DMU 083
Wexford County
Deer Management Unit

Area Description

Wexford County Deer Management Unit is in the Northern Lower Peninsula Region (NLP). Topography varies from rolling hills to areas that are relatively flat. A moraine ridge bisects the county from northeast to southwest, with most of the rest of the county consisting of glacial outwash plain. Soil types associated with the higher elevation ridges are mainly well-drained sandy soils of moderate fertility, while outwash plain soils range from well drained sands to pockets of poorly drained peat and muck. Lowland swamps tend to dominate the latter. There are not a lot of streams or lakes in the southern two-thirds of the county; those that do occur are primarily located within the outwash plain, including Lakes Mitchell and Cadillac. The northern third of the county is largely influenced by the Manistee River watershed; this river catchment consists of coarse-textured high banks and well-drained sandy and sandy loam outwash plain through which numerous tributaries flow.

The landscape consists of large blocks of both state and federal land totaling approximately 112,000 acres, or one third of the total acreage in the county. State land is concentrated in the northern portion of the county along the Manistee River, while federal land is located in the southern half. The remainder of land is in private ownership. These large blocks of public land are dominated by a mix of aspen, red and white pine, lowland conifer, and some northern hardwood that provide excellent habitat for deer. Mitchell Swamp just west of Cadillac is a large swamp complex that offers winter deer yard opportunities. Private land consists of islands of agricultural land amongst forested habitat.

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. 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 hunter survey, the winter severity index, 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, habitat assessments, etc.).

Population Assessment Factors

Winter Severity

In northern Michigan, winter severity has a direct impact on deer condition at the population level. Whereas mild winters allow for better survival of deer, severe winters can cause high deer mortality. In addition, does may abort fetuses to survive which creates a lag effect into the following year. Does with poor nutrition tend to have smaller litter sizes and give birth to fawns with reduced birth weight.

