

WORKSHEET FOR ESTABLISHING DEER POPULATION GOALS – DMU 038 2006- 2010

Adjacent DMU(s) used in calculating goal: 030, 046, 081

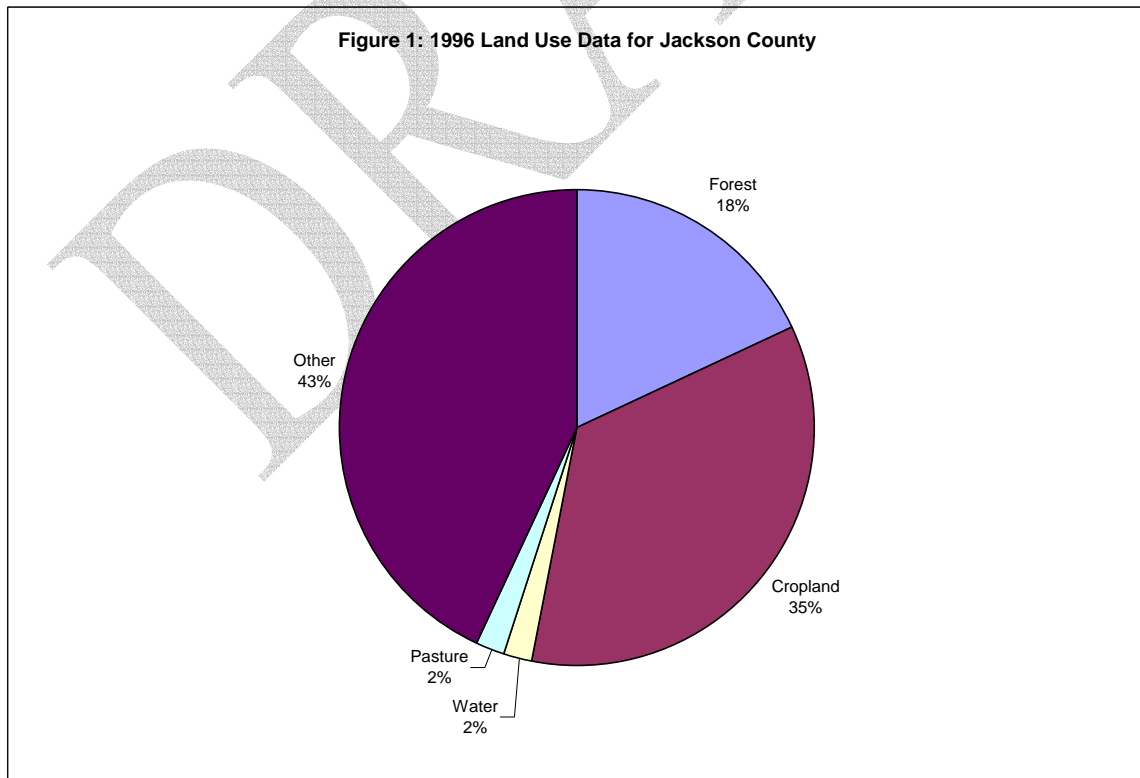
2006 - 2010 goal: 23,200 to 27,500 deer (32 deer/sq mi to 38 deer/sq mi)
Estimated 2005 population 50,400 deer

1996 - 2004 goal: 27,000 deer (38 deer/sq mi):

Arguments for 2006-2010 Goal:

