



Living With Wildlife

White-tailed Deer in Massachusetts

Biology and Behavior

White-tailed deer, *Odocoileus virginianus*, have long, slender legs; large ears; and a tail that, when the deer is alarmed, flares erect to reveal the white underside for which the animal is named. They belong to the *Cervidae* (deer family), which includes elk, moose, caribou, mule deer, and many others. White-tails can reach a total length of approximately 6 feet and a height of approximately 3 feet. Weight depends on the age, sex, and physical condition of the animal and on the quality and quantity of food available to it. Bucks generally range in weight from 100-250 pounds, whereas does are somewhat lighter at 70-150 pounds. In addition to being larger than does, bucks also have antlers that grow each year and are shed after the breeding season. Occasionally (very rarely!), does have been recorded with antlers.

During the summer, the upper coat of the deer is reddish-brown with short, thin, straight, wiry hairs. In winter, the coat changes to a grayish-brown, with long, thick, hollow hairs that are slightly crinkled and provide excellent insulation against the cold. The belly, the throat,

the areas around the eyes, the insides of the ears, and the underside of the tail are white year-round. Fawns are chestnut-brown color with conspicuous white spots on their back and sides that provide camouflage from predators. These spots fade by 3-4 months of age.

Life History

Deer are found throughout Massachusetts. Usually found in rural or suburban areas, they occasionally show up in cities. They usually seek out forest-edge habitats or thickets intermixed with glades, wetlands, or abandoned pastures. They have adapted easily to the fragmented



White-tailed Deer



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forests typical of most suburban residential areas. In fact, deer densities are often higher in suburban areas than in rural areas because of the abundance of supplemental foods, including landscaping plants. Between late January and early March, deer often congregate and seek shelter from wind, deep snow, and cold temperatures in stands of dense conifers, rhododendron, or mountain laurel.

White-tailed deer are crepuscular, meaning that they are most active at dawn and dusk. Deer may also be active at other times of the day, especially during the breeding season in late fall. Typically, an adult doe, her fawns, and in some cases female offspring from the previous year will all stay together on the maternal range, in a familiar habitat from 1-2 square miles in size. Males leave the maternal range as yearlings to adopt either a solitary existence or, more commonly, to form “bachelor groups” consisting of two to five individuals. Typically white-tails in New England travel no more than 5-15 miles, with bucks traversing larger areas than does.

In Massachusetts, breeding takes place between late October and early December. At this time, bucks are more active throughout the day than usual. Rutting bucks often chase does across roads without hesitation, so drivers should be extra cautious during the late fall. Slow down, and stay alert to avoid vehicle-deer collisions. After a gestation period of about 28 weeks the fawns are born, sometime between late May and early July. Depending upon her age and physical condition, a doe may produce one, two, or three fawns, each one weighing about 4-6 pounds and able to walk within an hour of birth.

Food

White-tailed deer are herbivores and they consume a wide variety of herbaceous and woody plants. Food preferences depend on the kinds of plants growing in an area and the season of the year. Typically, deer eat green leaves, herbaceous plants, and new growth on woody plants in the spring and summer. In late summer, fall, and early winter, hard and soft fruits such as apples, pears, and acorns are a major part of their diet. In winter, the deer feed on evergreen leaves, hard browse (twigs, shoots, hardy leaves, and buds), or bark from trees. In poor habitat, deer may become undernourished and thus more vulnerable to exposure and disease. These deer

are also typically smaller, with smaller antlers and a lower reproductive rate. Massachusetts has a robust and healthy deer herd statewide as most of the state offers adequate deer habitat year-round.

White-tailed deer are well-adapted to surviving southern New England winters. In addition to being able to use stored body fat, their metabolism decreases during the winter, which allows them to survive on limited quantities of food and accommodates the winter diet. Supplemental feeding, especially in winter, can actually harm deer by increasing travel, raising their metabolic rate, and giving them a false sense of food supply. Deer may be enticed to remain in an area that doesn't provide good winter habitat. Feeding wild deer can also concentrate deer in high numbers, making them vulnerable to predation and vehicle collisions as well as to increased disease transmission and the development of "problem" traits such as when they lose their fear humans and become accustomed to human hand-outs. The biologists at the Division of Fisheries and Wildlife (*MassWildlife*) discourage landowners and neighbors of conservation lands from feeding deer – and other wild animals – at any time of the year, but especially in the winter. Please resist the urge to feed wild animals, as this activity results in more harm than good for Bay State wildlife.

