

FIND IT IN THE FOREST



Exploration Guide
to Longleaf Pine Forests



LONGLEAF PINE FOREST HISTORY

Imagine coming by boat to the North Carolina shore in the late 1600's. You venture into the nearby forest and find yourself walking among giants. Towering longleaf pine trees surround you in an open park-like forest that stretches as far as your eye can see. In fact, the longleaf pine forests of pre-colonial times were believed to cover an estimated 90 million acres from southern Virginia down through the Carolinas to Florida and across the Gulf Coast states to East Texas. It was the most extensive forest dominated by a single tree species—the longleaf pine—ever to be found in the United States. These rich forests were like treasure chests full of usable products for humans, along with a diversity of plants and animals.

Being new to the area, you might have depended on the bounty of the longleaf pine forest by hunting for wild game, harvesting berries, and collecting kindling and fatwood (highly flammable resin-filled wood). From about the mid-1700's to late 1800's, longleaf pine trees were "tapped" for their naval stores, i.e., tar and pitch collected from the trees to waterproof boats including Navy ships. Like cotton, these trees became a cash crop for the south and North Carolina was once the hub of naval stores production, hence the nickname "The Tarheel State." After years of tapping and harvesting longleaf pine trees followed by a lack of fire, destruction of seedlings by feral hogs, and many other factors, longleaf pine forests began to disappear. Today, about 5% of the historical extent of the longleaf pine ecosystem remains. Many landowners and conservation groups are interested in planting longleaf pine and restoring these once glorious forests.

PURPOSE OF GUIDE

You are going to explore and evaluate whether you have found a healthy longleaf pine forest. You will be learning about the longleaf forest's special features and unique creatures by checking off the things on the list below, and tallying up the points.

1. The Majestic Longleaf Pine

- Longleaf Pine (needles up to 18 inches in tufts) – 10 pts
- Pond Pine (found in wetter soils, needles often sprout directly from the trunk making it look brushy) – 5 pts
- Loblolly pine (5 to 9 inch long needles in bundles of three) – 1 pt



Longleaf Pine



Loblolly Pine



Pond Pine

2. Pine Cones – Size matters

- Longleaf pine cone (cones are very large up to 12 inches long) – 5 pts
- Pond Pine cone (cones small and round) – 2 pts
- Loblolly pine cone (up to 7 inches long, prickly scales, don't squeeze this cone!) – 1 pt



Pine Cones

3. Stage, not Age – Longleaf pine trees grow in distinct phases or stages which helps them grow and survive frequent fire. The stage also provides some insight into the age of the trees.

- Grass stage (likely a 1 to 3 year old longleaf putting its energy first into growing an extensive root system, it looks like clumpy grass) – 1 pt
- Rocket Stage (The tree has popped up out of the grass stage and is rapidly putting on height, 6 inches to 12 feet tall) – 1 pt
- Flattop Stage (tree starts to flatten out at the top, no longer growing upwards, tree is likely 80 years or older) – 1 pt
- Find all three in the forest! – 5 pts



Grass Stage



Rocket Stage



Flat Top Stage

4. Carnivorous Plants – Flesh-eating plants! These plants live in nutrient poor soils and obtain their food by trapping insects in modified leaves. Look for spongy damp places or wetlands to find these interesting plants, but try not to disturb their habitat.

- Venus fly trap – 10 pts
- Pitcher plant (either yellow, sweet or purple pitcher plant) – 5 pts
- Sundew – 1 pt



Venus Fly Trap



Pitcher Plant



Sundew

5. Creatures of the Forest – See it, or find their sign (tracks, feathers, scat, etc.)

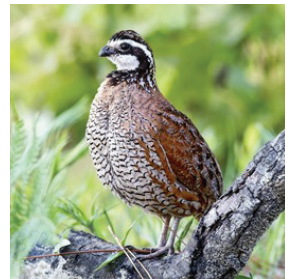
- Fox squirrel (loves to eat the larger longleaf pine seeds) – 10 pts
– see it, or find a chewed up longleaf pine cone!
- Brown-headed nuthatch (sounds like a squeaky toy!) – 5 pts
- Bobwhite quail, Eastern bluebird or Wild Turkey – 5 pts
- White-tailed deer, gray fox, gray squirrel or raccoon – 1 pt



Fox Squirrel



Brown Headed Nuthatch



Bobwhite Quail



White-Tailed Deer



E. Bluebird



Wild Turkey

6. Important Oaks – The following oaks can be found in longleaf pine forests, some produce acorns of higher quality to wildlife and are given more points.

