

## **Southern Coastal Plain**

### Ecoregional Overview

The Southern Coastal Plain ecoregion covers approximately 6,634,517 acres in Georgia. Approximately 910,119 acres (13.7% of the ecoregion) are in some form of permanent or long-term conservation ownership. Georgia DNR manages approximately 122,250 acres owned in fee simple by the State of Georgia and an additional 119,738 in leases or management agreements. Federal land ownership includes approximately 428,875 acres managed by the U.S. Fish & Wildlife Service, 284,910 acres managed by the Department of Defense, 33,436 acres managed by the National Park Service, and 4,564 acres managed by the Natural Resources Conservation Service. The vast majority of federal land is found in two properties - Okefenokee National Wildlife Refuge and Fort Stewart Military Reservation.

Regionally, the Southern Coastal Plain extends from South Carolina and Georgia through much of central Florida, and along the Gulf coast lowlands of the Florida Panhandle, Alabama, and Mississippi. This ecoregion is lower in elevation with less relief and wetter soils than the Southeastern Plains. Once covered by a variety of forest communities that included longleaf pine, slash pine, pond pine, beech-magnolia, and mixed upland hardwoods, land cover in the region is now predominantly slash and loblolly pine plantations with cypress-gum, bay swamp, and bottomland hardwoods in low lying areas. Ecoregional subdivisions of the Southern Coastal Plain include the Okefenokee Plains, Sea Island Flatwoods, Okefenokee Swamp, Bacon Terraces, Floodplains and Low Terraces, and Sea Islands/Coastal Marsh.

The Okefenokee Plains consist of flat plains and low terraces developed on Pleistocene-Pliocene sands and gravels, and contain pine stands interspersed with numerous swamps and bays. There are some highly acidic natural lakes with low clarity and darkly colored water. Soils in the region are somewhat poorly drained to poorly drained. The region has mostly coniferous forest and young pine plantation land cover, with areas of forested wetlands.

The Sea Island Flatwoods are poorly drained flat plains with Pleistocene terraces and shoreline deposits. Poorly drained soils are common in this region; small areas of better-drained soils contribute to ecological diversity. Trail Ridge forms the eastern boundary of the Okefenokee Swamp. Loblolly and slash pine plantations cover much of the region.

The Okefenokee Swamp is a mixture of forested swamp and freshwater marsh with some pine-dominated uplands. The swamp drains to the south and southwest and contains the headwaters for the St. Marys and Suwannee Rivers as well as numerous islands, lakes, and thick beds of peat. The slow-moving waters are darkly colored and acidic. Cypress, swamp blackgum, and bay forests are common, with scattered areas of prairie, which are comprised of grasses, sedges, and various aquatic plants. Cycles of drought and fire affect both its vegetation and wildlife.

The Bacon Terraces include several relatively flat, moderately dissected terraces with subtle east-facing scarps. The terraces, developed on Pliocene to Pleistocene sands and gravels, are dissected in a dendritic pattern by much of the upper Satilla River basin. Cropland is mostly on well-drained soils on the long, narrow, flat to gently sloping ridges paralleling the stream courses. The broad flats of the interfluves are typically poorly drained pine stands, while bottomland hardwood forests are found in the wet, narrow floodplains.

Floodplains and Low Terraces are a continuation of the region of the same name in the Southeastern Plains, and consist of the broad floodplains and terraces of major rivers, such as the Savannah, Ogeechee, and Altamaha. Soils consist of stream alluvium and terrace deposits of sand, silt, clay, and gravel, along with some organic muck and swamp deposits. Swamp forests of bald cypress and water tupelo and oak-dominated bottomland hardwood forests provide important wildlife habitat.

The Sea Islands/Coastal Marsh region contains the lowest elevations in Georgia and is a highly dynamic environment affected by ocean wave, wind, and river action. Mostly sandy soils occur on the barrier islands, while organic and clayey soils occur in the freshwater, brackish, and salt marshes. Maritime forests of live oak, redcedar, slash pine, and cabbage palmetto grow on parts of the barrier islands, and various species of cordgrass, saltgrass, and rushes are dominant in the marshes. The coastal marshes, tidal creeks, and estuaries represent important nursery areas for fish, crabs, shrimp, and other marine or estuarine organisms.

The predominant land cover types in the Southern Coastal Plain are evergreen forest and forested wetlands. These two types combined account for approximately 62% of the total land area in the ecoregion. (Kramer and Elliott, 2004) An analysis of land use changes from 1974 to 1998 based on satellite imagery indicate the following general trends:

- A decrease in row crop/pasture (from 9.74% of total land cover to 8.52%)
- An increase in high-intensity and low-intensity urban (from 1.52% of total land cover to 2.63%)
- An increase in clearcut/sparse vegetation land cover types (from 8.54% of total land cover to 11.70%)
- A decrease in forested wetlands (from 30.57% of total land cover to 26.11%)
- Little apparent change in evergreen forest (from 35.28% of total land cover to 35.97%)

These trends indicate a general decline in the total acreage devoted to active agricultural uses, an increase in residential and commercial development, an increase in clearcuts, fallow fields, and other sparsely vegetated land cover resulting from a variety of land use practices, and a decline in forested wetlands. According to EPD stream monitoring data for 2002, 17% of streams in this region support designated uses (based on percentage of total monitored stream miles); 46% partially support designated uses, and 37% do not support designated uses. The percentage of monitored streams supporting designated uses in the Southeastern Plains is lowest of the five ecoregions.

## High Priority Species and Habitats

The technical teams identified 71 high priority animal species in the Southern Coastal Plain. These included 27 birds, 14 reptiles, 10 mammals, 7 amphibians, 7 mollusks, 5 fish, and 1 aquatic arthropod. These species are listed in Table 9, with information on global and state rarity ranks, protected status (if any) under federal or state law, and habitat and range in Georgia. In addition, 91 species of high priority plants were identified for the Southern Coastal Plain. These are listed in Table 10.

High priority habitats for the Southern Coastal Plain are listed and briefly described below:

### *1. Alluvial (Brownwater) Rivers and Swamps*

Large, low-gradient, meandering rivers with sandbars, sloughs and extensive floodplain swamps. Floodplains of these systems may remain inundated for extensive periods. Sand and silt are the dominant substrata and these rivers typically carry heavy sediment loads. Dominant canopy trees are baldcypress and tupelo gum; the understory tree/shrub vegetation may be patchy, often consisting of swamp privet, water elm, swamp dogwood, red maple, and Carolina ash. Cypress and gum-dominated swamps can be found along the Altamaha, Savannah, and Ogeechee rivers. These systems have been impacted by altered flows from upstream dams.

### *2. Barrier Island Freshwater Wetlands and Ponds*

Usually found in broad flats or in elliptical to linear interdune depressions on Georgia's coastal barrier islands. These wetland habitats are variable in physiognomy and species composition; deeper, more permanently flooded ponds often have a large extent of open water; shallower ponds are usually dominated by a combination of submergent, emergent and/or floating macrophytes. Trees or shrubs are present mainly along the edges of the ponds. These habitats have been impacted by groundwater withdrawals, fire suppression, and invasive exotic plants such as Chinese tallow tree.

### *3. Bayheads and Titi Swamps*

Forested wetlands dominated by broad-leaved evergreen trees: sweetbay, redbay, and loblolly bay. Usually found in domed peatlands, broad interstream flats, or shallow drainageways. Includes shrubby areas dominated by titi (*Cyrilla racemiflora*). These are considered late successional communities in a variety of hydrogeomorphic settings in the Coastal Plain

### *4. Beech-Magnolia Slope Forests*

These are uncommon Coastal Plain hardwood forests, typically found on very mesic river bluffs, and occasionally on gentle slopes that are naturally protected from fire by topographic setting. In addition to American beech and southern magnolia, may contain water oak, water hickory, American holly, and other fire-intolerant species. Often small in extent and occupying a narrow zone between wetland and fire-maintained upland

forests. May contain epiphytic species such as green-fly orchid. Often associated with and in close proximity to hillside seeps.

#### *5. Bottomland Hardwood Forests*

Diverse hardwood-dominated forests found on natural levees, upper floodplain flats and terraces along brownwater and blackwater rivers. Characterized by a diverse canopy of hardwood species dominated by various oaks, green ash, sweetgum, red maple, water hickory, and other mesic species. These extensive forested systems provide habitat for a wide variety of wildlife species, and are especially important for wide-ranging forest interior species. Bottomland hardwood forests have been impacted by altered hydrologic conditions, forest conversion, and invasive exotic species.

#### *6. Brackish Marsh and Salt Marsh*

Salt marshes are salt-tolerant grasslands, dominated by cordgrasses and rushes, over soils with circumneutral pH. These are extremely productive habitats. Brackish marshes occupy a wide ecotonal zone in the vicinity of river mouths.

#### *7. Canebreaks*

Thickets of native river cane found along rivers and creeks under sparse to full tree cover. Canebrakes represent important wildlife habitat for a variety of neotropical birds and insects. These habitats require periodic fire or other form of disturbance for maintenance.

