



MICHIGAN DEPARTMENT OF NATURAL RESOURCES
Wildlife Division Report No. 3361
March 2002

Printed by Authority of: P.A. 451 of 1994
Total Number of Copies Printed:150
Cost per Copy:.....\$0.382
Total Cost:\$57.33

Michigan Department of Natural Resources



QUALITY DEER MANAGEMENT (QDM) SURVEY: DEER MANAGEMENT UNIT 017 (CHIPPEWA AND MACKINAC COUNTIES)

Brian J. Frawley

ABSTRACT

A survey was completed to determine whether hunters and landowners supported mandatory QDM regulations in Deer Management Unit (DMU) 017. 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; 77% of the landowners and 83% of hunters returned their questionnaire. About 57% of landowners owning land in DMU 017 and 53% of people hunting deer in DMU 017 supported implementing mandatory QDM regulations. Support from both landowners and hunters was insufficient to recommend implementation of mandatory QDM regulations for DMU 017.

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.



A contribution of Federal Aid in Wildlife Restoration, Michigan Project W-127-R

Equal Rights for Natural Resource Users

The Michigan Department of Natural Resources (MDNR) provides equal opportunities for employment and access to Michigan's natural resources. Both State and Federal laws prohibit discrimination on the basis of race, color, national origin, religion, disability, age, sex, height, weight or marital status under the Civil Rights Acts of 1964, as amended (MI PA 453 and MI PA 220, Title V of the Rehabilitation Act of 1973 as amended, and the Americans with Disabilities Act). If you believe that you have been discriminated against in any program, activity, or facility, or if you desire additional information, please write the MDNR, HUMAN RESOURCES, PO BOX 30028, LANSING MI 48909-7528, or the MICHIGAN DEPARTMENT OF CIVIL RIGHTS, STATE OF MICHIGAN PLAZA BUILDING, 1200 6TH STREET, DETROIT MI 48226, or the OFFICE FOR DIVERSITY AND CIVIL RIGHTS, US FISH AND WILDLIFE SERVICE, 4040 NORTH FAIRFAX DRIVE, ARLINGTON VA 22203.

For information or assistance on this publication, contact: MDNR, WILDLIFE DIVISION, P.O. BOX 30444, LANSING, MI 48909-7944, <http://www.michigandnr.com>. This publication is available in alternative formats upon request. TTY: Michigan Relay Center 1-800-649-3777

IC2578-48 (03/05/2002)

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, Tri-County Wildlife Unlimited requested that the MDNR implement mandatory QDM regulations in DMU 017 (portions of Chippewa and Mackinac counties; 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 017 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 017.

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 3,264 randomly selected hunters and landowners from DMU 017. The survey was designed to produce estimates that would be accurate within a margin of error of plus or minus five percentage points.

Lists of property parcels ≥ 5 acres were obtained from the equalization departments in Chippewa and Mackinac counties. 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. To create a list of landowners (without multiple parcels per landowner), the property tax records from the two counties were merged, and then parcels owned by the same landowner were combined. As this list was compiled, publicly owned lands, parcels within cities and villages, and parcels outside DMU 017 were also excluded from the list. From the final landowner list, 1,000 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 Chippewa or Mackinac counties 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). For these harvest surveys, hunters reported the county where they hunted deer, rather than the DMU where they hunted. Thus, the hunter sample included some hunters that had hunted outside of DMU 017.

People receiving the questionnaire were asked to report whether they supported the mandatory QDM regulations for DMU 017. 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 017 and landowners that did not own land within DMU 017 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 991 landowners and 2,316 hunters, including 43 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 3,264 people were sent the questionnaire, 64 surveys were undeliverable resulting in an adjusted sample size of 3,200 (i.e., minus undeliverable questionnaires). Questionnaires were returned by 2,594 people, yielding an 81% adjusted response rate.

RESULTS AND DISCUSSION

Questionnaires were originally mailed to 991 landowners and 2,316 hunters, but questionnaires were undeliverable to 31 landowners and 34 hunters. Thus, the adjusted sample size was 960 landowners and 2,282 hunters. Questionnaires were returned by 742 landowners (77%) and 1,889 hunters (83%) (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 57% of the landowners owning land in DMU 017 supported implementing the proposed mandatory QDM regulations (Table 2). In contrast, 40% of landowners did not support mandatory QDM regulations, and 3% did not have an opinion about the regulations. Among hunters that hunted in DMU 017, about 53% supported the proposed mandatory QDM regulations (Table 3). About 45% of the hunters did not support the mandatory QDM regulations, and 2% did not have an opinion about the regulations. The support of both landowners and hunters failed to exceed the minimum support level of 66% that was required to recommend implementation of mandatory QDM regulations for DMU 017 by the Wildlife Division to the Natural Resources Commission.

