

Cooperative Extension Service  
Institute of Food and Agricultural Sciences

## Understanding Fire: Nature's Land Management Tool<sup>1</sup>

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*This document describes the ecological benefits of fires: the naturally occurring ones in Florida's lightning-derived fire season from mid-April through July and the prescribed (human-made, deliberate) fires.*

### Lightning--the origin of natural fires

Florida has the greatest number of thunderstorm days of any region in the United States. Florida's lightning-derived fire season is from mid-April through July. About 1,000 lightning-set fires are documented in Florida each year.

Once, most natural fires were relatively frequent, burned at low intensity and impacted large areas because natural fire breaks (rivers and wetlands) were spread out.

Prescribed (deliberate, officially set) fires traditionally are used from December through March a period of predictable wind patterns and cooler, safer, burning conditions.

Prescribed fires *during* the lightning season behave more like natural fires, but are more difficult to control than those set earlier in the year.

### Fire-dependent ecosystems of Florida

#### Longleaf pine/turkey oak sandhills

Natural burning frequencies of two to four years maintain pine dominance and reproductive wiregrasses, see Table.

#### Sand pine/scrub oak complexes

Longer natural burning frequencies of 10 to 60 years result in high-intensity, devastating fires; but these are required to maintain pine-oak mixtures.

#### Pine/saw-palmetto flatwoods

Natural burning frequencies of two to four years maintain reproduction of pine (longleaf and slash), wiregrass, and bluestem grasses; and keep shrubs from dominating the understory, see Table.

#### Rockland pine forests

Natural burning frequencies of three to seven years maintain the existence of many endemic herbaceous species and keep hardwood hammock species from invading, see Table.

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**Wet and dry prairies**

Natural burning frequencies of two to five years promote flowering of grasses and other herbaceous plants while reducing shrub competition or invasion.

**Ecological benefits of fire**

- Promotes flowering of herbaceous species and fruit production of woody species.
- Improves nutritional quality of plants for both wild and domestic animals.
- Enhances nutrient cycling of some elements and elevates soil pH.
- Maintains required habitat conditions for fire-adapted plant and animal species.
- Results in a more heterogenous and diverse habitat--if natural fires are patchy--leaving pockets of unburned areas.
- Prohibits wildfire conditions from developing (i.e., vast accumulation of highly-flammable, dead vegetation.)

**Negative aspects of fire occurrence**

- Temporary (two to twelve months) degradation of aesthetic quality until vegetation recovers.
- Temporary (two to twelve months) displacement of some animal species requiring thick ground cover.
- Some danger of fire leaving a prescribed area.
- Smoke and soot impacting off-site areas.

**Negative aspects of fire suppression**

- Loss or alteration of native plant and animal species composition.
- Disruption of an ecosystem's functioning (e.g., mineral cycling, plant and animal succession).
- Alteration of a plant community's general appearance.
- Reduction of flowering and production of plants.
- Possibility of uncontrollable wildfires devastating natural areas, homes, and buildings.

**Table.** Examples of fire-dependent species

Animal	Plant
Red-cockaded woodpecker	Longleaf pine
Scrub jay	Pineland threeawn (wiregrass)
Gopher tortoise	Pine lily
Bobwhite quail	Ocala sand pine
Sherman's fox squirrel	Cutthroat grass
Key deer	Big Pine partridge pea

**Sources of additional information**

*Contact your local:*

County Agricultural Extension Agent, Florida Cooperative Extension Service.

County Forester, Florida Division of Forestry, Department of Agriculture and Consumer Services.