Deer-Landowner Problems

Landscaped yards, orchards, and vegetable crops may be eaten and destroyed by deer and other wildlife. To be sure that the damage was caused by deer, one must identify the clues left behind by the animal. Deer lack upper incisors (the blade-shaped teeth at the front of the jaw), so twigs browsed by deer look as though they were partially clipped, with a trailing, ragged edge. By contrast, a twig that is neatly snapped off, with a clean, smooth cut, was probably eaten by a rabbit or woodchuck, both of which have strong, sharp incisors.

There is no provision in state law or regulation for compensation to landowners for deer damage. Thus, it is to the benefit of landowner to try to prevent crop and planting damage by deer before a significant problem develops.

- Scare Tactics: If you are sure the damage was caused by a deer, your first choice is to chase all deer off your property whenever you see them to make them wary and uncomfortable there. Loud noises, lights, and even a spray of water from a hose can be useful deterrents.

- Commercial repellants, animal hair, and urine may be placed directly on plants to repel deer. All repellents are billed to reduce, not eliminate, deer damage. To achieve this reduction, they must be applied consistently and reapplied as directed. They are not effective for large-scale deterrence.



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- **Fencing:** The best choice is to build a fence to keep deer out: This is the most effective long-term solution for managing deer damage. A variety of different fence materials can be used. Fencing should be at least 8 feet high. Electric fencing is also an option, as deer quickly change their behavior to avoid the fence.

- **Removing deer during the regulated hunting season** is another effective option, although other deer may move in after a few seasons if deterrence is not continued. *MassWildlife* encourages landowners not interested in hunting to allow hunting by other sportsmen and -women during the deer season. Please see the Massachusetts Hunting and Fishing Abstracts or contact your local *MassWildlife* District Office for hunting season dates and further information on deer hunting.



If all options have been exhausted and you are still having a problem, please contact your local *MassWildlife* office for further technical advice or support (see contact information at the end of this sheet).

Population Management

White-tailed deer are highly-valued for many reasons. Sportsmen and -women enjoy the challenge of the hunt and use the deer for food and other products. Other wildlife enthusiasts enjoy simply watching white-tailed deer because they are interesting and beautiful. Whatever your preference, active population management is needed as continued land development and the deer's adaptability to residential areas combine to create more and more deer-human conflicts.

The key to managing deer is to maintain populations at levels suitable for the needs of both deer and people. Deer density goals are established for each of 15 wildlife management zones (WMZ) across the state and represent a comprehensive deer management program that allows healthy deer populations to exist at levels compatible with both their natural environment and with humans. By managing towards sustainable goals, we support the ecological values of the landscape while allowing hunting and wildlife-viewing opportunities and minimizing impacts on public health, public safety (including deer-vehicle collisions), and property damage. Currently, deer populations are at goal in most parts of the state and the deer are consistently healthy. In suburban landscapes where deer densities have been high, those densities have begun to decline as the population approaches management goals. For more information on deer population



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management, please refer to the “Living with White-tailed Deer” page on the DFW website (given at the end of this document), and to the deer management essay on pages 20-21 of the 2009 Abstracts, available online at http://www.mass.gov/dfwele/dfw/regulations/abstracts/hunt_fish_abstracts.pdf.

Deer and Disease

No significant, widespread health issues currently exist in Massachusetts’ deer populations; however, white-tailed deer populations are subject to, or implicated in, a variety of diseases. Two examples follow.

