DMU 053
Mason County
Deer Management Unit

Area Description

Mason County Deer Management Unit is in the Northern Lower Peninsula Region (NLP) on the Lake Michigan coast. Only 17% of the land base is public land, most of which is federal. There is no state forest land in Mason County. State land consists of Ludington State Park, Pere Marquette State Game Area, and other small parcels managed by the Parks and Recreation Division for river access. U.S. Forest Service land is primarily concentrated on broad expanses of glacial outwash plains in the eastern part of the county and on lake plain to the northwest. Soil types are deep, excessively drained sands and loamy sands. Cover types consist primarily of upland oak and pine, some aspen, and lowland deciduous and conifer inclusions in areas of poorly drained peat and muck along outwash channels.

The remainder of land is in private ownership. Agriculture is a major component of Mason County. Farmland consists of row crops, orchards, and specialty crops including carrots, squash, pumpkins, and asparagus. Farming is concentrated on the fine textured glacial till plains and flat end moraine ridges in the central and western portions of the county. Orchards are found on the moraine ridges along the lakeshore. Soils range from deep sandy types that are well drained to organic loamy sand.

Topography varies; most of the county consists of flat outwash plains or flat moraine ridges, though some end moraines provide steeper relief. River systems include the Big Sable, Lincoln, and Pere Marquette, the latter designated as both a state Natural River and a federal Wild and Scenic River. These river corridors provide important lowland cover and migration routes for deer and other species

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.).

Population Assessment Factors

Winter Severity

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 in severe winters which creates a lag effect into the following year. Does with poor nutrition tend to one have single births rather than multiples and give birth to fawns with reduced birth weight.
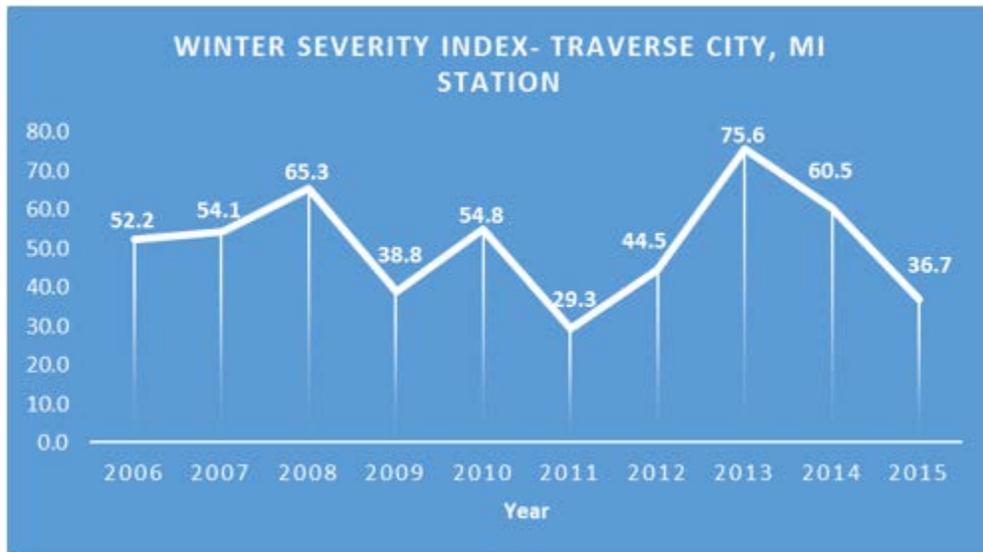

