

woodland cover. Most of the reported expansion in Iowa's woodland area is due in large part to the decline in the number of cattle on pasture and the resulting increase in the number of trees on land that was previously grazed. An assortment of trees in a degraded pasture doesn't constitute a woodland, however, for it lacks both the structure and composition—and therefore the functioning—of a healthy forest community.

Another significant change in our woodlands is the decrease in the number of young oaks to replace those that have been removed through harvesting, old age, or disease. Unlike shade-loving species such as maple or basswood, oak seedlings and saplings require abundant sunlight. As our woodlands become more dense with shade-tolerant trees, invasive shrubs, and exotic herbaceous plants, less and less sunlight reaches the woodland floor. With the loss of oaks—Iowa's most prominent and important hardwood tree—from the species mix in our woodlands, the look, feel, and function of those forests change dramatically.

*“It is not so much for its beauty that the forest makes a claim upon men's hearts, as for that subtle something, that quality of the air, that emanation from the old trees, that so wonderfully changes and renews a weary spirit.”*

*—Robert Louis Stevenson  
(1850-1894) Scottish writer*

## ■ Value of Iowa Woodlands

Historically, woodlands have provided shelter and a host of forest products such as lumber, fuel, fencing material, railroad ties, trestle timbers, and telegraph poles. Though woodlands were essential to settlement, they were at the same time viewed as an impediment by Euro-American newcomers. On encountering woodlands, their first response was to clear the trees, remove the stumps, and create cropland. Woodlands left standing often were used as grazing land for cattle and other livestock. Even now, according to the Iowa Department of Natural Resources, about 75% of Iowa woodlands are being grazed.

Woodlands furnish food and habitat for a variety of wildlife. Those of us who enjoy the company of wildlife, or who appreciate wildlife as a source of food or income, certainly value forest communities. The beauty of woodlands is a source of inspiration for writers and painters. Others view forests as a fount of wisdom. Still others think of woodlands as a place of renewal for care-worn souls—a sanctuary of sorts.

In addition to these more obvious, enduring values of woodlands, healthy forests function as valuable biological systems. These benefits—also referred to as “*environmental services*”—may go unnoticed, and therefore unappreciated, but are far too critical to dismiss. Among them are the ability of woodlands to deliver these benefits:

- **Control erosion** – Woodlands intercept rainfall and slow runoff.
- **Retain water** – Runoff that has been slowed is more readily absorbed by the soil or taken up by trees and transpired into the atmosphere and is therefore less likely to transport any pollutants to water bodies.
- **Purify water and air** – Woody and herbaceous plants take up water-borne minerals and nutrients through their roots and remove pollutants from the air through their leaves.
- **Store carbon** – Woodland plants convert atmospheric carbon dioxide to biomass through photosynthesis; trees are especially important in the long-term storage of carbon as woody tissue, helping to reduce or slow the build-up of carbon dioxide—the principal greenhouse gas—in the atmosphere.

Woodlands function best when all the parts—the distinct layers of the woodland, composed primarily of diverse native species—are in place. Stewardship that maintains or improves the parts of the woodland over the long run will maintain or improve the overall health of the forest. Woodland health in turn ensures the continuation of those other forest products we appreciate: namely wood, wildlife, aesthetics, and recreation.