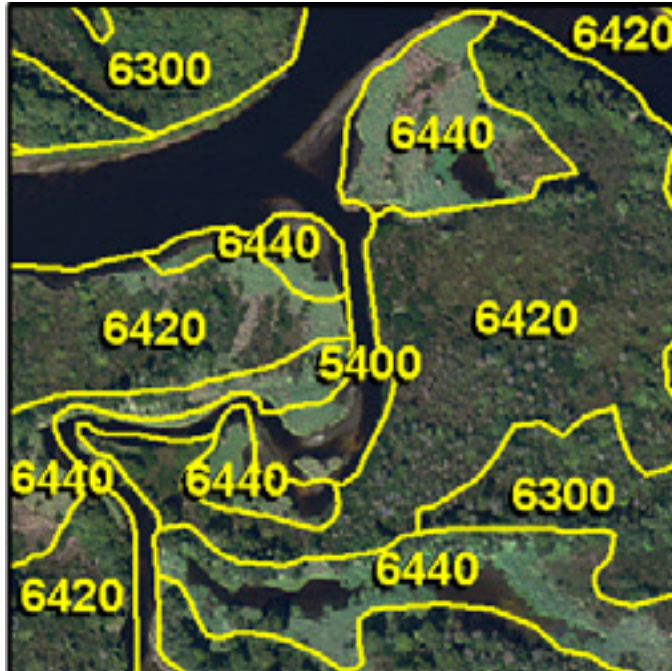
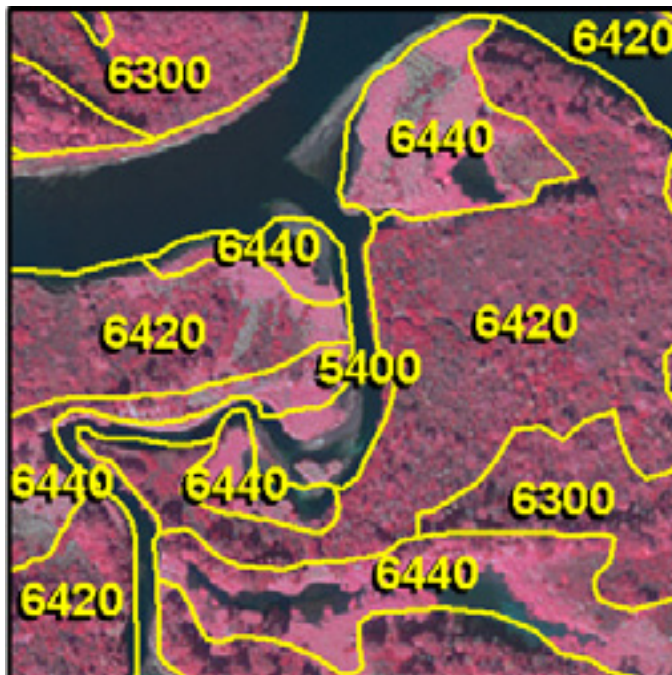


GENERAL HABITAT: FRESHWATER WETLANDS

SPECIFIC HABITAT: WET PRAIRIES



Wetlands – Emergent Aquatic Vegetation (6440)  
Natural color aerial photograph



Wetlands – Emergent Aquatic Vegetation (6440)  
Color infrared aerial photograph

**Description:**

This class of wetland plant species includes both floating-leaved vegetation and vegetation that is found either partially or completely above the surface of the water. Emergent Aquatic Vegetation typically occurs as a shallow open water zone surrounded by Basin Swamp, Floodplain Swamp, or Depression Marsh. The open water zone is considered a Marsh Lake, Flatwoods Lake, or Prairie Lake depending upon the surrounding community. Open water or water soaked soils may be evident on adjacent non-vegetated areas.



1999 color infrared aerial photograph

**Recognition:**

- Generally occur in low-lying areas, adjacent to slow-moving streams, along edges of lakes or ponds, or on tidally influenced areas.
- Dominated by herbaceous and shrubby plant species adapted to grow in water-influenced environments.
- Exhibits a smooth, even texture ranging from flat to shrubby depending on plant height.
- Photographic signatures are diverse depending on plant and leaf structures, but typically display a dark, bluish cast (i.e., graminoids) or pale, pinkish cast (i.e., floating-leaved).

**SPECIFIC HABITAT: WET PRAIRIES**



**Associated Community Types:**

- FLUCCS – 644/Emergent Aquatic Vegetation  
 641/Freshwater Marshes  
 643/Wet Prairies
- FNAI – Floodplain/Prairie/Marsh Lake  
 River Floodplain Lake  
 Slough  
 Swale
- SCS – 25/Freshwater Marsh and Ponds  
 26/Slough

Associated with and often grades into Wet Prairie or Riverine communities.

**Vegetation:**

Sawgrass and cattail are the predominant species in freshwater marshes while cordgrass and needlerush are the predominant species in saltwater marsh communities. Other typical plants include water lettuce, spatterdock, water hyacinth, duckweed, and water lily.



**Soils:**

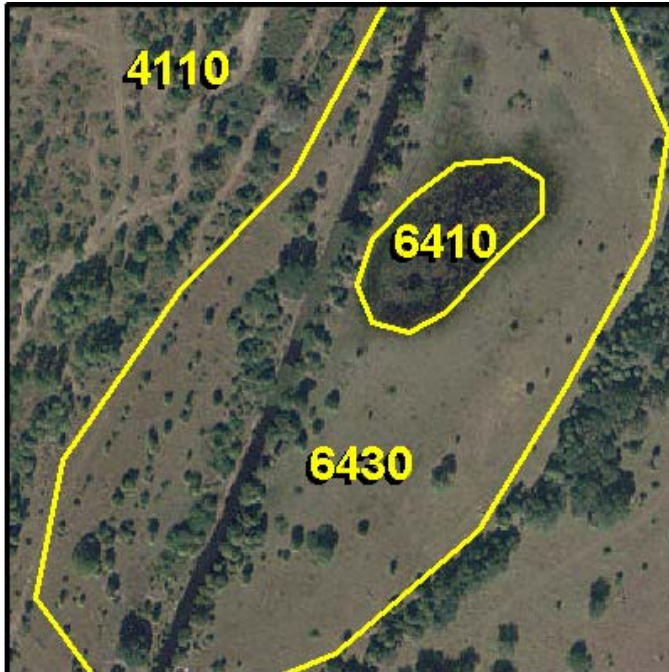
Sandy alluvial soils with considerable peat accumulation. Flooded with flowing water for ~250 days annually.

**Associated Soil Map Units:**

- | MUID   | Map Unit Name                                   |
|--------|---|
| 115008 | DELRAY FINE SAND/DEPRESSIONAL                   |
| 115012 | FELDA FINE SAND/DEPRESSIONAL                    |
| 115015 | FLORIDANA AND GATOR SOILS/<br>DEPRESSIONAL      |
| 115022 | HOLOPAW FINE SAND/DEPRESSIONAL                  |
| 115024 | KESSON AND WULFERT MUCKS/<br>FREQUENTLY FLOODED |
| 115026 | MANATEE LOAMY FINE SAND/<br>DEPRESSIONAL        |
| 115034 | POMPANO FINE SAND/DEPRESSIONAL                  |

GENERAL HABITAT: FRESHWATER WETLANDS

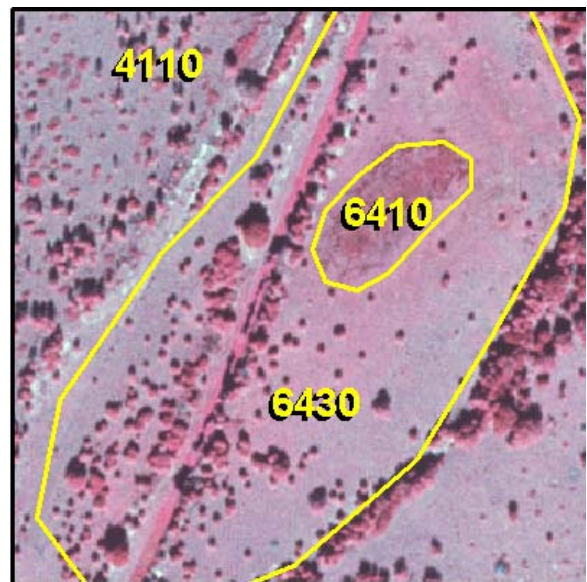
SPECIFIC HABITAT: WET PRAIRIES



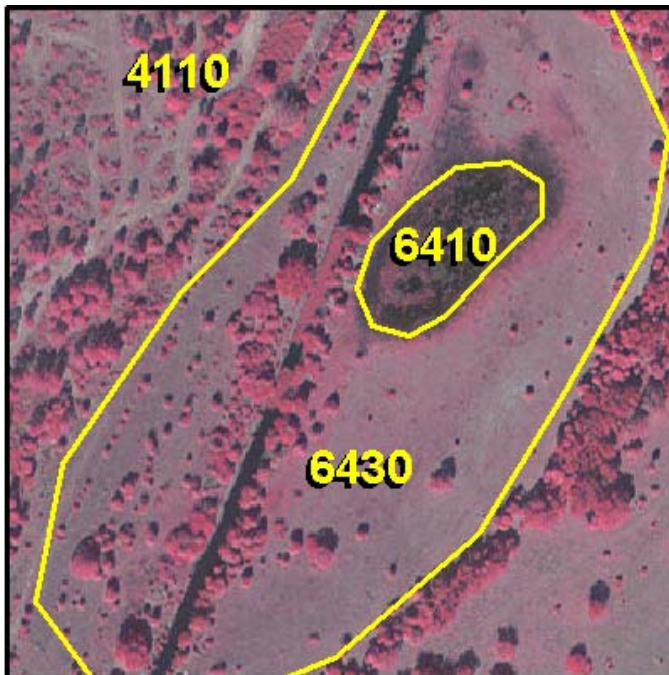
Wetlands – Wet Prairie (6430)  
Natural color aerial photograph

**Description:**

This class is characterized as a treeless plain with sparse to dense ground cover of grasses and herbs on hydric soils, and is usually distinguished from marshes by having less water and shorter herbage. Wet Prairies have a shorter hydroperiod than other herbaceous wetlands and are subject to regular and prolonged desiccation during the dry season due to flat topography. Depression Marshes are similar in vegetation and physical features, characterized as a shallow, usually rounded depression in sand substrate with herbaceous vegetation often in concentric bands.



1999 color infrared aerial photograph



Wetlands – Wet Prairie (6430)  
Color infrared aerial photograph

**Recognition:**

- Usually found in smaller depressional areas.
- Typically associated with Rangeland or Pasture.
- Occur on sandy mineral soils that are inundated for a relatively short duration each year but with prolonged soil saturation.
- Subject to frequent fire.

**SPECIFIC HABITAT: WET PRAIRIES**



**Associated Community Types:**

- FLUCCS – 643/Wet Prairies
- 641/Freshwater Marshes
- 644/Emergent Aquatic Vegetation
- FNAI – Wet Prairie
- Depression Marsh
- SCS – 26/Slough

**Vegetation:**

Dominant vegetation of Wet Prairie or Basin Marsh includes saltbush, willow, buttonbush, dog fennel, wiregrass, toothache grass, maidencane, spikerush, and beakrush. Other typical plants include hatpins, marsh pinks, black-eyed susan, stargrass, white-top sedge, meadow-beauty, yellow-eyed grass, sundew, pitcher plants, St. John’s wort, and panicums.

Typical plants of Depression Marsh include St. John’s wort, spikerush, yellow-eyed grass, chain fern, willows, maidencane, wax myrtle, swamp primrose, bloodroot, buttonbush, fire flag, pickerelweed, arrowheads, and bladderwort.



**Soils:**

Acidic sands with deepening peat toward the center. Some depressions may be maintained by a subsurface hardpan.

**Associated Soil Map Units:**

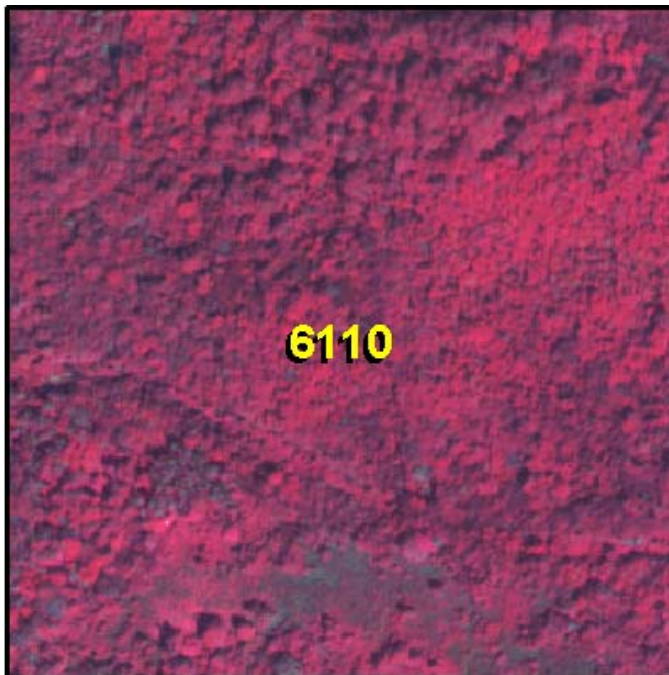
- | MUID   | Map Unit Name                              |
|--------|--|
| 115008 | DELRAY FINE SAND/DEPRESSIONAL              |
| 115012 | FELDA FINE SAND/DEPRESSIONAL               |
| 115015 | FLORIDANA AND GATOR SOILS/<br>DEPRESSIONAL |
| 115022 | HOLOPAW FINE SAND/DEPRESSIONAL             |
| 115026 | MANATEE LOAMY FINE SAND/<br>DEPRESSIONAL   |
| 115034 | POMPAÑO FINE SAND/DEPRESSIONAL             |

GENERAL HABITAT: **FRESHWATER WETLANDS**

*SPECIFIC HABITAT: HEADS*



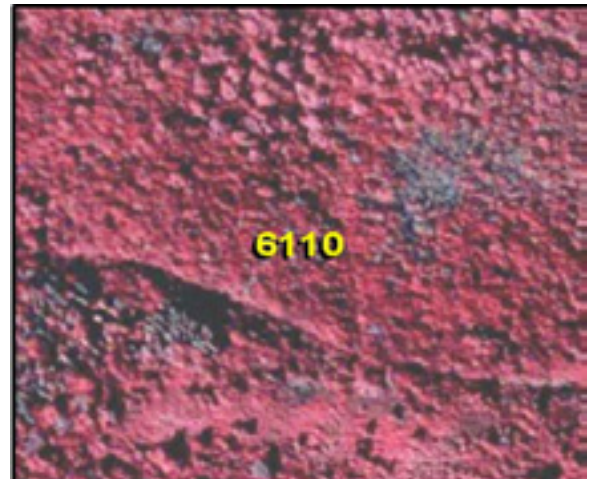
**Wetlands – Bay Swamps (6110)**  
*Natural color aerial photograph*



**Wetlands – Bay Swamps (6110)**  
*Color infrared aerial photograph*

**Description:**

This class includes monotypic stands of woody wetland plants surrounded by some other association of plants. For example, heads of willow or buttonbush often occur at the center or along an edge of herbaceous isolated wetlands, and bayheads (i.e., broadleaf evergreen wetlands) often occur surrounded by pine prairies. These communities occur as relatively small communities found on hillsides, in depressions in pine flatwoods, or as strips along edges of creeks. They are densely-forested, peat-filled depressions with open understory often at the base of sandy slopes.



**1999 color infrared aerial photograph**

**Recognition:**

- A crown canopy closure of at least 67% but less than 90% by evergreen bay species is required for inclusion in the Bay Swamps class.
- Stippled texture of medium to tall closely packed narrow tree canopies.
- Colors usually bright scarlet red year round (CIR image) or grayish green (Natural color).
- Associated with and grades into Seepage Slope, Floodplain Forest, or Floodplain Swamp.
- Difficult to distinguish from Dome Swamps.

*SPECIFIC HABITAT: HEADS*



**Associated Community Types:**

- FLUCCS – 611/Bay Swamps
- 613/Gum Swamps
- 616/Inland Ponds and Sloughs
- 641/Freshwater Marshes
- 643/Wet Prairies
- 644/Emergent Aquatic Vegetation

- FNAI – Baygall
- Basin Swamp
- Swale
- Basin Marsh

- SCS – 12/Wetland Hardwood Hammocks
- 22/Shrub Bogs—Bay Swamps

Baygalls are dependent upon seepage flow and a high water table.

**Vegetation:**

These swamps are characterized by dense, low vegetation (i.e., swale or basin marsh) or wetland hardwood forests (i.e., baygall) that are fed by groundwater and run-off from higher land. Typical plants include loblolly bay, sweetbay, red bay, swamp bay, dahoon holly, willow, buttonbush, sweetgum, wax myrtle, fetterbush, gallberry, sphagnum moss, cinnamon fern, and chain ferns.

