

DMU 058

Monroe County

Deer Management Unit

Area Description

The Monroe County Deer Management Unit (DMU 058) lies in the Southeast Region and borders Ohio to the South and Lake Erie to the East. The majority of public hunting opportunities in this DMU are available on the East side of the county in the Lake Erie coastal zone (Pte. Mouillee, Pte. Aux Peaux, Erie State Game Areas 8,786 acres). These game areas are predominantly wetlands but they do have upland deer hunting opportunities. Topography for the DMU is 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 predominantly wetland; habitat providing cover for deer (e.g., woodlots, shrub/brush, and wetland) is isolated and exists in small patches (Table 1).

Table 1. Habitat composition of DMU 058 as compared to only the public hunting lands in DMU 058.

Habitat	058	058 Public Lands
Forest (%)	13.6	26.0
Agriculture (%)	65.4	13.0
Grass/Shrubland (%)	6.3	12.5
Wetland (%)	3.9	24.3
Developed (%)	9.5	6.6
Water (%)	1.2	15.7
Bare/Rocky (%)	0.2	1.8

Management Guidance

Two main goals guide the deer management in this DMU: 1) increasing the overall population; and 2) hunting opportunities. The deer herd population in 058 is still below the population goal that was established in 1999. Compared to other counties and DMU's there is not much in the way of social issues (e.g. crop damage requests, DMAP requests, or increases in car deer collisions). 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, spotlight surveys, habitat assessments, input from hunters and Conservation Officers etc.).

Deer Harvest Analysis

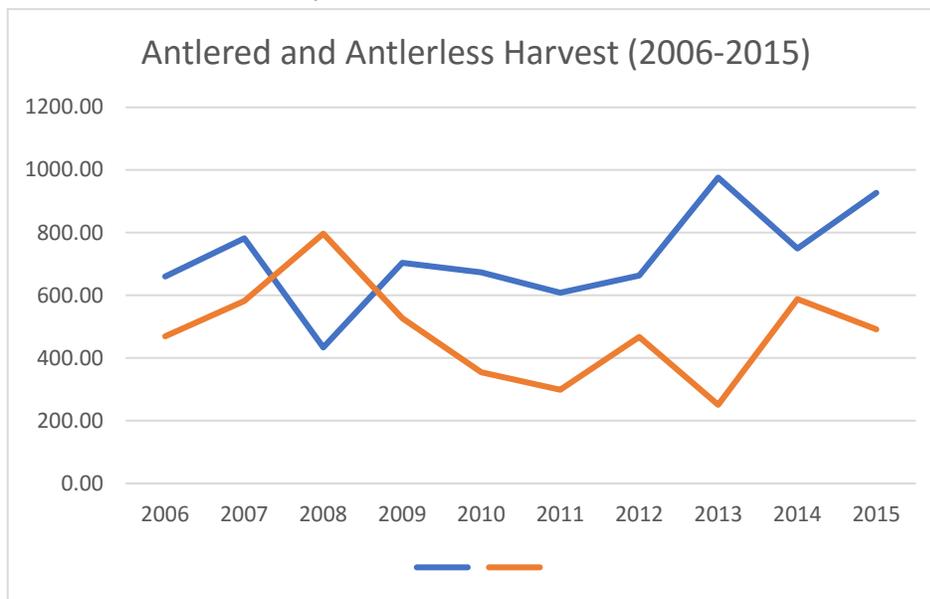


Figure 1: Graph of antlered and antlerless harvest in DMU 058 (Monroe County)

Over the last five years we have seen a general increase in the harvest of antlered and antlerless deer (Fig. 1). This is the result we are hoping to see continue in the years to follow. It is significant to note that while we are seeing an increase in the number of antlered deer harvested over the last five years the increase runs parallel to the antlerless harvest increase. This can be interpreted as no change in behavior of hunters, as the harvest increases they are still shooting the same amount of antlered deer proportionally.

2012 was the first year we reduced the available antlerless licenses and have held that quota ever since. What we have seen since 2012 is encouraging; there has been an increase in the harvest of antlerless deer even though there were fewer tags available. You could draw the conclusion that there was a greater rate of hunter success with fewer tags because of more antlerless deer on the landscape. Ultimately, determining a cause of any population adjustment is difficult when assessing a large geographic region.

Hunter perceptions and goals can also impact harvest numbers. A large-scale shift in hunters' decisions to target older deer and pass on younger bucks can result in reduced harvest numbers and increased hunter effort, as there are fewer deer in older age classes. Success and harvest rates are thereby suppressed not by population decline, but by human decision-making processes. Similarly, hunters may self-regulate harvest of antlerless deer for a variety of factors, such as a perception of too few deer.

