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Coastal Plain Notes

Garden of the Coastal Plain (Previously  
Botanical Garden)

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2010

### Longleaf pine ecosystem

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# Flora of the Longleaf Pine Forest

Longleaf forests are one of the most biologically diverse ecosystems in the world. On average, one can expect to find over 100 plant species in a quarter-acre, and over 500 species have been recorded in single tracts of longleaf forests. Since many plants are endemic to this ecosystem, several are listed as rare or endangered. Even though this ecosystem is referred to as a forest, it is more like an open wildflower meadow. Dozens of species of grasses, composites, orchids and bushy oaks fill the ground below the towering pines. Legumes play a special role in this ecosystem as nitrogen fixers in a nutrient-poor environment. Over 13,000 species of legumes occur in longleaf forests. Pitcher plant bogs, unique communities that feature many carnivorous plants, also occur in patches of wet depression throughout longleaf pine ecosystems.



*Wiregrass in the Garden's Longleaf Pine area.*

*This brochure is funded in part by a grant from a Museums for America Grant.*

# Saving the Last Longleaf Forest

Only 3% remains of this unique, interesting and once vast ecosystem. Working together, educators, landowners, scientists, legislators and conservationists can save the last remaining acres of this amazing forest. Do your part, and learn more about how you can help in managing and growing native plants.

## Take Action

Georgia Department of Natural Resources,  
[www.georgiawildlife.org](http://www.georgiawildlife.org) or 706-557-3033

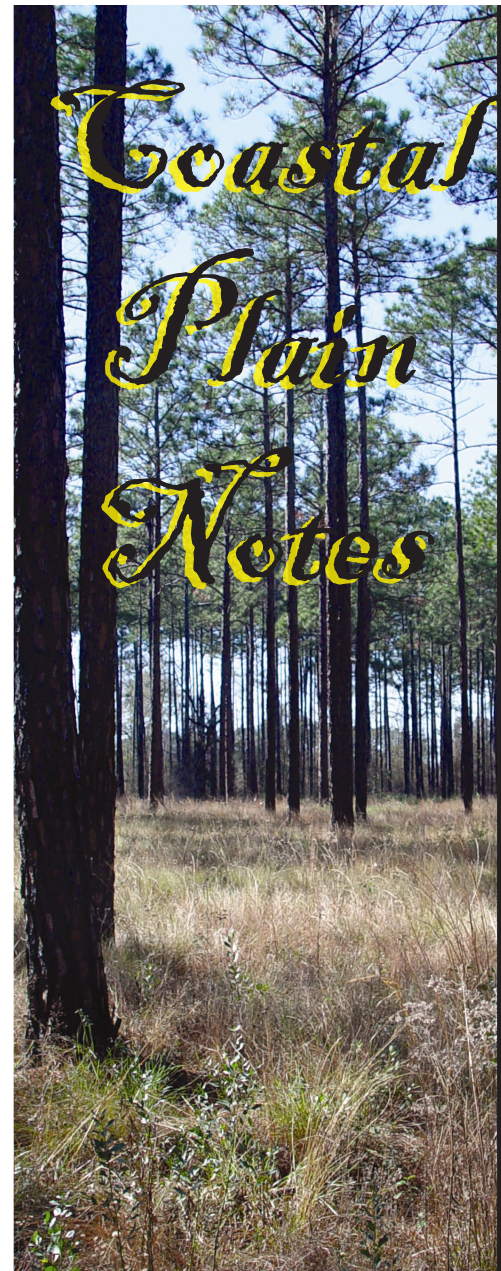
Georgia Wildlife Federation,  
[www.gwf.org](http://www.gwf.org) or 770-787-7887

Longleaf Alliance,  
[www.longleafalliance.org](http://www.longleafalliance.org) or 334-844-1020

Georgia Forestry Commission,  
[www.gfc.state.ga.us](http://www.gfc.state.ga.us) or 912-681-0490