ACKNOWLEDGEMENTS

I thank all the landowners and hunters that provided information. Diane Stump, Linda Swanson, and Becky Walker completed data entry. Mary Benson, Brent Rudolph, Pete Squibb, Valerie Tuovila, and John Urbain reviewed a previous version of this report.

LITERATURE CITED

Cochran, W. G. 1977. Sampling techniques. John Wiley & Sons, New York. USA.

Frawley, B. J. 1999. Michigan deer harvest survey report: 1998 seasons. Wildlife Division Report 3303. Michigan Department of Natural Resources, Lansing, USA.

Frawley, B. J. 2000. Michigan deer harvest survey report: 1999 seasons. Wildlife Division Report 3314. Michigan Department of Natural Resources, Lansing, USA.

Frawley, B. J. 2001. Michigan deer harvest survey report: 2000 seasons. Wildlife Division Report 3344. Michigan Department of Natural Resources, Lansing, USA.

Quality Deer Management Working Group. 1999. Procedure for initiation, evaluation, and review of mandatory quality deer management proposals. Wildlife Division, Michigan Department of Natural Resources, Lansing, USA.

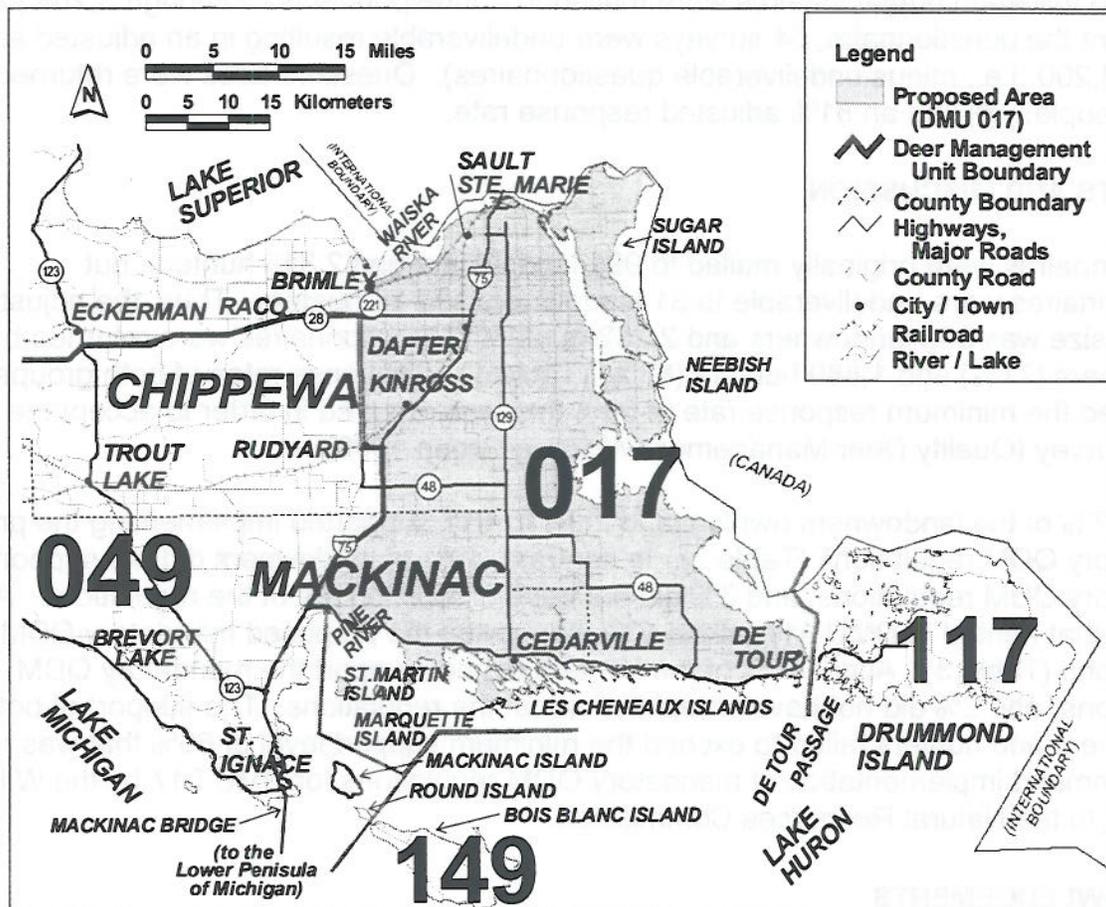


Figure 1. Deer Management Unit 017 (shaded area) in eastern Upper Peninsula of Michigan, 2001.

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 017, 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 | 4,213 | 991 | 31 | 742 | 77 |
| Hunters ^c | 11,029 | 2,316 | 34 | 1,889 | 83 |

^aForty-three people were included in both the landowner and hunter samples; thus, the overall sample size consisted of 3,264 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 Chippewa and Mackinac counties in 2000 (unpublished data).

Table 2. Proportion of landowners supporting the proposed mandatory QDM regulations in DMU 017, Michigan.

| Response | Percentage of landowners ^a | 95% CL ^b | Responses (%) |
|--|---------------------------------------|---------------------|---|
| Yes (Supported mandatory QDM regulations) | 57.4% | 3.4% | <p>A pie chart illustrating the distribution of responses from landowners regarding mandatory QDM regulations. The chart is divided into three segments: a large dark grey segment for 'Yes' at 57.4%, a medium light grey segment for 'No' at 39.7%, and a small white segment for 'No Opinion' at 2.9%.</p> |
