

# High Priority Habitats in Georgia

*An excerpt from:*

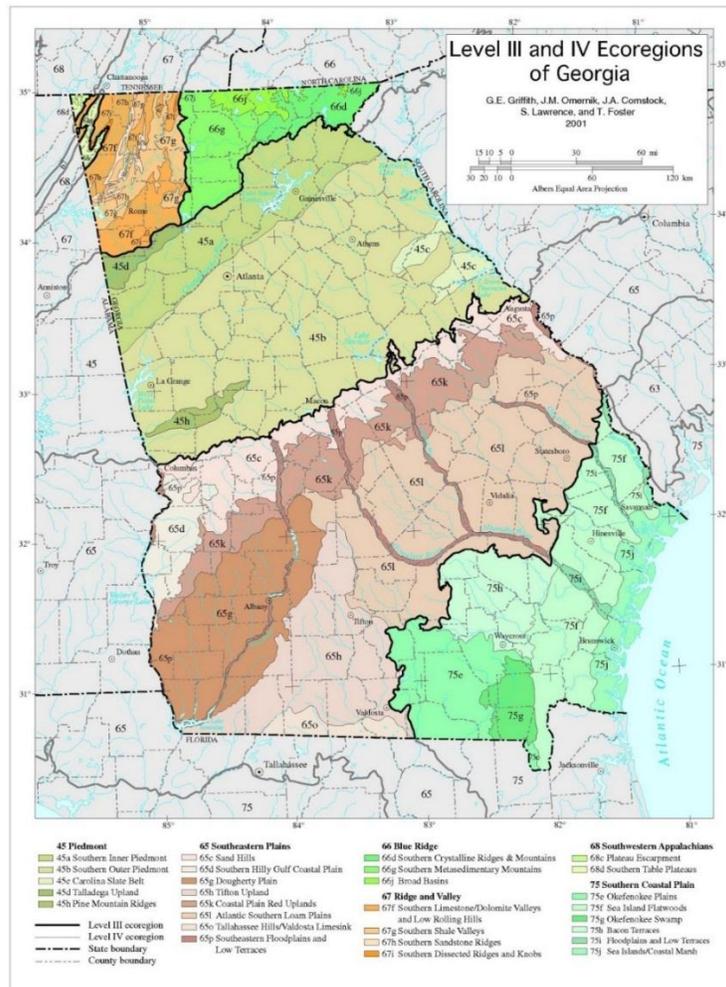
## Georgia State Wildlife Action Plan 2015



(Note: This excerpt contains information on high priority habitats broken down by each of Georgia's ecoregions. For more complete information on high priority habitats in Georgia, please refer to Section III. State Overview—Ecological Framework, Section IV. Conservation Landscape Assessments and Conservation Strategies, and Appendix A of the full SWAP. <http://www.georgiawildlife.com/SWAP2015> Table numbers in this excerpt are retained from the original report.)

## Ecoregions of the State

The discussion of high priority species and habitats in this report is organized by ecological region, or ecoregion. The major divisions used in this report are as follows: 1) Southwestern Appalachians/Ridge & Valley; 2) Blue Ridge; 3) Piedmont; 4) Southeastern Plains; and 5) Southern Coastal Plain. The figure below shows the major (Level III) ecoregions used in this report as well as subunits of those ecoregions (Level IV) that reflect distinctive landscape features or regions. Although the Southwestern Appalachians and Ridge & Valley are separate Level III ecoregions, they are treated as one unit in this document because they share many topographic, geologic, soil, and biotic components.



**Level III and IV Ecoregions of Georgia**

## **Southwestern Appalachians/Ridge & Valley**

### High Priority Species and Habitats

The technical teams identified 110 high priority animal species in the Southwestern Appalachians/Ridge & Valley ecoregions. These include 11 birds, 8 mammals, 2 reptiles, 6 amphibians, 35 fish, 27 mollusks, 9 aquatic arthropods, and 12 terrestrial arthropods. These species are listed in Table 4, 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, 65 species of high priority plants were identified for the Southwestern Appalachians/Ridge & Valley. These are listed in Table 5.

High priority habitats for the Southwestern Appalachians/Ridge & Valley ecoregions are described below:

#### *1. Acidic Meadows Over Sandstone or Shale*

Open, grassy habitats over shallow acidic soils; edaphic factors control species composition and diversity. May be moist or dry, depending on topographic setting. These small patch habitats are relatively rare in Georgia.

#### *2. Calcareous Flatwoods (Hardwood Flats)*

Relatively open, flat, shallowly and seasonally wet forested habitats dominated by hardwoods and including rare or uncommon species such as nutmeg hickory and Alabama leatherflower. Shrub and herb diversity is high. A small patch habitat restricted to low-lying areas with clayey calcareous soils.

#### *3. Calcareous Prairies (Coosa Valley Prairies)*

Open grass- and forb-dominated communities over clayey calcareous soils that inhibit growth of woody species. Groundlayer plant species diversity is high, and includes disjunct species known primarily from midwestern prairies. Includes wet and dry prairie subtypes. These habitats require periodic fire for maintenance.

#### *4. Canebrakes*

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.

#### *5. Caves, Rock Shelters, Talus Slopes*

These habitats share certain structural characteristics, such as a bedrock component with a variety of microhabitats that provide cover for priority animal species. They are typically embedded in a larger matrix of forest habitats. Caves are unique in their lack of sunlight and vegetation and dependence on outside materials for energy flows. Rock shelters can be found under cliffs (vertical exposures of rock). Talus slopes are accumulations of rock beneath cliffs and steep slopes. This region contains the majority of Georgia's caves and provides habitat for rare species such as gray and Indiana myotis.

#### *6. Forested Limestone Slopes and Terraces*

This forest type is found at middle elevations along Lookout and Pigeon Mountain. Characterized by submesic hardwood forest, with species composition dependent on aspect and slope position. Includes partially forested limestone ledges along streams.

#### *7. High Gradient First- and Second-Order Streams*

Small, clear, cold, tumbling streams with bedrock riffles and sandy pools. Found at higher elevations and upper ends of steep ravines and slopes. These streams typically experience wide seasonal variations in flow; some receive substantial input from groundwater.

#### *8. Limestone Glades and Barrens (Cedar Glades)*

Open habitats dominated by grasses or forbs, with scattered eastern redcedars and other trees. These habitats contain a large number of endemic plant species. Glades occur on thin, rocky soils, and are typically dominated by forbs; barrens are in areas with deeper soils and are dominated by grasses. The largest and most important area of cedar glades/barrens in Georgia is centered on Chickamauga-Chattanooga National Military Park.

#### *9. Mesic Hardwood Forests*

Mesic forests of bluffs, ravines, and colluvial flats, characterized by a diverse canopy of hardwood species such as yellow poplar, black cherry, white oak, shagbark hickory, northern red oak, bigleaf magnolia, sugar maple, and American beech. Hemlock and loblolly pine may be minor components in some areas. Mature examples are characterized by a rich understory of shrubs and herbaceous plants. This large patch habitat includes a rich mesic hardwood forest subtype found on calcareous soils.

#### *10. Medium to Large Rivers*

Lower gradient streams of valley bottoms, characterized by sandy, silty, or gravelly substrates. Typically surrounded by agricultural lands on the broad, fertile floodplains. Nearly all examples of large river floodplain forest in the Ridge & Valley region have been converted to other types of land cover.

