulations. The southeast and central regions of Minnesota have some of the highest deer densities in the state and were chosen to determine which alternative regulations would be supported by hunters. Surveys were sent to hunters who indicated they had hunted the 3A or 3B season in the southeast region, and hunters in the central region who had hunted in deer permit areas 240, 241, 243, or 244.

Results indicate that hunters from all 3 samples were in favor of regulations that protect a majority of yearling bucks and increase the proportion of mature bucks in the deer population, but hunters from the southeast generally differed from central region hunters in their level of support for specific regulations. Elimination of buck cross-tagging was supported by more southeast hunters than central hunters. An antler point restriction regulation was supported by more hunters than opposed in the southeast, but the opposite was true in the central region. Having a youth-only season was supported by more southeast hunters than central region hunters. Few differences were found in the level of support among years of hunting experience within and among samples. For an antler point restriction regulation, there were no differences in support among the 3 samples, but hunters in the central region with 11-20 years hunting experience had lower levels of opposition than other groups of hunters. A youth-only season was supported by more hunters in the central region with 1-20 years of experience than more experienced hunters. When hunters were divided into groups based on the type of land they hunted, there were differences concerning their level of support for mature buck regulations, elimination of buck cross-tagging, and a youth-only season. Southeast 3A hunters who hunt on leased private land had higher support for mature buck regulations than either southeast 3B hunters or central region hunters. These surveys demonstrate that while most hunters in the study areas support mature buck regulations, there is not majority support for any particular strategy. Southeast hunters tended to be more supportive of eliminating buck cross-tagging, instituting an antler point restriction, and holding a youth-only season than hunters in the central region. Central region hunters tended to be split between supporting and opposing the 3 regulations we proposed in the survey.

INTRODUCTION

In 2005, the MNDNR initiated a study to determine what impact alternative deer hunting regulations (early antlerless season [EA], earn-a-buck [EAB], and antler-point restriction [APR]) would have on deer populations. Another component of the research was to assess hunter support for these hunting regulations. In 2005, a survey was mailed to 6,000 firearm deer hunters and results indicated most hunters (66%) supported the concept of increasing the proportion of antlered bucks in the population; however, no regulation had >50% support (Fulton et al. 2006). Results also suggested that hunters with more hunting experience (>40 years) were less likely to support regulations to increase the proportion of antlered bucks in the herd than those with less hunting experience. Additionally, hunters in the southeast and central regions of the state were most receptive to implementation of alternative regulations. Hunter input was needed to determine which new regulations would be supported by hunters before the MNDNR could consider implementation. The purpose of this study was to assess hunter

support for regulations meant to shift harvest from yearling bucks to antlerless deer in the southeast and central regions of the state.

METHODS

Minnesota residents aged 18 years or older who purchased a firearms license to hunt deer in each study area were included in our hunter survey. Names and addresses of hunters were provided by the electronic licensing system (ELS) maintained by the MNDNR. A total of 6,000 individuals were randomly chosen for the Zone 3A and 3B seasons from the 2008 ELS database ($n = 1,500$ each). The 2009 ELS database was used to select 3,000 individuals who indicated that they hunted in deer areas 240, 241, 243, and 244 (central study area). A self-administered, mail-back questionnaire with a personalized cover letter, and postage-paid return envelope was sent to individuals of the southeast sample in June 2009 and to individuals of the central sample in January 2010. The questionnaire was required 2 sides of a legal-sized piece of paper and was divided into the following categories: (1) hunter background, (2) hunting property, and (3) hunter support for past and proposed regulation changes (Appendix I). Two follow-up surveys were mailed out at 4-week intervals to non-respondents.

We studied the effect hunting experience had on supporting hunting regulations by placing hunters into 1 of the following experience categories: (1) 1-10, (2) 11-20, (3) 21-30, (4) 31-40, and (5) ≥ 40 years. We investigated whether landownership patterns affected regulatory support by asking participants to estimate how much of their time spent hunting was located on: (1) private land they owned, (2) private land they leased for hunting, (3) private land neither owned nor leased, or (4) public land. Responses were on a 4-point scale that ranged from “none” to “all”. Respondents indicating they either spent “most” or “all” of their time hunting on any 1 type of land were included in the landownership analysis.

Data from the 3 study areas were not pooled due to the differences in seasonal framework. Questionnaires returned later than 4 weeks after the last mailing were not included in the analyses. We calculated the frequency score for each proposed regulation change (oppose = 1, support = 2, and neither = 3) in each study area based on hunter experience and type of land hunted.

RESULTS

For the southeast 3A sample, 41 surveys were undeliverable or addressed to out of state hunters (3%), leaving 1,459 potentially returnable and usable questionnaires. Of the 1,459 returnable questionnaires, 891 were returned, for a 61% response rate. For the southeast 3B sample, 44 surveys were undeliverable or addressed to out of state hunters (3%), leaving 1,456 potentially returnable and usable questionnaires. Of the 1,456 returnable questionnaires, 860 were returned, for a 59% response rate. For the central sample, 71 surveys were undeliverable or addressed to out of state hunters (2%), leaving 2,929 potentially returnable questionnaires. Of the 2,929 returnable questionnaires, 2,075 were returned, for a 71% response rate. Seventy-nine surveys were returned incomplete, for a remaining sample size of 1,996 surveys in the central region sample.

Since the response rate for southeast hunters was not $>60\%$, a non-response survey was sent to both 3A and 3B hunters. Four hundred abbreviated surveys were sent out to hunters for each season. Non-response surveys differed from the original survey by not including questions concerning the type of hunter on the land in the opposite season, voluntary harvest restrictions, opinions on past regulation changes, and opinions on delaying the season, consolidating the 3A and 3B seasons, and a youth-only season. Fifty surveys were returned from 3A hunters and 45 surveys were returned from 3B hunters, for a response rate of 13% and 11%, respectively. The number of non-response surveys returned for each season made up only 5% of the total number of surveys returned; therefore, the results were not analyzed to compare differences.

