



1999 MICHIGAN DEER HUNTER SURVEY: DEER BAITING

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ABSTRACT

A survey of deer hunters was completed to estimate the number of hunters using bait and to determine their opinions about hunting deer with bait. About 48% of the hunters in Michigan used bait. Baiting is most common in the Upper Peninsula where nearly 70% of hunters used bait. Most hunters (61%) approved or strongly approved of people hunting deer with bait; however, 28% of the hunters disapproved or strongly disapproved of baiting. Statewide, most hunters (55%) approved or strongly approved of the ban on baiting in the Bovine Tuberculosis (TB) Management Area. Most hunters supported continuation of 1999 regulations in 2000, except for hunters from Deer Management Unit (DMU) 452. Hunters in DMU 452 wanted to use bait, although they would accept restricted usage. Although most hunters approve of hunting deer with bait, most hunters also support restrictions on baiting to protect the health of the deer herd. Moreover, most hunters probably would support additional baiting regulations if convinced that baiting contributes to the spread of bovine TB.

INTRODUCTION

Baiting is the practice of placing food in a hunting area to enhance hunting success. Baiting does not include the planting of crops to attract animals. Prior to 1998, hunting



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deer (*Odocoileus virginianus*) with bait was unregulated in Michigan. But with the discovery of bovine tuberculosis (TB) in wild deer in northeastern Lower Peninsula, restrictions were placed on baiting to help eradicate bovine TB. Regulations were implemented because baiting may facilitate the spread of bovine TB by increasing contacts between healthy deer and either TB-infected animals or their food, feces, or urine. Beginning in 1998, deer hunters in the northeastern Lower Peninsula could not use more than five gallons of bait per day at any one location. Baiting was restricted further in 1999, and regulations were expanded statewide. In 1999, baiting was banned in northeast Lower Peninsula (Fig. 1). In the remainder of the state, baiting was only legal from October 1–December 15, and five gallons was the maximum amount that could be used per day at a hunting location.

The Michigan Department of Natural Resources has the authority and responsibility to protect and manage the wildlife resources of the state of Michigan. Opinion surveys are a management tool used by the Wildlife Bureau to accomplish its statutory responsibility. The main objectives of this study were to estimate the number of hunters using bait in 1999 and to determine the opinions of hunters about baiting and baiting regulations. This study is a continuation of previous studies having similar objectives (Langenau et al. 1985, Winterstein 1992, Minnis and Peyton 1994).

METHODS

A questionnaire was sent to 12,000 randomly selected people that had purchased a deer hunting license in 1999. Estimates were calculated using a simple random sampling design (Cochran 1977) and were presented along with their 95% confidence limit (CL). This confidence limit can be added and subtracted from the estimate to calculate the 95% confidence interval. The confidence interval is a measure of the precision associated with the estimate and implies that the true value would be within this interval 95 times out of 100. Estimates were not adjusted for nonresponse bias.

Estimates were calculated separately for archers and firearm hunters because archers have usually been more likely to use bait than firearm hunters (Langenau et al. 1985, Winterstein 1992, Minnis and Peyton 1994). Moreover, estimates were calculated separately by the region where the hunt occurred because baiting has been less common in the southern Lower Peninsula than in the rest of the state (Langenau et al. 1985). The state was divided into three regions: Upper Peninsula, northern Lower Peninsula, and southern Lower Peninsula (Fig. 1). These regions generally matched major ecoregions, except in the Upper Peninsula where two ecoregions were combined (Albert 1995). Ecoregions are regions having similar soils, vegetation, climate, geology, and physiography. Estimates were also calculated separately for people that hunted in the Deer Management Unit 452 (DMU 452 is a major part of the Bovine TB Management Area) in northeast Lower Peninsula (Alcona, Alpena, Montmorency, Oscoda, and Presque Isle counties). Hunters in DMU 452 represent hunters affected by the 1999 baiting ban.

Questionnaires were mailed initially during early March 2000, and a reminder note and

up to two follow-up questionnaires were mailed to nonrespondents. Although 12,000 people were sent the questionnaire, 253 surveys were undeliverable resulting in an adjusted sample size of 11,747. Questionnaires were returned by 9,787 of 11,747 people receiving the questionnaire (83% response rate).

RESULTS

In 1999, 832,088 people purchased a license to hunt deer in Michigan. About $98.3 \pm 0.3\%$ of these people actually spent time hunting deer using either a firearm or archery equipment (Table 1). Most people hunted deer in the Lower Peninsula (Fig. 2, Table 1). Within the Lower Peninsula, hunters were evenly distributed between the northern ($374,852 \pm 8,154$) and southern portions ($365,160 \pm 8,133$). About $119,708 \pm 5,752$ people hunted deer in the Upper Peninsula.

About $48.1 \pm 1.0\%$ of the hunters in Michigan used bait (Table 1). Baiting is most common in the Upper Peninsula where nearly $70.4 \pm 2.4\%$ of the hunters used bait. In the Lower Peninsula, the proportion of hunters using bait was about the same (Table 1). Statewide, $60.5 \pm 1.9\%$ of harvested deer were taken without the aid of bait.

DeJong (1988) classified hunters that used bait into three categories: distracters, attracters, and concentrators. Distracters used bait along a natural trail to distract deer as the hunter took a shot. Attracters used bait to change the movements of deer and draw them near a hunter's location or into shooting lanes. Concentrators used bait over an extended period of time to draw and hold deer in a hunting area. Statewide, most baiters considered themselves as either distracters ($47.6 \pm 1.4\%$) or attracters ($28.7 \pm 1.3\%$). About $18.5 \pm 1.1\%$ of the hunters using bait classified themselves as concentrators (Fig. 3, Table 2). The proportion of hunters within each baiting category was similar among the regions.

Most hunters ($60.7 \pm 1.3\%$) approved or strongly approved of people hunting deer with bait; however, $27.9 \pm 1.0\%$ of the hunters disapproved or strongly disapproved of baiting (Fig. 4, Table 3). Highest rates of approval were among hunters in the Upper Peninsula, although approval was only slightly lower among hunters in DMU 452.

Statewide, most hunters ($54.8 \pm 1.2\%$) approved or strongly approved of the ban on baiting in the Bovine TB Management Area (Fig. 5, Table 4). About $24.3 \pm 0.9\%$ of hunters disapproved or strongly disapproved of the baiting ban. Support for the baiting ban was highest among hunters from the Upper Peninsula and southern Lower Peninsula. Disapproval was highest in the northern Lower Peninsula, especially among hunters in DMU 452 (Fig. 6). The opinions of hunters using a bow were similar to those of hunters using firearms.

Statewide, $50.6 \pm 1.2\%$ of the hunters approved or strongly approved of the baiting regulations that were implemented outside the Bovine TB Management Area in 1999 (Fig. 7, Table 5). However, $35.1 \pm 1.1\%$ of hunters statewide disapproved or strongly

disapproved of these baiting regulations. Hunters in the Upper Peninsula were most supportive of these regulations. The proportion of hunters that disapproved of the regulations was similar in all regions. Moreover, the opinions of archers and gun hunters were similar.

When hunters were offered a choice to continue the baiting ban in the Bovine TB Management Area in 2000 or allow baiting during the hunting seasons, most hunters statewide ($51.7 \pm 1.0\%$) opted to continue the baiting ban (Fig. 8, Table 6). Although many hunters statewide ($20.1 \pm 0.8\%$) wanted to allow baiting only during the hunting seasons, $9.3 \pm 0.6\%$ of hunters did not want to restrict when baiting occurred. The opinions of hunters were similar for all areas of the state except among hunters from DMU 452 (Fig. 9). Only $30.4 \pm 3.3\%$ of these hunters wanted to continue the baiting ban. Instead, $38.1 \pm 3.9\%$ of the hunters wanted to confine baiting to portions of the hunting seasons. Moreover, $20.1 \pm 2.8\%$ of the people hunting in DMU 452 did not want any baiting restrictions on when baiting occurred.