Species composition frequently overlaps with Bog, Dome Swamp, Basin Swamp, Strand Swamp, Bottomland Forest, Wet Flatwoods, and Hydric Hammock.



**Soils:**

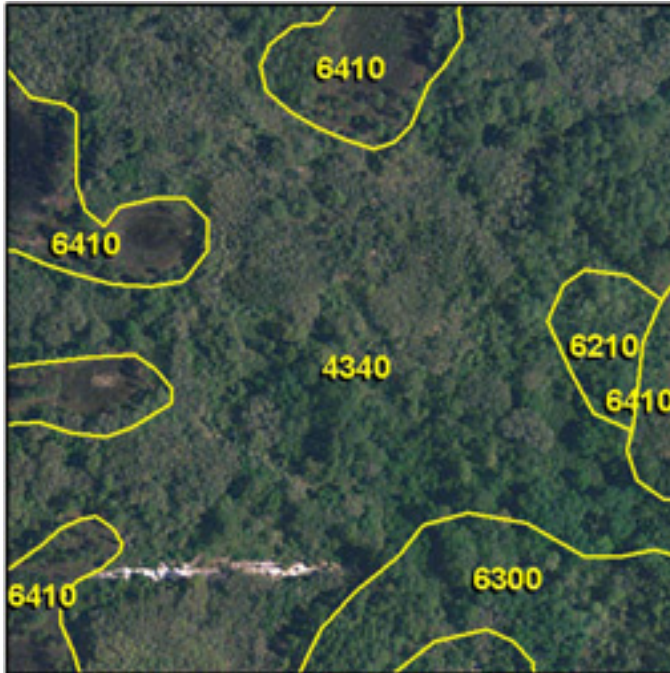
Soils are generally acidic, nutrient poor peats, often overlying a clay lens or other impervious layer. The resulting perched water table may act as a reservoir releasing groundwater as adjacent upland water tables drop during drought periods. Heads occur where fire and drought are excluded to the point where a buildup of organic soil (e.g., peat) raises the ground surface. Associated soils are the same as those for swamps (see section), while Heads soils also include the following.

**Associated Soil Map Units**

- MUID Map Unit Name
- 115034 POMPANO FINE SAND/DEPRESSIONAL  
(also see Swamps section)

GENERAL HABITAT: **SHADY HAMMOCKS**

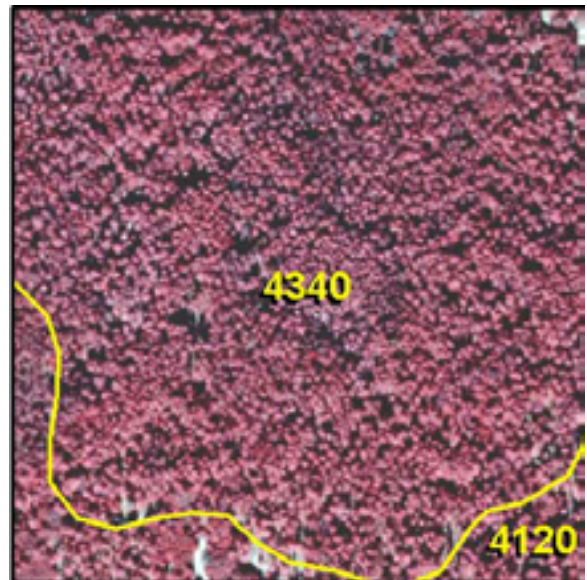
*SPECIFIC HABITAT: MESIC HAMMOCKS*



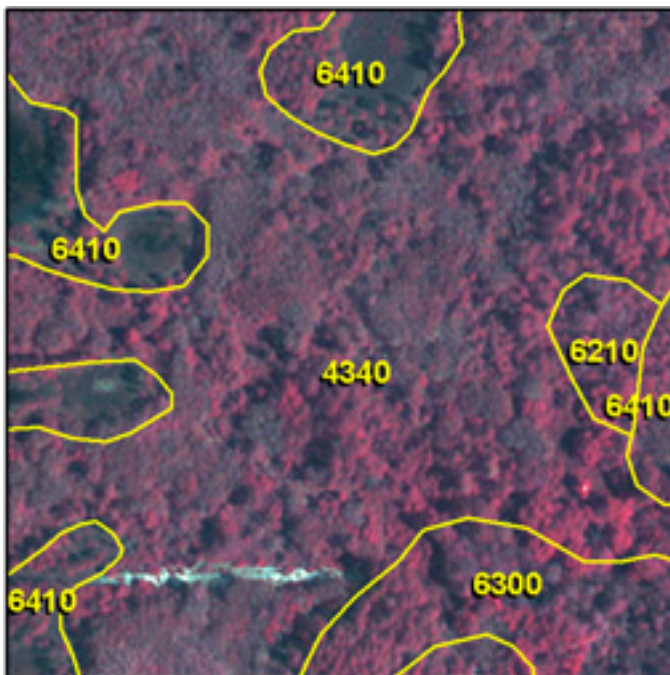
**Upland Hardwood – Coniferous Mix (4340)**  
*Natural color aerial photograph*

**Description:**

This class is reserved for those forested areas in which neither upland conifer nor hardwoods achieve a 66% crown canopy dominance. During early stages of succession, this community is difficult to distinguish from Upland Pine Forests that have not been burned for several years. It represents a climax community for the geographic region of central peninsular Florida.



**1999 color infrared aerial photograph**



**Upland Hardwood – Coniferous Mix (4340)**  
*Color infrared aerial photograph*

**Recognition:**

- Mixture of crown types both large radial hardwood and softer coniferous with neither one being dominant (66% or less).  
Usually exhibit a mixture of tones and heights; in black and white, conifers will appear darker and hardwood trees lighter. In CIR, conifers will appear darker and duller and hardwoods (with leaves on) will appear brighter with varying color tones.
- Often occur on the upland areas adjacent to streams or waterways or surrounding wetland depressions.
- Tend to prefer more mesic environments and exhibit closed canopy.

**SPECIFIC HABITAT: MESIC HAMMOCKS**



***Associated Community Types:***

- FLUCCS – 434/Hardwood-Conifer Mixed
- 414/Pine-Mesic Oak
- 423/Oak-Pine-Hickory
- 425/Temperate Hardwood
- 427/Live Oak
- 428/Cabbage Palm
- 438/Mixed Hardwoods
- FNAI – Upland Mixed Forest
- Mesic Hammock
- SCS – 11/Cabbage Palm Hammocks
- 13/Upland Hardwood Hammocks

***Vegetation:***

A thick layer of leaf mulch helps to conserve soil moisture and create decidedly mesic conditions. Typical plants include live oak, water oak, slash pine, cabbage palm, elm, red cedar, red bay, gum bumelia, hackberry, persimmon, laurel cherry, sparkleberry, and beautyberry.



***Soils:***

Hammock-associated vegetation is poorly correlated with soils. It appears that topographic setting and historical fire regime (i.e., number of years since last wildfire), rather than soil type, better account for the distribution of hammocks.

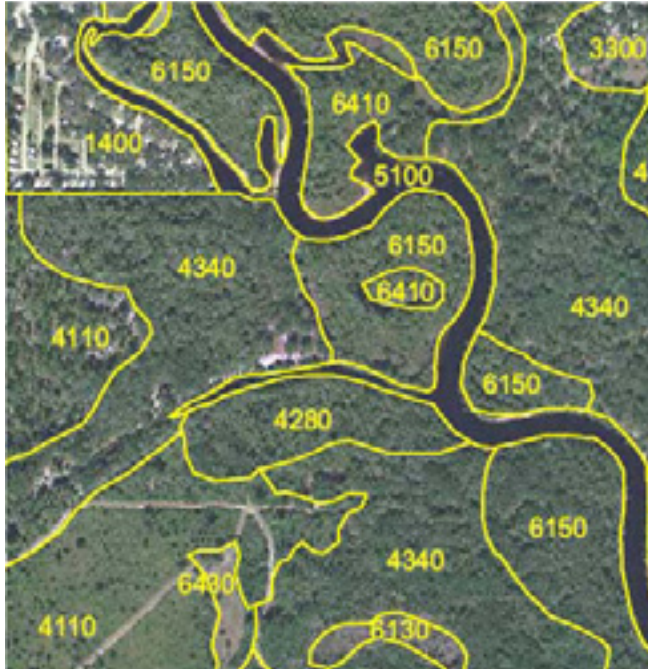
***Associated Soil Map Units:***

- | MUID   | Map Unit Name       |
|--------|---------------------|
| 115004 | BRADENTON FINE SAND |
| 115021 | FT. GREEN FINE SAND |
| 115025 | MALABAR FINE SAND   |
| 115041 | WABASSO FINE SAND   |



GENERAL HABITAT: **SHADY HAMMOCKS**

*SPECIFIC HABITAT: MESIC HAMMOCKS*



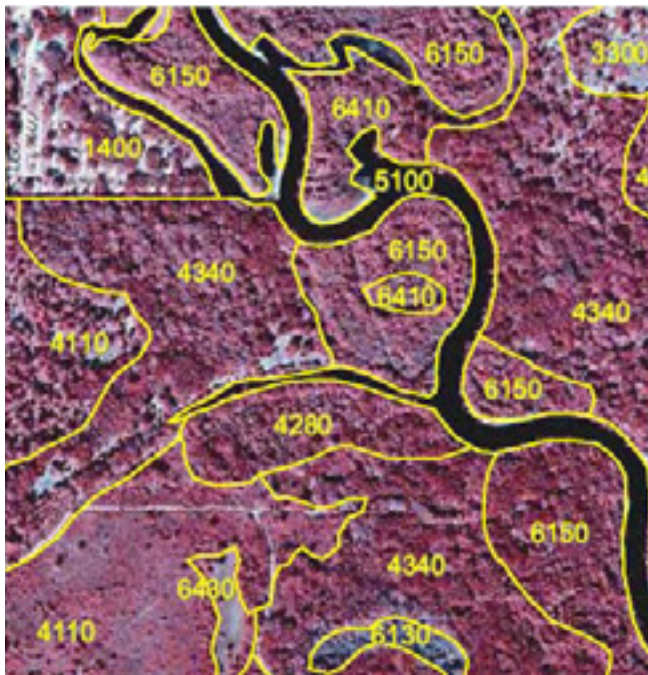
**Upland Forest – Cabbage Palm (428)**  
*Natural color aerial photograph*

**Description:**

This class includes well-developed, closed-canopy forests of upland hardwoods on rolling hills dominated by live oak with cabbage palm often present in the canopy and subcanopy. Epiphytes (ferns, orchids, and bromeliads) are often found and may become abundant in undisturbed stands. Shrubby understory may be dense or open, tall or short, with a herb layer often sparse or patchy.



**2004 color infrared aerial photograph**



**Upland Forest – Cabbage Palm (428)**  
*Color infrared aerial photograph*

**Recognition:**

- Occur as fringes or small patches on the borders of, or in higher parts of, rivers, swamps, marshes, and large lakes.
- Distinguished from Maritime Hammock by its inland occurrence on non-dune substrates.
- Distinguished from Upland Hardwood Hammock by its low species diversity and lack of many characteristic deciduous broad-leaved trees in the canopy and subcanopy.
- Associated with and fringes Dry Prairie, Mesic Flatwoods, Floodplain Marshes, or Hydric Hammock.

**SPECIFIC HABITAT: MESIC HAMMOCKS**



**Associated Community Types:**

- FLUCCS – 428/Cabbage Palm
- 414/Pine-Mesic Oak
- 423/Oak-Pine-Hickory
- 425/Temperate Hardwood
- 427/Live Oak
- 434/Hardwood-Conifer Mixed
- 438/Mixed Hardwoods
- FNAI – Prairie Hammock
- Mesic Hammock
- SCS – 11/Cabbage Palm Hammocks
- 13/Upland Hardwood Hammocks

**Vegetation:**

Typical plants include live oak, laurel oak, slash pine, cabbage palm, saw palmetto, beautyberry, wild coffee, stoppers, wax myrtle, water oak, marlberry, poisonwood, pigeon plum, black haw, poison ivy, and orchids.

Prairie Hammock is characterized as a clump of tall cabbage palms and live oaks in the midst of prairie or marsh communities. The hammocks generally have a very open understory although saw palmetto typically rings the perimeter of these rounded clumps.



**Soils:**

Occurs on sandy soils overlying calcareous marls but may be a more complex association of marl, peat, and sand over limestone.

**Associated Soil Map Units:**

MUID	Map Unit Name
115004	BRADENTON FINE SAND
115005	BRADENTON FINE SAND/ FREQUENTLY FLOODED
115011	FELDA FINE SAND
115022	HOLOPAW FINE SAND/ DEPRESSIONAL
115021	FT. GREEN FINE SAND
115025	MALABAR FINE SAND
115041	WABASSO FINE SAND

**GENERAL HABITAT: SHADY HAMMOCKS**

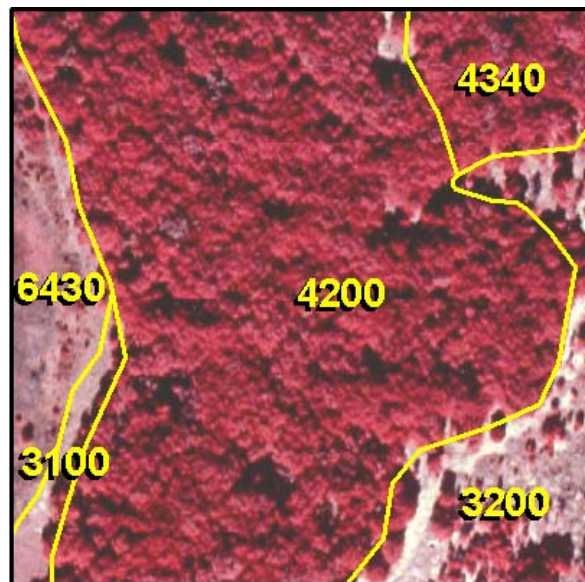
**SPECIFIC HABITAT: XERIC HAMMOCKS**



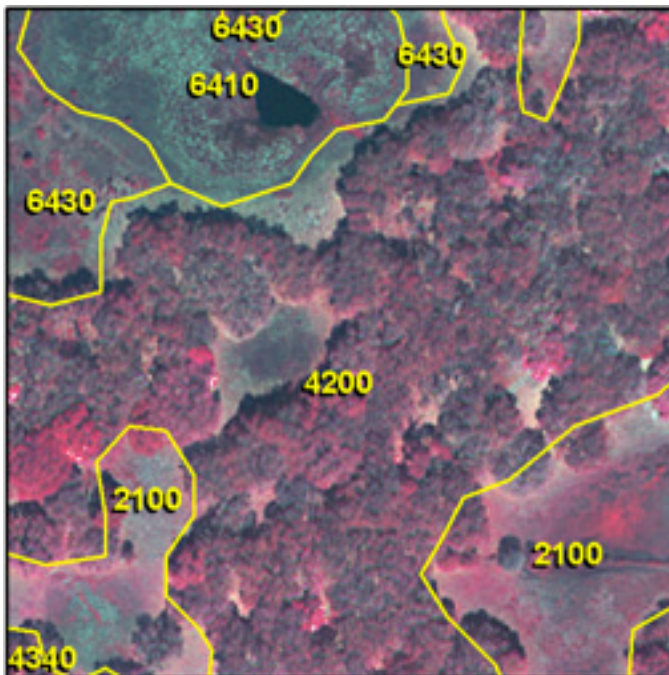
**Upland Forest – Live Oak (4270)**  
*Natural color aerial photograph*

**Description:**

This classification of upland forest lands has a crown canopy with at least 66% dominance of hardwood tree species. Often referred to as upland temperate hammock, this community is one in which live oak is either pure or predominant. This community is common along the banks of Florida’s lakes and streams.



**1999 color infrared aerial photograph**



**Upland Forest – Live Oak (4270)**  
*Color infrared aerial photograph*

**Recognition:**

- Hardwood trees are flowering trees that have conductive fiber tissue. Most are deciduous, however, some are evergreen.
- Usually have large radial crowns and exhibit a fluffy and textured tone.
- Most are subject to seasonality and will shed their leaves at sometime during dormancy. In this stage, only the woody parts will be visible and it will not have a good photo-synthetic return. During periods of peak growth and ample water, deciduous trees will give a strong, bright, CIR return. The degree of return will depend on leaf structure and size.
- Exhibit slightly more open canopy than mesic hammocks.

**SPECIFIC HABITAT: XERIC HAMMOCKS**



**Associated Community Types:**

- FLUCCS – 427/Live Oak
- 421/Xeric Oak
- 423/Oak-Pine-Hickory
- 425/Temperate Hardwood
- 432/Sand Live Oak
- FNAI – Xeric Hammock
- Upland Mixed Forest
- SCS – 13/Upland Hardwood Hammocks

**Vegetation:**

Typical plants include a variety of oaks, red bay, sweetbay, sweetgum, blackgum, red mulberry, sugarberry, magnolia, hickory, cabbage palm, holly, red cedar, gum bumelia, hackberry, persimmon, laurel cherry, black cherry, beautyberry, fringe tree, silverbell, and caric sedges.



