

DMU 074

Saint Clair County

Deer Management Unit

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Area Description

The St. Clair County Deer Management Unit (DMU) lies in the Southern Lower Peninsula (SLP) region and covers all of St. Clair County except the St. Clair Flats Islands (DMU 174). The majority of public hunting opportunities in this DMU are available on Port Huron State Game Area (6,673 acres), St. John's Marsh State Wildlife Area (2,482 acres), the St. Clair Township State Game Area (110 acres) and Algonac State Park (1,450 acres). Topography varies from rolling hills to relatively flat with soils that are generally well-suited to row crop agriculture. The landscape is highly fragmented due to the predominance of agriculture on privately-owned lands. Aside from public lands which are mostly forested, habitat providing cover for deer (e.g., woodlots, shrub/brush, and wetland) is isolated and exists in small patches.

Management Guidance

Two main goals guide the deer management in this DMU: 1) 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. Hunting opportunity is an important factor in managing deer. Balancing buck to doe ratios, age structure, and adequate numbers of deer really depends on hunter density and pressure, attitudes and selectivity, and widespread land-use and habitat conditions. 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 survey, 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, staff observations, hunter attitudes, habitat assessments, etc.).

Population Assessment Factors

The deer population at the County or DMU level is evaluated based on a suite of indicators to determine trends over time. The factors used are a compilation of population computer models, hunter harvest surveys, car/deer strikes, deer check data, and hunter opinions. The population model being used to estimate deer numbers is called Sex-Age-Kill (SAK). This model is more of an indication of trends than an actual deer population estimate. Deer-vehicle-collisions (DVC) is a commonly used index to reflect the deer population trend and is derived from annual police reports, 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 deer population and DVCs. However, DVC data can provide useful information if contextualized as one part of a deer population assessment.

DVCs indexed by vehicle miles travelled have only slightly declined from 2006-2015 in this DMU, however are increasing in recent years (Figure 1). 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.

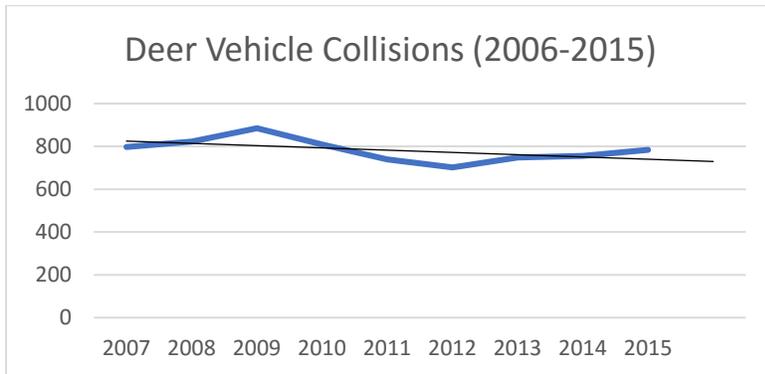


Figure 1. Deer-vehicle collisions in DMU 074 (2006-2015)

Deer Management Assistance and Crop Damage Permits: Deer Management Assistance Permits (DMAPs) allow for the harvest of antlerless deer by private landowners or their designees during legal deer hunting seasons. Landowners may request and be granted DMAPs by MDNR to address deer damage concerns when sufficient antlerless permits are not available in a DMU to address the landowner's needs. DMAP requests are tracked by MDNR and may trend with deer populations (i.e., an increase in deer density may result in additional DMAP requests).

Crop Damage Permits are also requested by landowners, but allow for the harvest of antlerless deer outside of legal hunting seasons to address agricultural damage. Requests for Crop Damage Permits may also trend with deer density.

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. We have witnessed a decline in average antler beam diameters in this DMU, which is an indicator of population stress. It is important to note that we should strive to maintain deer harvest at current levels as to not add even more stress by allowing this population to increase which may result in an increase in competition for resources and space.

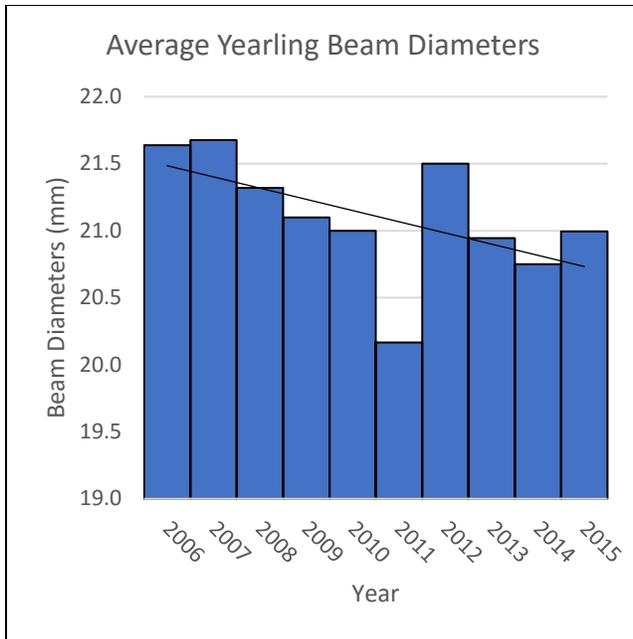


Figure 2. Average Yearling Beam diameters in DMU 074 (2006-2015).