Figure 1: Traverse City Areas Winter Severity Index from 2006 to 2015

Winter severity over the last five years has been variable with most years below the 10-year-average for the Traverse City area. The notable exceptions were the winters of 2013 and 2014 where winter weather was both more severe and lasted longer than normal. In response, both public and private land antlerless licenses were reduced slightly. The mild winters of 2015 and 2016 and reduced antlerless harvest (Figure 2) has allowed the deer population to rebound and antlerless license quotas to return to previous levels.
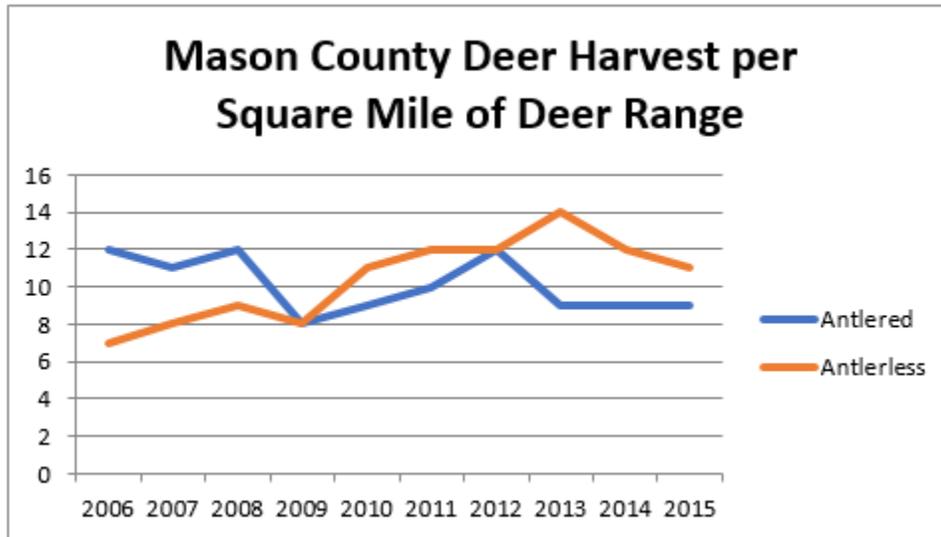
Figure 2. Deer harvest estimates per square mile. Note: for the years 2008-2015 this includes antlerless deer killed under crop damage management programs, see Figure 4.

The antlered and antlerless harvests indicate opposite population trends. This most likely indicates a stable population. Buck harvest has oscillated between 8 and 12 bucks harvested per square mile of deer range consistently over the last decade. The fluctuations observed are likely related to varying winter severities, hunter effort, fall food availability and the Antler Point Restriction (APR) which went into effect in this county in 2013. 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.
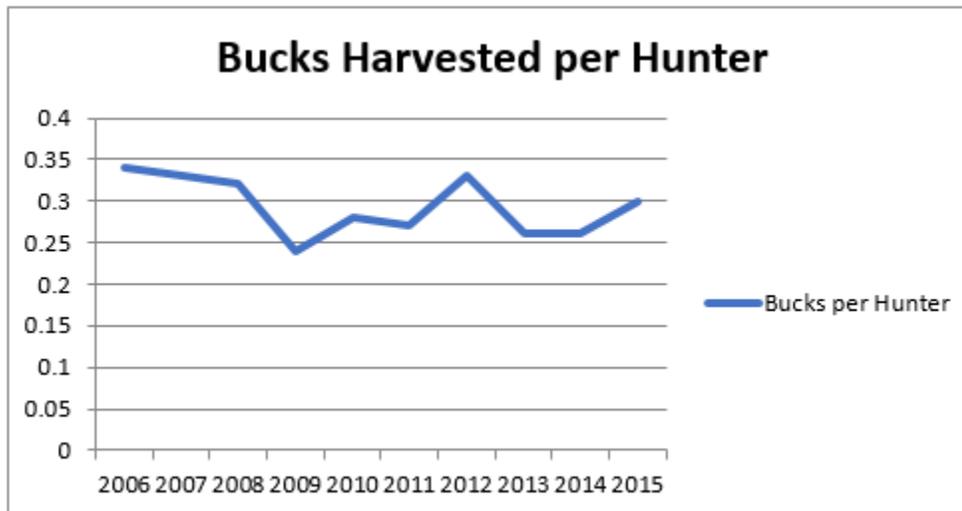

Figure 3: Bucks Harvested per Hunter in Mason County, all seasons combined.

With the number of hunters changing year to year it can be helpful to look at the number of deer taken as it relates to hunters in a given year. Unlike the total antlered harvest, which shows a downward

trend, the number of bucks harvested per hunter shows variation but a level trend over the last few years.

