

## 17. Eastern Upland Longleaf Pine Forest

**Rarity Rank:** S1S2/G1G2

**Synonyms:** Sandhill Pine Forest

**Ecological Systems:**

CES203.496 East Gulf Coastal Plain Interior Upland Longleaf Pine Woodland

### **General Description:**

This community type occurs in the hilly uplands of the central and eastern Florida Parishes of Louisiana. It occurs on acidic loamy sands to acid clays associated with Pleistocene terraces. The gopher tortoise (*Gopherus polyphemus*), federally-listed as a threatened species and requiring sandy soils and an open herbaceous understory, is found in this habitat. The community is



characteristically dissected by small to large branch or creek bottoms. *Pinus palustris* (longleaf pine) is the dominant overstory species, and in locations where fire has frequently occurred, it is often the only canopy species. Where fire is less frequent or suppressed, a number of overstory associates may occur, including *Pinus echinata* (shortleaf pine), *Pinus taeda* (loblolly pine), *Nyssa sylvatica* (black gum), *Liquidambar styraciflua* (sweetgum), *Q. stellata* (post oak), *Q. marilandica* (blackjack oak), *Q. shumardii*



(shumard oak), *Q. alba* (white oak), *Q. nigra* (water oak), *Prunus serotina* (black cherry), *Acer rubrum* (red maple), *Diospyros virginiana* (persimmon), and *Sassafras albidum* (sassafras). Significant shrub species include *Cornus florida* (flowering dogwood), *Vaccinium arboreum* (winter honeysuckle), *V. elliotii* (elliott's blueberry), *V. stamineum* (deer berry), *V. darrowii* (dwarf blueberry), *Gaylussacia dumosa* (dwarf huckleberry), *Callicarpa americana* (French mulberry), *Morella cerifera* (wax myrtle), *Bumelia lanuginosa* (chittum-wood), *Ilex vomitoria* (yaupon), *I. opaca* (American holly), *Rubus* spp. (blackberries), and *Rhus copallina* (winged sumac). Common vines include *Vitis* spp. (grapes), *Smilax* spp. (greenbriers), *Parthenocissus quinquefolia* (Virginia creeper), and *Gelsemium sempervirens* (yellow jessamine). The herbaceous flora may be exceedingly diverse if fire has frequently occurred. Grasses, composites, and legumes are predominant in the ground layer. *Andropogon* spp. (broomsedges) and *Schizachyrium* spp. (bluestems) are usually the dominant grasses, but several other genera are usually present, including *Aristida* (three-awn grasses), *Sporobolus* (dropseeds), *Panicum* (panic grasses), *Anthaenantia* (silky scales), *Ctenium aromaticum* (toothache grass), *Digitaria* (crab grasses), *Eragrostis* (love grasses), *Erianthus* (plume grasses), *Gymnopogon* (skeleton grasses), *Muhlenbergia* (muhly grasses), *Paspalum* (paspy grasses), and *Setaria*

spp. (bristle grasses). Composites include *Eurybia* spp. and *Symphotrichum* spp. (asters), *Carphephorus odoratissimus* (vanilla plant), *Chrysopsis* spp. (golden asters), *Heterotheca* spp. (golden asters), *Elaphantopus* spp. (elephant-foot), *Eupatorium* spp. (thoroughworts), *Euthamia* spp. (flat-topped goldenrods), *Gnaphalium* spp. (rabbit tobaccos), *Helenium* spp. (sneeze-weeds), *Helianthus* spp. (sunflowers), *Liatris* spp. (blazing-stars), *Rudbeckia* spp. (brown-eyed susans), *Solidago* spp. (goldenrods), and *Vernonia* spp. (ironweeds). Prominent legumes are *Baptisia* spp. (indigos), *Cassia* spp. (partridge-peas), *Centrosema virginianum* (butterfly pea), *Clitoria mariana* (pigeon wings), *Crotalaria* spp. (rattle pods), *Desmodium* spp. (beggar's ticks), *Lespedeza* spp. (bush clovers), *Stylsanthes biflora* (pencil-flower), *Rhynchosia* spp. (snout beans), and *Tephrosia* spp. (hoary peas). Additional frequent forbs include *Oenothera* spp. (evening primroses), *Polygala* spp. (milkworts), *Lobelia* spp. (lobelias), *Callirhoe papaver* (poppy-mallow), *Ruellia* spp. (wild petunias), *Hypoxis* spp. (yellow-eyed grasses), *Asclepias* spp. (mildweeds), *Lechea* spp. (pinweeds), *Euphorbia* spp. (spurges), *Sabatia* spp. (rose-gentians), *Agalinis* spp. (false foxgloves), and *Rhexia* spp. (meadow beauties). The fern *Pteridium aquilinum* (bracken fern) is often conspicuous in large colonies (LNHP 1986-2004).

