

# **2009 Survey of Southeastern Minnesota Firearm Deer Hunter Preferences for Regulatory Change**

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## *Introduction*

The 3A and 3B firearm deer seasons are currently unique in Minnesota in that a person cannot hunt both seasons. When originally designed, the intent of the 3B season was to allow for population management through antlerless deer harvest while the earlier 3A season was termed the “buck season” because antlerless permits were not available. Given the growth of local deer populations, beginning in 2003, the Department of Natural Resources (DNR) made antlerless permits available in the 3A season. Also in 2003, several other changes were instituted to improve hunter and harvest distribution that included shortening the 3A season by 2 days and lengthening the 3B season by 2 days. In 2004, youth hunters were allowed to hunt both seasons (for simplicity, the 2004 youth change will be included in the ‘suite’ of 2003 changes). For the 2009 season, only 1 deer permit area (344) did not allow over-the-counter antlerless hunting during the 3A season.

There has been significant, but divergent interest regarding how southeastern deer populations should be managed. The historic interest in preserving deer hunting opportunity, expansion in local deer populations, and opposing desires from different interest groups generated the need to assess hunter support for changes in southeast deer hunting regulations. For example, firearms hunters (both from organizations and individuals) have identified a range of concepts from reinstating the ‘buck only’ season to delaying the deer season until late November and everything in between. Concurrently, bowhunters have advocated for a later gun season to reduce their competition for hunting bucks during the rut. This survey attempts to quantify hunter desires related to regulatory change.

## *Methods*

The study sample was equally divided between the Zone 3A and 3B seasons. The survey included 10 questions ranging from area hunted to support for regulations designed to manage for a higher proportion of mature bucks. In total, 1,500 individuals from each group were selected at random from the 2008 DNR Electronic License Sales license database. The samples were drawn using stratified random sampling of 2008 licensed deer hunters aged 18 years or older. At the time of license purchase, hunters are asked to indicate which permit area they hunt most often. Deer harvest data indicates ~90% of successful hunters harvest a deer in the permit area they say they hunt most often. For this reason, we used the hunters’ responses to the question of which deer permit area they hunt most often as the basis for stratification of the sample.

Survey design and implementation generally followed Dillman's (2000) Tailored Design Method. A draft survey was developed and comments were solicited from the Minnesota Deer Hunters Association (MDHA), Bluffland Whitetails Association (BWA), and the Quality Deer Management Association (QDMA). Several questions were revised to reflect comments received from those groups. We distributed 3 complete mailings (including personalized cover letter, survey, and business-reply envelope) and a non-response check, which included basic questions related to their hunt.

To compare survey responses between treatment groups (3A vs. 3B), we conducted descriptive statistics, chi-square, and analysis of variance using SPSS 17. Differences were considered significant when  $P < 0.05$ .

### ***Survey Response Rate***

Of the 3,000 questionnaires mailed, 85 were undeliverable, which resulted in 2,915 valid surveys. A total of 1,740 surveys were completed and returned the questionnaire, yielding an overall response rate of 60%. As a simple random sample, the error estimate was 2.2%. Overall, samples sizes were adequate to draw conclusions across both seasons.

Because the response rate did not exceed the pre-determined goal of 60%, a non-response survey was mailed to assess if differences exist. As of writing, the non-response data has not been analyzed.

### ***Hunter background***

During the 2008 firearm season, 98% of 3A and 3B respondents indicated they hunted deer. Overall, 3A and 3B respondents had 25.0 and 24.0 years of hunting experience, respectively ( $F = 1.92$ ,  $P = 0.166$ ). Specific to Zone 3 deer hunting, they had 18.0 (3A) and 18.4 (3B) years of experience hunting their zone ( $F = 0.294$ ,  $P = 0.588$ ). With respect to experience hunting specific deer permit areas, hunters in deer permit area 338 were least experienced (13.3 years); whereas, individuals in deer permit area 346 (21.3 years) were most experienced ( $F = 3.12$ ,  $P = 0.001$ ) (Table 1).

