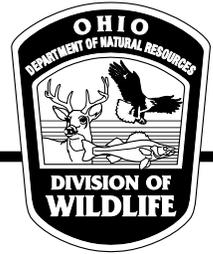


MANAGING OHIO'S DEER HERD



Ohio's Whitetail

The white-tailed deer (*Odocoileus virginianus*) is Ohio's most popular big game animal. Beginning with incursions from neighboring states in the early 1930s, Ohio's deer herd has grown from about 17,000 deer in 1970 to an estimated 700,000 deer today. Three factors made the return and remarkable growth possible. First, range conditions improved, primarily as a result of farm abandonment in eastern and southern Ohio in the 1930s and 1940s. Second, was the implementation of a zone-based harvest management strategy grounded in sound biological principles. Third, were effective game laws and law enforcement. Citizen interest and hunter participation have paralleled the growth in the deer herd.



Management Goal

Although nearly everyone relishes the presence of the whitetail, when deer become abundant, they can also become controversial. Deer may be viewed as a superb game trophy by the sportsperson, a prized addition to the landscape by the nature enthusiast, a threat to crops by the forester and farmer, and a road hazard by the motorist. Accommodating these diverse interests has been the responsibility of the Division of Wildlife since deer returned to the state in 1923. As Ohio's herd grew, so did interest in deer and with it came the need for a formal deer management goal. Since at least the late 1950s, our goal has been to maintain county deer populations at a level that provides maximum recreational opportunity including hunting, viewing, and pho-

tographing, while minimizing conflicts with agriculture, motor travel, and other areas of human endeavor. In short, our goal is to provide enough deer to hunt and enjoy, but not so many that they cause undue human hardship. This goal has received broad public support. For example, past surveys indicated that 75 percent of farmers, 88 percent of deer hunters, and 73 percent of rural non-farm landowners agree with this management goal.

Management Strategy

Realizing our deer management goal means that we must first define a deer population level that is satisfactory to most and then maintain it there. To do so requires that we (1) evaluate public attitudes toward deer and deer herd size, (2) relate those attitudes to the status of the deer herd to determine a publicly acceptable or optimum population level, and (3) adjust deer herd size accordingly. Because of differences in the quality and quantity of deer range, intensity of agriculture, highway traffic, and human population levels, this process is completed for each county. In essence, deer management is a complex cost-benefit analysis, a decision-making tool used by managers in many fields. At this point, however, the similarity ends because deer present management challenges that are unique. These challenges and management solutions are discussed below.

Inventorying Deer

Because of the secretiveness and mobility of the white-tailed deer, which varies both seasonally and with the age and sex of the animal, harvest and deer-vehicle accident (DVA) trends are used in place of actual counts to monitor population size. While we must assume that changes in these indices (harvest and DVAs) reflect changes in the size of the actual deer herd, this may not always be the case. Therefore, where available, aerial counts using forward-looking infrared (FLIR) technology are used to estimate herd size. Collectively, these data provide a snapshot of the status of the deer herd relative to each county's population goal.

Optimum Deer Population Levels

Citizen input, as mandated by our deer management goal, plays a central role in the goal-setting process. However, the decision to maintain a deer population at a given level is not made without considering the potential impact that such a decision might have on the whitetail, its environment, and other wildlife. Technically speaking, that means finding a population level that neither exceeds the Cultural or Biological Carrying Capacity.

Cultural Carrying Capacity

The Division of Wildlife recognizes that all Ohioans share the costs associated with deer. However, opinion surveys of agricultural producers, hunters, and general citizens indicate that Ohio's farmers and motorists shoulder the greatest share of the burden. Therefore, in 1979, we began using periodic (~5 years) surveys of Ohio's agricultural producers to aid us in defining optimum population levels in all but our most heavily urbanized counties. Among other things, survey participants are asked if they would like to see the size of the deer population increase, stay the same, or decrease in their area. Respondents who preferred either an increase or decrease were asked by what percent would they like to see the deer population change. An average percent change is computed for each survey region and then applied to population estimates to derive county population goals.

County deer population goals represent what we believe to be the most equitable solution to the complex problem of minimizing impacts and maximizing benefits derived from Ohio's white-tailed deer resource. Our reliance on survey input from farmers, however, has drawn criticism from some who feel such an approach results in unnecessarily low levels of deer. Although opponents argue that farmers generally hold a negative opinion of deer, we found that farmers generally value deer and hold opinions of deer that generally are consistent with the general public. Between 40-50 percent of Ohio's farmers surveyed indicated that they enjoy seeing and having deer around. An equal number enjoy deer, but worry about the problems they cause. Only a very small percentage of farmers regard deer as a nuisance. A 1996 study from The Ohio State University revealed that Ohio's farmers generally believe that the benefits of wildlife outweigh the

costs. Thus, while farmers play the largest role in deciding when enough is enough, their decision is likely to be one most Ohioans can support.