Population Assessment Factors

Deer-Vehicle Collisions

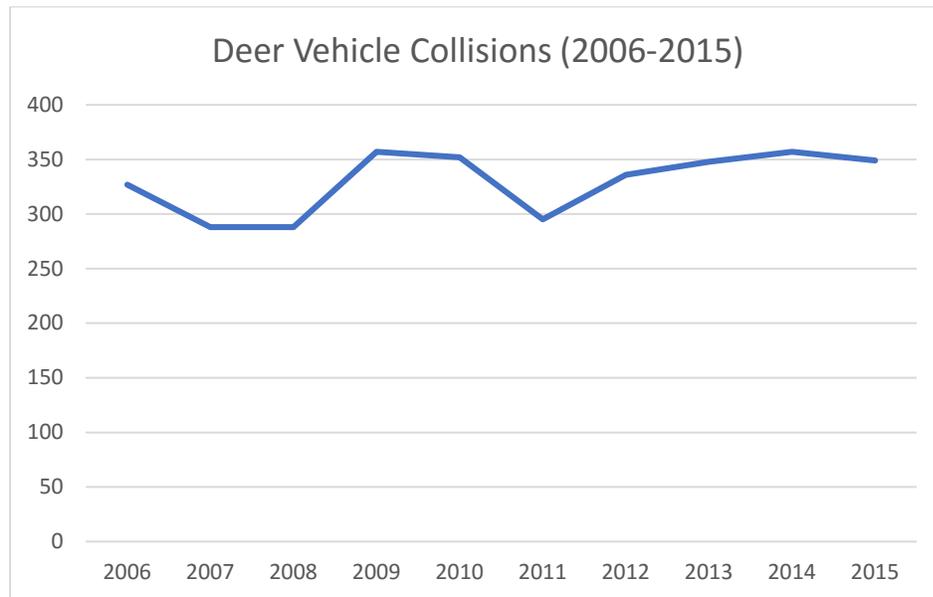


Figure 2: Graph of deer vehicle collisions in DMU 058 (Monroe County)

Deer-vehicle collisions (DVC) are commonly used as an index to the deer population trend, 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. The population size and number of vehicles on the road in a county can also have an impact on the number of instances. However, DVC data can provide useful information if contextualized as one part of a deer population assessment.

DVCs indexed by vehicle miles travelled have generally increased from 2011-2015 (Fig. 2) in the Monroe DMU. The raw data number of deer vehicle crashes since 2006 has ranged anywhere from 282 accidents per year to a max of 357 over the last 10 years. 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.

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). In the Monroe DMU we rarely even get inquiries about DMAPS. In 2013 we received 2 inquiries and issued

permits to one of the individuals, this was the first DMAP in six years and we have not received and inquiry since.

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. The Monroe DMU typically issue 1-2 out of season kill permits per year. This is very low for a DMU that is 65% agricultural and is a strong indicator of a deer herd that is below population goal.

Deer Condition Data

Yearling main antler beam diameter (Fig. 3), measured just above the burr, is 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 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. 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 the Monroe DMU. Likewise, changes in land use practices can affect cover and food resources.

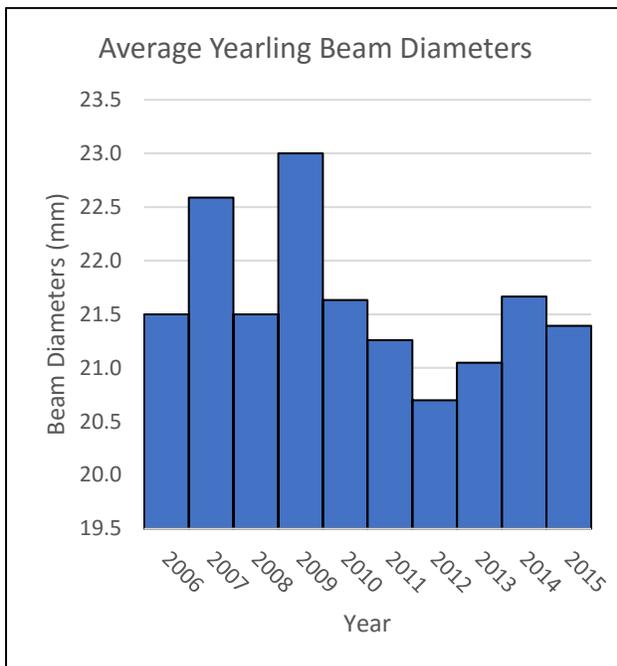


Figure 3: Graph showing the average beam diameters of yearling bucks brought into the check station from DMU 058 (Monroe County)

In the Monroe DMU, the decline in average antler beam diameter has been trending down, as has the trend for the entire SLP. Environmental influences (e.g., extreme weather events) tend to be short in duration and impacts are limited to short time frames (i.e., 1-2 years). We would not expect to see environmental effects drive down deer condition for this time span, although climate change may be shifting this perspective. Most likely, the reduction in deer condition is mainly attributable to land use changes. 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 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 further fragments habitat, homogenizing the landscape and reducing the richness of a “patchwork” of habitat types in which deer thrive. The beam diameter data set is dependent on deer brought into the check station, Monroe DMU hunters only checked 63 antlered deer in 2015 and only 72 in 2016. This is a small sample size and can cause outliers to have a significant impact on the final average beam diameter number.

Impact of Severe Winter Conditions

Winter conditions in DMU 058 are rarely severe, and have little to no impact on heard population. Hard winters in DMU 058 can have an effect on deer condition come spring time but it does not cause a spike or impact on the DMU population.

Deer Management Recommendations

Monroe County is mostly agricultural land. Deer densities in this County range from 5-10 deer per square mile. We would like to continue to increase deer numbers in DMU 58. Antlerless deer quotas are recommended to remain the same in DMU 58. We have 0-3 crop damage complaints in this DMU per year. The deer population has likely slightly increased in this DMU in the last five years. Deer density remains below goal, especially relative to other DMU’s in the Southern Lower Peninsula. DMAPs and Deer Damage Permits are basically a non-issue, as harvest through the general hunting seasons is adequate to relieve damage complaints.

Hunting opportunities are wide spread across the county; the DMU receives high pressure from hunters with adequate cover being the main limiting factor for the deer herd. Based on all the above information, we recommend that the Private Land Antlerless Quota remain at 1,000 and we recommend that the Public Land Antlerless Quota remain at 100. We recommend that the DMU be open to early antlerless and late antlerless on private land only.

DMU 58

Wildlife Biologist

Zach Cooley

058 Deer Management Unit

