

Chapter 10

Natural Heritage Program

Overview

The Natural Heritage Program is a part of the Office of Natural Resource Planning and Conservation. The program inventories, catalogues, and supports conservation of the rarest and the most outstanding elements of the natural diversity of our state. These elements of natural diversity include those plants and animals which are so rare or the natural communities which are so significant that they merit special consideration as land-use decisions are made.

The Natural Heritage Program follows methodology developed by The Nature Conservancy and shared by the Natural Heritage Network and NatureServe. By consolidating information about hundreds of rare species and natural communities, the program is able to ensure that the public is able to get the information that is needed, to weigh the ecological significance of various sites, and to evaluate the likelihood and nature of ecological impacts. This information supports informed evaluations of the trade-offs associated with biological diversity and development projects before plans have been finalized. Finally, this information facilitates the establishment of priorities for the protection of North Carolina's most significant natural areas.

Natural Heritage Areas in the Lumber Basin

There are several natural heritage areas in the Lumber Basin that are vital not only because they provide habitat for unique plant and animal species but also because they protect water quality. Some of the areas identified by the Natural Heritage Program are currently being protected by private non-profit organizations, state agencies, or the federal government. Figure 10-1 depicts the areas identified by the Natural Heritage Program as significant natural resources to be protected.

Many rare and endemic species have been cataloged by the Natural Heritage Program in the basin. There are currently six species on the US Fish and Wildlife list of Endangered species. Another four are considered Threatened and 45 more are Species of Concern. The state of North Carolina list 24 Endangered species, 29 Threatened species, 136 Significantly Rare species, and 30 species of concern in the Lumber Basin. A list of these species is provide in Tables 10-1 for animals and 10-2 for plants. While not all of these species are aquatic dwelling all of them rely on clean sources of water. There are 45 species of animals in the basin that are considered either aquatic or wetland dwelling and considered by the Natural Heritage Program to be Rare or Endangered.

Nationally Significant Natural Heritage Areas

There are 24 areas in the basin that are considered by the NC NHP to be of national significance. Two of these areas are currently under extreme pressure. The Upper Waccamaw River Swamp has been affected by and is under continued pressure by the logging industry due to the clear-cutting of cypress and tupelo trees in the swamp. The Boiling Springs Wetland Complex is being threatened by development that would eliminate much of this area as a suitable habitat for species that are on the verge of being lost. It would also impact the hydrologic regime creating further stormwater runoff to already Impaired shellfish waters.

For more information on the Natural Heritage Program visit <http://www.ncnhp.org>.