We determined that the hunters who returned surveys did not represent the hunting population (Table 1). Younger hunters were underrepresented and older hunters were over represented, which could have skewed age-based analysis of responses. The only possible effect of the bias for this report was the analysis of how hunting experience impacts levels of support for proposed regulations. Responses were not weighted to take into account the possible bias.

A respondent profile based on demographic data was constructed for each sample (Table 2). Hunter profiles in the 3 survey samples were similar. Most respondents held only a regular firearms license, with southeast 3B hunters having fewer hunters with only a regular firearms license (68%) than southeast 3A hunters (70%) or central hunters (71%). More hunters in the southeast region had both a regular firearms license and archery license (17% and 16%) than hunters in the central sample (12%). The central sample had the highest percentage of hunters with both a regular firearms and muzzleloader license (10%). All 3 license types were held by more southeast 3B hunters (10%) than either southeast 3A hunters (6%) or central hunters (7%). Hunting experience within the particular region was similar across the samples, and ranged from 17 to 18 years. Most hunters were not a member of a deer hunting organization, but more southeast hunters were members of the Minnesota Deer Hunters Association (MDHA) than any other group, whereas more central region hunters were members of the Quality Deer Management Association (QDMA). The percentage of respondents that hunted on each type of land was similar between southeast 3A and 3B hunters, but differed between southeast and central region hunters. More central region hunters did most or all of their hunting on land that they owned (40%) than southeast region hunters (20% and 22%). A majority of southeast region hunters hunted on private land that they neither owned nor leased (58% and 62%), while a smaller percentage of central region hunters (49%) did the same. Central region hunters hunted on public land to a lesser extent (8%) than southeast region hunters (12%). Fewer hunters that bought licenses in the central region hunted (91%) than southeast hunters (98%). Respondents that hunted during a 9-day season (southeast 3B and central region) averaged the same amount of time hunting (5 days), while southeast 3A hunters who had a 7-day season averaged 4 days in the field.

Hunters were asked a series of questions about who else hunted on the private land that they hunted, any type of harvest restrictions used on the land they hunted, and their perceptions about the number of mature bucks and the size of the deer herd (central only) where they hunted (Appendix I). Similar percentages of southeast 3A and 3B hunters who hunted on private land they did not own indicated that a hunter who was not a relative of the landowner (37% and 40%) and/or a hunter who was the landowner or an immediate family member (34% and 37%) hunted on the same land as they did in the opposite deer season. For central hunters, the landowner or immediate family member (75%) and/or a hunter who was a relative (35%) also hunted on the same land during the season as the respondent. Hunters in southeast 3A and 3B who hunted on land they owned responded that family that did not own the property (31%) and/or friends who did not own the property (38% and 31%) hunted on their property in the opposite deer season. Central hunters who hunted on property they owned indicated that family who did not own the property (61%) and/or friends who did not own the property (39%) hunted on their land during the same deer season. Voluntary restrictions on deer harvest were rarely used by hunters in the study areas. In southeast 3A and 3B, 61% and 63% of hunters who hunt on private land indicated that there were no harvest restrictions and 52% of central hunters responded likewise. The most common harvest restriction for all 3 samples was a buck harvest that was limited to large antlered bucks, but any antlerless deer could be taken (20-22%). Hunters from all 3 samples agreed (40-42%) that there were about the same number of mature bucks now that there were 5 years ago. Central hunters were also asked about their perception of the deer herd in the areas where they hunt now as compared to 5 years ago and what they thought of the deer population currently. Most hunters perceived that there were fewer deer now than 5 years ago (49%) or about the same now as compared to 5 years ago (36%). More hunters felt that the deer population was "about right" (54%) than "too low" (32%).

Southeast region respondents were asked about their level of support for regulation changes that have occurred concerning their seasonal framework (Table 3). In general, more hunters support than oppose the changes that have occurred since 2003. Most hunters in both seasons supported having youth participate in both seasons, with 67% of 3A hunters slightly or strongly supporting the change, and 65% of 3B hunters either slightly or strongly supporting the change. Shortening the 3A season by 2 days was not a popular change for most hunters (43% and 45% either strongly or slightly opposed), but lengthening the 3B season was either strongly or slightly supported by more hunters (56% and 54%). Allowing antlerless harvest during the traditional 3A "buck season" was supported by a majority of southeast hunters (58% either strongly or slightly supported the change). More hunters were in favor of the current season (51% or 48% either strongly or slightly support) than opposed (34% either strongly or slightly opposed).

The majority of questions pertaining to proposed regulations were common between the 2 zones, but southeast surveys included questions concerning consolidation of the A and B seasons and restoration of the past seasonal framework, whereas central surveys asked hunters' opinions on limiting the number of buck licenses and enacting mature buck regulations in a specific area versus statewide. Responses to proposed regulations that were asked on only 1 or 2 surveys were summarized in Appendix I. Level of support for proposed regulations that were on all 3 surveys is summarized in Table 4. Overall, hunters in both regions were in favor of regulations that protect a majority of yearling bucks and increase the proportion of mature bucks in the deer populations (52-53%), and oppose delaying the start of the deer firearms season by 1 week (55-56%). But southeast 3A and 3B hunters generally differed from central hunters in level of support for other proposed regulations. Elimination of buck cross-tagging was supported by more southeast 3A and 3B hunters ($\geq 50\%$) than central hunters (45%). Having a youth-only season in October was supported by more southeast hunters (54%) than central hunters (41%). Delaying the start of the firearms season until late November was opposed by more hunters than delaying the season by 1 week, but southeast hunters were less opposed (72%) to the proposed regulation than central hunters (82%). An antler point restriction regulation was supported by more southeast hunters than opposed, but the opposite was true in the central region. In southeast 3A, 45% of hunters supported the regulation, whereas 41% opposed it, and in 3B, 48% of hunters supported the regulation and 37% of hunters opposed. In central, the opinion was split between support (43%) and opposition (46%).