The vast majority of respondents (93%) do not belong to an organized deer hunting group. Of those affiliated with a group, 3.4% noted the MDHA, 1.3% indicated BWA, 0.6% identified the QDMA, and 2.5% checked 'other'. While not tracked specifically, 'other' tended to be the National Rifle Association, a local sportsmen's club, or the North American Hunting Club.

Overall, 24% of all 3A and 3B respondents indicated they also hunted deer during the archery season ( $\chi^2 = 0.430$ ,  $P = 0.515$ ). Only 15% of all respondents noted they hunted during the muzzleloader deer season ( $\chi^2 = 3.03$ ,  $P = 0.082$ ). It is interesting to note there were no differences between groups with respect to muzzleloader hunting, even though 2008 was the first year 3B hunters could participate in that season.

### ***Hunting patterns***

We observed no statistical differences in hunting patterns between 3A and 3B hunters. In total, a majority of hunters pursued deer on private land. The vast majority of individuals (78%) hunted on private land they did not own. Only 8% of respondent's hunted deer exclusively on public land, which illustrates the importance of private landowners' in deer management at the broad landscape level. Similarly, a small percentage (4%) hunted at least some portion of their time on leased private land (Table 2).

Similar to other Minnesota deer surveys, most people hunt for less than the maximum number of days in the season. Specific to this survey, 3A hunters pursued deer for 4.2 days (60% of season); whereas, 3B respondents hunted for 4.9 days (55% of season). While the percentages were similar, the mean differences ( $F = 55.5$ ,  $P < 0.001$ ) were likely due to the shorter 3A deer season, which encompassed only one weekend (compared to 2 for the 3B season).

Given participation in the 3A and 3B seasons are mutually exclusive; we wanted to determine who else hunted the private property during the opposing season. For 3A respondents, we asked who hunted the 3B season; conversely, 3B respondents were asked who hunted the 3A season.

For landowner hunting their own property, 13% allowed access to friends; whereas, only 3% indicated they allowed access to anyone who asked (Table 3). Overall, we noted no differences between respondent groups. For individuals who hunted private land they did not own, we again detected no differences between 3A and 3B respondents. In total, 30% indicated non-landowner, 28% noted landowner/family member, 18% noted relative of the landowner, 14% did not know, and interestingly, only 11% indicated nobody hunts the other season (Table 4).

With respect to the type of deer that could be harvested on private lands, 61% indicated there were no restrictions, followed by 21% who noted any antlerless deer but only large bucks could be taken, 11% did not know, and smaller percentages indicated any buck could be taken but antlerless harvest was restricted (4%) or only large bucks with antlerless restrictions (3%). We again detected no differences between 3A and 3B respondents ( $\chi^2 = 1.24$ ,  $P = 0.871$ ).

### ***Support for previous changes***

In 2003, DNR made several changes to the southeastern Minnesota firearm deer season. Principally, either-sex permits were offered during the 3A season, the 3A season was shortened to 7 days (from 9 days) and the 3B season was lengthened to 9 days (from 7 days). Additionally, in 2004, youth were given the opportunity to hunt in both seasons. Of those expressing an opinion, support was highest for youth hunting (mean = 3.92) and lowest for shortening the 3A season (mean = 2.84). Interestingly, when asked if hunters supported both shortening 3A and lengthening 3B as a package, support increased to an average of 3.29 (Table 5). Thus, the regulatory package was likely more supported than simply changing one of the seasons. We again observed no differences between 3A and 3B hunters between any of the questions (Table 5).

### ***Support for deer management changes***

Overall, respondents believed the number of mature bucks in the population had remained stable (41%) or declined (25%) over the past 5 years. Smaller percentages indicated the number of mature bucks had increased (17%), while another 17% did not know. We again detected no differences between 3A and 3B respondents ( $\chi^2 = 1.40$ ,  $P = 0.706$ ).