**Soils:**

Hammock-associated vegetation is poorly correlated with soils. It appears that topographic setting and historical fire regime (i.e., number of years since last wildfire), rather than soil type, better account for the distribution of hammocks.

**Associated Soil Map Units:**

- | MUID   | Map Unit Name       |
|--------|---------------------|
| 115004 | BRADENTON FINE SAND |
| 115007 | CASSIA FINE SAND    |
| 115021 | FT. GREEN FINE SAND |
| 115029 | ORSINO FINE SAND    |
| 115033 | POMELLO FINE SAND   |
| 115040 | TAVARES FINE SAND   |
| 115041 | WABASSO FINE SAND   |

GENERAL HABITAT: **SHADY HAMMOCKS**

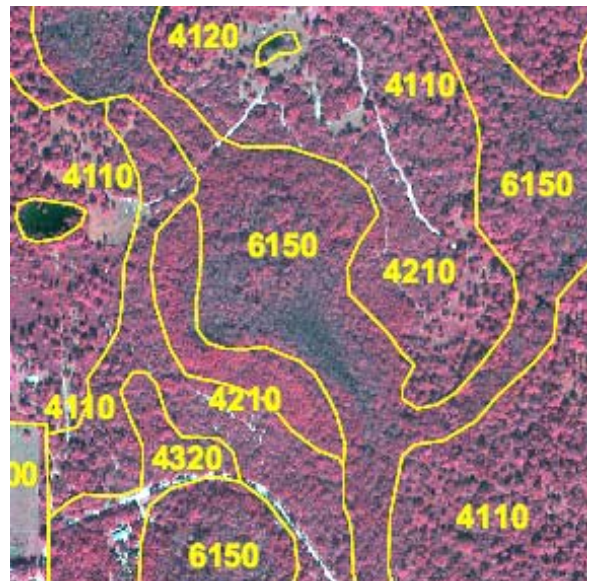
SPECIFIC HABITAT: **XERIC HAMMOCKS**



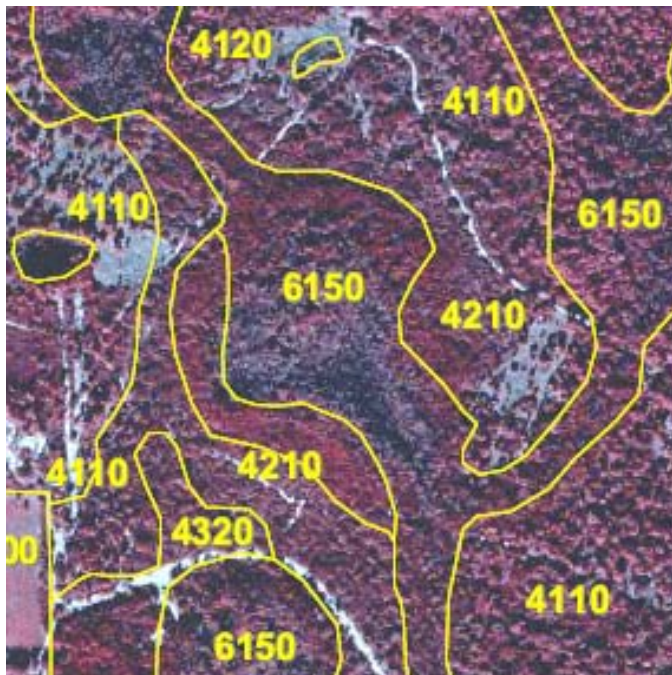
**Upland Forest – Sand Live Oak (4320)**  
*Natural color aerial photograph*

**Description:**

Sand live oak predominates in this cover type. This cover type is generally found on old coastal dune and white sand areas. The sparcity of herbs and the relatively incombustible oak litter preclude most fires from invading Xeric Hammock. When fire does occur, it is nearly always catastrophic and may revert Xeric Hammock into another community type.



**2004 color infrared aerial photograph**



**Upland Forest – Sand Live Oak (4320)**  
*Color infrared aerial photograph*

**Recognition:**

- Generally occur as isolated patches that rarely cover extensive areas.
- Characterized as either a scrubby, dense, low canopy forest with little understory other than palmetto, or a multi-storied forest of tall trees with an open or closed canopy.
- Often grade into Scrub, Sandhill, Upland Mixed Forest, or Slope Forest.
- Only develop on sites that have been protected from fire for 30 or more years.

*Specific Habitat: XERIC HAMMOCKS*



**Associated Community Types:**

FLUCCS – 432/Sand Live Oak  
423/Oak-Pine-Hickory  
425/Temperate Hardwood  
427/Live Oak  
421/Xeric Oak  
FNAI – Xeric Hammock  
SCS – 13/Upland Hardwood Hammocks

Xeric Hammock is an advanced successional stage of Scrub or Sandhill communities and is often considered the climax community on sandy uplands. The variation in vegetation structure is predominantly due to the original community from which it developed.

**Vegetation:**

Typical plants include live oak, sand live oak, laurel oak, saw palmetto, turkey oak, and southern magnolia with smaller quantities of chapman oak, myrtle oak, pignut hickory, red bay, and holly. Typical understory plants include staggerbush, sparkleberry, wild olive, black cherry, fox grape, beautyberry, yaupon, and persimmon.

Species composition is similar to Prairie Hammock and Maritime Hammock (FNAI).



**Soils:**

Generally deep, excessively-drained sands that were derived from old dune systems.

**Associated Soil Map Units**

MUID	Map Unit Name
115004	BRADENTON FINE SAND
115007	CASSIA FINE SAND
115021	FT. GREEN FINE SAND
115029	ORSINO FINE SAND
115033	POMELLO FINE SAND
115040	TAVARES FINE SAND
115041	WABASSO FINE SAND

**GENERAL HABITAT: PINE PRAIRIES**

***SPECIFIC HABITAT: PINE FLATWOODS***



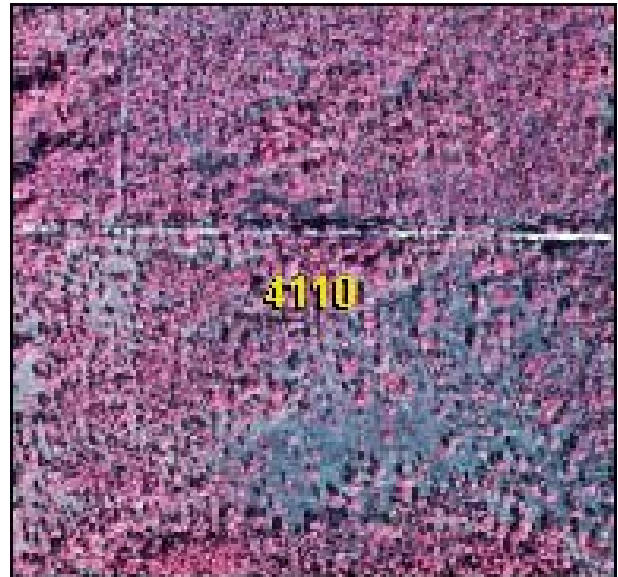
**Upland Forests – Pine Flatwoods (4110)**  
*Natural color aerial photograph*



**Upland Forests – Pine Flatwoods (4110)**  
*Color infrared aerial photograph*

***Description:***

This class includes pine communities of somewhat open canopy with scrub and herbaceous understories but generally with at least 10% pine trees. This class is found extensively in the classic pine flatwoods communities of the southern part of the Southwest Florida Water Management District where the slash pine/palmetto community is dominant and in areas recently burned that still showed the flatwoods vegetation. This category is also used in areas of selective pine cutting where the tree densities are reduced and no hardwood understory is evident.



**1999 color infrared aerial photograph**

***Recognition:***

- Describe flat areas of sparse pine in the northern flatwoods areas that tend to run between the coast and the hilly regions to the east.
- Generally exhibit a relatively smooth or pointed crown. Sparsely spaced stands may appear more stippled than the Upland Coniferous Forest 4100 category.
- Examples include slash, sand, and long leaf pines.
- Associated with and grade into Wet Flatwoods, Dry Prairie, Scrubby Flatwoods.

**SPECIFIC HABITAT: PINE FLATWOODS**



**Associated Community Types:**

- FLUCCS – 411/Pine Flatwoods  
414/Pine-Mesic Oak  
419/Other Pines  
428/Cabbage Palm
- FNAI – Mesic Flatwoods  
Pine Flatwoods
- SCS – 6/South Florida Flatwoods

Without relatively frequent fires (i.e., every 1-8 years), Mesic Flatwoods succeed into hardwood-dominated forests whose closed canopy can essentially eliminate the ground cover herbs and shrubs.

**Vegetation:**

Several variations of Mesic Flatwoods are recognized, the most common associations being longleaf pine – wiregrass – runner oak, and slash pine – gallberry – saw palmetto. Other typical plants include St. John’s wort, dwarf huckleberry, fetterbush, dwarf wax myrtle, staggerbush, blueberry, gopher apple, tarflower, bog buttons, blackroot, false foxglove, white-topped aster, yellow-eyed grass, and cutthroat grass.



**Soils:**

The soils occur on relatively flat, moderately to poorly drained terrain and typically consist of 1-3 feet of acidic sands generally overlying an organic hardpan or clayey subsoil. The hardpan substantially reduces the percolation of water below and above its surface.

**Associated Soil Map Units**

MUID	Map Unit Name
115003	BOCA AND HALLANDALE SOILS
115004	BRADENTON FINE SAND
115010	EAUGALLIE AND MYAKKA FINE SANDS
115021	FT. GREEN FINE SAND
115025	MALABAR FINE SAND
115030	ONA FINE SAND
115036	POPLE FINE SAND
115038	SMYRNA FINE SAND
115041	WABASSO FINE SAND



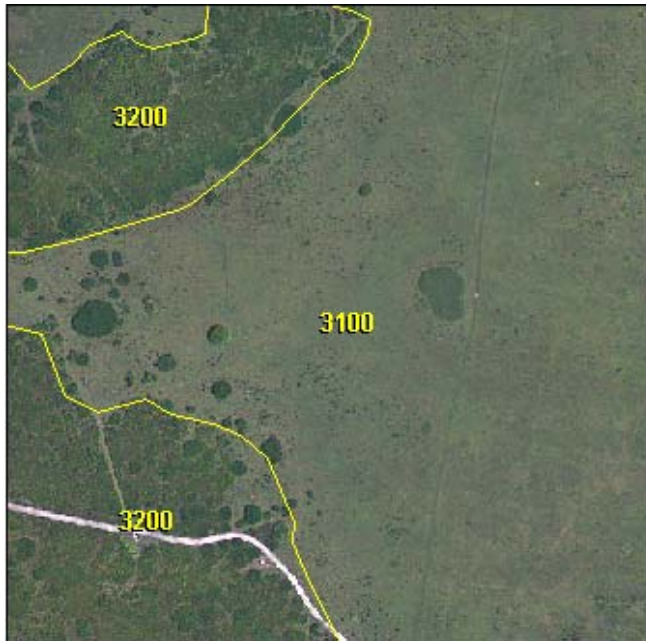


**GENERAL HABITAT: PINE PRAIRIES**

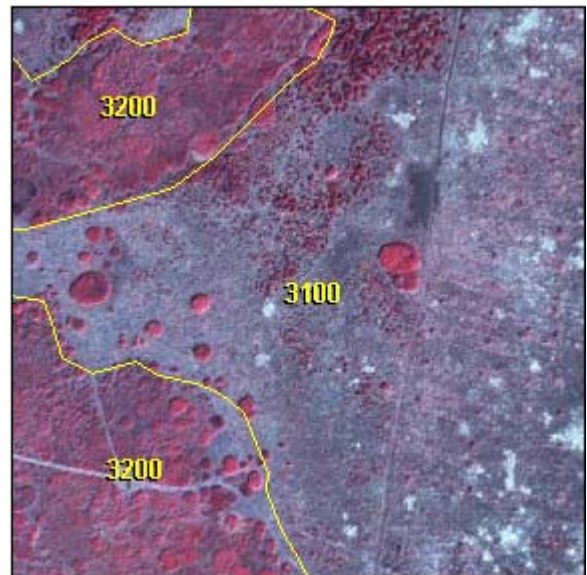
**SPECIFIC HABITAT: DRY PRAIRIES**

**Description:**

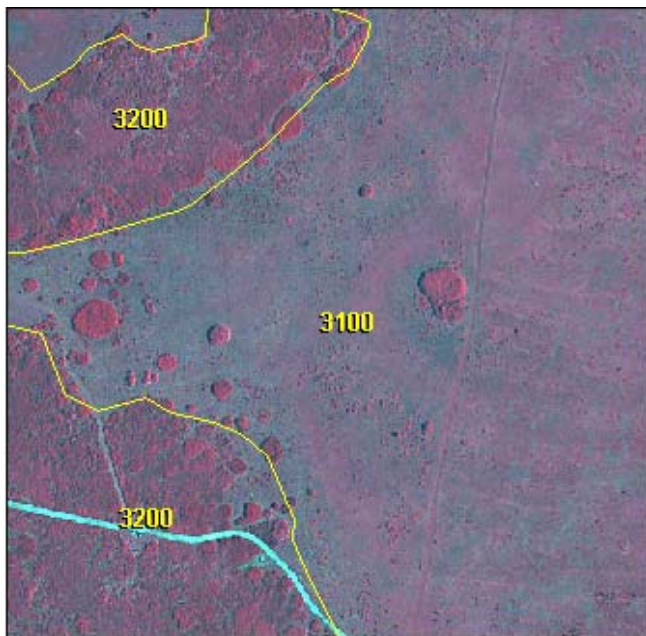
This category includes prairie grasses that occur on the upland margins of the wetland zone and may be periodically inundated by water. In general, it is the marginal area between marsh and upland forest areas. These grasslands are generally treeless, but in wet areas would have many types of soils resulting in a variety of vegetation types dominated by grasses, sedges, rushes, and other herbs while drier grass areas would be dominated by wire grasses with some saw palmetto present. Associated with and grades into Wet Prairie or Mesic Flatwoods.



**Rangeland - Herbaceous (3100)**  
*Natural color aerial photograph*



**1999 color infrared aerial photograph**



**Rangeland - Herbaceous (3100)**  
*Color infrared aerial photograph*

**Recognition:**

- Treeless expanses of grass - naturally occurring
- Usually show fine texture, smooth and mottled tones (unlike the smooth and consistent tones of planted or improved grasslands)
- Edges of area have more natural shapes, follow land forms or abut forested or brush communities
- May also occur as the upland fringe area around wetland depressions or wet prairies
- May have scattered shrubs and trees if less than 33%

**SPECIFIC HABITAT: DRY PRAIRIES**



**Associated Community Types:**

- FLUCCS – 310/Herbaceous  
 321/Palmetto Prairies
- FNAI – Dry Prairie
- SCS – 6/South Florida Flatwoods

Dry Prairie is very similar to Mesic Flatwoods in most respects, except that pines and palms are absent or at a density below one tree per acre. The natural fire frequency (i.e., every 1-4 years) averages slightly more frequent than generally occurs in Mesic Flatwoods.

Associated with and grades into Wet Prairie or Mesic Flatwoods.

**Vegetation:**

Typical plants include wiregrass, saw palmetto, broomsedge, carpet grass, runner oak, Indian grass, love grass, blazing star, rabbit tobacco, pine lily, marsh pink, milkwort, goldenrod, musky mint, pawpaw, dwarf wax myrtle, gallberry, staggerbush, fetterbush, and dwarf blueberry.



**Soils:**

The soils occur on relatively flat, moderately to poorly drained terrain and typically consist of 1-3 feet of acidic sands generally overlying an organic hardpan or clayey subsoil. The hardpan substantially reduces the percolation of water below and above its surface.