Other Harvest

Deer Management Assistance Permits (DMAP) and Crop Damage Permits (CDP) 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. CDPs are not issued during the regular hunting seasons. Therefore, agricultural producers who experience chronic deer damage will frequently request DMAPs to ensure they can harvest adequate numbers of antlerless deer in the fall.
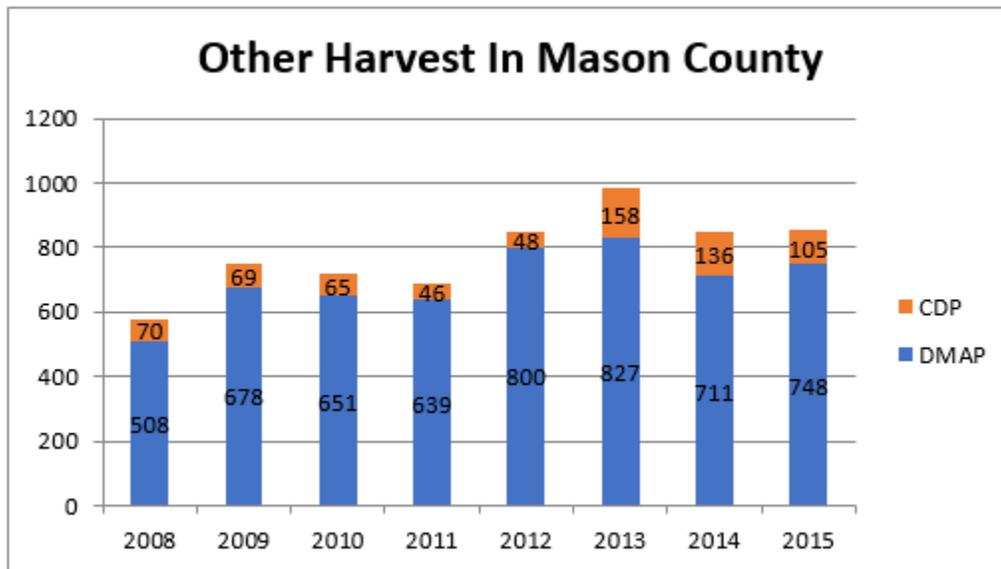

Figure 4: Other harvest in Mason County.

The total harvest under these programs has increased in recent years. Annual harvest under the DMAP program makes up between 17-20% of the total antlerless harvest in the unit. These harvest numbers have been included in the harvest chart and discussion above.

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 used as one part of a deer population assessment.
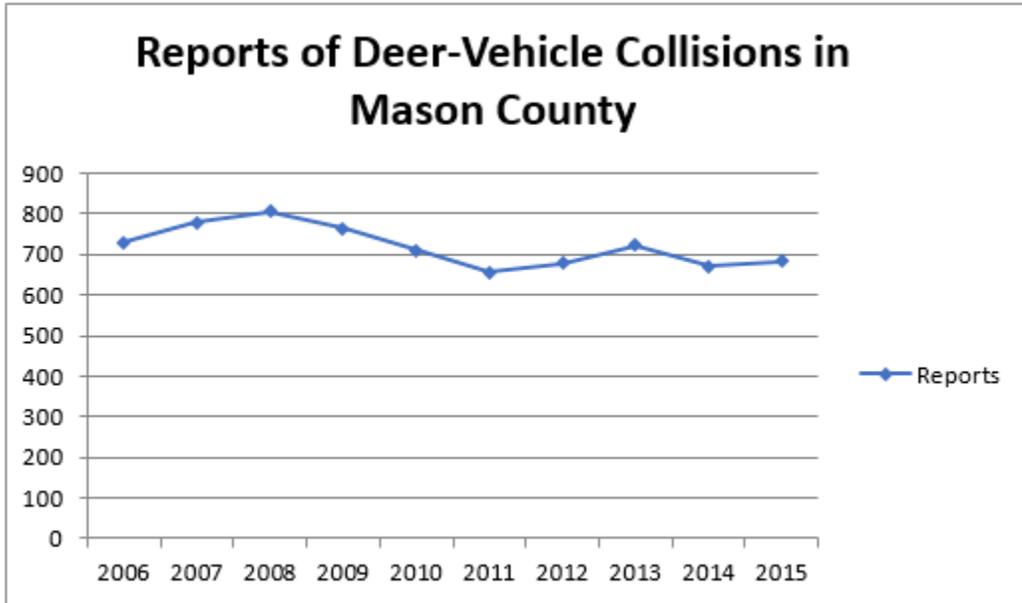
Figure 5: Number of Deer-Vehicle Collisions in Mason County.

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 a reliable estimate of DVC rates. In Mason County, deer vehicle collisions range between 650-800 per year with a generally increasing rate the last five years.

Antler Measurements

In previous years, average antler measurement for one-and-a-half-year-old bucks was used to evaluate overall nutrition of the deer herd. This information is not being included this review because antler point restriction were implemented in 2013. This change significantly reduced the number of yearling bucks in the harvest and sample sizes are longer adequate to provide confidence in these data.

Deer Management Recommendation

Since a direct count of the deer population is not possible, there are a number of indicators used to determine long term deer population trends in each DMU. The list of indicators described above are used together, as no single indicator provides enough information on its own. Though there isn't complete agreement in these indices, most indicators demonstrate a stable or growing deer population in Mason County the last five years. As the deer population appears to be well on its way to recovering from any reduction due to the severe winters a few years ago the private land antlerless licenses available can be returned to previous levels. Public land antlerless licenses will remain the same as the previous year. In order to provide for additional flexibility in private land antlerless harvest, on specific agricultural production areas, Mason County will be open for both the early and late antlerless seasons.