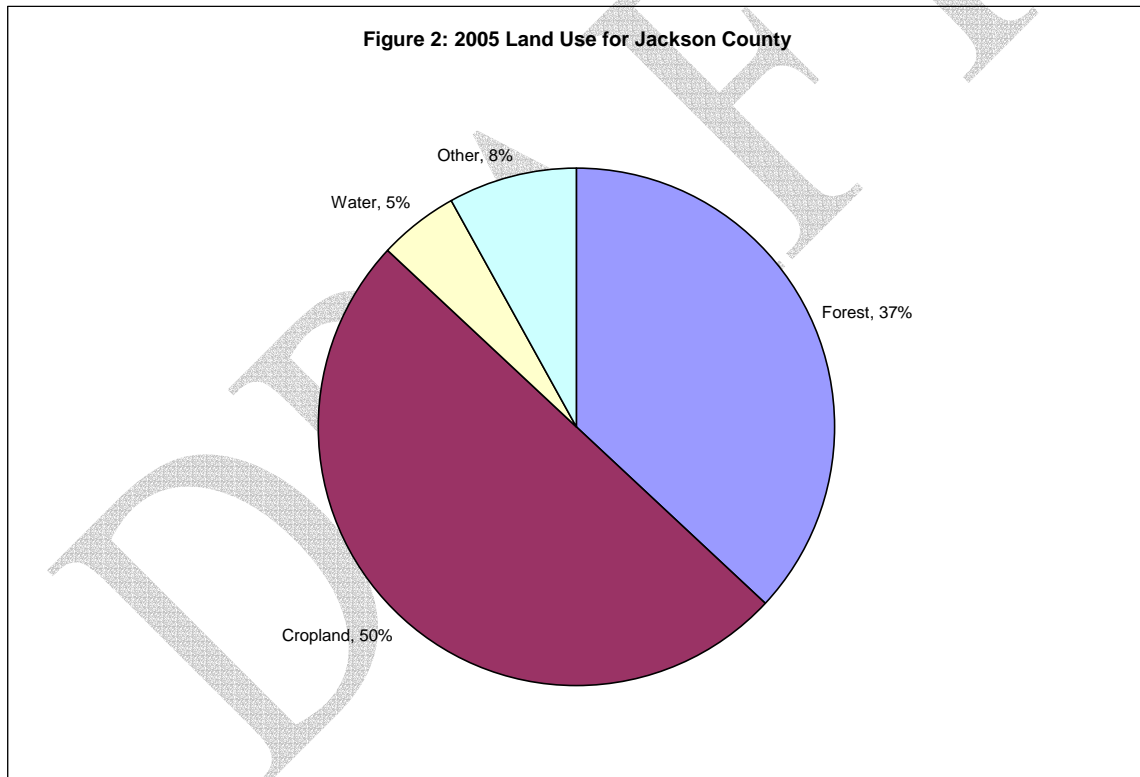
Habitat:

DMU 038 is comprised of all of Jackson County. Jackson County is located in south-central lower Michigan and is primarily private land (95%) with a few large public land state game areas and state recreation areas (5%). The landscape consists of rolling hills scattered with cropland, forests and large swamps. When the previous deer goals were established in 1996, the land cover data showed that 18% of the county was forested and 35% was cropland, in addition to other covertypes that have less value to deer ecologically (Figure 1).



*Source: Michigan Agricultural Statistics Service

Today, these covertypes appear to be similar but have changed slightly by an increase in cropland and forested areas (Figure 2). With these data coming from different sources, the amount of increase is unknown; however, the trend is still the same. The increase in forested land is due to the forested category now including the covertypes of upland shrub, lowland shrub and areas with low densities of trees. The 1996 data called for a 16.7 percent stocking rate of trees of any size, which did not include brush species or understocked areas. The minimum mapping unit in both datasets is one acre. This increase in suitable food and cover for the deer herd is noticeable as the deer population in this county has been on the rise for the past 14 years (see next section). Agricultural crops, such as corn, soybeans, and garden produce, are the main food source for deer in this county with forest vegetation available as well. Essentially, their food source is unlimited. Winter cover is also abundant via standing crops, forested areas, and large brushy swamps. This food/cover combination makes for a healthy, highly reproductive deer herd in Jackson County.