FIGURE 10-1: CONSERVATION AREAS IN THE LUMBER RIVER BASIN

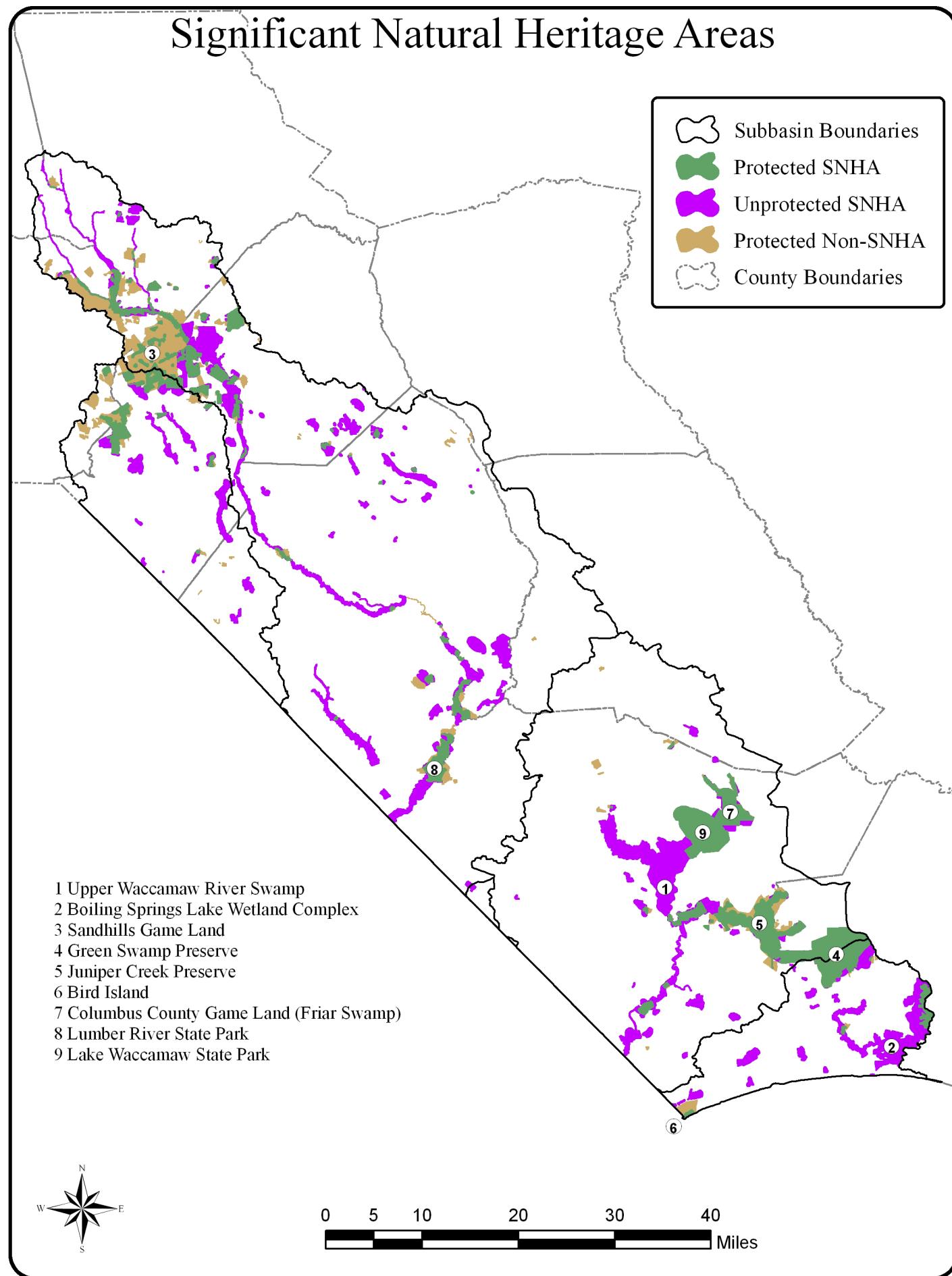


TABLE 10-1: RARE AND ENDANGERED ANIMAL SPECIES IN THE LUMBER BASIN

SCIENTIFIC NAME	COMMON NAME	STATE STATUS	FEDERAL STATUS
<i>Acronicta sinenscripta</i>	Dagger Moth (sp)	Significantly Rare	None
<i>Agrotis carolina</i>	Dart Moth (sp)	Significantly Rare	Species of Concern
<i>Aimophila aestivalis</i>	Bachman's Sparrow	Species of Concern	Species of Concern
<i>Alligator mississippiensis</i> *	American Alligator	Threatened	Threatened (S/A)
<i>Amblyscirtes alternata</i>	Dusky Roadside-Skipper	Significantly Rare	None
<i>Amblyscirtes reversa</i> *	Reversed Roadside-Skipper	Significantly Rare	None
<i>Ambystoma mabeei</i> *	Mabee's Salamander	Significantly Rare	None
<i>Ambystoma tigrinum</i> *	Eastern Tiger Salamander	Threatened	None
<i>Ammodramus henslowii susurrans</i>	Eastern Henslow's Sparrow	Species of Concern	Species of Concern
<i>Amnicola species 1</i> *	Waccamaw Snail	Species of Concern	None
<i>Anacamptodes cypressaria</i>	Inchworm Moth (sp)	Significantly Rare	None
<i>Apantesis Species 1</i>	Tiger Moth (sp)	Significantly Rare	None
<i>Attaneuria ruralis</i> *	Stonefly (sp)	Significantly Rare	None
<i>Calephelis virginienensis</i> *	Little Metalmark	Significantly Rare	None
<i>Callophrys hesseli</i> *	Hessel's Hairstreak	Significantly Rare	None
<i>Callophrys irus</i>	Frosted Elfin	significantly Rare	None
<i>Carinella waccamawensis</i> *	Waccamaw Ambersnail	Threatened	None
<i>Ceraclea cancellata</i> *	Caddisfly (sp)	Significantly Rare	None
<i>Charadrius melodus</i>	Piping Plover	Threatened	Threatened
<i>Charadrius wilsonia</i>	Wilson's Plover	Species of Concern	None