Hunters were asked to indicate whether they preferred to continue the limited period when baiting was allowed outside the Bovine TB Management Area in 2000. In 1999, baiting was allowed only from October 1–December 15. Although most hunters statewide preferred restricting the period when baiting was allowed in 2000 ($61.0 \pm 1.4\%$), hunters were about equally divided in their desire to lengthen, maintain, or shorten the period when bait could be used (Fig. 10, Table 7). About $28.6 \pm 0.9\%$ of hunters statewide did not want to have any baiting restrictions outside the Bovine TB Management Area in 2000. Hunter opinions were similar among regions. Also, gun and bow hunters had similar opinions.

Most hunters statewide ($52.2 \pm 1.0\%$) preferred to see the baiting ban continued in the Bovine TB Management Area in 2000 when offered this choice and an option allowing a maximum of 5 gallons of bait per day and an option to discontinue restrictions (Fig. 11, Table 8). Although many hunters statewide ($21.5 \pm 0.8\%$) wanted to use 5 gallons per day, $9.3 \pm 0.6\%$ of the hunters did not want to restrict baiting in the Bovine TB Management Area. Hunters in all of the regions except from DMU 452 expressed similar opinions (Fig. 12). In DMU 452, however, $29.2 \pm 3.2\%$ of the hunters wanted to continue the baiting ban. Instead, $45.4 \pm 3.5\%$ of the hunters wanted the option to use 5 gallons of bait per day. Moreover, $15.7 \pm 2.6\%$ of the hunters in DMU 452 did not want any restrictions on the amount of bait.

Hunters also were asked to indicate whether they preferred to continue restrictions on the amount of bait that could be used for deer hunting outside the Bovine TB Management Area in 2000. In 1999, hunters were limited to using 5 gallons per day. Most hunters statewide ($62.4 \pm 1.3\%$) preferred restricting the amount of bait in 2000 (Fig. 13, Table 9). About $38.4 \pm 1.0\%$ preferred to maintain the limit at 5 gallons per day, while $24.0 \pm 0.8\%$ preferred that hunters be restricted to less than 5 gallons per day. About $26.7 \pm 0.9\%$ did not favor any restrictions on the amount of bait that hunters could use to hunt deer. Hunters in the Upper Peninsula were more supportive of

continuing the limit of 5 gallons per day than hunters from other regions.

Hunters were presented four options representing the major views that hunters had about baiting (Minnis and Peyton 1994) and were asked to select the option that best described their view. The four options included: (1) baiting should never be restricted, (2) baiting should be banned because it is unethical, (3) baiting should be regulated only when the health of the deer herd is threatened by the use of bait, and (4) not sure. The most frequently selected choice was that baiting should be regulated only if the health of the herd is threatened; $49.6 \pm 1.0\%$ of the hunters favored this option (Fig. 14, Table 10). Statewide, $22.4 \pm 0.8\%$ of the hunters wanted to ban baiting and $16.5 \pm 0.7\%$ never wanted to restrict baiting. The opinions of hunters were similar for all areas of the state except among hunters from DMU 452 (Fig. 15). These hunters more frequently indicated that baiting should never be restricted ($28.7 \pm 3.2\%$). Although the proportion of hunters in DMU 452 wanting no restrictions was greater than other regions, the proportion of these hunters that wanted baiting banned because they believed it was unethical was similar to other regions (Table 10).

Among hunters not using bait, $38.3 \pm 1.4\%$ of these hunters wanted to ban baiting because it is unethical (Fig. 16, Table 11). Nearly the same proportion of nonbaiters ($38.9 \pm 1.4\%$) wanted baiting regulated only if it threatened the health of the deer. In contrast, $5.8 \pm 0.7\%$ of the hunters that used bait wanted to ban baiting. Most baiters ($60.8 \pm 1.4\%$) preferred that baiting be regulated only if it threatened the health of the deer. Furthermore, $23.6 \pm 1.2\%$ of the baiters never wanted baiting to be restricted.

Regardless of their reasons for baiting (i.e., distracters, attracters, or concentrators), most baiters would support baiting regulations only if baiting threatened the health of the deer (Table 11). Hunters that used bait to draw and hold deer in their hunting area (i.e., concentrators) were less likely to support baiting restrictions than other groups of baiters (i.e., distracters and attracters).

DISCUSSION

The percentage of hunters using bait declined between 1993 and 1999 (Fig. 17). This was the first decline noted since 1984. The baiting restrictions implemented in 1999 probably contributed to this decline. The creation of an additional firearm season (i.e., late antlerless season) may also have contributed to this decline because firearm hunters normally are less likely to use bait than archers (Langenau et al. 1985, Winterstein 1992, Minnis and Peyton 1994).

Although the proportion of hunters using bait declined between 1993 and 1999, the percentage of hunters that approved of baiting increased. Approval of baiting has increased steadily since 1984. Similarly, the percentage of hunters wanting to ban baiting has declined since 1984, although the change has been less than that noted for the change in approval of baiting. Minnis and Peyton (1994) also noted these trends and suggested that opinions based on ethical reasons would be the least likely to

change over time.

The 1999 baiting regulations were supported by most hunters, except among hunters from DMU 452. The hunters in DMU 452 did not support the baiting ban for the Bovine TB Management Area; however, they did support the baiting restrictions for outside the Bovine TB Management Area. Most hunters in DMU 452 wanted to use bait to hunt deer, although most of these hunters would accept some restrictions on the amount of bait that could be used and when it could be used.

Minnis and Peyton (1994) reported that most hunters did not support baiting restrictions in 1992. In contrast, most hunters now support some restrictions on baiting. This trend probably reflects the discovery of bovine TB in wild deer and concerns that baiting may contribute to its spread.

Nearly 19% of the hunters that used bait (i.e., 73,117 \pm 4,640 hunters) wanted to use bait over an extended period of time to draw and hold deer in their hunting area (i.e., concentrators). Also, these concentrators are the least likely to support baiting restrictions than other baiters. Although any form of baiting can increase contacts among deer, the objectives of concentrators severely conflict with the goal to limit contacts among deer to help prevent transmission of bovine TB.

Although most hunters approve of hunting deer with bait, most hunters also support restrictions on the amount of bait that can be used and when baiting can occur. Moreover, most hunters probably would support additional baiting regulations if convinced that baiting contributes to the spread of bovine TB.

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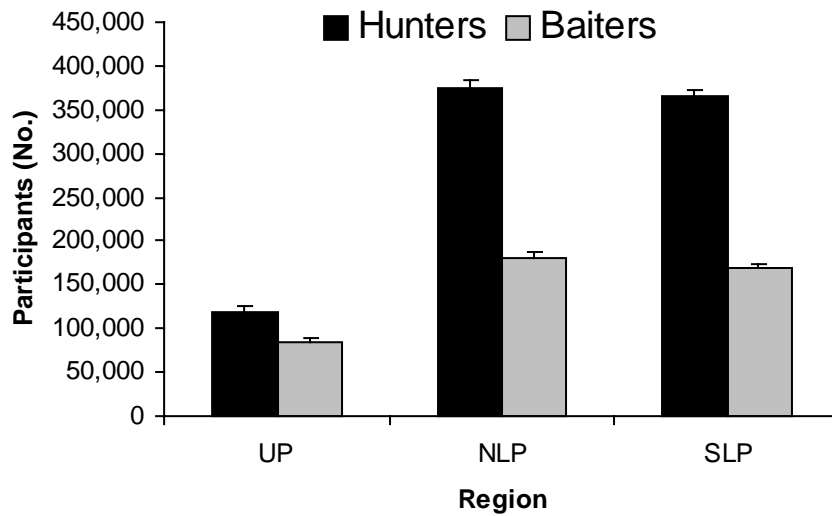


Figure 2. Number of hunters and baiters during the 1999 deer hunting seasons in Michigan. Error bars represent the 95% confidence limits.