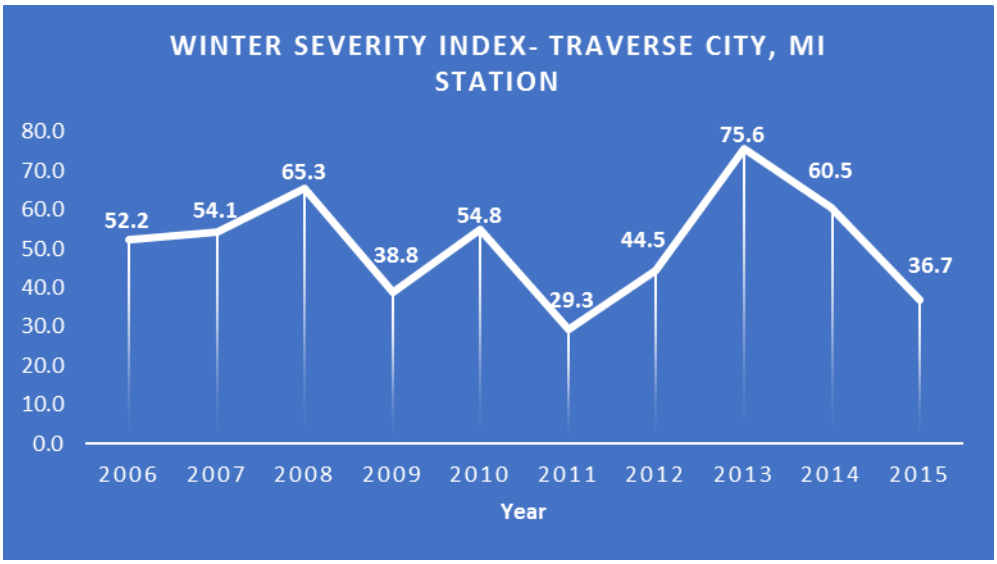

Figure 1: Traverse City Area Winter Severity Index from 2006 to 2015

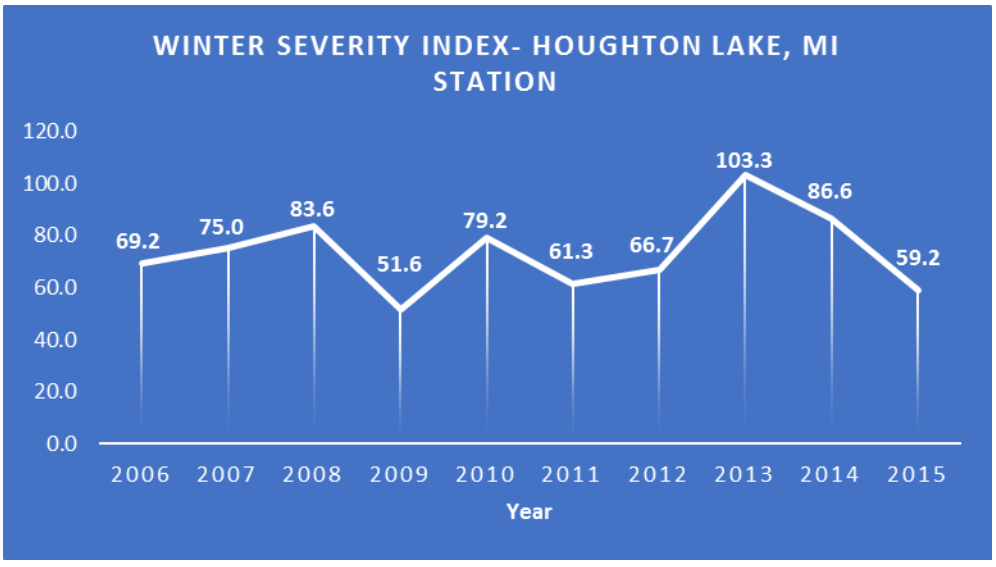

Figure 2: Houghton Lake Area Winter Severity Index from 2006 to 2015

With Wexford County between the Traverse City and Houghton Lake weather stations it is useful to look at the indexes for both locations. Winter severity over the last five years has been variable with most years below the 10-year-average. The notable exceptions were the winters of 2013 and 2014 where winter weather was both more severe and lasted longer than normal.

Deer Harvest Analysis

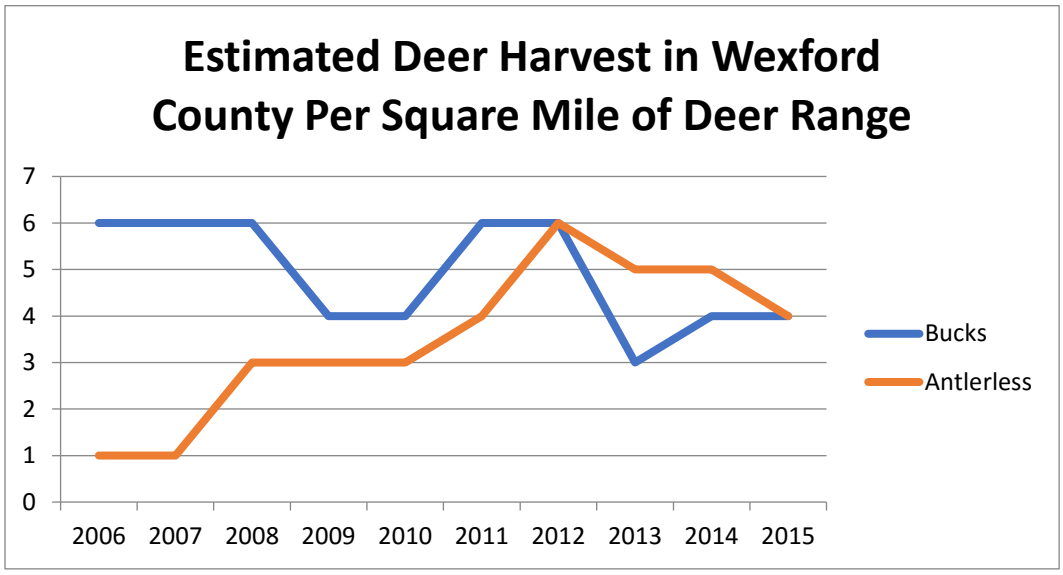

Figure 3: Deer harvest estimates per square mile. Note: for the years 2008-2015 this includes antlerless deer killed under crop damage management programs, see Other Harvest.

Buck harvest has oscillated between 3 and 6 bucks harvested per square mile of deer range over the last decade. The fluctuations observed are likely related to varying winter severities, hunter effort, fall food availability and the Antler Point Restriction (APR) which went into effect in this county in 2013. The antlerless harvest since 2012 continues to decrease even as antlerless license availability has remained the same. While it can be difficult to pinpoint exactly what causes a population to increase, decrease, or stabilize, we can make predictions based on past trends and looking at several factors that can indicate changes in populations.

