

Deer Data Collection—Part I: Harvest Data

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The two types of deer data most commonly collected are harvest data and observation data. Harvest data are collected from deer killed during the season or found dead at other times. Observation data may be collected at any time, but is generally collected while hunting. Together, these data help hunters and managers make educated decisions about their deer herds. Good deer harvest records generally result in good management decisions, whereas poor or incomplete records often result in faulty decisions.

It generally takes a substantial amount of data to develop a good “picture” of a herd. On many properties, however, the number of deer killed is so small and the measurements so variable that few relevant conclusions can be drawn. This means that data collected over several years and general trends become much more important than single year figures or absolute differences.

One way to address the problem of limited data is to combine your harvest data with that collected on adjacent properties through the formation of a deer management cooperative. Deer management cooperatives are simply several adjacent properties working together to achieve similar objectives. Cooperatives also allow small property owners to meet the minimum acreage guidelines required to participate in deer management assistance programs (DMAP) offered by many state wildlife agencies. These programs provide participants with opportunities to harvest additional antlerless deer in an effort to better achieve their overall deer management objectives.

Harvest data often is the most complete set of information from which to make deer management decisions. The most important characteristics of good harvest data are completeness and consistency. It is extremely important to collect ALL information on EVERY deer and do it in the SAME way each time.

The best way to ensure that harvest data are collected on every deer is to make it mandatory. If this is not possible, a good way to encourage data collection is to have a convenient, well-equipped check station or shed to process your deer. It should be a place hunters want to bring their deer. The facility should be well-lighted and well-drained with some way to raise deer off the ground. The addition of hot water and a place to hang deer almost guarantee that most deer will come through the check station. Within the facility, there should be a dedicated place for the data book, collection tools, and jawbones. When possible, one person should record all of the harvest details in the data book while others process the deer. The data collector’s job is to make sure all of the data are collected from each deer and that the jawbones are properly labeled.

So, what data are collected? Some types of information are collected on both bucks and does and some are sex specific. Data collected on both bucks and does include: deer identification number, date of harvest, sex of deer, weight, age (jawbone), location of kill, hunter’s name, and any comments or unique observations. Additional data collected on bucks include number of points, antler spread, antler length, circumference, and other antler characteristics of interest. Other data collected on does include evidence of lactation (“in milk”) and fetal information.

There are two basic ways to keep up with this information. The first is a data sheet where information from multiple deer can be recorded. The second is a data tag for each deer that attaches to the jawbone. Both are available through QDMA or you can make your own. One method is not necessarily better than another, it is simply a matter of preference and which works best for your property.

Types of Harvest Data Collected

Deer Identification Number

The deer identification number is a unique number assigned to each deer. It may be simply a sequential number (such as 1, 2, 3...), or it may consist of the year with a number (such as 99-01, 99-02,...), or the month, day, year, and a number (such as 11/14/99-01). By including the year in the identification number, it is easier to separate the deer into different harvest years. The deer identification number should be written on both the data sheet or data tag and on the jawbone tag. This allows managers to match the age determined from the jawbone with the corresponding harvest data.

Harvest Date

The harvest date is important because it allows managers and hunters to determine if there are seasonal trends in deer activity or hunter success. Some hunters also record time of harvest to help determine when deer are most active. Harvest date also is necessary when estimating the conception (breeding) date of pregnant does harvested during the season (see section on fetal data collection for more information).

Deer Sex

Sex of deer is self-explanatory and is usually recorded as buck and doe. This is important because many characteristics are sex specific.

Weight

Weight is very important because it provides an index of population size relative to habitat carrying capacity. This is particularly true for fawn and yearling deer which reflect changes in habitat quality more quickly than adult deer due to their rapid growth. If several age- and sex-specific weights start to change over time, this suggests the habitat and/or the deer population also are changing. When comparing average weights by age between years, doe body weights are often a better indicator because bucks can lose up to one-third of their body weight during the breeding season. Deer weight is generally recorded in pounds and scales that weigh in 2- or 5- pound increments are usually adequate. It is important to check your scale each year with something of known weight because scales commonly get out of balance over time. It is generally better to record live (un-gutted) weight rather than dressed (gutted) weight. Gutted weights are more inconsistent because some hunters are better at removing the viscera and body fat than others. Gutting a deer at the skinning shed also increases the chances that fetuses, internal parasites, or anything out of the normal will not be overlooked or left in the field.

