

# DMU 037

## Isabella County

### Deer Management Unit

#### Area Description

The Isabella County Deer Management Unit (DMU) 037 is in the Northern Lower Peninsula (NLP) Region and is situated in the Gladwin Forest Management Unit. It has roughly 369, 280 acres and consists mostly of large parcels of agricultural land. Crop land, pasture and idle grasslands make up over 60% of the land cover. About 12 % of the land use is urban. Topography is relatively flat interrupted by river corridors. Soils consist mainly of loamy soils that dominate the farmed ground, whereas State land soils are sandy types that are well drained. The landscape consists of large blocks of land in private ownership. This private land consists of large blocks of agricultural land adjacent to forested habitat. There is only 2300 acres of State Forest in Isabella County. The State Forest is aspen, oak and upland deciduous forest types and provide excellent habitat for deer

The City of Mount Pleasant has been challenged with an urban deer problem the past 5 years. Damage to vegetation at City Parks and private residences as well as high numbers of car/deer crashes within the city limits require that action be taken. Deer numbers have been controlled through the use of Deer Damage Shooting Permits (DDSPs). Each year this deer numbers reduction operation has been successfully conducted by the Mount Pleasant Police Department.

Deer Population levels are primarily influenced by regulated hunting.

#### 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

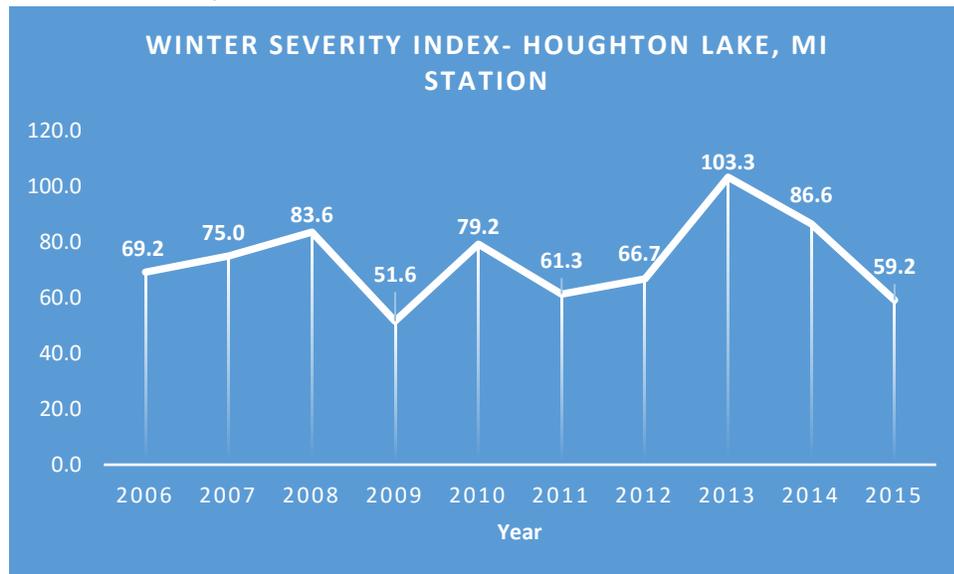


Figure 1: Houghton Lake Areas Winter Severity Index from 2006 to 2015

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 Damage Assistance Permits (DMAPs) 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 Isabella 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

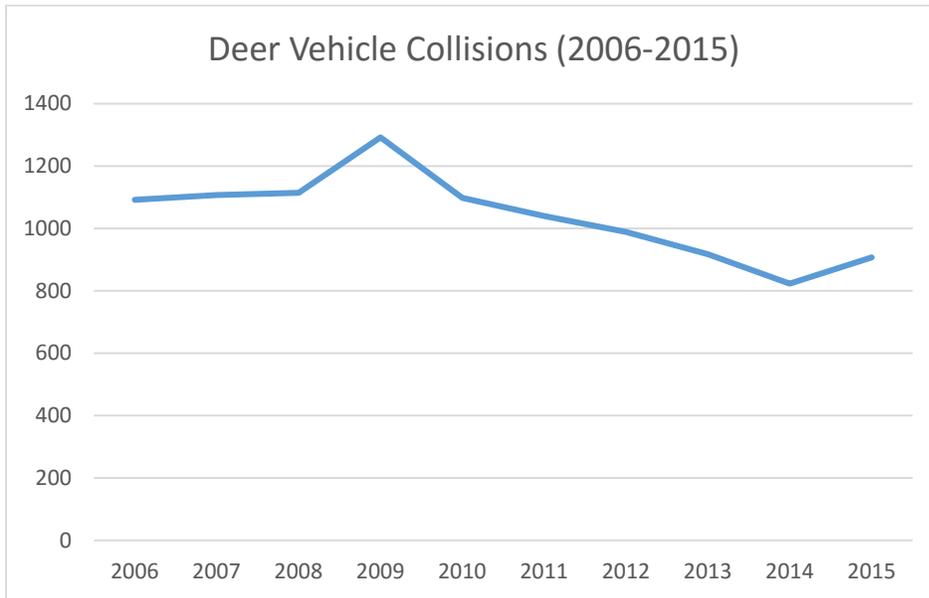


Figure 2: Isabella County Deer Vehicle Collisions 2006 to 2015

Collisions between vehicles and deer in Isabella County, over the past four years, are slightly decreasing. This decrease indicates a stable to slightly decreasing deer population.