The deer hunter also provides important input into the management process. In addition to voluntary comments, we poll a representative sample of deer hunters about once every five years. Over 5,000 hunters representing every Ohio county are included in the survey, which provides information on opinions and attitudes toward season length, legal hunting devices, bag limit, hunting pressure, and deer population levels. Where appropriate, we incorporate this information into the deer management process. For example, a weekend firearms season was added to the 2006-07 season as a direct result of a 2005 deer hunter survey conducted by The Ohio State University. Among other things, the survey identified significant barriers to hunting participation. Finding time to hunt was noted by a majority of the respondents as a barrier. The additional weekend was deemed biologically sound and as a result, hunters were given two additional days to hunt deer with a shotgun in Ohio.

Biological Carrying Capacity

As deer approach biological carrying capacity, herd and habitat health begin to decline. Evidence that this is occurring might include a distinct browse line, the replacement of highly nutritious and preferred plant species with less palatable and nutritious ones, and a decline in the condition of the animals themselves. Deer herd condition data, such as yearling (1.5-years old) antler beam and body weight data, collected since the early 1970s suggest that, while condition in western Ohio remains unchanged, it has declined in portions of eastern Ohio. This decline is a direct result of both lower habitat quality and higher deer densities.

In summary, population goals are set for each county based largely on preferences of our agricultural producers. These goals may be adjusted as deer herd condition changes. We believe that such an approach goes the furthest toward achieving Ohio's publicly approved deer management goal. The concept of optimum population levels is an important one because it provides the Division of Wildlife with management direction.

