

Burning old-fields and woods to enhance wildlife habitat

Controlled burning can improve wildlife habitat in both woods and fields more than any other management practice. Using prescribed fire can improve forage, seed production, and cover, while protecting the area from wildfire. Late winter (February – early April) is an excellent time to burn because environmental conditions often permit rapid smoke dispersal and spring green-up is rapidly approaching.

Burning old-fields is highly recommended over mowing. Not only does burning set back succession and improve habitat for many wildlife species, it is also easier and cheaper than mowing. Burning consumes the thatch layer (dead leaves and grass) in the field and stimulates the seedbank (those seed in the top couple of inches of soil) to germinate. This helps promote plant diversity and the resulting plant growth is often more nutritious following a prescribed fire because of nutrients cycled from the ashes into the topsoil. By rejuvenating and stimulating herbaceous growth, forage, seed, and insect availability for wildlife is increased. Also, once the thatch layer has been consumed, an open condition is created at ground level, enabling quail and turkey broods, rabbits, and many songbirds to move about through the field under the protection of a lush herbaceous canopy. The open condition at ground level also makes fruits and seeds (such as blackberries, ragweed, beggar's-lice, pokeweed, partridge pea) that fall to ground available to birds. Burning old-fields on rotation every 3 – 4 years will continue to set back succession and keep the field from becoming a thicket of small trees.

The exception to the description above is a field dominated by perennial cool-season grasses (such as tall fescue and orchardgrass). These grasses out-compete desirable vegetation, provide low-quality forage, and create a dense structure at the ground level that is unattractive to wildlife. If perennial cool-season grasses are present and high-quality early successional habitat is desired, the field should be sprayed in the fall after haying, burning, or grazing with a glyphosate herbicide (1.5 – 2.0 quarts per acre).

Prescribed fire also can be used in upland hardwood and pines to enhance conditions for wildlife. As in a field, burning consumes the litter layer in the forest, which protects the stand from wildfire and stimulates the seedbank. The effect of burning in woods is greatly influenced by the amount of light entering the canopy and reaching the forest floor. Generally, the best effect for a variety of wildlife species is realized by burning a stand after it has been thinned to approximately 60 percent canopy coverage. This allows sufficient sunlight into the stand to stimulate plant growth in the understory. To help control woody sprouts, allow a year of re-growth after thinning before burning. Thereafter, a burning rotation of 3 – 4 years (depending on site) should limit woody sprouts and maintain an attractive understory for wildlife.

The best days for burning in late winter typically occur several days after a cold front has passed through with about an inch of rain. During this time, persistent winds (5 – 15 miles per hour), relatively low humidity (30 – 50 percent), cool temperatures (below 60°F), and sunny days can be expected. It is important that all burning follow a burn plan prepared by a trained professional. For further information concerning the benefits of prescribed fire and assistance with a burning plan, contact the Tennessee Division of Forestry or the Tennessee Wildlife Resources Agency.

Craig A. Harper
Professor