Chronic Wasting Disease (CWD): *MassWildlife* has an active, ongoing surveillance program for CWD, which is a major deer health concern since it is typically fatal to the infected deer and is easily transmitted to other deer. While undetected in Massachusetts deer to this point, this disease has been detected in wild and captive deer in many western and mid-western states, and has been found as far east as central New York. CWD has not been shown to be transmissible to humans, and hunters may import de-boned meat from harvested deer from states where CWD is present. Symptoms of CWD in a deer include excessive drooling, excessive thirst, sluggish behavior, drooping ears, and an extremely emaciated body (ribs showing, etc.). If you see a deer exhibiting these symptoms, please

call your local *MassWildlife* office. For additional information on CWD, please visit *MassWildlife’s* website at www.mass.gov/dfwele/dfw/wildlife/diseases/cwd_info.htm or visit the Chronic Wasting Disease Alliance website at www.cwd-info.org.

Lyme Disease: This disease does not affect White-tailed deer but is closely associated with them. Lyme disease is a bacterial disease transmitted to people (as well as many other domestic animals) by the bite of infected blacklegged ticks (*Ixodes scapularis*, also known as deer ticks). We include basic information about Lyme disease here because deer are the primary host for the adult phase of the tick. Deer also play a role both in transporting ticks across the landscape and in maintaining tick populations.

The life cycle of ticks is complex. The larval stage of these ticks (stage 1) lives on hosts other than deer, mostly small rodents such as the white-footed mouse. Once the larval ticks have consumed a blood meal from the mouse, they drop off the host and continue the life cycle by molting into nymphs (stage 2). The nymphs also live on white-footed mice. After they engorge on blood from the mouse, they drop off and molt into adult ticks (stage 3). Adult blacklegged ticks typically feed on deer, but deer are not affected by the bacteria in any way, nor can they transmit the bacteria to people or other deer. Nevertheless, high deer densities have been shown to be strongly correlated with high densities of blacklegged ticks, increasing the risk of Lyme disease transmission to humans. This is another precautionary reason to control deer populations, particularly in suburban areas. The adult ticks mate, drop off the deer, and lay their eggs in the litter layer of the soil, completing the two-year life cycle.

Lyme disease was first recognized near Lyme, Connecticut, in 1975. If not diagnosed properly and treated early, it can lead to serious systemic health problems. Symptoms may include a ring-like rash, flu symptoms, or arthritic aches, and tend to peak during the summer months when the tiny, nymphal stage of the blacklegged tick is active. For more information on ticks, including their life cycle, methods of control, commonsense precautions, and for detailed information on Lyme disease, visit the Massachusetts Department of Public Health website at: www.mass.gov/Eeohhs2/docs/dph/cdc/factsheets/lyme.pdf.

Leave fawns alone!

The arrival of spring and summer also means the arrival of newborn deer. Every year, well-intentioned people upset the lives of some fawns that they find by trying to “rescue” them. Does often leave their fawns alone for hours at a time in order to forage for food, and the fawn’s camouflaged coat keeps it inconspicuous. If the fawn is left where it is seen, the mother will usually return later in the day. Hovering or “checking in” on the fawn may, in fact delay the mother’s return. If you are concerned that something may have happened to the mother, note the location of the fawn and check back the next day to see if it is still there. Even if it is, do not take a fawn from the wild and try to care for it. This is not only illegal, it is unwise, and, in the end, usually harmful to the fawn. Instead, call your local *MassWildlife* office and report your sighting.

For more information visit the *MassWildlife* website at http://www.mass.gov/dfwele/dfw/wildlife/living/living_with_white-tailed_deer.htm. More information is added periodically as research and management continue.

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For more information contact ***MassWildlife*** at:

Western Wildlife District, Dalton: (413) 684-1646

Connecticut Valley Wildlife Dist., Belchertown: (413) 323-7632

Central Wildlife District, West Boylston: (508) 835-3607

Northeast Wildlife District, Ayer: (978) 772-2145

Southeast Wildlife District, Bourne: (508) 759-3406

Field Headquarters, Westborough: (508) 389-6300

or visit our website at www.mass.gov/dfwele/dfw/facilities/districts

MassWildlife “Balancing the needs of wildlife with the needs of people.”