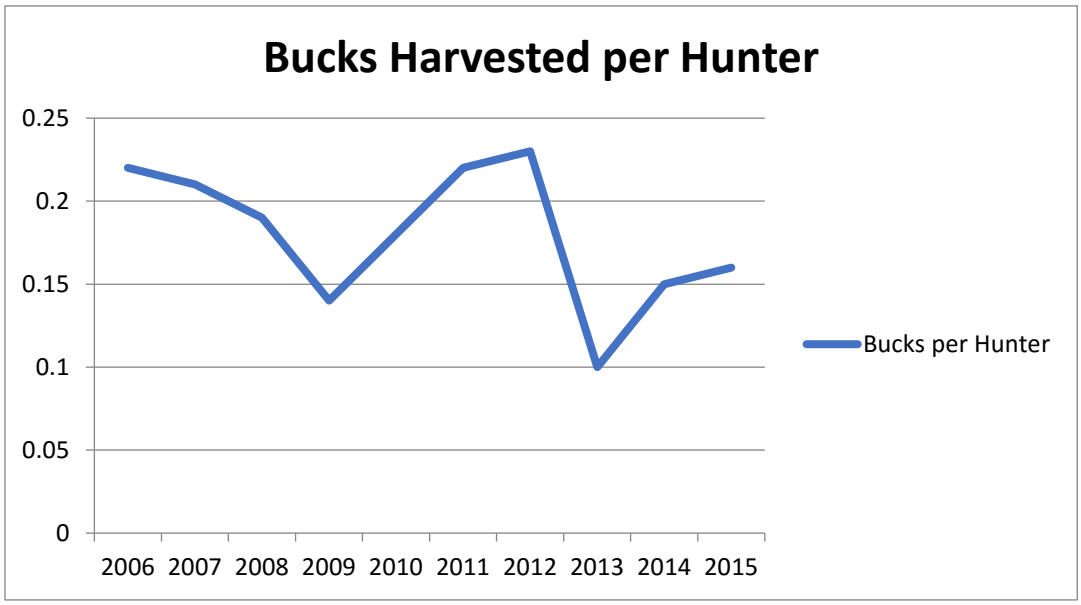

Figure 4: Bucks harvested per hunter in Wexford County, all seasons combined.

With the number of hunters changing year to year it can be helpful to look at the number of deer taken as it relates to hunters in a given year. Wexford County has seen a decreasing trend in the number of bucks taken per hunter.

Other Harvest

Deer Management Assistance Permits (DMAP) and Crop Damage Permits (CDP) are utilized to address deer overabundance issues in specific locations at specific times of the year. DMAPs may be applied for by any private landowner with deer damage, safety issues and other concerns such as forest regeneration. Because CDPs are not typically issued during the regular hunting seasons, agricultural producers who experience chronic deer damage will frequently request DMAPs to ensure they can harvest adequate numbers of antlerless deer in the fall. Wexford County has some agriculture but only a minimal number of deer taken through either of these programs.

Deer-Vehicle Collisions

Deer-vehicle collisions (DVC) are commonly used as a deer population trend index, 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 the deer population and DVCs. However, DVC data can provide useful information if used as one part of a deer population assessment.

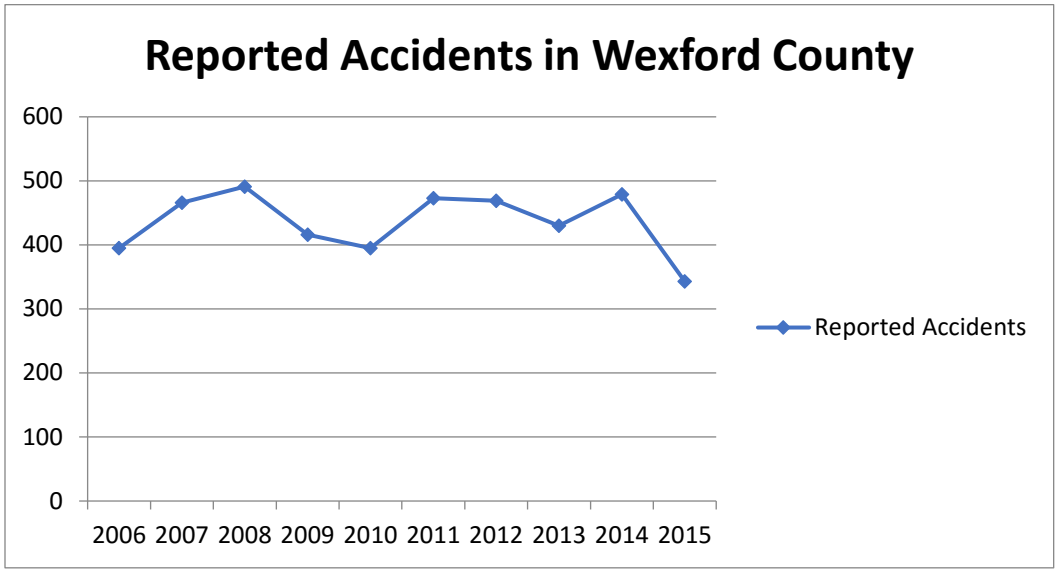

Figure 5: Number of deer vehicle collisions in Wexford County.

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 a reliable estimate of DVC rates. In Wexford County, deer vehicle collisions range between 400-500 per year until 2015 when a low of 343 were reported. The increase in reported accidents in 2014, all of which occurred either during or after the most severe winter in the last ten years, most likely does not represent an increase in deer numbers. This increase in reported accidents is most likely due to deer frequenting roadways due to the severe conditions. When this is taken into account, the trend since the high in 2011 is a steady and significant decline.