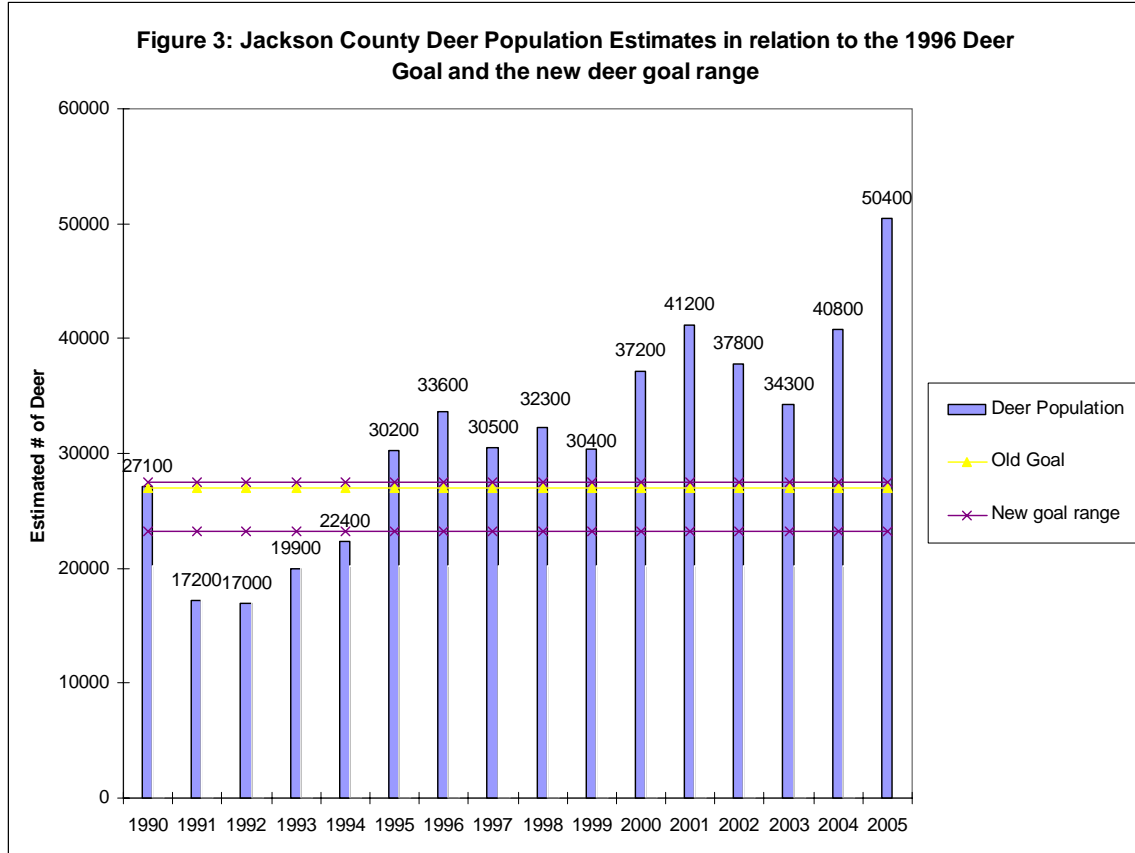
*Source: Michigan DNR, IFMAP data

Since Jackson County has a higher percentage of forested land and swamps than many of the adjacent DMUs, this county seems to be a habitat magnet for deer. Ecologically, forests can generally sustain a higher deer density, although this is not advised, because higher densities can cause long term negative ecological impacts to the forest flora. The deer population in Jackson County is estimated at 70 deer per square mile this year, and at this density browsing damage by deer is becoming more evident.

There is a prominent browse line observed throughout the county on cedar and other evergreen tree species as well as on common shrubs such as yew and dogwood.

