

Deer Management Unit

042

Area Description

Deer Management Unit (DMU) 042 is 798 sq. miles in size and is located in the Keweenaw Peninsula which is the northern most DMU in Michigan and remains a relatively unproductive northern fringe of deer range. This herd is extremely vulnerable to Lake Superior weather / winter severity and snow depths. This unit is 33% privately owned, 35% corporate forest industry, and 30% publically owned.

Land use and habitat quality for deer

Industrial, private, and public land forest management emphasis is primarily focused on northern hardwood production. Agricultural influence is very limited and primarily only a factor near traditional rural communities. Deer wintering habitat east of Gratiot Lake and near Burnette Park have been reduced to the point that 90% of this area is no longer used by deer during the winter months. In DMU 042 most deer migrate to areas where they are supplemental fed through the winter and not necessarily to traditional deer wintering habitat.

Typical winter weather, as related to deer

Winter weather can be extremely difficult for deer in DMU 042. Snow fall often exceeds 300 inches each year and is highly influenced by Lake Superior. Many of the deer in this DMU receive supplemental food throughout the winter months. Despite this supplemental feeding fawn recruitment and over-winter survival still tends to be low in this DMU even during normal winters.

Management Guidance

Deer densities across DMU 042 are very low and have not recovered from two consecutive bad winters in 2008 and 2009 and then again in 2013 and 2014. Because of these very low deer densities antlerless permits have not been available in DMU 042 for many years. There is relatively little agricultural activity in this area and consequently the level of deer crop damage is extremely low. Outside of the deer wintering complexes deer browse has not impacted tree regeneration.

Deer population indices have generally been low during this period across the region, although some indicators are suggesting numbers are starting to rebound. Deer damage complaints are low and state forest and commercial managers have expressed little concern about forest regeneration outside of deer wintering areas. There has been little support for antlerless harvest opportunities in recent years by local sportsmen's groups. In fact, many groups seemed to favor elimination of the ability to harvest an antlerless deer during archery season when that was implemented in 2015.

Deer Harvest Analysis

Buck harvest per square mile in DMU 042 has averaged 0.9 bucks from 2006-2015, and was significantly lower during the 2014 and 2015 hunting seasons of 0.4 bucks per square mile (Fig.1). This harvest density is one of the lowest in the U.P. The average buck kill per square mile from 2013 – 2015 across the U.P. region is 1.5 per square mile. Relatively low buck kill rates have been experienced since 2009

when two consecutive harsh winters in 2008 and 2009 impacted the deer herd. Buck kill per square mile reached lows in 2014 and 2015 after another round of consecutive harsh winters with above-average snow depths from 2013 – 2015; the population has not recovered to pre-2009 densities.

