DMU 073 – Saginaw County

Deer Management Unit

Area Description

The Saginaw County Deer Management Unit (DMU 073) is located in the Southern Lower Peninsula in the Saginaw Bay region of Wildlife Division's Southeast Region management unit. DMU 073 includes all lands of Saginaw County, minus the parcels that make up DMU 273*. The majority of public hunting opportunities in this DMU are available on 20,322 acres located on two state properties managed by the Department of Natural Resources Wildlife Division:

- **Gratiot-Saginaw State Game Area**; eastern portions that lie is Saginaw County
- **Crow Island State Game Area**; southern portions that lie in Saginaw County

*DMU 273 is a specially-managed DMU located wholly within the confines of DMU 073 and is comprised of the entirety of Shiawassee River State Game Area and portions of Shiawassee National Wildlife Refuge. All hunting in this public land DMU is completed through a pre-registered lottery system. Please visit the DMU 273 website for more information.

Topography in this DMU is generally flat lake plain to lightly rolling as you near tributaries of the greater Saginaw River with soils that are well-suited to row crop agriculture. The landscape is highly fragmented due to the predominance of agriculture on privately owned lands, which constitute ~60% of the DMU, in addition to the DMU fully containing the urban center of Saginaw. With the exception of State Game Areas, habitat providing cover for deer (e.g., woodlots, shrub/brush, and wetland) is relatively isolated and exists in small to medium-sized patches on private land. A county-level and public land breakdown of habitat composition, by percentage, for DMU 073 can be found in **Table 1**.

Table 1. Habitat composition of DMU 073 as compared to only public land located within DMU 073.

Habitat	DMU 073	Public Lands in DMU 073
Forest	19.4	47.8
Agriculture	59.7	22.4
Grass/Shrubland	6.5	3.0
Wetland	3.4	19.5
Developed	9.8	1.8
Water	0.9	5.3
Bare/Rocky	0.2	0.0

Management Guidance

Two main goals guide deer management in this DMU:

1. Impact management
2. Hunting opportunities

Impact management refers to reduction of undesirable effects associated with deer over-abundance, with examples being crop damage, deer-vehicle collisions, and poor forest regeneration due to over-browsing. In an effort to find a middle-ground in which deer numbers provide ample hunting and wildlife viewing opportunities, while trying to mitigate unwanted impacts, DNR reviews data from several sources to adjust harvest strategies as needed. These data include deer harvest data from check stations and annual surveys, winter severity indices, 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 issues, habitat assessments, etc.).

Population Assessment Factors

Winter Severity

Winter severity is known to affect deer survival. As such, a Winter Severity Index (WSI) is one of many metrics that DNR uses when assessing harvest strategies. Information related to the DNR's WSI calculations and uses can be found on the DNR's website. **Figure 1** shows the average yearly WSI from 1998 through 2015 for the Southern Lower Peninsula. While relatively stable over time, the severe winter of 2013/2014 has caused the WSI to exhibit a slight increase in severity over the plotted time period.

