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QUALITY DEER MANAGEMENT (QDM) SURVEY: DEER MANAGEMENT UNIT 045 (LEELANAU COUNTY)

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ABSTRACT

A survey was completed to determine whether hunters and landowners supported mandatory QDM regulations in Deer Management Unit (DMU) 045. The Michigan Department of Natural Resources (MDNR) supports the voluntary implementation of QDM practices on private land in Michigan. However, mandatory regulations should be imposed in a DMU only when it can be shown that a clear majority ($\geq 66\%$) of hunters and landowners support implementation. Questionnaires were sent to a random sample of landowners and hunters; 74% of the landowners and 86% of hunters returned their questionnaire. About 66% of landowners owning land in DMU 045 and 64% of people hunting deer in DMU 045 supported implementing mandatory QDM regulations. The margins of error associated with the estimates of support for the QDM regulations were plus or minus 3-5%. Thus, these estimates were too close to 66% to determine whether the levels of support were sufficient or insufficient to recommend implementation.

After the Natural Resources Commission (NRC) had reviewed the results of this survey, they requested that the Wildlife Division prepare a Wildlife Conservation Order recommending implementation of the proposed QDM regulations in DMU 045. Before implementing QDM regulations, however, the existing sex and age structure of the deer herd must be assessed so that the effects of QDM regulations can be evaluated. Currently, insufficient data has been collected to describe the existing conditions of the deer herd; thus, the Wildlife Division will



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recommend that the QDM regulations be delayed until 2003, or until sufficient data has been collected.

INTRODUCTION

Quality Deer Management (QDM) is a form of management that requires restrictive buck harvests and sustained antlerless harvests to produce a deer population that has a relatively equal sex ratio and that is in balance with its habitat. The Michigan Department of Natural Resources (MDNR) supports the voluntary implementation of these practices on private land. The MDNR supports mandatory QDM regulations in a Deer Management Unit (DMU) if at least 66% of hunters and landowners in the affected DMU support these regulations.

The MDNR developed guidelines for considering and implementing QDM regulations with the assistance of private conservation groups and resource agencies (Quality Deer Management Working Group 1999). Following these guidelines, Leelanau Whitetails requested that the MDNR implement mandatory QDM regulations in DMU 045 (Leelanau County; Figure 1). This group requested a change in buck harvest regulations so that a portion of the yearling bucks would be protected from harvest and allowed to become older. This would be accomplished by changing the definition of a legal buck within DMU 045 to a deer with three or more points on one antler. This would protect bucks with fewer points from harvest. The current definition of a legal buck is a deer with an antler greater than three inches in length. These groups also supported the harvest of sufficient antlerless deer annually to stabilize or reduce overall deer numbers to keep deer numbers in balance with the habitat.

The Wildlife Division 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 Division to accomplish its statutory responsibility. The main objectives of this opinion survey were to determine whether hunters and landowners supported proposed mandatory QDM deer harvest regulations in DMU 045.

METHODS

This survey was done in accordance with guidelines developed for evaluating proposed mandatory QDM regulations in Michigan (Quality Deer Management Working Group 1999). A questionnaire was sent to 1,443 randomly selected hunters and landowners from DMU 045. The survey was designed to produce estimates that would be accurate within a margin of error of plus or minus five percentage points.

A list of property parcels ≥ 5 acres was obtained from the Leelanau County Equalization Department. The property tax records were organized by property parcel identification numbers, rather than by landowner names. Therefore, people owning multiple parcels were in the property tax records multiple times. Parcels owned by the same landowner were combined to create a list of landowners (without multiple parcels per landowner). As this list was compiled, publicly owned land and parcels within cities and villages were also excluded. From the final landowner list, 995 landowners were randomly selected to receive a questionnaire (i.e., simple random sampling design, Cochran 1977).

The estimate of hunter support was also calculated using a simple random sampling design. A random sample of these hunters was obtained from lists of people that indicated they had hunted in Leelanau County during 1998-2000. These lists represented randomly selected people included in annual deer harvest surveys that were conducted by the Wildlife Division (Frawley 1999, 2000, 2001).

People receiving the questionnaire were asked to report whether they supported the mandatory QDM regulations for DMU 045. Response options to the question on the proposal were “yes,” “no,” “undecided,” and “don’t care” (Appendix A). The percentage of support was measured by dividing the number of “yes” responses by the sum of those responses indicating “yes,” “no,” or “undecided.” People who indicated “don’t care” or who did not provide an answer were not used to estimate support for the proposed QDM regulations. Moreover, opinions of hunters that did not hunt within DMU 045 and landowners that did not own land within DMU 045 were not included when estimating support for the proposed QDM regulations.

Estimates of support for the mandatory QDM regulations were calculated along with their 95% confidence limit (CL). This CL could be added and subtracted from the estimate to calculate the 95% confidence interval. The confidence interval was a measure of the precision associated with the estimate and implied that the true value would be within this interval 95 times out of 100. Estimates were not adjusted for possible response or nonresponse bias.