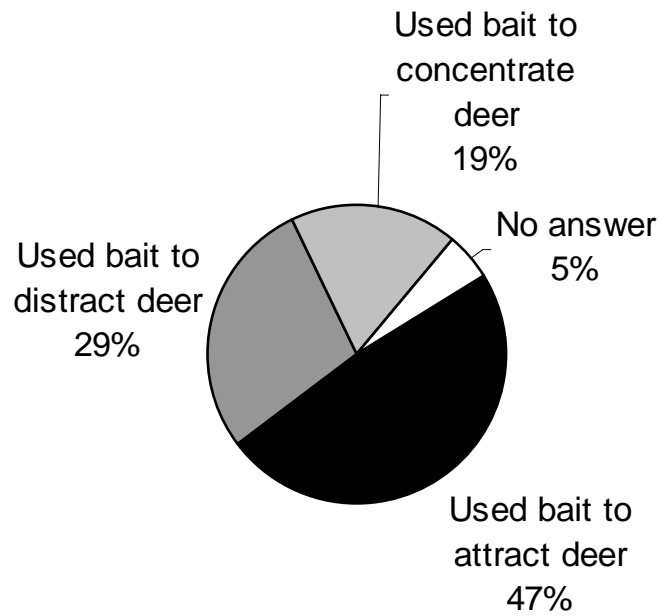


Figure 3. Types of hunters using bait to hunt deer in Michigan, 1999.

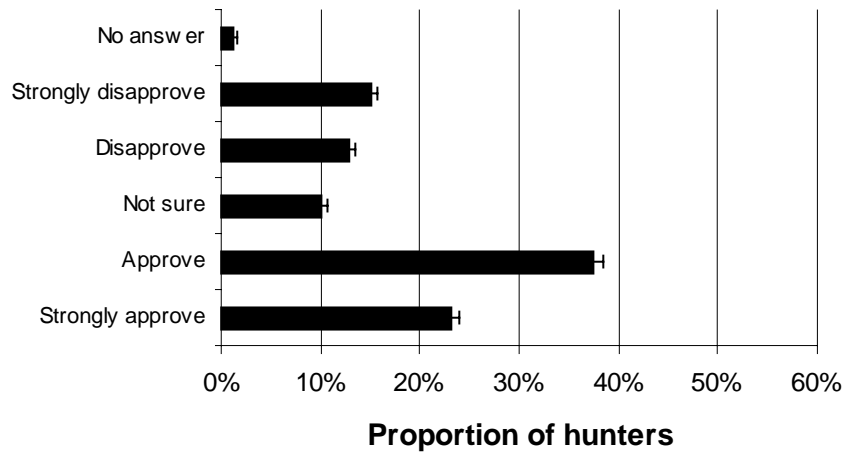


Figure 4. Opinions of hunters about other people hunting deer with the aid of bait in Michigan. Error bars represent the 95% confidence limits.

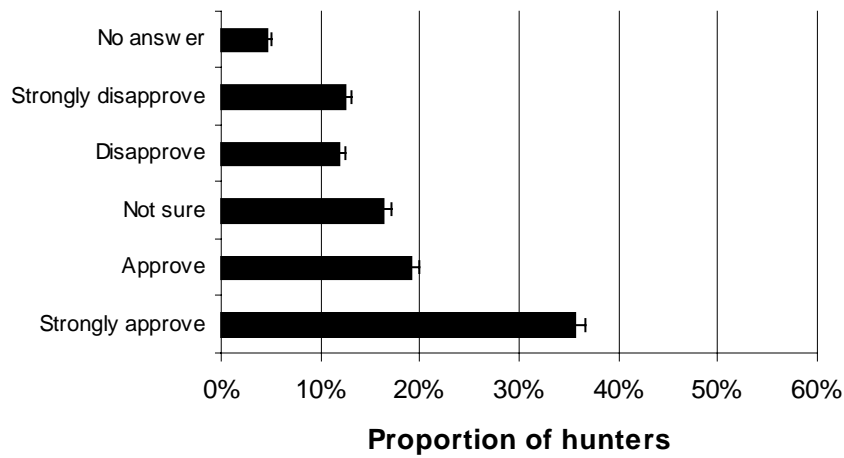


Figure 5. Opinions of hunters about the baiting ban implemented in the Bovine TB Management Area in 1999. Error bars represent the 95% confidence limits.

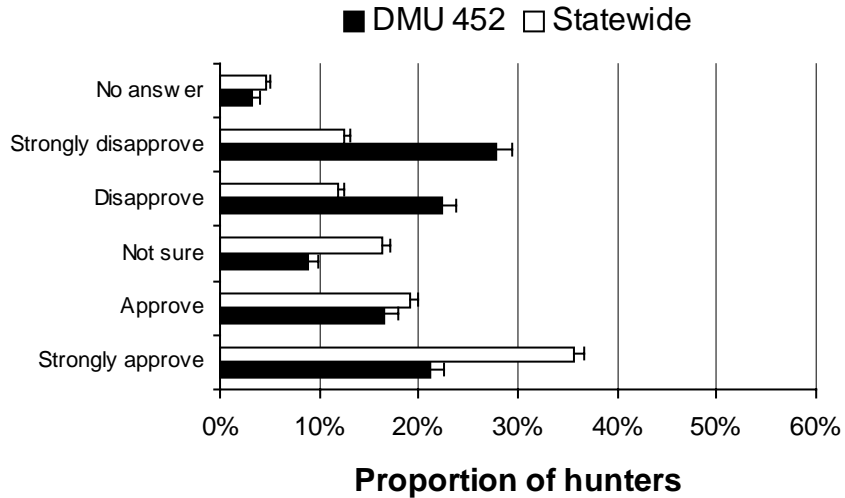


Figure 6. Opinions of hunters statewide and in DMU 452 about the baiting ban implemented in the Bovine TB Management Area in 1999. Error bars represent the 95% confidence limits.

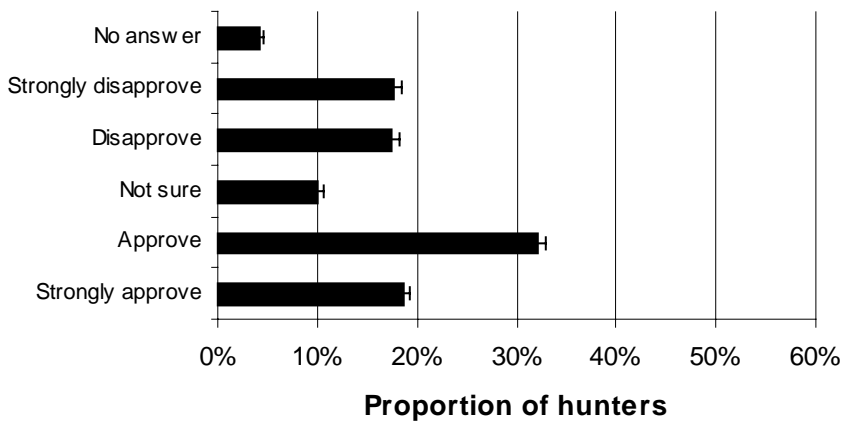


Figure 7. Opinions of hunters about the baiting restrictions implemented outside the Bovine TB Management Area in 1999. In 1999, baiting was only legal from October 1–December 15, and hunters could only use 5 gallons of bait per day. Error bars represent the 95% confidence limits.

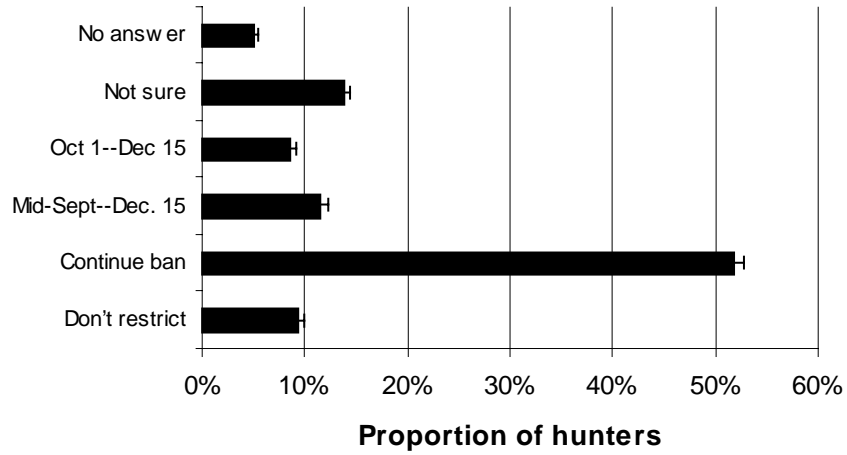


Figure 8. Opinions of hunters statewide about the time period when hunters should be allowed to bait in the Bovine TB Management Area in 2000. Error bars represent the 95% confidence limits.