| No (Did not support mandatory QDM regulations) | 39.7% | 3.4% | |
| No opinion | 2.9% | 1.2% | |

^aPercentage of landowners owning at least one 5-acre parcel of land in DMU 017; landowners that selected "don't care" ($3.1 \pm 1\%$) or failed to provide an answer ($0.4 \pm 1\%$) 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 017, Michigan.

| Response | Percentage of hunters ^a | 95% CL ^b | Responses (%) |
|--|------------------------------------|---------------------|---------------|
| Yes (Supported mandatory QDM regulations) | 52.9% | 2.8% | |
| No (Did not support mandatory QDM regulations) | 44.7% | 2.8% | |
| No opinion | 2.4% | 0.9% | |

^aPercentage of hunters that hunted deer in DMU 017; hunters that selected “don’t care” ($1.4 \pm 1\%$) or failed to provide an answer ($0.1 \pm 1\%$) 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 017.

1. Do you have a physical map of your property that shows the location of all deer management units (DMUs) on your property? (If you do not have a physical map, please describe how you determine the location of DMUs on your property.)

1. Do you have a map of your property that shows the location of all deer management units (DMUs) on your property? (If you do not have a physical map, please describe how you determine the location of DMUs on your property.)

2. Do you have a map of your property that shows the location of all deer management units (DMUs) on your property? (If you do not have a physical map, please describe how you determine the location of DMUs on your property.)

3. Do you agree the above proposal for purposes of measuring success in checking the "no action" box will count as a "no" vote and indicate you are not opposed to the proposal? (Check "yes" or "no" to indicate your response.)

Yes No Don't know



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 Deer Management Unit 017. 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 a more even ratio of adult bucks to adult does, and (3) the regulation be in place for five years beginning with the fall 2002 deer hunting seasons.