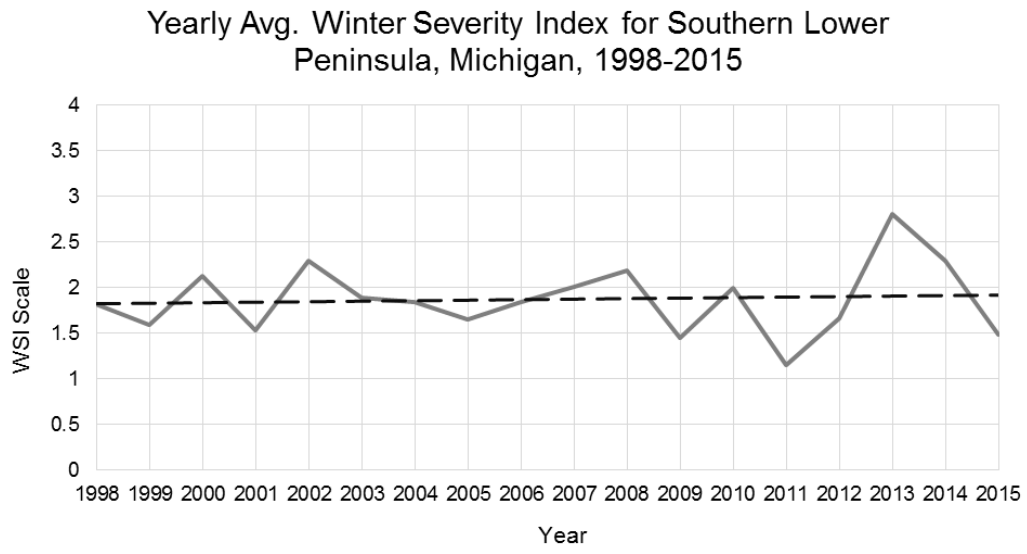

Figure 1. Graph of Southern Lower Peninsula Yearly Average Winter Severity Index, 1998-2015

Despite occasional harsh cold over the past 10+ years, the trend has been for milder winters. Winter severity, while a large driver for deer populations in the Upper and northerly portions of the Northern Lower Peninsula, is not a larger driver in observed deer populations in the Southern Lower Peninsula. Relatively mild winters allow for increased deer survival, particularly for fawns which are typically the most vulnerable. Furthermore, mild winter tend to be positively affects newborn survival. In general, milder winters tend to favor an increase in deer population levels.

Deer-Vehicle Collisions

The number of deer-vehicle collisions in DMU 073 has decreased in recent years and has stabilized between 800 and <1,000 incidents annually. Due to the amount of road miles contained in Saginaw County the incidents of deer-vehicle collisions is higher than neighboring counties, and does not necessarily translate to a high deer population.

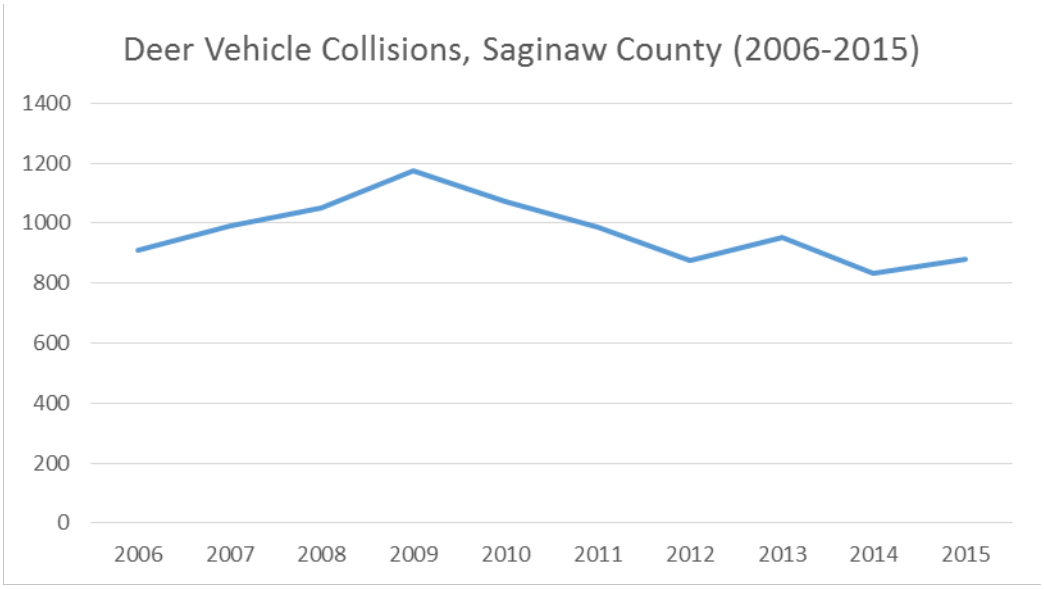

Figure 2. Graph of deer-vehicle collisions on Saginaw County, 2006-2015

Crop Damage

In the event that an agricultural producer experiences crop damage, the DNR has a system in place to issue either an out of season kill tag (OSS), to be used outside of a recognized deer season, or a Deer Management Assistant Permit (DMAP), to be used during a recognized deer season, to help alleviate deer-related crop damage. **Table 2** and **Table 3** show the number of permittees, the number of tags issued, and the number of tags filled for OSS and DMAPs for 2014 and 2015, respectively.