#### *8. Coastal Beaches and Sand Bars*

Beaches and sand bars are dynamic, high-energy intertidal systems that represent important habitat for shorebirds and sea turtles. Longshore movement of sand on barrier islands results in erosion at the north end and building up at the south end. These unvegetated habitats are important foraging areas for coastal shorebirds; sea turtles nest in the foredunes at the upper ends of sandy beaches.

#### *9. Coastal Dunes and Bluffs*

These habitats consist of sparsely vegetated sandy interdunes, rear dunes, and bluffs. They constitute important habitats for a number of high priority species adapted to harsh temperatures and salt spray. Coastal dune habitats include a number of important microhabitats such as interdune meadows and depressions, shrub thickets, and dune scrub forests. Similar vegetation can be found along eroded or exposed coastal bluffs.

#### *10. Coastal Scrub-Shrub Wetlands*

Shrub dominated estuarine communities found along the upper border of salt marsh or brackish marsh. These habitats are infrequently flooded by tidal action and form ecotones between wetland and terrestrial environments. Typical shrubs include groundsel tree, marsh elder, yaupon holly, wax myrtle, Florida privet, and false willow. Wind-pruned redcedar may also be present.

#### *11. Estuarine and Inshore Marine Waters*

Estuaries (brackish waters between barrier islands and mainland) and near-shore ocean waters. Estuaries serve as nurseries for many species of fish and shellfish as well as

habitats for manatees and other marine mammals. Species composition in these aquatic communities is influenced by tidal regime and salinity.

#### *12. Evergreen Hammocks and Mesic Hardwood Forests*

Evergreen hammocks are typically associated with small isolated uplands within a floodplain or depressional wetland. Protected from frequent fire, these habitats are characterized by a canopy of submesic oaks and hickories, with southern magnolia, American holly, ironwood, flowering dogwood and spruce pine. Mesic hardwood forests are similar, and may occur in terraces above bottomland hardwood forests, ravines, or nonalluvial flats protected from frequent fire.

#### *13. Forested Depressional Wetlands*

Seasonally or semi-permanently flooded forests of depressional features in broad interstream flats. Soils range from mineral to organic and canopy dominants may include bays, pondcypress, and/or pond pine. Fire plays a role in maintaining some of these systems. Isolated wetlands that do not support fish populations are very important breeding habitats for amphibians such as the flatwoods salamander.

#### *14. Freshwater "Prairies"*

Semipermanently flooded freshwater wetlands dominated by emergent vegetation and floating macrophytes, with scattered cypress, buttonbush, and swamp blackgum. The primary example in this region is the Okefenokee Swamp. Fluctuations in water levels and/or periodic fire are required for maintenance. Many of these habitats have been impacted by altered hydrology (impoundment with dams or drainage) and/or fire suppression.

#### *15. Hillside Seeps*

Small patch habitats found on moist to wet lower slopes in sandy terrain. These seeps represent natural groundwater discharge points. May be dominated by shrubs or herbs (including pitcherplants), with scattered trees such as pond, slash, or longleaf pine. Most Georgia examples are fire-suppressed.

#### *16. Longleaf Pine-Scrub Oak Woodlands*

Sparse-canopied xeric longleaf pine system with patchy oak understory composed of turkey oak, sand post oak, bluejack oak, blackjack oak and other scrub oak species. Typically found on deep sand soils, on ridges and upper slopes. Contains a fairly diverse groundlayer of xerophytic grasses and forbs and scattered shrubs.

#### *17. Longleaf Pine-Wiregrass Savannas*

Large patch or matrix upland habitats characterized by a sparse canopy of longleaf pine (sometimes with slash pine) and a diverse herb layer dominated by wiregrass. Can range from mesic to dry, depending on topographic position and soils. Transition downslope into wet pine savannas, pine flatwoods, or other wetlands. These habitats are heavily dependent on frequent fire for maintenance.

*18. Maritime Forest and Coastal Hammocks*

Coastal forests dominated by live oak and palmetto; hammocks are small islands of maritime forest usually surrounded by brackish water and/or salt marsh. These are restricted to a narrow band of shoreline and barrier islands. Characterized by sandy soils and wind-pruned canopy trees. Provide important habitat for neotropical migrant birds.

*19. Mud and Sand Flats*

Periodically inundated mud and sand deposits located in estuarine or inshore marine waters. These unvegetated habitats are generally covered at high tide and exposed at low tide. They serve as important feeding areas for a number of coastal shorebirds such as plovers, sandpipers, and dowitchers.

*20. Nonalluvial (Blackwater) Rivers and Swamps*

Large, meandering rivers with tea-stained, but translucent waters and narrow to wide floodplains. Dominant substrate is sand, which may form bars in larger systems. In contrast to blackwater streams, forest canopy may only shade a portion of the stream width. Runs and pools are dominant habitats. Large snags are a significant component of habitat heterogeneity. Limestone shoals occur on some of these rivers.

*21. Offshore Marine Waters*

Georgia's offshore marine waters provide habitat for a number of high priority species, including loggerhead, green, Kemp's ridley, and leatherback turtles, North Atlantic right whales, and bottlenose dolphins. Hard-bottom areas are especially important habitats for marine fish and sessile organisms.

*22. Open-Water Ponds and Lakes*

Open water aquatic habitats ranging from isolated depressions to impoundments created by beaver. Vegetation is sparse and consists primarily of emergent and floating macrophytes. These habitats are relatively uncommon in this region, and are maintained by periodic fire and fluctuating water levels.

*23. Pine Flatwoods*

Mesic or wet forests on flat, poorly-drained areas of the lower Coastal Plain. Dominated formerly by longleaf pine, now typically by slash pine, occasionally with loblolly or pond pine. Contains a well-developed shrub layer consisting of saw palmetto, gallberry, lowbush blueberry, and other ericaceous species. One of the most extensive and prevalent habitats of this ecoregion.

*24. Tidal Rivers and Freshwater Tidal Marsh*

Includes tidally influenced portions of rivers and creeks and associated wetlands. Freshwater tidal marshes are wetlands found along the margins of tidal rivers and creeks above the brackish water zone, typically dominated by giant cutgrass, sawgrass, pickerel weed, wild rice, cattail, rushes, and a variety of other herbs

### *25. Wet Pine Savannas, Herb and Shrub Bogs*

Wet pine savannas are poorly drained wetlands with open to sparse canopies dominated by longleaf, slash, and/or pond pine. The shrub layer may be sparse, consisting mainly of gallberry, wax myrtle, and blueberries. The herbaceous layer is often diverse and dense, dominated by grasses, sedges, composites, orchids, and lilies. May include small peat-filled depressions dominated by titi and other shrubs or by herbaceous bog plants.

#### Problems Affecting Wildlife Diversity

One of the primary stressors of wildlife diversity in the Southern Coastal Plain is the rapid pace of development in the coastal counties. Intense development pressures have resulted in the loss or fragmentation of a number of habitats, including maritime forest, pine flatwoods, coastal bluffs, and forested depression wetlands. In fact, the pace of commercial and residential development appears to be increasing as new residents flock to the Georgia coast to metropolitan areas such as Brunswick, St. Simons, Jekyll Island, Kings Bay, and Savannah. Development of subdivisions, roads, utility corridors, and commercial facilities has burgeoned in this area of the state. Non-coastal metropolitan areas experiencing significant growth include Waycross and Valdosta. Examples of species affected by this development pressure include Bachman's sparrow, painted bunting, gopher tortoise, and southeastern pocket gopher.

Past conversion of natural pine-dominated stands to commercial pine plantations, with associated site preparation and sometimes drainage, has resulted in an overall decline in species diversity. While many of the biotic components of the original forests are still extant, the simplified canopy composition and understory structure has resulted in lower overall wildlife habitat quality. Examples of affected species include Bachman's sparrow, eastern indigo snake, flatwoods salamander, and southern hognose snake.

Fire suppression can also be a significant problem, as many fire-dependent habitats lie adjacent to residential areas, highways, or commercial/industrial zones. Throughout the region, a lack of fire has resulted in the decline in the extent and quality of habitats such as herb and shrub bogs, wet pine flatwoods, freshwater "prairies", longleaf pine-wiregrass savannas, and longleaf pine-scrub oak woodlands. Fire suppression in sites containing isolated depression wetlands impacts populations of gopher frogs, striped newts, and flatwoods salamanders; other examples of species affected by fire suppression include gopher tortoise, Florida pine snake, eastern indigo snake, purple honeycomb head, hairy rattlesnake, and all seven species of pitcherplants native to Georgia.

Groundwater withdrawals for industrial and municipal uses have resulted in dewatering of many of the small but significant depression wetlands, especially along the coast. This impact presents significant problems for rare wading birds, including the wood stork and tricolored heron, as well as species such as striped newt, gopher frog, dwarf siren, and dwarf waterdog.

