

DMU 341

Sparta Deer Management Unit

Kent, Ottawa, and Southern Muskegon Counties

Area Description

The Sparta Deer Management Unit (DMU 341) is in the Southern Lower Peninsula Region (SLP) and covers Kent, Ottawa, and southern Muskegon Counties. The main public land hunting opportunities in this DMU are available in the Muskegon (15,000 acres), Rogue River (6,500 acres), and Cannonsburg (1,347 acres) state game areas and the Bass River Recreation Area (1,665 acres). Topography varies from river floodplains and bluffs to outwash plains and gently rolling hills. Soils are generally well-suited to row crop agriculture and orchards. The landscape is highly fragmented due to the predominance of agriculture on privately-owned lands, mixed with urban, rural residential, and commercial land use (Figure 1). Private lands constitute 96% of the DMU. In addition to public lands, which are predominantly forested, deer habitat (woodlots, shrub lands, and wetlands) is interspersed across the landscape (Table 1).

Table 1. Habitat composition of DMU 341 compared to only the public hunting lands in DMU 341

Habitat	DMU 341	DMU 341 Public Lands
Percent Forest	25.4	53.8
Percent Agriculture	39.6	3.5
Percent Grass/Shrub	9.7	8.9
Percent Wetland	6.4	27.8
Percent Developed	16.0	1.9
Percent Water	2.2	2.9
Percent Other	0.2	1.1