**Associated Soil Map Units:**

- | MUID   | Map Unit Name                   |
|--------|---------------------------------|
| 115003 | BOCA AND HALLANDALE SOILS       |
| 115004 | BRADENTON FINE SAND             |
| 115010 | EAUGALLIE AND MYAKKA FINE SANDS |
| 115021 | FT. GREEN FINE SAND             |
| 115025 | MALABAR FINE SAND               |
| 115030 | ONA FINE SAND                   |
| 115036 | POPLE FINE SAND                 |
| 115038 | SMYRNA FINE SAND                |
| 115041 | WABASSO FINE SAND               |

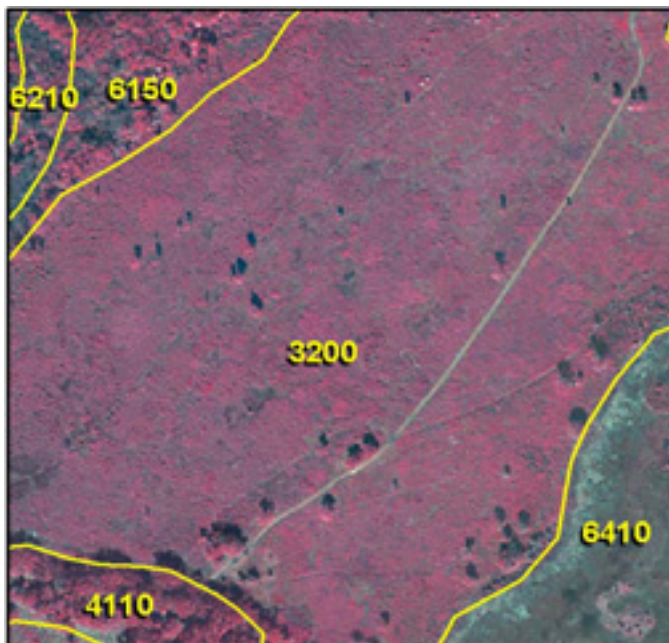
## GENERAL HABITAT: PINE PRAIRIES

### SPECIFIC HABITAT: DRY PRAIRIES



**Rangeland – Shrub and Brushland (3200)**

*Natural color aerial photograph*

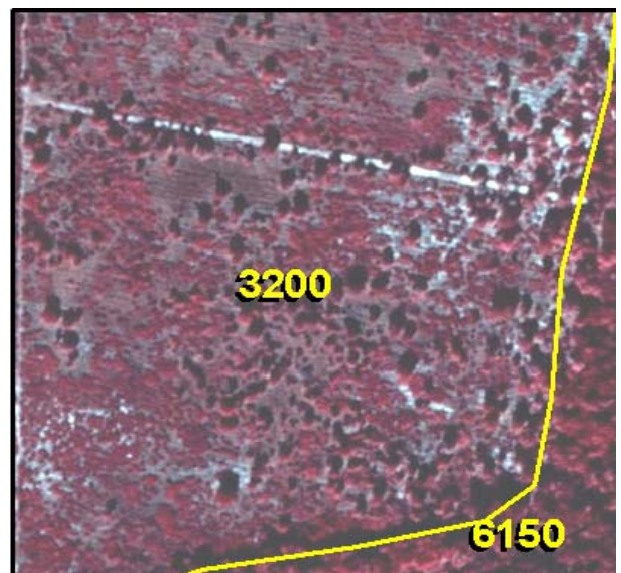


**Rangeland – Shrub and Brushland (3200)**

*Color infrared aerial photograph*

#### **Description:**

This category includes saw palmettos, gallberry, wax myrtle, coastal scrub, and other shrubs and brush. In general, saw palmetto is the most prevalent plant cover intermixed with a wide variety of other wood scrub plant species as well as various types of short herbs and grasses. Coastal scrub vegetation would include pioneer herbs and shrubs composed of such typical plants as sea purslane, sea grapes, and sea oats without any one of these types being dominant. Associated with and grades into Wet Prairie or Mesic Flatwoods.



**1999 color infrared aerial photograph**

#### **Recognition:**

- Medium to rough textured, mottled tones, void of trees or limited to less than 33%
- Brushlands can include a wide variety of species of small woody shrubs or one dominant species that is well adapted for the site and terrain
- May have visible sandy or droughty understory - typically arid areas
- Usually follow natural contours on land forms or adjacent to forested areas

Examples include: Palmetto Prairies, Coastal Scrub

**SPECIFIC HABITAT: DRY PRAIRIES**



**Associated Community Types:**

- FLUCCS – 320/Shrub and Brushland
- 310/Herbaceous
- 321/Palmetto Prairies
- FNAI – Dry Prairie
- SCS – 6/South Florida Flatwoods

Dry Prairie is very similar to Mesic Flatwoods in most respects, except that pines and palms are absent or at a density below one tree per acre. The natural fire frequency (i.e., every 1-4 years) averages slightly more frequent than generally occurs in Mesic Flatwoods. The higher frequency of fire is probably the primary factor that limits pine recruitment in this community.

**Vegetation:**

Typical plants include wiregrass, saw palmetto, broomsedge, carpet grass, runner oak, Indian grass, love grass, blazing star, rabbit tobacco, pine lily, marsh pink, milkwort, goldenrod, musky mint, pawpaw, dwarf wax myrtle, gallberry, staggerbush, fetterbush, and dwarf blueberry.



**Soils:**

The soils occur on relatively flat, moderately to poorly drained terrain and typically consist of 1-3 feet of acidic sands generally overlying an organic hardpan or clayey subsoil. The hardpan substantially reduces the percolation of water below and above its surface.



**Associated Soil Map Units**

MUID	Map Unit Name
115003	BOCA AND HALLANDALE SOILS
115004	BRADENTON FINE SAND
115010	EAUGALLIE AND MYAKKA FINE SANDS
115021	FT. GREEN FINE SAND
115025	MALABAR FINE SAND
115030	ONA FINE SAND
115036	POPLE FINE SAND
115038	SMYRNA FINE SAND
115041	WABASSO FINE SAND

**GENERAL HABITAT: HIGH DRY SCRUBS**

**SPECIFIC HABITAT: SAND PINE SCRUB**



**Upland Forest – Sand Pine (4130)**  
*Natural color aerial photograph*

**Description:**

This pine community grows on deep, infertile deposits of marine sands and clays. There are two varieties of sand pines, both occurring in Florida. The Ocala variety of the Peninsula also naturally occurs in South Florida growing in densely-stocked, pure, even-aged stands. The Choctawhatchee variety of western panhandle Florida commonly occurs in uneven-aged stands invading oak communities. A root disease complex gives many sand pine stands a disheveled appearance.



**2004 color infrared aerial photograph**



**Upland Forest – Sand Pine (4130)**  
*Color infrared aerial photograph*

**Recognition:**

- Crown diameter narrow (< 40 feet), appears dark with soft textures and slight shadows.
- Often occurs as a closed to open canopy forest of sand pines with dense clumps or vast thickets of scrub oaks and other shrubs (i.e., rosemary, hickory) dominating the understory.
- Open patches of barren sand are common.
- Associated with and grades into Sandhill, Scrubby Flatwoods, Coastal Strand, and Xeric Hammock.
- Occurs on sand ridges along former shorelines.

*SPECIFIC HABITAT: SAND PINE SCRUB*



***Associated Community Types:***

FLUCCS – 413/Sand Pine

FNAI – Scrub

SCS – 3/Sand Pine Scrub

Scrub is an intermediate successional stage of Xeric Hammock. Xeric Hammock is often considered the climax community of sandy uplands.

***Vegetation:***

Typical plants include sand pine, sand live oak, myrtle oak, Chapman's oak, scrub oak, saw palmetto, rosemary, rusty lyonia, ground lichens, scrub hickory, scrub palmetto, hog plum, silk bay, beak rush, milk peas, and staggerbush.

Where the overstory of sand pines is widely scattered or absent altogether, the understory and barren sands are exposed to more intense sunlight.



***Soils:***

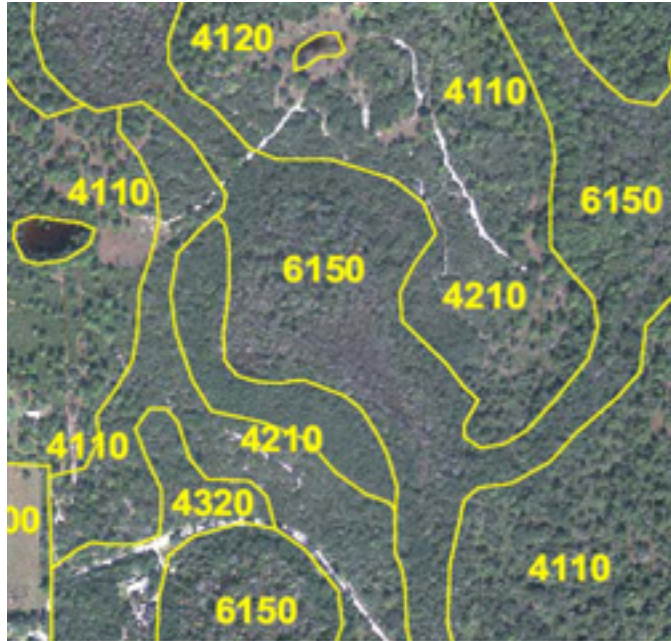
Composed of well-washed, deep sands that are brilliant white at the surface. The loose sands drain rapidly, creating very xeric conditions. Sand ridges originated as wind-deposited dune, or as wave-washed sand bars.

***Associated Soil Map Units:***

MUID	Map Unit Name
115007	CASSIA FINE SAND
115029	ORSINO FINE SAND
115033	POMELLO FINE SAND

GENERAL HABITAT: **HIGH DRY SCRUBS**

*SPECIFIC HABITAT: SCRUBBY FLATWOODS*



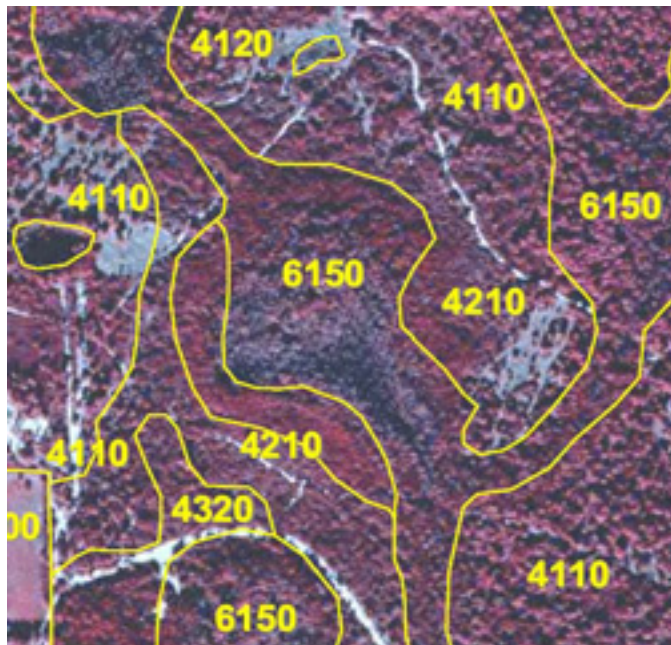
**Upland Forest – Pine Flatwoods (4110)**  
*Natural color aerial photograph*

**Description:**

Characterized as an open canopy forest of widely scattered pine trees with a sparse shrubby understory and numerous areas of barren white sand. The vegetation is a combination of Scrub and Mesic Flatwoods species, essentially a Mesic Flatwoods with a Scrub understory.



**2004 color infrared aerial photograph**

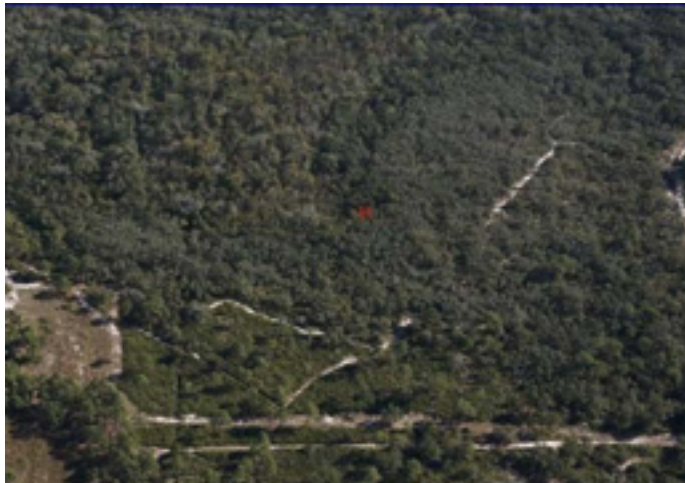


**Upland Forest – Pine Flatwoods (4110)**  
*Color infrared aerial photograph*

**Recognition:**

- Generally occur intermingled with Mesic Flatwoods along slightly elevated relic sandbars and dunes.
- Associated with and grade into Mesic Flatwoods, Scrub, Dry Prairie, or Sandhills.
- Often occupy broad transitions or ecotones between these associated communities.

**SPECIFIC HABITAT: SCRUBBY FLATWOODS**



**Associated Community Types:**

- FLUCCS – 411/Pine Flatwoods
- FNAI – Scrubby Flatwoods
- SCS – 3/Sand Pine Scrub

The elevated, deeper sandy soils of scrubby flatwoods engender a drier environment than the surrounding mesic flatwoods. The general sparsity of ground vegetation and the greater proportion of relatively incombustible scrub-oak leaf litter reduces the frequency of naturally occurring fires.

**Vegetation:**

Typical plants include longleaf pine, slash pine, sand live oak, Chapman’s oak, myrtle oak, saw palmetto, staggerbush, wiregrass, dwarf blueberry, gopher apple, rusty lyonia, tarflower, goldern aster, lichens, silk bay, garberia, huckleberry, goldenrod, runner oak, pinweeds, and frostweed.



**Soils:**

White sandy soil is several feet thick and drains rapidly.

**Associated Soil Map Units:**

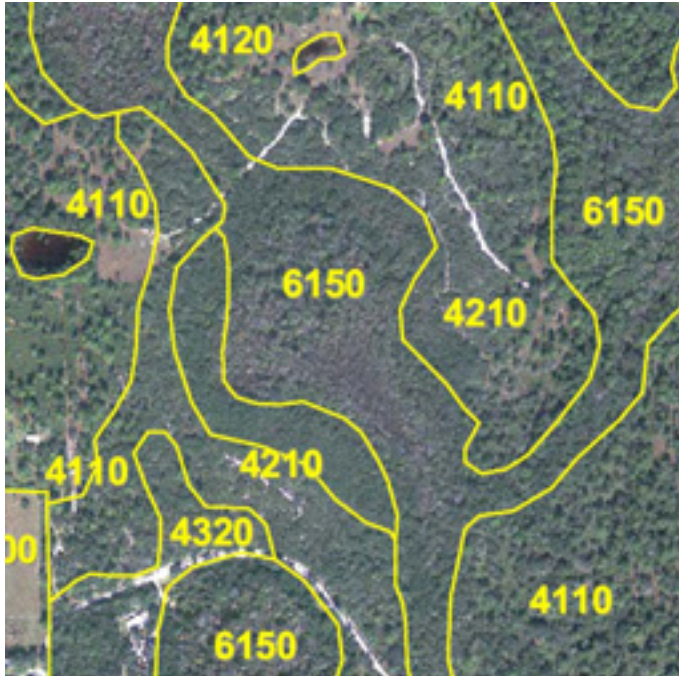
- | MUID   | Map Unit Name                   |
|--------|---------------------------------|
| 115003 | BOCA AND HALLANDALE SOILS       |
| 115004 | BRADENTON FINE SAND             |
| 115007 | CASSIA FINE SAND                |
| 115010 | EAUGALLIE AND MYAKKA FINE SANDS |
| 115021 | FT. GREEN FINE SAND             |
| 115029 | ORSINO FINE SAND                |
| 115030 | ONA FINE SAND                   |
| 115033 | POMELLO FINE SAND               |
| 115038 | SMYRNA FINE SAND                |
| 115040 | TAVARES FINE SAND               |
| 115041 | WABASSO FINE SAND               |





GENERAL HABITAT: **HIGH DRY SCRUBS**

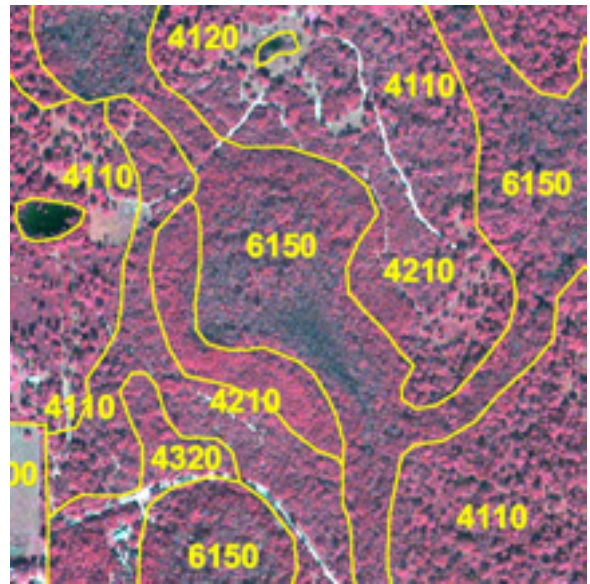
*SPECIFIC HABITAT: TURKEY OAK RIDGES*



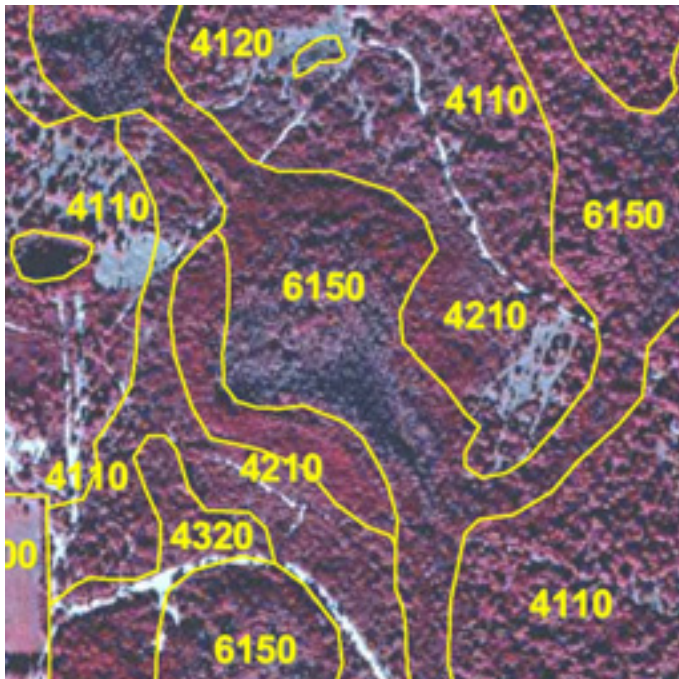
**Upland Forest – Xeric Oak (4210)**  
*Natural color aerial photograph*

**Description:**

This forest community is similar to and occupies the same sites as the Longleaf Pine-Xeric Oak community except that the pines, if present, are not the dominant species. In many cases, longleaf pine may have been present in significant numbers prior to harvesting but were never regenerated.



