

Why Longleaf Pine?

- **Only 3% of original range is still Longleaf**
<http://www.longleafalliance.org/ecosystem/maptoday.htm>
- **Ecosystem supports a whole suite of species that occur nowhere else**
- **Probably more important than the Longleaf trees themselves, the wiregrass/forb groundcover is under increasing pressure due to conversion, fire suppression, development, canopy closure...**
- **More resistant to Southern Pine Beetle attacks than Loblolly (Important in a fire maintained ecosystem)**
- **Longleaf pine & associated species are a State Wildlife Action Plan priority**

Managing Longleaf Pine **for** Wildlife



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NCWRC

NC's Wildlife Action Plan

- Provides information on the state of our wildlife resources
- Identifies priority species and habitats
- Identifies strategies and priorities for conservation work
- Stresses opportunities for collaboration

North Carolina Wildlife Action Plan



North Carolina Wildlife Resources Commission
www.ncwildlife.org

Overall Management Goals

- Thin pine stands to allow sunlight to hit forest floor
- Prescribed Burn
- Encourage native grass and forb communities (fire, control competition, reduce closed canopy situations)
- Minimize soil disturbance in site prep operations
- Encourage natural regeneration where possible (less soil disturbance, cheaper, no site prep)
- Growing season burns promote natural regeneration of Longleaf
- Maintain early successional openings through burning, mowing, or plantings