#### *11. Montane Longleaf Pine-Hardwood Forests*

Dry forests composed of longleaf pine and mixed hardwood species, including mountain chestnut oak, southern red oak, and various scrub oaks. Significant examples occur in the Ridge & Valley region near Rome. Many Georgia examples are fire-suppressed and exhibit depressed species diversity relative to more frequently burned sites.

#### *12. Oak Woodlands*

An uncommon subxeric vegetation type found at higher elevations, oak woodlands are usually surrounded by xeric pine or pine-oak forest. Canopy dominants may include southern red oak, scarlet oak, post oak, and blackjack oak, with persimmon, blackgum, and other hardwood species. Probably maintained by a combination of infrequent fire and edaphic factors. Pigeon and Lookout Mountain contain good but narrow ecotonal examples.

### *13. Pine-Oak Woodlands and Forest*

Relatively open subxeric to xeric forest or woodland, typically dominated by shortleaf pine, Virginia pine, and post and blackjack oaks, often with a diverse grass and shrub layer. May also include chestnut oak, scarlet oak, and other dry-site hardwood species. Includes typical shortleaf pine-post oak woodlands as well as mixed pine-oak scrub and dry pine-oak forest.

### *14. Red Maple/Blackgum Swamps*

Nonalluvial or small stream swamp forests dominated by red maple and swamp blackgum. These are often found along small low-gradient streams, in shallow depressions, or on wet flats. Often boggy, with a layer of peat, these wetlands have been impacted by construction of drainage ditches.

### *15. Sagponds (Isolated Depressional Wetlands)*

Depressions formed by subsidence of soil due to groundwater percolation in the underlying rock. Contain a variety of vegetation types from freshwater emergents to swamp forest, depending on hydroperiod and other factors. Forested types are usually dominated by willow oak, swamp blackgum, and red maple. These unusual wetlands may include disjunct coastal plain species.

### *16. Sandstone Barrens and Outcrops*

This edaphic habitat type includes sandstone boulders and outcrops of the Appalachian (Cumberland) Plateau as well as scoured sandstone ledges near streams. These open, rocky habitats are typically bordered by Virginia and shortleaf pine, chestnut oak, and a variety of shrubs.

### *17. Springs and Spring Runs; Gravelly Seeps*

Springs are highly localized points of groundwater discharge that typically feed spring runs, while seeps may be broader or less defined areas of perennial or seasonal flows. The Ridge & Valley region contains a number of high-discharge springs. The waters of springs and associated habitats can be highly variable, depending on hydrology. These perennially cool and clear waters provide important habitat to a number of animal species, particularly salamanders and fish such as the coldwater darter.

### *18. Streams*

Moderate to low gradient streams running through lower coves and valleys. Riffle, pool, and shoal habitats may be present. Substrates include gravel, pebbles, boulders, and bedrock. Aquatic plants may also be present. Pools are often silt-bottomed. These streams become turbid after rain. These are generally more productive than headwater streams because of limestone valley bottoms.

*19. Underground Streams*

Includes streams of all sizes flowing through caves and other underground passages. These aquatic systems are important for rare species such as the southern cavefish and Tennessee cave salamander.

**Table 4. Southwestern Appalachians/Ridge & Valley High Priority Animals (110 Records)**

Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
AA	<i>Cambarus cymatilis</i>	Conasauga Blue Burrower	G1	S1		E	Sandy clay burrows up to 1 mile from nearest stream
AA	<i>Cambarus distans</i>	Boxclaw Crayfish	G5	S1			Clear cool streams under debris or clean slab rocks; streams can dry to isolated pools
AA	<i>Cambarus extraneus</i>	Chickamauga Crayfish	G2	S2		T	Small to medium shallow rocky streams with moderate current
AA	<i>Cambarus fasciatus</i>	Etowah Crayfish	G3	S2		T	Lotic habitats under rocks in flowing water
AA	<i>Cambarus manningi</i>	Greensaddle Crayfish	G4	S1?			Rocky riffles in streams with moderate to swift current
AA	<i>Cambarus scotti</i>	Chattooga River Crayfish	G3	S2		T	Rocky riffles in streams with moderate to swift current
AA	<i>Cambarus unestami</i>	Blackbarred Crayfish	G2	S3		T	High elevation streams with bedrock or rocks
AA	<i>Gomphus consanguis</i>	Cherokee Clubtail	G3	S2		T	Spring-fed moderately-flowing forest streams, especially where they drain small ponds
AA	<i>Ophiogomphus incurvatus</i>	Appalachian Snaketail	G3T2T3	S2			Small to medium spring-fed streams with mud and gravel bottoms.
AM	<i>Ambystoma tigrinum tigrinum</i>	Eastern Tiger Salamander	G5	S3S4			isolated wetlands for breeding; variety of open, upland habitats; CP - sandhills, oldfields, dry pine savanna
AM	<i>Aneides aeneus</i>	Green Salamander	G3G4	S3		R	Moist rock crevices; canopies of trees; within hardwood forests
AM	<i>Cryptobranchus alleganiensis</i>	Hellbender	G3G4	S3		T	Clear, rocky streams within Tennessee River drainages and Cartacay River
AM	<i>Eurycea aquatica</i>	Brown-backed Salamander	G3	S1			springs in RV and Cumberland Plateau
AM	<i>Gyrinophilus palleucus</i>	Tennessee Cave Salamander	G2G3	S1		T	Streams in caves; substrates include rock, gravel, sand, and mud
AM	<i>Plethodon petraeus</i>	Pigeon Mountain Salamander	G2	S2		R	Moist, rocky woods; cave entrances
BI	<i>Ammodramus savannarum pratensis</i>	Grasshopper Sparrow	G5	S4			Breeds in grasslands, pasture lands, PD RV, rare in CP. Wintering range poorly known.
BI	<i>Colinus virginianus</i>	Northern Bobwhite	G5	S5			Early successional habitat, open pine savanna (frequent fire maintained in small burn unit size), fallow habitats associated with crop lands, extensive forest regen areas (area sensitive - minimal fall pop of 700 birds for viability on 3000+acres)
BI	<i>Euphagus carolinus</i>	Rusty Blackbird	G4	S3			Bottomland forest, pecan orchards, agricultural fields
BI	<i>Grus americana</i>	Whooping Crane	G1	S1	LE		Open, mostly emergent herbaceous freshwater wetlands and fields for stop-over sites
BI	<i>Haliaeetus leucocephalus</i>	Bald Eagle	G5	S3		T	Edges of lakes & large rivers; seacoasts
BI	<i>Ixobrychus exilis</i>	Least Bittern	G5	S3			Fresh and brackish water wetlands with emergent herbaceous cover including impoundments, natural freshwater marshes, and tidally influenced marshes
BI	<i>Lanius ludovicianus</i>	Loggerhead Shrike	G4T3Q	S3			Open woods; field edges, pastures, ball fields, industrial park, primary dunes, hammocks
BI	<i>Limnothlypis swainsonii</i>	Swainson's Warbler	G4	S3			Dense undergrowth or canebrakes in swamps and river floodplains, small mountain pop in rhododendron and mountain laurel thickets
BI	<i>Peucaea aestivalis</i>	Bachman's Sparrow	G3	S2		R	Open pine or oak woods; old fields; brushy areas, young large grassy pine regeneration areas
BI	<i>Protonotaria citrea</i>	Prothonotary Warbler	G5	S4			Bottomland forest, swamps, and similar forested wetlands. Nests in tree cavities.
BI	<i>Tyto alba</i>	Barn Owl	G5	SU			Nests in large hollow trees or old buildings (particularly cement silos) in areas with extensive pasture or grassland or other open habitats such as marsh
FI	<i>Acipenser fulvescens</i>	Lake Sturgeon	G3G4	S3			Large freshwater rivers & lakes over clean firm substrate
FI	<i>Cyprinella caerulea</i>	Blue Shiner	G2	S2	LT	E	Flowing runs and pools in streams with cool water and firm substrates