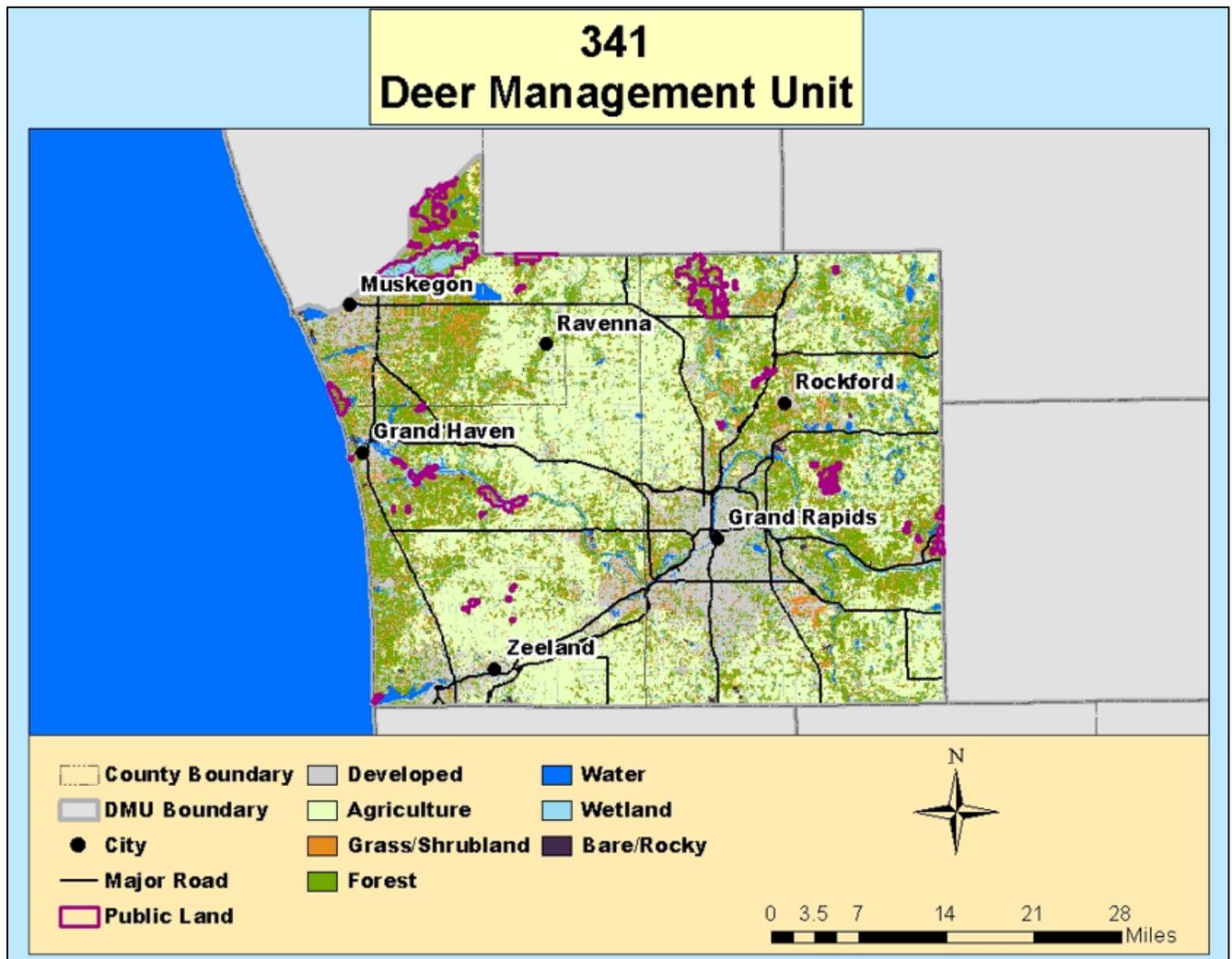


Figure 1: Habitat and land use distribution in Deer Management Unit 341

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 overabundance. Crop damage, deer-vehicle collisions, poor forest regeneration, and urban deer issues are examples. 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 hunter survey, deer-vehicle collision data from the Michigan State Police, and deer-related information collected by regional wildlife biologists (e.g., hunter observations, number of Crop Damage Permits, municipal complaints, habitat assessments, etc.).

Deer Harvest Analysis

The decline of both antlerless and buck harvest between 2006 and 2015 has been consistent over the last several years (Figure 2). This is primarily due to a reduction in deer population, although hunter behaviors can also influence these trends. The liberalization of antlerless permits in southern Michigan DMU 486 (2009 through 2012) was a response to the finding of Chronic Wasting Disease in a privately-owned deer facility in Kent County in 2008, and generally high deer numbers throughout the SLP. The outbreak of EHD (Epizootic Hemorrhagic Disease) in 2012 in the SLP also contributed to the reduction in deer numbers. Decreased fawning success, increased predation, and changing land use and agricultural practices can also impact deer numbers.

Hunter effort and overall hunter numbers also declined during this time period. Since the last regulations cycle in 2014, hunter effort in DMU 341 declined by approximately 8% and overall hunter numbers have also declined (4%). Hunter decision making can also impact harvest numbers. Decisions to target older deer and pass on younger bucks may result in reduced harvest numbers. Similarly, hunters may self-regulate harvest of antlerless deer for a variety of factors, such as a perception of too few deer.

The change in deer harvest suggests a population decline in deer that is somewhat mitigated by hunter numbers and behavior. However, it is likely that a reduction in the deer population has been going on, along with an aging hunter population and changing hunter perceptions.

