

17. Fire

Fire plays an important, vital role in most ecosystems in Florida. Scrub, scrubby flatwoods, pine flatwoods, prairies, swamps and marshes are all influenced by fire. Fire plays three important roles in ecosystem development: under-story clearing, nutrient influx, and plant production.

Fire's first role in maintaining an ecosystem is clearing the under-story of competing plants and clearing the forest floor of dead plant material. Elimination of competing plants prevents the succession of the ecosystem into another ecosystem; clearing the system's floor of dead plant materials opens it up for new seed germination.

Fire brings a nutrient influx into most systems by burning plants to a nutrient-rich ash that acts as a fertilizer for new growth. The impact of nutrients on the soil varies based on the ecosystem. Pine Flatwoods depend on a major influx of nutrients from fire whereas wetland areas use this influx but depend on it much less.

Fire's third major impact on an ecosystem is the stimulation of new growth following a fire. Fire triggers plant production in most systems. Grasses and wildflowers in flatwoods, prairies, and scrubs are productive only following a fire. Most grass species in Central Florida produce seed only in the year of, or the year after, a burn. Most wildflowers are most productive in the years following a fire.

Fires naturally occur in Central Florida in late spring through summer. Natural fires start as a result of lightening strikes from thunderstorms that are common during the spring and summer seasons.

Fire needs three things to thrive: oxygen, heat, and fuel. Oxygen is abundant in the air so it is always in supply. Fuel in an ecosystem fire is plant material, both dead and alive. Heat is first generated by a lightening strike or other artificial source that starts the fire and then is continually generated by the fire itself.

Prescribed burns are fires used by land managers to manage ecosystems. These fires are set on purpose and are controlled by proper use of firebreaks, wind and humidity. To have a successful prescribed burn, you need to plan ahead. First, burn only on lightly windy days with medium to high levels of humidity. Also, to control the area to be burned, you must use firebreaks, areas that are wet or lack fuel to burn, such as wetlands, roads, clearings, ditches etc.

When burning, you must also assess the wind direction and use it to your advantage. The first fire line you start will be the line going into the wind; this *back burn* burning into the wind is a cool, slow fire that creates a larger firebreak. When a good back burn has started about 50' to 100', a head fire or wind fire is started along the firebreak from which the wind is blowing. The wind moves the fire through the system quickly: as the fire burns, it speeds up naturally as more heat builds. When the two fires meet the fire goes out from the lack of fuel.