



A Place to Call Home

Deer-Habitat Relationships

Deer, being adaptable creatures, are found in a variety of environments; however, they are best suited to forested habitats. Forests provide deer with a place to eat, to rest, to escape, to bear and rear young. Like all animals, deer have certain living requirements essential to their existence; food for nourishment and cover for protection are the two most important. To a deer, home is the forest.

The importance of food to deer is beyond question; deer must eat to survive. How well they live depends on the quality, quantity, and availability of food.

Although deer eat a great variety of vegetative material, not all plants or parts of plants are good deer forage; nor is every plant, or part of a plant, equally nutritious and palatable to deer at all times of year. Deer are capable of recognizing these nutritional differences and select food accordingly. A general listing of preferred and non-preferred foods would be an oversimplification of the complex nature of deer diets. Food or forage preferences should be considered relative to availability in a particular area at a specific time. For example, in one study, deer preferred natural vegetation over a nutritionally complete deer pellet ration in spring when new leaves emerged.

Perhaps the best way to summarize the qualitative aspects of deer food is to relate some findings from detailed studies. Captive deer fed low-energy, low-calcium and -phosphorus, or low-protein diets were smaller compared to deer fed a nutritionally complete diet. Some males on deficient diets produced only spike antlers as 2.5 year-olds, whereas males fed complete diets produced at least 6 points as 2.5 year-olds. These deer came from across Pennsylvania. Another study took wild male fawns from an area of poor habitat (for example, southern Potter, eastern Cameron, and northern Clinton counties), released the animals in a large enclosure, and provided them with a complete diet of pelleted deer food. At 15 months of age, males in the enclosure weighed approximately 30 percent more than wild deer of the same age from the same area, but were of similar size to males of the same age from areas with good habitat.



Deer food requirements also vary with sex, age, and season. During the critical winter period the average adult deer should have about 5 pounds of dry-weight forage daily. This amount of chopped-up twigs would nearly fill a half-bushel basket.

Natural food availability directly affects deer health. From the age structure of a forest to unpredictability of mast and fruit crops, a complex relationship exists between deer and natural foods.

Forests of different ages support different numbers of deer. In studies in Pennsylvania's northern hardwood and mixed oak forests, seedling/sapling stands supported the greatest number of deer, poletimber stands supported few or no deer, and sawtimber stands supported some number in between. These results were the foundation for Pennsylvania deer management objectives prior to 2005. Those deer density objectives were 40-60 deer per square mile for seedling/sapling stands, 5-10 deer per square mile for poletimber stands, and 20 deer per square mile for sawtimber stands.



These studies demonstrated the maximum number of deer that could be supported. However, from a hunting perspective, a huntable population cannot be maintained at maximum numbers. To allow hunters to sustainably harvest deer, a population must be maintained at less than maximum carrying capacity. In fact, the largest hunter harvest of deer occurs at deer populations levels of approximately 50 to 60 percent of carrying capacity. This is due to the high reproductive rate of a population maintained at this level. Those populations at carrying capacity are at a stable state and as a result produce very few offspring.

In addition to food variability associated with different forest ages, availability of individual food items may vary. Acorns are a valuable, yet sporadic food source for deer. Abundant acorn crops can lead to increases in body weight and antler growth. However, acorn production is highly variable. In a 27-year study in Huntingdon County, Pennsylvania, acorn production varied from 0 to 582 pounds per acre. In years without abundant acorn crops, deer must rely on other foods within their home-range.

Vegetation that affords protection to an animal is commonly referred to as cover. The key word is “protection” – protection from enemies, be they human, animal, insect, or weather. Dense thickets, especially evergreen trees and shrubs, often come to mind as being best for deer. This type of cover is perfect for winter. However, protective cover is needed during all seasons of the year.

In Pennsylvania, the most essential cover component probably is winter protection within extensive hardwood stands. This kind of cover is provided best in areas protected from cold winds and with a southern exposure. Heavy snows can cause deer to move from higher to lower elevations, often to protected valleys particularly with conifer cover. A source of natural foods in the vicinity of good winter cover is the ideal way to carry deer through this critical time of year. However, deer in good physical condition can fast for weeks if necessary. When winters are mild and food is abundant, cover becomes less important for thermal protection, but protection from predators is always necessary.

Just as forest habitat can affect deer, deer can affect forests. Negative impacts of deer on forests in Pennsylvania have a long history, dating back to the early 1900s. High deer populations can degrade vegetation communities and habitat for other wildlife species. Without that, no one has a place to call home.

