

DMU 006

Arenac County

Deer Management Unit

Area Description

The Arenac County Deer Management Unit (DMU) 006 is in the Northern Lower Peninsula (NLP) Region. It has roughly 248,320 acres and consists of nearly 51% forested; 27% crop land, 3% pasture and idle grasslands. About 19 % of the land use is urban. Only 14 % of Arenac County is in public ownership, which is mostly limited to the western half of the county. Substantial human population growth has occurred along the Lake Huron shoreline and in the community of Standish during the past 15 years. Deer numbers are generally low in these urban areas due to increase housing developments, roads, and fragmented habitat.

The Western Arenac subunit is primarily public forest land managed for higher-quality aspen. Similar habitat conditions also occur on private lands where landowners have actively assumed the role of forest manager. Federal programs such as the Conservation Reserve Enhancement Program (CREP) and Conservation Reserve Program (CRP) are popular in Arenac County, improving habitat quality on many small private parcels. An active real estate market exists for sizable parcels offering deer management opportunities. This subunit has traditionally supported the greatest hunter densities in the county due to the amount of public land. Based on cover types, land use, and public demands this subunit is ecologically similar to east Gladwin County.

The Omer subunit is a mix of oak, pine and aspen. Beef and dairy operations are common. Private hunt clubs are scattered throughout the area and are managed for deer at various scales. Public land acreages total less than the Western Arenac subunit but greater than the AuGres subunit.

The AuGres subunit is primarily agricultural land with associated lowland hardwood stands. Public land is very limited and is predominately in lowland hardwood and alder/willow cover types. Higher-than-desired deer densities can result in chronic crop damage complaints some growing seasons. The harvest of agricultural crops prior to the firearm deer season may result in the relocation of deer to neighboring forested hunt clubs where problem deer are not specifically targeted.

The Arenac County deer population has remained relatively stable the past four years. However, complaints from hunters concerning reduced deer densities have increased during this period. Winter conditions do not typically impact deer in Arenac County. Deer population levels are managed with regulated hunting.

DMU 006 is situated in the Gladwin Forest Management Unit. Forest cover is predominantly shade intolerant trees comprised mostly of aspen, oak and mixed upland deciduous with some pine stands

throughout. Early successional forests are common on the west side of the County. These forests, by design, have been managed for wildlife with a focus on deer and upland game birds.

Recreational deer hunting is a popular activity in Arenac County. On state owned lands, the higher quality shade intolerant tree species/stands have been identified and managed to maximize available habitat. A similar situation has occurred with the interfacing privately owned properties, as landowners have actively assumed the role of managers. Participation in federal farm programs, such as CREP and CRP, has increased recently within Arenac County – principally as a means of improving habitat quality on small privately owned parcels. There is high interest in owning and managing land, particularly for deer. For many, quality – not quantity, has become the focus of private land management practices.

Management Guidance

Two main goals guide the deer management in this DMU: 1) impact management; and 2) hunting opportunities. Impact management refers to the 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. These data include deer harvest data from check stations and an annual mail survey of hunters, 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, spotlight surveys and habitat assessments).