Table 2. Out of Season kill permits issued, DMU 073, 2014-2015

Year	OSS Permittees	OSS Issued	OSS Used
2014	20	85	35
2015	23	94	27

Table 3. Deer Management Assistant Permits issues, DMU 073, 2014-2015

Year	DMAP Permittees	DMAPs Issued	DMAPs Used
2014	13	169	47
2015	7	89	49

The number of out of season kills tags remained relatively stable between 2014 and 2015, indicating that there has not been a significant increase in the amount of regional deer-related crop damage experienced by local agricultural producers. Deer management assistant permittees and associated tags decreased between 2014 and 2015, likely as result of agricultural producers finding the OSS system more effective. Out of season kill permits and DMAPs generally account for less than 5% of the annual deer harvest for the counties in which they are issued.

Deer Harvest Analysis

Antlered and antlerless harvest has fluctuated over the past decade; antlerless harvest has shown greater fluctuations compared to antlered harvest. Antlerless harvest has spanned from roughly 2,400 animals on the low end in 2008, to roughly 3,800 animals on the high end in 2009; antlerless harvest has remained stable over the past three years at around 2,500 animals. Antlered harvest has reduced from a high of roughly 4,100 animals in 2006 to a relatively stable annual harvest between 3,000 and 3,400 animals since 2007.

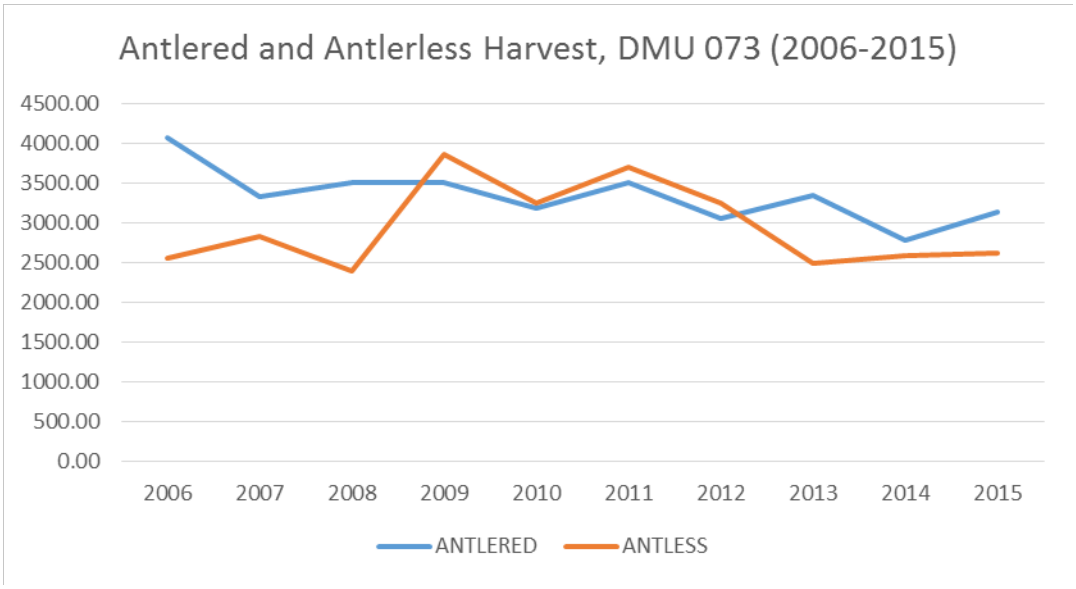

Figure 3. Graph of annual antlered and antlerless deer harvest, DMU 073, 2006-2015.

Antler Beam Diameters

When gauging the health of regional deer herds a metric that DNR utilizes is average beam diameters of 1.5 year old bucks registered at DNR deer check stations. **Figure 4** shows a long-term trend of decreasing average antler beam diameters since 2006. High deer densities lead to reduced resource availability, which may impact the quality of deer seen on an annual basis. This may also indicate a trend of meat hunters avoiding doe harvest and harvesting young bucks with their deer license or unrestricted tag, the assumption being that increased doe numbers deplete available resources for antlered deer. Annual variations in available resources and WSI are also contributing factors to observed antler beam diameters.