Georgia Southern Botanical Garden  
P.O. Box 8039, Statesboro, Georgia 30460  
912.871.1149 <http://ceps.georgiasouthern.edu/garden>  
pitcher plant & longleaf controlled burn photographs  
by Julie Churney

# Coastal Plain Notes



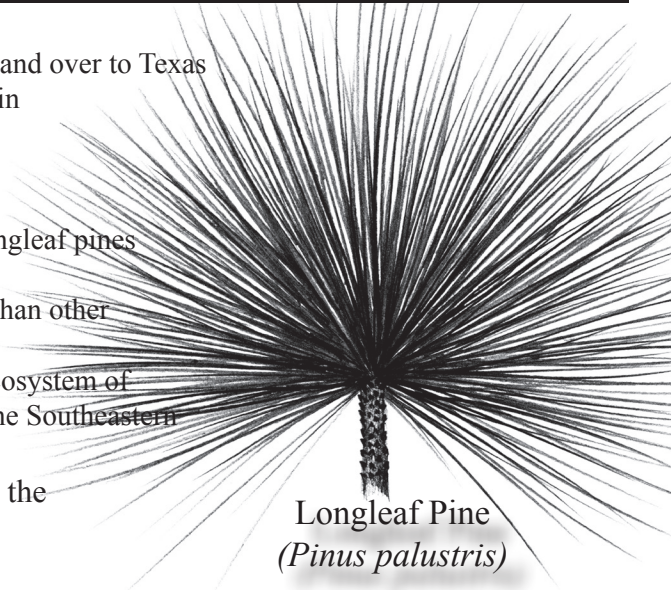
## Longleaf Pine Ecosystem

*A disappearing ecosystem that  
thrives on fire and  
depends on it for survival.*

*Georgia Southern Botanical Garden*

# About Longleaf Pine

- Original range stretched from Virginia south to Florida and over to Texas
- Once covered over 92 million acres, now only 3% remain
- Largest of all pines
- Longleafs can reach 120 feet tall, 3 feet trunk diameter
- Longleafs can live 300-400 years
- Georgia is home to 30% of the remaining old growth longleaf pines (2,500 acres)
- Longleaf Pines are more resistant to pests and diseases than other pines
- Longleaf Pines are the prominent species in a diverse ecosystem of over 500 plant species, many endemic to Georgia and the Southeastern United States
- You can plant your own longleaf pines, just contact the Georgia Forestry Commission



Longleaf Pine  
(*Pinus palustris*)

## The Importance of Fire

This fire-loving community actually depends on fire every 2-5 years to maintain its existence. Some plants depend on fire to flower. Others depend on it to limit competition. Animals in this ecosystem have adapted to fire and benefit from it in many ways. Longleaf Pine (*Pinus palustris*) and wiregrass (*Aristida spp.*) are the defining plants in this ecosystem and have a mutually beneficial relationship.

Longleaf pines need fire to limit competition of encroaching hardwoods, and wiregrass needs fire to reproduce. Wiregrass leaves are light and catch falling longleaf needles, which then serve as fuel to fire. Several animal species are key to this ecosystem and many provide shelter to other animals during fires. Natural and controlled fires in this ecosystem burn very slow, and allow animals time to get out of the way.

Fire is to the longleaf forest  
as rain is to the rainforest

## Fauna of the Longleaf Pine Forest



Like the plants of the longleaf forest ecosystem, many of the animals that live here are declining. The gopher tortoise is what is known as a keystone species, meaning that it is vital to the survival of many other species in this ecosystem. Over 360 other animals use the gopher tortoise burrows for food and shelter.

Red cockaded woodpeckers, indigo snakes, fox squirrels, and eastern diamondback rattlesnakes are among the animals that are of conservation consideration. Almost half of all reptiles that occur in the longleaf forests are threatened or endangered. The northern bobwhite quail has also experienced great decline in number, and we can thank quail hunters for maintaining some of the last tracts of old growth longleaf forests—an ideal habitat for quail.