

## Reproductive Potential (from Activity 10, World of the Whitetail)

Whitetail deer have incredible **reproductive potential**. Under good circumstances, does two years old or older bear twins annually and fawns breed at the age of 5 - 6 months, giving birth to single fawns as yearlings. On excellent range, mature does can bear triplets and the survival of all fawns is greatly improved. Given abundant food supplies, mild winters, and an absence of predation and hunting, this kind of reproduction can result in a deer herd almost doubling its size in one year.

## Carrying Capacity (from Activity 11, World of the Whitetail)

The population of deer in Wisconsin is not constant. It fluctuates seasonally and year to year. For example, following a severe winter the population may be considerably lower due to starvation. In spring, the population increases with the birth of fawns. In late fall, there is a decrease in the population due to hunting.

However, there is a population level which the land can support. If the population falls below that level, food and cover are available and deer reproduce rapidly. As the deer population increases, the amount of food and cover available for each individual deer decreases. If the population continues to increase, it will reach a level at which the deer do not have sufficient food. They become overcrowded, increasing their susceptibility to starvation and newborn mortality. Decreasing food supplies also result in lower body weights, fewer fawns, and smaller antlers as the health of the herd declines.

The biological **carrying capacity** is the maximum number of animals that an area of land can support over a prolonged period. At biological carrying capacity, the deer herd will not be healthy. A herd this size will also tend to damage surrounding plant communities. When a deer population is well below carrying capacity, the deer are well fed and healthy. Plant communities are also much less likely to be damaged when deer populations are below the carrying capacity.

Carrying capacity for deer varies greatly across Wisconsin. The carrying capacity in the southern farmlands is considerably higher than in the northern forests. This variation is the result of differences in the quality and quantity of deer food and the duration and severity of winter. Even in the north, the carrying capacity varies. Young forest habitats (e.g., aspen) provide more summer food for deer than older maturing forests. Consequently, young forests have a higher carrying capacity.

Many factors influence the size of the deer population in a given area. These factors include the amount of food available throughout the year, the severity of winter, the presence of adequate cover, the number of deer killed during the hunting season, the density of roads and vehicles, and the concentration of predators. While all these factors have an impact on the deer population, wildlife managers use hunting as the primary tool for keeping deer populations below carrying capacity.