

DMU 072

Roscommon County

Deer Management Unit

Area Description

Roscommon County Deer Management Unit is in the Northern Lower Peninsula Region (NLP). It has roughly 205,000 acres of public land which is about 55% of the total acreage in the county. The remainder of land is in private ownership. Topography varies from rolling hills to areas that are relatively flat. Soil types consist mainly of sandy types that are well drained. The landscape consists of large blocks of state land. The state land is well distributed throughout the County except for a large portion of Nester Township West which contains a large private association. These large blocks of land are dominated by forest land and provide excellent habitat for deer. Several large swamp complexes including the Dead Stream Swamp, Long Crossway Swamp, Ninemile Hill Swamp, and the Hudson Creek Swamp provide deer with important winter thermal cover. The private land within the county consists of residential developments and recreational properties amongst forested habitat. The County contains 3 large inland lakes, Houghton, Higgins, and St. Helen, which see heavy recreational use.

Management Guidance

Two main factors guide the deer management in this DMU: 1) landscape impact management; and 2) hunting opportunities. Impact management refers to reduction of undesirable effects associated with deer over-abundance. Crop damage, deer-vehicle collisions, and poor forest regeneration due to over-browsing are examples. In an effort to find a middle-ground in which deer numbers provide ample hunting and wildlife viewing opportunities and mitigate unwanted impacts, we review data from several sources to adjust the harvest strategy as needed. Those data include deer harvest data from check stations and an annual mail survey, the winter severity index, deer-vehicle collision data from the Michigan State Police, and deer-related information collected by regional wildlife biologists (e.g., number of Crop Damage Permits, residential property damage, Deer Management Assistance Permits, forest regeneration assessments, surveys run by cooperators, etc.).

Populations Assessment Factors

Winter Severity Index

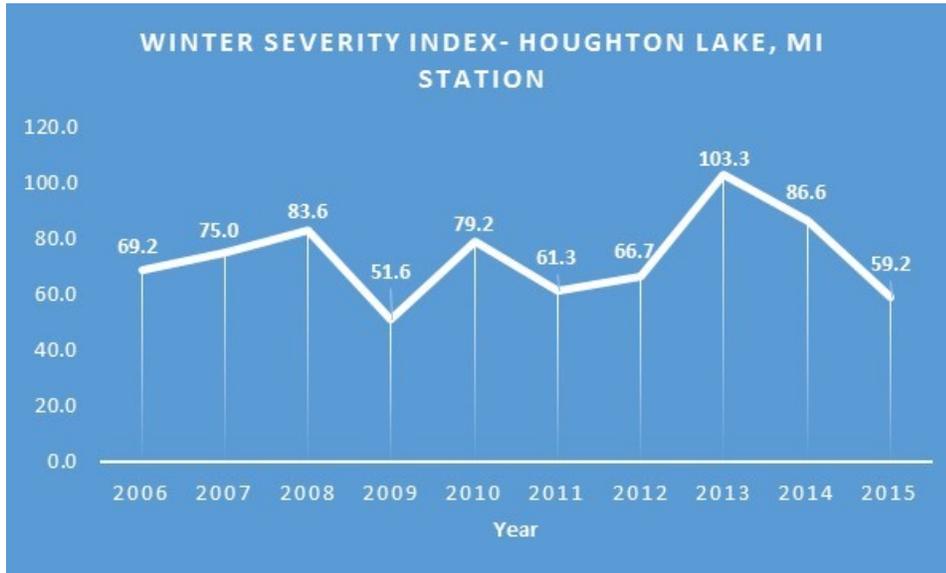


Figure 1 Winter Severity Index Measurements for DMU 072, Roscommon County

In northern Michigan, winter severity has a direct impact on deer condition at the population level. Whereas mild winters allow for better survival of deer, severe winters can cause high deer mortality. In addition, does may abort fetuses to survive which creates a lag effect into the following year. Does with poor nutrition tend to have smaller litter sizes and give birth to fawns with reduced birth weights. Winter severity over the last five years has been variable with most years below the 10-year-average for the Houghton Lake area. The notable exception was in 2013 when a late winter season cold spell resulted in a “late spring” in the Northern Lower Peninsula region. Antlerless harvest quotas in this DMU were reduced to zero on either publicly or privately owned lands (or both) from 2007-2011 due to public concerns over low deer numbers. That reduction, along with the relatively mild winters observed over the last three years and antlerless quotas that are well below the historical average have allowed for a modest increase in the deer population and a resumption of issuing antlerless permits. From 2012-2015, antlerless permit totals have averaged 1,575, supporting an average annual antlerless harvest of 1,300 deer.