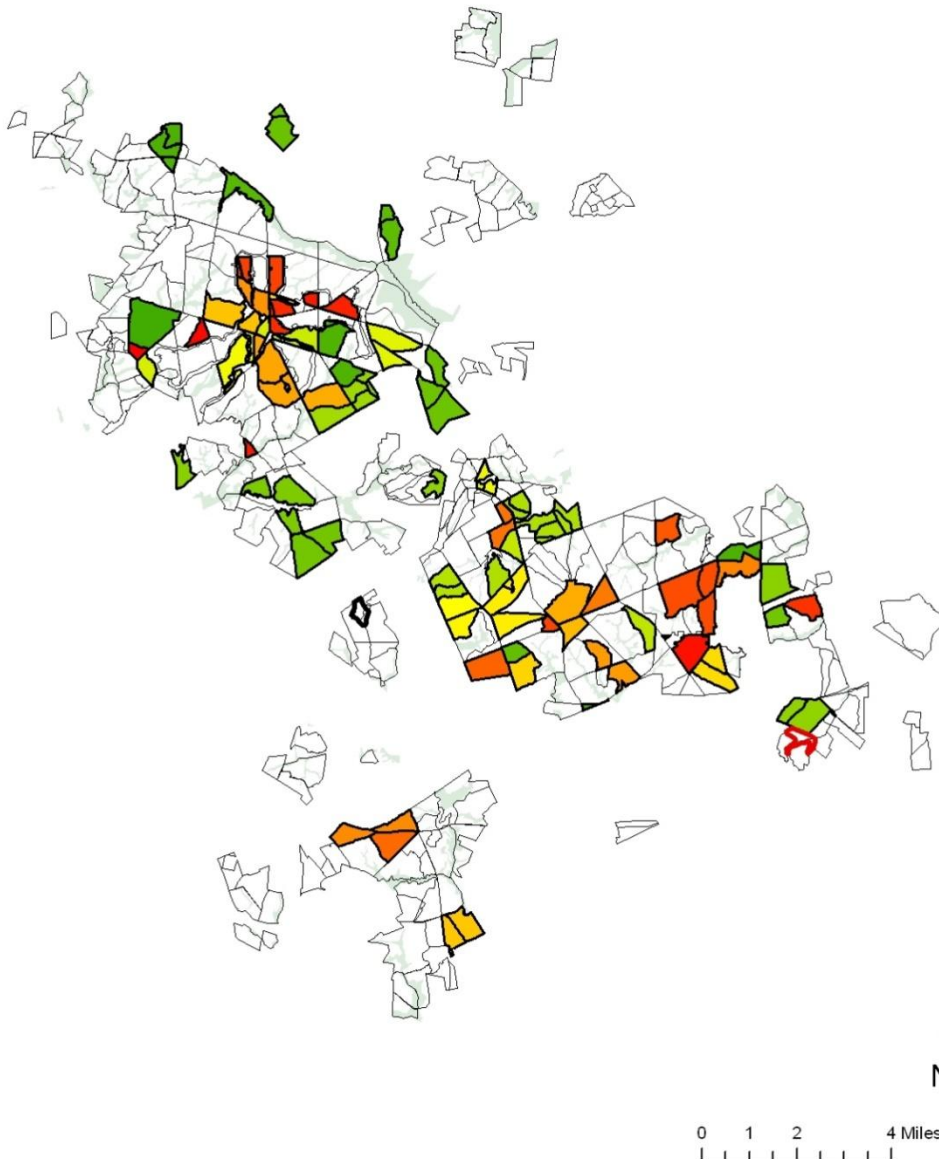
Thin and Burn



Prescribed Fire

- **Burn stands on a 2-5 year rotation**
- **Reduce fuels with dormant season fires before attempting growing season burns**
- **Time burns to fuel conditions as well as desired effect**
- **Growing season burns result in more vigorous plant response and more diverse groundcover, but may incur some initial tree mortality**
- **Vary burn block size and location so there are burned and unburned areas adjacent to one another**

2011 Burn Blocks



Burn Map

- Prescribed fire is the main tool the WRC uses to reduce fuels, and improve wildlife habitat for all of the species we are going to talk about
- Burn units are spread out over the GL so that unburned habitat is present throughout the year

Groundcover Restoration



Herbicide Use

- Herbicides can be useful tools for controlling undesirable vegetation and allowing more sunlight to reach the forest floor
- Care should be taken to avoid treatment of sensitive plant locations
- This stand was treated with Velpar ULW and then burned
- The resulting grass response benefits many species of wildlife



Snag Management

- **Maintain as many snags on the landscape as possible**
- **Birds such as woodpeckers, nuthatches, owls, kestrels, and bluebirds benefit from good snag mgt.**
- **Several species of snakes live under the bark of dead pines**
- **Snags provide nesting and foraging opportunities**
- **Most burn programs create snags, they also can get burned up in prescribed burns**