In previous surveys, hunters have expressed support for regulations that increase the proportion of mature bucks in the deer population. When asked a generic question (e.g., “do you support a regulation that would increase the proportion of mature bucks in local deer populations”),

support has been in the range of 60% to 65%. For this survey, we asked specifically, “*Should DNR enact regulations that protect the majority of yearling bucks and increase the proportion of mature bucks in the deer population*”. In previous surveys, the sentence portion “*majority of yearling bucks*” was not specifically included. As this wording was more definitive (and restrictive), we anticipated support would not be as strong as previously reported. Indeed, while support declined, a majority (53%) of respondents indicated support for a yearling buck protection regulation. Additionally, only 29% were specifically opposed while 19% noted “neither”. For this survey, neither was defined as: “*you neither support nor oppose the proposed regulation and would continue to hunt your traditional location if regulations were changed*”. Thus, a response of “neither” should be viewed as ambivalence and while the respondent did not tacitly support the regulation, they would not alter their hunting behavior if enacted. There were no differences between 3A and 3B respondents ( $\chi^2 = 1.23, P = 0.539$ ).

In addition to assessing regulatory support, we asked several other questions that were related to both mature buck management and other southeastern Minnesota deer hunting issues. The regulations were: 1 – Eliminate cross-tagging for bucks, 2 – Delay the deer season 1 week, 3 – delay the deer season until the end of November, 4 – Consolidate the 3A and 3B deer seasons, 5 – Institute an antler point restriction (APR), 6 – Institute a 4-day youth-only deer season, 7 – Restore the 3A season to 9 days, and 8 – Restore the 3B season to 7 days. Overall, establishing a 4-day youth season garnered the highest support (54%), followed by eliminating cross-tagging (50%), instituting an antler point restriction (47%), restore 3A to 9 days (41%), restore 3B to 7 days (34%), consolidate 3A/3B (32%), delay 3A 1-week (31%), and delay 3A until late November (18%) (Table 6, Figure 1).

For individuals who supported mature buck regulations, there was strong support for APR regulations (77%) and elimination of cross-tagging (68%). However, we noted only a marginal difference in support for a youth season (54% vs. 57%), which is likely due to the fact that an individual’s evaluation of mature bucks is independent of their interest in additional youth hunting opportunity. Conversely, the 53% of respondents who implicitly supported protecting the majority of yearling bucks were less supportive of the other regulatory alternatives (Figure 2). Among the 19% of respondents who neither supported nor opposed mature buck regulations (checked “neither”), they were more inclined to oppose than support APR regulations (41% vs. 23%). Conversely, the same group was more likely to support than oppose eliminating buck cross-tagging (41% vs. 34%).

### ***Identification of “ideal” season***

In addition to asking favor/disfavor with various regulatory alternatives, we were also interested in determining the ‘ideal’ season structure for southeastern Minnesota. To that end, we constructed a paragraph that forced respondents to choose an option among several alternatives presented in the paragraph. The paragraph was constructed as follows:

The Zone 3A season should open in **early | middle | late** November. The 3A season should be **5 | 7 | 9** days. The 3B season should be **7 | 9** days and should start **immediately | one week** after the 3A season ends. During both seasons, DNR **should | should not** implement an antler point restriction to

protect yearling bucks. DNR **should** | **should not** ban cross-tagging of bucks and enact a regulation that still allows people to hunt as a party, but requires people to shoot and tag their own buck. DNR **should** | **should not** hold a 4-day youth hunt over the MEA weekend (Thursday – Sunday).

As there were no statistical differences between 3A and 3B respondents, we consolidated responses for each item. Overall, respondents identified the following paragraph as the ideal season for southeastern Minnesota:

The Zone 3A season should open in **early (62%)** November. The 3A season should be **9 (46%\*)** days. The 3B season should be **9 (61%)** days and should start **one week (73%)** after the 3A season ends. During both seasons, DNR **should (49.1%)** | **should not (50.9%)** implement an antler point restriction to protect yearling bucks. DNR **should not (54%)** ban cross-tagging of bucks and enact a regulation that still allows people to hunt as a party, but requires people to shoot and tag their own buck. DNR **should (62%)** hold a 4-day youth hunt over the MEA weekend (Thursday – Sunday).