One of the last questions on the southeast survey asked hunters about losing access to property if the 3A and 3B seasons were consolidated (Appendix I). Respondents were split, with 45% of 3A hunters responding that they either strongly or slightly disagreed with the statement about losing access and 41% either strongly or slightly agreed with it. For 3B hunters, the split was narrower, with 43% of hunters either strongly or slightly disagreeing with the statement and 42% either strongly or slightly agreeing with it. One of the final questions on the central survey asked hunters about their satisfaction with their 2009 firearms deer hunt (Appendix I). More hunters in central region were satisfied with their hunt than dissatisfied. Forty-nine percent of hunters were either very or slightly satisfied and 31% of hunters were either very or slightly dissatisfied with their hunt last year.

The hunting experience in a specific season (for southeast hunters) or specific deer permit area (for central hunters) and the type of land hunted was used to analyze hunter's level of support for the proposed regulations (mature buck regulations, elimination of buck cross-tagging, delaying the season, antler point restriction, and a youth-only season). Hunters' responses for each survey are summarized in Tables 5-10. Few differences were found among years of hunting experience within or among samples (Tables 5-7). There were differences in the level of support among hunters when asked about delaying the start of the season until late November. Central hunters were much more opposed to delaying the start of the season than southeast hunters. At every level of experience, $\geq 80\%$ of central hunters opposed the regulation, whereas only hunters with 40+ years of hunting experience in southeast 3B season had $\geq 80\%$ opposition. For an antler point restriction regulation, there were no differences in

support among the 3 samples, but hunters in the central region with 11-20 years hunting experience had lower levels of opposition (40%) than other levels of experience. A youth-only season was supported by more hunters (40-42%) in the central region with 1-20 years of experience than hunters with greater years of experience.

When hunters were divided into groups based on the type of land they hunted most or all of the time, there were differences concerning their level of support for mature buck regulations, elimination of buck cross-tagging, and a youth-only season (Tables 8-10). Overall, hunters who hunt on private land they own or on private land they neither own nor lease had >50% support for each sample, but there were differences among the sample in regards to leased land and public land. Southeast 3A hunters who hunt on private land they leased had much higher support for mature buck regulations (67%) than either 3B hunters (33%) or central hunters (44%). Public land hunters in the central region had higher levels of support (60%), than southeast 3B hunters (53%) for mature buck regulations. Southeast 3A hunters who leased private land had much higher levels of support for mature buck regulations (67%), than hunters who neither owned nor leased land they hunted (51%). There were differences in level of support for the elimination of buck cross-tagging within southeast 3A and among the 3 samples. Elimination of buck cross-tagging had higher levels of support for southeast 3A hunters who hunted on private land they owned (54%) and public land hunters (57%), than hunters who lease land (43%) or who neither lease nor own the land they hunt (49%). Overall, hunters in the central and southeast 3B samples had higher levels of opposition to buck cross-tagging than southeast 3A hunters. Hunters in the southeast region had higher levels of support for a youth-only season than hunters in the central region. In the southeast region, there were lower levels of support for hunters who hunt on leased land (33% and 39%), but in the central region, hunters in this category had the highest level of support among central region hunters (47%). Hunters in the central region who hunted primarily on land they owned had lower levels of support (36%) than hunters on other types of private land (47% and 45%) and public land (43%).

DISCUSSION

While a majority of hunters in both regions support mature buck regulations, they generally do not agree which alternative regulations should be enacted. Delaying the start of the season 1 week or until late November was not supported by hunters in either study area, but support for the elimination of buck cross-tagging, antler point restriction, and a youth-only season differed between areas. Southeast hunters tended to be more supportive of eliminating buck cross-tagging, instituting an antler point restriction, and conducting a youth-only season than hunters in the central region. Central region hunters, on the other hand, tended to be split between supporting or opposing the 3 regulations. Even though central region hunters did not strongly support the proposed alternative regulations, a majority did support mature buck regulations. One possible explanation is that a regulation that would be supported by more hunters was not on the questionnaire. An early antlerless season was not included in our survey, but could be considered a mature buck regulation (Fulton et al. 2006). They reported that an early antlerless season had the highest support (49.9%) of the alternative regulations tested for all hunters statewide. In 2007 and 2008, an early antlerless season was in place in all or part of the central study area. Hunters in the central study area, if given the choice of the familiar early antlerless season, may have supported this regulation over the other regulations. Further work is needed to assess central region hunter support of mature buck regulations not addressed in these surveys.

LITERATURE CITED

Fulton, D. C, L. Cornicelli, and M. D. Grund. 2006. 2005 Survey of deer hunter satisfaction and preferences for regulation changes in Minnesota. Unpublished project report. Minnesota Cooperative Fish and Wildlife Research Unit, St. Paul. 81pp.

Table 1. Age-biased sampling of southeast and central region white-tailed deer hunters, Minnesota, 2008 and 2009.

Age (yr)	Southeast hunters		Central hunters	
	% of Licenses	% of Sample	% of Licenses	% of Sample
18-29	23.4	17.1	24.4	20.0
30-39	18.4	15.4	19.6	17.4
40-49	22.0	21.8	23.7	26.0
50-59	19.1	22.3	19.6	20.5
60+	17.1	23.5	12.7	16.1

Table 2. Profile of white-tailed deer hunter respondents, Minnesota, 2008 (southeast region) and 2009 (central region).