Despite a long-term downward trend it appears that deer herd condition remained stable in the St. Clair County DMU from 2013-15 (Figure 2). This is most likely an indicator of a stable deer density and lack of intra-species competition or resource depletion. Landscape habitat quality can play a role in deer herd condition. High commodity prices have led to less acreage enrolled in the Conservation Reserve Program, expansion of row crop agriculture, and decline in deer cover. Although agriculture can provide highly nutritional food resources to deer, it is only seasonally available and comes at a cost of naturally occurring food sources and cover. The conversion of acreage from acceptable deer cover to agriculture and removal of brushy field rows homogenizes the landscape and reduces the richness of a “patchwork” of habitat types in which deer thrive. Most likely, hunters are harvesting deer at a rate which balances deer population densities with adequate habitat.

In southern Michigan, winter severity is not likely to impact deer condition on a population level. Environmental factors may impact deer condition indirectly, though. A late frost or an especially rainy spring can negatively influence crop production which is a major source of nutrition in this DMU. Likewise, changes in land use practices can affect cover and food resources.

From 2006 through 2015 we have observed a somewhat stable population in DMU 074. Hunter harvest tends to fluctuate, but the long term success rates have also been somewhat stable. One important factor to consider is that bucks and does are born at similar rates, close to equal. In order to maintain healthy buck to doe ratios, harvest/mortality rates should also be similar to birth rates. In DMU 074, harvest of bucks and does are very close, and this is probably a reflection of hunters acceptance and knowledge of this important factor (Figure 3). In order to maintain this trend, a goal for this DMU is to maintain the current level of antlerless harvest to closely track buck harvest.

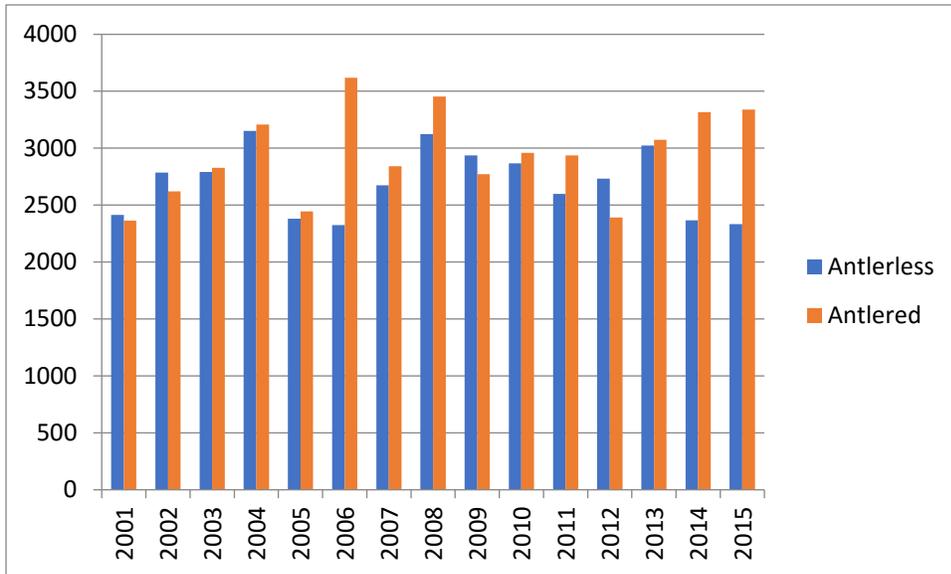


Figure 3 DMU 074-Antlered and Antlerless Harvest Rates

Overall, deer hunting opportunities in DMU 074 offer a good source of recreation and a wild game food source in an area that is close to high urban population centers in Southeast Michigan. Although it appears that there are still stressors within this population, hunting pressure is regulated by private landowners, buck to doe ratios are healthy, and the population appears to be stable.

It is recommended to continue at the current level of antlerless permits across this unit to maintain buck to doe ratios and offer landowners and farmers opportunity for harvesting adequate numbers of antlerless deer on their lands.