\*Note: 53% when the lowest ranked choice (5 days) was removed.

The only option that fell within our confidence interval ( $\pm 2.2\%$ ) was to institute an APR regulation. As the split was 50.9% “should not” vs. 49.1% “should” enact an APR regulation, we cannot draw a conclusion for this question (Table 7, Figure 3). Interestingly, as a stand-alone item, support for antler point restrictions increased 2% (47% to 49%) when the question was placed into a paragraph. Conversely, when asked as a stand-alone question, buck cross-tagging was supported by 50% of respondents but when placed into a paragraph, only 46% indicted cross-tagging should be banned.

### *Summary*

Most interesting was the fact there were no differences between 3A and 3B deer hunters on any question except number of days hunted. Anecdotally, 3A hunters self-identify as more traditional (and selective) buck hunters; whereas, 3B hunters are described as more meat-oriented and less concerned about mature bucks. Our results illustrate that 3A and 3B hunters have the same opinions on deer management issues and the differences lie in the season they hunt, not the type of deer hunted.

Overall, there was support for protecting yearling bucks and there are options the agency should consider. Principally, ending the practice of buck cross-tagging was supported by half the hunters in both seasons (increased to 56% when neither was removed). Antler point restrictions; however achieved 47% support (increased to 55% when neither was removed) but previous research on state parks has demonstrated acceptance over time as the regulation becomes more normalized (e.g., people come to expect the regulation).

The concept of a 4-day youth only season was also supported by a small majority of hunters (54%); however, restoring 3A to 9 days (41%) and 3B to 7 days (34%) was not. Finally, there

was low support for consolidating the 3A and 3B seasons (32%), moving the deer season one week later (31%), or to late November (18%). Even among individuals who indicated they also hunted during the archery season the delayed season was not supported (Figure 4). These results were interesting because archers have historically lobbied for a later start date. Given the low support even among bowhunters, the option of moving the season should probably not be pursued in the short-term as there were other regulatory alternatives that were more supported by respondents.

Table 1. Years of experience hunting deer areas in Zone 3A and 3B.

Deer Area	3A <sup>1</sup>			3B <sup>1</sup>			Total <sup>2</sup>		
	N	Mean	SE	N	Mean	SE	N	Mean	SE
338	38	14.8	2.2	45	12.0	1.4	83	13.3	1.3
339	28	16.0	2.3	27	11.5	1.9	55	13.8	1.5
341	87	16.4	1.3	114	19.3	1.3	201	18.0	0.9
342	76	20.8	1.6	94	17.9	1.3	170	19.2	1.0
343	96	19.7	1.3	79	16.9	1.2	175	18.5	0.9
344	60	18.9	1.9	47	23.2	2.3	107	20.8	1.5
345	58	15.5	1.7	53	23.1	2.3	111	19.1	1.5
346	82	20.7	1.7	76	21.8	1.5	158	21.2	1.1
347	75	16.7	1.3	60	20.2	1.8	135	18.3	1.1
348	74	19.1	1.5	63	17.1	1.5	137	18.2	1.1
349	84	18.4	1.5	96	18.6	1.2	180	18.5	1.0
Total	758	18.3	0.5	754	18.7	0.5	1,512	18.5	0.3

<sup>1</sup>No difference in experience between Zones:  $F = 0.294$ ,  $P = 0.588$

<sup>2</sup>There were differences in experience by deer area:  $F = 55.4$ ,  $P < 0.001$

Table 2. Land type hunted by 3A and 3B firearm season respondents, 2008.

Land Type	3A				3B			
	None	Some	Most	All	None	Some	Most	All
Land that I own	69%	8%	8%	15%	70%	9%	8%	12%
Private land I lease	96%	1%	1%	2%	96%	1%	1%	2%
Private land I don't own	26%	14%	15%	45%	22%	14%	19%	46%
Public land	71%	16%	4%	8%	70%	17%	4%	8%

Table 3. For people hunting their own property, percentage of individuals hunting the other season.

