

# Wildlife Conservation Land Program Priority Habitat Management Guidelines

## Longleaf Pine Forest



Species associated with longleaf pine forest include Bachman's sparrow, Northern bobwhite quail, brown-headed nut-hatch, Carolina gopher frog, Eastern coach whip, Eastern diamondback rattlesnake, Eastern tiger salamander, fox squirrel, red-cockaded wood-pecker, Northern pine snake, Pine Barrens treefrog and Southern hog-nosed snake.



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### Habitat Description

Seven distinct longleaf pine plant communities have been identified in North Carolina: xeric sandhill scrub, pine/scrub oak sandhill, mesic pine flatwoods, wet pine flatwoods, coastal fringe sandhill, pine savanna and piedmont longleaf forest. Longleaf pine communities once covered 91 million acres across the Southeast but now occupy less than 3 million acres of its original range. Most of the loss of this habitat type is due to development, conversion of forested sites to agriculture, fire suppression and regeneration to faster-growing species such as loblolly pine. Even where longleaf pine forests still exist, they are often in a degraded ecological condition that does not provide high-quality habitats for wildlife.

Plant species in longleaf forests vary by community type, but the understory of all naturally functioning longleaf stands are dominated by native grasses and forbs (broadleaf flowering plants). Ground cover in a longleaf ecosystem is more important than the percentage of longleaf pines in the overstory.

Longleaf forests are most often associated with the Sandhills or Coastal Plain regions of North Carolina. However, there are significant longleaf restoration efforts underway throughout its native range, which includes portions of the Eastern Piedmont.

The North Carolina Wildlife Action Plan identifies 35 priority wildlife species associated with longleaf forests. Better-known species include Northern bobwhite quail, brown-headed nuthatch, Eastern coach whip, fox squirrel and red-cockaded woodpecker.

Active management with prescribed burning, herbicide application, and/or mechanical treatment is necessary to maintain the plant communities required to qualify a longleaf stand as wildlife conservation land.

Raking pine straw in a longleaf stand degrades the ground cover and reduces the wildlife value of the stand. Raked stands should not be considered as functioning longleaf forests for the purposes of the Wildlife Conservation Land Program.

## Management Strategies – Wildlife Conservation Land Program (WCLP)

The following items should be considerations for longleaf pine stands enrolled in the WCLP:

Mixed pine stands are acceptable if longleaf exists as an overstory component and management is used to promote longleaf regeneration and maintain suitable ground cover.

Mixed pine/hardwood stands, with a longleaf component, are eligible if actions are taken to reduce hardwood competition. Excessive shading caused by high hardwood density can be detrimental to groundcover. Maintaining some mast-producing hardwoods is acceptable and beneficial for longleaf associated wildlife species. The percentage of trees in the midstory and overstory can vary in a qualifying stand as long as sunlight reaches the forest floor and management is used to maintain suitable ground cover.

The current condition of a longleaf pine stand will dictate the management needed to promote a desirable understory. Where stands are devoid of ground cover, the natural understory should be allowed to recover, or native seed mixtures can be planted to enhance habitat. Stands that are degraded by heavy hardwood competition will require a combination of mechanical and chemical treatments to restore ecological function. Larger trees will be removed with a chainsaw or brushsaw (string trimmer with a blade). Smaller trees can be controlled with selective herbicide treatments. Prescribed burning will be required to control woody species and encourage native grasses and forbs, which are critical to the function of the longleaf ecosystem.

The WCLP allows landowners to manage mature longleaf stands without a commercial production requirement. Longleaf pine is a long-lived species that can reach 200 years of age or more. Older trees often develop heart-rot, which allows the endangered red-cockaded woodpecker (RCW) to excavate nesting cavities. These cavities can be utilized by other species of birds, mammals and insects. The Safe Harbor Program offers regulatory assurances for landowners who manage their property to benefit the RCW. Conservation easements are strongly encouraged to help protect this unique habitat type and the rare species dependent on this habitat.

Restoration of longleaf pine communities will also qualify for the WCLP. New stands can be established with 300 to 450 trees per acre but must be managed to protect plant diversity during site preparation. Prescribed burning plays a critical role in the management of the longleaf ecosystem. Young longleaf pine stands should be burned while a majority of the trees are in the “grass stage,” usually within 12 to 24 months after planting. This early burn will reduce woody competition and disease while promoting desirable herbaceous vegetation. Once longleaf seedlings come out of the grass stage, burning should be delayed until most of the trees are at least 5 feet tall. This delay will improve sapling survival during the stage of initial height growth.

Timber harvest is acceptable when needed to enhance ground cover and perpetuate longleaf in the stand. Harvests may include removal of longleaf to reduce canopy density or removal of non-longleaf to allow natural or artificial regeneration of longleaf seedlings.

Information concerning this and other priority habitat types can be found in the [North Carolina Wildlife Action Plan \(NCWAP\)](#).



**North Carolina Wildlife Resources Commission**

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