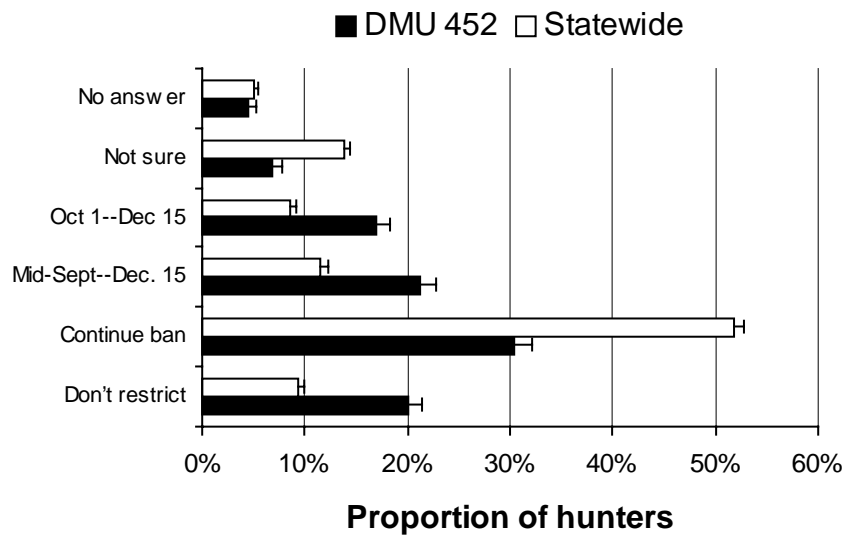


Figure 9. Opinions of hunters statewide and in DMU 452 about the time period when hunters should be allowed to bait in the Bovine TB Management Area in 2000. Error bars represent the 95% confidence limits.

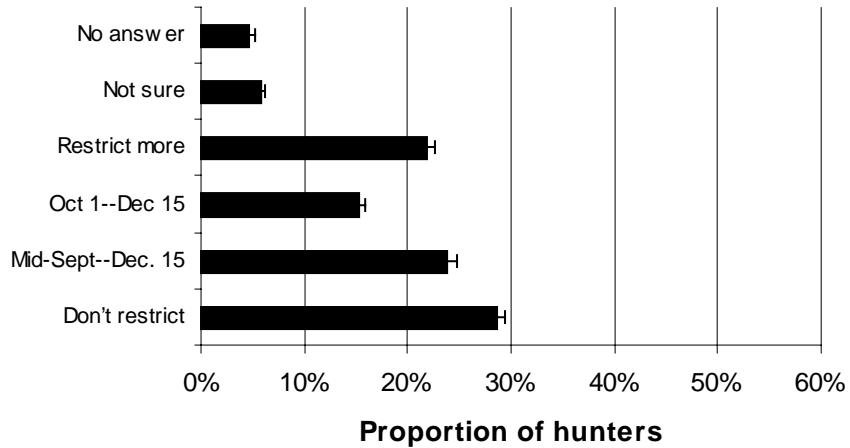


Figure 10. Opinions of hunters about the time periods when deer hunters should be allowed to bait outside the Bovine TB Management Area in 2000. Error bars represent the 95% confidence limits.

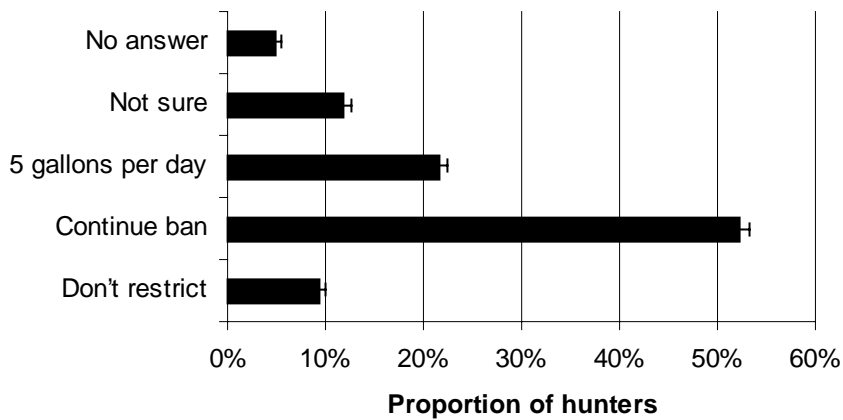


Figure 11. Opinions of hunters about the amount of bait that should be allowed for hunting deer in the Bovine TB Management Area in 2000. Error bars represent the 95% confidence limits.

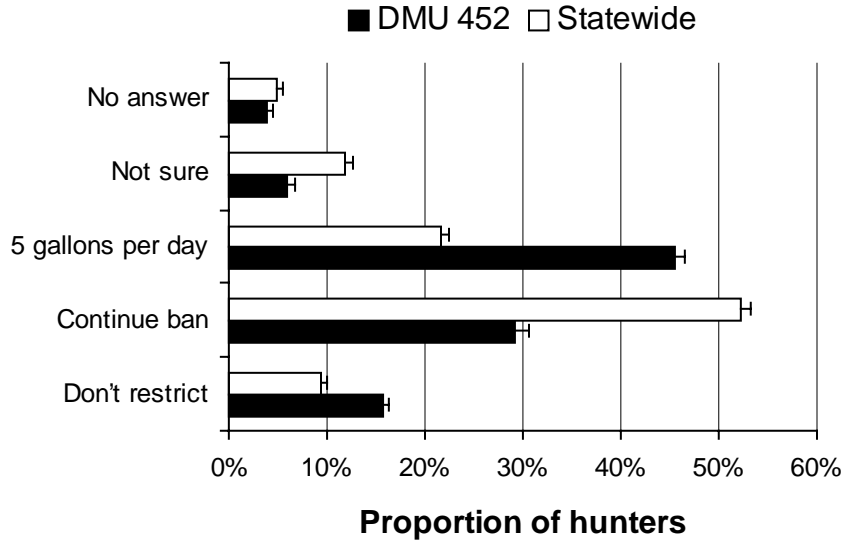


Figure 12. Opinions of hunters statewide and in DMU 452 about the amount of bait that should be allowed for hunting deer in the Bovine TB Management Area in 2000. Error bars represent the 95% confidence limits.

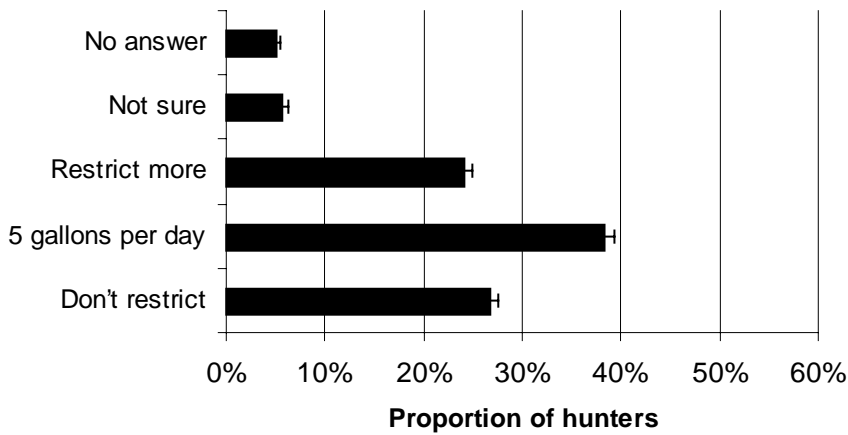


Figure 13. Opinions of hunters about the amount of bait that should be allowed for hunting deer outside the Bovine TB Management Area in 2000. Error bars represent the 95% confidence limits.

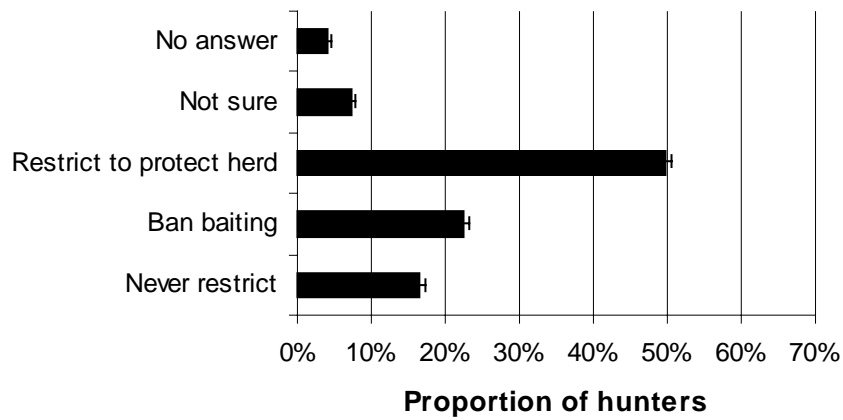


Figure 14. Opinions of hunters statewide about the use of bait for deer hunting in Michigan. Error bars represent the 95% confidence limits.

