FIELD NOTES
THE NEWSLETTER OF
THE SOUTHWEST WISCONSIN CWD, DEER AND PREDATOR STUDY

First Look at Year-One Harvest Rates

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We continue to dig into data from our first year of data collection, all in an effort to keep you in the loop about our study.

In a previous article, we looked at how survival rates differ over the course of a year between collared deer that tested CWD-positive at capture and those that tested negative. We provided a few examples of how CWD-positive deer died, to illustrate how CWD can result in deer death.

Here, we'll look at survival from a different perspective: harvest rates.

First things first: what does 'harvest rate' mean? Every fall, some deer are harvested by hunters, and others are not. Simply put, the harvest rate is the percent chance that an individual deer is harvested by a hunter. When we talk about harvest, we always mean deer legally killed by a hunter and registered with the DNR.

Wildlife managers care about harvest rates for a pretty obvious reason; hunting influences deer populations. Deer managers, including County Deer Advisory Councils in Wisconsin, may want to increase, decrease or stabilize the deer herd. We attempt to achieve these objectives by setting antlerless quotas while allowing hunting opportunity.

Additionally, we're interested in buck harvest rates because they provide a link between the number of bucks harvested and the total population size. Here is a quick, fictional example to illustrate. Suppose we have a registered harvest of 1,000 bucks. If we estimate that the buck harvest rate is 50% of all bucks in the population, then that means we had 2,000 bucks to start with before hunting began. How it works in practice is more nuanced, but the point is that harvest rates are an important building block in estimating deer populations.

Lastly, the harvest rate is a part of the bigger picture of how CWD might be influencing deer populations and how deer harvest management might be altered to manage CWD or to better manage the deer population in the face of the disease.

How We Use Harvest Rates: A Look at a Recent Study

From 2011-2014, we collared 1,001 deer as part of the Buck Mortality Study. As part of this study, we calculated and compared harvest rates for bucks in northern Wisconsin forest, near the town of Winter, and farmland outside of Green Bay. Northern forest antlered buck harvest estimates came in at about 40%.

In the farmland study area, antlered yearlings also had a 40% harvest rate and bucks older than 2.5 years had a 50% harvest rate. (Buck fawns are considered antlerless deer, so they are not included in these numbers).

During the hunting season, we typically observed that an additional 10-15% of bucks died during the hunting season but from other causes, usually unrecovered kill or vehicle collision.

This information has helped us interpret buck harvest and buck age-structure. We now incorporate this data into our annual deer population assessments.

The hunting-season mortality rates we observed during the first year of the Southwest Wisconsin CWD, Deer and Predator Study are quite low. Of the deer that survived to the start of the archery season (September 16), about 14% had been harvested by the end of the final hunting season (January 7). The total mortality rate during the hunting season (harvested by hunters or dead by another cause) was 22%. These sound like straightforward numbers, but there are a few things to keep in mind.

Those are the numbers, but what do they mean? First, keep in mind that the numbers we report from this year combine data from bucks and does. We expect antlered and antlerless deer to have different harvest rates. It's also likely that older bucks have a higher harvest rate than younger bucks, which are more likely to be passed up by hunters due to their smaller antlers. While these differences likely exist and are important, it's just too early in the study to get into them; we need more data.

In the future, we'll also want to distinguish between archery and firearm harvest. We'll also want to compare harvest rates between CWD-positive and CWD-negative deer as well.

Caveats aside, it looks like harvest rates in the study are quite low. It will be fascinating to see if this trend continues and to contemplate what this means for the deer population in this area of the state with high CWD prevalence.

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