### ***Current Extent and Status:***

Historically the eastern Florida Parishes of Louisiana were dominated by extensive stands of longleaf pine. Now only 1 to 5 % of the original estimated 1 to 2 million acres of upland longleaf pine forests remain (Smith 1993, 1999). Land conversion, development, and timber production were initial factors in this habitat loss. Today there are a few thousand acres in small blocks scattered across this area. The LDWF owns and manages Sandy Hollow WMA with 2,500 acres of upland longleaf forest. LDWF also manages a Tangipahoa Parish School Board longleaf tract of 1,000 acres, and Ben's Creek WMA, owned by Weyerhaeuser, with about 100 acres of longleaf pine. The school board tract is in poor condition with a thick woody understory due to fire suppression. The Office of State Lands manages a 200-acre longleaf site, but it also has been fire suppressed. Both of these sites are restorable if proper management is applied in the very near future. Camp Whispering Pines, a 300-acre tract owned and managed by the Girl Scout Council of Southeast Louisiana, is an excellent example of longleaf habitat restoration. This site was also overgrown with woody shrubs and hardwood trees because fire had been excluded from the habitat. By returning controlled burning and incorporating other longleaf management techniques, the site has been once again restored to a healthy upland longleaf system. Louisiana State University's, Lee Memorial Forest has a small longleaf tract of approximately 50 acres, and there are about 1,100 acres of eastern upland longleaf registered with the Natural Areas Registry Program (this amount includes the Camp Whispering Pines tract).



| <b>EASTERN UPLAND LONGLEAF PINE FOREST<br/>SPECIES OF CONSERVATION CONCERN (33)</b> |                     |                                    |
|---|---------------------|------------------------------------|
| <b>AMPHIBIANS</b>   | Prairie Warbler     | Long-tailed Weasel                 |
| Oak Toad  | Bachman's Sparrow   | Eastern Spotted Skunk              |
| Barking Treefrog  | Field Sparrow       |                                    |
| Ornate Chorus Frog  | Henslow's Sparrow   | <b>REPTILES</b>                    |
| Eastern Spadefoot   | Le Conte's Sparrow  | Gopher Tortoise                    |
|   | Orchard Oriole      | Eastern Slender Glass Lizard       |
| <b>BIRDS</b>  | <b>BUTTERFLIES</b>  | Eastern Glass Lizard               |
| Northern Bobwhite   | Yucca Giant Skipper | Northern Scarlet Snake             |
| American Woodcock   |                     | Mole Kingsnake                     |
| Chuck-Will's-Widow  | <b>MAMMALS</b>      | Scarlet Kingsnake                  |
| Red-cockaded Woodpecker   | Southeastern Shrew  | Black Pine Snake                   |
| Brown-headed Nuthatch   | Southeastern Myotis | Southeastern Crowned Snake         |
| Sedge Wren  | Big Brown Bat       | Harlequin Coral Snake              |
| Loggerhead Shrike   |                     | Eastern Diamond-backed Rattlesnake |

**Priority Species Research and Survey Needs:**

Brown-headed Nuthatch: Investigate the impacts of silviculture/land management on this species and causes of this species' decline.

Songbirds:

- Continue to support research on silviculture/land management practices and their effects on all songbird species.
- Develop long-term monitoring projects that focus on abundances and reproductive success (with emphasis on species of conservation concern) in this habitat type through the establishment of MAPS stations and BBS routes.

Yucca Giant Skipper: Conduct surveys to determine current distribution and abundance for inclusion in the LNHP database.