Landowners: Who hunts the other season?	3A	3B	Total	Significance
Another party that also owns the property	3%	3%	3%	$\chi^2 = 0.334, P = 0.563$
Friends that do not own the property	13%	12%	13%	$\chi^2 = 1.35, P = 0.245$
Family that does not own the property	11%	12%	11%	$\chi^2 = 0.115, P = 0.735$
Any hunter who asks permission	3%	4%	4%	$\chi^2 = 2.87, P = 0.09$
Nobody else	9%	10%	10%	$\chi^2 = 0.419, P = 0.517$
Don't Know	5%	7%	6%	$\chi^2 = 1.91, P = 0.167$

Table 4. For non-landowners, percentage of individuals hunting the other season.

Who hunts the other season?	3A	3B	Total	Significance
The landowner and/or their immediate family	26%	30%	28%	$\chi^2 = 2.91, P = 0.088$
Hunter who is not a relative of the landowner	28%	32%	30%	$\chi^2 = 3.09, P = 0.079$
Hunter who is a relative of the landowner	16%	18%	17%	$\chi^2 = 0.736, P = 0.391$
Nobody else	12%	11%	11%	$\chi^2 = 0.612, P = 0.434$
Don't Know	13%	14%	14%	$\chi^2 = 0.873, P = 0.350$

Table 5. Average ratings of satisfaction with previous deer management changes.

2003 Regulation	Average rating of satisfaction with 2003 regulatory change				
	3A	3B	Total	F	P
Allowing youth to hunt both the 3A and 3B seasons	3.94	3.89	3.92	0.502	0.479
Shortening the 3A season by 2 days (total of 7 days)	2.84	2.83	2.84	0.003	0.953
Lengthening the 3B season by 2 days (total of 9 days)	3.53	3.55	3.54	0.051	0.821
Allowing antlerless harvest during the 3A season	3.55	3.55	3.55	0.001	0.978
The current season structure that is currently in place, which is the 7-day 3A and 9-day 3B season	3.29	3.32	3.30	0.242	0.623

1 - Strongly Oppose, 2 - Slightly Oppose, 3 - Neutral, 4 - Slightly Support, 5 - Strongly Support

Table 6. Percent support for regulatory change in southeastern Minnesota, 2008. 3A and 3B hunters were combined because there were no statistical differences in responses.

Regulation	Support	Oppose	Neither	Support w/ Neither Dropped	Significance
Enact mature buck regulations	53%	29%	19%	65%	$\chi^2 = 1.25, P = 0.539$
Eliminate cross-tagging	50%	40%	10%	56%	$\chi^2 = 2.40, P = 0.301$
Delay 3A one week	31%	55%	13%	36%	$\chi^2 = 0.507, P = 0.776$
Delay 3A to late November	18%	72%	11%	20%	$\chi^2 = 0.632, P = 0.729$
Consolidate 3A and 3B	32%	57%	11%	36%	$\chi^2 = 0.175, P = 0.916$
Institute APR	47%	39%	14%	55%	$\chi^2 = 1.94, P = 0.378$
Conduct 4-day youth season	54%	29%	17%	65%	$\chi^2 = 0.739, P = 0.691$
Restore 3A to 9 days	41%	39%	20%	52%	$\chi^2 = 1.11, P = 0.575$
Restore 3B to 7 days	34%	43%	23%	44%	$\chi^2 = 0.503, P = 0.777$

Table 7. Percentage of individuals selecting a season choice option, 2008.

November Season Timing	Early	62%
	Middle	27%
	Late	11%
3A number of days	Five	13%
	Seven	41%
	Nine*	46%
*Increased to 53% when 5 days (lowest choice) was removed.		
3B Number of days	Seven	39%
	Nine	61%
3B Timing	Immediately after 3A	27%
	One week later	73%
Implement APR	Should	49%
	Should not	51%
Ban cross-tagging	Should	46%
	Should not	54%
4-day hunt over MEA	Should	62%
	Should not	38%

Figure 1. Percent support for enacting deer regulations in southeastern Minnesota, 2008.

