Controlled Burn – Prescribed Fires for Habitat Management

This is in an article about NC, but so much is true for any woodland area.

Importance of Fire to Wildlife

"One of the most harmful things modern man has done to birds has been his attempt to exclude fire from fire-type pine forests. Within a few years most forests choke up with brush, lose their prairie-like vegetation, and can no longer support birds dependent on periodic burning for their food supply and proper cover." (Herbert Stoddard, 1963)

Wildlife biologists such as Herbert Stoddard recognized the value of fire as a tool to conserve habitat for many wildlife species as early as the 1920s (Figure 2). Many of North Carolina's plants and animals adapt well to fire because much of the state's lands burned frequently for thousands of years. Here are some specific examples of fire's value to wildlife:

- Grasses, legumes, and other herbaceous plants germinate and flower following a fire and harbor insects and produce seeds beneficial to quail, turkeys, and songbirds. This lush growth provides cover for small mammals and young turkeys and quail (Figure 3).
- Fire burns away much of the leaf litter on the forest floor and exposes insects and seeds. Many wildlife species move into recently burned areas to feed on these newly available foods.
- Many shrubs produce more fleshy fruit 2 to 5 years after a fire than they would if they had been in an area that had not been burned.
- Young hardwoods that sprout back after a fire have more available protein and phosphorus and are more palatable to white-tailed deer and eastern cottontails than their unburned counterparts.
- Low ground cover and patches of shrubs are typical of frequently burned areas. This varied pattern of vegetation provides protective cover and abundant insects for some songbirds and young turkeys and quail.

Many of the plant and animal species of greatest conservation concern in the South are dependent upon or assisted by fire. Longleaf pine forests, once occupying 90 million acres in the South, now cover only about 5 percent of their original range. Birds such as Bachman's sparrows and brown-headed nuthatches favor open pine stands with a dense grass ground cover found only in frequently burned areas. Many of the South's increasingly rare reptiles and amphibians, like the gopher tortoise, pine snake, and pine barrens treefrog, prefer forests frequently burned by fire. The long-term survival of these animals is in question if the use of prescribed fire does not persist.

Does Fire Kill Wildlife?

Not usually! Animals may be temporarily displaced following a prescribed burn, but most can avoid direct harm from fire. Deer, foxes, and bobcats run; birds and bats fly; and mice, lizards, snakes, and salamanders go underground into burrows or under rocks and fallen logs as a fire approaches. Some animals, such as slow-moving turtles and snakes, can be killed during a wildfire or prescribed burn. However, many turtles survive fires by burrowing underground or using their shells to protect themselves. Nestlings or young birds are most vulnerable to fires. However, the overall benefit wildlife receive from habitat diversity by burning far outweighs any wildlife loss. Ironically, the absence of fire may cause greater harm to wildlife. Habitat changes resulting from fire exclusion can result in low reproduction and eventual displacement of some wildlife. Today, many wildlife species are imperiled by habitat changes resulting from too little burning.

Other Benefits of Frequent Fire

- Frequent fires help reduce the amount of leaf litter and downed wood and brush on the forest floor, which reduces the risk of severe wildfire.
- Burning reduces the thickness of leaf litter, which allows the germination and establishment of desirable plants, including longleaf pine and many herbaceous plants beneficial to wildlife.
- Burned forests contain fewer chiggers and ticks.
- Burning releases many nutrients (nitrogen is a notable exception) into the soil, thereby increasing fertility.
- Burning generally lowers soil acidity, making nitrogen-fixing legumes more abundant; legumes produce seeds eaten by quail, turkey, and songbirds and often are browsed by deer and rabbits.
- Burning can control plants that compete with commercially desirable tree species.
- Frequently burned forests attain a park-like appearance, with a high tree canopy and a sun-dappled, lush ground cover, which many people find attractive.
- Burned forests are more open and easier to walk through than unburned forests, improving access for hunters, birdwatchers, hikers, and others.