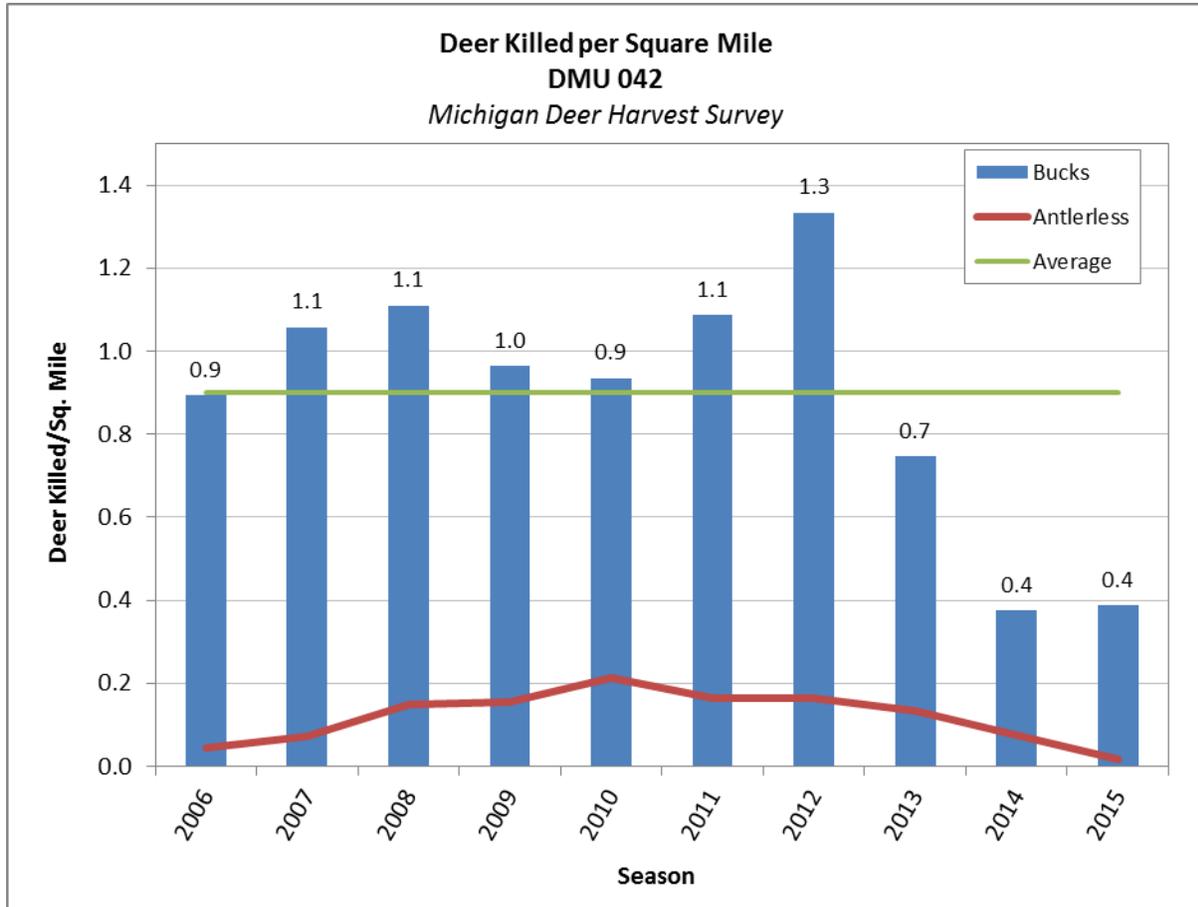


Figure 1: Graph of deer kill per square mile in DMU 042, 2006 – 2015, based on Michigan Deer Harvest Survey results.

Deer sightings and hunter success/satisfaction trends

Participation in the U.P. Camp Survey has remained relatively low in DMU 042 over the past few seasons (Table 1). The number of deer seen by hunters per day in DMU 042 was 1.1 in 2016 which is up from the previous year but below the 10 year average for DMU 042 of 1.8 deer/ day which is lower than the U.P. wide average for the same time period (2.2 deer/ day). The number of hunters that were successful at killing a buck in DMU 042 during the 2016 season was below average for both the Mail Survey and the Deer Camp survey. Based on the deer camp survey data, successful hunters killing a buck in DMU 042 is above the U.P. average, indicating that although deer densities are low in the unit a good number of

hunters have successful hunts.

DEER MANAGEMENT UNIT 042											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Camps	4	3	6	7	12	12	11	12	10	12	9
Hunters	21	21	34	45	78	73	77	75	48	59	49
% killing a buck	62%	38%	35%	24%	31%	42%	32%	32%	15%	10%	29%
Deer seen per day	2.2	2.6	2.4	1	1.5	2.4	2.2	1.2	1.3	0.8	1.1
Fawns seen per 100 does	47	56	11	4	18	28	26	18	15	26	33
Does seen per buck	2	2	2	2	2	3	3	2	3	7	3
More deer than last year	50%	50%	20%	0%	33%	27%	9%	0%	10%	0%	33%
Same number deer	50%	50%	20%	0%	34%	64%	82%	17%	10%	8%	23%
Fewer deer	0%	0%	60%	100%	33%	9%	9%	83%	80%	92%	44%
Season good-to-excellent	100%	100%	34%	0%	33%	64%	46%	33%	0%	0%	33%
Season fair-to-poor	0%	0%	66%	100%	67%	36%	54%	67%	100%	100%	67%

Figure 2: Deer Camp Survey data in DMU 042 from 2006-2015.

Research Results

A research project focusing on the role of predators, winter weather, and habitat on deer fawn survival is being conducted in the western U.P. by Mississippi State University in cooperation with the DNR.

Results of this research conducted in the low and moderate snowfall zones to date suggest the following:

- high pregnancy rate among adult females despite uneven buck to doe ratios;
- low fawn annual survival following harsh winters;
- under mild to moderate winter severity, the most important factor influencing the growth (positive or negative) of a deer population is the proportion of fawns surviving their first year and becoming potential breeders;
- under severe winter conditions substantial mortality of adult females can occur, replacing recruitment of fawns as the most important factor effecting the growth of a deer population, until the adult female segment of the population recovers;
- severe winter weather can have multi-year effects on deer recruitment and population trends;
- annually, winter severity and habitat conditions influence the amount of predation, which overall was the dominant source of mortality of adult females and fawns. This illustrates the importance of considering all potential limiting factors and their interactions.

