

DMU 312

Sherwood

Deer Management Unit

Area Description

The Sherwood Deer Management Unit (DMU 312) lies in the Southern Lower Peninsula (SLP) region and covers Branch, St. Joseph and Kalamazoo Counties. The majority of public hunting opportunities in this DMU are available on Crane Pond (4,234 acres), Three Rivers (2,125 acres) and Gourneck (2,165 acres) State Game Areas. Topography varies from rolling hills to relatively flat terrain, 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, which constitute >99% of the DMU. Aside from public lands which are somewhat forested, areas of habitat providing cover for deer (e.g., woodlots, shrub/brush, and wetlands) are fairly isolated and exist mainly in small patches (Table 1, Figure 1).

Habitat	312	312 Public Lands
Forest (%)	23.0	61.4
Agriculture (%)	56.1	10.0
Grass/Shrubland (%)	6.0	9.0
Wetland (%)	5.3	14.2
Developed (%)	6.9	1.9
Water (%)	2.5	3.4
Bare/Rocky (%)	0.2	0.0

Table 1. Habitat composition of DMU 312 as compared to only the public hunting lands in DMU 312.

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 oak 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 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, habitat assessments, etc.).

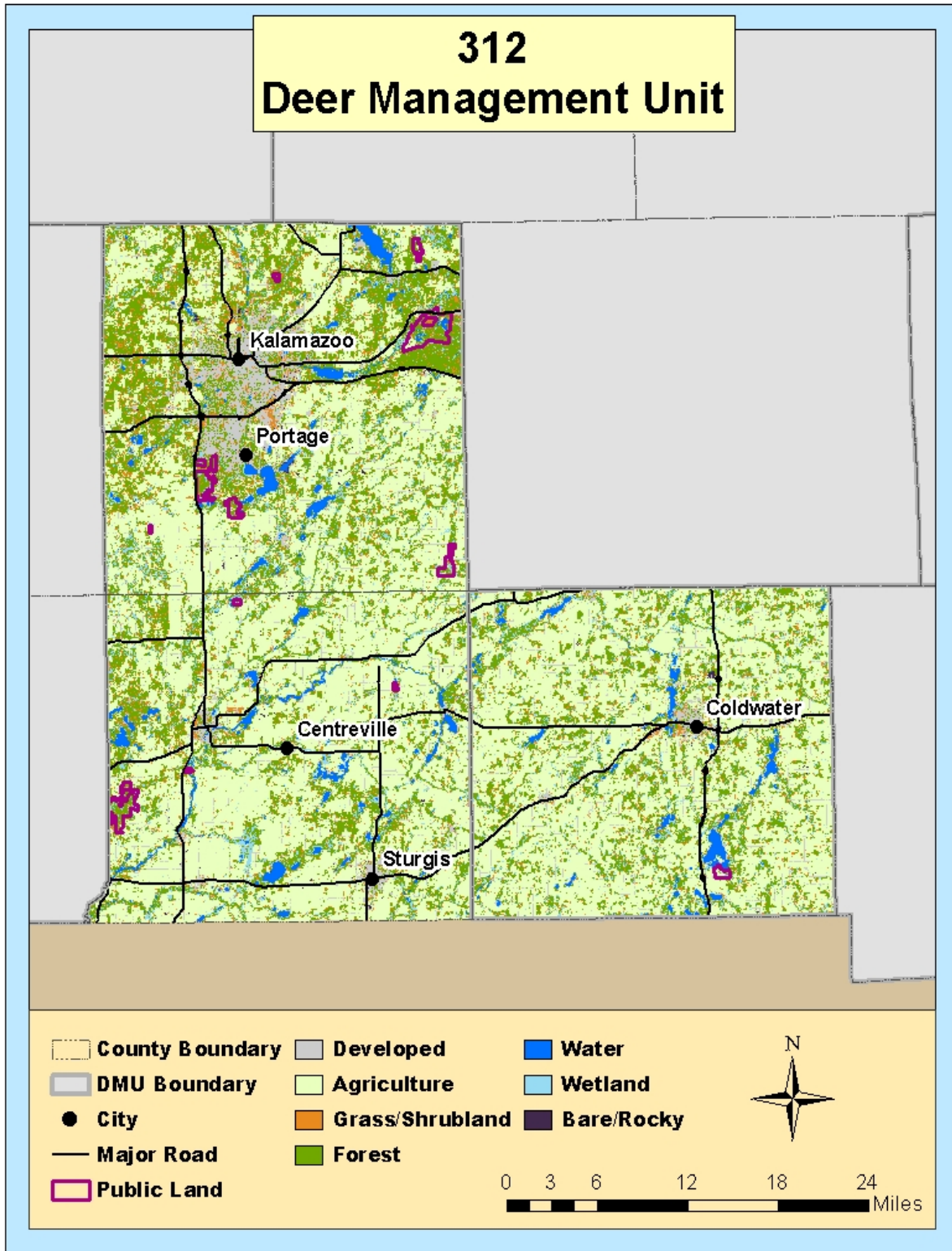


Figure 1. Habitat and land use distribution in Deer Management Unit 311.