Population Assessment Factors

Winter Severity Index

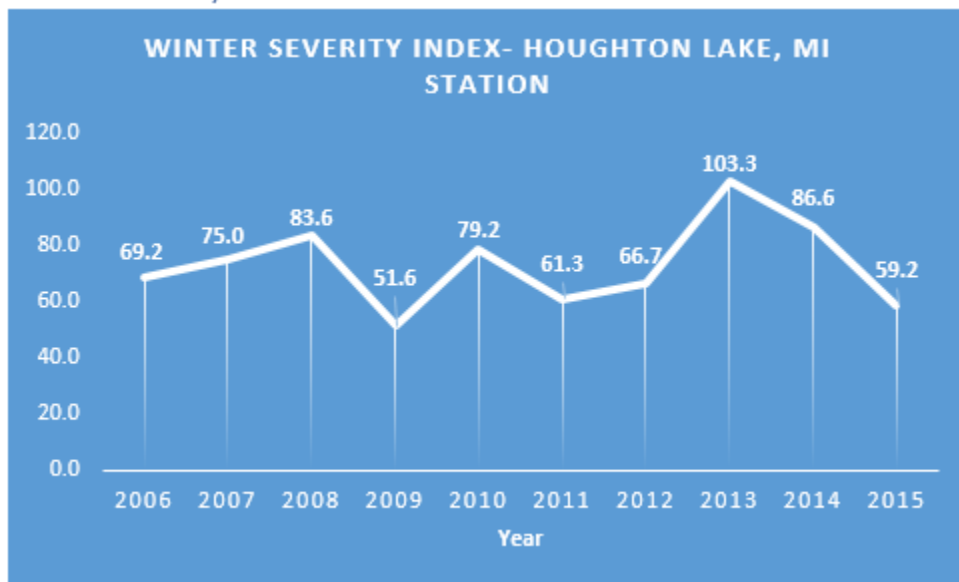


Figure 1: Houghton Lake Areas Winter Severity Index from 2006 to 2015

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, female deer may abort fetuses in order to survive which results in lower birth rates the following year. Winter severity has been variable over the last four years. The mild winters observed have allowed for a slight increase in the deer population. The current management strategy centers on maintaining the population at the current level by adjusting private land antlerless license quotas. Consideration will be given to hunter densities on public lands when setting public land antlerless quotas. Deer Management Assistance Permits (DMAP's) will continue to be the primary means of addressing areas of high deer density where crop damage is prevalent on private lands.

The current Winter Severity Index (WSI) system takes advantage of standard weather data available from the National Climatic Data Center. The Department of Natural Resources (DNR) uses weekly data on air temperature, wind speed, and precipitation from weather stations throughout Michigan and the surrounding area to calculate a weekly index value from November through April. For monitoring deer related trends in Arenac County, only the Houghton Lake Area WSI station data were used. The DNR plots these values over time to provide insight into the pattern of winter severity over the course of the winter and to identify severe weather events. Extended periods of severe weather and very early or very late peaks in severity within a winter tend to have the greatest effect on deer. The above graph shows the cumulative WSI, or the overall severity of each complete winter season. Despite several harsher winters over the past 10+ years, the last couple winters have been mild. Winter severity is the most important factor influencing deer population levels in the Northern Lower Peninsula. Relatively mild winters allow for increased deer survival, particularly for fawns which are typically the most vulnerable. Furthermore, mild winters tend to positively affect newborn survival. In general, milder winters tend to favor an increase in deer population levels.

Deer Vehicle Collisions Data

Collisions between vehicles and deer in Arenac County, over the past four years, are slightly increasing. This increase indicates a stable to slightly increasing deer population.