The Predator-Prey research results support results of other surveys suggesting that consecutive harsh winters that have occurred since 2008 have resulted in low deer populations in the region, especially in DMU 042.

Agricultural Crop Damage

Reported agricultural damage resulting from deer has been low, and ranks low among DMU's. The number of Deer Management Assistance Permits issued and used in 2014 and 2015 is down significantly from years prior.

Forest Regeneration Concerns

No issues have been raised by DNR Forest Resources Division or other agencies.

Deer-Vehicle Collisions

Reported deer-vehicle accidents, adjusted for traffic volume, have declined in the U.P. during the past decade.

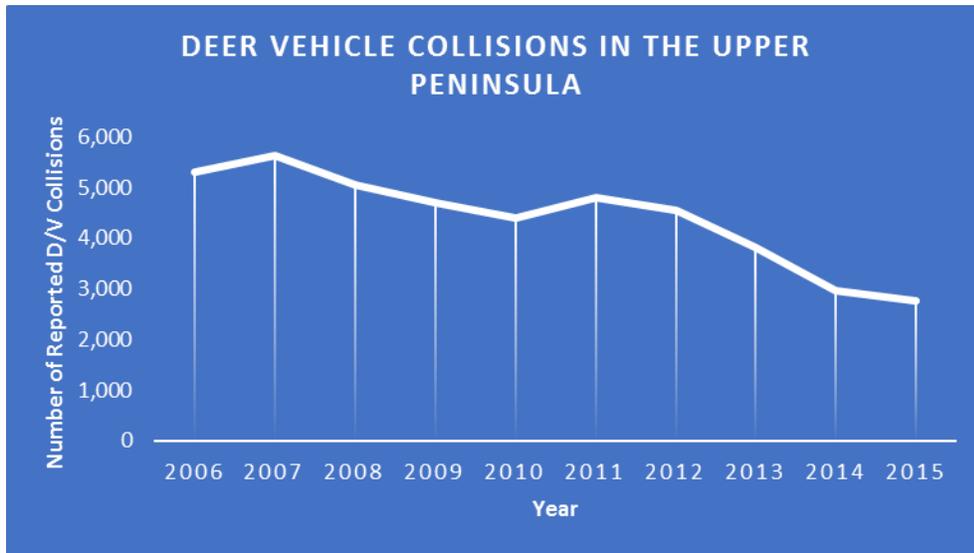


Figure 3: Deer-vehicle collisions in the U.P., 2006 – 2015.

Deer Condition Data

A sample of hunter-harvested deer is examined at check stations each fall. The diameter of antler beams, measured 1 inch above the pedicel, is measured on 1.5-year-old bucks as an index of physical condition. Antler beam diameters have varied little in the U.P. Region during the past decade.

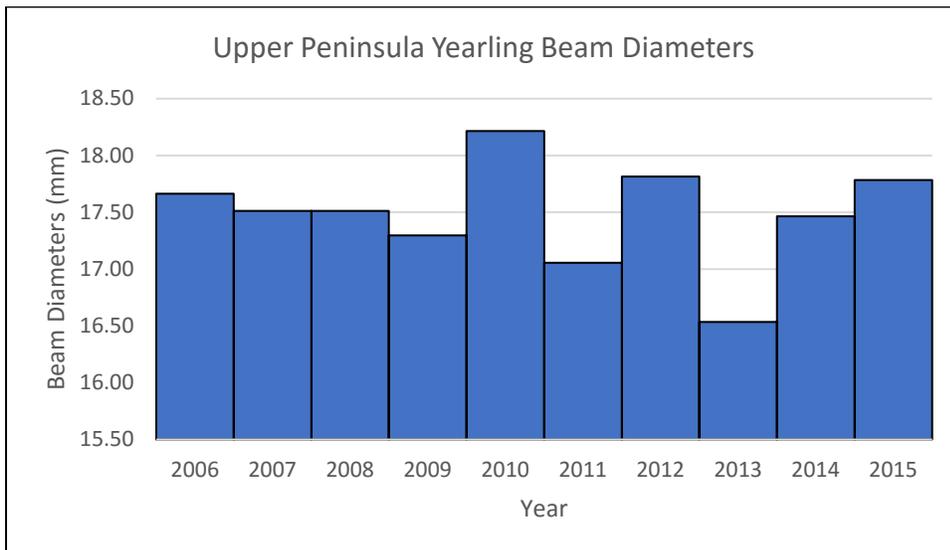


Figure 4: U.P. Yearling Beam Diameters, 2006 – 2015.

