Hoosier National Forest Highlights

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Ecological Restoration on the Hoosier National Forest

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Protecting natural resources and restoring degraded areas were primary reasons for creating the Forest Service and establishing national forests and grasslands over a century ago. In 1935, the Hoosier was established to acquire and restore abandoned farm lands in southern Indiana. The first steps were to control erosion, stabilize soils, and control wildfire. The success of these efforts are evident today as people enjoy their national forest, not realizing that a few decades ago it was a severely eroded field.

Today, new threats affect the integrity of our forests. The list is long:

- Invasive plant species are forcing out native species, threatening ecosystem health;
- Introduced insects and diseases eliminate native species that once dominated the forest;
- Unmanaged outdoor recreation spreads nonnative insects, diseases and plants and causes erosion and compaction;
- Lack of forest disturbance and invasive species like gypsy moth result in oak forests converting to beech-maple and other shade tolerant species;
- Barren and prairie remnants are lost due to fire suppression; and
- Indiana's wetlands have been reduced to less that 15 percent of the area they covered 200 years ago.

Nonnative pines now cover 26,000 acres of the Hoosier National Forest changing soil characteristics and reducing species diversity. Most of the Hoosier is maturing, threatening species who are dependent on young forest habitat.

Ecological restoration is the process of assisting the recovery of a degraded, damaged, or destroyed ecosystem. Ecological restoration is a deliberate action

to change the path an ecosystem is on. Priority is given to restoring ecosystem processes rather than reaching an endpoint. Restored ecosystems are resilient and able to adapt to the normal range of environmental stressors and disturbance. A restored ecosystem should be sustainable and able to maintain itself over time with minimal interventions. Although in some cases active management such as prescribed burns or disturbances mimicking a natural process may be required. To successfully restore an area you need to the history and capabilities of the site.

Indiana will never again have the forests that existed prior to European settlement. Major forest ecosystem components, such as the passenger pigeon and bison, have been removed and the role of others, such as American chestnut and elm, have been minimized due to diseases. Current ownership patterns and management limitations preclude the reintroduction of some ecosystem processes such as wide-spread fire.

The first step in restoration is to define the desired condition of the site. On the Hoosier this was done in the Land and Resource Management Plan, through ecological classification (which gives us an idea of the capability and potential of a site), and the past history of the site. Goals are developed to move the site from its current condition to its desired condition. Then treatments are prescribed or ecological processes are reintroduced to guide the site toward the desired future condition.

After implementation, monitoring determines if the desired results are being achieved. This monitoring is critical and allows the forest to adapt its management as needed.

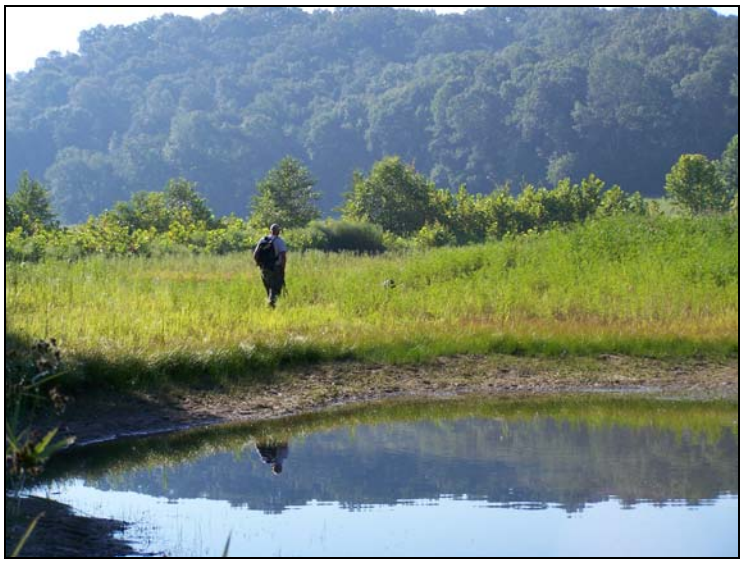
Restoration efforts on the Hoosier National Forest include:

- The reintroduction of fire and removal of nonnative invasive species to restore barrens and dry woodland oak hickory communities.
- Creation of wetlands to restore riparian function.
- Removal of pine to restore native hardwood ecosystems.
- Restoration of oak hickory by removing the shade tolerant understory and reintroducing fire to encourage oak seedlings.
- Cutting timber stands to establish young forest habitat.

For more information on restoration contact Gary Dinkel at 812-547-9237 or gdinkel@fs.fed.us.

Photo Captions:

Logging equipment removes pine from a stand and leaves the hardwoods to convert a stand to a native hardwood ecosystem.



A wetland restored in an old farm field provides aquatic benefits to a watershed, habitat for wildlife, and recreational benefits.