## Deer Harvest Analysis 2006-2015

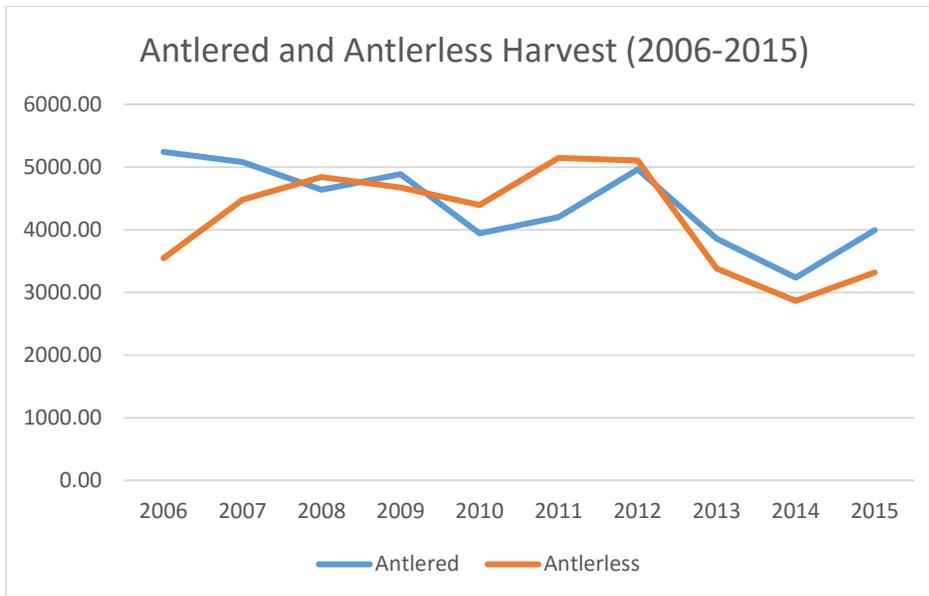


Figure 3: Antlered and Antlerless Harvest Isabella County 2006 to 2015

Antlerless deer harvest within the DMU has been mostly stable 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 Isabella County over the past four years, farms with DDSPs issued have varied from a low in of 27 to a high of 35. The number of total DDSP Tags issued under these permits have varied from a low of 144 in 2012 to a high of 164. DMAPs issued over the past four years involve an average of 2 farms per year. Number of DMAP tags issued averaged 22 per year. Crop damage by deer in Isabella County is not significant at this time. The number of deer crop damage complaints will be closely monitored for the next three years. A significant increase or decrease in complaints can be used to as an indicator of deer population trends.

Negative impacts by deer browsing on regenerating forest stands has not been significant over the past four years in Isabella County.

### Deer Condition Data 2006-2015

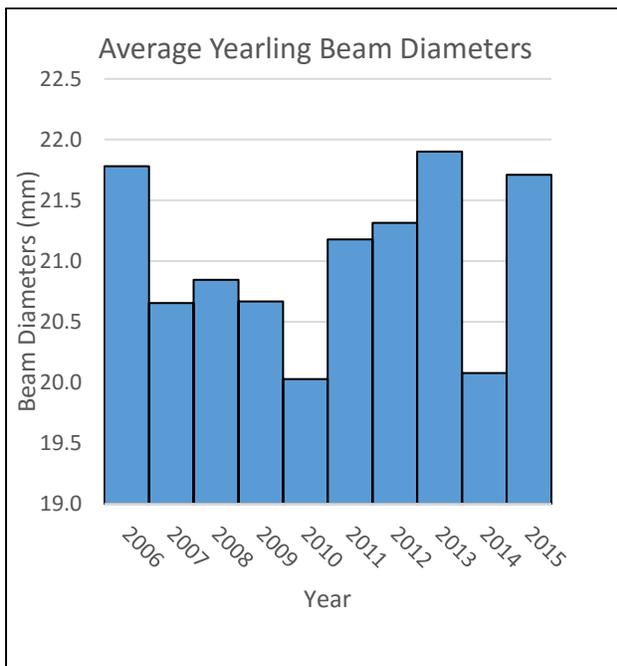


Figure 4: Isabella County Average Yearling Beam Diameters 2006 to 2015

Antler beam diameter measurements taken from harvested yearling bucks have been generally consistent over the past 10 years, with small variation from year to year. Beam diameter measurements 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 time frame.