Deer Harvest Analysis

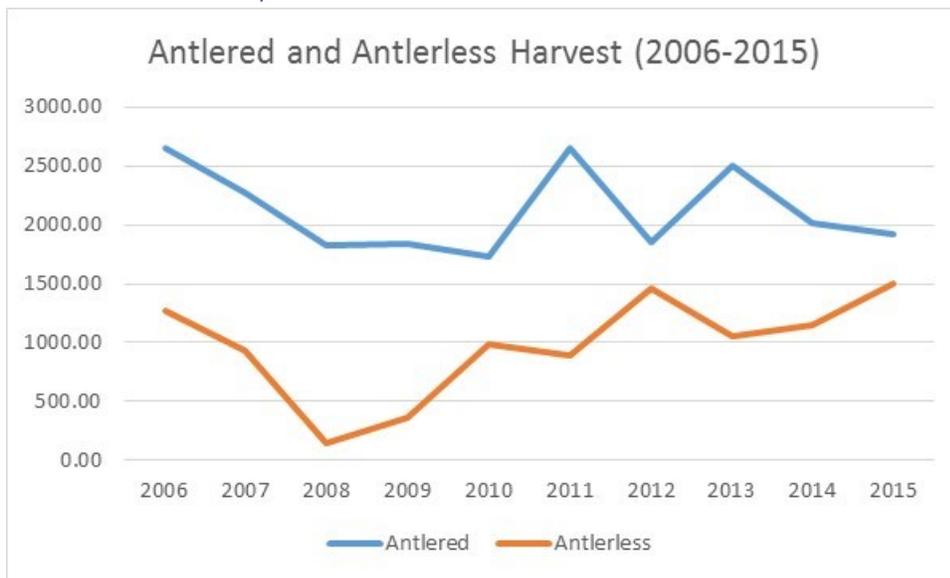


Figure 2 Deer Harvest Estimates for DMU 072, Roscommon County, Michigan

Buck harvest has oscillated between 3 and 5 bucks harvested per square mile consistently over the last decade. The fluctuations observed are likely related to varying winter severities, hunter effort and fall food availability. Both the antlered and antlerless harvest indicates that the population is likely stable. While it can be difficult to pinpoint exactly what causes a population to increase, decrease, or stabilize, we can make predictions based on past trends and looking at several factors that can indicate changes in populations.

Deer Management Assistance and Crop Damage Permits

Deer Management Assistance Permits (DMAP) and Crop Damage Permits (CDP or OOS) are utilized to address deer overabundance issues in specific locations at specific times of the year. DMAPs may be applied for by any private landowner with deer damage, safety issues and other concerns such as forest regeneration. Because CDPs are not typically issued during the regular hunting seasons, agricultural producers who experience chronic deer damage will frequently request DMAPs to ensure they can harvest adequate numbers of antlerless deer in the Fall. In Roscommon County DMAP interest has grown over the last decade, but recently has tapered off due to the perception that adequate numbers of over-the-counter antlerless permits are available to ensure landowners can reach their deer management goals.

CDPs are most frequently issued to agricultural producers during the spring and summer months to address damage to crops when they are most vulnerable to damage. Roscommon County has very little agricultural land use. Consequently, CDP demand within the DMU is very low.

Deer- Vehicle Collisions

Deer-vehicle collisions (DVC) are commonly used as a deer population trend index, the idea being that high rates of DVCs are correlated with high deer populations, and vice versa. Research has shown that there are other factors that influence the rate of DVCs. Habitat proximate to the roadway and highway

characteristics can blur the relationship between the deer population and DVCs. However, DVC data can provide useful information if contextualized as one part of a deer population assessment.

