

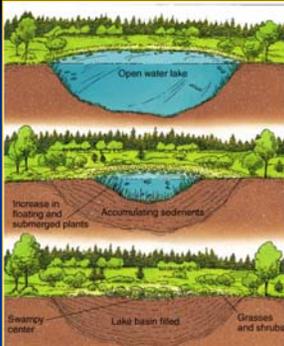
Terrestrial Flora - characteristics and adaptations of plants.

- Environmental adaptations - two of the most important categories of environmental adaptations of plants concern moisture - either adapting to high amounts of moisture or to low amounts of moisture. Xerophytic adaptations refer to mechanisms for adjusting to prolonged dry condition, while hygrophytic adaptations refer to mechanisms for adjusting to prolonged wet conditions.



Floristic terminology - **Hardwood** is not necessarily a harder material (more dense) and a **softwood** is not necessarily a softer material (less dense). For example, balsa wood is one of the lightest, least dense woods there is, and it's considered a hardwood. The distinction between hardwood and softwood actually has to do with plant reproduction. All trees reproduce by producing seeds, but the seed structure varies. Hardwood trees are **angiosperms**, plants that produce seeds with some sort of covering. This might be a fruit, such as an apple, or a hard shell, such as an acorn. Softwoods, on the other hand, are **gymnosperms**. These plants let seeds fall to the ground as is, with no covering. Pine trees, which grow seeds in hard cones, fall into this category. In conifers like pines, these seeds are released into the wind once they mature. This spreads the plant's seed over a wider area. For the most part, angiosperm trees lose their leaves during cold weather while gymnosperm trees keep their leaves all year round. So, it's also accurate to say **evergreens** are softwoods and **deciduous** trees are hardwoods.

Spatial grouping of plants - the term "climax vegetation" refers to the stable community of plants that exists after plant succession. This can be thought of as the optimal group of plants for a given environment.



Over time, successional colonization by different plant associations changes the area from pond to marsh to meadow to forest.

Terrestrial Fauna - characteristics and adaptations of animals

- Cooperation among animals - note the difference between mutualism, parasitism and commensalism. **Mutualism** involves a relationship between two different species that is beneficial to both. In the case of **parasitism**, one species (parasite) is nourished by attaching itself to another species (host). Typically, the host species is weakened but not killed by the parasite. **Commensalism** involves two dissimilar organisms living together without advantage or disadvantage to either.

Kinds of animals

Invertebrates - animals without backbones, over 90% of all organisms, including worms, sponges, mollusks, insects, and crustaceans.



Vertebrates - animals with backbones, five principal groups including fish, amphibians, reptiles, birds, and mammals.



Mammals

External differences such as milk production and body hair.

Endothermic - body temperature remains relatively the same year around.

Placental

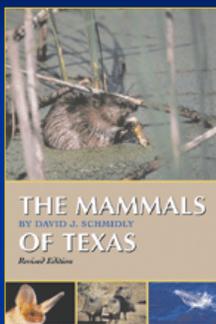


Marsupial



Monotremes

Mammals of North-Central Texas



Resource: Davis, W.B., Schmidley, D.J. 1994. *The Mammals of Texas*, Texas Parks and Wildlife Press, Austin, Texas.

Opossum

Didelphis virginiana

- Living fossils – relatively unchanged for 50 million years
- One species occurs in Texas
- Opposable great toe and naked prehensile tail
- Pouch for young developed during breeding season on abdomen of female
- Primarily inhabitants of deciduous woodlands
- Hollow trees and logs are preferred den sites
- More or less solitary and strictly nocturnal
- Feeds on small mammals, birds, insects, fish, amphibians, and fruit



Armadillo

Dasypos novecinctus

- Possess carapace (hard shell), unique in mammals
- Little hair – hard to thermoregulate – active at night in summer and during day in winter
- Fond of water, found along riparian zones
- Majority of diet consists of insects
- Reproduction is marked by two distinct and unrelated phenomena



- Females become pregnant by the end of July, but implantation does not occur until November.
- Females always give birth to identical quadruplets

Coyote

Canis latrans

- Basic social unit is the family group with one mated pair and offspring
- Non-mating animals form packs with one assuming temporary dominance
- May be active during day but more so at night
- Opportunists and food habits are varied – mainly rodents and rabbits but can include:

Garbage
Carion
Wild and domestic kills
Birds

Insects
Reptiles
Fruit



Raccoon *Procyon lotor*

- Inhabitants of broadleaf woodlands and seldom occur far from water
- Den is usually a hollow tree or log
- Specialized feeders
 - Acorns and crayfish constitute more than half of diet
 - Grapes and persimmons in season
 - Insects, fish, birds, and snakes are taken occasionally
 - Fondness for adult and larval wasps and their stored food
 - Opportunists – will eat food scraps and garbage, as well as seed crops
- Complete hind foot touches ground when animal walks
- Five toes on each foot, with non-retractable claws



Bobcat *Lynx rufus*

- Named because of short tail
- Relatively long legs, large feet with five toes in front and four in back
- Occupy a variety of habitats but prefer rocky outcrops
- Den in canyon walls, boulder piles, and brush thickets
- Food consists of small mammals and birds



White-tailed Deer *Odocoileus virginianus*

- Small deer with short ears
- Males have antlers with major points coming off the main beam
- Antlers are shed every year
- Feeding habits vary from area to area and season to season



White-tailed Deer *Odocoileus virginianus*

History

Deer are some of the longest surviving mammals of all time, having outlived nearly every major predator. Examples of extinct predators are the wolves of present day North America and the saber-toothed tiger of pre-historic times.



In addition to bison and antelope, white-tailed deer flourished in north-central Texas until Anglo settlers arrived. They were nearly extirpated by the beginning of the twentieth century. According to TPW, one trapper near Waco, is said to have shipped approximately 75,000 deer skins from 1844 through 1853.

Value

White-tailed deer have great aesthetic, recreational, and economic importance in north-central Texas.

Aesthetic - one of the most beautiful creatures on Earth. In areas where they are present, very few people dislike their presence, because of the joy gained from viewing them.

Recreational - hundreds of thousands of hunter hours spent each year.

Economic - Hunters spend millions of dollars each year in the support of hunting, and many small communities in south and west Texas would not survive if not for white-tailed deer.



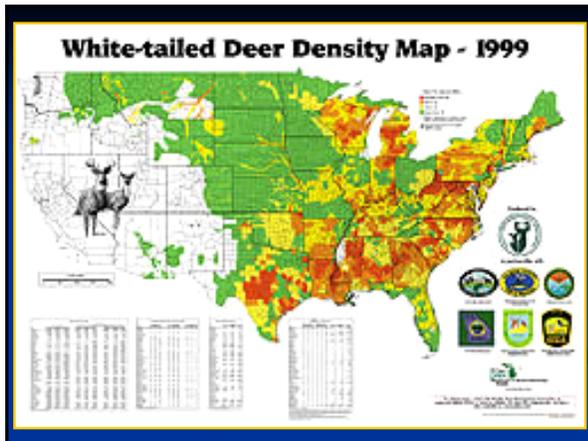
Habitat

Nearly all habitat requirements deal with one or more of the major habitat components---food, cover, water, and space.

Food - Food is often the limiting factor in deer survival. Their food consists of 44% forbs (weeds), 41% browse (twigs, leaves, and fruit/nuts), 13% grasses (grains and legumes), and 1% others (mushrooms and aquatic plants).

In spring deer eat mostly forbs with a lot of browse. In summer, it is nearly all forbs. In the fall, browse is the major food, and there is a mix of forbs, browse, and grasses in the winter.





Cover - Serves a variety of functions for white-tailed deer. Safety from predation is an important cover requirement. Deer need to be able to escape and/or hide from predators, including man. Cover also provides protection from the elements.

Water - Deer readily drink water from natural and man-made sources but obtain much of their water from the food they consume. Water is rarely a limiting factor of deer habitat.

Space - The size area a deer uses varies according to the deer's age and sex and habitat characteristics. Each deer's range overlaps the ranges of several other deer. Space can be limiting when the combination of habitat size and habitat quality is insufficient to maintain a viable deer population.

"Edge Habitat" - Where forested land meets open land.

40-60% wooded area,
 patchy, irregular shaped,
 <200 yards of opening
 Fence lines,
 Woodlots,
 Fallow fields,
 Crops
 Riparian zones

The top photograph shows a dense line of trees, likely a woodlot or fence line. The bottom-left photograph shows a riparian zone with a pond and trees. The bottom-right photograph shows a field with scattered trees and a fence line.