Construction of dams or other structures altering stream flow represents a significant problem for some high priority species and habitats in this region. Most of the major

river impoundments affecting streams and associated wetlands in this area are in the Piedmont, but the regulation of flows on these alluvial river systems results in altered hydroperiods for riverine swamps and bottomland hardwood forests, which in turn affects species composition and function of these ecosystems. For example, there is evidence that diminished flow variability in the Savannah River produced by upstream dams impacts the periodic flushing of tributary streams such as Ebenezer Creek, which may contribute to problems with low dissolved oxygen in this old-growth cypress-gum swamp. Alteration of sediment transport regimes in these alluvial river systems impacts the productivity of estuarine areas as well as the coastal sand-sharing system.

Nonalluvial (blackwater) rivers and streams are vulnerable to nutrient loadings and hydrologic disruptions from groundwater and surface water withdrawals, draining of adjacent wetlands, insufficient stream buffers, and other factors. Impacts on these systems from human activities include increased flow variability, reduced dissolved oxygen, and increased silt loads.

Invasive exotic species pose significant problems to habitats in this region. Examples of exotic animals causing significant negative impacts in this region include flathead catfish and feral hogs and horses. Examples of invasive exotic plants in this ecoregion include Chinese tallow tree, water hyacinth, alligatorweed, parrotfeather, giant reed, tropical soda apple, and coastal bermudagrass. The channeled apple snail, a South American species that is a well-known pest in Florida, has been recently found in the Satilla River watershed.

For rare marine species such as the North Atlantic right whale, West Indian manatee and loggerhead, collisions with boats and/or incidental take by fishing operations (capture or entanglement in nets or other fishing gear) can cause significant negative population impacts. Unmanaged recreational use of beach and dune environments represents a significant threat to nesting sea turtles as well as a variety of coastal shorebirds, including American oystercatcher, black skimmer, least tern, and piping plover.

Vehicle induced mortality is a significant problem for several high priority species in this area. Examples include eastern diamondback rattlesnake, eastern indigo snake, gopher tortoise, diamondback terrapin, Sherman's fox squirrel, and Florida pine snake. For these and other species, construction of new roads results in increased risk of direct mortality as well as fragmentation of habitat.

While the effects of global warming will undoubtedly affect habitats throughout Georgia, the impacts will likely be most obvious and significant in this ecoregion. Conservation plans in this region must acknowledge the need to protect coastal wetlands and provide opportunities for migration of habitats and species as sea levels and coastlines change. Restoration of more natural hydrology in alluvial rivers that feed the coastal sand-sharing system may help mitigate the impacts of coastline changes. In addition, development plans must include setbacks and buffers to provide protection for both wildlife and humans as sea levels and storm surge levels rise in the coming decades.



## High Priority Sites and Landscape Features

The current assessment and previous conservation planning efforts have identified a number of ecologically important sites and landscape features in this region of the state. An assessment of the South Atlantic Coastal Plain in cooperation with state natural heritage programs in Georgia, Florida, and South Carolina identified 38 high priority conservation areas in Georgia (The Nature Conservancy, 2002). Additional surveys conducted by Georgia DNR staff and others have brought additional areas of conservation interest to light in recent years. The following list includes examples of some of the most significant sites and landscape features identified to date for the Southern Coastal Plain ecoregion.

### *Altamaha River Corridor*

The Altamaha basin drains a total of 14,400 square miles, more than one-fourth of Georgia's land surface. Natural communities associated with this immense river system include oxbow lakes, sandbars, evergreen hammocks, sand ridge scrub forests, hardwood levee forests, cypress-gum swamps, pine flatwoods, limestone shoals, coastal marshes, and open-water estuaries. Important habitats located adjacent to the river floodplain include springs, bogs, Carolina bays and cypress/gum ponds.

Numerous high priority plants and animals are known from the Altamaha River corridor. Examples include green fly orchid, pondspice, Georgia plume, Franklinia, red-cockaded woodpecker, gopher tortoise, indigo snake, Bachman's sparrow, and swallow-tailed kite. Several rare and/or endemic bivalves have been reported from the Altamaha River, including the Altamaha spiny mussel and Altamaha arc mussel. Ongoing efforts to provide long-term protection for the Altamaha River corridor involve a number of agencies and organizations. (Note: this conservation landscape spans the Southeastern Plains and Southern Coastal Plain).

### *Crooked River State Park/Kings Bay Naval Base*

These two adjacent public lands contain several high priority habitats, including estuarine waters, maritime forest, coastal river bluffs, and wet pine flatwoods. Rare species known from these sites include pondspice, Florida wild privet, climbing buckthorn, Florida orange-grass, Bartram's air-plant, gopher tortoise, and West Indian manatee.

### *Ebenezer Creek/Savannah River*

Ebenezer Creek, a non-alluvial tributary of the Savannah River, is a "backwater swamp", whose hydrology is influenced significantly by water levels in the lower Savannah River. The lower portion of Ebenezer Creek contains an old growth baldcypress-water tupelo swamp. Other high priority habitats include bottomland hardwoods, shrub bog, pine flatwoods, mesic river bluff forests, hillside seeps, titi swamp, and alluvial river swamp. Rare species known from this area include silky camellia, sweet pitcherplant, Rafinesque's big-eared bat, swallowtailed kite, and painted bunting.

### *Fort Stewart*

This military base contains some of the best examples of natural habitats in Georgia's Southern Coastal Plain, including extensive longleaf pine-dominated uplands, isolated depression wetlands, wet pine flatwoods, and nonalluvial river swamp. Rare species known from this site include flatwoods salamander, striped newt, gopher frog, red-cockaded woodpecker, gopher tortoise, indigo snake, Florida pine snake, Sherman's fox squirrel, purple honeycomb head, and pondspice.

### *Ogeechee River Corridor*

The Ogeechee River originates in the lower Georgia Piedmont and flows 245 miles to the Atlantic Ocean at Ossabaw Sound. Natural communities of the Ogeechee River corridor include limestone shoals, sandbars, cypress-gum swamps, springs, bottomland hardwood forests and coastal salt marshes. Important habitats adjacent to the river floodplain include Carolina bays, springs, limesinks, sandhills and Altamaha Grit outcrops. Examples of high priority species associated with the Ogeechee River floodplain and adjacent habitats include Georgia plume (*Elliottia racemosa*), wood stork (*Mycteria americana*), and swallow-tailed kite (*Elanoides forficatus*). Numerous springs provide cool-water refuges for striped bass and other game fish.

The Ogeechee is relatively free from significant development, except in the lower portions. This river has been considered for inclusion as a component of the Georgia Scenic River system and was nominated as a potential National Wild and Scenic River. Impacts to the river corridor include residential and industrial development (especially along the coast), conversion of bottomland hardwood forests, and drainage of adjacent wetland habitats. (Note: this conservation landscape spans the Southeastern Plains and Southern Coastal Plain).

### *Okefenokee Swamp*

This remarkable, extensive nonalluvial wetland system has been described as a "bog swamp" (Wharton, 1978) due to the fact that it is a huge, peat-filled basin with measurable sheet flow. High priority habitats associated with this ecosystem complex include freshwater "prairies", pine flatwoods, pondcypress savanna, wet pine savannas, titi swamp, herb and shrub bogs. Examples of rare species known from the Okefenokee Swamp include Florida sandhill crane, Sherman's fox squirrel, flatwoods salamander, Florida water rat, striped newt, wood stork, Florida black bear, Rafinesque's big-eared bat, Florida orange grass, and Okefenokee giant pitcherplant.

### *Ossabaw Island*

Third largest of Georgia's barrier islands, Ossabaw consists of approximately 12,000 acres of upland and at least twice that acreage of marsh. Ossabaw is owned by the State of Georgia and is not connected by causeway to the mainland. Development on the island is restricted to five houses and some outbuildings. Habitats present include beach, dunes, maritime forest, salt marsh and tidal creeks, and freshwater ponds. Understory

vegetation is sparse due to past grazing by deer and feral livestock, but is recovering due to recent efforts to control populations of grazers. Two mixed-species wading bird rookeries occur on the island. Ossabaw's beaches support nesting by loggerhead turtles and several species of coastal shorebirds. Plants of interest include soapberry and climbing buckthorn.

### *Sapelo Island*

Sapelo Island is a barrier island mostly owned by the State of Georgia and accessible only by boat or plane. It consists of approximately 11,000 acres of upland and several thousand acres of marsh. The island is managed as a Wildlife Management Area and a National Estuarine Research Reserve. The University of Georgia Marine Institute operates a research facility on the island. Development on the island is restricted to buildings constructed by some of the original plantation owners, now used to house staff of the Marine Institute and DNR, and houses associated with a 500-acre private community. Habitats present include salt marsh, maritime forest, second-growth pine, dunes and approximately 6 miles of beach. One small freshwater pond supports a small wading bird rookery. Beaches are used as nesting areas by loggerhead turtles and four species of rare or uncommon shorebirds. Plants of conservation interest on the island include Chapman's oak, soapberry, and other species of plants restricted to shell mounds.