Quail

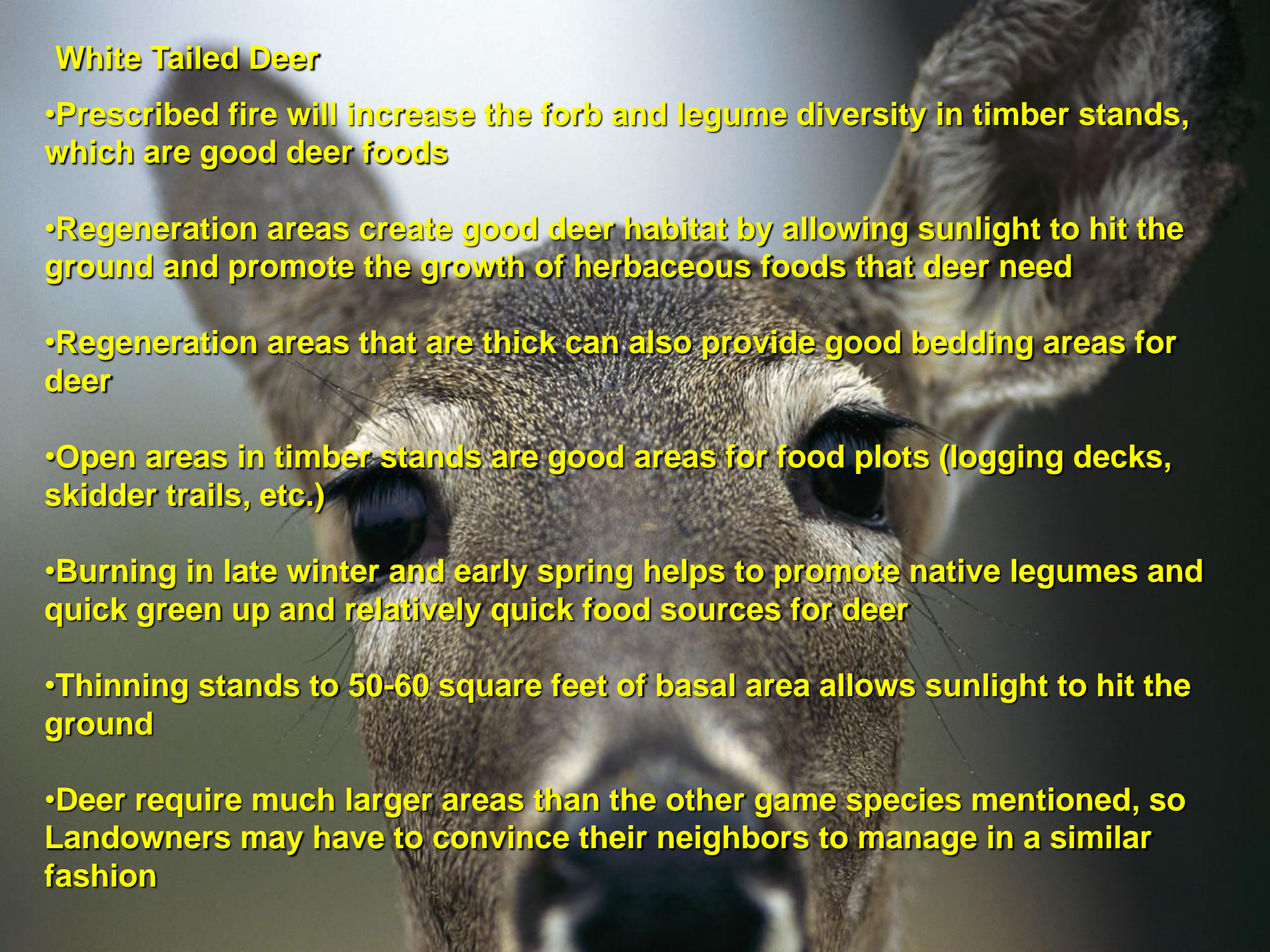
- Keep as much of ground in direct sunlight as possible
- Control plant succession to maintain diversity of grasses and forbs in understory
- Control hardwood invasion-competition
- Fire is important to maintain ground cover, forb diversity, and areas to forage on insects
- Legumes are important food source for quail
- Quail chicks need areas to forage for insects – young chicks need protein they get from the insects



Quail (Continued)

- Want to establish and maintain openings in timber stand for quail (logging deck, skidder trails, Field borders, etc.)
- Good habitat for 2-4 years following longleaf regeneration cuts
- Longleaf pine is better suited for quail management than loblolly, slash, and shortleaf pine
- Longleaf seed are highly nutritious and favored by quail
- Prescribed fire applied in the winter months works well to *establish* suitable quail habitat in longleaf pine stands as well as stands of ragweed, partridge pea, and lespedeza
- When grass becomes thick and matted, the areas should be burned to allow quail to scratch forage on the ground under the grass
- Frequently burned streamhead pocosins can provide good nesting and foraging habitat
- Quality quail habitat will support one covey of 9-14 quail per 20 acres

White Tailed Deer

- Prescribed fire will increase the forb and legume diversity in timber stands, which are good deer foods
 - Regeneration areas create good deer habitat by allowing sunlight to hit the ground and promote the growth of herbaceous foods that deer need
 - Regeneration areas that are thick can also provide good bedding areas for deer
 - Open areas in timber stands are good areas for food plots (logging decks, skidder trails, etc.)
 - Burning in late winter and early spring helps to promote native legumes and quick green up and relatively quick food sources for deer
 - Thinning stands to 50-60 square feet of basal area allows sunlight to hit the ground
 - Deer require much larger areas than the other game species mentioned, so Landowners may have to convince their neighbors to manage in a similar fashion
- 
- A close-up photograph of a white-tailed deer's face, showing its eyes, nose, and whiskers. The deer is looking directly at the camera. The background is blurred, showing another deer's head in the distance.