Deer Management Recommendations

We recommend DMU 042 be “closed” for the issuance of antlerless licenses. Deer population indicators, such as buck kill per square mile and deer observed per hunter day are very low. There is little support for antlerless licenses from sportsmen’s groups in the area. We anticipate that the impacts of the winters of 2013 – 2015 will continue to be seen in deer seasons over the next few years, and any increase in the herd will be influenced by current and future winters.

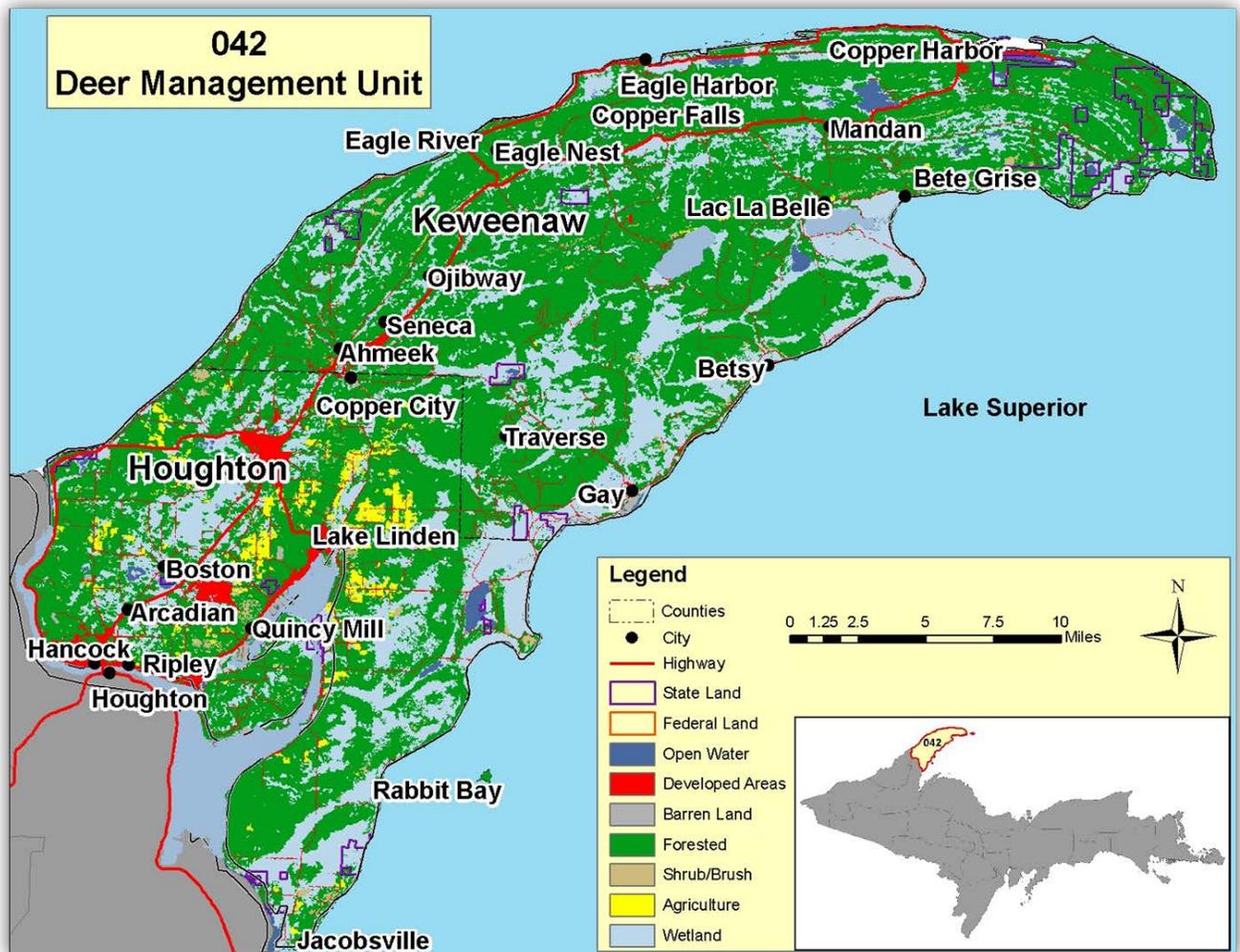


Figure 5: Cover types for DMU 042.