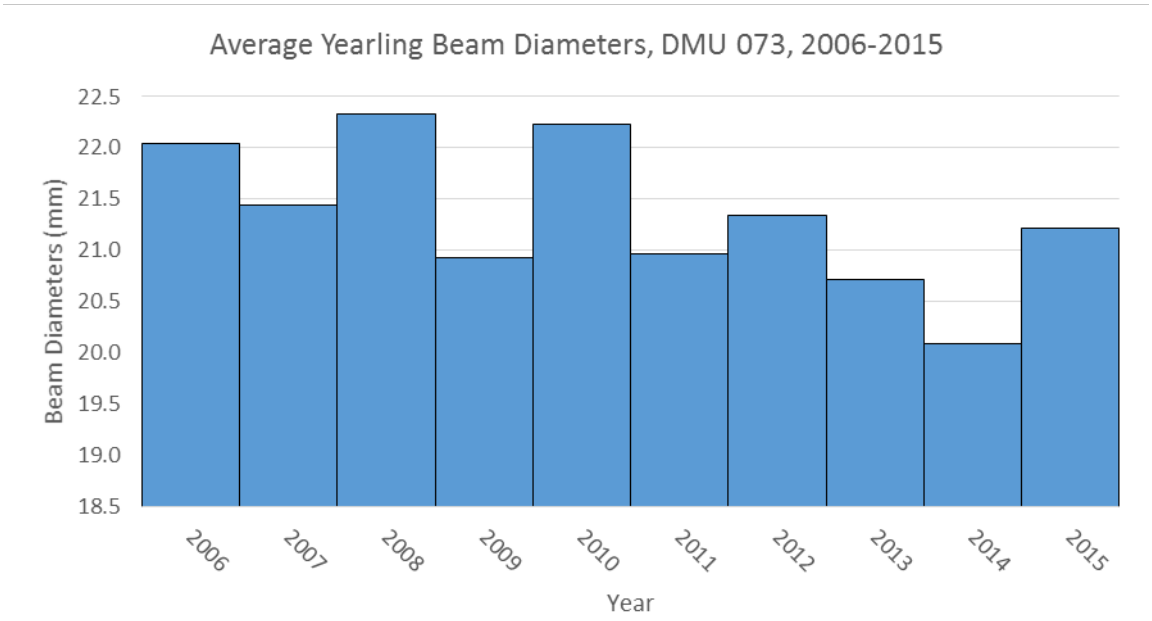

Figure 4. Graph of average yearling beam diameters for DMU 073, 2006-2015.

Licensed Hunters

The ten-year average number of deer hunters in DMU 073 is 11,270; the number of hunters in DMU 073 in 2015 was 9,319, or roughly a -17% decline compared to the long-term average. Decreasing hunter numbers may to lead to increased harvest opportunities and reduced public land competition for existing hunters, but also leads to recognized hunting seasons being less capable in achieving regional deer management goals. Low hunting pressure and reduced harvest will likely increase agricultural producer crop damage complaints and associated OSS and DMAP issuance.

Deer Management Recommendations

Outside of a likely short-term decrease in herd size in certain portions of this DMU due to epizootic hemorrhagic disease in 2012, the deer population has likely increased in the last decade. As a result, deer densities remain high compared to other regions of the state. Observed densities will continually require the issuance of DMAPs and Deer Damage/Out-of-Season Permits throughout much of the unit, as harvest through the general hunting seasons is inadequate to relieve damage complaints and deer-vehicle collisions.

Hunting opportunities remain robust due to continued high deer densities. This information is annually used to determine harvest recommendations. Based upon this, it is recommended that the private land quota remain at 6,500 antlerless licenses for the 2017-2019 seasons. In addition, it's recommended that this DMU is open for the early and late antlerless seasons. These recommendations are unchanged from license availability in the 2014-2016 seasons.