### *St. Simon's/Little St. Simon's/Sea Island*

This site consists of Little St. Simon's Island and the undeveloped northern ends of St. Simon's Island and Sea Island, including Pelican Spit, an accreting sandbar in the Hampton River on the north end of Sea Island. St. Simon's and Sea Island are almost entirely privately owned and connected to the mainland by causeway. Habitat types are similar to those described for Sapelo and Ossabaw. There is a mixed-species wading bird rookery on the north end of St. Simon's Island that includes nesting *Mycteria americana*. Little St. Simon's supports a small egret rookery and a small great blue heron rookery. The seven miles of beach on Little St. Simon's support limited nesting by loggerhead turtles and significant nesting populations of five shorebirds. Pelican Spit is also a significant coastal shorebird nesting area. Plant species of interest include Florida wild privet, climbing buckthorn.

### *St. Marys and Suwannee Rivers*

From its headwaters in the Okefenokee Swamp to its outlet on the Atlantic Ocean, the St. Marys meanders over 120 miles in a straight-line distance of only 40 miles. Tidal influence extends as far upstream as the Folkston area. The Suwannee also originates in the Okefenokee, flowing southwestward 18 miles to the Georgia-Florida state line. From there it continues approximately 265 miles to its outlet on the eastern Gulf of Mexico. Like the St. Marys, the upper Suwannee is characterized by slow stream flow and numerous meanders. Further south, the Suwannee flows swiftly over limestone shoals, then enters a region in which numerous springs contribute to its discharge. Other important natural features of these blackwater stream corridors include white sandbars,

clay or limestone banks, sandy bluffs, cypress-gum swamps, bottomland hardwood forests, pine flatwoods, tidal swamps, sawgrass flats and coastal marshes. Protection of these river floodplains will help maintain important wildlife migration corridors between the Okefenokee Swamp, the lower Suwannee delta and estuaries, Georgia's coastal wetlands and lands of the Osceola National Forest.

### High Priority Waters

Figure 13 shows high priority streams and watersheds identified for the Southern Coastal Plain by the CWCS Fishes and Freshwater Invertebrates team. These streams were chosen on the basis of documented occurrences of high priority aquatic species, high water quality rankings based on Index of Biotic Integrity scores, and designation as exemplary streams in a previous study by The Nature Conservancy. Examples of high priority streams in this ecoregion include Buffalo Creek, White Oak Creek, Beard's Creek, Alapaha River, St. Marys River, Suwannee River, Doboy Sound, Savannah River, Ogeechee River, Savannah River, and Satilla River, and Little Satilla River. Refer to Table 1 of the Fishes and Freshwater Invertebrates Technical Team report in Appendix B.

### **Coastal Beaches and Dunes**

Georgia's coastal beaches and dunes represent critical habitats for rare turtles and shorebirds. Intertidal sand beaches provide foraging habitat for a great number of shorebirds, including sandpipers, plovers, sanderlings, turnstones, terns, and dowitchers. These birds feed on the abundant invertebrate fauna of intertidal areas and nest among the sparsely vegetated dunes and beach wrack. Loggerhead sea turtles nest in the foredunes at the upper edge of the beach, and several rare plants are found in interdune or rear dune/bluff habitats. Beachfront property is also perhaps the most highly prized real estate in Georgia for residential development and recreation. Human activities have resulted in a wide variety of direct and indirect impacts to these important habitats. Impoundment of Georgia's major rivers has reduced sediment input to the coastal sand-sharing system. In addition, construction of sea walls and jetties and dredging of tidal river channels have altered natural sand movement patterns along the coast, resulting in increased erosion of some beaches. Other activities impacting coastal beach and dune habitats include residential and commercial development, vehicular traffic, excessive herbivory (e.g., by feral horses), excessive predation (e.g., from feral hogs, raccoons, dogs, or cats), littering, artificial lighting and unmanaged recreational use. Protection of these important habitats will require a concerted effort involving state, federal, and local governments as well as local residents, educational groups, and civic organizations.

## Conservation Goals

- Maintain known viable populations of all high priority species and functional examples of all high priority habitats through land protection, incentive-based habitat management programs on private lands, and habitat restoration and management on public lands.
- Increase public awareness of high priority species and habitats by developing educational messages and lesson plans for use in environmental education facilities, local schools, and other facilities.
- Encourage restoration of important wildlife habitats through reintroduction of prescribed fire, hydrologic restoration, and revegetation efforts.
- Combat the spread of invasive/noxious species in high priority natural habitats by identifying problem areas, providing technical and financial assistance, developing specific educational messages, and managing exotic species populations on public lands.
- Minimize impacts from residential and commercial development on high priority species and habitats by providing input on environmental assessments
- Continue efforts to recover federally listed species by implementation of recovery plans

## Strategies and Partnerships to Achieve Conservation Goals

- Provide financial incentives and technical expertise to encourage prescribed burns, through Interagency Burn Team and other means
- Work with NRCS staff to identify high priority habitats and sites for implementation of habitat enhancement/restoration projects through Farm Bill programs (e.g., restoration of longleaf pine-dominated forests and savannas)
- Use state lands (e.g., Crooked River State Park, Sapelo Island, Ossabaw Island) and other public lands to showcase habitat restoration and management efforts. Complete management plans for all state lands and incorporate management objectives for populations of high priority species.
- Assess exotic species populations on public lands and provide technical assistance to private landowners to discourage use of invasive exotics
- Work with GDOT and local governments to minimize direct impacts to high priority species and habitats from development projects
- Work with Georgia Power and private landowners to identify and conserve populations of rare species in and adjacent to utility corridors
- Develop educational materials on high priority species and habitats in the ecoregion and provide these to environmental educators at WRD regional education centers and other facilities
- Work with the Georgia Land Trust Service Center to apply monies from the Georgia Wetlands Trust Fund to provide protection for high priority wetlands and
- Continue collaborative efforts to protect sea turtle nests and minimize impacts from shrimp fisheries
- Continue North Atlantic right whale and manatee recovery and monitoring efforts

### Highest Priority Conservation Actions

Highest priority conservation actions (actions rated “Very High” or “High”) identified by the technical teams, Steering Committee, and other stakeholders specifically for this ecoregion include the following (see Appendix L for details):

- Assess status of Altamaha endemic mussels in undersampled rivers and streams; begin long-term monitoring program for mussels in the Altamaha basin. Identify host fishes for Altamaha spiny mussel and Altamaha arc mussel.
- Conduct midwinter waterbird survey and piping plover winter survey; conduct research and surveys on southeastern red knot and whimbrels; investigate American oystercatcher ecology and demographics.
- Identify potential habitat for flatwoods salamander and other high priority coastal plain species; survey habitats for high priority species
- Investigate site fidelity and habitat use by eastern indigo snakes.
- Continue right whale recovery efforts. Conduct aerial surveys for right whales. Implement digital tagging program for right whales to assess movements and minimize ship strikes.
- Implement diadromous fish restoration projects. Evaluate existing population status, commercial and recreational fisheries, and habitat limitations. Look for opportunities to enhance habitat.
- Implement red-cockaded woodpecker conservation on private lands, through safe harbor agreements and mitigated take from small, isolated populations. Administer landowner incentive program for safe harbor participants.
- Develop private landowner incentive for conservation of flatwoods salamanders and other high priority species.
- Establish or augment populations of gopher frog, striped newt, gopher tortoise, and other high priority coastal plain species on protected lands.

For high priority conservation actions of statewide scope, see Section V of this report.