Demographic Characteristics	Southeast 3A hunters			Southeast 3B hunters			Central hunters		
	<i>n</i>	Percent	Mean	<i>n</i>	Percent	Mean	<i>n</i>	Percent	Mean
License Type									
Regular	606	70		561	68		1,406	71	
Regular + archery	145	17		130	16		237	12	
Regular + muzzleloader	57	7		58	7		202	10	
All 3 types	56	6		80	10		136	7	
Hunting experience (yr)	828		18	801		18	1871		17
Member of hunting group									
No	715	85		717	88		1,744	88	
Yes – MDHA	30	24		30	30		153	12	
Yes – BWA	14	11		9	9		0	0	
Yes – QDMA	9	7		2	2		65	27	
Yes – Other	22	18		20	20		34	14	

Table 2. continued.

Land hunted – most or all									
Private – I own	188	22		166	20		792	40	
Private – I lease	24	3		23	3		62	3	
Private – Neither	487	58		509	62		956	49	
Public	101	12		97	12		151	8	
Hunter characteristics									
Hunt last season?									
Yes	808	98		780	98		1,898	91	
Days hunted (days)									
1	22	3	4	9	1	5	66	3	5
2	132	17		90	12		323	17	
3	152	19		118	15		227	12	
4	145	19		141	18		306	16	
5	135	17		149	19		304	16	
6	48	6		78	10		211	11	
7	146	19		84	11		152	8	
8				39	5		72	4	
9				68	9		242	13	

Table 3. Level of support for past white-tailed deer harvest regulation changes in southeast region, Minnesota, 2008.

Regulations	<i>n</i>	Strongly oppose	Slightly oppose	Neither	Slightly support	Strongly support	Don't know
Allowing youth to hunt both 3A and 3B season							
3A Hunters	809	10%	7%	12%	15%	52%	4%
3B Hunters	783	9%	8%	16%	17%	48%	3%
Shortening the 3A season by 2 days							
3A Hunters	809	31%	12%	16%	12%	25%	4%
3B Hunters	776	32%	13%	16%	13%	22%	5%
Lengthening the 3B season by 2 days							
3A Hunters	813	18%	8%	16%	14%	42%	3%
3B Hunters	774	17%	8%	17%	14%	40%	4%
Allowing antlerless harvest during 3A							
3A Hunters	816	19%	9%	11%	17%	41%	3%
3B Hunters	778	17%	10%	13%	16%	42%	2%
The current season structure							
3A Hunters	818	19%	15%	13%	18%	33%	3%
3B Hunters	779	19%	15%	14%	16%	32%	3%

Table 4. Support for select proposed white-tailed deer harvest regulations for southeast 3A (2008), 3B (2008), and central region hunters (2009), Minnesota.

Regulations	<i>n</i>	Oppose	Support	Neither
DNR should enact regulations that protect a majority of yearling bucks and increase the proportion of mature bucks in the deer population				
Southeast 3A hunters	803	30%	52%	18%
Southeast 3B hunters	765	27%	53%	20%
Central hunters	1,940	31%	52%	17%
Eliminate buck cross-tagging				
Southeast 3A hunters	822	38%	51%	11%
Southeast 3B hunters	788	41%	50%	9%
Central hunters	1,977	45%	45%	10%
Delay the start of firearms deer season one week				
Southeast 3A hunters	824	55%	32%	13%
Southeast 3B hunters	784	56%	31%	14%
Central hunters	1,981	56%	31%	12%
Delay the start of firearms deer season until late November				
Southeast 3A hunters	824	72%	17%	11%
Southeast 3B hunters	786	72%	18%	10%
Central hunters	1,978	82%	10%	8%
Institute an antler point restriction				
Southeast 3A hunters	819	41%	45%	14%
Southeast 3B hunters	780	37%	48%	14%
Central hunters	1,971	46%	43%	11%
Conduct a 4-day youth-only season in mid-October				
Southeast 3A hunters	817	29%	54%	17%
Southeast 3B hunters	776	30%	54%	16%
Central 2 hunters	1,971	44%	41%	15%

Table 5. Hunter support of proposed white-tailed deer harvest regulations according to hunting experience in the southeast 3A region sample, Minnesota, 2008.

Years	Enact regulations to protect yearling bucks		Eliminate buck cross-tagging		Delay start of season 1 week		Delay start of season until late November		Institute antler point restriction		Conduct 4-day youth-only hunt	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1-10												
Oppose	85	29%	106	35%	160	54%	199	67%	114	39%	83	28%
Support	155	53%	160	54%	101	34%	58	20%	140	47%	165	55%
Neither	50	17%	33	11%	36	12%	40	13%	42	14%	51	17%
11-20												
Oppose	58	30%	72	37%	107	54%	147	75%	78	40%	63	33%
Support	104	54%	98	50%	65	33%	29	15%	94	48%	94	49%
Neither	32	16%	26	13%	25	13%	21	11%	25	13%	34	18%
21-30												
Oppose	48	33%	58	38%	85	56%	114	75%	60	40%	40	27%
Support	73	50%	72	48%	44	29%	21	14%	68	45%	86	57%
Neither	24	17%	21	14%	23	15%	17	11%	23	15%	24	16%
31-40												
Oppose	31	33%	48	51%	60	62%	74	76%	46	48%	26	27%
Support	47	50%	40	42%	28	29%	18	19%	36	38%	56	58%
Neither	16	17%	7	7%	9	15%	5	5%	14	15%	15	15%
40+												
Oppose	11	22%	21	43%	26	53%	35	71%	22	46%	11	23%
Support	22	45%	24	49%	16	33%	9	18%	18	38%	26	54%
Neither	16	33%	4	8%	7	14%	5	10%	8	17%	11	23%

Table 6. Hunter support of proposed white-tailed deer harvest regulations according to hunting experience in the southeast 3B region sample, Minnesota, 2008