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

**Table 4. Southwestern Appalachians/Ridge & Valley High Priority Animals (110 Records)**

Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
FI	<i>Erimonax monachus</i>	Spotfin Chub	G2	SX	LT		Large creeks to medium-sized rivers; moderate to swift currents over gravel to bedrock
FI	<i>Etheostoma cinereum</i>	Ashy Darter	G2G3	SX			Medium to large upland streams in slackwater areas with silt-free substrate and cover such as boulders or snags
FI	<i>Etheostoma ditrema</i>	Coldwater Darter	G2	S1		E	Vegetated springs and spring runs or small streams with spring influence
FI	<i>Etheostoma duryi</i>	Blackside Snubnose Darter	G4	S1		R	Small to medium streams, gravel to cobble bottoms; riffles and pools
FI	<i>Etheostoma etowahae</i>	Etowah Darter	G1	S1	LE	E	moderate to high gradient streams over cobble to gravel in areas of swift current
FI	<i>Etheostoma rufilineatum</i>	Redline Darter	G5	S1S3			Swift shallow riffles of rocky streams
FI	<i>Etheostoma rupestre</i>	Rock Darter	G4	S2		R	Swift rocky riffles often associated with attached vegetation such as Podostemum
FI	<i>Etheostoma scotti</i>	Cherokee Darter	G2	S2	LT	T	Small to medium-sized creeks with moderate current and rocky substrates
FI	<i>Etheostoma trisella</i>	Trispot Darter	G1	S1		E	Breeding: vegetated spring seepage areas typical Nonbreeding: clear streams in vegetated shallow slackwater areas
FI	<i>Fundulus catenatus</i>	Northern Studfish	G5	S2		R	Margins of small to medium streams in areas of sluggish to moderate current
FI	<i>Hemitremia flammea</i>	Flame Chub	G3	S1		E	Springs and springfed streams; often associated with aquatic vegetation
FI	<i>Hiodon tergisus</i>	Mooneye	G5	S1			Usually found near the surface of large streams, rivers, and swift tailwaters of locks and dams
FI	<i>Hybopsis lineapunctata</i>	Lined Chub	G3G4	S2		R	Upland creeks over sandy substrate with gentle current
FI	<i>Hybopsis</i> sp. 9	Etowah Chub	G1Q	S1S2			Generally in creeks and small to medium rivers over sand-silt bottom, usually in pools adjacent to riffle areas. Tends to occupy smaller streams in east than in west.
FI	<i>Ichthyomyzon bdellium</i>	Ohio Lamprey	G3G4	S1		R	Medium to large rivers, mud to gravel bottoms; riffles in small tributaries
FI	<i>Lampetra aepyptera</i>	Least Brook Lamprey	G5	S2			ammocoetes associated with mud, silt, and macrophytes. Adults associated with sand and gravel.
FI	<i>Lythrurus lirus</i>	Mountain Shiner	G4	S3			Cool, clear streams in flowing water over sandy to rocky substrates
FI	<i>Macrhybopsis</i> sp. 1	Coosa Chub	G3G4	S1		E	Fast water in large streams and rivers
FI	<i>Moxostoma carinatum</i>	River Redhorse	G4	S3		R	Swift waters of medium to large rivers
FI	<i>Notropis ariommus</i>	Popeye Shiner	G3	S1		E	Large streams and small rivers in flowing pools areas over gravel
FI	<i>Notropis asperifrons</i>	Burrhead Shiner	G4	S2		T	Small streams to medium-sized rivers in pools, slow runs, and backwater areas
FI	<i>Noturus eleutherus</i>	Mountain Madtom	G4	S1		E	Riffle areas in medium to large rivers over coarse gravel and rubble
FI	<i>Noturus flavipinnis</i>	Yellowfin Madtom	G1	SX	LT		Pools and backwaters of medium-sized creeks; gravel and pebble substrate
FI	<i>Noturus munitus</i>	Frecklebelly Madtom	G3	S1		E	Shoals and riffles of moderate to large streams and rivers
FI	<i>Percina antesella</i>	Amber Darter	G1G2	S1	LE	E	Riffles & runs of medium-sized rivers, patches of sand and small gravel, riverweed
FI	<i>Percina jenkinsi</i>	Conasauga Logperch	G1	S1	LE	E	Fast-flowing chutes and pools over clean substrates of gravel or cobbles
FI	<i>Percina kusha</i>	Bridled Darter	G2	S1		E	Flowing pools and runs in large streams and small to medium sized rivers with clear water
FI	<i>Percina lenticula</i>	Freckled Darter	G3	S2		E	Swift deep runs of main river channels around large woody debris, possibly over a rocky substrate
FI	<i>Percina sciera</i>	Dusky Darter	G5	S3		R	Large creeks and rivers in moderate current associated with woody debris, undercut banks, or vegetation

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FI	<i>Percina tanasi</i>	Snail Darter	G2G3	S1	LT	E	Large streams to medium-sized rivers in riffle areas with sand or gravel substrate
FI	<i>Phenacobius uranops</i>	Stargazing Minnow	G4	S1		T	Riffle areas in small to medium rivers
FI	<i>Phoxinus tennesseensis</i>	Tennessee Dace	G3	S1		E	pool areas of clear headwater creeks, typically less than 2 m in width
FI	<i>Typhlichthys subterraneus</i>	Southern Cavefish	G4	S1		E	Underground streams
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
MA	<i>Myotis grisescens</i>	Gray Myotis	G3	S1	LE	E	Caves with flowing water or with large creeks or bodies of water nearby, also storm sewers and artificial caves in other states. Unknown summer roosts in eastern portion of GA range. Marble mines?
MA	<i>Myotis leibii</i>	Eastern Small-footed Myotis	G3	S2			Caves; mines; abandoned buildings, bridges, rock shelters in mountainous areas; high elevation talus fields
MA	<i>Myotis lucifugus</i>	Little Brown Myotis	G3	S3			Caves & mines; mixed forests, structures, bat houses
MA	<i>Myotis septentrionalis</i>	Northern Myotis	G2G3	S2S3			Caves & mines in winter; riparian areas, upland forests, cracks and crevices in dead and live trees in summer
MA	<i>Myotis sodalis</i>	Indiana Myotis	G2	S1	LE	E	Limestone caves with pools; wooded areas near streams, upland forests, large snags in open areas including ridge tops
MA	<i>Perimyotis subflavus</i>	Tri-colored Bat	G3	S5			Open forests with large trees and woodland edges; roost in tree foliage; hibernate in caves or mines with high humidity.
MA	<i>Spilogale putorius</i>	Eastern Spotted Skunk	G4	S3			brushy, rocky, wooded habitats; avoids wetlands
MO	<i>Campeloma regulare</i>	Cylinder campeloma	G4	S2			Large rivers to small streams along margins
MO	<i>Elimia ornata</i>	Ornate Elimia	G1	S1			Medium sized rivers
MO	<i>Elimia striatula</i>	File Elimia	G2	S1			Creeks, spring/spring brook
MO	<i>Elliptio arca</i>	Alabama Spike	G2G3Q	S1		E	Med creeks to Lg rivers; sand and gravel substrate
MO	<i>Elliptio arctata</i>	Delicate Spike	G2G3Q	S2		E	Creeks and rivers with moderate current; mainly in crevices and under large rocks in silt deposits
MO	<i>Hamiota altilis</i>	Finelined Pocketbook	G2G3	S2	LT	T	Small streams to large rivers; sand, gravel, and cobble substrates; usually not in swift current
MO	<i>Lampsilis straminea</i>	Southern Fatmucket	G5T	S2			Small creeks to rivers in slow to moderate current; sand, sandy mud and gravel substrates
MO	<i>Lasmigona holstonia</i>	Tennessee Heelsplitter	G3	S1			Small to large creeks; Occurs often in small creeks and medium sized rivers and spring runs. Sandy substrates, may be mixed with some gravel or mud
MO	<i>Leptoxis foremani</i>	Interrupted Rocksnail	G1	S1	E	E	Rocky shoals in current.
MO	<i>Leptoxis praerosa</i>	Onyx Rocksnail	G5	S1			Big rivers, found on algae covered rocks in strong current
MO	<i>Medionidus acutissimus</i>	Alabama Moccasinshell	G2	S1	LT	T	Large rivers to medium sized creeks; sand and gravel substrate; slow to swift current
MO	<i>Medionidus conradicus</i>	Cumberland Moccasinshell	G3G4	S1			Large creeks in TN Basin tributaries; shoal and run habitats; sand and gravel, frequently occurs under large, flat rocks
MO	<i>Medionidus parvulus</i>	Coosa Moccasinshell	G1Q	S1	LE	E	Shoal areas of large rivers to medium sized creeks with sand and gravel substrates.
MO	<i>Pleurobema decisum</i>	Southern Clubshell	G2	S1	LE	E	Large rivers to medium sized streams with flowing water; gravel with interstitial sand
MO	<i>Pleurobema georgianum</i>	Southern Pigtoe	G1	S1	LE	E	Large rivers to medium sized creeks in riffles, runs, and shoals; sand and gravel substrate