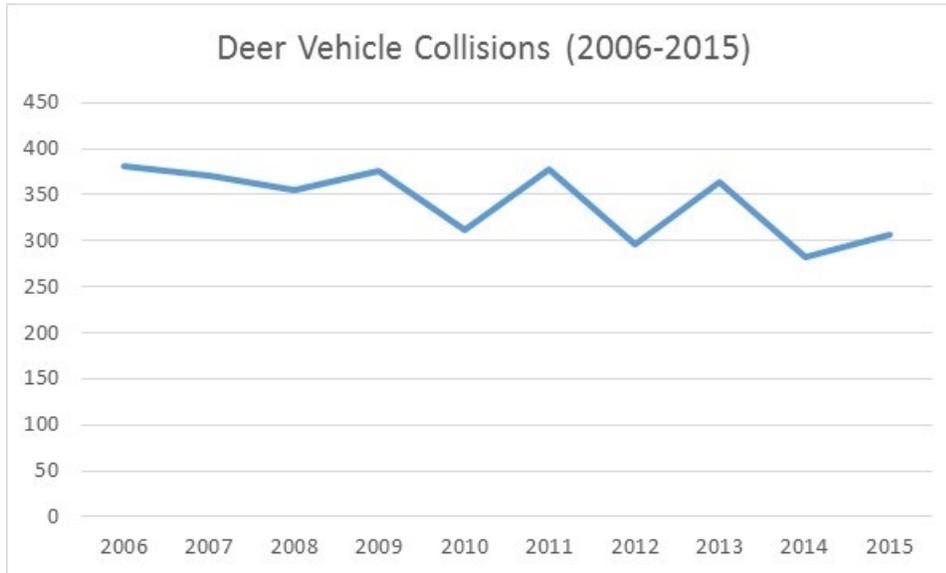


Figure 3 DMU 072 Deer Vehicle Collisions

These data are provided by the Michigan State Police. Although changes may have occurred in law enforcement response and recording of DVCs over time, we assume they have remained consistent enough to provide an accurate estimate of DVC rates relative to vehicle miles driven. In Roscommon County, deer vehicle collisions range between 300-400 per year with a slightly decreasing trajectory.

Deer Condition Data:

Yearling main antler beam diameter, measured just above the burr, and number of points are useful for determining deer body condition. These measurements are recorded by MDNR as hunters voluntarily present harvested deer at check stations throughout the state. When aggregated by DMU, the average antler beam diameter and number of points for yearling bucks over multiple years is calculated. An upward trend indicates improving herd condition, whereas a downward trend points to declining herd condition. Generally, herd condition is a function of environmental and landscape factors. An abundance of highly nutritional food resources and good cover is beneficial for herd condition. Depletion of these resources through overpopulation leads to a decline in herd condition, observed as low yearling main beam diameters and antler points. In northern Michigan, winter severity has a direct impact on deer condition at the population level. However, other environmental factors may impact deer condition indirectly. A late frost or an especially rainy spring can negatively influence the production of natural foods. Likewise, changes in land use practices can affect cover and food resources.

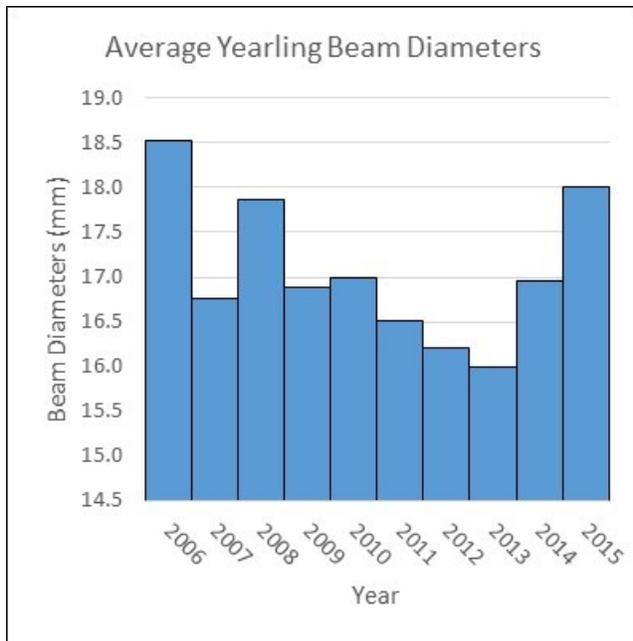


Figure 4 DMU 072 Beam Diameter Measurements for 1-year old Antlered Deer

Beam diameters in DMU 072 have had little fluctuation over the last ten years ranging between 16 and 18.5 mm, indicating stability within the herd. What fluctuations have been observed can be attributed to environmental factors such as winter severity and food abundance such as mast production.

Deer Management Recommendations:

During the last 9-10 years the deer population in this DMU has been stable overall. Smaller year-to-year changes are evident and due to factors discussed above. Extremely severe winters negatively affect deer populations and those effects can last for several years. Roscommon County has the most public land of any county in the Michigan's Lower Peninsula. It is also easily accessible as it is located on two major highway corridors and is within 2 hours travel time of 3 large population centers. Consequently, hunting opportunities abound within this DMU. The local economy is also highly dependent upon outdoor recreation.