Deer Harvest Analysis

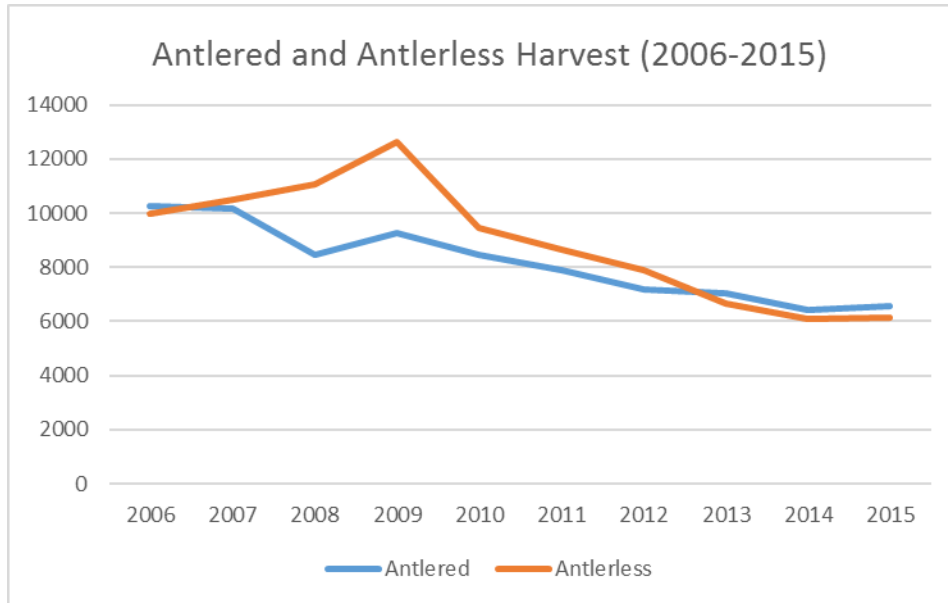


Figure 2. Annual harvest estimates for antlered and antlerless deer DMU 312 2006-2016

	Age Category	Age Category	Age Category
Year	1.5	2.5	3.5+
2001	66%	19%	15%
2002	63%	21%	16%
2003	66%	16%	18%
2004	64%	18%	18%
2005	59%	18%	23%
2006	66%	19%	15%
2007	68%	18%	14%
2008	64%	20%	16%
2009	53%	27%	20%
2010	58%	22%	20%
2011	53%	20%	26%
2012	61%	21%	19%
2013	63%	18%	19%
2014	46%	34%	21%
2015	54%	29%	17%

Table 2. Age structure of antlered deer harvest in DMU 312 2001-2015

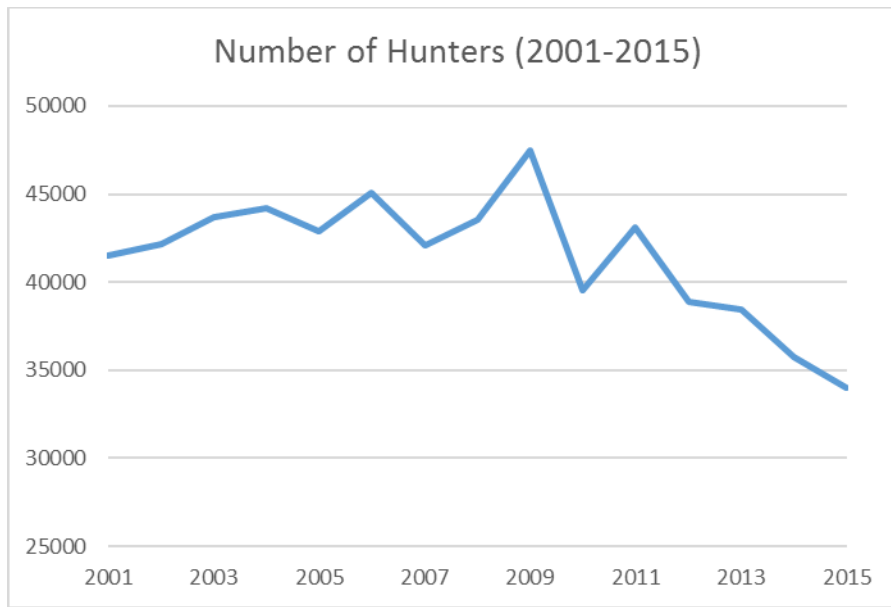


Figure 3. Average number of hunters in DMU 312 2001-2015

There is an apparent decline of both antlerless and buck deer harvest when looking at data from the past ten years (Fig. 2). This may be due to a reduction in deer population or changing behaviors in hunters, or, most likely, a combination of both. The liberalization of antlerless permits was intended to limit the productivity of the deer herd and may have contributed to a gradual population decline in this DMU. Other environmental factors, such as poor weather immediately preceding fawning, increased predation, and changing agricultural practices, can also impact deer numbers. 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. For example, a large scale shift in hunters' decisions to target older deer, passing on the harvest of younger bucks; results in reduced harvest numbers and increased hunter effort, leaving fewer deer in older age classes. Success and harvest rates are thereby suppressed not by population decline, but by the human decision-making process. Similarly, hunters may self-regulate harvest of antlerless deer for a variety of factors, such as a perception of too few deer. However, over the past ten years the age structure of harvested whitetail bucks has varied little indicating this may not have had a large impact on harvest of antlered deer (Table 2).

