

# Florida Ranchers Manage for Deer

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As the population of Florida grows, so does the demand for hunting leases. The 7 million acres of rangeland remaining in Florida can meet that demand and at the same time help diversify the Florida rancher's income. The growing human population also brings about greater awareness and concern for the environment. Ranchers can maintain the environmental quality of the South Florida Flatwoods, as a ranch resource, by understanding the effect of land use, land management, and livestock grazing on deer and its habitat. Many standard livestock ranching practices actually benefit deer herds.

A large rangeland area extends from north central Florida to Lake Okeechobee. This area is a mosaic of freshwater ponds, cypress swamps, hardwood swamps, and hardwood hammocks. These are interspersed as islands within the Flatwoods base. This diverse natural system, caused by the sagging topography of the area, supports a rich wildlife population. The South Florida Flatwoods is the dominate range site.

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**The Flatwoods were first described** by William Bartram in 1174 as a "high pine forest, thinly growing on a level plain, the surface of the ground covered with grass, herbage and some shrubbery." Growing conditions now provide a competitive advantage for brush. The trend towards more brush started in the 1850's when drainage for flood control removed the high water which suppressed brush. Today, the common winter time burns do not inhibit the growth of saw palmetto. Presently a South Florida Flatwoods range site has a sparse to dense canopy of pine with a thick understory of saw palmetto and shrubs. Grass and seasonally showy wildflowers compete for the remaining space, sunshine, and nutrients in the sandy soils.

The Flatwoods soils have a pH of 4.5 and are poorly drained. They have a spodic horizon 2-3 feet below the surface which slows the rapid downward movement of water. The 52 inches of average annual rainfall occur mainly from June to September. The water table is at or near the surface during the rainy season and drops to 5 feet below the surface during dry spring months. The



YOUNG DEER on Flatwoods edge.





**COWS ALONG FENCE:** The nation's first cattle were brought to Florida in 1521. The Spanish, British, and Native American Indians developed these into hardy "cracker" cows which could survive Florida's harsh conditions. The present 1.9 million cows and calves with an annual beef production value of \$336 million are the result of Brahman based cross-breeding which became widespread in 1920.

coarse surface layer of soil can become extremely dry even during the rainy season.

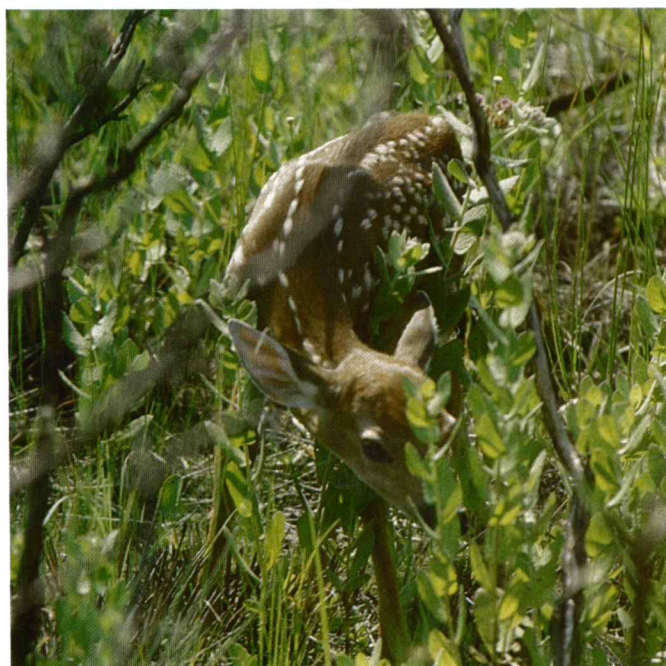
**The Flatwoods plant community**, which produces four to six thousand pounds per acre, is adapted to alternating wet and dry soil conditions plus frequent fires. The Flatwoods is a fire-climax plant community due to the average 80 thunderstorm events per year which produce 45–150 lightning strikes per square mile. The natural fire frequency for the Flatwoods site is every 3–7 years.

A deer's diet includes a wide range of brush, forb and grass species found on the South Florida Flatwoods. The assumption that cattle and deer strongly compete may have been arguable for the nutritionally smart "cracker" cow, but today dietary overlap is reduced by importing new bloodlines, and by supplementing proteins and minerals in the livestock diets. Each day a deer eats six pounds of woody twigs, leaves, oak mast, palmetto berries, wild-flowering plants, and tender grass (Harlow 1965). Cattle eat 30 pounds of forage daily which is mostly grass (Kalmbacher 1984). Therefore, removing one grazing cow does not necessarily provide food for 5 more deer.



**CHOPPERS:** A new set of choppers costs \$12,000. Hidden tree stumps puncture rubber tires, adding to the cost of brush control.