**Table 9. Southern Coastal Plain High Priority Animals (74 Records)**

Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia	Range in Georgia
AA	<i>Cordulegaster sayi</i>	Say's spiketail	G2	S1			Trickling hillside seepages in deciduous forest near weedy fields	Southeastern coastal plain only.
AM	<i>Ambystoma cingulatum</i>	Flatwoods salamander	G2G3	S2	LT	T	Pine flatwoods; moist savannas; isolated cypress/gum ponds	Lower CP, extremely localized throughout large but fragmented range. Only four sites with known extant populations
AM	<i>Desmognathus auriculatus</i>	Southern dusky salamander	G5	S3			In or around the margins of slowly moving or stagnant bodies of water with mucky, acidic soils; cypress swamps, floodplains, sloughs	Lower CP
AM	<i>Necturus punctatus</i>	Dwarf waterdog	G4	S2			Sluggish streams with substrate of leaf litter or woody debris	Atlantic drainages, primarily CP, one record in the PD
AM	<i>Notophthalmus perstriatus</i>	Striped newt	G2G3	S2		R	Pine flatwoods, sandhills; isolated wetlands	CP
AM	<i>Pseudobranchius striatus</i>	Dwarf siren	G5	S3			Swamps; marshes; limesink ponds; cypress ponds	lower CP
AM	<i>Rana capito</i>	Gopher frog	G3G4	S3			Sandhills; dry pine flatwoods; breed in isolated wetlands	CP
AM	<i>Stereochilus marginatus</i>	Many-lined salamander	G5	S3			Sluggish, swampy streams and bayheads with substrate of leaf litter	eastern CP
BI	<i>Aimophila aestivalis</i>	Bachman's sparrow	G3	S3	SAR	R	Open pine or oak woods; old fields; grassy forest regeneration	RV, PD, CP: where appropriate habitat
BI	<i>Ammodramus henslowii</i>	Henslow's sparrow	G4	S3	SAR		Grassy areas, especially wet grasslands; wet pine savanna & flatwoods	CP, PD - historically and migrants
BI	<i>Ammodramus savannarum</i>	Grasshopper sparrow	G5	S4			Grassland surrounded by open country (ag, grassland etc.)	CP, PD predominantly, less common in CU, RV, rare in BR
BI	<i>Calidris canutus</i>	Red knot (SE winter population)	G5	S3	SAR		Beaches and sandbars	Coastal
BI	<i>Charadrius melodus</i>	Piping plover	G3	S1	(LE,LT)	T	Sandy beaches; mud and sand flats; isolated sand spits	CP - coastal
BI	<i>Charadrius wilsonia</i>	Wilson's plover	G5	S2		R	Sandy beaches; sand and mud flats, dunes, and back dune swales	CP - coastal
BI	<i>Colinus virginianus</i>	Northern bobwhite	G5	S4			Early successional mixed grass/forb habitat; longleaf pine savanna	CP most numerous; uncommon in PD, RV; scattered in CU, BR
BI	<i>Egretta tricolor</i>	Tricolored heron	G5	S3			Coastal aquatic environments, salt and fresh, nests with other waders in low thick cover	All coastal counties
BI	<i>Elanoides forficatus</i>	Swallow-tailed kite	G5	S2	SAR	R	River swamps and upland adjacent habitats particularly with large, emergent pines and pine islands; marshes	CP - nesting primarily in SE CP with scattered records statewide post breeding
BI	<i>Falco sparverius paulus</i>	Southeastern American kestrel	G5T4	S3	SAR		Pine sandhills and savannas; open country with scattered trees for nesting; military base habitats; artificial/man-made nesting habitats include nest boxes, power poles, building columns	CP
BI	<i>Grus canadensis pratensis</i>	Florida sandhill crane	G5T2T3	S1			Freshwater prairies	Restricted to Okefenokee and Grand Bay
BI	<i>Haematopus palliatus</i>	American oystercatcher	G5	S2	SAR	R	Sandy beaches; tidal flats; salt marshes, oyster shell bars	CP - coastal
BI	<i>Haliaeetus leucocephalus</i>	Bald eagle	G4	S2	(PS:LT, PDL)	E	Edges of lakes & large rivers; seacoasts	CP - primarily and reservoirs and rivers PD, BR, RV

Group Codes: AA = aquatic arthropod; AM = amphibian; BI = bird; FI = fish; MA = mammal; MO = mollusk; RE = reptile

**Table 9. Southern Coastal Plain High Priority Animals (74 Records)**

Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia	Range in Georgia
BI	Himantopus mexicanus	Black-necked stilt	G5	S3	(PS)		Shallow ponds; lagoons; isolated freshwater wetlands; dredge spoil sites; managed wetlands	CP - coastal
BI	Ixobrychus exilis	Least bittern	G4	S3			Freshwater and brackish marshes with tall, dense emergent vegetation. Nests close to open areas	Probably more common as a breeder in CP due to much more potentially suitable habitat than in PD
BI	Lanius ludovicianus migrans	Loggerhead shrike	G4T3Q	S?	SAR		Open woods; field edges; savannas	CP - primary area of abundance; scattered and low number in the PD (none in 20-county metro Atlanta area); low numbers in RV
BI	Laterallus jamaicensis	Black rail	G4	S2?	SAR		Freshwater marsh grassy margins; wet grassy meadows; brackish high marsh	PD, CP - most likely breeding would occur in eastern PD or along Coast
BI	Limnothlypis swainsonii	Swainson's warbler	G4	S3	SAR		Dense undergrowth with heavy litter (CP,M); canebrakes in swamps and river floodplains (CP)	Although found widespread, bulk of population restricted to river floodplains of CP and PD; small BR population
BI	Mycteria americana	Wood stork	G4	S2	(PS:LE)	E	Cypress/gum ponds; freshwater marshes; saltmarshes, river swamps; bays, isolated wetlands, ephemeral wetlands, coastal hammocks	1,200 pairs nesting in Coastal Plain 2002, with post-nest dispersal throughout state
BI	Numenius phaeopus	Whimbrel	G5	S3			Saltmarsh openings, Mud flats, shell rakes, outer barrier sand spits	All coastal counties
BI	Passerina ciris	Painted bunting	G5	S3	SAR		Shrub-scrub and open grassy habitats; open mature pine forest and maritime oak forest associated with freshwater wetlands	CP - primarily barrier islands and immediate coast with scattered occurrences up major river corridors; occurrences in CP agricultural lands reduced and poorly understood
BI	Picoides borealis	Red-cockaded woodpecker	G3	S2	LE	E	Open pine woods; pine savannas	Found mostly in CP, also lower PD. Disjunct populations in counties of Muscogee, Chattahoochee (Ft Benning); Liberty, Long, Bryan (Ft Stewart); Charlton, Brantley (Okefenokee NWR, private); Jones, Jasper (Piedmont NWR, Oconee NF, Hitchiti); Thomas, Grady
BI	Rallus elegans	King rail	G4G5	S3			Freshwater marshes, often cattail bulrush, cutgrass, for breeding; also brackish marshes non-breeding (saltmarshes?)	Principally Piedmont and CP; possibly R&V
BI	Rynchops niger	Black skimmer	G5	S1			Sandy beaches, isolated accretional sand spits, N and S tips of barrier islands	Strictly outer coast
BI	Sterna antillarum	Least tern	G4	S3	(PS:LE)	R	Sandy beaches; sandbars, large flat gravel roof tops	Coastal Counties
BI	Sterna nilotica	Gull-billed tern	G5	S1		T	Outer sand beaches and mud flats, Salt marshes; fields on barrier islands; Isolated sand spits	Coastal
BI	Tyto alba	Barn owl	G5	S3/S4			Grassland savanna with large cavity trees, also neighborhoods with large cavity trees, generally needs open country	Local: CP, PD, RV, CU, rare in BR
FI	Acipenser brevirostrum	Shortnose sturgeon	G3	S2	LE	E	Estuaries; lower end of large rivers in deep pools with soft substrates	Atlantic drainage large rivers
FI	Elassoma okatie	Bluebarred pygmy sunfish	G2G3	S1S2			Temporary ponds and stream backwaters with dense aquatic vegetation	Fort Gordon
FI	Enneacanthus chaetodon	Blackbanded sunfish	G4	S1		R	Blackwater streams; bays; cypress/gum ponds	Disjunct historic locales in SE GA; T. Peterson (recent) able to find at one historic locale outside of OK Swamp
FI	Lucania goodei	Bluefin killifish	G5	S1		U	Heavily vegetated ponds and streams with little or no current; frequently associated with springs	Lower Flint River system and in McIntosh County on east coast of GA

Group Codes: AA = aquatic arthropod; AM = amphibian; BI = bird; FI = fish; MA = mammal; MO = mollusk; RE = reptile