Over the past ten years there has been a decline in harvest which suggests a population decline in the deer of DMU 312 (Figure 2). Social factors (i.e. hunter perceptions and goals) may have some influence over both harvest and effort, but it is unlikely that hunter attitudes would have shifted enough in this time span to impact harvest and effort to this degree. Hunter numbers have also declined in the past ten years (Figure 3). A combination of these factors has likely influenced the observed decrease in harvest.

Additional Population Assessment Factors

Deer-Vehicle Collisions

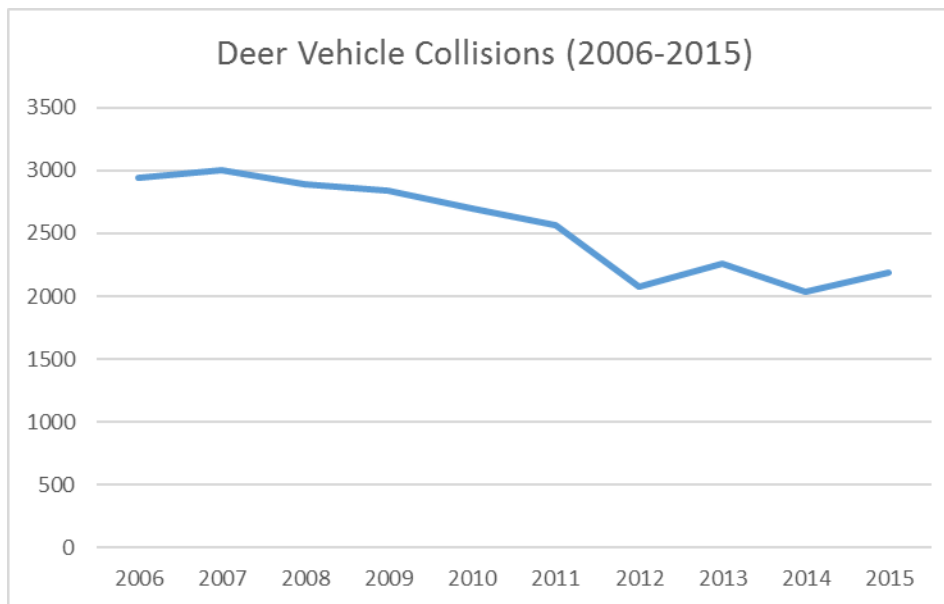


Figure 4. Deer Vehicle Collisions in DMU 312 2006-2015.

Deer-vehicle collisions (DVC) are commonly used as an index to express the deer population trend; the idea being that high rates of DVC are correlated with high deer populations, and vice versa. Research has shown that there are other factors that influence the rate of DVC as well. For instance, habitat distance from roadways and juxtaposition on the landscape can influence the way these animals interact with vehicles. However, DVC data can provide useful information, if contextualized as one part of a deer population assessment.

According to data provided by the Michigan State Police, deer vehicle collisions (DVCs) in the Counties in DMU 312 have declined significantly from 2006-2012 and seem to be stabilized by 2015 in the Sherwood DMU (Figure 4). 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 DVCs due to the requirement to obtain police reports for insurance purposes. The decline in DVCs is an additional indicator that the Sherwood DMU deer density has declined over the past decade.

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

Deer Management Recommendations

The deer population has declined in this DMU in the last decade. Deer density remains at moderate levels, however. Variation in deer population density and dispersal over the area will necessitate continued issuance of DMAPs, and Crop Damage permits to mitigate these impacts.

Hunting opportunities remain good due to stabilizing deer densities in the DMU. As this unit was formerly part of DMU 486, it is not possible to know the precise rate at which antlerless tags were filled. Going back to 2008, the last year in which the three counties in Sherwood DMU were individual units, an average of 10,100 antlerless permits were available in each of these units for a total of 30,300 permits across what is now DMU 312. In 2012, we reduced the total number of antlerless permits in this DMU to 18,000 in response to factors such as: the data trends as outlined in this report, a review of license sales records, and as a way to be responsive to high levels of deer mortality from EHD.

In a continued response to recent deer harvest data, partner and hunter feedback, recent disease outbreaks (EHD in 2012), and fluctuating weather conditions, continued efforts are needed to evaluate and stabilize the deer population of this area. The goal is to stabilize the population trend in this DMU keeping deer numbers about where they are and allow areas hit hard by EHD to recover. We also desire to maintain recreational opportunities for hunters while minimizing negative conflicts with agriculture, and maintaining low levels of vehicle collisions. For the Sherwood DMU 312 (Branch, St Joseph and Kalamazoo Counties) we recommend to maintain the antlerless permits to 16,000 for the next three-year period; reducing private land permits available by 1,000 and maintaining the current level of public land permits available at 1,000. We recommend that early antlerless season continue to be closed.