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MO	<i>Pleurobema hanleyianum</i>	Georgia Pigtoe	G1	S1	E	E	Large rivers to medium sized creeks; mainstem only, not in tribs
MO	<i>Pleurobema hartmanianum</i>	Cherokee Pigtoe	G1	S1			Appears to have been restricted to shoal habitats based on historical collection data.
MO	<i>Pleurocera pyrenella</i>	Skirted Hornsnail	G2	S2			Mountain streams
MO	<i>Pleurocera showalteri</i>	Upland Hornsnail	G2Q	S1			Medium sized rivers
MO	<i>Pleurocera vestita</i>	Brook hornsnail	G3	S2			Aquatic habitats
MO	<i>Pleuonaia barnesiana</i>	Tennessee Pigtoe	G2G3	S1			small streams to large rivers with flowing water in TN Basin tributaries; stable gravel with interstitial sand
MO	<i>Ptychobranchnus fasciolaris</i>	Kidneyshell	G4G5	S1			Small creeks to large rivers with moderately strong current in substrate of coarse gravel and sand
MO	<i>Ptychobranchnus foremanianus</i>	Rayed Kidneyshell	G1	S1		E	Medium to large rivers in moderate to swift current; sand and gravel substrate
MO	<i>Strophitus connasugaensis</i>	Alabama Creekmussel	G3	S1		E	Large rivers to medium sized creeks with moderate current; sand and gravel substrate
MO	<i>Toxolasma corvunculus</i>	Southern Purple Lilliput	G1	S1?			Flowing waters of creeks to medium rivers
MO	<i>Villosa nebulosa</i>	Alabama Rainbow	G3	S2			Large rivers to small streams; flowing water with gravel and sand substrates, may be found in fine sediments among cobble and boulders
MO	<i>Villosa umbrans</i>	Coosa Creekshell	G2	S2			gravel and sand substrates in shoal and riffle habitats
RE	<i>Graptemys pulchra</i>	Alabama Map Turtle	G4	S3		R	Rivers & large streams
RE	<i>Pituophis melanoleucus melanoleucus</i>	Northern Pine Snake	G4T4	S2			Dry pine or pine-hardwood forests
TA	<i>Amblyscirtes belli</i>	Bell's Roadside-skipper	G3G4	S3			Wet hardwoods, river oaks
TA	<i>Amblyscirtes carolina</i>	Carolina roadside-skipper	G3G4	S2S3			Wet situations with cane
TA	<i>Amblyscirtes reversa</i>	Reversed roadside-skipper	G3G4	S2S3			Wet hardwoods, cane, hardwood slopes with cane
TA	<i>Autochton cellus</i>	Golden-banded skipper	G4	S2			Hog peanut, areas of intact groundcover
TA	<i>Bombus affinis</i>	Rusty-patched bumblebee	G1	SH			
TA	<i>Danaus plexippus</i>	Monarch butterfly	G4	S4			Milkweeds
TA	<i>Erora laeta</i>	Early hairstreak	GU	S2S3			Hardwood, beech trees
TA	<i>Euphydryas phaeton</i>	Baltimore checkerspot	G4	S2			Chattahoochee River parks
TA	<i>Pieris virginiensis</i>	West Virginia White	G3	S3			Hardwoods
TA	<i>Satyrium edwardsii</i>	Edwards hairstreak	G4	S3			Blackjack oak
TA	<i>Speyeria diana</i>	Diana fritillary	G3G4	S3			Hardwood forests
TA	<i>Temnothorax_GA_01</i>	Temnothorax new species	GNR	SU			Ridge forest, <i>Quercus monticola</i> branches