**Table 9. Southern Coastal Plain High Priority Animals (74 Records)**

Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia	Range in Georgia
FI	<i>Micropterus notius</i>	Suwannee bass	G3	S2		R	Flowing water over rocky shoals or large springs and spring runs	Suwanee drainage so. GA
MA	<i>Condylura cristata</i>	Star-nosed mole	G5	S2?			Moist meadows; woods; swamps	Known only from Charlton, Chatham, Clinch, Effingham, Jackson, and Union counties
MA	<i>Corynorhinus rafinesquii</i>	Rafinesque's big-eared bat	G3G4	S3?		R	Pine forests; hardwood forests; caves; abandoned buildings; bridges; bottomland hardwood forests and cypress-gum swamps	Range in state disjunct-- <i>C.r.rafinesquii</i> found in northern BR and <i>C. r. macrotis</i> found in lower CP. Not known from PD, but either subsp might occur there.
MA	<i>Eubalaena glacialis</i>	North Atlantic right whale	G1	S1 and S?	LE	E	Inshore and offshore oceanic waters of Georgia	Occurs along the entire Georgia coast and also observed offshore up to 40 nm. Most frequently observed in waters > 8ft. Maximum depth or distance from shore is unknown but strongly suspected to occur West of the Gulf Stream
MA	<i>Geomys pinetis</i>	Southeastern pocket gopher	G5	S4			Sandy well-drained soils in open pine woodlands with grassy or herbaceous groundcover, fields, grassy roadsides	Fairly widespread over CP, but population apparently greatly reduced and fragmented; small local populations
MA	<i>Lasiurus intermedius</i>	Northern yellow bat	G4G5	S2S3			Wooded areas near open water or fields	Has been found only in lower CP
MA	<i>Neofiber alleni</i>	Round-tailed muskrat	G3	S3		T	Freshwater marshes; bogs	Okefenokee and surrounding areas in Camden, Charlton, and Ware; also Grand Bay WMA in Lanier and Lowndes; also Brooks.
MA	<i>Sciurus niger shermani</i>	Sherman's fox squirrel	G5T2	S?			Pine forests; pine savannas	Some sources say this subspecies only occurs in extreme SE corner of Georgia around Okefenokee Swamp. However, Turner and Laerm (1993) say <i>S.n. shermani</i> occurs up into Piedmont.
MA	<i>Trichechus manatus</i>	West Indian manatee	G2	S1S2	LE	E	Inshore ocean; estuaries, tidal rivers, warm and fresh water discharges	Found in six coastal counties. These animals are unique because they can migrate between fresh and salt water.
MA	<i>Tursiops truncatus</i>	Bottlenose dolphin	G5	S?			Coastal estuarine and offshore waters of Georgia	Bottlenose dolphins range in all 6 coastal counties; Camden, Glynn, McIntosh, Liberty, Bryan, and Chatham. All tidal rivers and creeks provide dolphin habitat. They also extend offshore. CP.
MA	<i>Ursus americanus floridanus</i>	Florida black bear	G5T2	S2			Large undeveloped wooded tracts in areas that include multiple forest types	Parts of Echols, Clinch, Charlton, Ware, and Brantley counties support breeding population. Individuals frequently wander into surrounding counties and along Altamaha corridor.
MO	<i>Alasmidonta triangulata</i>	Southern elktoe	G2Q	S1			Large creeks and river mainstems in sandy mud and rock pools	Confined to the Chattahoochee, Flint, Ogeechee, Savannah river drainages
MO	<i>Alasmidonta varicosa</i>	Brook floater	G3	S2			Small rivers and creeks in sand and gravel shoals	Present distribution includes 4 sites in the Chattooga River in Rabun County (Savannah River drainage).
MO	<i>Elliptio fraterna</i>	Brother spike	G1	SU			Sandy substrates of river channels with swift current	Uncertain of range in Savannah River system
MO	<i>Fusconaia masoni</i>	Atlantic pigtoe	G2	S1		E	Moderate to fast current in substrate of sand or gravel	Historical range included 6 sites in the Ogeechee and Savannah River basins-all of which have been extirpated. One newly discovered population was found in Williamson Swamp Creek in Jefferson County (Alderman 1991).
MO	<i>Medionidus walkeri</i>	Suwannee moccasinshell	G1	SH			Large creeks and medium-sized rivers with sand and gravel substrate	Endemic to the Suwannee River basin in GA and FL

Group Codes: AA = aquatic arthropod; AM = amphibian; BI = bird; FI = fish; MA = mammal; MO = mollusk; RE = reptile

**Table 9. Southern Coastal Plain High Priority Animals (74 Records)**

Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia	Range in Georgia
MO	Quincuncina kleiniana	Suwanee pigtoe	GU	S2			Small to large rivers in the Suwannee Basin, in slow to moderate current, pools of flowing rivers, often in detritus. More common in Alapaha and Withalacoochee rivers and tribs	Endemic to the Suwannee River basin in GA and FL
MO	Toxolasma pullus	Savannah lilliput	G2	S2			Altamaha River; Savannah River	Historical distribution included the Altamaha River basin (Johnson 1970, Sepkoski and Rex 1974, and Keferl 1981). Present distribution from recent surveys appears to be only the Ohoopsee River (Keferl pers. com.).
RE	Caretta caretta	Loggerhead	G3	S2	LT	T	Open ocean; sounds; coastal rivers; beaches	Ocean, sounds, coastal rivers, beaches
RE	Chelonia mydas	Green sea turtle	G3	S2	(LE,LT)	T	Open ocean; sounds; coastal rivers; beaches	Ocean, sounds, coastal rivers, beaches
RE	Clemmys guttata	Spotted turtle	G5	S3		U	Heavily vegetated swamps, marshes, bogs, and small ponds; nest and possibly hibernate in surrounding uplands	Widely distributed across CP
RE	Crotalus adamanteus	Eastern diamondback rattlesnake	G4	S4			Early successional habitats on barrier islands and mainland; pine flatwoods; sandhills	CP, including barrier islands
RE	Dermochelys coriacea	Leatherback sea turtle	G3	S2	LE	E	Open ocean; sounds; coastal beaches	Ocean, sounds, beaches
RE	Drymarchon couperi	Eastern indigo snake	G4T3	S3	LT	T	Sandhills; pine flatwoods; dry hammocks; summer habitat includes floodplains and bottomlands	Middle and lower CP
RE	Eumeces anthracinus	Coal skink	G5	S2			Mesic forests; often near streams, springs or bogs	Very little known about range especially in CP
RE	Eumeces egregius	Mole skink	G4	S3	(PS)		Coastal dunes; longleaf pine-turkey oak woods; dry hammocks	Widespread throughout CP
RE	Gopherus polyphemus	Gopher tortoise	G3	S2	(PS:LT)	T	Sandhills; dry hammocks; longleaf pine-turkey oak woods; old fields	CP
RE	Heterodon simus	Southern hognose snake	G2	S2			Sandhills; fallow fields; longleaf pine-turkey oak	CP
RE	Lepidochelys kempii	Kemp's or Atlantic ridley	G1	S1	LE	E	Open ocean; sounds; coastal rivers; beaches	Ocean, sounds, coastal rivers
RE	Macrochelys temminckii	Alligator snapping turtle	G3G4	S3		T	Large streams and rivers; impoundments; river swamps	Gulf CP drainages
RE	Malaclemys terrapin	Diamondback terrapin	G4	S3			Entire coast, esturine and marine edge. All saltmarsh, beaches	Strictly Coastal
RE	Ophisaurus mimicus	Mimic glass lizard	G3	S2			Pine flatwoods; savannas; seeapge bogs	Lower CP, substantial gaps in range
RE	Pituophis melanoleucus mugitus	Florida pine snake	G4T3?	S3			Sandhills; scrub; old field	CP
RE	Rhineura floridana	Florida worm lizard	G4	S1			Dry upland hammocks, sand pine and longleaf pine-turkey oak sandhills; old fields	Lanier Co. in CP
RE	Tantilla relicta	Florida crowned snake	G5	S1			Sandhills, scrub, and moist hammocks	Lowndes Co. in CP

**Table 10. Southern Coastal Plain High Priority Plants (88 Records)**

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia	Range in Georgia
<i>Amorpha georgiana</i> var. <i>georgiana</i>	Georgia indigo-bush	G3T2	S1			River terraces; floodplain woods; flint kaolin outcrop; mesic habitats with wiregrass, longleaf pine, mixed oaks	UCP
<i>Amorpha herbacea</i> var. <i>floridana</i>	Florida leadbush	G4T?Q	S1			River terraces along the Alapaha River	LCP, if accepted as taxonomically significant
<i>Arabis georgiana</i>	Georgia rockcress	G2	S1	C	T	Rocky or sandy river bluffs and banks, in circumneutral soil	PD, RV, UCP; along Coosa, Oostanaula and lower Chattahoochee Rivers
<i>Aristida simpliciflora</i>	Chapman three-awn grass	G3	SH			Longleaf pine-wiregrass savannas	UCP
<i>Arnoglossum diversifolium</i>	Variable-leaf Indian-plantain	G2	S2		T	Calcareous swamps	UCP
<i>Arnoglossum sulcatum</i>	Grooved-stem Indian-plantain	G2G3	S1			Bottomland forests	UCP
<i>Asplenium heteroresiliens</i>	Morzenti's spleenwort	G2Q	S1		T	Limestone and marl outcrops; tabby ruins	UCP, LCP
<i>Astragalus michauxii</i>	Sandhill milkvetch	G3	S2			Longleaf pine-wiregrass savannas; turkey oak scrub	UCP
<i>Balduina atropurpurea</i>	Purple honeycomb head	G2G3	S2		R	Wet savannas, pitcherplant bogs	UCP, LCP
<i>Baptisia arachnifera</i>	Hairy rattleweed	G1	S1	LE	E	Pine flatwoods	LCP, entire global range in parts of Brantley and Wayne Cos.
<i>Brickellia cordifolia</i>	Heartleaf brickellia	G2G3	S2			Mesic hardwood forests	UCP
<i>Calamintha ashei</i>	Ashe's wild savory	G3	S2		T	Oohoopee dunes	UCP, Tattnall and Candler Cos.
<i>Campylopus carolinae</i>	Sandhills awned-moss	G1G2	S2?			Fall line sandhills; Altamaha Grit outcrops in partial shade of mesic oak forests	UCP
<i>Carex calcifugens</i>	Lime-fleeing sedge	G2G4	SR			Said by FNA to occur in "Mesic deciduous forests, in sandy loams and sands, usually on stream bank slopes."	LCP (only?)
<i>Carex dasycarpa</i>	Velvet sedge	G4?	S3		R	Evergreen hammocks; mesic hardwood forests	LCP, UCP
<i>Carex decomposita</i>	Cypress-knee sedge	G3	S2?			Swamps and lake margins on floating logs	LCP, UCP
<i>Carex godfreyi</i>	Godfrey's sedge	G3G4	S3?			Forested depressional wetlands.	UCP, possibly LCP?, uncertain, verification needed
<i>Carex lupuliformis</i>	Mock hop sedge	G5	SU			Said by FNA to occur in "Wet forests, especially in openings around forest ponds, riverine wetlands, marshes, wet thickets, 0-500 m."	LCP?, uncertain, verification needed
<i>Coreopsis integrifolia</i>	Tickseed	G1G2	S1S2			Floodplain forests, streambanks	UCP, LCP
<i>Ctenium floridanum</i>	Florida orange-grass	G2	S1			Moist pine barrens	LCP
<i>Dicerandra radfordiana</i>	Radford's dicerandra	G1Q	S1			Sandridges	LCP, entire global range consists of 2 small areas in McIntosh Co.
<i>Eccremidium floridanum</i>	Florida eccremidium moss	G1?	S1			Sandy or sometimes clay soil in open, disturbed sites, often in areas that are wet part of the year and quite dry other parts of the year, fields and roadsides, thin soil over rock outcrops, around margins of cypress	UCP
<i>Eleocharis tenuis</i> var. <i>tenuis</i>	Slender spikerush	G5T?	SU			Moist to wet sandy-peaty soils; pine flatwoods	RV, PD, where doubtfully recorded and in need of comparison with other named varieties known to be present