Years	Enact regulations to protect yearling bucks		Eliminate buck cross-tagging		Delay start of season 1 week		Delay start of season until late November		Institute antler point restriction		Conduct 4-day youth-only hunt	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1-10												
Oppose	75	29%	104	39%	150	56%	187	70%	96	36%	77	29%
Support	134	51%	138	51%	80	30%	47	17%	124	47%	147	55%
Neither	53	20%	27	10%	37	14%	35	13%	46	17%	43	16%
11-20												
Oppose	59	28%	87	40%	119	55%	156	73%	84	39%	72	33%
Support	110	53%	111	51%	64	30%	39	18%	105	48%	115	53%
Neither	40	19%	19	9%	33	15%	20	9%	28	13%	28	13%
21-30												
Oppose	33	23%	61	42%	72	49%	100	68%	50	35%	42	30%
Support	81	56%	67	46%	57	39%	34	23%	77	53%	77	54%
Neither	31	21%	18	12%	17	12%	13	9%	17	12%	23	16%
31-40												
Oppose	25	31%	37	45%	45	54%	64	77%	32	39%	25	31%
Support	42	53%	41	49%	26	31%	14	17%	40	48%	41	51%
Neither	13	16%	5	6%	13	15%	5	6%	11	13%	15	19%
40+												
Oppose	13	28%	21	43%	32	67%	41	84%	20	42%	10	20%
Support	27	57%	24	49%	9	19%	3	6%	20	42%	31	63%
Neither	7	15%	4	8%	7	15%	5	10%	8	17%	8	16%

Table 7. Hunter support of proposed white-tailed deer harvest regulations according to hunting experience in the central region sample, Minnesota, 2009.

Years	Enact regulations to protect yearling bucks		Eliminate buck cross-tagging		Delay start of season 1 week		Delay start of season until late November		Institute antler point restriction		Conduct 4-day youth-only hunt	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1-10												
Oppose	227	29%	343	44%	436	55%	626	80%	364	47%	313	40%
Support	418	54%	355	45%	242	31%	83	11%	324	41%	337	43%
Neither	126	16%	88	11%	109	14%	76	10%	93	12%	132	17%
11-20												
Oppose	134	29%	202	43%	273	58%	382	80%	189	40%	198	42%
Support	254	55%	222	47%	133	28%	49	10%	231	49%	197	42%
Neither	76	16%	48	10%	68	14%	42	9%	51	11%	75	16%
21-30												
Oppose	102	34%	156	51%	176	58%	261	86%	152	50%	149	49%
Support	147	49%	129	43%	89	30%	24	8%	121	40%	115	38%
Neither	48	16%	18	6%	36	12%	17	6%	29	10%	39	13%
31-40												
Oppose	58	31%	82	44%	105	56%	157	84%	86	46%	102	55%
Support	91	49%	85	45%	63	34%	20	11%	86	46%	58	31%
Neither	36	19%	21	11%	19	10%	10	5%	15	8%	27	14%
40+												
Oppose	42	40%	50	46%	58	53%	95	87%	58	54%	60	56%
Support	44	42%	52	48%	45	41%	7	6%	37	34%	40	37%
Neither	20	19%	6	6%	6	6%	7	6%	13	12%	8	7%

Table 8. Hunter support of proposed white-tailed deer harvest regulations according to land hunted in southeast 3A region sample, Minnesota, 2008.

Type of Land	Enact regulations to protect yearling bucks		Eliminate buck cross-tagging		Delay start of season 1 week		Delay start of season until late November		Institute antler point restriction		Conduct 4-day youth-only hunt	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Private land I own												
Oppose												
Support	49	30%	57	34%	83	49%	119	72%	71	43%	42	25%
Neither	87	54%	93	56%	62	37%	29	18%	71	43%	88	53%
	25	16%	17	10%	23	14%	17	10%	22	13%	37	22%
Private land I lease												
Oppose	5	24%	7	33%	14	67%	17	81%	9	43%	8	38%
Support	14	67%	9	43%	5	24%	3	14%	8	38%	7	33%
Neither	2	10%	5	24%	2	10%	1	5%	4	19%	6	29%
Private land neither owned/leased												
Oppose	138	30%	198	42%	277	58%	340	71%	184	39%	138	29%
Support	240	51%	232	49%	141	30%	80	17%	225	47%	258	55%
Neither	89	19%	46	10%	59	12%	58	12%	67	14%	77	16%
Public land												
Oppose	91	94%	25	28%	42	47%	64	72%	31	35%	36	35%
Support	6	6%	48	54%	36	40%	16	18%	42	48%	48	48%
Neither	0	0%	16	18%	11	12%	9	10%	15	17%	17	17%

Table 9. Hunter support of proposed white-tailed deer harvest regulations according to land hunted in southeast 3B region sample, Minnesota, 2008.

Type of Land	Enact regulations to protect yearling bucks		Eliminate buck cross-tagging		Delay start of season 1 week		Delay start of season until late November		Institute antler point restriction		Conduct 4-day youth-only hunt	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Private land I own												
Oppose												
Support	27	19%	46	32%	84	59%	101	72%	45	32%	40	29%
Neither	77	55%	82	58%	39	27%	22	16%	78	55%	72	52%
	35	25%	14	10%	19	13%	17	12%	19	13%	26	19%
Private land I lease												
Oppose	7	39%	10	53%	13	72%	12	67%	10	53%	6	33%
Support	6	33%	7	37%	3	17%	4	22%	6	32%	7	39%
Neither	5	28%	2	11%	2	11%	2	11%	3	16%	5	28%
Private land neither owned/leased												
Oppose	142	30%	204	42%	265	54%	358	73%	187	38%	149	31%
Support	250	53%	239	49%	155	32%	85	17%	226	47%	265	55%
Neither	84	18%	48	10%	69	14%	49	10%	73	15%	69	14%
Public land												
Oppose	22	30%	36	49%	43	57%	51	68%	29	40%	17	23%
Support	39	53%	32	43%	22	29%	16	21%	39	53%	44	60%
Neither	12	16%	6	8%	10	13%	8	11%	5	7%	13	18%

Table 10. Hunter support of proposed white-tailed deer harvest regulations according to land hunted in the central region sample, Minnesota, 2009.