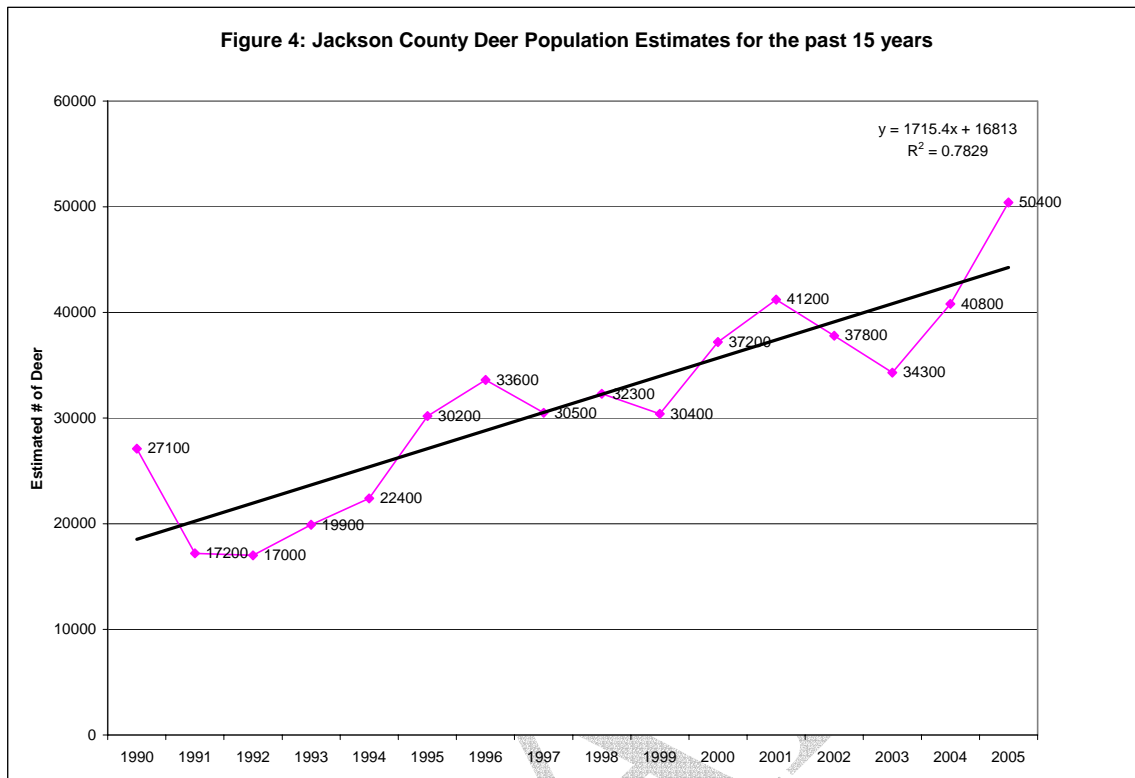
Ecological Implications via data and observation:

Currently, the Jackson County deer population is 87% over the goal set in 1996. As mentioned, the current estimated number of deer per square mile is 70. This occurrence of being over goal has been the trend for the past 10 years (Figure 3).



*Source: Michigan DNR, SAK Model

When developing a population estimation for Jackson County, confidence can be put in the Sex-Age-Kill (SAK) model. The SAK model requires at least 100 antlered and 200 antlerless deer to provide a valid estimate. In recent years, this DMU has met this requirement for the model. Data from deer check stations across the state are used in this model to develop population estimates each year. The SAK model shows a trend for the past 15 years that the deer population in Jackson County is steadily increasing (Figure 4) with a 10 year average of approximately 36,200 animals (50 deer/sq. mile) and a 5 year average of approximately 40,900 animals (57 deer/sq. mile). The population appears to be continuing on an upward trend with deer densities estimated at 70 deer per square mile for 2005. This density is the third highest in the state of Michigan according to DMU SAK estimates for 2004.