**2004 color infrared aerial photograph**

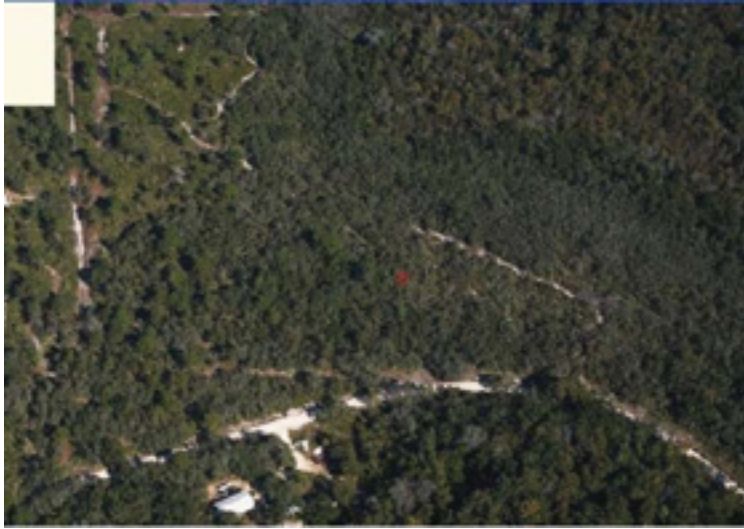


**Upland Forest – Xeric Oak (4210)**  
*Color infrared aerial photograph*

**Recognition:**

- Absence of closed canopy.
- Widely spaced pine trees with a sparse understory of deciduous oaks and a fairly dense ground cover of grasses and herbs on rolling hills of sand.
- Associated with and grade into Scrub, Scrubby Flatwoods, Mesic Flatwoods, Upland Pine Forest, or Xeric Hammock.

*SPECIFIC HABITAT: TURKEY OAK RIDGES*



**Associated Community Types:**

FLUCCS – 421/Xeric Oak

412/Longleaf Pine-Xeric Hammock

FNAI – Sandhill

SCS – 4/Longleaf Pine-Turkey Oak Hills

Sandhills are a fire climax community, being dependent on frequent ground fires to reduce hardwood competition and to perpetuate pines and grasses. Without frequent fires (i.e., every 2-5 years), Sandhills may succeed to Xeric Hammock. Unburned or cutover Sandhills may be dominated by turkey oak.

**Vegetation:**

The most typical associations are dominated by sand pine, sand live oak, myrtle oak, Chapman's oak, scrub oak, saw palmetto, rosemary, rusty lyonia, ground lichens, scrub hickory, hog plum, silk bay, beak rush, milk peas, and staggerbush.



**Soils:**

Composed of well-washed, deep sands that are brilliant white at the surface. The loose sands drain rapidly, creating very xeric conditions. Sand ridges originated as wind-deposited dune, or as wave-washed sand bars.

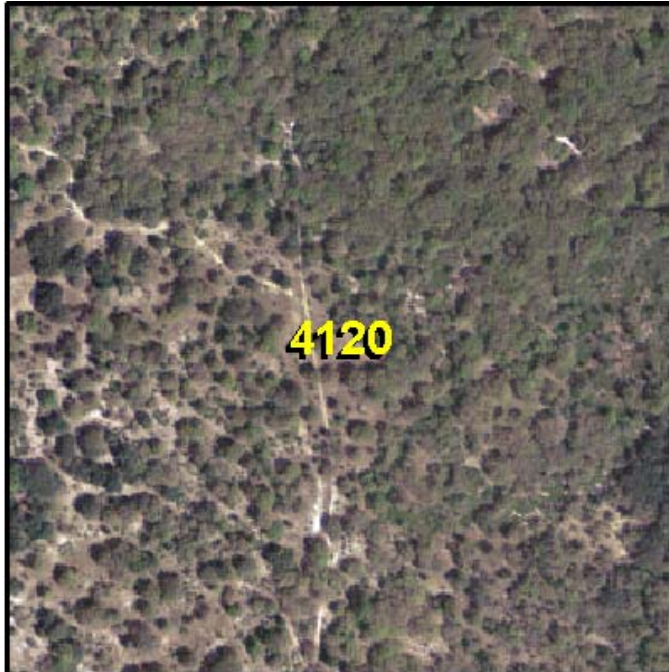
**Associated Soil Map Units:**

MUID Map Unit Name

115040 TAVARES FINE SAND

GENERAL HABITAT: **SHADY HAMMOCKS**

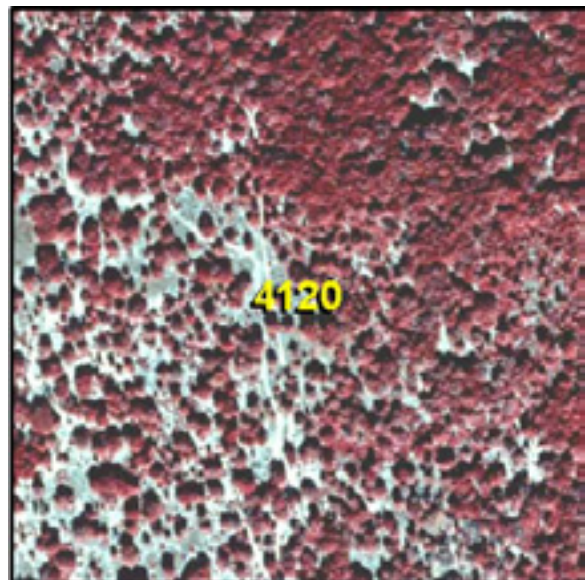
SPECIFIC HABITAT: *TURKEY OAK RIDGES*



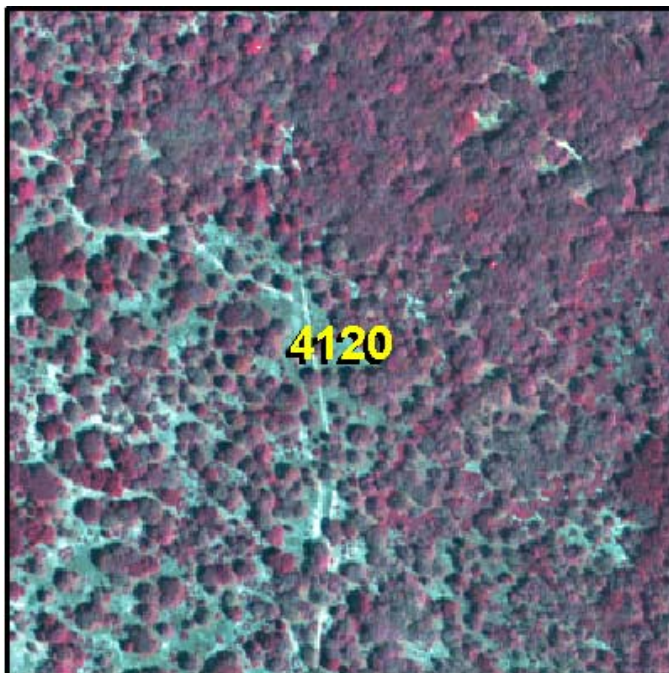
**Upland Forest – Longleaf Pine-Xeric Oak (4120)**  
*Natural color aerial photograph*

**Description:**

This class includes naturally generated longleaf pine and xeric oaks. The canopy closure must be **25% or more**, and the trees must average over 20 feet tall at the time of photography. The pine canopy, dominated by longleaf pine, is typically sparse and irregular, revealing its oak mid-story, which may include live oak, turkey oak, sand live oak, and other drought-tolerant oaks and hardwoods.



**1999 color infrared aerial photograph**



**Upland Forest – Longleaf Pine-Xeric Oak (4120)**  
*Color infrared aerial photograph*

**Recognition:**

- This community is similar to and occupies the same sites as the xeric oak community, except that longleaf pine is the dominant species.
- Longleaf pines are very tall with large flattened crowns.
- Oak mid-story is often visible and is blue-gray in signature when leaves are on.
- Understory is dull pink or brownish pink low shrubs.
- Sandy areas can be seen through canopy.
- Greyish green signature from grasses scattered among shrubs may be visible.

## SPECIFIC HABITAT: TURKEY OAK RIDGES



### *Associated Community Types:*

FLUCCS – 412/Longleaf Pine-Xeric Hammock  
421/Xeric Oak

FNAI – Sandhill

SCS – 4/Longleaf Pine-Turkey Oak Hills

Sandhills occur on hilltops and slopes of gently rolling hills. Sandhills are important aquifer recharge areas because the porous sands allow water to move rapidly through with little runoff and minimal evaporation.

### *Vegetation:*

Most typical associations are dominated by longleaf pine, turkey oak, and wiregrass. Other typical plants include bluejack oak, sand post oak, sparkleberry, persimmon, winged sumac, pinewoods dropseed, Indian grass, wild buckwheat, queen's delight, yellow foxglove, bracken fern, runner oak, goats rue, partridge pea, milk pea, dollarweeds, wild indigo, gopher apple, and golden-aster.



### *Soils:*

Composed of deep, marine-deposited, yellowish sands that are well-drained and relatively sterile.

### *Associated Soil Map Units:*

MUID	Map Unit Name
115040	TAVARES FINE SAND

**GENERAL LAND COVER: DEVELOPED FEATURES**

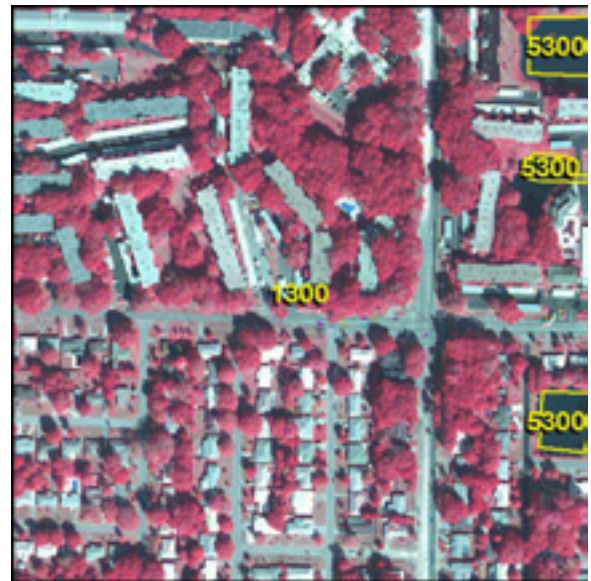
**SPECIFIC LAND COVER: VARIOUS RESIDENTIAL**



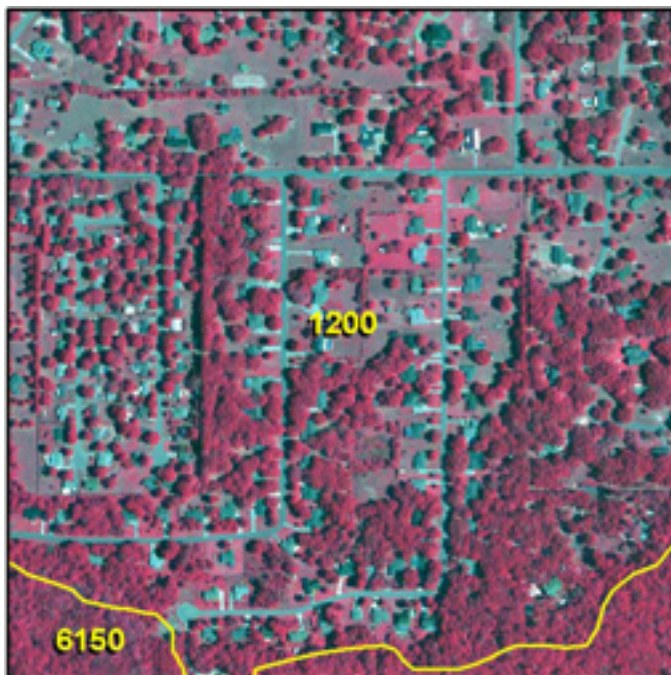
**Urban/Built-up – Low Density Residential (1100)**  
*Natural color aerial photograph*

**Description:**

Residential land uses range from high-density urban housing developments to low-density rural areas characterized by a relatively small number of homes per acre. Areas of low density residential land use (generally less than one dwelling unit per five acres), such as farmsteads, will be incorporated in other categories to which they relate. However, rural residential and recreational type subdivisions will be included in the Residential category because this land is almost entirely committed to residential use even though it may include forest or range types.



**Urban/Built-up – High Density Residential (1300)**  
*1999 color infrared aerial photograph*



**Urban/Built-up – Medium Density Residential (1200)**  
*Color infrared aerial photograph*

**Recognition:**

- Residential, Low Density, less than 2 dwelling units per acre, includes fixed single-family units, mobile home units, and low density housing under construction.
- Residential, Medium Density, 2 to 5 units per acre, includes similar types as Low Density.
- Residential, High Density, more than 5 dwelling units per acre, includes similar types as Medium Density.
- Polygon boundaries are determined by average housing density and the relationship to the total urban complex.

*SPECIFIC LAND COVER: VARIOUS RESIDENTIAL*



***Low Density Residential (1100):***

- Relatively small buildings
- Distinct street patterns
- Large yard and open areas between houses
- Outdoor structures and pools
- Garages and driveways
- Moderate amount of trees and shrubs
- Well-watered or maintained lawns
- Absence of large parking areas and structures
- Often located in newly established urban areas or urban-rural fringe

***Medium Density Residential (1200):***

- Relatively small buildings
- Distinct street patterns
- Little open area or yard between dwellings
- Limited outdoor structures
- Fences of sidewalks
- Garages and driveways
- Well-watered lawns
- Little or no vegetation – trees and shrubs close to structures and may overhang house
- Absence of large parking areas and large structures



***High Density Residential (1300):***

- Small to large buildings
- Distinct street patterns
- Little open area or yard between dwellings
- Limited outdoor structures
- Fences of sidewalks
- Little or no vegetation – trees and shrubs close to structures and may overhang house

**GENERAL LAND COVER: DEVELOPED FEATURES**

*SPECIFIC LAND COVER: VARIOUS COMMERCIAL, INSTITUTIONAL*



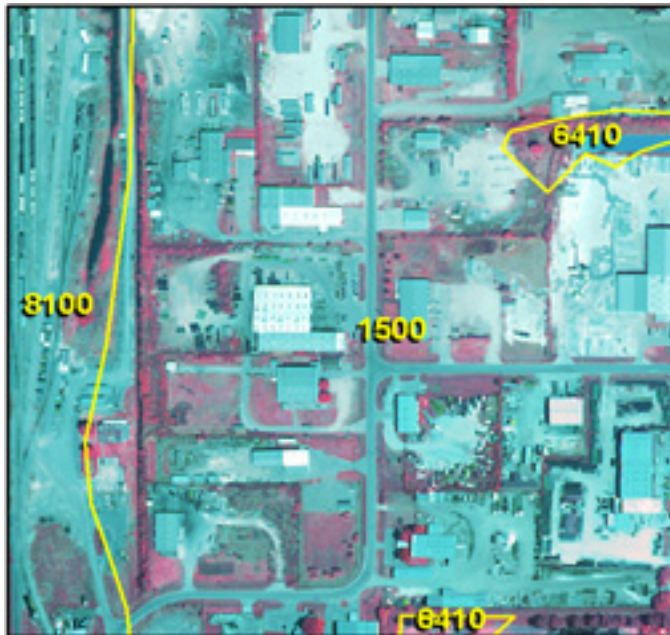
**Urban/Built-up – Commercial & Services (1400)**  
*Natural color aerial photograph*

**Description:**

Commercial areas are associated with the distribution of products and services, like shopping centers and commercial strip developments. Industrial areas include light manufacturing, industrial parks to heavy manufacturing plants, including facilities for administration and research, assembly, storage and warehousing, shipping, parking lots, and grounds. Institutional areas include educational, religious, health, and military facilities. Auxiliary land uses, particularly residential, commercial, and other supporting uses located in association, are included in category.