**Table 10. Southern Coastal Plain High Priority Plants (88 Records)**

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia	Range in Georgia
<i>Elliottia racemosa</i>	Georgia plume	G2G3	S2S3		T	Scrub forests; Altamaha Grit outcrops; open forests over ultramafic rock	PD, UCP, LCP; from Ft. Stewart to Ashburn, Turner Co.; disjunct on piedmont on Burks Mtn., Columbia Co.
<i>Epidendrum conopseum</i>	Green-fly orchid	G4	S3		U	Epiphytic on limbs of evergreen hardwoods; also in crevices of Altamaha Grit outcrops	UCP, LCP; widespread, sometimes locally abundant especially in bottomland forests along major rivers in Southeast Georgia
<i>Eriochloa michauxii</i> var. <i>michauxii</i>	Michaux's cupgrass	G3G4T3T4	S1?			Coastal freshwater and brackish marshes; flatwoods	LCP; map in FNA shows records from Charlton, Glynn, Liberty and McIntosh Cos.
<i>Eupatorium anomalum</i>	Florida boneset	G2G3	SU			Wet, low ground	LCP, UCP; likely close to Florida pending scrutiny of closely related <i>E. mohrii</i> and <i>E. rotundifolium</i>
<i>Evolvulus sericeus</i> var. <i>sericeus</i>	Creeping morning-glory	G5T?	S1		E	Altamaha Grit outcrops; open calcareous uplands	UCP
<i>Forestiera godfreyi</i>	Godfrey's wild privet	G2	S1			Mesic, maritime forests over shell mounds	LCP, Camden Co.
<i>Forestiera segregata</i>	Florida wild privet	G4	S2			Shell mounds on barrier islands in scrub or maritime forests	Restricted to shell middens overlooking or upon barrier islands; LCP
<i>Fothergilla gardenii</i>	Dwarf witch-alder	G3G4	S2		T	Openings in low woods and swamps; edges of seepage bogs	UCP, LCP; widely distributed from Fall Line Sandhills to more southern flatwoods
<i>Habenaria quinqueseta</i> var. <i>quinqueseta</i>	Michaux's orchid	G4G5T?	S1			Moist shade, Altamaha Grit outcrops; open pine woods	UCP, LCP; widely scattered sites
<i>Hartwrightia floridana</i>	Hartwrightia	G2	S1		T	Wet savannas; ditches, sloughs and flatwood seeps	LCP, restricted to Okefenokee Basin
<i>Hypericum</i> sp. 3	Georgia St.-John's-wort	G2G3	S2S3			Seepage bogs; roadside ditches	UCP, LCP, upper Ogeechee and Canoochee watersheds (only?), and near Eulonia, McIntosh Co.
<i>Justicia angusta</i>	Narrowleaf water-willow	G3Q	SH			Roadside ditches; perhaps with <i>Hartwrightia</i> in shallow sloughs and wet savannas	LCP
<i>Lachnocaulon beyrichianum</i>	Southern bog-button	G2G3	S1			Flatwoods	UCP, LCP
<i>Leitneria floridana</i>	Corkwood	G3	S1			Swamps; sawgrass-cabbage palmetto marshes	UCP, LCP
<i>Lindera melissifolia</i>	Pondberry	G2	S1	LE	E	Margins of seasonal ponds, both sandhill and limesink with swamp blackgum ( <i>Nyssa biflora</i> ).	LCP, UCP
<i>Litsea aestivalis</i>	Pondspice	G3	S2		T	Cypress ponds; swamp margins	UCP, LCP; especially southeastern Georgia
<i>Lycium carolinianum</i>	Carolina wolfberry	G4	S1			Coastal sand spits	LCP, Cumberland Island, Camden Co.
<i>Malaxis spicata</i>	Florida adders-mouth orchid	G4?	S1			Low hammocks; spring-fed river swamps	UCP, LCP, potentially over Coastal Plain based on Florida distribution; documented recently only from LCP; historic from UCP in Jenkins Co.
<i>Matelea alabamensis</i>	Alabama milkvine	G2	S1		T	Open bluff forests; mesic margins of longleaf pine sandridges	UCP, LCP; on Gulf CP and an area of Atlantic CP along the Altamaha River, Wayne Co..
<i>Matelea pubiflora</i>	Trailing milkvine	G3G4	S2		R	Exposed sandy soils; sandridges	UCP, LCP
<i>Myriophyllum laxum</i>	Lax water-milfoil	G3	S2		T	Bluehole spring runs; shallow, sandy, swift-flowing creeks; clear, cool ponds	UCP, in many watersheds, most often in westcentral Georgia sandhills
<i>Orbexilum virgatum</i>	Slender leather-root	G1	SH			Sandridges	LCP, Charlton Co.
<i>Oxypolis ternata</i>	Savanna cowbane	G3	S2			Wet pine savannas and bogs	UCP, widely scattered

**Table 10. Southern Coastal Plain High Priority Plants (88 Records)**

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia	Range in Georgia
<i>Peltandra sagittifolia</i>	Arrow arum	G3G4	S2?			Swamps; wet hammocks on pristine sphagnum mats	UCP, LCP; locally abundant in Okefenokee Swamp
<i>Penstemon dissectus</i>	Cutleaf beardtongue	G2	S2?		R	Altamaha Grit outcrops and adjacent pine savannas; rarely sandridges	UCP, endemic to Altamaha Grit (Tifton Uplands)
<i>Phaseolus polystachios</i> var. <i>sinuatus</i>	Trailing bean-vine	G4T3?	S2?			Sandhills; dry pinelands and hammocks	UCP, LCP
<i>Physostegia leptophylla</i>	Tidal marsh obedient-plant	G4?	S2S3		T	Freshwater tidal marshes; perhaps disjunct in wet savannas of extreme SW Georgia	LCP, coastal cos. on tidally influenced shorelines; reports from UCP in SW Georgia need verification
<i>Plantago sparsiflora</i>	Pineland plantain	G3	S2			Open, wet pine savannas; shallow ditches	UCP, LCP
<i>Platanthera blephariglottis</i> var. <i>blephariglottis</i>	White fringed-orchid	G4G5T4?	S1?				
<i>Platanthera blephariglottis</i> var. <i>conspicua</i>	Southern white fringed-orchid	G4G5T3T4	S2?			Bogs, seeps, roadsides, wet savannas	UCP, LCP; scattered from Fall Line Sandhills to coast and South Georgia plantations
<i>Platanthera chapmanii</i>	Chapman's fringed-orchid	G4?	S1			Open, wet meadows; pine flatwoods	UCP, LCP, extreme Southeast Georgia; historic in Southwest Georgia
<i>Platanthera integra</i>	Yellow fringeless orchid	G3G4	S2			Wet savannas, pitcherplant bogs	UCP, LCP; documented from 9 cos., scattered on coastal plain
<i>Polygonum glaucum</i>	Sea-beach knotweed	G3	SH			Coastal beaches in dune depressions and among protected accumulations of beach wrack	LCP
<i>Portulaca biloba</i>	Grit portulaca	G1G2	S1			Altamaha Grit outcrops	UCP
<i>Pteroglossaspis ecristata</i>	Wild coco	G2	S1			Grassy saw palmetto barrens; longleaf pine grasslands, sometimes with <i>Schwalbea americana</i>	LCP, UPC; widely scattered, including barrier islands
<i>Ptilimnium</i> sp. 1	Mock bishop-weed	G1	SH			Tidal freshwater marshes	LCP, narrow endemic from Savannah into South Carolina
<i>Rhynchospora breviseta</i>	Short-bristle beakrush	G3G4	SU			Bogs; flatwoods	Uncertain, documentation needed, UCP, LCP
<i>Rhynchospora decurrens</i>	Decurrent beakrush	G3G4	S1?			Swamps	UCP, LCP
<i>Rhynchospora fernaldii</i>	Fernald's beakrush	G3G4	SR			Flatwoods depressions	LCP (only?), to be considered as a rarity from Okefenokee Swamp, whence all specimens from Georgia came
<i>Rhynchospora macra</i>	Many-bristled beakrush	G3	S1?			Peaty, sandhill seepage slopes; streamhead pocosins	LCP an old record from Coffee Co. near Douglas
<i>Rhynchospora pleiantha</i>	Clonal thread-leaved beakrush	G2	SH			Margins of limesink depression ponds (dolines)	UCP
<i>Rhynchospora punctata</i>	Spotted beakrush	G1?	S1?			Wet savannas, pitcherplant bogs	UCP, LCP
<i>Ruellia noctiflora</i>	Night-blooming wild petunia	G2	SH			Open, slash pine flatwoods	LCP, outer Coastal Plain on the Barrier Island Sequence
<i>Sageretia minutiflora</i>	Climbing buckthorn	G4	S1?		T	Calcareous bluff forests; maritime forests over shell mounds	UCP, LCP
<i>Sagittaria graminea</i> var. <i>chapmanii</i>	Chapman's arrowhead	G5T3?	S3?			Low woods and seasonal wet swamps with <i>Carex leptalea</i> , <i>Rhynchospora miliacea</i>	UCP, LCP, perhaps widespread, including a pond on Sapelo Island
<i>Sapindus saponaria</i>	Soapberry	G5	S1			Shell mound forests	LCP