Most of the deer impact management within Roscommon County is centered on addressing forest regeneration problems and landscape damage. Those issues have been significant within the last 10 years. After the severe winter of 2013-2014, antlerless permits were reduced for three years to allow the population to positively respond. Recent antlerless harvest data and vehicle collision information indicate the deer population has shown recent growth in the DMU. Consequently, a slight increase in the antlerless quota will be recommended to help stabilize the population and help close the gap between the antlered and antlerless harvest. Historically Roscommon County has been closed to early and late antlerless hunting seasons and that closure is expected to remain the status quo. Localized pockets of higher deer density that cause problems will continue to be addressed through the issuance of Deer Management Assistance Permits and Crop Damage Permits.

Deer Management Unit 72



Legend

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| Deer Management Units Polys Edit | Open Water | Hay/Pasture |
| Highway | Developed | Cultivated Crops |
| Cities | Forested | Wetlands |
| | Herbaceous | |

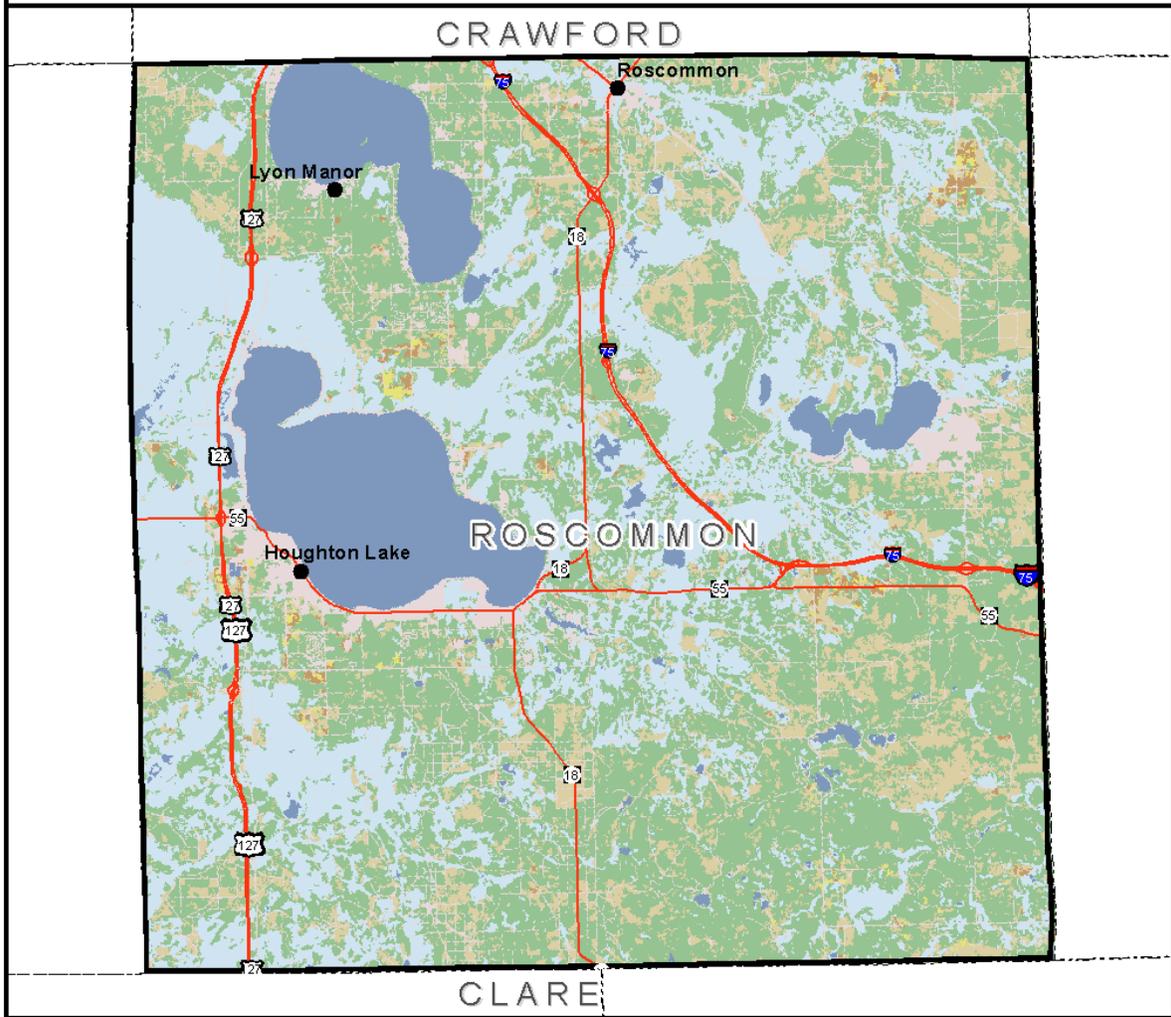


Figure 5 DMU 072, Roscommon County Land Cover Types