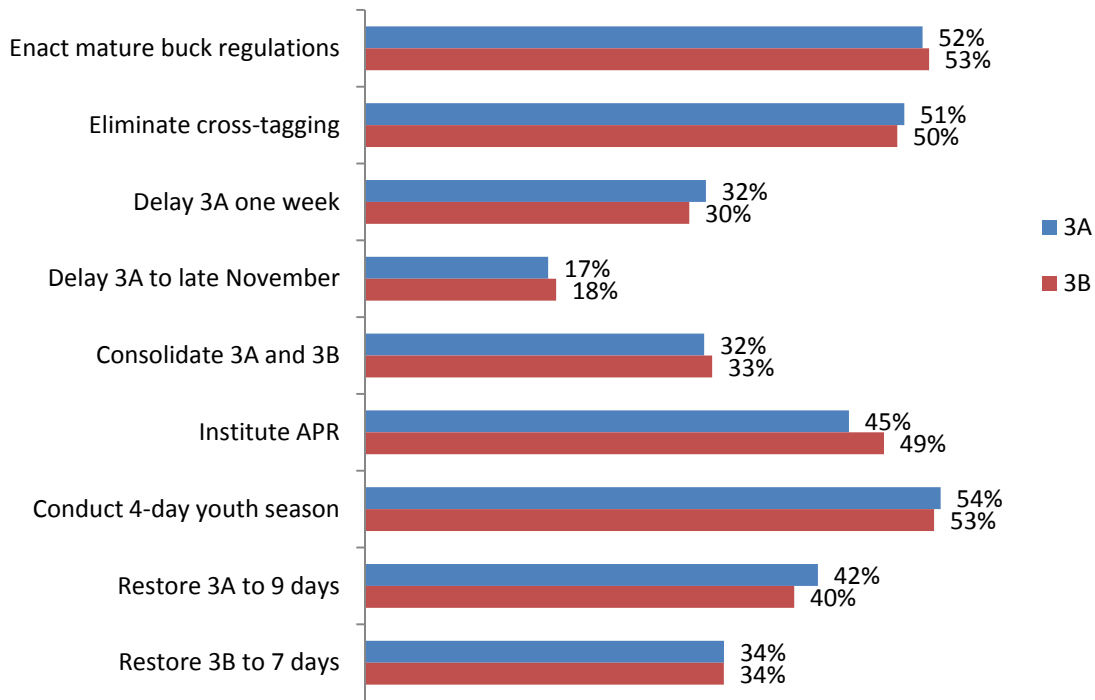


Figure 2. Percent support for new regulations among people who supported protecting yearling bucks, 2008.