The random sample of people receiving the questionnaire included 995 landowners and 470 hunters, including 22 people that were included in both the landowner and hunter samples (Table 1). Questionnaires were initially mailed during December 2001. A reminder note and up to two follow-up questionnaires were mailed to nonrespondents. Although 1,443 people were sent the questionnaire, 42 surveys were undeliverable resulting in an adjusted sample size of 1,401 (i.e., minus undeliverable questionnaires). Questionnaires were returned by 1,088 people, yielding a 78% adjusted response rate.

RESULTS AND DISCUSSION

Questionnaires were originally mailed to 995 landowners and 470 hunters, but questionnaires were undeliverable to 38 landowners and 4 hunters. Thus, the adjusted sample size was 957 landowners and 466 hunters. Questionnaires were returned by 709 landowners (74%) and 401 hunters (86%) (Table 1). Response rates of both groups exceeded the minimum response rate of 50% that was required in order to accept the results of the survey (Quality Deer Management Working Group 1999).

About 66% of the landowners owning land in DMU 045 supported implementing the proposed mandatory QDM regulations (Table 2). In contrast, 28% of landowners did not support mandatory QDM regulations, and 6% did not have an opinion about the regulations. Among hunters that hunted in DMU 045, about 63% supported the proposed mandatory QDM regulations (Table 3). About 34% of the hunters did not support the mandatory QDM regulations, and 4% did not have an opinion about the regulations.

At least 66% of the landowners and hunters must support the proposed QDM regulations before the Wildlife Division would recommend implementation. The levels of support did not

surpass the required 66%; however, the margins of error associated with the estimates were plus or minus 3-5% (Tables 2 and 3). Thus, these estimates were too close to 66% to determine whether the levels of support were sufficient or insufficient to recommend implementation.

After the Natural Resources Commission had reviewed the results of this survey, they requested that the Wildlife Division prepare a Wildlife Conservation Order recommending implementation of the proposed QDM regulations in DMU 045. In accordance with the guidelines developed for evaluating proposed mandatory QDM regulations in Michigan, the existing sex and age structure of the deer herd must be assessed prior to implementing QDM regulations so that the effects of QDM regulations can be evaluated (Quality Deer Management Working Group 1999). Currently, insufficient data has been collected to describe the existing conditions of the deer herd; thus, the Wildlife Division will recommend that the QDM regulations be delayed until 2003, or until sufficient data has been collected.

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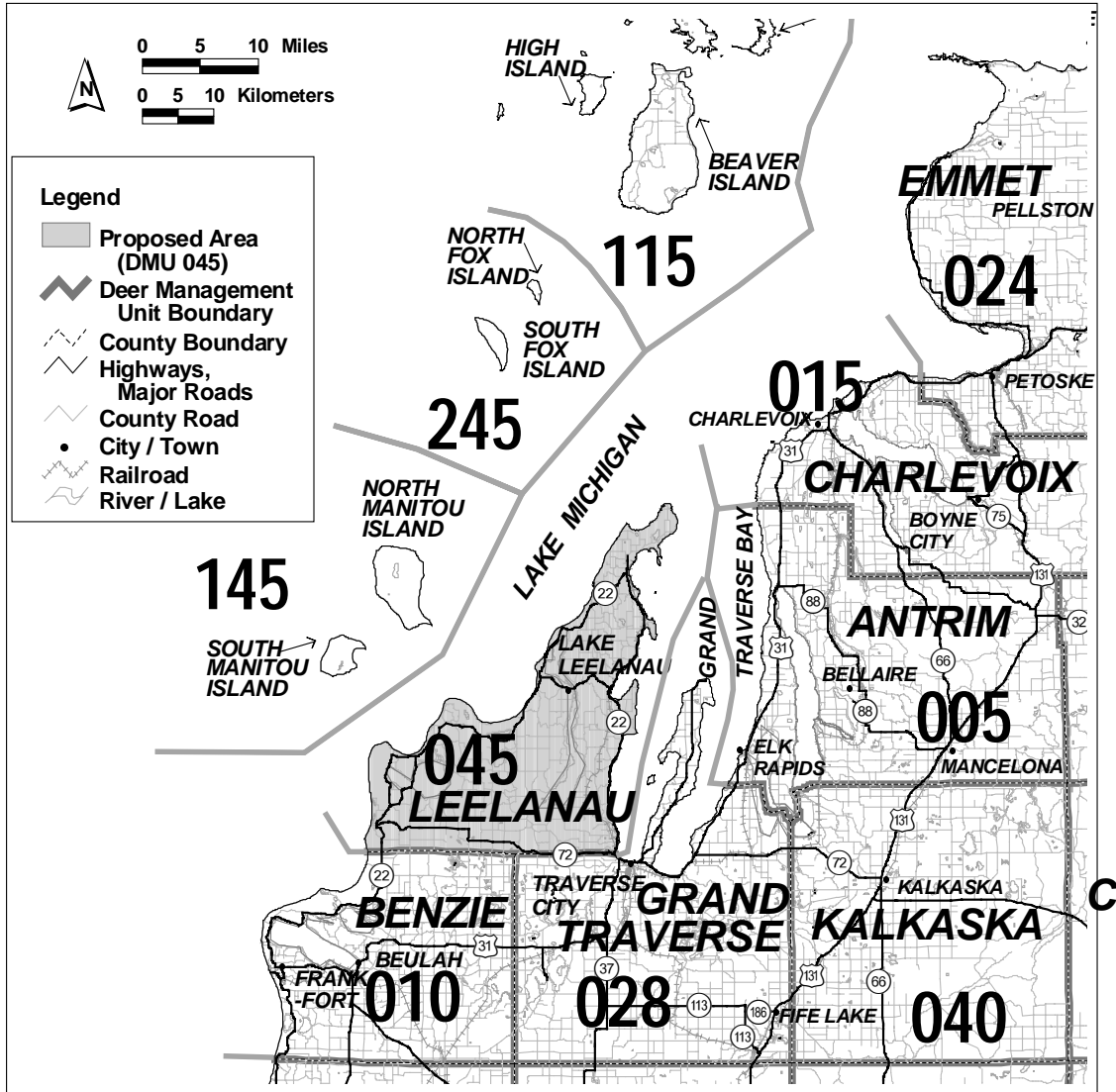