## Deer Management Recommendations

Isabella County DMU 037 has a deer population that has been stable to slightly increasing the past four years. There has not been significant change, up or down, in the number of crop damage complaints or car-deer crashes. Harvest of antlerless deer over this same period has been nearly stable. Antler beam diameter measurements taken from harvested bucks have been very consistent over the past 10 years.

Hunting opportunities in DMU 037 are plentiful. The 2300 acres of public land provide numerous opportunities for deer hunting and include ample hunter access. On the 368,980 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. A casual deer hunter camp survey, on public land, has been conducted by DNR Wildlife Division staff the past three years and indicates that hunting pressure on these public lands may be slightly decreasing. Law Enforcement and Forest Resource Divisions have provided input and concur with the 2017-2019 proposed deer regulations for Isabella County.

We recommend an early/late private land antlerless firearm season for DMU 037 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.

# Deer Management Unit 37



## Legend

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

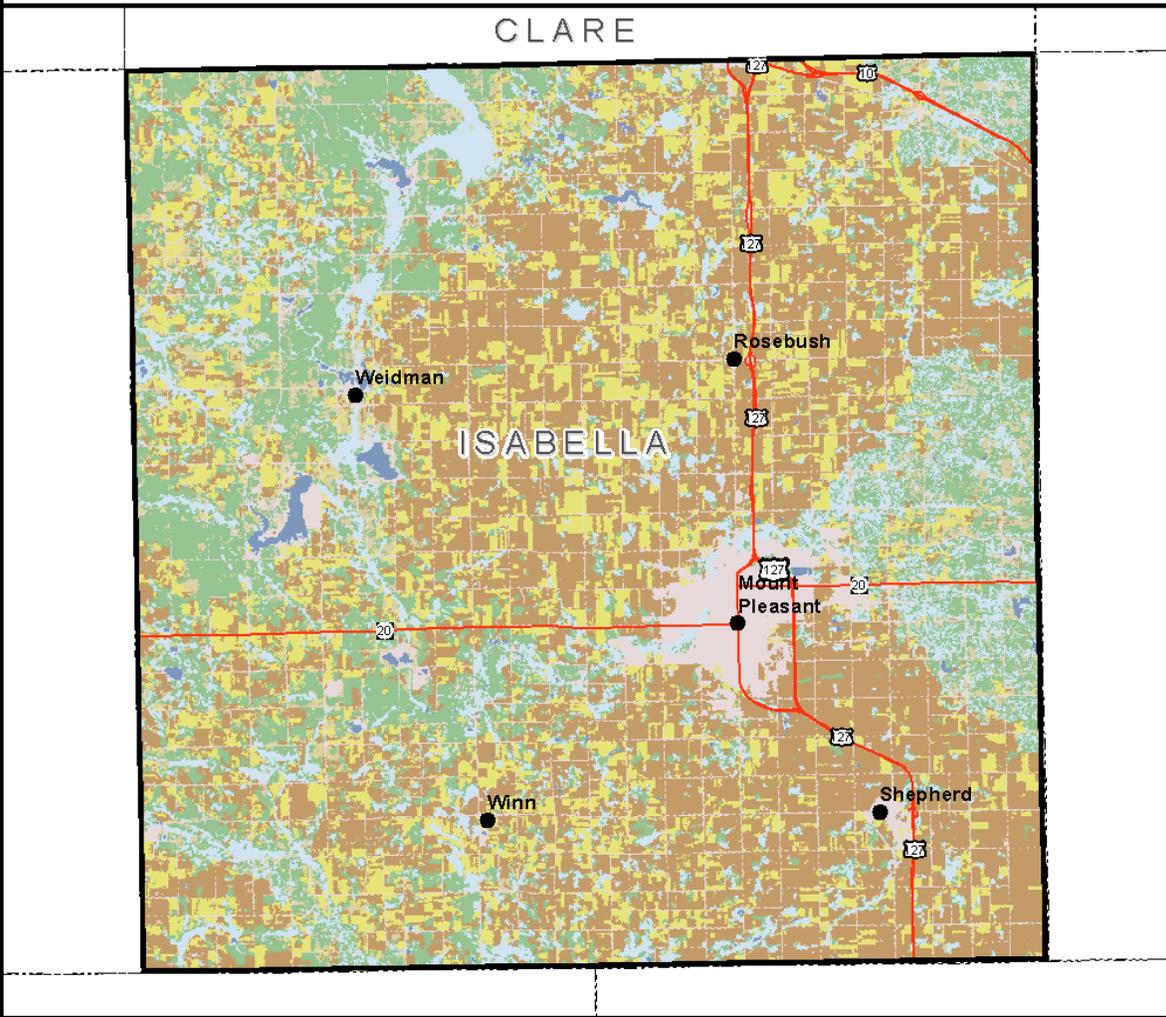


Figure 5: Map of DMU 037 depicting cover types within the unit.