Type of Land	Enact regulations to protect yearling bucks		Eliminate buck cross-tagging		Delay start of season 1 week		Delay start of season until late November		Institute antler point restriction		Conduct 4-day youth-only hunt	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Private land I own												
Oppose												
Support	243	34%	324	44%	427	58%	610	83%	335	46%	363	49%
Neither	370	51%	350	47%	230	31%	76	10%	332	45%	265	36%
	111	15%	63	9%	81	11%	52	7%	68	9%	107	15%
Private land I lease												
Oppose	17	34%	25	50%	19	38%	37	76%	20	40%	17	35%
Support	22	44%	20	40%	22	44%	8	16%	23	46%	23	47%
Neither	11	22%	5	10%	9	18%	4	8%	7	14%	9	18%
Private land neither owned/leased												
Oppose	268	31%	410	46%	518	58%	738	83%	417	47%	349	39%
Support	446	51%	390	44%	255	29%	74	8%	361	41%	396	45%
Neither	159	18%	91	10%	121	14%	79	9%	110	12%	144	16%
Public land												
Oppose	34	26%	53	40%	70	53%	103	77%	60	45%	60	45%
Support	79	60%	64	48%	45	34%	18	14%	54	41%	57	43%
Neither	19	14%	16	12%	18	14%	12	9%	18	14%	15	11%

Profile of Respondents – Zone 3A Deer Hunters

Demographic Characteristics	<i>n</i>	Percent
Did you hunt during the 2008 firearm deer season?		
Yes	808	98%
No	14	2%
Total	822	
Did you hunt another season in 2008?		
No	606	70%
Yes – Archery	145	17%
Yes – Muzzleloader	57	7%
Yes – All	56	6%
Total	864	
Which one permit area did you hunt most often during the firearms deer season?		
338	38	5%
339	28	4%
341	82	11%
342	74	10%
343	93	13%
344	57	8%
345	56	8%
346	81	11%
347	72	10%
348	72	10%
349	80	11%
Total	733	
During 2008, how many days did you hunt during the firearms season?		
1	22	3%
2	132	17%
3	152	19%
4	145	19%
5	135	17%
6	48	6%
7	146	19%
Average	4	
Total	780	

Including 2008, how many years have you been hunting deer in Zone 3?

1-10	315	38%
11-20	205	25%
21-30	154	19%
31-40	100	12%
>40	50	6%
Average	18	
Total	828	

Are you a member of an organized deer hunting group? If yes, which group(s) do you belong to?

No	715	85%
Yes	125	15%
MDHA	30	24%
BWA	14	11%
QDMA	9	7%
Other	22	18%
Total	840	

How much of your deer hunting did you do on each of the following types of land during the 2008 firearm deer hunting season?

	<i>n</i>	None	Some	Most	All
Land I own	840	69%	8%	8%	15%
Land I lease	834	97%	1%	1%	1%
Neither own/lease	841	27%	14%	15%	15%
Public land	840	71%	16%	4%	4%

Hunting Behavior and Attitudes

	<i>n</i>	Percent
If you hunted on private land that you did not own during the 3A season, to the best of your knowledge who hunted that land during the 3B season:		
Landowner and/or immediate family	230	34%
Hunter who is not a relative of the landowner	246	37%
Hunter who is a relative of the landowner	146	22%
Nobody else hunts on this property during 3B	108	16%
Don't know	115	17%
Total	671	

If you hunted on private land that you own during the 3A season, who hunted on your property during the 3B season?

Another party that also owns the property	28	9%
Friends that do not own the property	120	38%
Family that does not own the property	98	31%
Any hunter who asks permission	25	8%
Nobody else hunts my property during the 3B season	81	25%
Don't know	48	15%
Total	318	

Please indicate if any voluntary harvest restrictions apply to the property you hunted.

Antlerless harvest restricted but can take any buck	28	4%
Buck harvest restricted to only large antlered bucks but can take any antlerless deer	162	22%
Buck harvest restricted to only large antlered bucks and antlerless harvest restricted	22	3%
No restrictions on the type of deer that can be harvested	445	61%
Don't know	76	10%
Total	733	

Which statement best describes the number of mature bucks over the past five years in the Zone 3A area you hunted?

Fewer mature bucks now than 5 years ago	202	25%
About the same number of mature bucks now as 5 years ago	343	42%
More mature bucks now than 5 years ago	136	17%
Don't know	131	16%
Total	812	

Please indicate your level of agreement with the following statement, "If the 3A and 3B deer seasons were consolidated into one 16-day season, I (and/or my hunting party) would lose access to the property we currently hunt".

Strongly Disagree	292	36%
Slightly Disagree	70	9%
Slightly Agree	98	12%
Strongly Agree	234	29%
Don't Know	121	15%
Total	815	

Beginning in 2003, the DNR has made several changes to the 3A and 3B seasons. Please indicate your level of support for the changes that have already occurred.