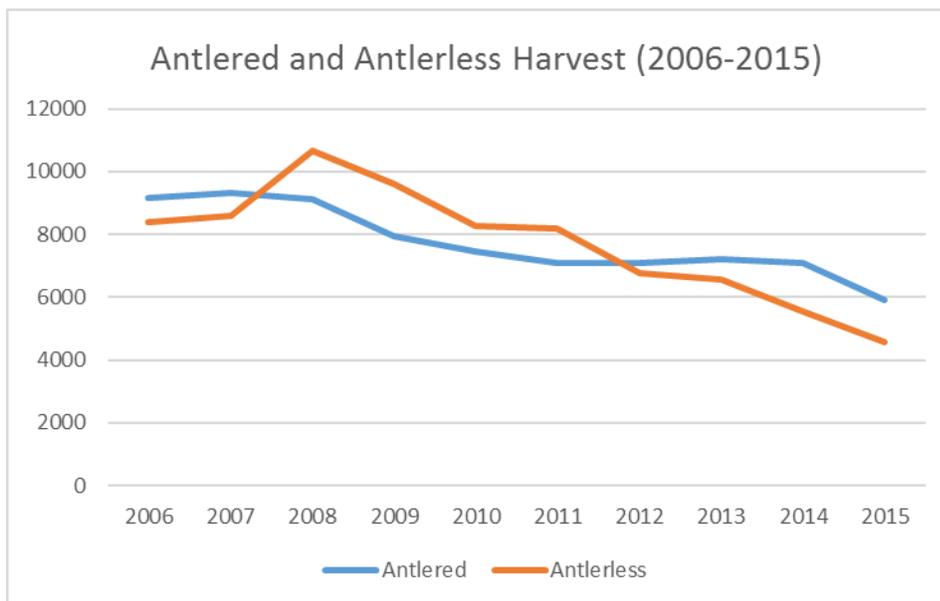


Figure 2: DMU 341 antlered and antlerless deer harvest from 2006 to 2015

Additional Population Assessment Factors

Deer-Vehicle Collisions

Deer-vehicle collisions (DVC) are commonly used as an index to deer population trends. While other factors such as habitat proximity to roadways and highway characteristics can blur the relationship between deer populations and DVCs, this data can provide useful information about overall deer

population trend assessments. Since the last regulations cycle in 2014, deer-vehicle collisions in DMU 341 may be trending upward in the DMU (Figure 3).

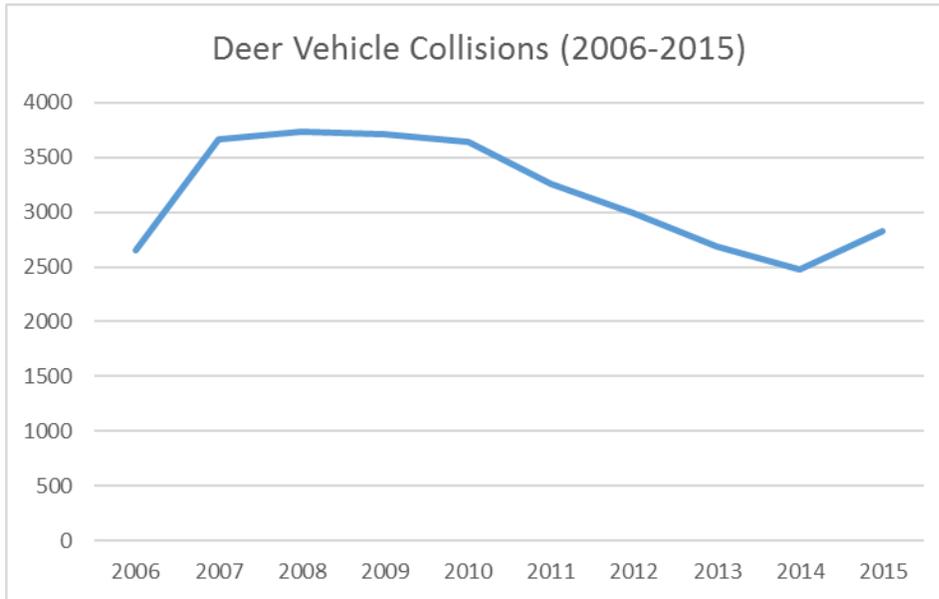


Figure 3: DMU 341 Deer Vehicle Collisions (2006-2015)

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. In the Sparta DMU, the number of DMAP requests has historically been low, and there has been no statistically significant change in the last regulations cycle (since 2014).

Crop damage permits are also requested by commercial growers, and allow for the harvest of antlerless deer outside the framework of legal hunting seasons to address agricultural damage. Requests for crop damage permits sometimes do not reflect population shifts as quickly as hunting harvest data. In the last regulations cycle, these requests have been variable between counties, but generally low, and more closely associated with winter severity.