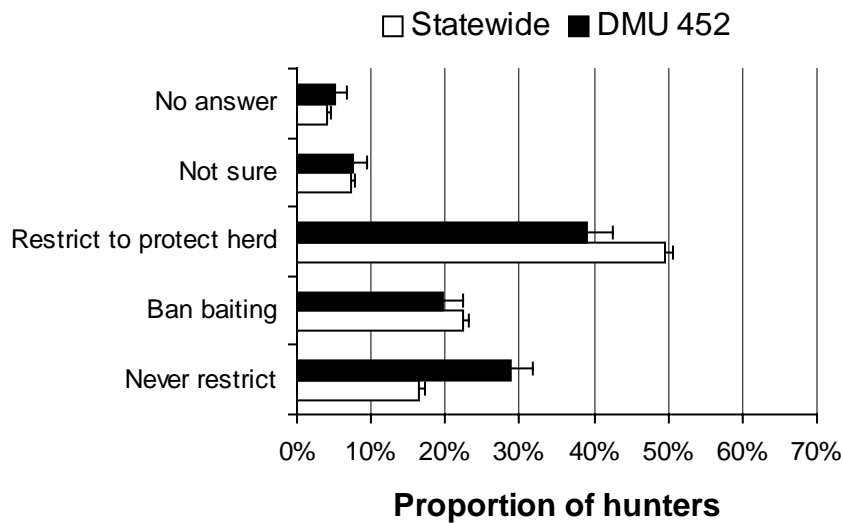


Figure 15. Opinions of hunters statewide and in DMU 452 about the use of bait for deer hunting in Michigan. Error bars represent the 95% confidence limits.

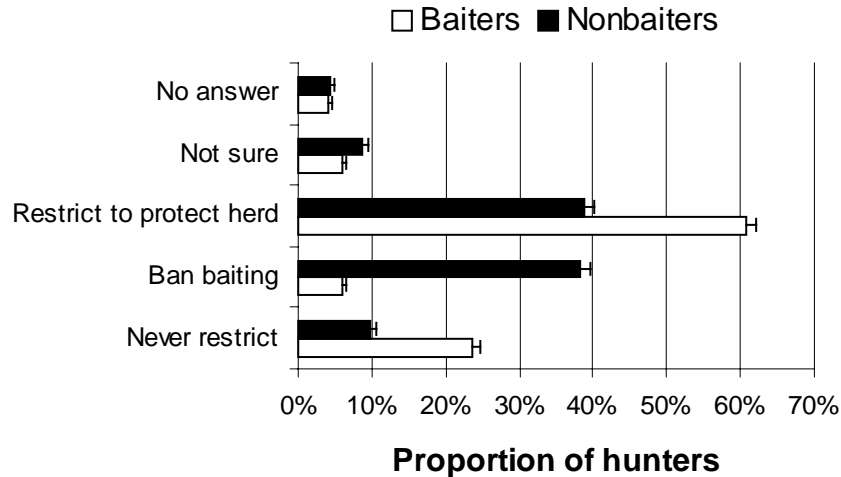


Figure 16. Opinions of hunters that use bait about the use of bait for deer hunting in Michigan. Error bars represent the 95% confidence limits.

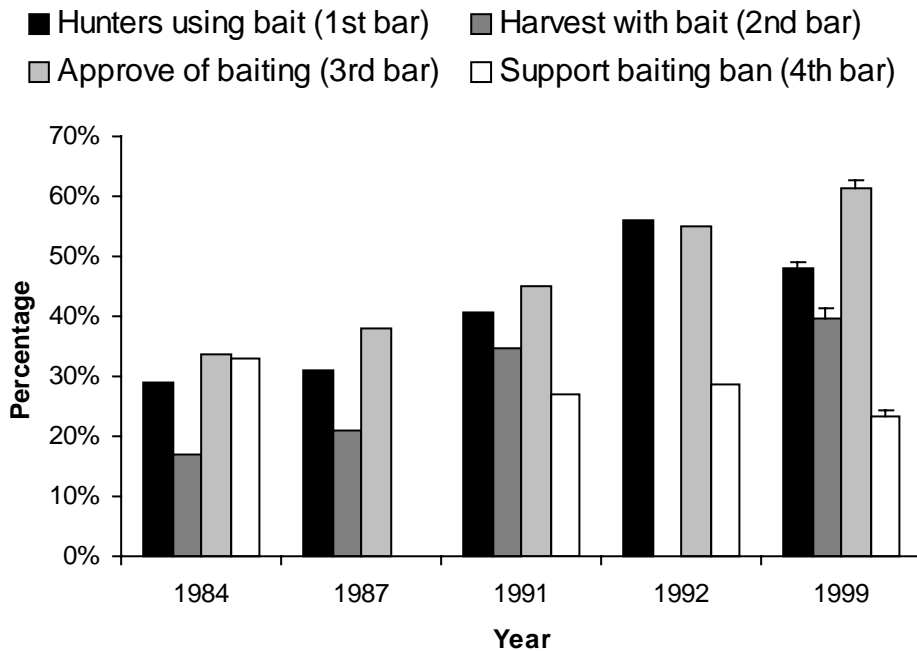


Figure 17. Proportion of hunters that used bait, percentage of deer taken with bait, and opinions of hunters about baiting for deer in Michigan, 1984-1999. Some values were not estimated in previous studies. Estimates for approval for baiting ($61.5 \pm 1.3\%$) and support for baiting ban ($23.4 \pm 0.9\%$) in 1999 were recalculated to exclude people that did not provide an answer so that methods of calculation were comparable to those used in previous studies. Error bars represent the 95% confidence limits.

Table 1. Number of hunters and baiters during the 1999 deer hunting seasons in Michigan.^a

Region	Hunters		Baiters			
	Total	95% CL ^b	Total	95% CL	% of hunters	95% CL
Upper Peninsula	119,708	5,752	84,510	4,951	70.4%	2.4%
Northern Lower Peninsula	374,852	8,154	179,732	6,744	47.9%	1.5%
Southern Lower Peninsula	365,160	8,133	167,999	6,579	46.0%	1.5%
Deer Management Unit 452	64,020	4,368	^c	^c	^c	^c
Statewide	817,890	2,123	393,471	8,182	48.1%	1.0%

^aExcludes people that purchased a deer hunting license but did not hunt. Number of hunters and baiters does not add up to statewide total because hunters can hunt in more than one region.

^b95% confidence limit.

^cNot available because baiting was prohibited in Bovine TB Management Area.

Table 2. Types of hunters using bait to hunt deer in Michigan, 1999.^a

Region	Category (% of hunters)							
	Distracter	95% CL ^b	Attractor	95% CL	Concentrator	95% CL	No answer	95% CL
Upper Peninsula	47.5%	3.1%	32.9%	2.9%	15.6%	2.2%	4.0%	1.2%
Northern Lower Peninsula	47.4%	2.1%	29.5%	1.9%	17.7%	1.6%	5.4%	1.0%
Southern Lower Peninsula	49.4%	2.2%	26.1%	1.9%	19.9%	1.8%	4.7%	0.9%
Statewide	47.6%	1.4%	28.7%	1.3%	18.5%	1.1%	5.2%	0.6%

^aDistracters used bait along a natural trail to distract deer as a shot is taken by the hunter. Attractors used bait to change the movements of deer and draw them near a hunter's location or into shooting lanes. Concentrators used bait over an extended period of time to draw and hold deer in a hunting area.

^b95% confidence limit.