Age

Without question, age is the most important piece of information that can be collected from a harvested deer. Without age, comparisons between body weight, antler quality, and most other measurable attributes are not valid. Age is estimated by examining tooth replacement and wear patterns on the lower jawbones. It is important to remove the jawbones from every deer—especially the nice bucks that

are going to be mounted. In most cases, only one lower jawbone is removed. However, removing both lower jawbones is recommended because one may become damaged during removal or show slightly different wear patterns than the other side. Although jawbones can be aged at the skinning shed, greater accuracy and consistency will be achieved if the ages are assigned after the season once all jawbones have been collected. This allows the person or persons aging the jawbones to arrange them from youngest to oldest comparing between age classes and deliberating on those that don't fit neatly into a particular age group.

Antler Characteristics

Antler characteristics, such as number of points, spread, beam length, and circumference are very important, particularly when establishing or assessing a buck harvest criteria based on antler criteria. For consistency purposes, all antler measurements should be recorded in inches, rounded to the nearest 1/8--inch.

Number of points, while fairly self-explanatory, can get complicated. To be consistent, a good rule to follow is that an antler point must be one inch or longer to be counted. No matter how many rings you can hang on it, a point must be one inch or longer to be counted in the data.

Inside spread is the widest space from the inside of one main beam to the inside of the other main beam measured perpendicular to the dividing line on the skull. Inside spread is recorded more often than outside spread because it is more consistent. Beam length is the length of the main beam (generally taken on the outside curve of the antler) from the base of the antler to the tip of the main beam. Lengths of individual tines also may be recorded.

Circumference is the smallest distance around the main beam between two points. Basal circumference is usually measured one of two ways—at the smallest point between the burr and the brow tine or always 1-inch above the burr. Whichever you select, be consistent.

Lactation

Lactation is a fancy term for whether a doe is "in milk" or not. Again, this is fairly self-explanatory, but again it can be difficult. This information is important because it provides evidence that a doe gave birth and successfully raised one or more fawns. The percentage of adult does (2.5 years old or older) lactating in a given year provides an estimate of the reproductive health of the herd and the number of fawns that were recruited into hunting population. In most areas of the U.S., a lactation rate of 70–80 percent or higher for adult does is considered good. The actual lactation rate is generally higher, but does that gave birth early and/or weaned their fawns early often are recorded as "dry" when harvested during the season. In the northern and midwestern portions of the whitetail's range, a moderate to high percentage of yearling does may be lactating during the hunting season indicating that they bred as fawns. This is a very healthy situation, albeit somewhat rare in the South due to high deer populations and lower quality nutrition.

To check for lactation, simply squeeze the doe's mammary glands. However, this will not always provide evidence of lactation. You may need to slice into the milk bag with your knife and see if any yellowish to brownish material is present. If the doe is drying-up, but was obviously producing milk earlier, then the answer is, "Yes, the doe is lactating."

Fetal Data

Fetal information is collected to estimate conception (breeding) dates and parturition (fawning) dates. If fetuses are present, they can be removed and aged by measuring their crown-to-rump length on a fetal scale (available from QDMA). This length provides an estimate of age in days. Generally, fetuses must be 30–40 days old to be measurable. If the sex of the fetus can be determined, this should be recorded. The fetus age (in days) can then be subtracted from the harvest date of its mother to provide the conception date. With enough fetuses, this information provides a clear picture of the timing and conciseness of your breeding period or rut. In general, the earlier and more concise your breeding period, the better condition your deer herd relative to sex ratio and buck age structure.

Harvest Location

Harvest location can be recorded to help determine the relative hunting productivity on different areas of the property and identify areas that need more or less hunting pressure. This is particularly important on properties where large numbers of does are harvested. If the property is large enough, harvest location also can be useful in detecting local differences in deer herd or habitat quality.

Hunter's Name

The hunter's name is self-explanatory. This information can be expanded to include the host if the hunter was a guest or the guide if the area sells commercial hunts.

Comments

The comments section is used to record any interesting or unusual observations on the harvested deer itself or any that occurred prior to or during the successful hunt. This could include comments regarding deer condition (fat or skinny), evidence of injury or disease, such as sloughing hooves or "warts," or weather information such as temperature, wind direction, wind speed, or barometric pressure.

Summary

There seems to be no limit to the kind or amount of harvest data that can be collected. However, the simpler and more streamlined the data collection process, the more complete and accurate the data that will result. When properly collected and analyzed, harvest data provides useful insight into the current condition of a deer herd. When compared to previous years, it also provides the opportunity to see where a deer management program has been and where it is going. It is particularly useful in Quality Deer Management programs that implement antler restrictions in an effort to improve buck age structure and antler quality. Without supporting data, the antler restriction selected may be doing more harm than good. Deer management is site specific and harvest data is one of the best sources of information from which to make these types of management decisions.

To obtain copies of QDMA's deer harvest or deer observation log books or any of the necessary data collection tools, contact the QDMA at 800-209-3337.

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