*Source: Michigan DNR, SAK Model

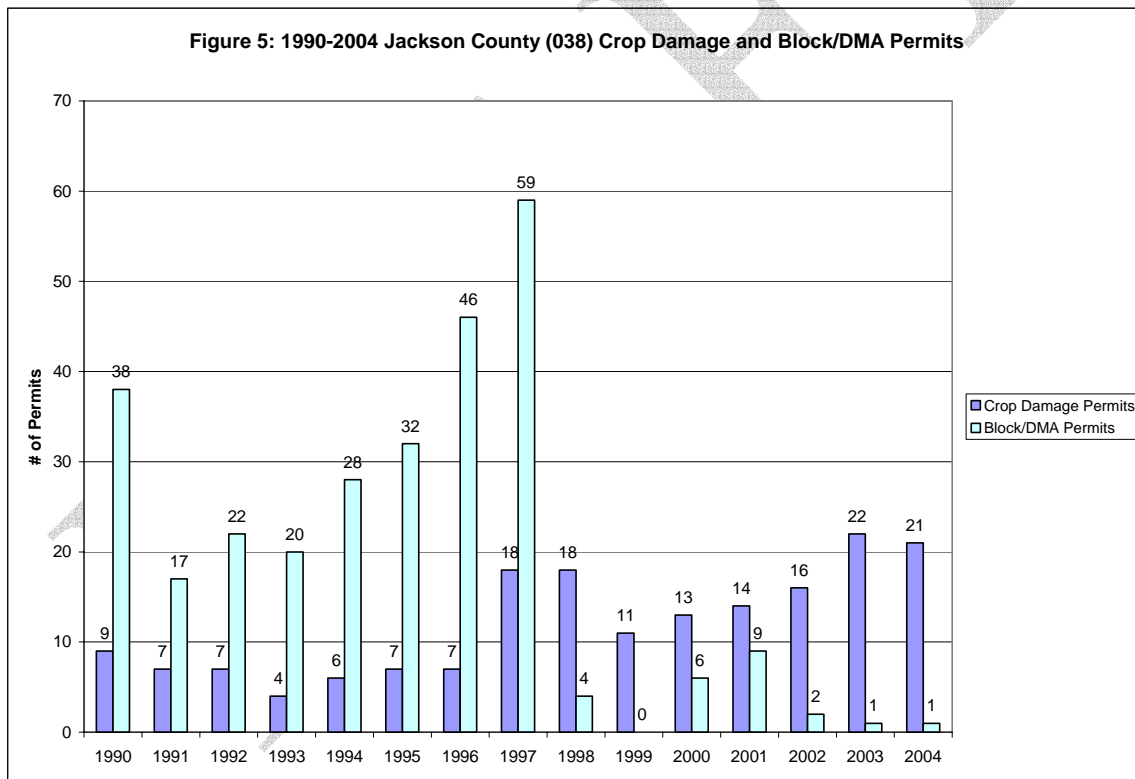
At these numbers, the deer population in Jackson County appears to be healthy and well above the deer numbers of adjacent counties with the same general land use patterns. Reproductive rates have remained consistent with twin fawns being normal. There are also sporadic observations of triplets. The average harvested doe to buck ratio for the past 10 years was 1.8 does for every buck and has remained at 1.9 for the past two years according to biodata from statewide deer check stations. Beam diameters for yearling antlered bucks (1 ½ years) and adult antlered bucks (2 ½ + years) have remained quite stable for the past 10 years with no significant increasing or decreasing trends. Furthermore, the average number of points for a yearling antlered buck has remained at approximately 5.5 points and the average number of points for adult antlered bucks has remained near 8 points over the past 10 years.

Biological Considerations:

As mentioned above, herd health appears to be excellent. Disease testing has been done on a sample of the Jackson County deer population for the past 9 years. These tests have shown no evidence of Bovine Tuberculosis in this county. In recent years, tests for Chronic Wasting Disease in this county have also been conducted and the results have shown no evidence of this disease. Furthermore, these diseases have not been detected in any other southern Michigan county.