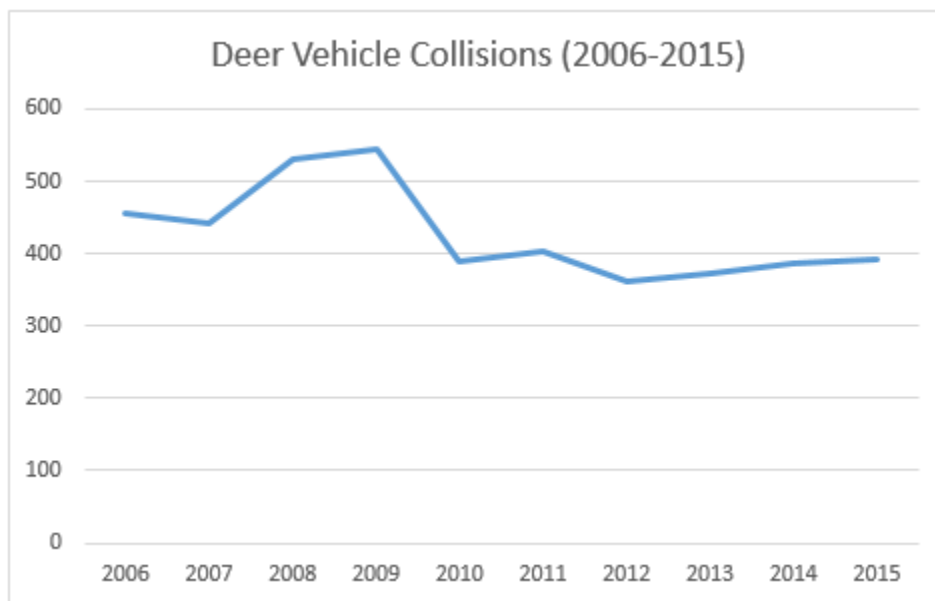


Figure 2: Arenac County Deer Vehicle Collisions 2006to 2015

Deer Harvest Analysis 2006-2015

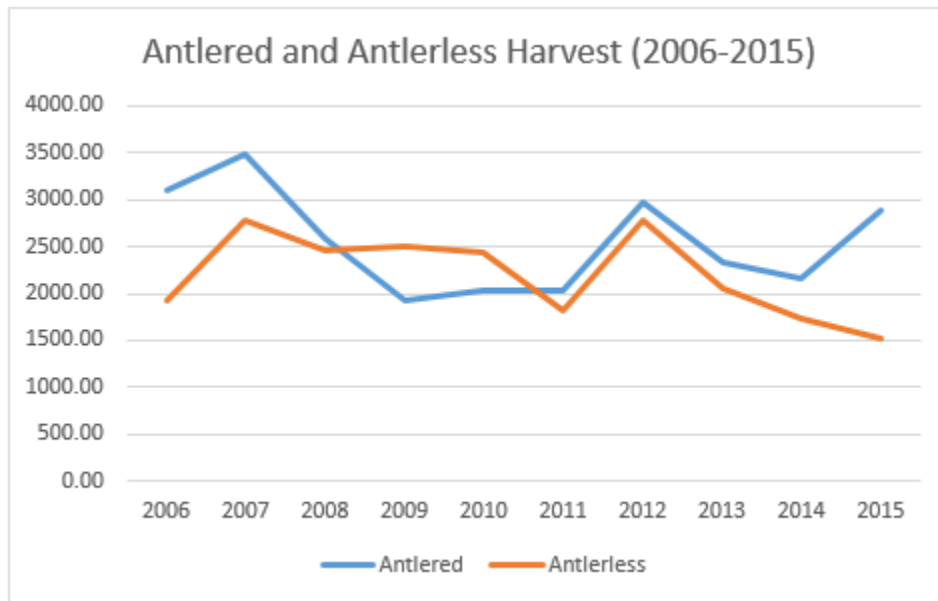


Figure 3: Antlered and Antlerless Harvest Arenac County 2006 to 2015

Antlerless deer harvest within the DMU has declined over the past four years while antlered deer harvest has remained relatively stable. The trend in antlerless harvest is also reflected by the decline in the number of private land antlerless licenses purchased over this same period. Both the antlered and antlerless harvest indicates that the population is likely stable to increasing. While it can be difficult to pinpoint exactly what is causing a population to increase or decrease we can make predictions based on past trends and looking at a number of factors that can indicate changes in populations.

In Arenac County over the past four years crop damage permits issued have varied from a low of 10 to a high of 18. Out of Season Kill Tags issued have varied from a low of 77 to a high of 116. DMAPs issued over the past four years involve an average of 4 farms per year. Number of DMAP tags issued averaged 103 per year. Crop damage by deer in Arenac County is centered in Turner and Whitney Townships. Crop damage throughout the rest of the County is fairly insignificant. The number of deer-related crop damage complaints will be closely monitored for the next three years. A significant increase or decrease in complaints can be used as an indicator of deer population trends. DMAPs will continue to be the primary means of addressing areas of high deer density where crop damage is prevalent.

The negative impacts of deer browsing on regenerating forest stands has not been significant over the past four years in Arenac County.

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Deer Condition Data 2006-2015

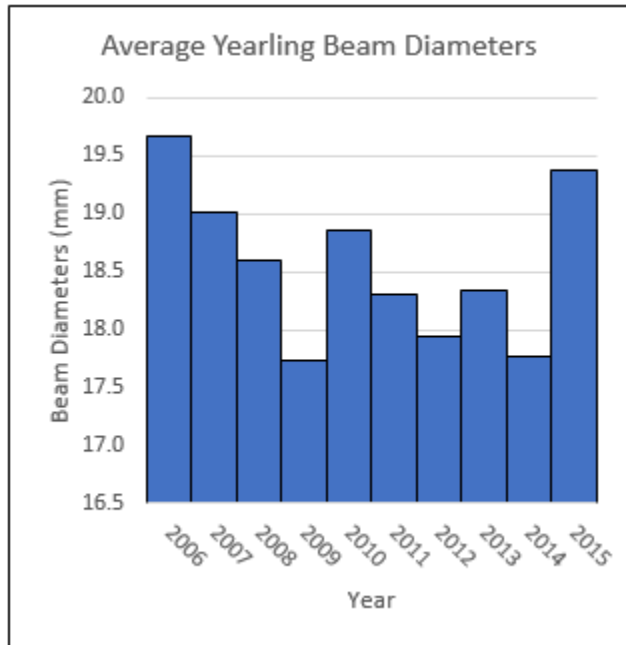


Figure 4: Average Yearling Beam Diameters 2006 to 2015

Antler beam diameter measurements taken from harvested yearling bucks have been generally consistent to decreasing over the past ten years and give an indication of overall health of the deer population. Lower average beam diameters in yearling bucks could indicate increasing competition for available browse due to a higher number of deer on the landscape. These data suggest that nutrition is not a big influence on the deer population over this timeframe.

Deer Management Recommendations

Arenac County (DMU 006) has a deer population that has been fairly stable the past four years. There has not been a significant movement, up or down, in the number of crop damage complaints or car-deer crashes. Harvest of antlerless deer over this same period has been decreasing. Antler beam diameter measurements taken from harvested bucks have been generally consistent to decreasing over the past ten years.

Hunting opportunities in DMU 006 are plentiful. The 34,765 acres of public land provide suitable habitat for deer hunting and include ample hunter access. A casual deer hunter camp survey, on public land, has been conducted by DNR staff the past four years and indicates that hunting pressure on these public lands is slightly decreasing. On the 213,555 acres of private land the opportunities for hunting deer are also abundant, in fact there are many tracts of private land that are used explicitly for deer hunting. Law Enforcement and Forest Resource Divisions have provided input and concur with the 2017-2019 proposed deer regulations for Arenac County.