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

**Table 5. Southwestern Appalachians/Ridge & Valley High Priority Plants (65 Records)**

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
<i>Aesculus glabra</i>	Ohio Buckeye	G5	S2			Mesic forests in circumneutral soil
<i>Agalinis decemloba</i>	Ten-lobed Purple Foxglove	G4Q	S1			Dry, grassy meadows.
<i>Agastache nepetoides</i>	Yellow Giant Hyssop	G5	S1			Openings in rich hardwoods
<i>Alnus maritima</i> ssp. <i>georgiensis</i>	Georgia Alder	G3T1	S1		T	Open, spring-fed swamps
<i>Amelanchier sanguinea</i>	Roundleaf Serviceberry	G5	S1?			Rocky slopes
<i>Anemone berlandieri</i>	Glade Windflower	G4?	S1S2			Granite outcrop ecotones; openings over basic rock
<i>Arabis georgiana</i>	Georgia Rockcress	G1	S1	C	T	Rocky or sandy river bluffs and banks, in circumneutral soil
<i>Asclepias purpurascens</i>	Purple Milkweed	G5?	S1		R	Calcareous flatwoods, wet meadows near Rome
<i>Aureolaria patula</i>	Spreading Yellow Foxglove	G3	S1		T	Circumneutral alluvial bottoms
<i>Baptisia australis</i> var. <i>aberrans</i>	Glade Blue Wild Indigo	G5T2	S2			Limestone glades and barrens
<i>Berberis canadensis</i>	American Barberry	G3	S1		E	Cherty, thinly wooded slopes
<i>Buchnera americana</i>	American Bluehearts	G5?	S1			Wet meadows; seasonally moist barrens and limestone glades
<i>Calamovilfa arcuata</i>	Cumberland Sandreed	G2G3	S1			Georgia habitat information not available
<i>Carya laciniosa</i>	Shellbark Hickory	G5	S2?			Bottomland forests
<i>Carya myristiciformis</i>	Nutmeg Hickory	G4	S1		R	Calcareous flatwoods
<i>Chelone lyonii</i>	Appalachian Turtlehead	G4	SNR			Wet woods, streamsides, fens of S. Appalachians
<i>Clematis fremontii</i>	Fremont's Leatherflower	G5	S1		E	Grassy openings in flatwoods of mostly lowland oaks and red maple
<i>Clematis socialis</i>	Alabama Leather Flower	G1	S1	LE	E	Grassy openings in flatwoods of mostly lowland oaks and red maple
<i>Crataegus aemula</i>	Rome Hawthorn	G2G3	S2?			Upland hardwood forests; creek flats
<i>Crataegus mendosa</i>	Albertville Hawthorn	G2G3Q	S1			Rocky woods, glades
<i>Crataegus mollis</i>	Downy Hawthorn	G5	SNR			Georgia habitat information not available
<i>Crataegus triflora</i>	Three-Flower Hawthorn	G2G3	S1		T	Hardwood forests on rocky, limestone slopes
<i>Delphinium alabamicum</i>	Alabama Larkspur	G2	SH			gravel hills in limestone glades
<i>Desmodium ochroleucum</i>	Cream-Flowered Tick-Trefoil	G1G2	S1		T	Open, calcareous woodlands, including lower slope of Pigeon Mountain
<i>Dulichium</i> sp. nov. (unpublished)	Coosa Prairie Threeway Sedge	GNR	S1			Coosa wet prairies
<i>Echinacea simulata</i>	Prairie Purple Coneflower	G4	S2S3			Remnant prairies in the Coosa flatwoods near Rome
<i>Helianthus verticillatus</i>	Whorled Sunflower	G1Q	S1	C	E	Remnant prairies
<i>Hydrastis canadensis</i>	Goldenseal	G3G4	S2		E	Rich woods in circumneutral soil
<i>Jamesianthus alabamensis</i>	Jamesianthus	G3	S1		E	Streambanks, in circumneutral soil
<i>Juglans cinerea</i>	Butternut	G4	S2			Openings in bottomland forests and in the mesophytic hardwood forests of rich mountain coves

**Table 5. Southwestern Appalachians/Ridge & Valley High Priority Plants (65 Records)**

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
<i>Leavenworthia exigua</i> var. <i>exigua</i>	Least Gladecress	G4T3	S2		T	Limestone glades
<i>Lilium canadense</i>	Canada Lily	G5	S2?			Openings in rich woods
<i>Lilium michiganense</i>	Michigan Lily	G5	S1		R	Remnant wet prairies and calcareous flatwoods
<i>Lilium philadelphicum</i>	Wood Lily	G5	S1		E	Wet meadows over sandstone
<i>Lysimachia fraseri</i>	Fraser's Loosestrife	G3	S2		R	Moist, open, bouldery gravel bars and streambanks; edges of sandstone and granite outcrops
<i>Marshallia mohrii</i>	Coosa Barbara's-Buttons	G3	S2	LT	T	Remnant Coosa Valley prairies; maintained rights-of-way
<i>Marshallia trinervia</i>	Broadleaf Barbara's-Buttons	G3	S1S2			Streamsides in open, bouldery gravel bars and washed, sandy banks
<i>Neviusia alabamensis</i>	Alabama Snow-Wreath	G2	S1		T	Along wet weather streams over limestone
<i>Onosmodium molle</i> ssp. <i>occidentale</i>	Western Marble-Seed	G4G5T4?	S1			Limestone glades and adjacent woods
<i>Panax quinquefolius</i>	American Ginseng	G3G4	S3			Mesic hardwood forests; cove hardwood forests
<i>Philadelphus pubescens</i>	Hairy Mockorange	G5?	S1			Limestone ledges and rocky banks
<i>Platanthera integrilabia</i>	Monkeyface Orchid	G2G3	S1S2	C	T	Red maple-gum swamps; peaty seeps and streambanks with <i>Parnassia asarifolia</i> and <i>Oxypolis rigidior</i>
<i>Polymnia laevigata</i>	Tennessee Leafcup	G3	S1			Bouldery slopes
<i>Quercus similis</i>	Swamp Post Oak	G4	S1			Bottomland swamps and other wet habitats
<i>Rhynchospora thornei</i>	Thorne's Beakrush	G3	S2			Margins of limesink ponds; moist limestone barrens, wet prairies
<i>Rudbeckia heliopsisidis</i>	Little River Black-Eyed Susan	G2	S1		T	Limestone or sandstone barrens and streamsides
<i>Sabatia capitata</i>	Cumberland Rose Gentian	G2	S2		R	Meadows over sandstone or shale
<i>Sagittaria secundifolia</i>	Little River Water-Plantain	G1	S1	LT	T	Crevices in sandstone in fast flowing streams
<i>Scutellaria montana</i>	Large-Flower Skullcap	G4	S3	LT	T	Mesic hardwood-shortleaf pine forests; usually mature forest with open understory, sometimes without a pine component
<i>Silene regia</i>	Royal Catchfly	G3	S1		E	Limestone barrens; remnant prairies
<i>Silphium mohrii</i>	Cumberland Rosinweed	G3?Q	S1?			Rocky hardwood forests
<i>Solidago arenicola</i>	Black Warrior Goldenrod	G2G3	S1			Georgia habitat information not available
<i>Spiraea virginiana</i>	Virginia Spirea	G2	S1	LT	T	Bouldery gravel bars and ledges along major streams
<i>Spiranthes magnicamporum</i>	Great Plains Ladies-Tresses	G4	S1		E	Limestone glades
<i>Symphotrichum georgianum</i>	Georgia Aster	G3	S2	C	T	Upland oak-hickory-pine forests and openings; sometimes with <i>Echinacea laevigata</i> or over amphibolite
<i>Thalictrum debile</i>	Trailing Meadowrue	G2	S1		T	Mesic hardwood forests over limestone
<i>Thaspium pinnatifidum</i>	Cutleaf Meadow-Parsnip	G2G3	S1		E	Limestone outcrops and barrens
<i>Thermopsis fraxinifolia</i>	Ash-Leaved Bush-Pea	G3?	S2?			Oak and oak-pine ridge forests
<i>Thermopsis villosa</i>	Carolina Golden Banner	G3?	S1?			Mesic forests, floodplains and roadsides; mostly in sandy soils

**Table 5. Southwestern Appalachians/Ridge & Valley High Priority Plants (65 Records)**

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
<i>Trillium pusillum</i>	Least Trillium	G3	S1		E	Red maple-blackgum swampy woods in sticky clay soils
<i>Trillium</i> sp. nov. (unpublished)	Lookout Mountain Toadshade	GNR	S2			Hemlock-mixed hardwood bluffs
<i>Veratrum woodii</i>	Ozark Bunchflower	G5	S2		R	Mesic hardwood forests over basic soils
<i>Viburnum bracteatum</i>	Limerock Arrowwood	G1G2	S1		E	Mesic hardwood forests over limestone
<i>Xerophyllum asphodeloides</i>	Eastern Turkeybeard	G4	S1		R	Xeric oak-pine forests
<i>Xyris tennesseensis</i>	Tennessee Yellow-Eyed Grass	G2	S1	LE	E	Seepy margins of limestone spring runs

## **Blue Ridge Ecoregion**

### High Priority Species and Habitats

The technical teams identified 89 high priority animal species in the Blue Ridge ecoregion. These included 9 birds, 14 mammals, 2 reptiles, 3 amphibians, 35 fish, 3 mollusks, 9 aquatic arthropods, and 15 terrestrial arthropods. These species are listed in Table 6, 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, 66 species of high priority plants were identified for the Blue Ridge. These are listed in Table 7.