**Urban/Built-up – Institutional (1700)**  
*1999 color infrared aerial photograph*



**Urban/Built-up – Industrial (1500)**  
*Color infrared aerial photograph*

**Recognition:**

- Commercial and Services category includes all secondary structures associated with an enterprise in addition to main building.
- Industrial category includes land uses where manufacturing, assembly, or processing of materials and products are accomplished.
- Institutional category includes public and private schools, colleges, universities, training centers, etc.
- Areas not specifically related to the purposes of the category should be excluded, e.g., adjacent agricultural areas.

*SPECIFIC LAND COVER: VARIOUS COMMERCIAL, INSTITUTIONAL*



***Commercial and Services (1400):***

- Represents a large variety of facilities used to provide numerous services to the public.
- Located along main transportation routes or at intersections of secondary streets.
- Parking facilities located near structures to provide easy access to patrons.
- Lacking natural vegetation or open space, but well-maintained planned landscapes.
- Absence of heavy machinery, raw materials, or fences.
- Exhibit trucking or other transportation services for accepting shipments of goods or supplies.

***Industrial (1500):***

- Located adjacent to urban, port, or rail facilities.
- Fabricating and assembly industries often located adjacent to central business districts.
- Finished products and warehouses often located in urban fringe areas.
- Large to small buildings depending on industry, usually fenced.
- Little or no vegetation or planned landscaping; often unkempt look to property.
- Adjacent to major transportation routes.



***Institutional (1700):***

- Usually requires facilities with many smaller structures, which may include on-site residences.
- Facilities are self-sufficient with own power generator and sanitary disposal system.
- Often fenced with restricted and controlled passage, but with good transportation access and location to other land uses.
- Absence of natural vegetation but usually with large lawns and planned landscaping and grounds.



**GENERAL LAND COVER: DEVELOPED FEATURES**

*SPECIFIC LAND COVER: VARIOUS RECREATIONAL, OPEN LAND*



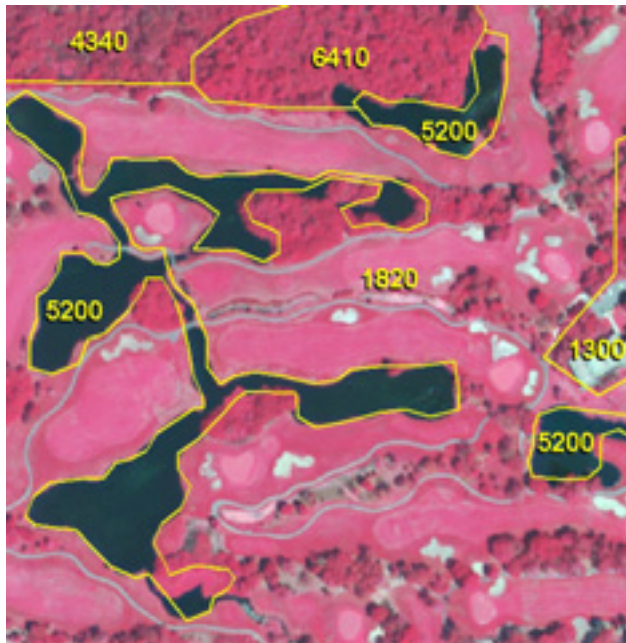
**Urban/Built-up – Recreational (1800)**  
*Natural color aerial photograph*

**Description:**

Recreational areas are those whose physical structure indicates active, user-oriented recreation is or could be occurring within the given physical area. Golf courses are recreational areas whose primary purpose is for the activity of golf and exhibit easily identifiable manicured landscapes, including fairways, greens, tees, ponds, and sand traps. Open Land normally does not exhibit any structures or indication of intended use. Often, urban inactive land may be in a transitional state and ultimately will be developed into one of the typical urban land uses.



**Urban/Built-up – Open Land (1900)**  
*1999 color infrared aerial photograph*



**Urban/Built-up – Golf Courses (1820)**  
*Color infrared aerial photograph*

**Recognition:**

- Recreational category includes parks, swimming beaches, marinas, race tracks, zoos, fairgrounds, historical sites, stadiums, etc. Note: swimming beaches are identifiable by such features as bath houses, picnic areas, service stands, and parking lots.
- Golf courses category includes parking lots, associated structures, and adjacent un-manicured areas.
- Open Land includes undeveloped land within urban areas and inactive land with street patterns but without structures.

*SPECIFIC LAND COVER: VARIOUS RECREATIONAL, OPEN LAND*



***Recreational (1800):***

- Well organized grounds with large parking facilities.
- Usually located in well serviced areas along major transportation routes.
- May exhibit multi-storied parking adjacent to larger recreational facilities.
- Easily recognized fields and markings associated with sports complexes.
- Large areas of open space associated with structures; little or no vegetation except selected landscaping (with the exception of nature areas and forested parks).

***Recreational, Golf Courses (1820):***

- Well organized grounds with large parking facilities.
- Usually located in well serviced areas along major transportation routes.
- Easily recognized features, e.g., manicured fairways, greens, tees, sand traps, and small ponds may be interspersed with remnant, native habitat landcovers, which may be categorized separately depending upon size, extent or degree of alteration, and disturbance.



***Open Land (1900):***

- Open land area within an urban area with no structures or recognizable land use. Does not include parks or greenbelts.
- May be heavily vegetated or covered by rough textured overgrowth.
- Usually land completely surrounded if within an urban area.
- Includes lands on the urban fringe that have infrastructure such as roads or street patterns but lacks structures.
- Includes transitional lands of urban character where the intended use cannot be ascertained.

GENERAL LAND COVER: **DEVELOPED FEATURES**

SPECIFIC LAND COVER: **VARIOUS WATER**



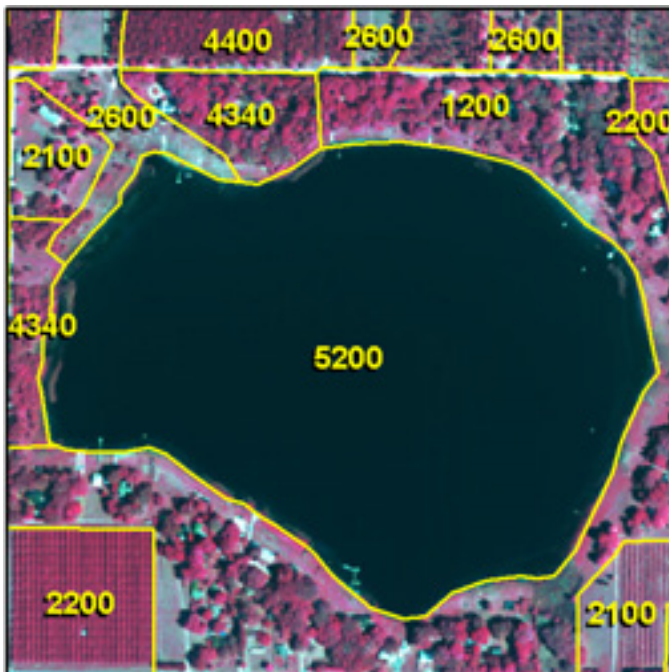
**Water – Channelized Streams & Canals (5100)**  
*Natural color aerial photograph*

**Description:**

Various artificial (man-made, man-altered) water bodies compose landscapes in urban and built-up or agricultural lands. Channelized streams, canals, and other linear water bodies typically occur in upstream, headwater reaches of natural rivers or creeks. Lakes occur as extensive inland water bodies, excluding reservoirs, as a result of artificial excavations. Reservoirs are artificial impoundments of water used for irrigation, flood control, municipal and rural water supplies, recreation, and hydro-electric power generation.



**Water – Reservoirs (5300)**  
*1999 color infrared aerial photograph*



**Water - Lakes (5200)**  
*Color infrared aerial photograph*

**Recognition:**

- Channelized Streams and Canals are commonly associated with the upper reaches of natural rivers, streams, and creeks.
- Lakes are commonly associated with artificial excavations such as borrow pits, irrigation ponds, and livestock operations.
- Reservoirs are commonly associated with stormwater treatment facilities within urban and built-up lands.

**SPECIFIC LAND COVER: VARIOUS WATER**



***Channelized Streams and Canals (5100):***

- Water will generally exhibit a dark blue or black tone to a medium gray tone.
- Long narrow features without impoundment structures that interrupt downstream flow.
- May exhibit varying width depending on size and nature of waterway and topography.
- Man-altered cross-section or entirely man-made straight line canals are common.
- Parallel land-water interface, easily recognizable.

***Lakes (5200):***

- Inland water bodies of various sizes and shapes.
- Water will exhibit a varying tone from very dark to medium depending on the turbidity and sediment load of the water.
- Shorelines will often appear linear and follow excavation layout.
- Evidence of fluctuating water levels on shorelines may be seen.
- Total area of inundation (including wetland vegetation) should be considered when determining size.

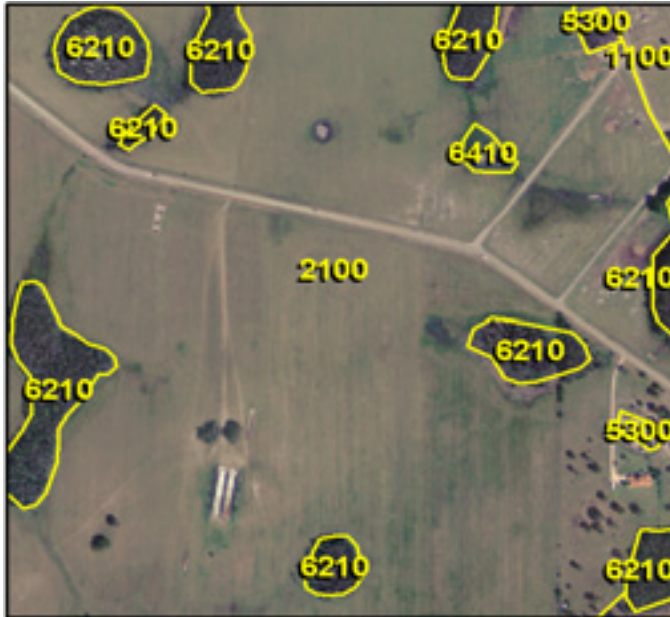


***Reservoirs (5300):***

- Reservoirs are artificial impoundments of water that will contain a man-made structure on at least one side of the water body.
- Generally, the sides are sharp and straight (at least partially round, does not necessarily follow surrounding landscapes).
- Signature and tone of the water will be dependent on turbidity and sediments in the water body.
- Will always appear flat and smooth.
- Usually a non-linear water feature.

GENERAL LAND COVER: **AGRICULTURE**

SPECIFIC LAND COVER: *VARIOUS AGRICULTURAL*



**Agriculture – Cropland and Pastureland (2100)**  
*Natural color aerial photograph*

**Description:**

Agricultural lands may be defined as those lands that are cultivated to produce food crops and livestock. Various subcategories include: Cropland and Pastureland that are managed for crops; improved, unimproved, or woodland pastures; Row Crops for food or herbage; and Tree Crops for orchards and groves whether active or abandoned.



**Agriculture – Tree Crops (2200)**  
*1999 color infrared aerial photograph*



**Agriculture – Row Crops (2140)**  
*Color infrared aerial photograph*

**Recognition:**

- Cropland and pastureland category includes crops harvested other than tree or bush crops or horticultural crops.
- Row crops category includes cultivated annual crops exhibiting narrow row spacing, unlike field crops.
- Tree crops of orchards and groves generally occur in areas possessing specific combination of soil qualities and climatological factors with moderating water bodies in close proximity.

*SPECIFIC LAND COVER: VARIOUS AGRICULTURAL*



***Cropland and Pastureland (2100):***

- Land from which crops are harvested or on which crops and pasture grasses are grown in rotation with one another.
- Pastureland used more or less permanently for livestock grazing occurs on land that is not tilled or used as cropland.
- Field size and shape are highly variable depending on topographic conditions, soil types, crop types, etc.
- Topographically rough land, stream floodplains, wooded areas, and wetlands often may be used for pasture.
- Relative smooth, even-textured land.

***Row Crops (2140):***

- Exhibit narrow row spacing for cultivated crops, unlike field crops, which do not exhibit rows on photography (e.g., trees or shrubs that have wider spacing).
- Active fields show straight rows of crops and furrows or plow lines.
- Drainage ditches and levees or subsurface drains with associated irrigation systems equipment are typically present.
- Rows are visible even after harvesting of crops.
- Farm buildings and equipment are seen in surrounding areas.

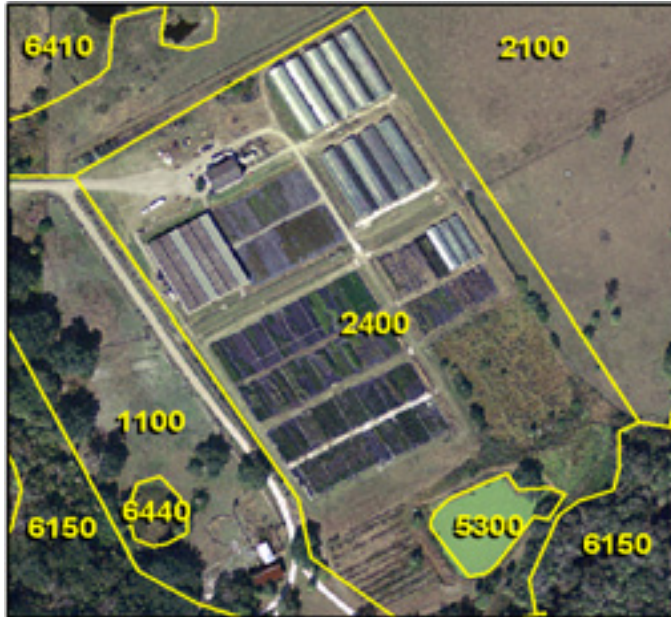


***Tree Crops (2200):***

- Characteristic long linear rows of even spacing.
- Rows are typically much wider than row crops and allow for the access of vehicles and farm equipment to reach the tree.
- Typically have large round crowns and may be deciduous in nature.
- Intermittent spaces within groves exhibit various fullness of trees due to differing maturity of trees.
- Trees typically well-maintained and underbrush or competing vegetation removed.
- Abandoned groves will look unkempt.

**GENERAL LAND COVER: AGRICULTURE**

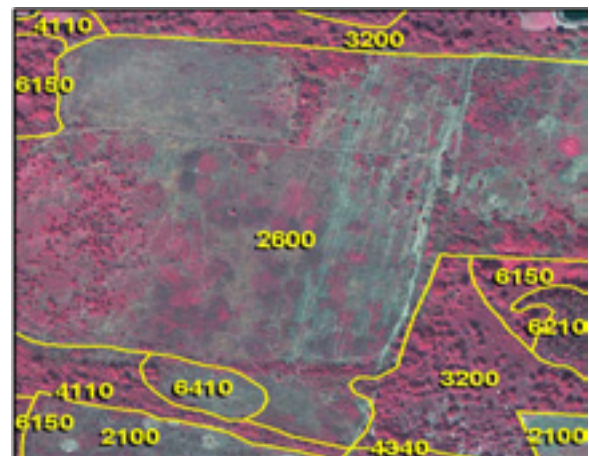
*SPECIFIC LAND COVER: VARIOUS AGRICULTURAL*



**Agriculture – Nurseries and Vineyards (2400)**  
*Natural color aerial photograph*

**Description:**

Agricultural lands may be defined as those lands that are cultivated to produce food crops and livestock or floricultural products. Various sub-categories include: Feeding Operations for specialized livestock production of cattle, swine or poultry; Nurseries and Vineyards that are managed for ornamentals, flowers, or trees for landscaping; Specialty Farms for thoroughbred horses, dog kennels, dairies, etc.; and Other Open Lands – Rural for harvested agricultural lands whether active or abandoned or where the intended usage cannot be determined.



**Other Open Lands – Rural (2600)**  
*1999 color infrared aerial photograph*



**Agriculture – Specialty Farm (2500)**  
*Color infrared aerial photograph*

**Recognition:**

- Nurseries and Vineyards category includes floricultural areas and seed-and-sod areas used perennially and generally not rotated with other uses.
- Specialty Farms category includes a variety of special or unique farming activities such as thoroughbred horse farms, dog kennels, and aquaculture
- Other Open Lands – Rural category usually portrays a rough, uneven, shrubby texture but still portrays the appearance of agricultural processes (straight borders, old field marking, old grove lines, etc.).