<i>Chelonia mydas</i> *	Green Seaturtle	Threatened	Threatened
<i>Chondestes grammacus</i>	Lark Sparrow	Significantly Rare	None
<i>Choroterpes basalis</i> *	Mayfly (sp)	Significantly Rare	None
<i>Cincinnatia species 1</i> *	Waccamaw Siltsnail	Species of Concern	None
<i>Columbina passerina</i>	Common Ground Dove	Significantly Rare	None
<i>Condylura cristata population 1</i>	Star-nosed Mole - Coastal Plain Population	Species of Concern	None
<i>Corynorhinus rafinespuii macrotis</i>	Rafinesque's Big-eared Bat - Coastal Plain Subspecies	Species of Concern	Species of Concern
<i>Crotalus adamanteus</i>	Eastern Diamondback Rattlesnake	Endangered	None
<i>Croalus horridus</i>	Tiber Rattlesnake	Species of Concern	None
<i>Cyprinella Species 1</i> *	Thinlip Chub	Species of Concern	None
<i>Deirochelys reticulata</i> *	Chicken Turtle	Significantly Rare	None
<i>Dendroica virens waynei</i>	Black-throated Green Warbler - Coastal Plains Population	Significantly Rare	None
<i>Egretta caerulea</i>	Little Blue Heron	Species of Concern	None
<i>Egretta thula</i>	Snowy Egret	Species of Concern	None
<i>Elassoma boehlkei</i> *	Carolina Pygmy Sunfish	Threatened	Species of Concern
<i>Elliptio folliculata</i> *	Pod Lance	Species of Concern	None
<i>Elliptio marsupiobesa</i> *	Cape Fear Spike	Species of Concern	None
<i>Elliptio Waccamawensis</i> *	Waccamaw Spike	Endangered	Species of Concern
<i>Etheostoma mariae</i> *	Pinewoods Darter	Species of Concern	Species of Concern
<i>Etheostoma perlongum</i> *	Waccamaw Darter	Threatened	Species of Concern
<i>Eubaphe meridiana</i>	The Little Beggar	Significantly Rare	None
<i>Euphyes bimacula</i> *	Two-spotted Skipper	Significantly Rare	None
<i>Eurycea quadridigitata</i> *	Dwarf Salamander	Species of Concern	None