High priority habitats for the Blue Ridge ecoregion are described below:

#### *1. Boulderfield Forests*

High elevation mesic hardwood forest; dominated by broadleaf deciduous trees, occupying north-facing areas with angular rocks or blocks of rock and little visible soil. Includes rich flora with northern affinities. Typically, very mesic, with trees such as yellow buckeye, sweet birch, yellow birch, rosebay rhododendron. A rare community of the Blue Ridge; only a few examples are known.

#### *2. Canebrakes*

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 fire or other form of periodic disturbance for maintenance. Most examples in this ecoregion are small and fire-suppressed.

#### *3. Caves, Rock Shelters, Talus Slopes*

These habitats share characteristics, such as a bedrock component with a variety of microhabitats that provide cover for priority animal species. These habitats are usually embedded in a larger matrix of forest habitats. The Blue Ridge contains relatively few caves; these are typically fracture-type caves rather than solution caves. Rock shelters can be found under cliffs (vertical exposures of rock). Talus slopes are accumulations of rock beneath cliffs and steep slopes.

#### *4. Floodplain Hardwood Forests*

Forested wetlands characterized by a diverse association of deciduous hardwood trees, including both montane and low-elevation species. Generally lacking in the more flood-adapted oaks and hickories prevalent in Piedmont bottomland hardwood forests. Many of these floodplain forests were converted to agricultural uses early in the history of settlement of this region.

#### *5. Hemlock-Hardwood-White Pine Forests*

Mesic and submesic forests dominated by a mixed canopy of hardwoods and hemlock and/or white pine. Hemlock forests are typically found along small to medium streams, in sheltered valleys and ravines. Thickets of rhododendron and mountain laurel frequently form a dense understory, which is important for many neotropical migratory birds. White

pine may share dominance with oak-dominated forests in low- to mid-elevation slopes and sheltered low ridges. A serious threat to this forest type is the hemlock wooly adelgid, which is spreading from east to west across the region. A rare subtype of this forest type containing Carolina hemlock is found in scattered locations in the lower Blue Ridge.

#### *6. High-Elevation Early Successional Habitats*

Includes a variety of vegetation types found at high elevations that are maintained by periodic natural or anthropogenic disturbance. Many high priority species are dependent on this habitat type, including the golden-winged warbler, Appalachian Bewick's wren, star-nosed mole, pygmy shrew, and fringed gentian.

#### *7. High Elevation Forested Heath Thickets*

High elevation habitats characterized by dense thickets of ericaceous shrubs under an open canopy of hardwood trees. Herbaceous layer is sparse to patchy. Typical shrubs include huckleberry, mountain laurel, and rosebay rhododendron.

#### *8. High Elevation Rocky Summits and Shrub Balds*

These are small patch habitats typically found only on the highest peaks of the Blue Ridge in association with northern hardwood forest. Characterized by a mosaic of exposed rock and patches of shrub or herb-dominated vegetation. Trees are mostly dwarfed northern red oak. Shrubs may include Catawba rhododendron, mountain laurel, huckleberry, mountain ash, viburnum, and hawthorn.

#### *9. Low Elevation Seepy Thickets and Wet Woods*

Seasonally inundated or spring-fed wetland habitats. Thickets are dominated by a variety of shrubs. Includes forested habitats along seepage slopes and at the edge of mountain bogs, some of which are maintained by the actions of beaver.

#### *10. Medium to Large Rivers*

Moderate to high gradient rivers with cold, clear riffles, pools, and runs. Substrates may include boulders, bedrock, gravel, and pebbles. Many of these rivers traverse steep gorges. These aquatic habitats are low in productivity compared to streams of the Southwestern Appalachians/Ridge & Valley.

#### *11. Mixed Pine-Hardwood Forests*

Mesic to submesic forests of hardwoods and pines, typically at middle to low elevations over a broad range of topographic conditions. A large patch habitat that comprises a major forest type of the Blue Ridge. Dominants may include yellow-poplar, sweetgum, various oaks, and loblolly, white, and/or shortleaf pine.

#### *12. Moist Cliff Faces and Spray Cliffs*

Vertical to gently sloping rock faces located adjacent to waterfalls or seepage zones. These are wetlands dominated by mosses, liverworts, vascular herbs, and sparse shrubs or scrubby trees adapted to thin soils and high humidity. These small patch habitats represent unusually stable environments, where temperatures are moderated by the constant spray or

seepage. Include many bryophytes and ferns representing disjunct occurrences from tropical regions as well as Southern Appalachian endemics.

### *13. Mountain Bogs and Wet Meadows*

A mosaic of wetland communities usually dominated by shrubs or emergent herbs, with scattered trees. May occur as elongate bands along stream valleys, or in much smaller and more compact patches on flats or slopes. Includes wetlands maintained by beaver activity as well as small, sheltered seepage areas along the headwaters of mountain creeks.

### *14. Northern Hardwood Forests*

High elevation mesic forests found in upper coves, flats and slopes with northerly aspects, usually at elevations above 3,500 ft. Dominant canopy species include American beech, yellow birch, sugar maple, and yellow buckeye, with white basswood, northern red oak, white ash, and black cherry also present. These forests are subject to broad scale disturbances such as ice storms. Old growth examples are rare and usually restricted to steeply sloped, inaccessible areas.

### *15. Oak Forest and Woodlands*

This vegetation type includes a wide variety of upland forests dominated by Appalachian oaks. Composition and complexity of oak forests vary with elevation, slope and moisture. In more mesic sites, canopy dominants may include red oak, white oak, and black oak, along with hickories and mesophytic hardwoods. Canopy dominants of more xeric sites may include mountain chestnut oak, scarlet oak, southern red oak, and northern red oak. Also includes subxeric or xeric oak woodlands found on ridges and upper slopes at high elevations. These oak-dominated forests and woodlands represent the most extensive natural vegetation type of the Blue Ridge.

### *16. Pine-Oak Woodlands and Forest*

Relatively open subxeric forest to xeric woodland, typically dominated by shortleaf pine, pitch pine, Virginia pine, and post and blackjack oaks, often with a diverse grass and shrub layer. A rare subtype is found on serpentine soils. Pitch pine, Virginia pine, red maple and post oak are the dominant canopy trees in this rare community; understory trees of sourwood, dogwood and sassafras are usually thinly scattered and shrubs are sparse to dense.

### *17. Rich Mesic Hardwood Forests (Cove Hardwoods)*

The mixed mesophytic hardwood forests of the Southern Appalachians are the most biologically diverse habitats in the United States. Variations of this forest type can be found in the Blue Ridge at elevations from 1,000 to 3,800 ft. They are typically found in mesic sites on concave landforms and ravines, or on protected north and east-facing slopes at low elevations. A diverse mixture of mesophytic trees dominates the canopy, including yellow poplar, white basswood, sugar maple, yellow and sweet birch, cucumber magnolia, yellow buckeye, black cherry, eastern hemlock, white ash, blackgum, American beech, red maple, and various oaks and hickories.