Table 3. Opinions of deer hunters about other people hunting deer with the aid of bait in Michigan.^a

Region and weapon used	Response (% of hunters)											
	Strongly approve	95% CL ^b	Approve	95% CL	Not sure	95% CL	Dis-approve	95% CL	Strongly dis-approve	95% CL	No answer	95% CL
Upper Peninsula												
Bow	34.7%	3.5%	40.2%	3.6%	6.0%	1.7%	8.0%	2.0%	10.0%	2.2%	1.1%	0.8%
Gun	29.7%	2.5%	38.8%	2.7%	6.0%	1.3%	10.9%	1.7%	13.3%	1.9%	1.3%	0.6%
Combined	29.8%	2.4%	39.3%	2.5%	6.2%	1.3%	10.4%	1.6%	13.0%	1.7%	1.2%	0.6%
Northern Lower Peninsula												
Bow	28.1%	1.6%	37.6%	1.8%	8.4%	1.0%	12.2%	1.2%	12.3%	1.2%	1.4%	0.4%
Gun	24.3%	1.3%	35.7%	1.5%	9.3%	0.9%	13.4%	1.1%	16.0%	1.1%	1.3%	0.3%
Combined	24.5%	1.3%	36.4%	1.4%	9.1%	0.8%	13.1%	1.0%	15.5%	1.1%	1.3%	0.3%
Southern Lower Peninsula												
Bow	22.3%	1.5%	40.8%	1.7%	9.8%	1.0%	12.6%	1.2%	13.2%	1.2%	1.2%	0.4%
Gun	19.9%	1.3%	39.3%	1.6%	11.6%	1.0%	13.0%	1.1%	15.0%	1.1%	1.1%	0.3%
Combined	20.4%	1.2%	39.3%	1.5%	11.4%	0.9%	13.0%	1.0%	14.8%	1.1%	1.2%	0.3%
Bovine TB Management Area (DMU 452)												
Bow	37.8%	4.7%	34.1%	4.6%	5.1%	2.1%	9.4%	2.8%	12.8%	3.2%	0.7%	0.8%
Gun	32.4%	3.6%	33.6%	3.6%	7.8%	2.1%	11.5%	2.4%	13.5%	2.6%	1.2%	0.8%
Combined	31.9%	3.3%	34.3%	3.4%	7.7%	1.9%	11.6%	2.3%	13.5%	2.4%	1.1%	0.7%
Statewide												
Bow	26.1%	1.1%	38.6%	1.2%	9.2%	0.7%	12.0%	0.8%	12.8%	0.8%	1.4%	0.3%
Gun	23.1%	0.9%	37.4%	1.0%	10.2%	0.6%	12.8%	0.7%	15.2%	0.7%	1.3%	0.2%
Combined	23.2%	0.8%	37.5%	1.0%	10.1%	0.6%	12.8%	0.7%	15.1%	0.7%	1.3%	0.2%

^aExcludes people that purchased a deer hunting license but did not hunt. Responses categorized by weapon type and region where hunting occurred. Responses from hunters could be included in several categories because hunters could hunt in more than one region and season.

^b95% confidence limit.

Table 4. Opinions of hunters about the baiting ban implemented in the Bovine TB Management Area in 1999.^a

Region and weapon used	Response (% of hunters)											
	Strongly approve	95% CL ^b	Approve	95% CL	Not sure	95% CL	Dis-approve	95% CL	Strongly dis-approve	95% CL	No answer	95% CL
Upper Peninsula												
Bow	37.5%	3.5%	20.5%	3.0%	18.7%	2.8%	8.8%	2.1%	9.3%	2.1%	5.2%	1.6%
Gun	37.9%	2.7%	20.9%	2.2%	19.0%	2.2%	9.0%	1.6%	8.8%	1.6%	4.4%	1.1%
Combined	37.7%	2.5%	20.5%	2.1%	18.9%	2.0%	9.0%	1.5%	9.2%	1.5%	4.7%	1.1%
Northern Lower Peninsula												
Bow	31.0%	1.7%	20.2%	1.5%	15.5%	1.3%	14.5%	1.3%	14.5%	1.3%	4.4%	0.7%
Gun	32.8%	1.5%	19.1%	1.2%	15.2%	1.1%	13.6%	1.1%	14.7%	1.1%	4.6%	0.7%
Combined	32.7%	1.4%	19.6%	1.2%	15.3%	1.1%	13.8%	1.0%	14.0%	1.0%	4.6%	0.6%
Southern Lower Peninsula												
Bow	38.8%	1.7%	19.2%	1.4%	16.2%	1.3%	10.9%	1.1%	11.5%	1.1%	3.3%	0.6%
Gun	38.2%	1.5%	19.5%	1.3%	15.8%	1.2%	11.0%	1.0%	11.7%	1.0%	3.7%	0.6%
Combined	38.3%	1.4%	19.3%	1.2%	16.3%	1.1%	11.1%	0.9%	11.4%	0.9%	3.7%	0.6%
Bovine TB Management Area (DMU 452)												
Bow	20.3%	3.9%	14.5%	3.4%	7.5%	2.5%	23.5%	4.1%	31.5%	4.5%	2.7%	1.5%
Gun	20.7%	3.1%	16.6%	2.8%	8.3%	2.1%	21.8%	3.2%	29.9%	3.5%	2.8%	1.3%
Combined	21.1%	2.9%	16.6%	2.6%	8.9%	2.0%	22.3%	3.0%	27.8%	3.2%	3.3%	1.3%
Statewide												
Bow	35.4%	1.2%	19.3%	0.9%	16.5%	0.9%	12.1%	0.8%	12.5%	0.8%	4.2%	0.5%
Gun	35.6%	1.0%	19.1%	0.8%	16.3%	0.8%	11.8%	0.7%	12.6%	0.7%	4.6%	0.4%
Combined	35.6%	1.0%	19.1%	0.8%	16.3%	0.7%	11.8%	0.6%	12.5%	0.7%	4.6%	0.4%

^aExcludes people that purchased a deer hunting license but did not hunt. Responses categorized by weapon type and region where hunting occurred. Responses from hunters could be included in several categories because hunters could hunt in more than one region and season.

^b95% confidence limit.

Table 5. Opinions of hunters about the baiting restrictions implemented outside the Bovine TB Management Area in 1999.^a

Region and weapon used	Response (% of hunters)											
	Strongly approve	95% CL ^b	Approve	95% CL	Not sure	95% CL	Dis-approve	95% CL	Strongly dis-approve	95% CL	No answer	95% CL
Upper Peninsula												
Bow	24.0%	3.1%	34.1%	3.5%	5.5%	1.7%	13.9%	2.5%	19.0%	2.9%	3.5%	1.3%
Gun	21.4%	2.3%	34.2%	2.6%	6.2%	1.3%	15.2%	2.0%	19.9%	2.2%	3.1%	1.0%
Combined	21.8%	2.1%	34.2%	2.5%	6.2%	1.2%	15.0%	1.9%	19.5%	2.1%	3.3%	0.9%
Northern Lower Peninsula												
Bow	20.1%	1.5%	33.0%	1.7%	8.6%	1.0%	17.1%	1.4%	16.9%	1.4%	4.3%	0.7%
Gun	19.8%	1.2%	31.3%	1.4%	9.0%	0.9%	17.5%	1.2%	17.8%	1.2%	4.6%	0.7%
Combined	19.5%	1.2%	31.9%	1.4%	9.0%	0.8%	17.4%	1.1%	17.6%	1.1%	4.6%	0.6%
Southern Lower Peninsula												
Bow	17.7%	1.3%	32.8%	1.6%	9.8%	1.0%	19.2%	1.4%	17.3%	1.3%	3.2%	0.6%
Gun	16.4%	1.2%	32.4%	1.5%	11.2%	1.0%	19.2%	1.3%	17.4%	1.2%	3.3%	0.6%
Combined	16.8%	1.1%	32.4%	1.4%	11.1%	0.9%	19.1%	1.2%	17.4%	1.1%	3.4%	0.5%
Bovine TB Management Area (DMU 452)												
Bow	24.5%	4.1%	28.6%	4.3%	5.1%	2.1%	14.3%	3.4%	24.0%	4.1%	3.6%	1.8%
Gun	21.9%	3.2%	28.8%	3.5%	6.7%	1.9%	16.9%	2.9%	21.2%	3.1%	4.4%	1.6%
Combined	21.5%	2.9%	29.0%	3.2%	7.3%	1.8%	16.7%	2.7%	20.8%	2.9%	4.6%	1.5%
Statewide												
Bow	19.4%	1.0%	32.5%	1.1%	9.4%	0.7%	17.3%	0.9%	17.4%	0.9%	4.0%	0.5%
Gun	18.6%	0.8%	31.8%	0.9%	10.1%	0.6%	17.6%	0.8%	17.7%	0.8%	4.2%	0.4%
Combined	18.6%	0.8%	32.0%	0.9%	10.1%	0.6%	17.4%	0.8%	17.6%	0.8%	4.2%	0.4%

^aExcludes people that purchased a deer hunting license but did not hunt. Responses categorized by weapon type and region where hunting occurred. Responses from hunters could be included in several categories because hunters could hunt in more than one region and season.