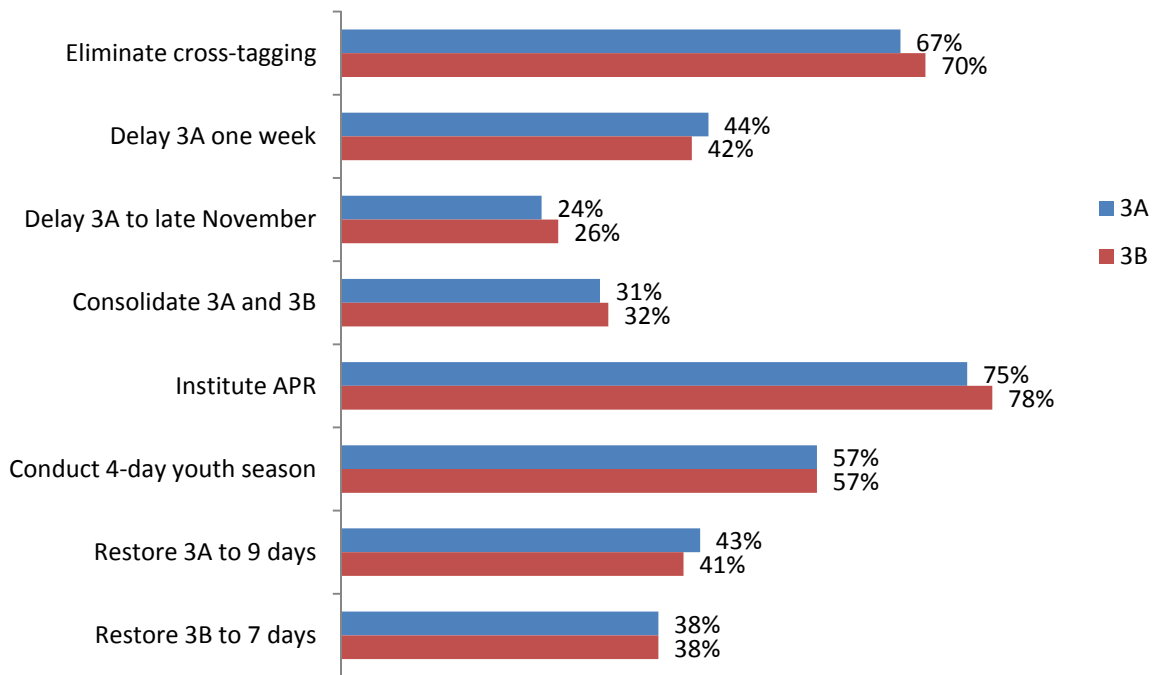


Figure 3. Percentage of individuals selecting a season choice option, 2008.

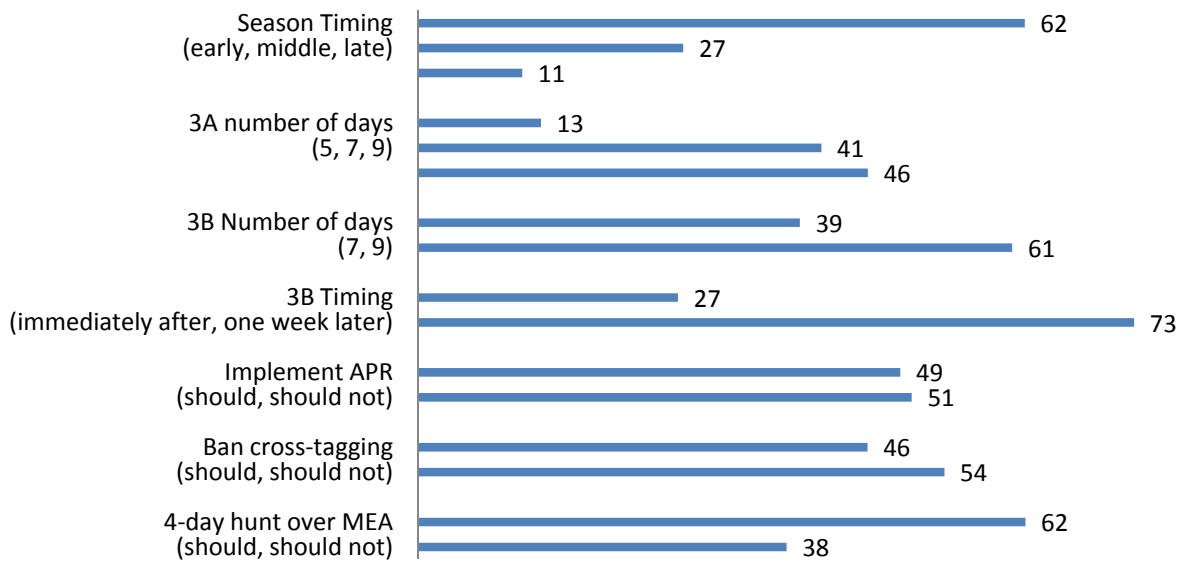


Figure 4. Support for regulations among individuals who hunted different seasons, 2008.