Deer Management Unit 53

Legend

▭ Deer Management Units Polys Edit	
— Highway	
● Cities	

■ Open Water	■ Hay/Pasture		
■ Developed	■ Cultivated Crops		
■ Forested	■ Wetlands		
■ Herbaceous			

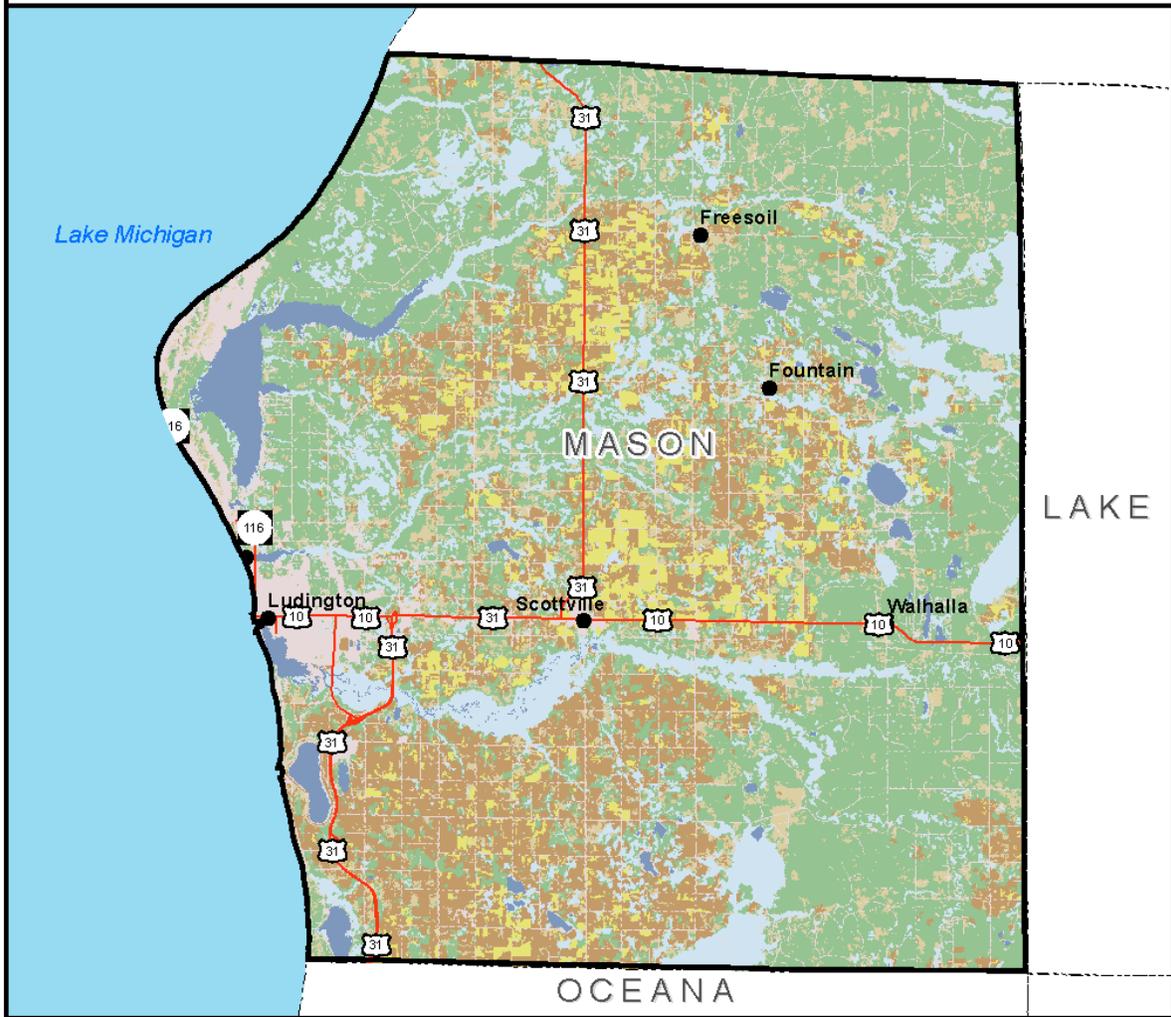*Lake Michigan*

LAKE

Freesoil

Fountain

MASON

Ludington

Scottville

Walhalla

OCEANA

Figure 6: Cover type map for Mason County.