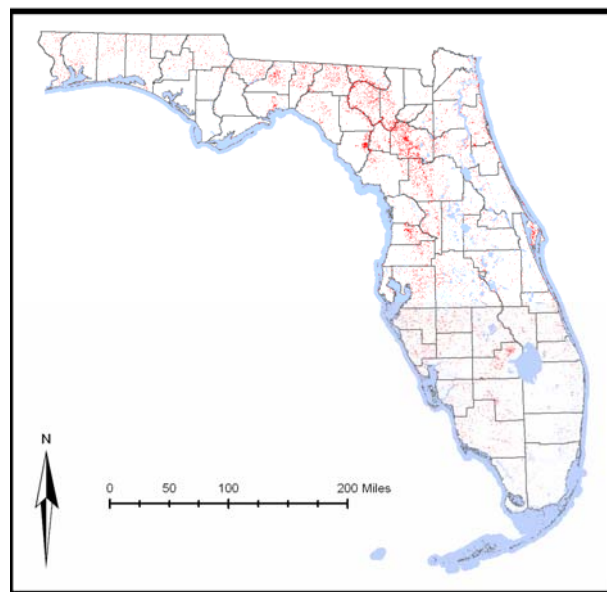


Hardwood Hammock Forest



Status

Current condition: Unknown. According to the best available GIS information at this time (see Appendix D. GIS Data Tables), 979,826 acres (396,522 ha) of Hardwood Hammock Forest habitat exist, of which 16% (159,557 ac; 64,570 ha) are in existing conservation or managed areas. Another 4% (36,874 ac; 14,922 ha) are in Florida Forever projects and 6% (62,053 ac; 25,112 ha) are SHCA-designated lands. The remaining 74% (721,342 ac; 291,917 ha) are 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: Xeric Hammock, Maritime Hammock, Slope Forest, Prairie Hammock, Upland Hardwood Forest

This class includes the major upland hardwood associations that occur statewide on fairly rich sandy soils. Variations in species composition and the local or spatial distributions of these communities are due in part to differences in soil moisture regimes, soil type, and geographic location within the state. Mesic and xeric variations are included within this association.

The mesic hammock community represents the climax vegetation type within many areas of northern and central Florida. Characteristic species in the extreme north include American beech, southern magnolia, Shumard oak, white oak, mockernut hickory, pignut hickory, sourgum,

basswood, white ash, mulberry, and spruce pine. Mesic hammocks of the peninsula are less diverse due to the absence of hardwood species that are adapted to more northerly climates, and are characterized by laurel oak, hop hornbeam, blue beech, sweetgum, cabbage palm, American holly, and southern magnolia.

Xeric hammocks occur on deep, well-drained, sandy soils where fire has been absent for long periods of time. These open, dry hammocks contain live oak, sand-live oak, bluejack oak, blackjack oak, southern red oak, sand-post oak, and pignut hickory.

Also included in this category are cabbage palm-live oak hammocks. This class is characterized by cabbage palms and live oaks occurring in small clumps within prairie communities. These hammocks typically have an open understory which may include such species as wax myrtle, water oak, and saw palmetto. Cabbage palm-live oak hammocks are also often found bordering large lakes and rivers, and are distributed throughout the prairie region of south central Florida and extend northward in the St. Johns River basin. Cabbage palms often form a fringe around hardwood “islands” located within improved pastures.

Associated Species of Greatest Conservation Need

Mammals

- | | |
|--------------------------------------|----------------------------|
| • <i>Lasiurus borealis</i> | Eastern Red Bat |
| • <i>Lasiurus seminolus</i> | Seminole Bat |
| • <i>Lasiurus intermedius</i> | Northern Yellow Bat |
| • <i>Corynorhinus rafinesquii</i> | Rafinesque's Big-eared Bat |
| • <i>Tamias striatus</i> | Eastern Chipmunk |
| • <i>Ursus americanus floridanus</i> | Florida Black Bear |
| • <i>Mephitis mephitis</i> | Striped Skunk |
| • <i>Puma concolor coryi</i> | Florida Panther |

Birds

- | | |
|--|------------------------------------|
| • <i>Colinus virginianus</i> | Northern Bobwhite |
| • <i>Elanoides forficatus</i> | Swallow-tailed Kite |
| • <i>Ictinia mississippiensis</i> | Mississippi Kite |
| • <i>Buteo platypterus platypterus</i> | Broad-winged Hawk |
| • <i>Buteo brachyurus</i> | Short-tailed Hawk |
| • <i>Caracara cheriway</i> | Crested Caracara |
| • <i>Columbina passerine</i> | Common Ground-Dove |
| • <i>Melanerpes erythrocephalus</i> | Red-headed Woodpecker |
| • <i>Picoides villosus</i> | Hairy Woodpecker |
| • <i>Colaptes auratus auratus</i> | Northern Flicker |
| • <i>Tyrannus dominicensis</i> | Gray Kingbird |
| • <i>Vireo altiloquus</i> | Black-whiskered Vireo |
| • <i>Sitta carolinensis</i> | White-breasted Nuthatch |
| • <i>Hylocichla mustelina</i> | Wood Thrush |
| • <i>Dendroica dominica stoddardi</i> | Stoddard's Yellow-throated Warbler |
| • <i>Dendroica petechia gundlachi</i> | Cuban Yellow Warbler |
| • <i>Dendroica discolor paludicola</i> | Florida Prairie Warbler |
| • <i>Dendroica cerulea</i> | Cerulean Warbler |