### *18. Rocky Bluffs and Streambanks*

Plant composition of these rocky streamside habitats is variable, depending on stream size, amount of rock, and extent of flooding. These periodically scoured rocky habitats typically support few trees and sparse to moderate shrubs (sometimes thickets). A diverse stratum of light-loving herbs may be present.

### *19. Springs and Spring Runs; Gravelly Seeps*

Springs are highly localized groundwater expressions. The waters of springs and associated habitats can be highly variable, depending on hydrology (hydroperiod and volume) and edaphic factors. These cool clean waters provide important habitat to a number of animal species, particularly salamanders.

### *20. Streams*

Cold, clear, high gradient streams typically containing riffles, plunge-pools, cascades, and waterfalls. Substrata dominated by bedrock and boulders, but sand and gravel may also be present in depositional areas. These streams have low productivity and aquatic vegetation is rarely present.

### *21. Xeric Pine Woodlands*

A heterogeneous group of xeric pine-dominated woodlands found on ridges and steep slopes with southerly aspects, knobs, and low-elevation peaks. Below 2,400 ft. shortleaf pine is a dominant, with Virginia pine a common associate. From 2,400 to 2,800 ft. on the driest ridges pitch pine dominates. Above 2,800 ft. on slopes and ridges, Table Mountain pine dominates. All of these habitats require periodic fire for maintenance.

**Table 6. Blue Ridge High Priority Animals (89 Records)**

Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
AA	<i>Cambarus coosawattae</i>	Coosawattee Crayfish	G2	S2		E	Riffle habitats in the Coosawattee River system
AA	<i>Cambarus fasciatus</i>	Etowah Crayfish	G3	S2		T	Lotic habitats under rocks in flowing water
AA	<i>Cambarus georgiae</i>	Little Tennessee Crayfish	G2G3	S1		E	Flowing parts of medium size rivers with sandy-clay substrate
AA	<i>Cambarus parrishi</i>	Hiwassee Headwaters Crayfish	G2	S1		E	Rocky areas between riffles and in flowing runs in clear cold headwater streams
AA	<i>Cambarus speciosus</i>	Beautiful Crayfish	G2	S2		E	Medium-sized streams with clear water and moderate to swift current with rock-littered substrate
AA	<i>Macromia margarita</i>	Mountain River Cruiser	G3	S1S2			Rocky mountain streams and rivers with good current
AA	<i>Ophiogomphus edmundo</i>	Edmund's Snaketail	G1G2	S1		E	Clear, moderately flowing streams and rivers with riffles.
AA	<i>Ophiogomphus incurvatus</i>	Appalachian Snaketail	G3T2T3	S2			Small to medium spring-fed streams with mud and gravel bottoms.
AM	<i>Aneides aeneus</i>	Green Salamander	G3G4	S3		R	Moist rock crevices; canopies of trees; within hardwood forests
AM	<i>Cryptobranchus alleganiensis</i>	Hellbender	G3G4	S3		T	Clear, rocky streams within Tennessee River drainages and Cartacay River
AM	<i>Urspelerpes brucei</i>	Patch-nosed Salamander	G1	S1			headwater streams
BI	<i>Colinus virginianus</i>	Northern Bobwhite	G5	S5			Early successional habitat, open pine savanna (frequent fire maintained in small burn unit size), fallow habitats associated with crop lands, extensive forest regen areas (area sensitive - minimal fall pop of 700 birds for viability on 3000+acres)
BI	<i>Euphagus carolinus</i>	Rusty Blackbird	G4	S3			Bottomland forest, pecan orchards, agricultural fields
BI	<i>Haliaeetus leucocephalus</i>	Bald Eagle	G5	S3		T	Edges of lakes & large rivers; seacoasts
BI	<i>Limothlypis swainsonii</i>	Swainson's Warbler	G4	S3			Dense undergrowth or canebrakes in swamps and river floodplains, small mountain pop in rhododendron and mountain laurel thickets
BI	<i>Setophaga cerulea</i>	Cerulean Warbler	G4	S1B,S2M		T	Mature deciduous forest; floodplains or other mesic conditions
BI	<i>Setophaga kirtlandii</i>	Kirtland's Warbler	G3G4	SNRN	LE	E	Transient; varying habitats during late spring and fall
BI	<i>Sphyrapicus varius appalachiensis</i>	Appalachian Yellow-bellied Sapsucker	G5	S1B,S5M			Georgia habitat information not available
BI	<i>Tyto alba</i>	Barn Owl	G5	SU			Nests in large hollow trees or old buildings (particularly cement silos) in areas with extensive pasture or grassland or other open habitats such as marsh
BI	<i>Vermivora chrysoptera</i>	Golden-winged Warbler	G4	S1B,S2M		E	Regenerating clearcuts and burned areas; overgrown pastures, open oak forest, beaver pond regeneration
FI	<i>Acipenser fulvescens</i>	Lake Sturgeon	G3G4	S3			Large freshwater rivers & lakes over clean firm substrate
FI	<i>Cyprinella caerulea</i>	Blue Shiner	G2	S2	LT	E	Flowing runs and pools in streams with cool water and firm substrates
FI	<i>Cyprinella callitaenia</i>	Bluestripe Shiner	G2G3	S2		R	Flowing areas in large creeks and medium-sized rivers over rocky substrates
FI	<i>Erimystax insignis</i>	Blotched Chub	G4	S2		E	Medium to large clear streams in moderate current with substrate of gravel to cobble
FI	<i>Etheostoma brevirostrum</i>	Holiday Darter	G2	S1		E	Small creeks to moderate sized rivers in gravel and bedrock pools