SCIENTIFIC NAME	COMMON NAME	STATE STATUS	FEDERAL STATUS
<i>Exyra semicrocea</i>	Pitcher Plant Moth (sp)	Significantly Rare	None
<i>Fundulus waccamensis</i> *	Waccamaw Killfish	Species of Concern	Species of Concern
<i>Haliaeetus leucocephalus</i>	Bald Eagle	Threatened	None
<i>Hesperia attalus slossonae</i>	Dotted Skipper	Significantly Rare	None
<i>Hesperia meskei</i>	Meske's Skipper	Significantly Rare	None
<i>Heterodon simus</i>	Southern Hognose Snake	Species of Concern	Species of Concern
<i>Hyla andersonii</i> *	Pine Barrens Treefrog	Significantly Rare	None
<i>Hypagyrtis brendae</i>	Benda's Hypagyrtis	Significantly Rare	None
<i>Lampsilis cariosa</i> *	Yellow Lampmussel	Endangered	Species of Concern
<i>Lampsilis fullerkati</i> *	Waccamaw Fatmucket	Threatened	Species of Concern
<i>Lampsilis radiata</i> *	Eastern Lampmussel	Threatened	None
<i>Leptodea ochracea</i> *	Tidewater Mucket	Threatened	None
<i>Masticophis flagellum</i>	Coachwhip	Significantly Rare	None
<i>Menidia extensa</i> *	Waccamaw Silverside	Threatened	Threatened
<i>Metarranthis lateritiaria</i>	Inchworm Moth (sp)	Significantly Rare	None
<i>Micrurus fulvius</i>	Eastern Coral Snake	Endangered	None
<i>Mycteria americana</i>	Wood Stork	Endangered	Endangered
<i>Myotis austroriparius</i>	Southeastern Myotis	Species of Concern	Species of Concern
<i>Nematocampa baggetaria</i>	Baggett's Nematocampa	Significantly Rare	None
<i>Noturus species 2</i> *	Broadtail Madtom	Species of Concern	Species of Concern
<i>Ophisaurus mimicus</i>	Mimic Glass Lizard	Species of Concern	Species of Concern
<i>Orgyia detrita</i>	Tussock Moth (sp)	Significantly Rare	None
<i>Papaipema appassionata</i>	Pitcher Plant Borer Moth	Significantly Rare	None
<i>Papilio cressphontes</i>	Giant Swallowtail	Significantly Rare	None
<i>passerina ciris ciris</i>	Eastern Painted Bunting	Species of Concern	Species of Concern
<i>Picoides borealis</i>	Red-cockaded Woodpecker	Endangered	Endangered
<i>Pituophis melanoleucus melanoleucus</i>	Northern Pine Snake	Species of Concern	Species of Concern
<i>Porphyrio martinica</i>	Purple Gallinule	Significantly Rare	None
<i>Procambarus braswelli</i> *	Waccamaw Crayfish	Species of Concern	None
<i>Pseudacris ornata</i> *	Ornate Chorus Frog	Significantly Rare	None
<i>Rana capito</i> *	Carolina Gopher Frog	Threatened	Species of Concern
<i>Rana heckscheri</i> *	River Frog	Species of Concern	None
<i>Regina rigida</i> *	Glossy Crayfish Snake	Significantly Rare	None
<i>Rynchops niger</i>	Black Skimmer	Species of Concern	None
<i>Satyrium edwardsii</i>	Edward's Hairstreak	Significantly Rare	None
<i>Satyrium favonius ontario</i>	Northern Oak Hairstreak	Significantly Rare	None
<i>Sciurus niger</i>	Eastern Fox Squirrel	Significantly Rare	None
<i>Seminatrix pygaea</i> *	Black Swamp Snake	Significantly Rare	None
<i>Semotilus lumbee</i> *	Sandhills Chub	Species of Concern	Species of Concern
<i>Sistrurus miliarius</i>	Pygmy Rattlesnake	Species of Concern	None
<i>Spartiniphaga caterae</i>	Carter's Noctuid Moth	Significantly Rare	Species of Concern
<i>Sternula antillarum</i>	Least Tern	Species of Concern	None
<i>Toxolasma pullus</i> *	Savannah Lilliput	Endangered	Species of Concern
<i>Triaenodes marginatus</i> *	Triaenode Caddisfly (sp)	Significantly Rare	None
<i>Trichechus manatus</i> *	West Indian Manatee	Endangerd	Endangered
<i>Triodopsis soelneri</i> *	Cape Fear Threetooth	Threatened	Species of Concern
<i>Viviparus intertextus</i> *	Rotund Mystrysnail	Significantly Rare	None