- *Protonotaria citrea* Prothonotary Warbler
- *Helmitheros vermivorum* Worm-eating Warbler
- *Limnothlypis swainsonii* Swainson’s Warbler
- *Seiurus montacilla* Louisiana Waterthrush
- *Oporornis formosus* Kentucky Warbler
- *Wilsonia citrina* Hooded Warbler
- *Passerina ciris* Painted Bunting

Reptiles

- *Terrapene carolina bauri* Florida Box Turtle
- *Gopherus polyphemus* Gopher Tortoise
- *Heterodon platirhinos* Eastern Hognose Snake
- *Heterodon simus* Southern Hognose Snake
- *Drymarchon couperi* Eastern Indigo Snake
- *Stilosoma extenuatum* Short-tailed Snake
- *Tantilla relicta pamlica* Coastal Dunes Crowned Snake
- *Crotalus horridus* Timber Rattlesnake
- *Crotalus adamanteus* Eastern Diamondback Rattlesnake

Invertebrates

- *Sphodros rufipes* Red-legged Purse-web Spider
- *Anthanassa frisia* Cuban Crescent

Conservation Threats

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

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

Threats specific to Hardwood Hammock Forest were limited to incompatible residential activities that include movement of fertilizer, herbicide, and invasive species from landscape maintenance, activities of people, their pets, and nuisance species, and disposal of yard and household waste.

The following stresses and sources of stress threaten this habitat:

Stresses		Habitat Stress Rank
A	Habitat destruction or conversion	High
B	Altered species composition/dominance	Medium

Stresses		Habitat Stress Rank
C	Altered hydrologic regime	Medium
D	Altered community structure	Medium
E	Fragmentation of habitats, communities, ecosystems	Medium
F	Erosion/sedimentation	Low
G	Altered landscape mosaic or context	Low
H	Altered fire regime	Low
I	Habitat degradation/disturbance	Low
J	Excessive depredation and/or parasitism	Low
K	Missing key communities, functional guilds, or seral stages	Low
L	Insufficient size/extent of characteristic communities	Low

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

Sources of Stress		Habitat Source Rank	Related Stresses (see above)
1	Conversion to commercial and industrial development	High	A, C
2	Conversion to housing and urban development	High	A, C
3	Roads	High	A, C
4	Surface water withdrawal	Medium	B
5	Incompatible resource extraction: mining/drilling	Medium	A
6	Invasive plants	Medium	B
7	Incompatible agricultural practices	Low	C
8	Conversion to recreation areas	Low	A
9	Incompatible residential activities	Low	A, B
10	Incompatible fire	Low	B
11	Invasive animals	Low	B
12	Conversion to agriculture	Low	A
13	Groundwater withdrawal	Low	B
14	Humidity and temperature changes	Low	B
Statewide Threat Rank of Habitat		High	

Conservation Actions

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

Actions to abate specific threats that were identified for Hardwood Hammock Forest are below, though none were ranked of high priority for implementation. These actions were designed to reduce the impacts from activities of residents adjacent to this habitat.

Incompatible Residential Activities

Overall Rank	Economic and Other Incentives	<i>Feasibility</i>	<i>Benefits</i>	Cost
M	Expand the scale of the Florida Yards and Neighborhoods program from certifying individual landowners to whole neighborhoods; certification should be renewed biennially and any time property ownership changes.	M	M	L
L	Provide incentives (through local governments) for covenants, codes, and restrictions in residential areas that address issues of pesticide use, pet control, feeding of wildlife, household or yard waste disposal, landscape plants, irrigation use, prescribed fire tolerance, and light-use in coastal areas.	M	L	L
L	Identify and promote effective reward models for homeowners, maintenance companies, and municipalities for reducing impacts on neighboring conservation areas.	M	L	L
L	Provide incentives (through local governments) (e.g., fast track, density breaks) for developers that produce on-site, site-specific educational materials and standards that are maintained by homeowner associations.	M	L	L
Overall Rank	Education and Awareness	<i>Feasibility</i>	<i>Benefits</i>	Cost
M	Promote and fund continuing education courses for landscape maintenance industry that include appropriate use of chemicals, irrigation, plants, and disposal of yard waste.	H	M	M