Social Considerations:

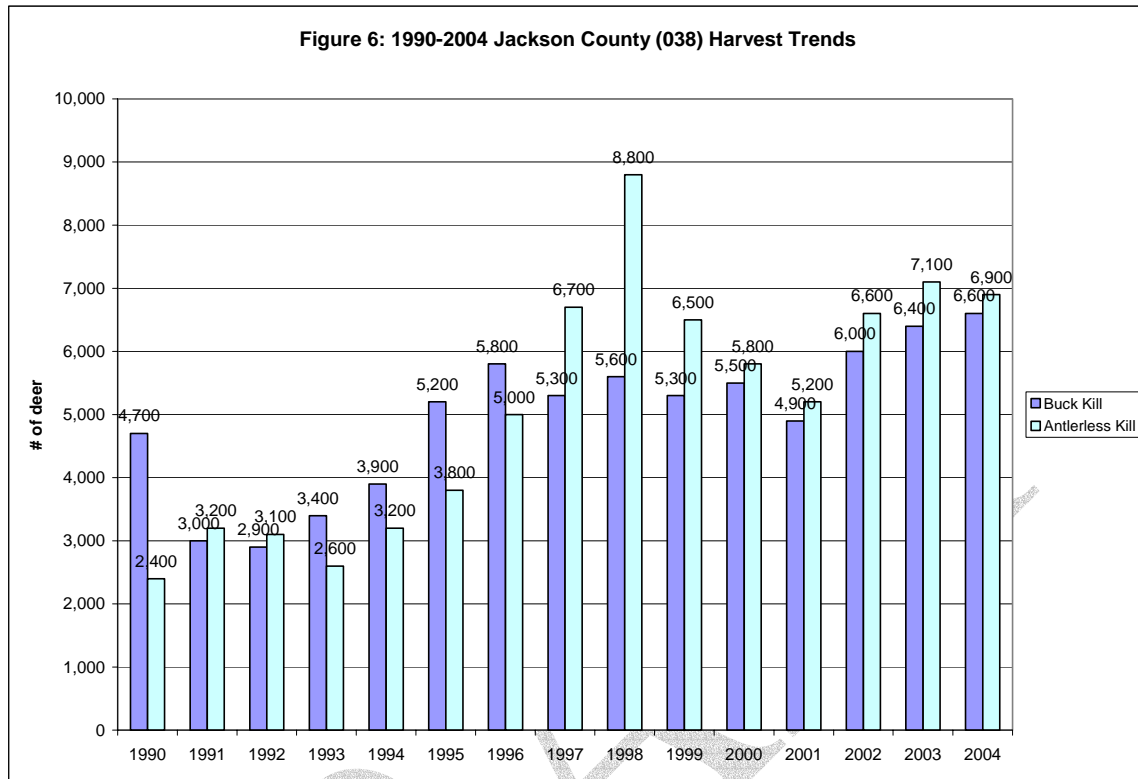
The human population of Jackson County has increased 8.3% over the past 15 years with a current population estimate of 162,321 people (US Census Bureau). This indicates that there are approximately 224 people per square mile in Jackson County. The population is not evenly distributed since the city of Jackson is located in the center of the county. The rest of the county is peppered with numerous small towns, farms, large swamps, and agricultural lands. The number of crop damage complaints has been on the rise for the past six years and is on pace to be even higher this year (Figure 5). The number of Deer Management Assistance Permits (DMAPs, formerly Block permits) reduced significantly since more liberal antlerless regulations were started in 1998; however, Out-of-Season Kill (OSK) permits are still increasing. Jackson County is within the top five counties in the state of Michigan for the number of OSK permits issued (2004). Deer damage is a major issue in this county.