*Denotes Aquatic or Wetland Dwelling Species

TABLE 10-2: RARE AQUATIC AND WETLAND PLANTS IN THE LUMBER BASIN

SCIENTIFIC NAME	COMMON NAME	STATE STATUS	FEDERAL STATUS
<i>Agalinis virgata</i>	Branched Gerardia	Significantly Rare	None
<i>Allium sp. 1</i>	Savanna Onion	Significantly Rare	Species of Concern
<i>Amorpha georgiana v. confusa</i>	Savanna Indigo-bush	Threatened	Species of Concern
<i>Amphicarpum muehlenbergianum</i>	Florida Goober Grass	Endangered	None
<i>Andropogon mohrii</i>	Bog Bluestem	Significantly Rare	None
<i>Aristida simpliciflora</i>	Chapman's Three-awn	Significantly Rare	None
<i>Arnoglossum ovatum</i>	Savanna Indian-plantain	Significantly Rare	None
<i>Asclepias pedicellata</i>	Savanna Milkweed	Significantly Rare	None
<i>Bacopa caroliniana*</i>	Blue Water-Hyssop	Significantly Rare	None
<i>Campylopus carolinae</i>	Savanna Campylopus	Significantly Rare	Species of Concern
<i>Carex canescens ssp. disjuncta</i>	Silvery Sedge	Significantly Rare	None
<i>Carex crus-corvi</i>	Crowfoot Sedge	Significantly Rare	None
<i>Carex exillis</i>	Coastal Sedge	Threatened	None
<i>Carex sp. 4</i>	Canebreak Sedge	Significantly Rare	None
<i>Carex verrucosa</i>	Warty Sedge	Significantly Rare	None
<i>Cheilolejeunea rigidula</i>	A Liverwort	Significantly Rare	None
<i>Cirsium lecontei</i>	Leconte's Thistle	Significantly Rare	None
<i>Cladium mariscoides</i>	Twig-rush	Significantly Rare	None
<i>Coreopsis helianthoides</i>	Beadle's Coreopsis	Significantly Rare	None
<i>Crocanthermum carolinianum</i>	Carolina Sunrose	Significantly Rare	None
<i>Cyperus lecontei</i>	Leconte's Flatsedge	Significantly Rare	None
<i>Danthonia epilis</i>	Bog Oatgrass	Significantly Rare	None
<i>Dichantherium sp. 9</i>	A Witch Grass	Significantly Rare	None
<i>Dionaea muscipula</i>	Venus Flytrap	Significantly Rare	Species of Concern
<i>Ditrysinia fruticosa</i>	Sebastian-bush	Threatened	None
<i>Drosera filiformis</i>	Threadleaf Sundew	Significantly Rare	None
<i>Echinodorus tenellus</i>	Dwarf Burhead	Significantly Rare	None
<i>Eleocharis atropurpurea</i>	Purple Spikerush	Significantly Rare	None
<i>Eleocharis robbinsii</i>	Robbin's Spikerush	Significantly Rare	None
<i>Epidendrum magnoliae</i>	Green Fly Orchid	Significantly Rare	None
<i>Eriocaulon aquaticum</i>	Seven-angled Pipewort	Significantly Rare	None
<i>Eupatorium leptophyllum</i>	Limesink Dog-fennel	Significantly Rare	None
<i>Eupatorium resinosum</i>	Pine Barren Boneset	Species of Concern	None
<i>Fimbristylis perpusilla</i>	Harper's Fimbry	Endangered	Species of Concern
<i>Gelsemium rankinii</i>	Swamp Jessamine	Significantly Rare	None
<i>Gratiola aurea</i>	Golden Hedge-hyssop	Significantly Rare	None
<i>Gratiola ramosa</i>	Branched Hedge-hyssop	Significantly Rare	None
<i>Helenium pinnatifidum</i>	Dissected Sneezeweed	Significantly Rare	None
<i>Helenium vernale</i>	Spring Sneezeweed	Endangered	None
<i>Helianthus floridanus</i>	Florida Sunflower	Endangered	None
<i>Hibiscus aculeatus</i>	Comfortroot	Significantly Rare	None
<i>Hymenocallis pygmaea</i>	Waccamaw River Spiderlily	Significantly Rare	None
<i>Hypericum fasciculatum</i>	Peelbark Saint John's-Wort	Significantly Rare	None
<i>Ilex amelanchier</i>	Sarvis Holly	Significantly Rare	None
<i>Iva microcephala</i>	Small-headed Marsh Elder	Significantly Rare	None
<i>Lachnocaulon minus</i>	Brown Bogbutton	Significantly Rare	None

