

The Buck Stops Here

History, Biology, and Management of White-tailed Deer in Virginia

White-tailed deer garner more interest than any other wildlife species in Virginia. Many Virginians relish the chance to hunt, watch, or photograph this most popular game animal. As the largest herbivore (plant-eater) in the Commonwealth, deer have a profound impact on native forest ecosystems. Deer also inflict millions of dollars in damage to crops, trees, and gardens and are a safety risk on our highways.



A History Lesson

North American Indians relied on white-tailed deer for meat, hides, and sinews (cordage). Deer were plentiful and widespread when Europeans first settled Virginia in the early 1600s. Explorers moving west from Virginia referred to white-tailed deer they encountered as the “Virginia deer” – the English version of its scientific name, *Odocoileus virginianus*. By 1900, over-harvest of deer for food and hides had nearly extirpated the species. Since the 1930s, Virginia's deer population has rebounded as a result of protective game laws, restocking of deer into areas where they were absent, and habitat restoration. Since the early 1990s, deer management objectives have switched from restoring and increasing to controlling and stabilizing populations over much of the Commonwealth.

Baby boom: There may be twice as many deer in Virginia today – nearly 1 million - than when Jamestown was settled. White-tailed deer, nearly extinct in 1900, reproduce quickly and adapt well to human landscapes.

Biology Matters

Deer inhabit deep forests, open fields, rocky mountain tops, coastal islands, and even cities and towns across Virginia. Deer can thrive anywhere just short of concrete and steel! Optimum deer country is a mixture of many habitat types (e.g., woods, fields, crops, brush, etc.) growing on fertile soils.

Habitat for deer, like other wild animals, consists of four basic components:

- Food - an assortment of green plants, woody browse, mast (nuts and berries), and fungi;
- Water – rarely a problem for a large, mobile animal;
- Cover (shelter) – almost any thicket, woodlot, hedgerow, or tall crop field;
- Space – bucks (males) range over approximately 600 acres, while does may use 200 acres.

Top that! Bucks have antlers, not horns. Horns are permanent keratin structures found on cattle, sheep, etc. Antlers, one of the fastest growing animal tissues in the world, are bones that drop off and regrow every year!

Under optimum conditions, a deer population could double in size annually. With no regulating factor (e.g., predators, hunters), a deer population would expand to the point where some resource, generally food, became scarce. Deer have few natural predators in Virginia, and other sources of mortality (e.g., diseases, injuries) are not sufficient to control populations. The maximum number of deer a habitat can support on a sustained basis is the *biological carrying capacity*.

Deer populations can grow rapidly because does breed early (generally at 1 year-old), have twins most years, and continue to breed into old age (often 8-10 years). One buck can breed with many does, so removing bucks impacts populations little. Does control deer populations, so deer population management must focus on does.

Straight from the deer's mouth: Deer are aged by the number, stage of eruption, and wear patterns of their teeth, much like horses.

Deer Management 101

By law, the Virginia Department of Game and Inland Fisheries has primary responsibility for managing white-tailed deer in Virginia. The Virginia Deer Management Plan, first completed in 1999 and revised in 2006, guides management of deer habitat, deer populations, damage caused by deer, and deer-related recreation in the Commonwealth.

Deer Habitat - Given the adaptability of deer, habitat management is generally less of a concern than population management. Timber harvesting, prescribed burning, planting crops, and other activities that diversify habitats are beneficial to deer.

Deer Populations - An optimum deer population balances positive demands (e.g., recreational hunting, viewing) with negative demands (e.g., agricultural and garden damage, vehicle collisions, and ecosystem impacts). The deer population level people will tolerate is the *cultural carrying capacity*. It varies from place to place and is generally well below the *biological carrying capacity*. Using the cultural carrying capacity idea, the Virginia Deer Management Plan identifies areas where deer populations should increase, decrease, or remain the same.

Stomach bigger than your eyes? Deer eat 3-5% of their body weight per day! A deer's appetite can get it into trouble in a garden or corn field!



Regulated hunting is the most effective method available for managing wild deer populations. Experiments with contraception show that fertility control is not a viable option for controlling wild deer populations at this time. Herd density and health are best controlled by regulating the harvest of female deer. This is one reason why hunting seasons vary across the Commonwealth. The number of days when does can be killed depends on the population objectives in a given area. Since 2000, Virginia hunters have killed an average of 225,000 deer annually, nearly 45% of which were does.

Surveillance for chronic wasting disease, bovine tuberculosis, hemorrhagic disease, and other health risks to Virginia's wild deer population has become a high priority in recent years. Chronic wasting disease, an infectious, fatal brain disorder of deer, was discovered in a hunter-killed during 2009 in Frederick County, near the ongoing disease outbreak in West Virginia. Deer held in captivity (e.g., zoos) are closely monitored for disease.

Keep wildlife wild! White-tailed deer belong to the public, and it is illegal to have one as a pet. If you find a fawn, please leave it where you found it. It is normal for female deer to leave their hidden fawns alone for long periods as they feed. When humans interfere, chances that a fawn will survive are greatly reduced. A truly injured wild animal can be taken to a licensed wildlife rehabilitator, but it can NEVER be kept by anyone else.

Damage and Human Safety – Deer damage crops, trees, gardens, ornamental plants, and low-growing forest vegetation important for nesting birds and other wildlife. Vehicle accidents involving deer are responsible for less than 2% of all motor vehicle casualties in Virginia. An average of 3 fatalities and over 450 injuries are attributed to deer-vehicle accidents annually.

On the road again: Deer move more during the breeding season (October-December) than any other time of year, so watch out for them as you drive. Slow down and stay alert!

Controlling regional deer populations using regulated hunting is the primary means of reducing deer damage. However, local deer problems can also be handled using special hunting programs (e.g., Deer Management Assistance Program), out-of-season kill permits, or sharpshooter programs. Homeowners and producers can reduce deer damage using fencing, chemical repellents, guard dogs, less-preferred plant species, and by removing food sources that attract deer (e.g., corn, grain, hay, pellets, fruit, spilt bird or pet food, garden or table scraps).

Don't feed the deer! Concentration of deer around human food sources leads to increased risks of disease transmission, local habitat destruction, aggression among deer, and the potential for deer-human conflicts.

Recreation – Providing diverse opportunities for deer hunting, viewing, and photography that are safe, ethical, and compatible with land uses are important objectives in the Virginia Deer Management Plan. Deer hunting is a deeply-rooted social tradition in Virginia. The economic impact of deer hunting in Virginia is over \$250 million annually.

For more information about deer history, biology, hunting, management programs, damage prevention and much more, please visit http://www.dgif.virginia.gov/hunting/va_game_wildlife/index.html.