Turkey

- Pockets of mast producing oaks provide needed forage for turkeys
- Open areas are needed for insect foraging chicks
- High quality habitat will support 1 turkey per 30 acres and a flock of 18-20 turkeys per square mile
- Turkeys forage on green leaves and grasses in the spring
- In the summer and fall, preferred foods are berries, fruits, ripened seed heads and insects
- Acorns are the most important food to turkeys in the winter

Fox Squirrel

- Longleaf seeds are an important food source
- Each cone can contain as many as 100 seeds totaling up to 5,000 calories
- Cavity or leaf bunch nesters, so snags and old pileated woodpecker cavities can provide important nesting sites
- Artificial nests (old tire type nests or wooden boxes) are effective for improving nesting habitat
- Maintain open stands (thin and burn) with diverse groundcover and scattered hardwoods
- Important seed dispersers- they are scatter catchers



Reptiles and Amphibians

- Manage upland pools for early successional conditions
- Coarse/woody debris provides cover for herps
- Rotting stumps create habitat for snakes and other reptiles and amphibians
- Maintain and encourage as diverse a grass and forb groundcover layer as possible (growing season fire, open canopy)
- Many frogs, salamanders, and snakes benefit from burned LL drains
- Minimize soil compaction



Wildlife Action Plan – Reptiles and Amphibians that use Longleaf Pine

- **Eastern Tiger Salamander (T)**
- **Oak Toad (SR)**
- **Ornate Chorus Frog (SR)**
- **Carolina Gopher Frog (T)**
- **Eastern Diamondback Rattlesnake (E)**
- **Southern Hog-nosed Snake (SC)**
- **Eastern Coachwhip (SR)**
- **Eastern Coral Snake (E)**
- **Northern Pinesnake (SC)**
- **Pigmy Rattlesnake (SC)**



Red-Cockaded Woodpeckers (Federally Endangered)

- Nest in old, live pine trees
- Cavities take up to 12 years to complete
- Require 60-500 acres of foraging habitat per group of birds
- Good foraging habitat is typically at least 30 years old pine with a BA of 50-70, prefer older stands and larger trees
- FWS guidelines suggest managing RCW habitat for at least 40% native grass/forb groundcover
- Prescribe burn 2-5 year rotation
- Control mid-story hardwoods (keep below 7')
- Provide artificial cavities where groups have fewer than 4 suitable cavities
- Requires OLD (80+ yrs) stands for nesting habitat

Other Birds to consider

Grassland/shrubland nesters

- Maintain some open shrubby fields

Large snag cavity nesters

- Keep a few large diameter snags per acre
- Screech owls, bluebirds, woodpeckers, nuthatches will all benefit



Bachman's Sparrow (FSC)

- Longleaf Pine- Wiregrass specialist
- Ground nesters
- Best habitat is year 1 and 2 after a burn



Brown Headed Nuthatch

- Cavity nesters
- They use small diameter snags, relatively close to the ground
- Relatively easy to create habitat for them- keep some small snags on the landscape
- Eat LL seeds

Wildlife Action Plan – Birds and Mammals that use Longleaf Pine

- **Bachman's sparrow (SC)**
- **Henslow's Sparrow (SR)**
- **Red-cockaded Woodpecker (E)**

- **Eastern Fox Squirrel (SR)**

Native vegetation





**Savannah
meadowbeauty**



**Texas
tickseed**



Rattlesnake Master



Joe-Pye weed



**Narrowleaf
silkgrass**



**Maryland
goldenaster**
UGA1120039



Roundheaded lespedeza



**Savannah
blazingstar**

Additional Resources:

Longleaf Alliance <http://www.longleafalliance.org/>

USFWS RCW Recovery <http://www.fws.gov/rcwrecovery/>

USFWS Partners for Fish and Wildlife
<http://www.fws.gov/southeast/partners/pfwpine.html>

NC Wildlife Resources Commission- State Wildlife Action Plan
<http://www.ncwildlife.org/plan/index.htm>