Deer Condition Data

Yearling main antler beam diameters, measured approximately one inch above the burr, have been used as an indicator of deer body condition. These measurements are recorded at MDNR deer check stations as hunters voluntarily present deer at these stations throughout the state. When aggregated by DMU, the average 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 habitat factors. Depletion of food resources and good cover through overpopulation or other types of physical stress factors can lead to a decline in herd condition, observed by lower yearling main beam diameters.

In the Sparta/341 DMU, antler beam diameter changes have been somewhat variable, with some years showing antler beam diameter growth, and others a decline. The trend since 2003 has been for a slight decline. The most recent regulations cycle has continued this trend. However, the most recent single-

year data (2015) showed an average of 21.3 mm beam diameters in the Sparta DMU. This number is only slightly different from the 2003-2012 average of 21.2 mm, and is not statistically significant (Figure 4).

In most of the SLP, weather is not the primary factor in deer condition determinations. However, land use changes can be very significant. Less acreage enrollment in conservation programs, expansion of row crop agriculture, and a growing human population in West Michigan requiring more commercial and residential development, are some of the factors that fragment wildlife habitat and reduce the habitat types in which deer thrive. Reductions in habitat quality lead to reductions in deer condition.

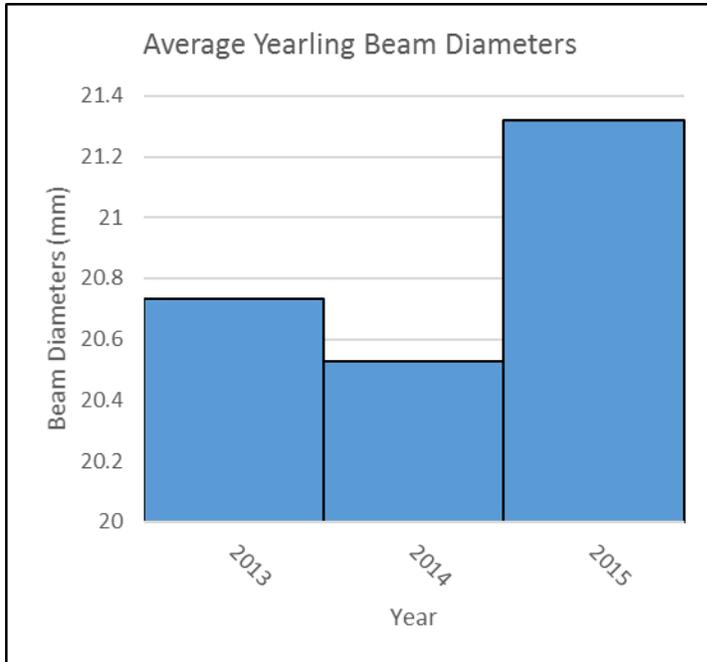


Figure 4: DMU 341 average yearling beam diameters 2013-2015

Deer Management Recommendations

Based on harvest trends, the deer population has declined in this DMU in the last decade. However, deer density remains high in parts of the Sparta DMU, and is high enough to require the issuance of DMAPs and crop damage permits throughout much of the unit, as harvest through the general hunting season is inadequate to relieve damage complaints. Hunting opportunities remain good due to high deer densities in parts of the DMU.

The goal since 2014 has been to stabilize deer numbers in Kent County, while increasing deer numbers in the lakeshore counties (Ottawa and Muskegon). While both antlerless deer and buck harvest has been trending down (along with hunter effort and numbers), other indicators have given mixed signals. Car/ deer accident rates have increased since 2014, but crop damage complaints and DMAPs have been stable. Deer condition indicators have shown a general, slow decline, while improving slightly in the last available data year (2015). 2014-16 quota levels in the recent cycle were set at 17,500 private land antlerless permits and 1,050 public land antlerless permits. We recommend a small reduction in antlerless permits in the Sparta DMU to 17,000 private land antlerless permits and 1,000 public land antlerless permits.