

Fire's Effect on Threatened and Endangered Species

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If you are in Tennessee, Kentucky, or northern Alabama in August or September and pass a grassy area located near an open forest, you might see the Eggert's sunflower (*Helianthus eggertii*) in bloom. These yellow flowers will release seed and cause new plants to grow. If you are particularly observant you might notice that many of the sunflowers are in clumps. This is due to the formation of rhizomes (roots) which spread and form new plants. Glancing at this plant, it may be hard to believe that this 1 to 6 foot perennial with lance-shaped leaves was once on the brink of extinction.

The Eggert's sunflower was listed as an endangered species in May of 1997, due mainly to the decrease in fire, loss of suitable habitat, and competition with other plant species. In the distant past, frequent fires either caused by lightning or set by Native Americans prevented succession and decreased woody plant competition. When the number of fires was decreased, succession continued, eventually shading out the Eggert's sunflower. Other competition has resulted from the encroachment of invasive species which can take over an area. As if this weren't bad enough, the amount of suitable habitat has decreased due to the loss of fields for crops or development.

To help with this situation, fire was re-introduced to many communities. According to the US Fish and Wildlife Service's Recovery Plan, the Arnold Engineering Development Center in Tennessee and the Nature Conservancy conducted controlled burns to reduce woody competition and restore suitable habitat. This, along with the protection of existing habitat, led to the Eggert's sunflower being delisted in August of 2005.

Fire has also aided in the restoration of habitat for the gopher tortoise (*Gopherus polyphemus*) as well. This threatened species, the only tortoise who is a southeastern native, can be found in the southern part of Alabama. Well-



drained sandy soil and open areas rich with grasses that allow sunlight to reach the forest floor are needed in order for an area to be considered suitable habitat. Without these sunny open forests to lay their eggs, the gopher tortoise will venture to more hazardous areas such as roadsides and firelanes for egg laying. A closed canopy forest also shades out the

necessary grass-like plants and legumes which are used as a food source. Prescribed burning and tree thinning provide necessary openings needed for the gopher tortoise and encourage herbaceous growth which can promote suitable food sources.

These are just two examples of how prescribed burning can directly benefit threatened and endangered species. The flatwood salamander (*Ambystoma cingulatum*), American chaffseed (*Schwalbea americana*), green pitcher plant (*Sarracenia oreophila*), Alabama canebrake pitcher plant (*Sarracenia rubra* ssp. *alabamensis*) and possibly the Gentian pinkroot (*Spigelia gentianoides*) also benefit from the use of fire for the purpose of habitat restoration. ♣

Sources

US Fish and Wildlife Service. 1990.

Gopher Tortoise Recovery Plan. US Fish and Wildlife Service, Jackson, Mississippi. 28pp.

US Fish and Wildlife Service. 1999.

Recovery Plan for *Helianthus eggertii* Small (Eggert's Sunflower). Atlanta, GA. 40pp.

[http://www.gophertortoisecouncil.org/tortoise .htm](http://www.gophertortoisecouncil.org/tortoise.htm)