*Source: Michigan DNR

For many years, Jackson County has always been known as a county where a hunter can harvest a “huge” buck. Many hunters still come through the deer check station and voice their concerns that harvesting antlerless deer is wrong. Division employees have been working to reverse this mentality and educate hunters on deer population dynamics. The late 1990s started to show a change in harvest trends from

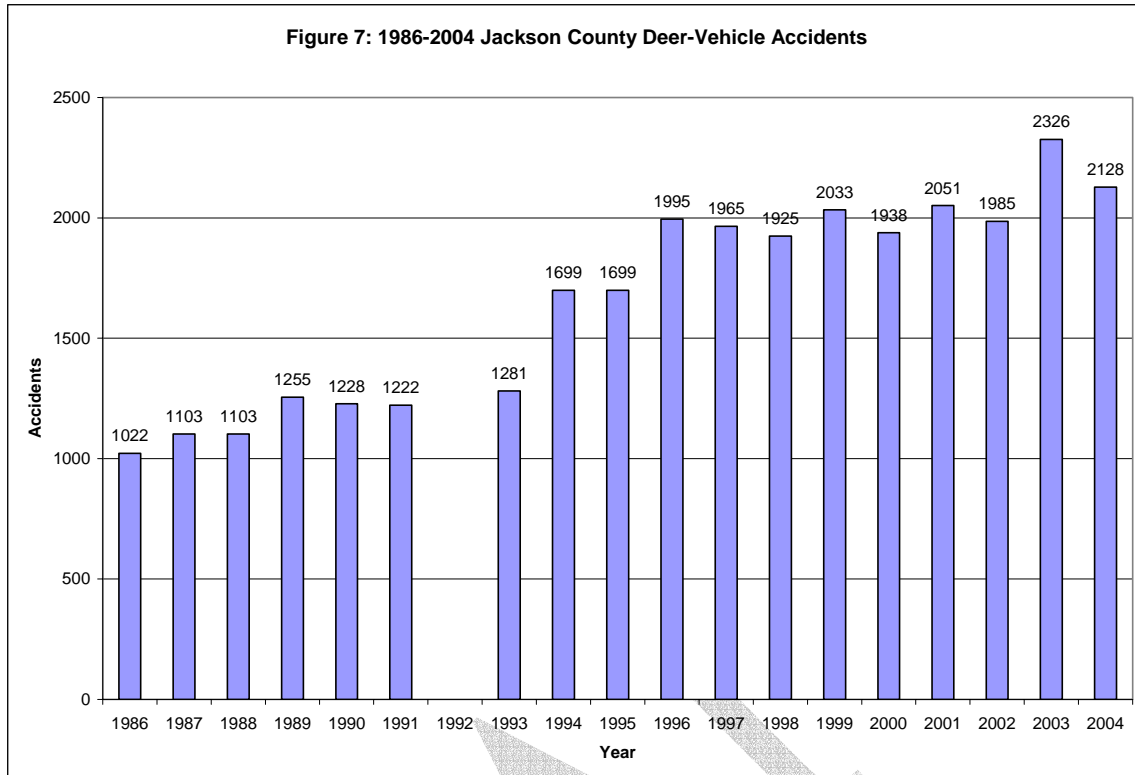
more bucks being harvested to more does being harvested, especially once antlerless license quotas became readily available to every hunter in 1998 (Figure 6).



*Source: Michigan Deer Harvest Survey Reports Years 1990-2004

People in Jackson County generally feel that there are a lot of deer in this county; however, they often like to have the luxury of seeing several deer when hunting or for recreational viewing. This mentality often holds true until they are directly negatively affected in some way such as crop damage, landscape damage, or a deer-vehicle accident. Currently there is a human dimensions study being done by Michigan State University in southeast Michigan that includes Jackson County and it is titled “Living with White-tailed Deer in Southern Michigan: A survey of your opinions”. This study is designed to determine how socially acceptable deer are in this area and the reasons why they are or why they are not acceptable.