Livestock grazing at proper stocking rates is compatible with, and can improve the habitat for deer. Studies of rotational grazing systems found that with the increased food availability, deer herds follow livestock from pasture to pasture (Drawe 1979). Grazing removes the cover of taller grasses, such as creeping bluestem and lopsided Indiangrass, which makes low growing forbs more accessible to deer. Jimmy Chapman has put in a 10-pasture rotational grazing system on a rangeland area of the Double C Bar Ranch, St. Cloud. He is increasing livestock production while maintaining deer habitat.



**FAWN ON FRESH BURN:** Loss of rangeland to urban development makes it difficult for wildlife populations to find a place to hide.

**Land use decisions on South Florida Flatwoods** range sites are crucial because Flatwoods are the third most heavily utilized deer habitat in Florida (Harlow 1965). A deer's shock absorber-like forelegs allow it to quickly change directions without slowing. Their excellent hearing, sense of smell, and quick feet allow the white-tail to easily hide behind a low palmetto to avoid detection. Because of this, deer are seldom sighted on Flatwoods.

Close to 3 million acres of Flatwoods have been cleared and converted to open tame grass pasture. This openness makes sighting deer easy, which is why ranchers overestimate deer use of tame grasses and underestimate the importance of Flatwoods habitat. Deer use the fertilized grass in the summer, but it is the Flatwood's browse and fruiting plants that provide the nutrition for the deer's reproductive success during dry year food shortages.

Land management practices such as brush control greatly improve deer habitat on South Florida Flatwoods. Bill Hayman of the 7-11 Ranch, Kenansville, recently controlled the brush on 2,000 acres. Roller drum choppers, pulled in tandem at offset angles, were used to knock down the growing points and uproot the rhizomes of saw palmetto. Ground measurements prior to chopping and



two years after treatment revealed that the palmetto canopy decreased from 90% to 20%, the number of growing rhizomes was reduced by one-third, and the height of the canopy was cut in half. These reductions improved the environmental quality by allowing the grass and wildflower components of the Flatwoods to spread and reclaim their historical dominance over the brush. Step-point transect revealed that forbs increased the sites species diversity by 35%, which reduced dietary competition with cattle. Range conditions went from 25% poor condition to 39% fair condition. Many areas had pine trees too thick for the seven foot wide choppers to be pulled through, so a mosaic of unchopped escape cover was left for deer.

**Prescribed burning is a common ranching practice in Florida.** Most ranchers burn half of their South Florida Flatwoods each winter. An unpalatable grass, pineland wiregrass, provides enough fine fuel to carry fires on a regular two-year rotation. Wiregrass regrowth is nutritious and palatable for a brief 60 days after winter burns. White-tailed does are in early gestation and thrive on these burns. Lightning season burns (April–July) produce the same effect for the late gestation period. Deer come in after a burn to lick the nutrient rich ash from the ground. The nutritional quality of decreaser grasses is improved for about 6 months and fall wildflower seed production is increased. The fall wildflowers are high in phosphorus, which is needed by does weaning fawns in October.

During dry years, palmetto berries become a major part of deer's survival diet. Palmetto berry production is cut in half the first year after a burn, but is maximized 5 years after a fire. Prescribed burning for deer should be done every 3 to 5 years.

A deer population will increase rapidly during years of good food production. If the excess deer are not removed through moderate doe harvesting, the higher quality forage is stripped away, leaving only tidbits for the herd. Over-browsing by deer reduces the vigor and diversity of browse species and lowers the site's environmental qual-

ity. This leads to poor individual performance and low fawn survival rates.

**Many Florida ranchers are starting** to understand that sometimes shooting a doe is the right thing to do. Several tours sponsored by the Florida Section, Society for Range Management have had guest speakers explaining this concept. Studies show that buck fawns orphaned at 3 months develop body weight and antler growth equal to doe-raised fawns (Demaris 1988). With deer population control, more food is available and fewer does can produce more fawns. These are likely to reach their genetic potential and attract profitable hunting leases. Carolyn Kempfer of the Kempfer Ranch, Deer Park, has had deer census counts taken for over ten years. Now she is working toward trophy hunts by limiting the age class of spike bucks to two and half years or older before harvesting.

Ranchers who manage deer populations through scientifically sound methods and protect South Florida Flatwoods rangeland as a ranch resource are maintaining the environmental quality of Florida. Ranching improvement practices such as rotational grazing, prescribed burning, and roller chopping add to the biological diversity of both plants and animals. Management for environmental quality optimizes the biological diversity by protecting the intrinsic properties of the ecological system. . . (Lugo 1973). Research and practice prove that ranching is an environmentally sound land use in Florida.

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