Arenac County antlerless regulations allow for an open early and late season. Having the entire County open for the early and late antlerless seasons has had no significant impact on the deer population

numbers but may very well have a positive effect of making deer hunting regulations in Arenac County easier to understand.

We recommend an early/late private land antlerless firearm season for DMU 006 based on the occurrence of deer damage to agricultural crops. An early season will allow farms with antlerless tags to target deer on their properties where damage has occurred. The late hunt will help target deer that are more likely to have moved to better cover where they may not be vulnerable during regular hunting seasons. We are also recommending that antlerless licenses be made available to hunters for both private and public land with no changes.

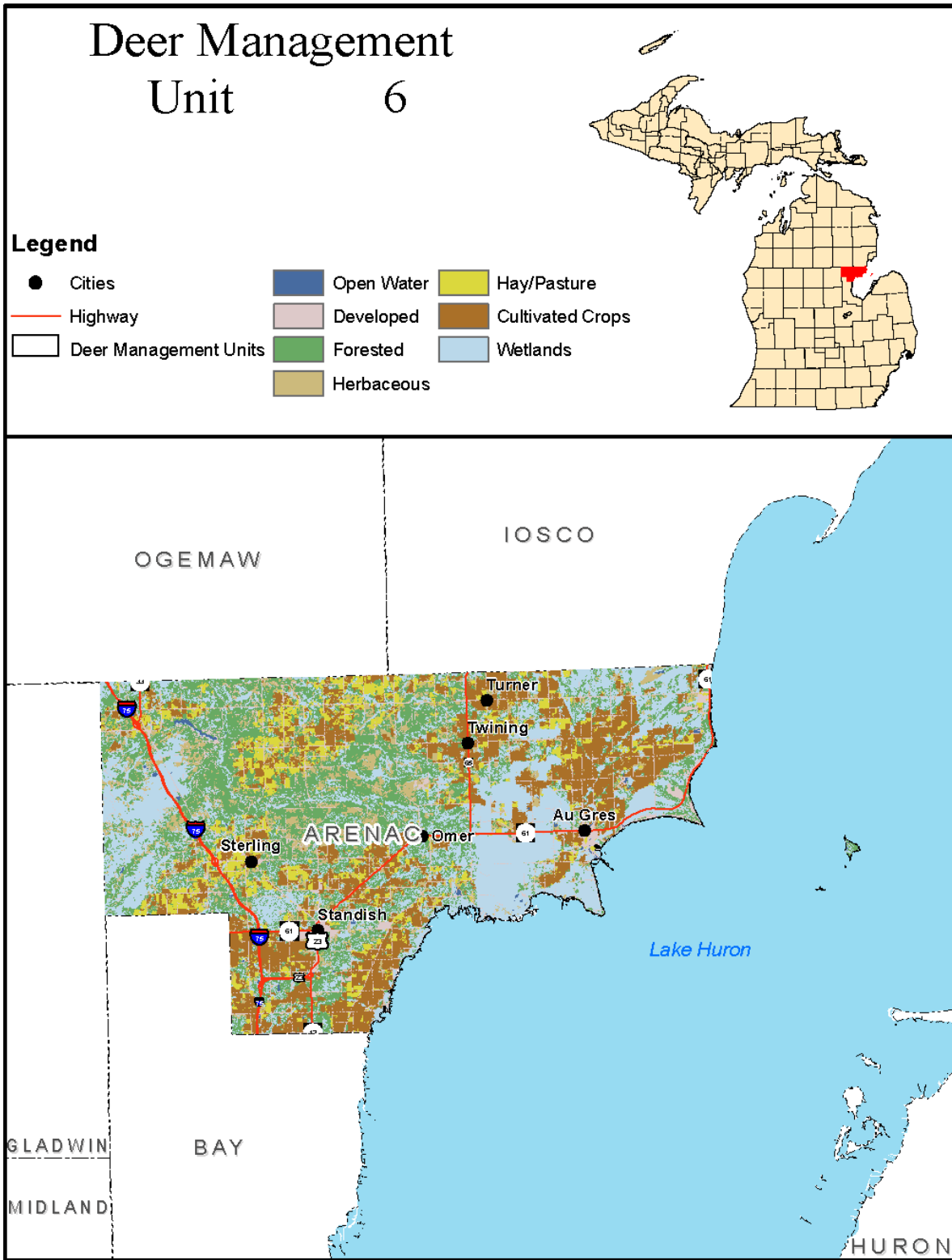


Figure 5: Map of DMU 006 depicting cover types within the unit.