- Live oak, post oak or white oak – 5 pts
- Turkey oak, blackjack oak, southern red oak – 1 pt



Turkey Oak



Live Oak



Charred Tree Bark

7. Signs of Fire – Fire is important to longleaf pine forests; it replenishes the soil, provides bare ground for seed germination, and stimulates growth of native grasses and wild flowers important for insects and wildlife.

Look for signs of fire.

- Charred tree bark in living pine – 10 pts
- Charred ground or plants – 5 pts
- Man-created fire line – 1 pt



Fire in the Forest

8. Fuels for fire (fuels help start and carry the fire through the forest)

- Wiregrass – 10 pts
- Pine needles – 5 pts
- Shrubs – 1 pt



Wiregrass



Pine Needles



Shrubs



Red-Cockaded Woodpecker

9. Woodpeckers and their cavities

- Find a cavity in a live pine tree. This was likely constructed by the federally endangered red-cockaded woodpecker (RCW), which is the only North American woodpecker to drill its cavity in a live pine tree. RCWs prefer old longleaf trees since the older trees may get red heart fungus which makes it easier for the birds to drill through – 5 pts
- Find a cavity in a dead tree. This could have been constructed by a red-headed, downy, pileated or other type of woodpecker – 1 pt
- See a woodpecker get an extra 5 pts!

10. Signs of Man in the Forest

- Tar kiln, scars from a tapped tree (hard to find!) – 10 pts
- Planted longleaf pine seedling – 5 pts
- Roads, trails, structures – 1 pt



Tapped Tree



Longleaf Seedlings



Trail through Longleaf Forest

11. Habitat for Reptiles and Amphibians

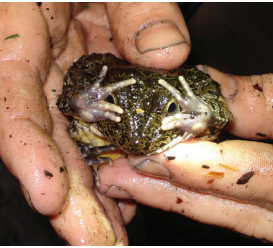
- Stump or stump hole – great place for snakes like eastern kingsnakes or rattlesnakes to hide, especially during a fire – 10 pts
- Large downed log- great place for lizards, salamanders, and snakes to hide – 5 pts
- Pond – great place for amphibians. If the pond is shallow and ephemeral (periodically dries up), you might find an eastern narrowmouth toad, or if it is a deeper and permanent pond you might find bullfrogs or southern leopard frogs – 1 pt
- Extra points if you see a snake, lizard, frog, toad or turtle – 5 pts



Corn Snake



Broad-Head Skink



Gopher Frog



Oak Toad



Box Turtle

Now ADD up your Points and determine whether you are in a healthy longleaf pine forest! A healthy longleaf forest has mostly longleaf pine in the canopy, is open and parklike, and hosts some very special wildlife. Tally up the highest points (and any extra points) for each section.

- 75-100 or more Points – Excellent Work! Wow! You have likely found a healthy longleaf pine forest!
- 50-74 Points – Good job, you have likely found a fairly nice forest with longleaf in pretty good condition!
- Below 49 Points – Ok, maybe this will take some more looking, or this forest is not in great condition. What would help this forest?



The North Carolina Coastal Land Trust is a not-for-profit conservation organization that works with private landowners to conserve lands with scenic, historic, recreational and/or ecological value. We are saving the lands you love at the coast! We love longleaf and are striving to conserve and restore longleaf pine forests and to educate people about their cultural and natural significance. Please visit www.CoastalLandTrust.org for more information about what we do and places to visit.



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