

APPENDIX E

Rare Plant Survey of Jekyll Island, Georgia, Fall 2007

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This survey has been conducted to locate plant populations important for conservation of Jekyll Island's flora. Plants considered include rare plants listed on the special concern plant list¹ produced by Georgia Nongame Conservation Section. Search emphasis was placed on island locations with natural habitat suitable for special concern species known from Georgia barrier islands. Another aspect of the study was to observe NatureServe ecological systems and plant associations² supporting rare species populations. The effect of exotic pest species on the island's flora was also considered. Three survey trips were made to Jekyll in August, September and December 2007.

Botanical nomenclature generally follows Weakley³. Common names for taxa can be found at NatureServe Explorer⁴. I would like to thank the many people in GA-DNR, Jekyll Island Authority and The NatureServe Network who helped with this effort.

This document is associated with two other documents:

1. rare_plant_survey_jekyll_island_map.pdf
2. ecological_systems_and_plant_association_membership_for_jekyll_island.doc

Rare species seen in this survey

Eleven EOs (element occurrences) of five special concern taxa were observed in this survey including nine new EOs. The map associated with this report shows the location these populations.

EOs⁵ relocated in this survey

- *Sageretia minutiflora* - previously recorded from 2002 just west of the island along GA 520.
- *Tillandsia recurvata* - previously recorded from 1998 in St. Andrew's Beach picnic area on the south end of island.

EOs discovered in this survey

- *Eleocharis albida* - At edge of salt marsh, along bike trail east of water park at bridge over swamp.
- *Forestiera segregata* - Small shell mound in salt marsh on northwest side of island.
- *Forestiera segregata* - Small salt marsh hammock southwest side of island
- *Hibiscus grandiflorus* - Freshwater marsh on south end of island along 4H nature trail
- *Hibiscus grandiflorus* - Freshwater marsh in south central part of island
- *Rivina humilis* - small salt marsh hammock southwest of island.
- *Tillandsia recurvata* - Live oak and cedar trees along Stable Road on west end of historic district.
- *Tillandsia recurvata* - Live oak and saw palmetto forest on small finger (peninsula) into the salt marsh near south end of island.

- *Sageretia minutiflora* - In live oak, redbay forest just east of tabby ruins near north end of island

Other notable finds

Freshwater wetland communities are generally less common on barrier islands than on the mainland making their presence on Jekyll particularly important in protecting wildlife diversity⁶. Several notable freshwater wetlands were observed in this study.

A plant community dominated by *Acer rubrum*, (red maple) in the tree layer and *Woodwardia virginica* (Virginia chain fern) in the herbaceous layer, occurs in a forested seasonal wetland depression in the central part of the island just west of the shopping center with the island post office. Also present here are *Woodwardia areolata* (netted chain fern), *Sabal palmetto*, (cabbage palm), *Sereno repens* (saw palmetto), and *Morella cerifera* (wax myrtle). Some red maples are over 3 feet dbf (diameter breast height) and possibly 40 feet tall. On further investigation, this may turn out to be a significant, possibly rare, natural community EO. The most similar plant association in NatureServe Explorer seems to be: CEG004082, *Acer rubrum* - *Nyssa biflora* - (*Liquidambar styraciflua*, *Fraxinus* sp.) Maritime Swamp Forest.

Other freshwater (and possibly somewhat brackish) swamps were observed in openings of the maritime forests on the southern half of the island. These often included the special concerned species *Hibiscus grandiflorus*.

Exotic Pest Species

Many parts of Jekyll Island are relatively free of the exotic pest species found elsewhere in Georgia. The relative abundance of exotic pest-free high quality habitat found on Jekyll is very important in protecting wildlife species in general and rare species in particular. The only pest species that seem widespread and seriously threatening the island's native flora is redbay ambrosia beetle (and associated fungus) that is killing the red bay.

Cortaderia selloana (pampas grass) is a serious pest species in several parts of the world such as the Pacific Northwest US. In the Southeast US it is rarely a problem species. On Jekyll Island a small population of it can be found naturalizing at the edge of the salt marsh about 60 meters southeast of island entrance station.

Cinnamomum camphora (camphor tree) is a very serious pest species in parts of the southeast US, especially in Florida. On Jekyll it appears to be fairly common throughout the maritime forests, but it is never dominant and crowing out native species.