SCIENTIFIC NAME	COMMON NAME	STATE STATUS	FEDERAL STATUS
<i>Lechaea torreyi</i>	Torrey's Pinweed	Significantly Rare	None
<i>Lejeunea bermudiana</i>	A Liverwort	Significantly Rare	None
<i>Lilaeopsis carolinensis</i> *	Carolina Grasswort	Threatened	None
<i>Lilium pyrophilum</i>	Sandhills Lily	Species of Concern	Species of Concern
<i>Lindera subcoriacea</i>	Bog Spicebush	Threatened	Species of Concern
<i>Linum floridanum</i> v. <i>chrysocarpum</i>	Yellow-fruited Flax	Significantly Rare	None
<i>Lipocarpa micrantha</i>	Small-flowered Hemicarpha	Endangered	None
<i>Litsea aestivalis</i>	Pondspice	Significantly Rare	Species of Concern
<i>Lobelia boykinii</i>	Boykin's Lobelia	Threatened	Species of Concern
<i>Lophiola aurea</i>	Golden-crest	Endangered	None
<i>Lopholejeunea muelleriana</i>	A Liverwort	Significantly Rare	None
<i>Ludwigia linifolia</i>	Flaxleag Seedbox	Significantly Rare	None
<i>Ludwigia ravenii</i>	Raven's Seedbox	Significantly Rare	Species of Concern
<i>Ludwigia sphaerocarpa</i>	Globe-fruit Seedbox	Significantly Rare	None
<i>Ludwigia suffruticosa</i>	Shrubby Seedbox	Significantly Rare	None
<i>Luziola fluitans</i> *	Southern Water Grass	Significantly Rare	None
<i>Lysimachia asperulifolia</i>	Rough-leaf Loosestrife	Endangered	Endangered
<i>Macbridea caroliniana</i>	Carolina Bogmint	Threatened	Species of Concern
<i>Muhlenbergia torreyana</i>	Pinebarren Smokegrass	Endangered	None
<i>Oldenlandia boscii</i>	Bosc's Bullet	Significantly Rare	None
<i>Oxypolis canbyi</i>	Canby's Dropwort	Endangered	Endangered
<i>Parnassia caroliniana</i>	Carolina Grass-of-parnassus	Endangered	Species of Concern
<i>Paspalum dissectum</i>	Mudbank Crowngrass	Significantly Rare	None
<i>Peltandra sagittifolia</i>	Spoonflower	Significantly Rare	None
<i>Persicaria hirsuta</i>	Hairy Smartweed	Significantly Rare	None
<i>Pityopsis graminifolia</i> v.	A Silkgrass	Significantly Rare	None
<i>Plagiochila dubia</i>	A Liverwort	Significantly Rare	None
<i>Plantago sparsiflora</i>	Pineland Plantain	Endangered	Species of Concern
<i>Platanthera integra</i>	Yellow Fringeless Orchid	Threatened	None
<i>Platanthera nivea</i>	Snowy Orchid	Threatened	None
<i>Polyfala hookeri</i>	Hooker's Milkwort	Significantly Rare	None
<i>Potamogeton confervoides</i> *	Conferva Pondweed	Significantly Rare	None
<i>Rhexia aristosa</i>	Awed Meadow-beauty	Threatened	Species of Concern
<i>Rhynchospora alba</i>	Northern White Beaksedge	Significantly Rare	None
<i>Rhynchospora brevisetia</i>	Short-bristled Beaksedge	Significantly Rare	None
<i>Rhynchospora decurrens</i>	Swamp Forest Beaksedge	Significantly Rare	Species of Concern
<i>Rhynchospora divergens</i>	White-seeded Beaksedge	Significantly Rare	None
<i>Rhynchospora macra</i>	Southern White Beaksedge	Endangered	None
<i>Rhynchospora odorata</i>	Fragrant Beaksedge	Endangered	None
<i>Rhynchospora pinetorum</i>	Small's Beaksedge	Significantly Rare	None
<i>Rhynchospora pleiantha</i>	Coastal Beaksedge	Threatened	Species of Concern
<i>Rhynchospora thornei</i>	Thorne's Beaksedge	Endangered	Species of Concern
<i>Rhynchospora tracyi</i>	Tracy's Beaksedge	Significantly Rare	None
<i>Sabatia kennedyana</i>	Plymouth Centian	Species of Concern	None
<i>Sagittaria isoetiformis</i>	Quillwort Arrowhead	Significantly Rare	None
<i>Sagittaria stagnorum</i> *	Water Arrowhead	Significantly Rare	None
<i>Sagittaria weatherbiana</i>	Grassleaf Arrowhead	Significantly Rare	Species of Concern
<i>Sarracenia minor</i>	Hooded Pitcher Plant	Threatened	None