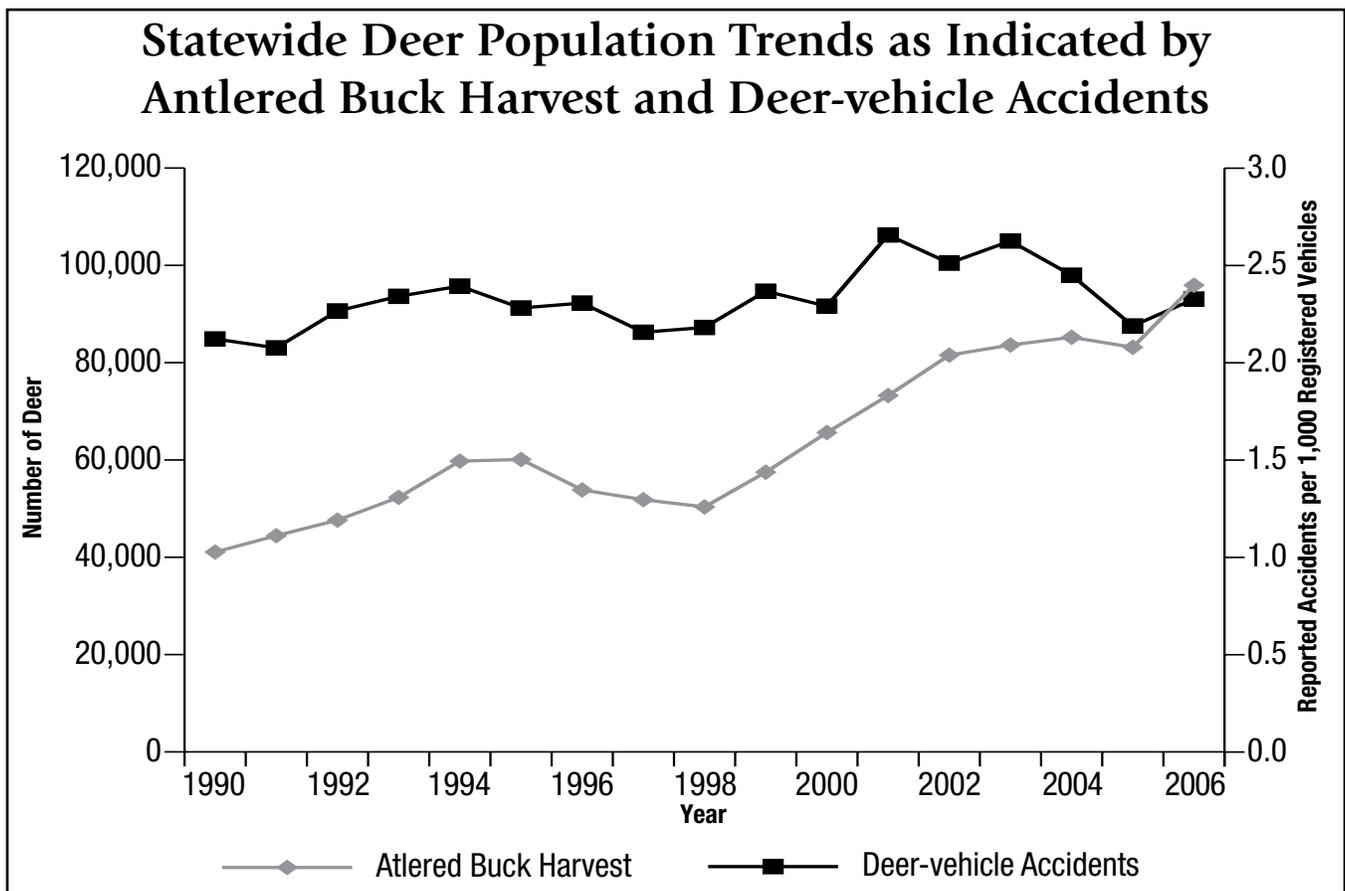
Harvest Management

The high quality of Ohio's deer range and virtual absence of natural predators, coupled with the whitetail's remarkable reproductive potential, dictate harvest management as the most practical means of maintaining deer populations near county population goals. Regulations can be effectively used to increase, decrease, or maintain harvests of either or both the antlered and antlerless segments of the population. For instance, a buck-only harvest regulation was used from 1965-73 to foster deer herd growth. In 1973, antlerless (does and fawn bucks) permits were issued in limited numbers to slow herd growth in portions of the state. By 1979, all of Ohio's 88 counties were open to gun hunting and in 1984, an either-sex regulation replaced limited antlerless permits in many counties to further slow herd growth. Despite these changes, Ohio's deer herd continued to grow. In 1991, bag limit increases from one to two deer (the additional deer was antlerless) were instituted in many counties. Other tools have been used as well including season length extensions, new seasons, and special hunting zones and bag limits. The status of the deer population relative to goal, as well as experience with past harvest regulations, determine which tools are used in a given county each year.

In counties where populations are above goal, liberal harvest regulations are used to reduce deer numbers. The opposite applies in counties below goal. Ultimately, population levels are controlled by regulating the harvest of females, which typically represent about 75 percent of the antlerless harvest.

The effectiveness of our harvest management system will vary somewhat from year to year depending on a host of factors including hunter participation and weather during the firearms seasons. These variables and many others that influence harvest are often difficult or impossible to quantify. Consequently, an over or under harvest in a particular county is a fact of life. This can be compensated for in subsequent years, however, by adjusting the harvest regulations accordingly. We expect that over the long-term, the number of deer in the state (and in most counties) can be maintained near the desired level with such a system. This system works best, however, only when Ohio's deer hunters and landowners participate fully.

Successful management of Ohio's deer herd requires a cooperative effort among Ohio's hunters and landowners to eliminate obstacles that currently limit the effectiveness of our management approach. These obstacles include a reluc-



tance on the part of hunters to abandon traditional sites and seek areas with lower access and higher deer densities and a reluctance on the part of landowners to grant access to their lands. Hunters must work harder to cultivate positive landowner-hunter relationships. Landowners can help by allowing deer hunting and actively recruiting good deer hunters. Additionally, landowners are encouraged to take an active role in the management of the deer on their property by implementing their own "harvest management" guidelines. If herd reduction is the goal, it may be appropriate to limit the harvest to antlerless deer or use an "earn-a-buck" strategy, whereby only those hunters harvesting antlerless deer first would be able to harvest a buck. A good rule-of-thumb is that landowners annually need to harvest 35 percent of the deer they believe are on their property and about 75 percent of these should be antlerless deer. In so doing, landowners will be managing for stable deer populations. Otherwise, reduced harvests will result in increasing herd size.

Special Management Techniques for Urban and Agricultural Problems

By managing for optimum deer population levels on a county basis, we expect to prevent or eliminate widespread agricultural problems with deer. However, some localized crop damage is still likely to occur. Even with a county population at goal, deer will move to and concentrate in areas of good habitat. Farm fields and orchards in proximity to good deer cover are especially vulnerable.

In situations where deer need to be killed to reduce property damage, landowners or lessees may be issued Deer Damage Control Permits (DDCP) at the time the damage is occurring. These permits allow landowners/lessees and their agents to kill deer during the dates and under the conditions specified on the permit. For most agricultural problems, these permits will only be valid for the period of January 1 until the start of the archery season. Under limited crop damage circumstances, permits may be extended until the start of the youth gun season. In specific circumstances, permits may be valid year-round to control damage at orchards, nurseries, inside municipalities, and for safety purposes at airports. Regardless of the situation, DDCPs will expire no later than December 31 of the year in which the

permit is issued. Except in the case of rub damage to trees, permit holders are strongly encouraged to kill antlerless deer. Permit holders must surrender all antlers to the Division of Wildlife. Additional information about this program can be obtained from your local state wildlife officer or by writing to the Division of Wildlife, Wildlife Management and Research, 2045 Morse Road, Columbus, Ohio 43229-6693. Information is also available by calling 1-800-WILDLIFE.

In response to increasing numbers of deer-vehicle accidents and low harvests, the Division of Wildlife established five Urban Deer Zones encompassing all or portions of 19 urban counties in 1994. Local ordinances permitting, hunters could harvest two additional antlerless deer within the Urban Deer Zones. In 1995, the bag limit was doubled. Permit sales and harvest increased 378 percent and 28 percent, respectively.



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