

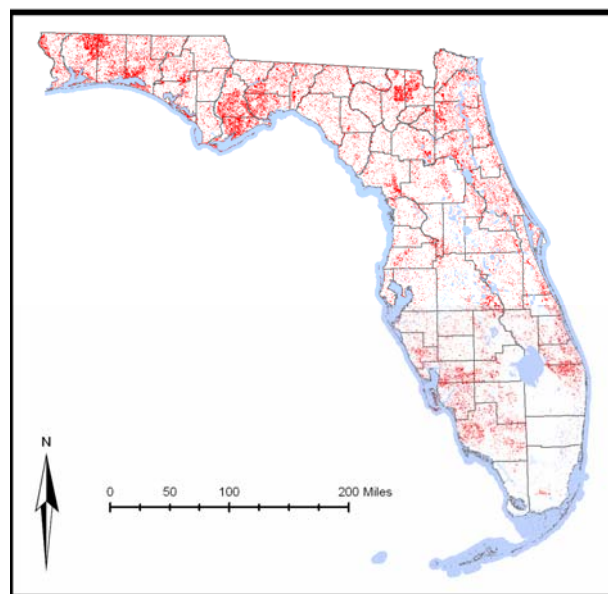
Natural Pineland



Status

Current condition: Poor and declining.

According to the best available GIS information at this time (see Appendix D. GIS Data Tables), 3,095,165 acres (1,252,569 ha) of Natural Pinelands are present in Florida. Of that total, 30% (917,949 acres; 371,481 ha) are in existing conservation or managed areas, 7% (206,899 acres; 83,729 ha) are on private lands encompassed by Florida Forever projects, 8% (235,176 acres; 95,172 ha) are SCHAs-identified lands, and the remaining 56% (1,735,141 acres; 702,187 ha) are within other private lands.



Some habitat distributions or locations may be misrepresented on this map due to size, resolution and insufficient data sources.

Habitat Description

FNAI type: Mesic Flatwoods, Scrubby Flatwoods, Wet Flatwoods, Upland Pine Forest

This category includes natural pine forests, excluding pine rocklands, sandhills, and sand pine scrub, which are listed as separate categories. Natural Pineland habitats include mesic, hydric and scrubby flatwoods, and upland pine forests. Before human settlement, much of north and central Florida was covered by Natural Pineland. Much of this habitat type has been altered by humans as a result of conversion to agriculture and pine plantations, alteration of fire regimes, and introduced species. Pine flatwoods occur on flat sandy terrain where the overstory is characterized by longleaf pine, slash pine, or pond pine. The type of pineland habitat present is usually related to

soil differences and small variations in topography. Hydroperiod is an important factor determining what kind of pineland is represented. Generally, flatwoods dominated by longleaf pine occur on well-drained sites while pond pine-dominated sites occur in poorly drained areas, and slash pine-dominated sites occupy intermediate or moderately moist areas. The understory and ground cover within these three communities are somewhat similar and include several common species such as saw palmetto, gallberry, wax myrtle, and a wide variety of grasses and herbs. Generally, wiregrass and runner oak dominate longleaf pine sites; fetterbush and bay trees are found in pond pine areas, while saw palmetto, gallberry, and rusty lyonia occupy slash pine flatwoods sites. Scrubby flatwoods habitat typically occurs on drier ridges, many of which formed originally on or near old coastal dunes. Longleaf pine or slash pine dominates the overstory, whereas the ground cover is similar to that present in xeric oak scrub habitat. Cypress domes, bay heads, titi swamps, and freshwater marshes are commonly interspersed in isolated depressions throughout natural pineland habitats. A wide variety of animals utilize this habitat including the white-tailed deer, eastern diamondback rattlesnake, red-cockaded woodpecker, and pine woods tree frog. Fire is an important factor that helps to maintain and shape Natural Pineland communities; almost all of the plants and animals found here are adapted to having fires occur at least every one to eight years.

Associated Species of Greatest Conservation Need

Mammals

- | | |
|---|----------------------------|
| • <i>Sorex longirostris</i> | Southeastern Shrew |
| • <i>Eumops floridanus</i> | Florida Bonneted Bat |
| • <i>Myotis grisescens</i> | Gray Bat |
| • <i>Lasiurus borealis</i> | Eastern Red Bat |
| • <i>Lasiurus seminolus</i> | Seminole Bat |
| • <i>Lasiurus cinereus</i> | Hoary Bat |
| • <i>Eptesicus fuscus</i> | Big Brown Bat |
| • <i>Sylvilagus palustris hefneri</i> | Lower Keys Marsh Rabbit |
| • <i>Sciurus niger avicennia</i> | Big Cypress Fox Squirrel |
| • <i>Sciurus niger niger</i> | Southeastern Fox Squirrel |
| • <i>Sciurus niger shermani</i> | Sherman's Fox Squirrel |
| • <i>Podomys floridanus</i> | Florida Mouse |
| • <i>Ursus americanus floridanus</i> | Florida Black Bear |
| • <i>Mustela frenata olivacea</i> | Southeastern Weasel |
| • <i>Mustela frenata peninsulae</i> | Florida Long-tailed Weasel |
| • <i>Mustela vison evergladensis</i> | Everglades Mink |
| • <i>Mustela vison halilimnetes</i> | Gulf Salt Marsh Mink |
| • <i>Mustela vison lutensis</i> | Atlantic Salt Marsh Mink |
| • <i>Spilogale putorius</i> | Spotted Skunk |
| • <i>Mephitis mephitis</i> | Striped Skunk |
| • <i>Puma concolor coryi</i> | Florida Panther |
| • <i>Odocoileus virginianus clavium</i> | Key Deer |