	<i>n</i>	Strongly oppose	Slightly oppose	Neither	Slightly support	Strongly support	Don't know
Allowing youth to hunt both the 3A and 3B seasons	809	10%	7%	12%	15%	52%	4%
Shortening the 3A season by 2 days (total of 7 days)	809	31%	12%	16%	12%	25%	4%
Lengthening the 3B season by 2 days (total of 9 days)	813	18%	8%	16%	14%	42%	3%
Allowing antlerless harvest during the 3A season	816	19%	9%	11%	17%	41%	3%
The current season structure that is currently in place, which is the 7-day 3A and 9-day 3B season	818	19%	15%	13%	18%	33%	3%

Please indicate your support or opposition to the following statements about potential deer management changes. Responses of 'neither' mean you neither support nor oppose the proposed regulation and would continue to hunt your traditional location if regulations were changed. Please check one box on each line.

	<i>n</i>	Oppose	Support	Neither
DNR should enact regulations that protect a majority of yearling bucks and increase the proportion of mature bucks in the deer population	803	30%	52%	18%
Eliminate buck cross-tagging (both seasons)	822	38%	51%	11%
Delay the 3A deer season one week	824	55%	32%	13%
Delay the 3A deer season until late November	824	72%	17%	11%
Consolidate the 3A and 3B deer seasons	825	57%	32%	11%
Institute an antler point restriction (both seasons)	819	41%	45%	14%
Conduct a 4-day youth-only season in mid-October	817	29%	54%	17%
DNR should restore the 3A season to 9 days	820	38%	42%	20%
DNR should restore the 3B season to 7 days	820	43%	33%	24%

Profile of Respondents – Zone 3B Deer Hunters

Demographic Characteristics	<i>n</i>	Percent
Did you hunt during the 2008 firearm deer season?		
Yes	780	98%
No	14	2%
Total	794	
Did you hunt another season in 2008?		
No	561	68%
Yes – Archery	130	16%
Yes – Muzzleloader	58	7%
Yes – All	80	10%
Total	829	
Which one permit area did you hunt most often during the firearms deer season?		
338	44	6%
339	23	3%
341	111	15%
342	90	12%
343	76	10%
344	45	6%
345	52	7%
346	75	10%
347	58	8%
348	58	8%
349	92	13%
Total	724	
During 2008, how many days did you hunt during the firearms season?		
1	9	1%
2	90	12%
3	118	15%
4	141	18%
5	149	19%
6	78	10%
7	84	11%
8	39	5%
9	68	9%
Average	5	
Total	776	

Including 2008, how many years have you been hunting deer?

1-10	150	22%
11-20	176	26%
21-30	155	22%
31-40	122	18%
>40	86	12%
Average	24	
Total	689	

Including 2008, how many years have you been hunting deer in Zone 3?

1-10	283	35%
11-20	230	29%
21-30	151	19%
31-40	84	10%
>40	53	7%
Average	18	2%
Total	801	

Are you a member of an organized deer hunting group? If yes, which group(s) do you belong to?

No	717	88%
Yes	100	12%
MDHA	30	30%
BWA	9	9%
QDMA	2	2%
Other	20	20%
Total	817	

How much of your deer hunting did you do on each of the following types of land during the 2008 firearm deer hunting season?

	n	None	Some	Most	All
Land I own	823	70%	9%	8%	12%
Land I lease	824	96%	1%	1%	2%
Neither own/lease	826	22%	14%	19%	46%
Public land	822	70%	17%	4%	8%

Hunting Behavior and Attitudes

	<i>n</i>	Percent
If you hunted on private land that you did not own during the 3B season, to the best of your knowledge who hunted that land during the 3A season:		
Landowner and/or immediate family	257	37%
Hunter who is not a relative of the landowner	272	40%
Hunter who is a relative of the landowner	156	23%
Nobody else hunts on this property during 3B	92	13%
Don't know	124	18%
Total	688	

If you hunted on private land that you own during the 3B season, who hunted on your property during the 3A season?

Another party that also owns the property	23	7%
Friends that do not own the property	100	31%
Family that does not own the property	99	31%
Any hunter who asks permission	37	12%
Nobody else hunts my property during the 3B season	86	27%
Don't know	60	19%
Total	319	

Please indicate if any voluntary harvest restrictions apply to the property you hunted.

Antlerless harvest restricted but can take any buck	25	4%
Buck harvest restricted to only large antlered bucks but can take any antlerless deer	143	20%
Buck harvest restricted to only large antlered bucks and antlerless harvest restricted	22	3%
No restrictions on the type of deer that can be harvested	442	62%
Don't know	80	11%
Total	712	

Which statement best describes the number of mature bucks over the past five years in the Zone 3B area you hunted?

Fewer mature bucks now than 5 years ago	191	24%
About the same number of mature bucks now as 5 years ago	318	40%
More mature bucks now than 5 years ago	134	17%
Don't know	146	19%
Total	789	

Please indicate your level of agreement with the following statement, "If the 3A and 3B deer seasons were consolidated into one 16-day season, I (and/or my hunting party) would lose access to the property we currently hunt".

Strongly Disagree	258	33%
Slightly Disagree	80	10%
Slightly Agree	111	14%
Strongly Agree	218	28%

Don't Know		116	15%
Total		783	

Beginning in 2003, the DNR has made several changes to the 3A and 3B seasons. Please indicate your level of support for the changes that have already occurred.

	<i>n</i>	Strongly oppose	Slightly oppose	Neither	Slightly support	Strongly support	Don't know
Allowing youth to hunt both the 3A and 3B seasons	783	9%	8%	16%	17%	48%	3%
Shortening the 3A season by 2 days (total of 7 days)	776	32%	13%	16%	13%	22%	5%
Lengthening the 3B season by 2 days (total of 9 days)	774	17%	8%	17%	14%	40%	4%
Allowing antlerless harvest during the 3A season	778	17%	10%	13%	16%	42%	2%
The current season structure that is currently in place, which is the 7-day 3A and 9-day 3B season	779	19%	15%	14%	16%	32%	3%

Please indicate your support or opposition to the following statements about potential deer management changes. Responses of 'neither' mean you neither support nor oppose the proposed regulation and would continue to hunt your traditional location if regulations were changed. Please check one box on each line.