Figure 1. Deer Management Unit 045 (shaded area) in western Lower Peninsula of Michigan, 2001.

Table 1. Number of people within each group and number selected for the random sample of people receiving the opinion survey regarding mandatory QDM regulations in DMU 045, Michigan.

Group	Total number of people in group	Number of people included in sample ^a	Number of questionnaires that were undeliverable	Number of questionnaires returned	Response rate (%)
Landowners ^b	2,560	995	38	709	74
Hunters ^c	3,697	470	4	401	86

^aTwenty-two people were included in both the landowner and hunter samples; thus, the overall sample size consisted of 1,443 people.

^bLandowners owned at least one 5-acre parcel; however, each landowner was counted once regardless of number of parcels owned.

^cEstimated number of people that hunted deer in Leelanau County in 2000 (unpublished data).

Table 2. Proportion of landowners supporting the proposed mandatory QDM regulations in DMU 045, Michigan.

Response	Percentage of landowners ^a	95% CL ^b	Responses (%)
Yes (Supported mandatory QDM regulations)	66.0%	3.1%	
No (Did not support mandatory QDM regulations)	27.8%	2.9%	
No opinion	6.3%	1.6%	

^aPercentage of landowners owning at least one 5-acre parcel of land in DMU 045; landowners that selected “don’t care” ($5.2 \pm 1\%$) or failed to provide an answer ($0.6 \pm 1\%$) about their support for QDM regulations were not used to measure support for mandatory QDM regulations.

^b95% confidence limits.

Table 3. Proportion of hunters supporting the proposed mandatory QDM regulations in DMU 045, Michigan.

Response	Percentage of hunters ^a	95% CL ^b	Responses (%)
Yes (Supported mandatory QDM regulations)	62.9%	4.7%	<p>A pie chart illustrating the distribution of responses regarding support for mandatory QDM regulations. The largest slice, representing 'Yes' support, is black and accounts for 62.9% of the total. The 'No' response is shown in gray, making up 33.5%. The smallest slice, 'No Opinion', is white and represents 3.6%.</p>
No (Did not support mandatory QDM regulations)	33.5%	4.6%	
No opinion	3.6%	1.8%	

^aPercentage of hunters that hunted deer in DMU 045; hunters that selected “don’t care” (1.1 ± 1%) or failed to provide an answer (0.5 ± 1%) about their support for QDM regulations were not used to measure support for mandatory QDM regulations.

^b95% confidence limits.

Appendix A

Quality Deer Management Survey Questionnaire for
Deer Management Unit 045.



QUALITY DEER MANAGEMENT SURVEY

This information is requested under authority of Part 435, 1994 PA 451, M.C.L. 324.43539.



A proposal has been submitted to the DNR to modify deer harvest regulations in Leelanau County (Deer Management Unit 045). The proposal requests that: (1) a legal buck be defined as a deer with at least 3 points on one antler; (2) an adequate number of antlerless deer be harvested annually to meet population goals and to achieve an adult buck to adult doe ratio of 1:1, and (3) the regulation be in place for five years beginning with the fall 2002 deer hunting seasons.

1. Do you hunt deer in Leelanau County (see map on reverse side)? ¹ No ² Yes

2. Do you own land in LeeLanau County (see map on reverse side)? ¹ No ² Yes

3. Do you support the above proposal? **For purposes of measuring support, checking the “no opinion” box will count as a “no” vote and indicates you have not formed an opinion about the proposal.** Checking the “don’t care” box will result in your opinion not being counted as supportive or opposed to the proposal. This merely indicates that you are aware of the proposal and don’t care what the deer hunting regulations are for this area.

¹ Yes ² No ³ No Opinion ⁴ Don’t Care

*Please return questionnaire in the enclosed postage-paid envelope.
Thank you for your help.*

Deer Management Units in Leelanau County

Shaded area will be affected by proposed regulation changes