^b95% confidence limit.

Table 6. Opinions of hunters about the time period when deer hunters could bait in the Bovine TB Management Area in 2000.^a

Region and weapon used	Response (% of hunters)											
	Do not restrict	95% CL ^b	Continue 1999 ban	95% CL	Allow baiting mid-Sept. until Dec. 15	95% CL	Allow baiting Oct. 1- Dec. 15	95% CL	Not sure	95% CL	No answer	95% CL
Upper Peninsula												
Bow	8.1%	2.0%	49.9%	3.7%	13.1%	2.5%	7.9%	2.0%	16.0%	2.7%	5.1%	1.6%
Gun	7.2%	1.4%	52.8%	2.7%	9.5%	1.6%	8.6%	1.5%	17.1%	2.1%	4.8%	1.2%
Combined	7.5%	1.4%	52.3%	2.6%	10.4%	1.6%	8.4%	1.4%	16.5%	1.9%	4.9%	1.1%
Northern Lower Peninsula												
Bow	11.2%	1.2%	45.8%	1.8%	17.3%	1.4%	9.9%	1.1%	11.2%	1.2%	4.6%	0.8%
Gun	10.9%	1.0%	48.4%	1.6%	14.0%	1.1%	10.1%	0.9%	11.8%	1.0%	4.8%	0.7%
Combined	10.6%	0.9%	48.3%	1.5%	14.4%	1.0%	10.0%	0.9%	11.9%	0.9%	4.8%	0.6%
Southern Lower Peninsula												
Bow	8.9%	1.0%	54.1%	1.7%	11.3%	1.1%	7.7%	0.9%	13.9%	1.2%	4.1%	0.7%
Gun	8.2%	0.9%	55.7%	1.6%	10.0%	1.0%	7.3%	0.8%	14.4%	1.1%	4.4%	0.7%
Combined	8.4%	0.8%	55.4%	1.5%	10.2%	0.9%	7.4%	0.8%	14.4%	1.0%	4.3%	0.6%
Bovine TB Management Area (DMU 452)												
Bow	23.2%	4.1%	24.9%	4.2%	26.9%	4.3%	16.5%	3.6%	4.4%	2.0%	4.1%	1.9%
Gun	21.2%	3.1%	30.2%	3.5%	20.2%	3.1%	17.9%	2.9%	6.1%	1.8%	4.3%	1.5%
Combined	20.1%	2.8%	30.4%	3.3%	21.2%	2.9%	16.9%	2.7%	6.9%	1.8%	4.5%	1.5%
Statewide												
Bow	10.1%	0.7%	49.6%	1.2%	13.8%	0.8%	8.4%	0.7%	13.3%	0.8%	4.9%	0.5%
Gun	9.3%	0.6%	51.7%	1.0%	11.5%	0.6%	8.6%	0.6%	13.7%	0.7%	5.1%	0.4%
Combined	9.3%	0.6%	51.7%	1.0%	11.5%	0.6%	8.5%	0.6%	13.8%	0.7%	5.1%	0.4%

^aExcludes people that purchased a deer hunting license but did not hunt. Responses categorized by weapon type and region where hunting occurred. Responses from hunters could be included in several categories because hunters could hunt in more than one region and season.

^b95% confidence limit.

Table 7. Opinions of hunters about the time periods when deer hunters could bait outside the Bovine TB Management Area in 2000.^a

Region and weapon used	Response (% of hunters)											
	Do not restrict	95% CL ^b	Allow baiting mid-Sept. until Dec. 15	95% CL	Allow baiting Oct. 1- Dec. 15	95% CL	Restrict period further	95% CL	Not sure	95% CL	No answer	95% CL
Upper Peninsula												
Bow	34.4%	3.5%	30.2%	3.4%	14.6%	2.6%	14.9%	2.6%	1.8%	1.0%	4.1%	1.4%
Gun	31.9%	2.6%	24.8%	2.4%	17.9%	2.1%	19.9%	2.2%	2.4%	0.8%	3.1%	1.0%
Combined	31.9%	2.4%	25.4%	2.3%	17.6%	2.0%	19.3%	2.0%	2.3%	0.8%	3.4%	0.9%
Northern Lower Peninsula												
Bow	28.8%	1.7%	29.2%	1.7%	14.6%	1.3%	18.9%	1.4%	3.8%	0.7%	4.6%	0.8%
Gun	26.4%	1.4%	24.8%	1.3%	16.2%	1.2%	22.9%	1.3%	4.8%	0.7%	4.9%	0.7%
Combined	27.0%	1.3%	25.3%	1.3%	15.9%	1.1%	22.3%	1.2%	4.6%	0.6%	5.0%	0.6%
Southern Lower Peninsula												
Bow	31.3%	1.6%	25.5%	1.5%	12.9%	1.2%	21.3%	1.4%	5.5%	0.8%	3.6%	0.7%
Gun	29.8%	1.5%	22.8%	1.3%	13.9%	1.1%	22.9%	1.3%	6.8%	0.8%	3.8%	0.6%
Combined	29.8%	1.4%	23.2%	1.3%	14.0%	1.0%	22.6%	1.2%	6.7%	0.7%	3.8%	0.6%
Bovine TB Management Area (DMU 452)												
Bow	34.4%	4.6%	27.8%	4.3%	14.0%	3.3%	15.7%	3.5%	2.9%	1.6%	5.1%	2.1%
Gun	29.4%	3.5%	24.1%	3.3%	17.3%	2.9%	18.1%	2.9%	5.4%	1.7%	5.7%	1.8%
Combined	29.7%	3.2%	25.1%	3.1%	16.3%	2.6%	17.9%	2.7%	5.0%	1.6%	5.8%	1.7%
Statewide												
Bow	30.3%	1.1%	27.1%	1.1%	13.6%	0.8%	19.4%	1.0%	5.0%	0.5%	4.6%	0.5%
Gun	28.7%	0.9%	23.6%	0.9%	15.3%	0.7%	22.1%	0.8%	5.7%	0.5%	4.7%	0.4%
Combined	28.6%	0.9%	23.9%	0.8%	15.2%	0.7%	21.9%	0.8%	5.7%	0.5%	4.7%	0.4%

^aExcludes people that purchased a deer hunting license but did not hunt. Responses categorized by weapon type and region where hunting occurred. Responses from hunters could be included in several categories because hunters could hunt in more than one region and season.

^b95% confidence limit.