	<i>n</i>	Oppose	Support	Neither
DNR should enact regulations that protect a majority of yearling bucks and increase the proportion of mature bucks in the deer population	765	27%	53%	20%
Eliminate buck cross-tagging (both seasons)	788	41%	50%	9%
Delay the 3A deer season one week	784	56%	31%	14%
Delay the 3A deer season until late November	786	72%	18%	10%
Consolidate the 3A and 3B deer seasons	779	56%	33%	11%
Institute an antler point restriction (both seasons)	780	37%	48%	14%
Conduct a 4-day youth-only season in mid-October	776	30%	54%	16%
DNR should restore the 3A season to 9 days	776	40%	41%	19%
DNR should restore the 3B season to 7 days	773	43%	34%	23%

Profile of Respondents – Zone 2 Deer Hunters

Demographic Characteristics	<i>n</i>	Percent
Did you hunt during the 2009 firearm deer season?		
Yes	1,981	99%
No	15	1%
Total	1,996	
Did you hunt another season in 2009?		
No	1,406	71%
Yes – Archery	237	12%
Yes – Muzzleloader	202	10%
Yes – All	136	7%
Total	1,981	
Which one permit area did you hunt most often during the firearms deer season?		
240	725	39%
241	383	20%
243	303	16%
244	408	22%
Other	53	3%
Total	1,872	
During 2009, how many days did you hunt during the firearms season?		
1	66	3%
2	323	17%
3	227	12%
4	306	16%
5	304	16%
6	211	11%
7	152	8%
8	72	4%
9	242	13%
Average	5	
Total	1,903	
Including 2009, how many years have you been hunting deer with a firearm?		
1-10	391	20%
11-20	437	22%
21-30	438	22%
31-40	374	19%
>40	319	16%
Average	26	
Total	1,959	

Including 2009, how many years have you hunted deer in the area listed in 1C?

1-10	792	42%
11-20	475	25%
21-30	305	16%
31-40	188	10%
>40	111	6%
Average	17	
Total	1,871	

Are you a member of an organized deer hunting group? If yes, which group(s) do you belong to?

No	1,744	88%
Yes	239	12%
MDHA	153	64%
BWA	0	0%
QDMA	65	27%
Other	34	14%
Total	1,983	

How much of your deer hunting did you do on each of the following types of land during the 2009 firearm deer hunting season?

	n	None	Some	Most	All
Land I own	1962	54%	6%	11%	30%
Land I lease	1959	95%	2%	1%	2%
Neither own/lease	1965	40%	11%	9%	40%
Public land	1959	79%	13%	3%	5%

Hunting Behavior and Attitudes

	<i>n</i>	Percent
If you hunted on private land that you did not own during the firearm season, to the best of your knowledge who hunted that land the firearm season:		
Landowner and/or immediate family	1,009	75%
Hunter who is not a relative of the landowner	396	30%
Hunter who is a relative of the landowner	464	35%
Nobody else hunts on this property during 3B	111	8%
Don't know	47	4%
Total	1,339	

If you hunted on private land that you own during the firearm season, who hunted on your property?

Another party that also owns the property	259	27%
Friends that do not own the property	378	39%
Family that does not own the property	596	61%
Any hunter who asks permission	36	4%
Nobody else hunts my property during the 3B season	139	14%
Don't know	33	3%
Total	971	

Please indicate if any voluntary harvest restrictions apply to the property you hunted.

Antlerless harvest restricted but can take any buck	217	12%
Buck harvest restricted to only large antlered bucks but can take any antlerless deer	360	20%
Buck harvest restricted to only large antlered bucks and antlerless harvest restricted	125	7%
No restrictions on the type of deer that can be harvested	934	52%
Don't know	158	9%
Total	1,794	

Which statement best describes your perception of deer population size over the past five years in the deer area you hunted?

Fewer deer now than 5 years ago	973	49%
About the same number of deer now as 5 years ago	707	36%
More deer now than 5 years ago	186	9%
Don't know	115	6%
Total	1,981	

Which statement best describes the number of mature bucks over the past 5 years in the deer area you hunted?

Fewer mature bucks now than 5 years ago	682	34%
About the same number of mature bucks now as 5 years ago	790	40%
More mature bucks now than 5 years ago	291	15%
Don't know	222	11%
Total	1,985	

Do you believe the deer population in the area you hunt is,

Too Low	627	32%
About right	1,078	54%
Too High	139	7%
Don't know	138	7%
Total	1,982	

Overall, how satisfied were you with your 2009 firearms deer hunt?

Very Dissatisfied	274	14%
Slightly Dissatisfied	334	17%
Neither	390	20%
Slightly Satisfied	457	23%
Very Satisfied	503	26%
Total	1,958	

Please indicate your support or opposition to the following statements about potential deer management changes. Responses of 'neither' mean you neither support nor oppose the proposed regulation and would continue to hunt your traditional location if regulations were changed. Please check one box on each line.

	<i>n</i>	Oppose	Support	Neither
In general, would you oppose or support a regulation that would increase the proportion of antlered bucks in the area you hunt most often	1,946	23%	56%	21%
DNR should enact regulations that protect a majority of yearling bucks and increase the proportion of mature bucks in the deer population	1,940	31%	52%	17%
Eliminate buck cross-tagging	1,977	45%	45%	10%
Delay the firearm deer season one week	1,981	56%	31%	12%
Delay the firearm deer season until late November	1,978	82%	10%	8%
Institute an antler point restriction (both seasons)	1,971	46%	43%	11%
Conduct a 4-day youth-only season in mid-October	1,971	44%	41%	15%
Limit the number of buck licenses	1,973	69%	21%	10%