*SPECIFIC LAND COVER: VARIOUS AGRICULTURAL*

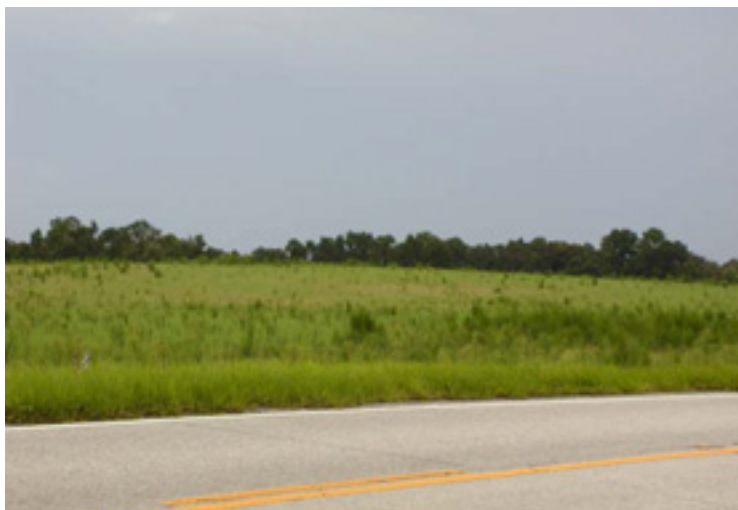


***Nurseries and Vineyards (2400):***

- Usually small plots focused around long, narrow rows of greenhouses or long, narrow rows of planted vines.
- May have a number of different plant types forming various width and spacing of rows.
- Typically with numerous short rows running perpendicular to longer rows.
- Usually occurs in areas of rich humus soil along rivers or in basin depressions.
- Examples include: tree nurseries, ornamental nurseries, sod farms.

***Specialty Farms (2500):***

- Highly specialized for the production or breeding operation of show animals and specialty foods.
- Structures and acreage requirements vary depending on operation, with confusing or unique aerial signatures.
- Usually involve smaller parcels than large crop or pasture farms, which are fenced to contain grouping of small structures.
- Caretaker or owner usually resides on premises as these require close attention.
- Examples include: dog kennels, horse farms, dairies, aquaculture, and tropical fish farms.



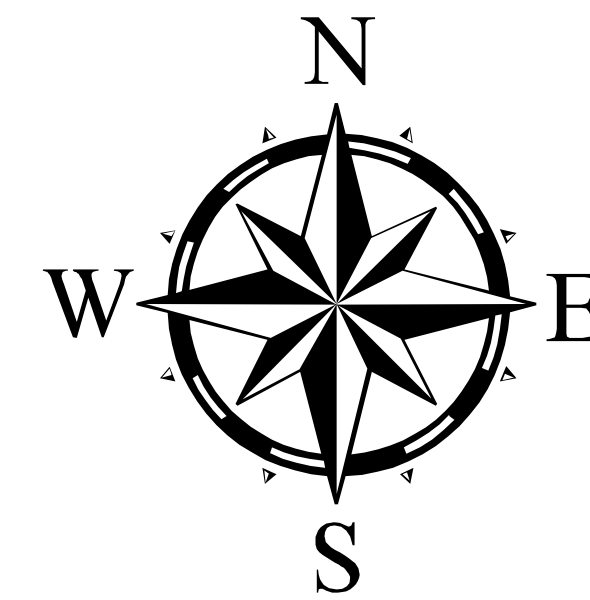
***Other Open Lands - Rural (2600):***

- These areas include rural lands with agricultural characteristics where the intended use cannot be ascertained.
- Includes fallow crop land or land left for more than one season of crop rotation.
- Includes land on the urban fringe that may be in the process of transition but shows no positive identifying features.
- Includes dead or deserted crops or tree crops.



## **Appendix C**

***1995 Habitat Map (Revised)***



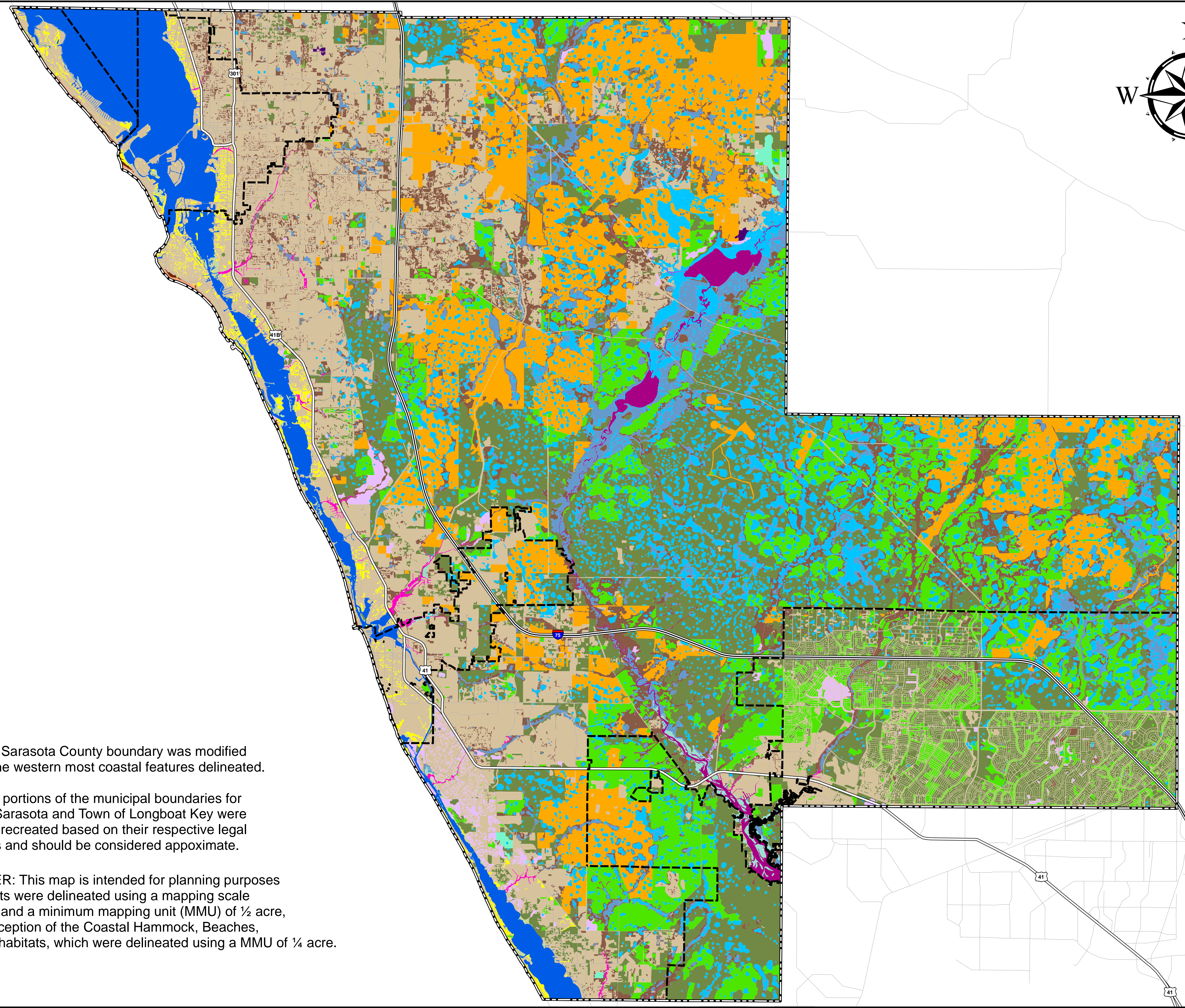
**LEGEND**

-  Sarasota County Boundary
-  Municipalities
- 1995 LAND COVER CLASSIFICATIONS**
-  Marine and Estuarine Consolidated Substrate
-  Beaches
-  Dunes
-  Coastal Hammock
-  Mangrove Swamps
-  Tidal Marsh
-  Bay Waters
-  Coastal Streams
-  The Myakka River
-  Swamps
-  Freshwater Wetlands
-  Mesic Hammock
-  Xeric Hammock
-  Pine Flatwoods
-  Dry Prairie
-  Sand Pine Scrub
-  Scrubby Flatwoods
-  Turkey Oak Ridges
-  Developed
-  Agriculture

NOTE: The Sarasota County boundary was modified to include the western most coastal features delineated.

The coastal portions of the municipal boundaries for the City of Sarasota and Town of Longboat Key were necessarily recreated based on their respective legal descriptions and should be considered approximate.

DISCLAIMER: This map is intended for planning purposes only. Habitats were delineated using a mapping scale of 1" = 400' and a minimum mapping unit (MMU) of 1/2 acre, with the exception of the Coastal Hammock, Beaches, and Dunes habitats, which were delineated using a MMU of 1/4 acre.



DATE: 09-29-08  
 FILE: 1995 Overall Map 9-29-08.mxd  
 PROJECT NO: 08310  
 AERIAL: N/A  
 SCALE : 1" = 8000'

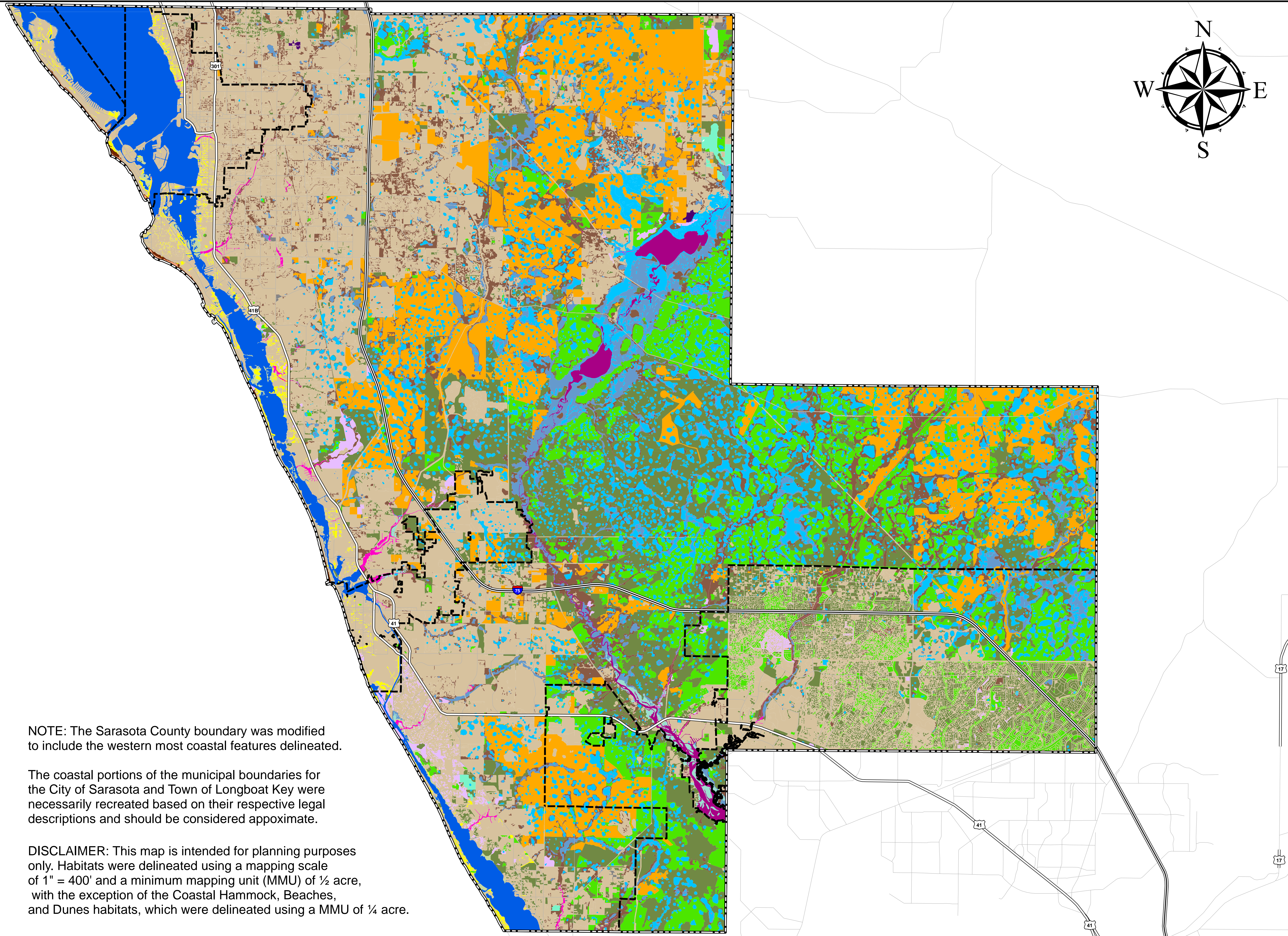
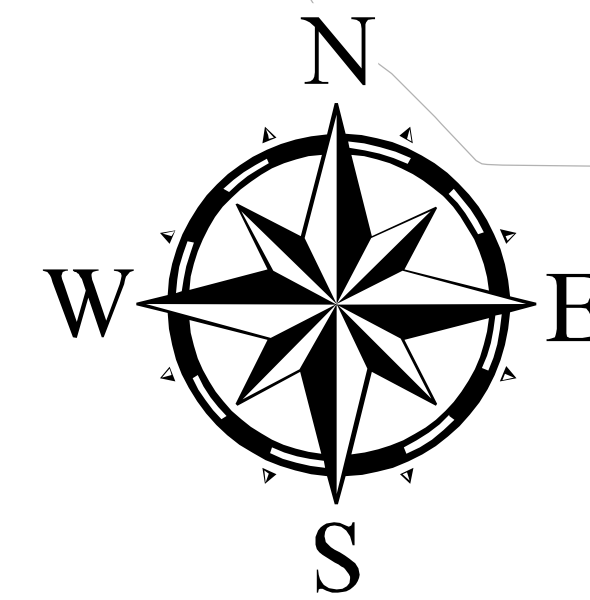
**1995 NATIVE HABITAT MAP (REVISED)**  
**NATIVE HABITAT MAPPING AND RISK ASSESSMENT**  
**SARASOTA COUNTY, FLORIDA**



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**Appendix D**

*2007 Habitat Map*



**LEGEND**

-  Sarasota County Boundary
-  Municipalities
- 2007 LAND COVER CLASSIFICATIONS**
-  Marine and Estuarine Consolidated Substrate
-  Beaches
-  Dunes
-  Coastal Hammock
-  Mangrove Swamps
-  Tidal Marsh
-  Bay Waters
-  Coastal Streams
-  The Myakka River
-  Swamps
-  Freshwater Wetlands
-  Mesic Hammock
-  Xeric Hammock
-  Pine Flatwoods
-  Dry Prairie
-  Sand Pine Scrub
-  Scrubby Flatwoods
-  Turkey Oak Ridges
-  Developed
-  Agriculture

NOTE: The Sarasota County boundary was modified to include the western most coastal features delineated.

The coastal portions of the municipal boundaries for the City of Sarasota and Town of Longboat Key were necessarily recreated based on their respective legal descriptions and should be considered approximate.

DISCLAIMER: This map is intended for planning purposes only. Habitats were delineated using a mapping scale of 1" = 400' and a minimum mapping unit (MMU) of 1/2 acre, with the exception of the Coastal Hammock, Beaches, and Dunes habitats, which were delineated using a MMU of 1/4 acre.