In addition to crop and landscape damage, deer-vehicle accidents are a concern of citizens as well. Figure 7 shows the number of deer-vehicle accidents for the past 18 years in Jackson County. Numbers rose in the mid 1990s and have averaged 2,085 accidents for the past 5 years. These numbers are double the amount of accidents occurring when the deer population was at or below goal (Figure 3) in the early 1990s. As of 2004, Jackson County was ranked #1 in the state of Michigan for deer-vehicle accidents on a per square mile basis.



*Source: Michigan State Police

Current Regulations:

Antlerless license quotas in Jackson County have been set liberally to encourage hunters to harvest more antlerless deer. The Public land antlerless license quota has been set at 1,500 minimum for the past three years and has never been reached, with only 63% of these licenses being sold last year. The Private land antlerless license quota has been set at 20,000 for the past three years and has never been met, with 74% of these licenses being sold last year. Furthermore, the Late Antlerless season has been open for the past three years and will be open again this year (2005). The fact that antlerless license quotas are not met and that there is a late season available gives deer damage complainants more opportunities to reduce deer numbers on a local basis.

Proposed management strategy for moving population toward goal, + or -:

With the current deer population in this county estimated at 70 deer per square mile, a step down approach over the next 10 years will be needed to reach the proposed goal range. The current regulations are not sufficient enough to reduce the deer population in this county. All available harvest tools have been utilized in this unit since 1998, yet the population remains extremely over goal. A two-part approach will be needed to bring the deer population to within the goal range. Initial concentration should be on vigorously reducing the deer herd with all available tools for the first 5 years, and then in the succeeding 5 years, new harvest tools will most likely need to be established

to reduce the population even further in order to meet the goal. Therefore, for the next 5 years, the quota for antlerless licenses for public and private land should continue to be set higher than the demand to keep promoting a liberal antlerless harvest. The late antlerless season should continue to be available even if and/or when the deer population drops within the goal range, due to the high reproductive capability of this deer herd. Furthermore, DMAPs and OSK permits should still be issued as requested to keep the negative impacts from deer to a minimum. Division employees should also keep reiterating the importance of harvesting antlerless deer when speaking with farmers and hunters throughout the county. The extension of the muzzleloader season this year (2005) may help to reduce deer numbers as well.

In the following 5 years if the goal is still not reached, additional harvest tools will be needed. Possible harvest options to consider include the establishment of an early antlerless season, lengthening firearm season, and providing incentives to harvest more antlerless deer, such as highly discounted license prices.

Proposed management strategy for maintaining population within goal:

Once the deer population in Jackson County has reached the goal range, any special seasons in place at the time should be maintained, such as the late antlerless season, due to the reproductive capability of this deer herd. Antlerless quotas for public and private lands should still exceed demand in order to continually encourage antlerless harvest and special permits (DMAPs, OSK) should still be issued as needed.

Goal relative to land ownership patterns, habitat, and deer distribution:

The proposed goal of 32 to 38 deer per square mile is a uniform goal throughout Jackson County. The city of Jackson will obviously have very few deer per square mile. Therefore, the goal is for the rest of the county which is similar in land cover (i.e. agriculture and forested) distribution. The Waterloo State Recreation Area as well as Sharonville State Game Area and other mini game areas account for almost 22,000 acres in Jackson County and have large expanses of the forested covertype. These areas will most likely attract more deer per square mile in the winter than other areas of the county. The proposed goal will aid in keeping deer numbers at an ecologically and socially acceptable level countywide.

An enclosure study for this county will be proposed in an effort to view the effects of the current deer densities on forest vegetation and hopefully the effects or changes in vegetation as deer densities decrease in the next 10 years via new harvest tools. This study will help us determine what impact and how much of an impact deer are having on available habitat in this county.

Goal in relation to adjacent DMU's within Management Unit:

The proposed goal is based primarily on the social carrying capacity and land use patterns of Jackson County. This goal is higher than adjacent DMUs that have a lower percentage of forested covertype, but is closer in number to counties with more similar % cover and % openland.

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