Antler Measurements

In previous years, average antler measurement for one-and-a-half-year-old bucks was used to evaluate overall nutrition of the deer herd. This information is not being included this review because antler point restriction were implemented in 2013. This change significantly reduced the number of yearling bucks in the harvest and sample sizes are longer adequate to provide confidence in these data.

Deer Management Recommendation

Since a direct count of the deer population is not possible, there are a number of indicators used to determine long term deer population trends in each DMU. The list of indicators described above are used together, as no single indicator provides enough information on its own. Though there isn't complete agreement in these indices, most indicators demonstrate a stable to slightly increasing population, partly due to recent mild winters. As a result we are recommending small increases in the antlerless harvest to maintain healthy populations in the county. There will be no early or late antlerless seasons in Wexford County.

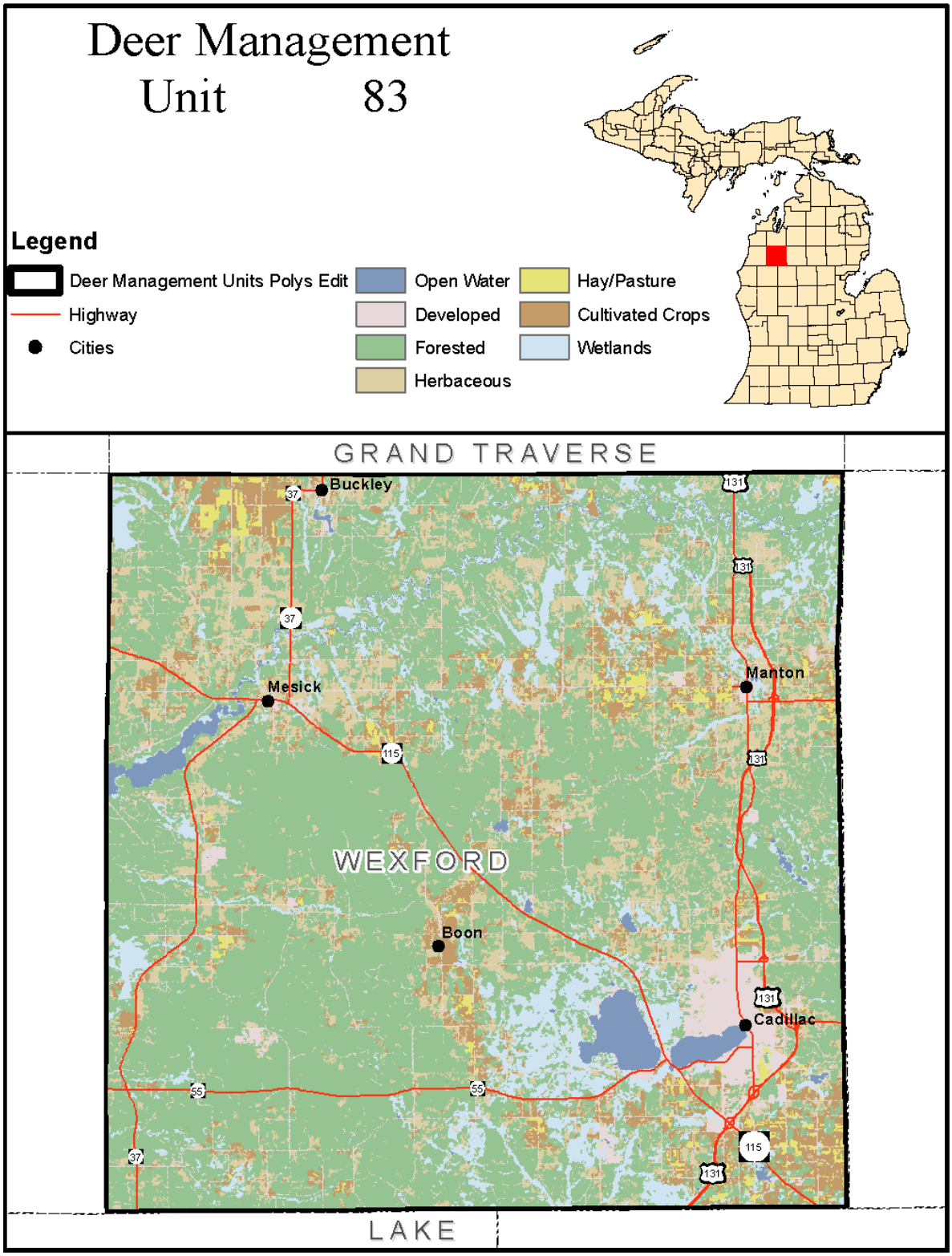

Figure 6: Cover type map for Wexford County.