SCIENTIFIC NAME	COMMON NAME	STATE STATUS	FEDERAL STATUS
<i>Schoenoplectus etuberculatus*</i>	Canby's Bulrush	Significantly Rare	None
<i>Schoenoplectus subterminalis*</i>	Swaying Bulrush	Significantly Rare	None
<i>Schwalbea americana</i>	Chaffseed	Endangered	Endangered
<i>Scleria baldwinii</i>	Baldwin's Nutrush	Significantly Rare	None
<i>Scleria reticularis</i>	Netted Nutrush	Significantly Rare	None
<i>Scleria verticillata</i>	Savanna Nutrush	Significantly Rare	None
<i>Solidago leavenworthii</i>	Leavenworth's Goldenrod	Significantly Rare	None
<i>Solidago verna</i>	Spring-flowering Goldenrod	Threatened	Species of Concern
<i>Sphagnum fallax</i>	Pretty Peatmoss	Significantly Rare	None
<i>Sphagnum torreyanum*</i>	Giant Peatmoss	Significantly Rare	None
<i>Spiranthes eatonii</i>	Eaton's Ladies'-tresses	Significantly Rare	None
<i>Spiranthes laciniata</i>	Lace-lip Ladies'-tresses	Significantly Rare	None
<i>Spiranthes longilabris</i>	Giant Spiral Orchid	Threatened	Species of Concern
<i>Sporobolus teretifolius</i>	Wireleaf Dropseed	Threatened	Species of Concern
<i>Sporobolus virginicus</i>	Saltmarsh Dropseed	Significantly Rare	None
<i>Stylisma aquatica</i>	Water Dawnflower	Significantly Rare	None
<i>Thalictrum cooleyi</i>	Cooley's Meadowrue	Endangered	Endangered
<i>Thalictrum macrostylum</i>	Small-leaved Meadowrue	Significantly Rare	Species of Concern
<i>Torreyochloa pallida*</i>	Pale Mannagrass	Significantly Rare	None
<i>Tridens ambiguus</i>	Pineland Triodia	Endangered	None
<i>Utricularia cornuta*</i>	Horned Bladderwort	Significantly Rare	None
<i>Vaccinium macrocarpon</i>	Cranberry	Significantly Rare	None
<i>Vaccinium virgatum</i>	Small-flower Blueberry	Significantly Rare	None
<i>Xyris chapmanii</i>	Chapman's Yellow-eyed-grass	Significantly Rare	None
<i>Xyris difformis</i> v. <i>floridana</i>	Florida Yellow-eyed-grass	Significantly Rare	None
<i>Xyris scabrifolia</i>	Harper's Yellow-eyed-grass	Significantly Rare	Species of Concern
<i>Xyris Stricta</i>	Pineland Yellow-eyed-grass	Significantly Rare	None

*Denotes Aquatic