Birds

- | | |
|-----------------------------------|---------------------|
| • <i>Elanoides forficatus</i> | Swallow-tailed Kite |
| • <i>Ictinia mississippiensis</i> | Mississippi Kite |
| • <i>Haliaeetus leucocephalus</i> | Bald Eagle |
| • <i>Buteo brachyurus</i> | Short-tailed Hawk |

- *Falco sparverius paulus* Southeastern American Kestrel
- *Columbina passerine* Common Ground-Dove
- *Melanerpes erythrocephalus* Red-headed Woodpecker
- *Picoides villosus* Hairy Woodpecker
- *Picoides borealis* Red-cockaded Woodpecker
- *Colaptes auratus auratus* Northern Flicker
- *Aphelocoma coerulescens* Florida Scrub-Jay
- *Sitta carolinensis* White-breasted Nuthatch
- *Dendroica dominica stoddardi* Stoddard's Yellow-throated Warbler
- *Limnothlypis swainsonii* Swainson's Warbler
- *Wilsonia citrina* Hooded Warbler
- *Aimophila aestivalis* Bachman's Sparrow
- *Ammodramus henslowii* Henslow's Sparrow

Amphibians

- *Ambystoma cingulatum* Flatwoods Salamander
- *Ambystoma tigrinum* Tiger Salamander
- *Notophthalmus perstriatus* Striped Newt
- *Hyla andersonii* Pine Barrens Treefrog
- *Pseudacris ornata* Ornate Chorus Frog
- *Rana capito* Gopher Frog

Reptiles

- *Kinosternon baurii* Key Mud Turtle
- *Clemmys guttata* Spotted Turtle
- *Terrapene carolina major* Gulf Coast Box Turtle
- *Terrapene carolina bauri* Florida Box Turtle
- *Deirochelys reticularia* Chicken Turtle
- *Gopherus polyphemus* Gopher Tortoise
- *Eumeces anthracinus* Coal Skink
- *Storeria dekayi* Lower Keys Brown Snake
- *Thamnophis sauritus* Lower Keys Ribbon Snake
- *Heterodon platirhinos* Eastern Hognose Snake
- *Heterodon simus* Southern Hognose Snake
- *Diadophis punctatus acricus* Key Ringneck Snake
- *Drymarchon couperi* Eastern Indigo Snake
- *Lampropeltis calligaster* Mole Kingsnake
- *Lampropeltis getula* Common Kingsnake
- *Stilosoma extenuatum* Short-tailed Snake
- *Tantilla oolitica* Rim Rock Crowned Snake
- *Crotalus horridus* Timber Rattlesnake
- *Crotalus adamanteus* Eastern Diamondback Rattlesnake

Invertebrates

- *Procambarus apalachicola* A Crayfish
- *Procambarus capillatus* A Crayfish
- *Procambarus econfinae* Panama City Crayfish
- *Procambarus escambiensis* A Crayfish
- *Procambarus latipleurum* A Crayfish
- *Procambarus rogersi rogersi* A Crayfish
- *Chelyoxenus xerobatis* Gopher Tortoise Hister Beetle
- *Aphodius troglodytes* Gopher Tortoise Aphodius Commensal Scarab Beetle

- | | |
|--|---|
| • <i>Copris gopheri</i> | Gopher Tortoise Copris Commensal Scarab Beetle |
| • <i>Onthophagus polyphemi polyphemi</i> | Gopher Tortoise Onthophagus Commensal Scarab Beetle |
| • <i>Atrytone arogos arogos</i> | Arogos Skipper |
| • <i>Atrytonopsis hianna loammi</i> | Southern Dusted Skipper |
| • <i>Ephyriades brunneus floridensis</i> | Florida Duskywing |
| • <i>Eumaeus atala</i> | Atala |
| • <i>Strymon acis bartrami</i> | Bartram's Hairstreak |
| • <i>Anaea troglodyta floridalis</i> | Florida Leafwing |

Conservation Threats

Threats to Natural Pineland habitat that were also identified for multiple other habitats are addressed in Chapter Multiple Habitat Threats and Conservation Actions. These threats include:

- | | |
|---|---|
| • Conversion to agriculture | • Incompatible forestry practices |
| • Conversion to commercial and industrial development | • Incompatible recreational activities |
| • Conversion to housing and urban development | • Incompatible resource extraction: mining/drilling |
| • Conversion to recreation areas | • Invasive animals |
| • Groundwater withdrawal | • Invasive plants |
| • Incompatible fire | • Roads |
| | • Surface water withdrawal |

Threats specific to Natural Pinelands included the siting of utility corridors through this habitat, particularly on public lands, which results in fragmentation and loss of habitat. This habitat is also threatened by conversion to more intensive land uses and insufficient management of invasive plant species such as Japanese climbing fern.

The following stresses and sources of stress threaten this habitat:

Stresses		Habitat Stress Rank
A	Altered fire regime	High
B	Altered hydrologic regime	High
C	Habitat destruction or conversion	High
D	Altered community structure	High
E	Altered species composition/dominance	High
F	Fragmentation of habitats, communities, ecosystems	High
G	Insufficient size/extent of characteristic communities or ecosystems	High
H	Altered landscape mosaic or context	Medium
I	Keystone species missing or lacking in abundance	Low
J	Missing key communities, functional guilds, or seral stages	Low
K	Altered soil structure and/or chemistry	Low
L	Excessive depredation and/or parasitism	Low
M	Habitat degradation/disturbance	Low

The sources of stress, or threats, were used to generate conservation actions.

Sources of Stress		Habitat Source Rank	Related Stresses (see above)
1	Roads	Very High	A, B, C, D, E, F, G, H
2	Conversion to housing and urban development	Very High	A, B, C, F, G, H
3	Surface water withdrawal	High	A, B, C, D, E, F
4	Incompatible fire	High	A, B, C, D, E, H
5	Conversion to commercial and industrial development	High	A, B, C, F, G, H
6	Invasive plants	High	A, B, D, E
7	Incompatible recreational activities	High	A, B, C, D, E, F
8	Incompatible forestry practices	High	A, B, C, D, E, F
9	Groundwater withdrawal	Medium	A, B, D, E
10	Conversion to recreation areas	Medium	A, B, C, F, G
11	Utility corridors	Medium	A, B, C, D, E, F, G
12	Conversion to agriculture	Low	H
13	Incompatible grazing and ranching	Low	A
14	Invasive animals	Low	D, E
15	Incompatible resources extraction: mining/drilling	Low	C, F, H
Statewide Threat Rank of Habitat		Very High	

Conservation Actions

Actions to abate the threats to Natural Pinelands that were also identified as statewide threats (see list above in Conservation Threats section) are in Chapter Multiple Habitat Threats and Conservation Actions.

Actions to abate specific threats that were identified for Natural Pineland habitat are below. These actions were designed to reduce habitat loss and fragmentation from utility rights-of-way and conversion to more intensive silviculture on public lands. Control of Japanese climbing fern was also identified as necessary where pine straw is harvested.

Invasive Plants

Overall Rank	Education and Awareness	Feasibility	Benefits	Cost
L	Educate the forest management consulting community about the illegality of selling pine straw bales contaminated with Japanese climbing fern, and appropriate control methods.	H	L	L
Overall Rank	Planning and Standards	Feasibility	Benefits	Cost

L	Create a system where landowners can voluntarily have their plantations certified as Lygodium-free. Provide incentive programs so that landowners increase profits by having certified pine straw.	M	L	L
----------	--	----------	----------	----------

Utility Corridors

Overall Rank	Capacity Building	<i>Feasibility</i>	<i>Benefits</i>	<i>Cost</i>
M	Develop private-public partnerships that facilitate placement of utilities on existing FDOT rights-of-way and vice-versa to minimize their cumulative impacts on habitats.	M	M	L
M	Provide data on sensitive habitats to utilities and Florida Public Service Commission (FPSC) early in the utility siting and planning process to minimize conflicts between wildlife, important habitats, and utility corridors.	VH	L	L
Overall Rank	Planning and Standards	<i>Feasibility</i>	<i>Benefits</i>	<i>Cost</i>
M	Encourage language (e.g., ETDM) in utility siting process for co-location that minimizes fragmentation of natural areas.	M	M	L
Overall Rank	Policy	<i>Feasibility</i>	<i>Benefits</i>	<i>Cost</i>
VH	Explore options to reduce fragmentation of public lands caused by incompatible utility placement and land use. Promote awareness of this issue and encourage compatible alternate routes and land uses.	M	VH	H

Conversion to Agriculture

Overall Rank	Land/Water Protection	<i>Feasibility</i>	<i>Benefits</i>	<i>Cost</i>
M	Explore opportunities to encourage avoidance of converting natural habitats on public conservation lands to other uses.	M	M	L