**Table 10. Southern Coastal Plain High Priority Plants (88 Records)**

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia	Range in Georgia
<i>Sarracenia flava</i>	Yellow flytrap	G5?	S3S4		U	Wet savannas, pitcherplant bogs	UCP, LCP
<i>Sarracenia minor</i> var. <i>minor</i>	Hooded pitcherplant	G4T4	S4			Wet savannas, pitcherplant bogs	UCP LCP
<i>Sarracenia minor</i> var. <i>okefenokeense</i>	Okefenokee giant	G4T2T3	S2S3			Wet savannas, pitcherplant bogs	LCP, Okefenokee Basin only
<i>Sarracenia psittacina</i>	Parrot pitcherplant	G4	S2S3		T	Wet savannas, pitcherplant bogs	UCP, LCP
<i>Sarracenia rubra</i>	Sweet pitcherplant	G3	S2	(PS)	E	Atlantic white cedar swamps; wet savannas	UCP, in two areas, Atlantic Coastal Plain and Fall Line Sandhills west of Macon
<i>Schoenolirion elliottii</i>	White sunnybell	G3	S1?			Wet savannas	LCP, few observations from Wayne and Brantley Cos.
<i>Scutellaria altamaha</i>	Altamaha skullcap	G2G3	S1?			Sandy, deciduous woods	UCP, LCP. (only?), perhaps adjacent Piedmont, of Southeast Georgia
<i>Scutellaria arenicola</i>	Sandhill skullcap	G3G4	SH			Sandy scrub	LCP, Trail Ridge; Camden Co.
<i>Scutellaria mellichampii</i>	Mellichamp's skullcap	G?Q	S1?			Sandy deciduous woods	LCP, UCP; widely scattered
<i>Sideroxylon</i> sp. 1	Dwarf buckthorn	G3Q	S3			Dry longleaf pine woods with oak understory; often hidden in wiregrass	UCP, LCP
<i>Sideroxylon thornei</i>	Swamp buckthorn	G2	S2		E	Forested limesink depressions; calcareous swamps	UCP, LCP
<i>Sphagnum cyclophyllum</i>	Round-leaved peat-moss	G3	S2			CP: bare sand where wet or submerged for part of the year and then drying, as around seasonal ponds in pine barrens.. PD: seepage over granite outcrops	PD, LCP, UCP
<i>Spiranthes floridana</i>	Florida ladies-tresses	G1	S1?				
<i>Sporobolus pinetorum</i>	Pineland dropseed	G3	S2?			Wet savannas with wiregrass	LCP
<i>Stewartia malacodendron</i>	Silky camellia	G4	S2		R	Along streams on lower slopes of beech-magnolia or beech-basswood-Florida maple forests	PD, UCP
<i>Tillandsia bartramii</i>	Bartram's airplant	G4	S2				
<i>Vaccinium crassifolium</i>	Evergreen lowbush blueberry	G4G5	SH			Open margins of Carolina bays	LCP, historically in or near Screven Co.
<i>Xyris drummondii</i>	Drummond's yellow-eyed grass	G3	S1			Pine flatwoods	UCP, LCP
<i>Xyris scabrifolia</i>	Harper's yellow-eyed grass	G3	S1			Sedge bogs; pitcherplant bogs; pine flatwoods	UCP, LCP

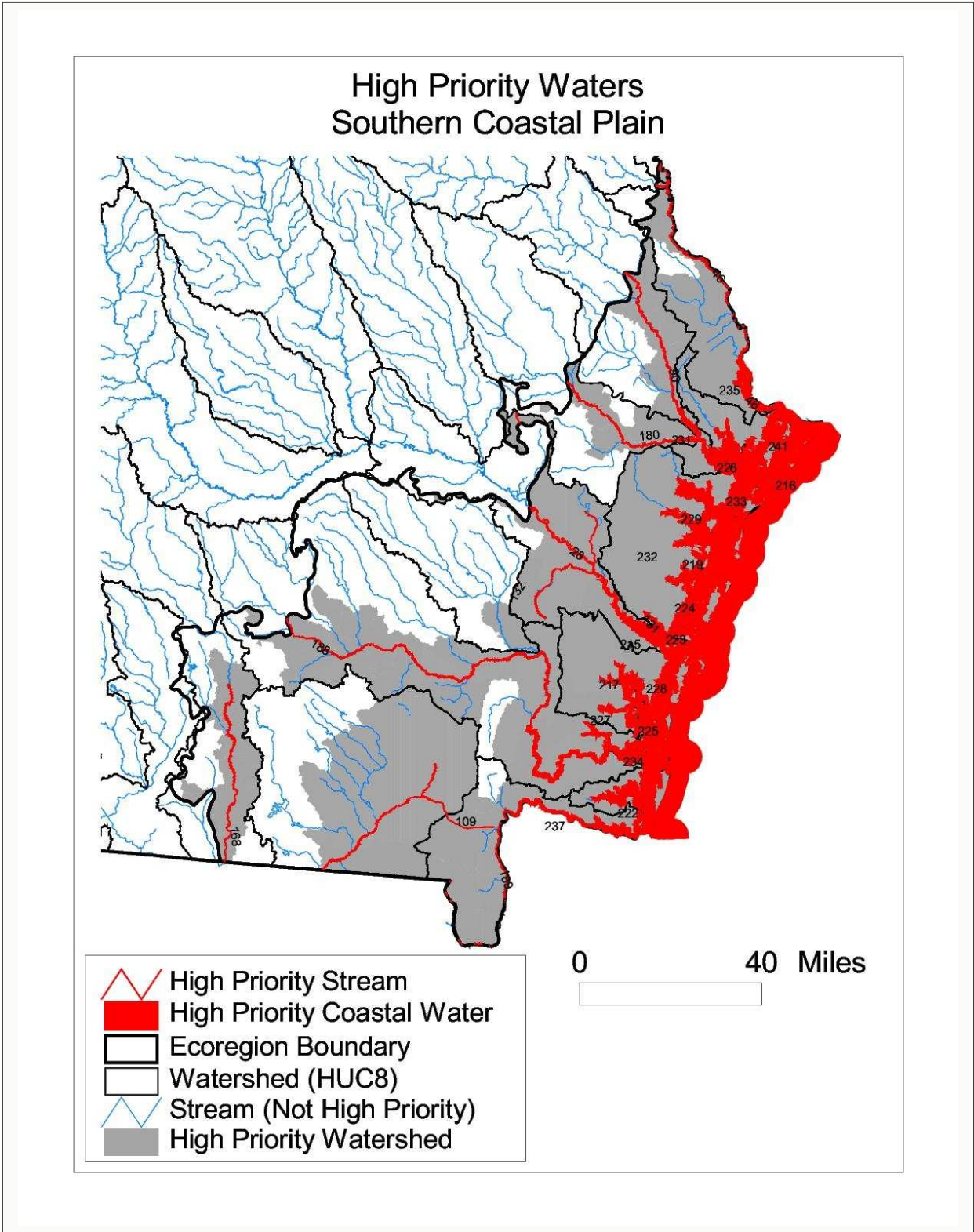


Figure 13. High Priority Waters, Southern Coastal Plain Ecoregion