1. Do you hunt in the management unit affected by the proposed regulation (see map on reverse side)?
1 No 2 Yes

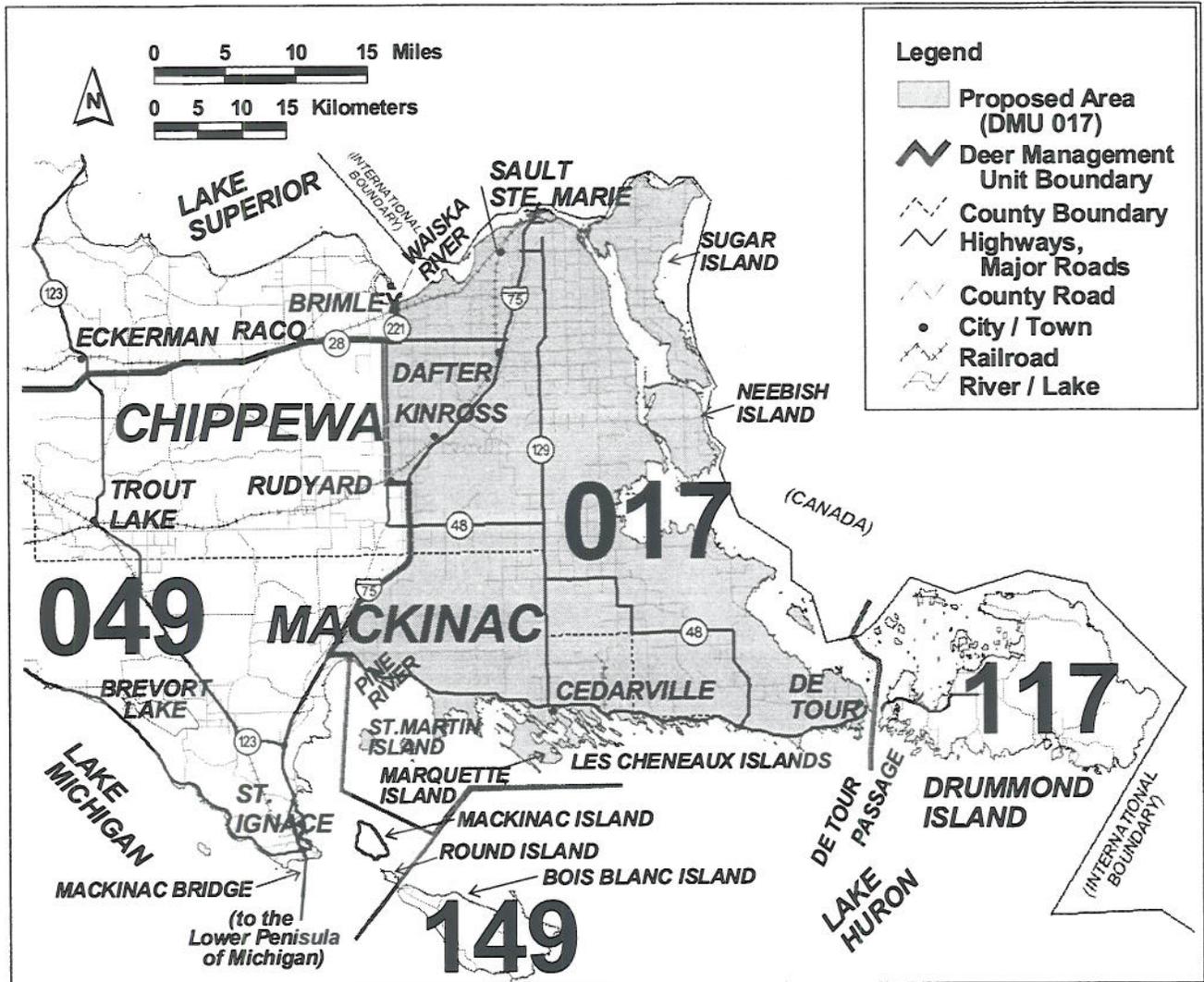
2. Do you own land in the management unit affected by the proposed regulation (see map on reverse side)?
1 No 2 Yes

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 Unit 017 in Eastern Upper Peninsula

Shaded area will be affected by proposed regulation changes



Deer Management Unit 017 includes portions of Chippewa and Mackinac counties bounded by a line beginning at the Lake Huron shoreline at the mouth of the Pine river (section 10, T42N R03W), then northerly upstream along the Pine River to highway M-134, westerly on highway M-134 to highway I-75, northerly on highway I-75 to highway M-48, easterly on highway M-48 to where it combines with Mackinac trail, northerly on highway M-48/Mackinac trail towards the city of Rudyard to Tilson road (no turn, road name change), northerly on Tilson road to highway M-28, easterly on highway M-28 to highway M-221, northerly on highway M-221 through the city of Brimley to Lakeshore drive, easterly on Lakeshore drive to the Waiska river, northerly downstream along the Waiska river to Lake Superior due north to the international boundary, southeasterly along the international boundary to the De Tour passage waterway, southerly through the De Tour passage waterway and westerly along the Lake Huron shoreline, including Sugar island, Neebish island, and the Les Cheneaux islands, to the point of beginning, excluding Drummond Island.