DATE: 09-29-08  
FILE: 2007 Overall Map 9-29-08.mxd  
PROJECT NO: 08310  
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SCALE : 1" = 8000'

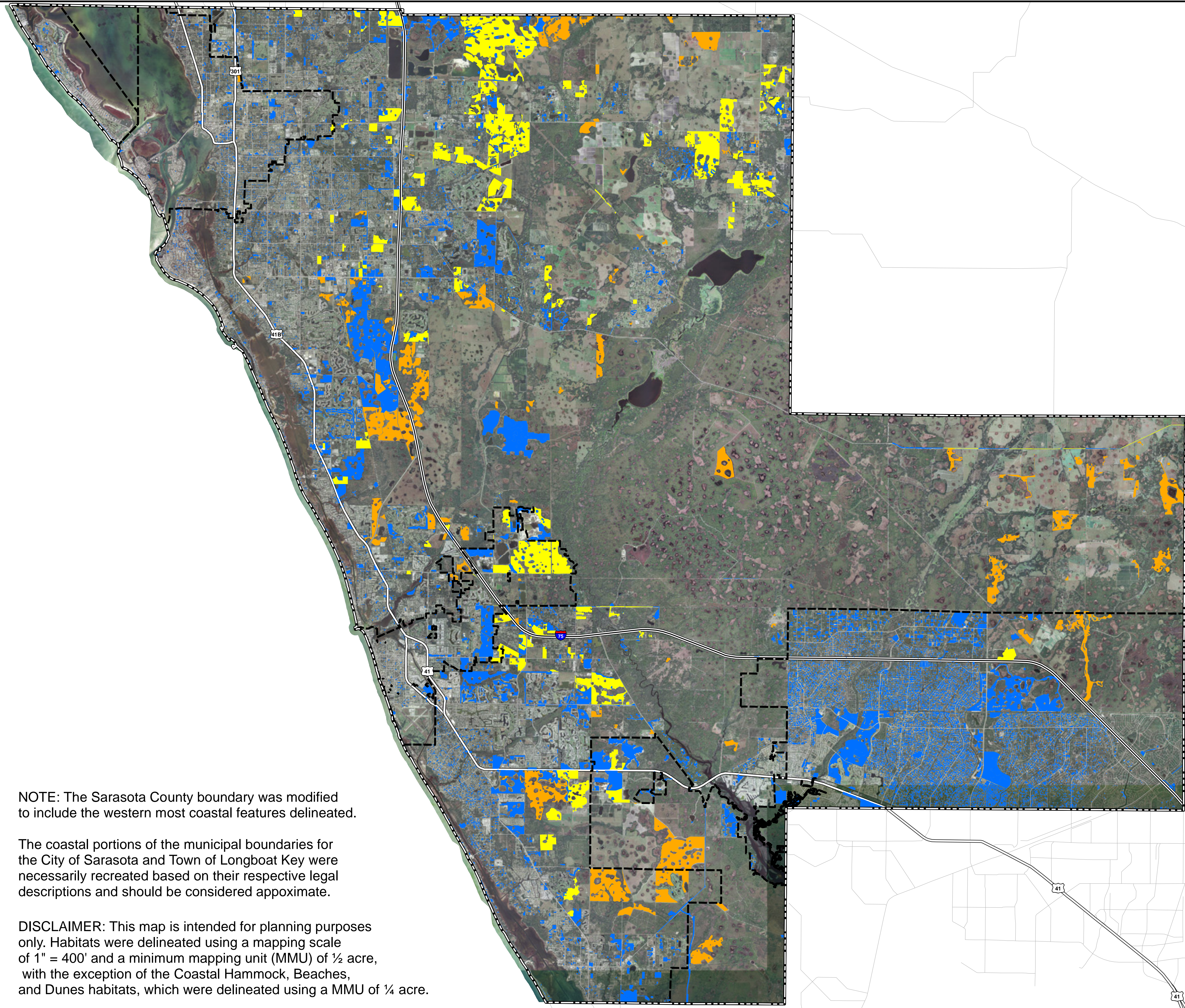
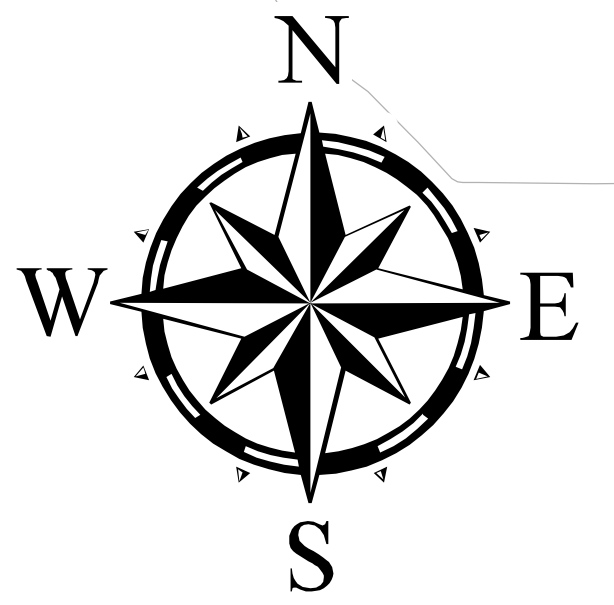
2007 NATIVE HABITAT MAP  
NATIVE HABITAT MAPPING AND RISK ASSESSMENT  
SARASOTA COUNTY, FLORIDA




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**Appendix E**

***Native Habitat Change Map***



### LEGEND

-  Sarasota County Boundary
-  Municipalities
-  Native to Developed
-  Native to Agriculture
-  Agriculture to Developed

NOTE: The Sarasota County boundary was modified to include the western most coastal features delineated.

The coastal portions of the municipal boundaries for the City of Sarasota and Town of Longboat Key were necessarily recreated based on their respective legal descriptions and should be considered approximate.

DISCLAIMER: This map is intended for planning purposes only. Habitats were delineated using a mapping scale of 1" = 400' and a minimum mapping unit (MMU) of ½ acre, with the exception of the Coastal Hammock, Beaches, and Dunes habitats, which were delineated using a MMU of ¼ acre.

DATE: 09-29-08  
FILE: 1995 to 2007 Change Analysis Map 9-29-08.mxd  
PROJECT NO: 08310  
AERIAL: 2007 SWFWMD (stplwft)  
SCALE : 1" = 8000'

## LAND COVER CHANGE MAP (1995 to 2007) NATIVE HABITAT MAPPING AND RISK ASSESSMENT SARASOTA COUNTY, FLORIDA



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**Appendix F**

*Native Habitat Change Tables*

Appendix F, Table 1. Land cover area and percent change of native habitats in unincorporated Sarasota County between 1995 and 2007

General Apoxsee Classification	Specific Native Habitat/Land Use	1995		2007		County-wide Change		Change to Development		Change to Agriculture		Change to Dunes		Change to Beaches		Change to Pine Flatwoods		Change to Dry Prairie	
		Acreage	Percent of County	Acreage	Percent of County	Acreage*	Percent Change	Acreage	Proportion of Change	Acreage	Proportion of Change	Acreage	Proportion of Change	Acreage	Proportion of Change	Acreage	Proportion of Change	Acreage	Proportion of Change
Nearshore Gulf and Bay																			
	Marine and Estuarine Consolidated Substrate	11.5	0.0%	11.5	0.0%														
Sandy Coasts																			
	Beaches	337.8	0.1%	401.0	0.1%	63.2	18.7%	-4.2	-1.2%			-37.2	-11.0%						
	Dunes	116.3	0.0%	145.6	0.1%	29.3	25.2%	-5.3	-4.6%					-2.3	-2.0%				
Barrier Backbones																			
	Coastal Hammock	1,679.3	0.6%	1,319.1	0.5%	-360.2	-21.4%	-360.2	-21.4%										
Estuaries																			
	Mangrove Swamps	618.1	0.2%	617.9	0.2%	-0.2	0.0%	-0.2	0.0%										
	Tidal Marsh	702.7	0.2%	702.7	0.2%														
Brackish Bays																			
	Bay Waters	8,798.4	3.0%	8,798.4	3.0%														
Original Waterways																			
	Coastal Streams	843.8	0.3%	843.8	0.3%														
	The Myakka River	2,834.7	1.0%	2,834.7	1.0%														
Freshwater Wetlands																			
	Swamps	14,883.1	5.1%	14,676.9	5.0%	-206.2	-1.4%	-168.2	-1.1%	-38.0	-0.3%								
	Freshwater Wetlands	35,745.7	12.3%	35,052.0	12.0%	-693.7	-1.9%	-499.3	-1.4%	-194.5	-0.5%								
Shady Hammocks																			
	Mesic Hammock	28,233.3	9.7%	25,639.6	8.8%	-2,593.7	-9.2%	-2,427.6	-8.6%	-166.1	-0.6%								
	Xeric Hammock	466.0	0.2%	379.3	0.1%	-86.7	-18.6%	-70.4	-15.1%	-16.3	-3.5%								
Pine Prairies																			
	Pine Flatwoods	51,245.6	17.6%	38,143.5	13.1%	-13,102.1	-25.6%	-6,153.5	-12.0%	-2,353.7	-4.6%							-8,549.2	-16.7%
	Dry Prairie	26,746.8	9.2%	26,313.3	9.0%	-433.5	-1.6%	-1,536.5	-5.7%	-3,491.9	-13.1%					-3,954.3	-14.8%		
High Dry Scrubs																			
	Sand Pine Scrub	583.3	0.2%	583.3	0.2%														
	Scrubby Flatwoods	2,743.1	0.9%	2,314.5	0.8%	-428.6	-15.6%	-428.6	-15.6%										
	Turkey Oak Ridges	88.7	0.0%	88.7	0.0%														
Developed Features																			
	Developed	63,019.6	21.7%	82,582.1	28.4%	19,562.5	31.0%												
	Agriculture	51,155.3	17.6%	49,507.3	17.0%	-1,648.0	-3.2%	-7,908.5	-15.5%										

\*Beaches and Dunes include an unspecified amount of area gained from the Gulf of Mexico due to natural sand accretion and/or beach nourishment projects



Appendix F, Table 2. Land cover area and percent change of native habitats in the City of Sarasota between 1995 and 2007

General Apoxsee Classification	Specific Native Habitat/Land Use	1995		2007		County-wide Change		Change to Development		Change to Agriculture		Change to Dunes		Change to Beaches	
		Acreage	Percent of County	Acreage	Percent of County	Acreage*	Percent Change	Acreage	Proportion of Change	Acreage	Proportion of Change	Acreage	Proportion of Change	Acreage	Proportion of Change
Sandy Coasts															
	Beaches	62.3	0.4%	82.3	0.5%	20.0	32.1%	-1.0	-1.6%			-16.8	-27.0%		
	Dunes	33.3	0.2%	41.5	0.3%	8.2	24.6%	-4.5	-13.5%					-4.2	-12.6%
Barrier Backbones															
	Coastal Hammock	495.3	3.2%	414.5	2.7%	-80.8	-16.3%	-80.8	-16.3%						
Estuaries															
	Mangrove Swamps	117.2	0.8%	117.2	0.8%										
	Tidal Marsh	2.1	0.0%	2.1	0.0%										
Brackish Bays															
	Bay Waters	5,966.0	38.5%	5,964.7	38.4%	-1.3	0.0%							-1.3	0.0%
Original Waterways															
	Coastal Streams	28.7	0.2%	28.7	0.2%										
Freshwater Wetlands															
	Swamps	18.2	0.1%	16.0	0.1%	-2.2	-12.1%	-2.2	-12.1%						
	Freshwater Wetlands	6.4	0.0%	6.4	0.0%										
Shady Hammocks															
	Mesic Hammock	998.2	6.4%	755.0	4.9%	-243.2	-24.4%	-225.5	-22.6%	-17.7	-1.8%				
	Xeric Hammock	2.7	0.0%	1.9	0.0%	-0.8	-29.6%	-0.8	-29.6%						
Pine Prairies															
	Pine Flatwoods	135.9	0.9%	55.9	0.4%	-80.0	-58.9%	-80.0	-58.9%						
	Dry Prairie	5.6	0.0%	0.0	0.0%	-5.6	-100.0%	-5.6	-100.0%						
Developed Features															
	Developed	7,604.7	49.1%	8,020.5	51.7%	415.8	5.5%								
	Agriculture	15.4	0.1%	17.7	0.1%	2.3	14.9%	-15.4	-100.0%						

\*Beaches and Dunes include an unspecified amount of area gained from the Gulf of Mexico due to natural sand accretion and/or beach nourishment projects

Appendix F, Table 3. Land cover area and percent change of native habitats in the City of Venice between 1995 and 2007

General Apoxsee Classification	Specific Native Habitat/Land Use	1995		2007		City-wide Change		Change to Development		Change to Agriculture		Change to Dunes		Change to Dry Prairie		Change to Pine Flatwoods	
		Acreage	Percent of City	Acreage	Percent of City	Acreage*	Percent Change	Acreage	Proportion of Change	Acreage	Proportion of Change	Acreage	Proportion of Change	Acreage	Proportion of Change	Acreage	Proportion of Change
Sandy Coasts																	
	Beaches	33.3	0.3%	17.9	0.2%	-15.4	-46.2%	-0.5	-1.5%			-24.8	-74.5%				
	Dunes	0.7	0.0%	25.5	0.2%	24.8	3542.9%										
Barrier Backbones																	
	Coastal Hammock	216.8	2.0%	186.2	1.8%	-30.6	-14.1%	-30.6	-14.1%								
Estuaries																	
	Mangrove Swamps	11.6	0.1%	11.6	0.1%												
	Tidal Marsh	38.9	0.4%	38.9	0.4%												
Brackish Bays																	
	Bay Waters	271.3	2.6%	271.3	2.6%												
Original Waterways																	
	Coastal Streams	45.2	0.4%	45.2	0.4%												
	The Myakka River	10.4	0.1%	10.4	0.1%												
Freshwater Wetlands																	
	Swamps	27.2	0.3%	18.0	0.2%	-9.2	-33.8%	-9.2	-33.8%								
	Freshwater Wetlands	722.0	6.8%	630.8	5.9%	-91.2	-12.6%	-81.1	-11.2%	-10.1	-1.4%						
Shady Hammocks																	
	Mesic Hammock	341.8	3.2%	272.5	2.6%	-69.3	-20.3%	-69.4	-20.3%								
Pine Prairies																	
	Pine Flatwoods	1,648.0	15.5%	1,001.0	9.4%	-647.0	-39.3%	-594.6	-36.1%					-52.7	-3.2%		
	Dry Prairie	111.2	1.0%	58.3	0.5%	-52.9	-47.6%	-105.6	-95.0%								
High Dry Scrubs																	
	Scrubby Flatwoods	30.2	0.3%	24.5	0.2%	-5.7	-18.9%	-5.7	-18.9%								
Developed Features																	
	Developed	5,471.7	51.5%	7,384.7	69.5%	1,913.0	35.0%										
	Agriculture	1,635.3	15.4%	629.0	5.9%	-1,006.3	-61.5%	-1,016.4	-62.2%								

\*Beaches include an unspecified amount of area gained from the Gulf of Mexico due to natural sand accretion and/or beach nourishment projects

Appendix F, Table 4. Land cover area and percent change of native habitats in the City of North Port between 1995 and 2007

General Apoxsee Classification	Specific Native Habitat/Land Use	1995		2007		City-wide Change		Change to Development		Change to Agriculture		Change to Dry Prairie		Change to Pine Flatwoods	
		Acreage	Percent of City	Acreage	Percent of City	Acreage	Percent Change	Acreage	Proportion of Change	Acreage	Proportion of Change	Acreage	Proportion of Change	Acreage	Proportion of Change
Estuaries															
	Mangrove Swamps	25.7	0.0%	25.7	0.0%										
	Tidal Marsh	298.8	0.5%	298.8	0.5%										
Original Waterways															
	Coastal Streams	41.3	0.1%	41.3	0.1%										
	The Myakka River	7.5	0.0%	7.5	0.0%										
Freshwater Wetlands															
	Swamps	1,982.5	3.0%	1,942.2	2.9%	-40.3	-2.0%	-40.0	-2.0%	-0.3	0.0%				
	Freshwater Wetlands	5,816.2	8.8%	5,663.2	8.5%	-153.0	-2.6%	-145.3	-2.5%	-7.6	-0.1%				
Shady Hammocks															
	Mesic Hammock	2,428.8	3.7%	2,206.2	3.3%	-222.6	-9.2%	-205.9	-8.5%	-16.8	-0.7%				
Pine Prairies															
	Pine Flatwoods	25,457.4	38.4%	17,951.3	27.1%	-7,506.1	-29.5%	-5,477.4	-21.5%	-137.2	-0.5%	-3,661.6	-14.4%		
	Dry Prairie	15,071.7	22.7%	12,912.7	19.5%	-2,159.0	-14.3%	-2,866.0	-19.0%	-1,184.5	-7.9%			-1,770.1	-11.7%
High Dry Scrubs															
	Scrubby Flatwoods	632.7	1.0%	453.2	0.7%	-179.5	-28.4%	-179.5	-28.4%						
Developed Features															
	Developed	11,711.8	17.7%	20,902.2	31.5%	9,190.4	78.5%								
	Agriculture	2,869.0	4.3%	3,939.1	5.9%	1,070.1	37.3%	-276.3	-9.6%						

Appendix F, Table 5. Land cover area and percent change of native habitats in the Town of Longboat Key between 1995 and 2007

General Apoxsee Classification	Specific Native Habitat/Land Use	1995		2007		Town-wide Change		Change to Development		Change to Dunes		Change to Beaches	
		Acreage	Percent of Town	Acreage	Percent of Town	Acreage*	Percent Change	Acreage	Proportion of Change	Acreage	Proportion of Change	Acreage	Proportion of Change
Sandy Coasts													
	Beaches	96.7	2.4%	147.1	3.6%	50.4	52.1%	-4.8	-5.0%	-24.7	-25.5%		
	Dunes	21.0	0.5%	39.3	1.0%	18.3	87.1%	-6.8	-32.4%				
Barrier Backbones													
	Coastal Hammock	205.3	5.1%	167.6	4.1%	-37.7	-18.4%	-37.7	-18.4%				
Estuaries													
	Mangrove Swamps	59.6	1.5%	59.6	1.5%								
Brackish Bays													
	Bay Waters	2,349.1	58.6%	2,347.5	57.4%	-1.6	-0.1%			-0.3	0.0%	-1.3	-0.1%
Developed Features													
	Developed	1,278.9	31.9%	1,328.2	32.5%	49.3	3.9%						

\*Beaches and Dunes include an unspecified amount of area gained from the Gulf of Mexico due to natural sand accretion and/or beach nourishment projects