Table 8. Opinions of hunters about the amount of bait allowed for hunting deer in the Bovine TB Management Area in 2000.^a

Region and weapon used	Response (% of hunters)									
	Do not restrict	95% CL ^b	Continue ban	95% CL	Allow 5 gallons per day	95% CL	Not sure	95% CL	No answer	95% CL
Upper Peninsula										
Bow	7.9%	2.0%	49.9%	3.7%	22.2%	3.0%	14.5%	2.6%	5.6%	1.7%
Gun	6.7%	1.4%	53.7%	2.7%	19.8%	2.2%	14.8%	2.0%	5.0%	1.2%
Combined	7.3%	1.3%	52.9%	2.6%	20.2%	2.1%	14.5%	1.8%	5.1%	1.1%
Northern Lower Peninsula										
Bow	11.3%	1.2%	45.6%	1.8%	29.2%	1.7%	9.6%	1.1%	4.2%	0.7%
Gun	10.8%	1.0%	48.3%	1.6%	26.2%	1.4%	10.1%	0.9%	4.6%	0.7%
Combined	10.7%	0.9%	48.1%	1.5%	26.3%	1.3%	10.2%	0.9%	4.7%	0.6%
Southern Lower Peninsula										
Bow	8.6%	1.0%	55.2%	1.7%	20.5%	1.4%	12.0%	1.1%	3.9%	0.7%
Gun	8.4%	0.9%	57.2%	1.6%	18.0%	1.2%	12.2%	1.0%	4.2%	0.6%
Combined	8.5%	0.8%	56.4%	1.5%	18.6%	1.2%	12.4%	1.0%	4.1%	0.6%
Bovine TB Management Area (DMU 452)										
Bow	17.7%	3.7%	24.0%	4.1%	51.8%	4.8%	3.6%	1.8%	2.9%	1.6%
Gun	16.3%	2.8%	28.8%	3.5%	46.5%	3.8%	5.1%	1.7%	3.4%	1.4%
Combined	15.7%	2.6%	29.2%	3.2%	45.4%	3.5%	5.8%	1.7%	3.9%	1.4%
Statewide										
Bow	10.0%	0.7%	50.1%	1.2%	23.9%	1.0%	11.4%	0.8%	4.6%	0.5%
Gun	9.4%	0.6%	52.2%	1.0%	21.5%	0.8%	11.9%	0.7%	5.0%	0.4%
Combined	9.3%	0.6%	52.2%	1.0%	21.5%	0.8%	11.9%	0.6%	5.0%	0.4%

^aExcludes people that purchased a deer hunting license but did not hunt. Responses categorized by weapon type and region where hunting occurred. Responses from hunters could be included in several categories because hunters could hunt in more than one region and season.

^b95% confidence limit.

Table 9. Opinions of hunters about the amount of bait allowed for hunting deer outside the Bovine TB Management Area in 2000.^a

Region and weapon used	Response (% of hunters)									
	Do not restrict	95% CL ^b	Continue 5 gallons per day	95% CL	Restrict to less than 5 gallons per day	95% CL	Not sure	95% CL	No answer	95% CL
Upper Peninsula										
Bow	26.1%	3.2%	50.4%	3.7%	17.6%	2.8%	1.7%	0.9%	4.2%	1.5%
Gun	25.8%	2.4%	46.4%	2.7%	21.5%	2.3%	2.5%	0.9%	3.7%	1.0%
Combined	25.4%	2.3%	47.1%	2.6%	21.3%	2.1%	2.3%	0.8%	4.0%	1.0%
Northern Lower Peninsula										
Bow	28.1%	1.6%	42.1%	1.8%	21.6%	1.5%	3.5%	0.7%	4.6%	0.8%
Gun	25.7%	1.4%	39.4%	1.5%	25.4%	1.4%	4.4%	0.6%	5.1%	0.7%
Combined	26.2%	1.3%	39.6%	1.4%	24.9%	1.3%	4.2%	0.6%	5.1%	0.6%
Southern Lower Peninsula										
Bow	28.9%	1.6%	38.1%	1.7%	22.9%	1.5%	6.0%	0.8%	4.1%	0.7%
Gun	27.8%	1.4%	36.0%	1.5%	24.5%	1.4%	7.3%	0.8%	4.3%	0.6%
Combined	27.9%	1.3%	36.2%	1.4%	24.3%	1.3%	7.1%	0.8%	4.4%	0.6%
Bovine TB Management Area (DMU 452)										
Bow	26.4%	4.2%	46.5%	4.8%	19.4%	3.8%	2.7%	1.5%	5.1%	2.1%
Gun	23.2%	3.2%	45.1%	3.8%	22.4%	3.2%	4.4%	1.6%	4.9%	1.6%
Combined	23.8%	3.0%	44.4%	3.5%	22.3%	3.0%	4.1%	1.4%	5.4%	1.6%
Statewide										
Bow	28.3%	1.1%	40.4%	1.2%	21.5%	1.0%	4.9%	0.5%	4.9%	0.5%
Gun	26.9%	0.9%	38.1%	1.0%	24.2%	0.9%	5.7%	0.5%	5.1%	0.4%
Combined	26.7%	0.9%	38.4%	1.0%	24.0%	0.8%	5.7%	0.5%	5.1%	0.4%

^aExcludes people that purchased a deer hunting license but did not hunt. Responses categorized by weapon type and region where hunting occurred. Responses from hunters could be included in several categories because hunters could hunt in more than one region and season.

^b95% confidence limit.

Table 10. Opinions of hunters about the use of bait for deer hunting in Michigan.^a

Region and weapon used	Response (% of hunters)									
	Never restrict	95% CL ^b	Ban baiting because it is unethical	95% CL	Regulate baiting only to protect herd health	95% CL	Not sure	95% CL	No answer	95% CL
Upper Peninsula										
Bow	21.5%	3.0%	13.9%	2.5%	53.7%	3.6%	6.5%	1.8%	4.5%	1.5%
Gun	18.4%	2.1%	19.8%	2.2%	51.3%	2.7%	6.9%	1.4%	3.6%	1.0%
Combined	18.7%	2.0%	19.2%	2.0%	51.5%	2.6%	6.9%	1.3%	3.7%	1.0%
Northern Lower Peninsula										
Bow	19.8%	1.5%	18.8%	1.4%	50.6%	1.8%	6.2%	0.9%	4.6%	0.8%
Gun	18.5%	1.2%	23.7%	1.3%	46.6%	1.6%	6.8%	0.8%	4.4%	0.6%
Combined	18.4%	1.1%	23.0%	1.2%	47.3%	1.5%	6.7%	0.7%	4.6%	0.6%
Southern Lower Peninsula										
Bow	14.1%	1.2%	20.4%	1.4%	54.9%	1.7%	7.0%	0.9%	3.5%	0.6%
Gun	13.5%	1.1%	22.6%	1.3%	52.8%	1.6%	7.6%	0.8%	3.4%	0.6%
Combined	13.6%	1.0%	22.5%	1.2%	53.0%	1.5%	7.5%	0.8%	3.4%	0.5%
Bovine TB Management Area (DMU 452)										
Bow	34.1%	4.6%	15.3%	3.5%	38.7%	4.7%	6.5%	2.4%	5.3%	2.2%
Gun	28.4%	3.4%	19.5%	3.0%	39.9%	3.7%	7.7%	2.0%	4.6%	1.6%
Combined	28.7%	3.2%	19.7%	2.8%	39.0%	3.5%	7.4%	1.9%	5.2%	1.6%
Statewide										
Bow	17.6%	0.9%	19.2%	0.9%	52.1%	1.2%	6.9%	0.6%	4.2%	0.5%
Gun	16.7%	0.8%	22.6%	0.8%	49.4%	1.0%	7.3%	0.5%	4.1%	0.4%
Combined	16.5%	0.7%	22.4%	0.8%	49.6%	1.0%	7.3%	0.5%	4.1%	0.4%

^aExcludes people that purchased a deer hunting license but did not hunt. Responses categorized by weapon type and region where hunting occurred. Responses from hunters could be included in several categories because hunters could hunt in more than one region and season.

^b95% confidence limit.

Table 11. Opinions of nonbaiters and baiters about the use of bait for deer hunting.

Group	Response (% of hunters)									
	Never restrict	95% CL ^a	Ban baiting because it is unethical	95% CL	Regulate baiting only to protect herd health	95% CL	Not sure	95% CL	No answer	95% CL
Nonbaiters	9.8%	0.8%	38.3%	1.4%	38.9%	1.4%	8.7%	0.8%	4.3%	0.6%
Baiters ^b	23.6%	1.2%	5.8%	0.7%	60.8%	1.4%	5.9%	0.7%	3.9%	0.6%
Distracters	18.8%	1.6%	5.7%	1.0%	64.2%	2.0%	7.1%	1.1%	4.1%	0.8%
Attracters	25.1%	2.3%	5.2%	1.2%	61.4%	2.6%	4.8%	1.1%	3.5%	1.0%
Concentrators	32.1%	3.1%	5.1%	1.5%	55.5%	3.3%	3.8%	1.3%	3.5%	1.2%

^a95% confidence limit.

^bDistracters used bait along a natural trail to distract deer as a shot is taken by the hunter. Attracters used bait to change the movements of deer and draw them near a hunter's location or into shooting lanes. Concentrators used bait over an extended period of time to draw and hold deer in a hunting area.