Parkinsonia aculeate (Mexican palo verde) is an exotic shrub or small tree native from the US Southwest to South America. It is sometimes used as a landscape plant. In some parts of the world it is a very serious weedy exotic pest species. A single specimen was

found growing in a natural situation on the west end of the island just north of the water park.

Lantana camera (common lantana) is widespread in ruderal and naturally disturbed areas of Jekyll. It is common along roads; fill areas and naturally disturbed areas in dune swales and areas of sand accretion on the south end of the island. Currently it does not seem to be aggressive enough to be considered a threat to rare species.

Lonicera japonica (Japanese honeysuckle), and *Ligustrum japonicum* (Japanese privet) are very aggressive, exotic pest species in most of Georgia. There is very little of these species found on Jekyll Island. The only populations of naturalized patches seen in this survey were found growing at an old home site along Crane Road in woods about 250 meters east of Old Village Blvd.

Sapium sebiferum (Chinese tallow tree), and *Tamarix* spp. (tamarisk) are found at edge of marsh in disturbed areas on west end of island south of the water park.

Xyleborus glabratus (redbay ambrosia beetle) is an exotic pest insect that is transporting the vascular fungus, *Ophiostoma* sp., infecting and killing the islands *Persea borbonia* (redbay). Many individuals of redbay were seen in the process of dying in the survey trips for this project.

Georgia Barrier Island Plants of Conservation Concern by Ecosystem

3. (For further information about ecological systems and plant association see document associated with this report or NatureServe Explorer on the Web⁴.)
 - **Maritime Forest (CES203.537)**
 - **Hardwood forests and openings:** *Acacia farnesiana*, *Asimina pygmaea*, *Carex dasycarpa*, *Coreopsis integrifolia*, *Mikania cordifolia*, *Zamia integrifolia*
 - **Wooded habitat edges within freshwater and tidal marshes:** *Hibiscus grandiflorus*
 - **Bluff Forests of Pignut Hickory-Mixed Oak Forests, especially over mounds and middens; also evergreen marsh hammocks:** *Forestiera godfreyi*, *Forestiera segregata*, *Sapindus marginatus*, *Sageretia minutiflora*
 - **Dry to seasonally moist pine savannas, seasonally moist sedge meadows:** *Ctenium floridanum*, *Polygala balduinii*
 - **Open slash pine flatwoods:** *Ruellia noctiflora*
 - **Oak-pine scrub:** *Quercus chapmanii*, *Asclepias pedicellata*
 - **Epiphytic on live oak, cedar, and sabal palmetto:** *Epidendrum conopseum*, *Phlebodium aureum*, *Psilotum nudum*, *Tillandsia bartramii*, *Tillandsia setacea*, *Tillandsia recurvata*, *Vittaria lineata*
 - **Salt and Brackish Tidal Marsh (CES203.270)**
 - **Sand and shell islands in salt marsh:** *Aeschynomene viscidula*, *Forestiera segregata*, *Lycium carolinianum*

- **Salt marsh:** *Eleocharis albida*, *Eleocharis montevidensis*, *Thalia dealbata*, *Hibiscus grandiflorus*
- **Fresh and Oligohaline Tidal Marsh (CES203.376)**
 - **Freshwater marsh:** *Hibiscus grandiflorus*
- **Dune and Maritime Grassland (CES203.270) & Sea Island Beach (CES203.383)**
 - **Beaches and depressions between dunes (interdune swales):** *Polygonum glaucum*, *Ruellia noctflora*, *Vigna luteola*
 - **Dune scrub; xeric dunes:** *Sideroxylon alachuensis*
- **Other habitats**
 - **Tabby ruins:** *Asplenium heteroresiliens*

¹ Georgia Nongame Conservation Section Tracking List of Special Concern Plants, http://www.georgiawildlife.com/assets/documents/Tracking_List_of_Special_Concern_Plants.pdf.

² Ecological Systems of the United States - Executive Summary, <http://www.natureserve.org/publications/usEcologicalsystems.jsp>

³ Weakley, A. S., (2007) Flora of the Carolinas, Virginia, and Georgia, and Surrounding Areas, <http://www.herbarium.unc.edu/flora.htm>.

⁴ NatureServe. 2008. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.0. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer/>.

⁵ An element occurrence (EO) is an individual example of an element (a natural community, a rare plant population, a rare animal population, or other feature tracked by Georgia Nongame Conservation Section at a specific geographic location.

⁶ Mike Schafale, Ecologist, North Carolina, NC Department of Environment & Natural Resources Office of Conservation and Community Affairs (Telephone conversation, March 2008)