**Species Conservation Strategies:**

1. Northern Bobwhite and Grassland Birds: Support implementation of recommended habitat restoration actions specified in NBCI and by LDWF quail and grassland bird task force.
2. Red-cockaded Woodpecker:
  - Continue to support implementation of the Louisiana Statewide RCW Safe Harbor Program.
  - Support USFWS recovery efforts outlined in the RCW recovery plan, 2<sup>nd</sup> Revision.
  - Encourage the establishment of new RCW populations.
  - Investigate potential land acquisition of this habitat type to increase and support new populations.
3. Brown-headed Nuthatch: Encourage landowners to use group-selection and single-tree selection harvesting methods and maintain or increase the number of standing snags.

4. Henslow’s Sparrow, Bachman’s Sparrow:
  - Monitor reproductive success of Bachman’s sparrows to determine habitat limiting factors.
  - Work with landowners to encourage use of BMPs for prescribed fire management and timber harvesting techniques to improve habitat quality.
  - Implement conservation and management recommendations of SWG projects T22 and T32 upon completion.
5. Eastern Slender Glass Lizard, Northern Scarlet Snake, Mole Kingsnake, Scarlet Kingsnake, Southeastern Crowned Snake, Harlequin Coralsnake: Observations on this guild of longleaf specialists have declined significantly in recent years. Promote increased acreage and natural management of longleaf pine as a timber resource and substitute for loblolly monoculture.
6. Work with landowners to initiate or continue the implementation of PIF bird conservation plans, conservation plans developed for amphibians and reptiles, and USFWS threatened and endangered species recovery plans over the next 10 years.

***Threats Affecting Habitat:***

The following table illustrates the threats identified for this habitat type and the sources of these threats. This represents all threats and sources of threats identified across all ecoregions of the state where this habitat occurs.

| Source of Threat   | Threat                         |                                   |                     |                       |
|--|--------------------------------|-----------------------------------|---------------------|-----------------------|
|  | Altered Composition/ Structure | Habitat Destruction or Conversion | Habitat Disturbance | Habitat Fragmentation |
| Commercial/industrial development                        |                                | XXX                               |                     |                       |
| Conversion to agriculture or other forest types          |                                | XXX                               |                     | XXX                   |
| Development/maintenance of pipelines, roads or utilities |                                | XXX                               | XXX                 | XXX                   |
| Fire suppression   | XXX                            |                                   |                     |                       |
| Incompatible forestry practices                          | XXX                            |                                   | XXX                 |                       |
| Invasive/alien species                                   | XXX                            |                                   |                     |                       |
| Residential development                                  |                                | XXX                               | XXX                 | XXX                   |

***Habitat Conservation Strategies:***

1. Conduct surveys to determine extent and condition of this habitat type with a focus on identifying the surrounding landscape context (i.e., residential developments, etc.) that might be affected by prescribed burning.

2. Encourage longer rotation ages when compatible with the landowner's management objectives.
3. Work with land managers/hunting clubs/extension agents, etc. to discourage the placement of food plots in this habitat type.
4. Educate landowners, adjacent residents, developers, and the general public about the crucial role of prescribed burning in the management of longleaf pine systems (multi-agency, multi-group effort).
5. Promote advantages of growing longleaf pine and associated herbaceous ground cover.
6. Promote utilization of state and federal cost share programs (FLEP and NRCS programs) to address invasive species problems.
7. Promote value-added products produced from longleaf pine to encourage landowners to replant longleaf pine instead of loblolly pine.
8. Provide additional cost share funds through programs such as FLEP in order to drastically reduce or eliminate landowners' costs associated with conducting prescribed burns on their property.
9. Investigate the availability of additional cost-share funding opportunities, through FLEP, FPP or other programs, for landowners to reduce the cost of longleaf pine management.
10. Work with the Longleaf Alliance to incorporate their strategies for longleaf pine management and restoration into current restoration efforts.
11. Work with appropriate planning commissions to provide LNHP data that illustrates locations of this habitat type.

***References:***

- LNHP. 1986-2004. The natural communities of Louisiana. Louisiana Natural Heritage Program, Louisiana Department of Wildlife and Fisheries, Baton Rouge, LA.
- NATURESERVE. 2005. NatureServe Explorer: An online encyclopedia of life [web application]. Version 4.2. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: June 27, 2005 ).
- SMITH, L. M. 1993. Estimated presettlement and current acres of natural plant communities in Louisiana. Louisiana Natural Heritage Program, Louisiana Department of Wildlife and Fisheries, Baton Rouge, LA.
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