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

**Table 6. Blue Ridge High Priority Animals (89 Records)**

Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
FI	<i>Etheostoma chlorobranchium</i>	Greenfin Darter	G4	S2		T	Cool to cold high elevation creeks and rivers in swift current with boulder to bedrock substrate
FI	<i>Etheostoma etowahae</i>	Etowah Darter	G1	S1	LE	E	moderate to high gradient streams over cobble to gravel in areas of swift current
FI	<i>Etheostoma gutselli</i>	Tuckasegee Darter	G3G4	S2			High gradient creeks and medium-sized rivers
FI	<i>Etheostoma rufilineatum</i>	Redline Darter	G5	S1S3			Swift shallow riffles of rocky streams
FI	<i>Etheostoma rupestre</i>	Rock Darter	G4	S2		R	Swift rocky riffles often associated with attached vegetation such as <i>Podostemum</i>
FI	<i>Etheostoma scotti</i>	Cherokee Darter	G2	S2	LT	T	Small to medium-sized creeks with moderate current and rocky substrates
FI	<i>Etheostoma vulneratum</i>	Wounded Darter	G3	S1		E	Fast rocky riffles of small to medium rivers
FI	<i>Hybopsis lineapunctata</i>	Lined Chub	G3G4	S2		R	Upland creeks over sandy substrate with gentle current
FI	<i>Lampetra aepyptera</i>	Least Brook Lamprey	G5	S2			ammocoetes associated with mud, silt, and macrophytes. Adults associated with sand and gravel.
FI	<i>Lythrurus lirus</i>	Mountain Shiner	G4	S3			Cool, clear streams in flowing water over sandy to rocky substrates
FI	<i>Macrhybopsis</i> sp. 1	Coosa Chub	G3G4	S1		E	Fast water in large streams and rivers
FI	<i>Micropterus chattahoochee</i>	Chattahoochee Bass	GNR	S1			flowing sections of streams and rivers, including river shoals
FI	<i>Micropterus</i> sp. cf <i>coosae</i> "Savannah"	Bartrams Bass	GNR	S3			upland streams and rivers
FI	<i>Moxostoma carinatum</i>	River Redhorse	G4	S3		R	Swift waters of medium to large rivers
FI	<i>Moxostoma</i> sp. 2	Sicklefin Redhorse	G2Q	S1	C	E	Riffles, runs and pools in large creeks and small to medium-sized rivers. Juveniles may also occur in reservoirs downstream of spawning sites
FI	<i>Notropis asperifrons</i>	Burrhead Shiner	G4	S2		T	Small streams to medium-sized rivers in pools, slow runs, and backwater areas
FI	<i>Notropis hypsilepis</i>	Highscale Shiner	G3	S3		R	Flowing areas of small to large streams over sand or bedrock substrates
FI	<i>Notropis photogenis</i>	Silver Shiner	G5	S1		E	Large creeks to small rivers in riffles to flowing pools over firm substrates
FI	<i>Notropis scepticus</i>	Sandbar Shiner	G4	S2		R	Large streams to medium-sized rivers in flowing pools over sandy to rocky substrates
FI	<i>Noturus munitus</i>	Frecklebelly Madtom	G3	S1		E	Shoals and riffles of moderate to large streams and rivers
FI	<i>Percina antesella</i>	Amber Darter	G1G2	S1	LE	E	Riffles & runs of medium-sized rivers, patches of sand and small gravel, riverweed
FI	<i>Percina aurantiaca</i>	Tangerine Darter	G4	S2		E	Deep riffles and runs with boulders, cobble, or bedrock in large to moderate headwaters of Tennessee River
FI	<i>Percina aurolineata</i>	Goldline Darter	G2	S2	LT	E	Shallow rocky riffles with swift current in medium-sized rivers
FI	<i>Percina crypta</i>	Halloween Darter	G2	S2		T	larger streams in riffle/shoal habitat
FI	<i>Percina jenkinsi</i>	Conasauga Logperch	G1	S1	LE	E	Fast-flowing chutes and pools over clean substrates of gravel or cobbles
FI	<i>Percina kusha</i>	Bridled Darter	G2	S1		E	Flowing pools and runs in large streams and small to medium sized rivers with clear water
FI	<i>Percina lenticula</i>	Freckled Darter	G3	S2		E	Swift deep runs of main river channels around large woody debris, possibly over a rocky substrate

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

**Table 6. Blue Ridge High Priority Animals (89 Records)**

Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
FI	<i>Percina sciera</i>	Dusky Darter	G5	S3		R	Large creeks and rivers in moderate current associated with woody debris, undercut banks, or vegetation
FI	<i>Percina squamata</i>	Olive Darter	G3	S1		E	High gradient upland rivers with large rocky substrate in moderate to swift current
FI	<i>Phenacobius crassilabrum</i>	Fatlips Minnow	G3G4	S2		E	Riffle areas in small to medium rivers
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
MA	<i>Mustela nivalis</i>	Least Weasel	G5	S1			Extreme northern Georgia, meadows, fields, brushy areas, open woods
MA	<i>Myotis leibii</i>	Eastern Small-footed Myotis	G3	S2			Caves; mines; abandoned buildings, bridges, rock shelters in mountainous areas; high elevation talus fields
MA	<i>Myotis lucifugus</i>	Little Brown Myotis	G3	S3			Caves & mines; mixed forests, structures, bat houses
MA	<i>Myotis septentrionalis</i>	Northern Myotis	G2G3	S2S3			Caves & mines in winter; riparian areas, upland forests, cracks and crevices in dead and live trees in summer
MA	<i>Myotis sodalis</i>	Indiana Myotis	G2	S1	LE	E	Limestone caves with pools; wooded areas near streams, upland forests, large snags in open areas including ridge tops
MA	<i>Parascalops breweri</i>	Hairy-tailed Mole	G5	S1			Deciduous woodlands with thick humus; prefers well-drained light moist soil
MA	<i>Perimyotis subflavus</i>	Tri-colored Bat	G3	S5			Open forests with large trees and woodland edges; roost in tree foliage; hibernate in caves or mines with high humidity.
MA	<i>Sorex dispar</i>	Long-tailed or Rock Shrew	G4	S1			Mountainous, forested areas (deciduous or evergreen) with boulderfields, cliffline breakdown, loose talus - may also occur in and along high-gradient mtn streams
MA	<i>Sorex palustris</i>	Water Shrew	G5	S1			Mountainous, along small cold streams with thick overhanging riparian growth
MA	<i>Spilogale putorius</i>	Eastern Spotted Skunk	G4	S3			brushy, rocky, wooded habitats; avoids wetlands
MA	<i>Sylvilagus obscurus</i>	Appalachian Cottontail	G4	S1S2		R	heath ( <i>Vaccinium</i> , <i>Kalmia</i> ) thickets within high elevation forests
MA	<i>Synaptomys cooperi</i>	Southern Bog Lemming	G5	S1			Bogs, marshes, meadows, and upland forests with thick humus layer
MA	<i>Tamiasciurus hudsonicus</i>	Red Squirrel	G5	S3			Northern hardwood - Cove hardwood - Hemlock forests
MO	<i>Elimia striatula</i>	File Elimia	G2	S1			Creeks, spring/spring brook
MO	<i>Strophitus connasaugaensis</i>	Alabama Creekmussel	G3	S1		E	Large rivers to medium sized creeks with moderate current; sand and gravel substrate
MO	<i>Villosa nebulosa</i>	Alabama Rainbow	G3	S2			Large rivers to small streams; flowing water with gravel and sand substrates, may be found in fine sediments among cobble and boulders
RE	<i>Glyptemys muhlenbergii</i>	Bog Turtle	G3	S2	LT	E	Mountain bogs; wet meadows; edges of mountain streams
RE	<i>Pituophis melanoleucus melanoleucus</i>	Northern Pine Snake	G4T4	S2			Dry pine or pine-hardwood forests
TA	<i>Amblyscirtes carolina</i>	Carolina roadside-skipper	G3G4	S2S3			Wet situations with cane
TA	<i>Amblyscirtes reversa</i>	Reversed roadside-skipper	G3G4	S2S3			Wet hardwoods, cane, hardwood slopes with cane
TA	<i>Autochton cellus</i>	Golden-banded skipper	G4	S2			Hog peanut, areas of intact groundcover
TA	<i>Bombus affinis</i>	Rusty-patched bumblebee	G1	SH			

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

**Table 6. Blue Ridge High Priority Animals (89 Records)**

Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
TA	<i>Bombus borealis</i>	Northern amber bumble	G4G5	S1			Northern hardwoods
TA	<i>Danaus plexippus</i>	Monarch butterfly	G4	S4			Milkweeds
TA	<i>Erora laeta</i>	Early hairstreak	GU	S2S3			Hardwood, beech trees
TA	<i>Erynnis martialis</i>	Mottled duskywing	G3	S2			New Jersey tea, longleaf-wiregrass, mountain hardwoods
TA	<i>Euphydryas phaeton</i>	Baltimore checkerspot	G4	S2			Chattahoochee River parks
TA	<i>Phyciodes batesii maconensis</i>	Tawny crescent	G4T2T3	S2			Higher mountains in BR, wavy-leaved aster, dry banks
TA	<i>Pieris virginiensis</i>	West Virginia White	G3	S3			Hardwoods
TA	<i>Polygonia faunus</i>	Green comma	G5T3T4	S3			Hardwoods, higher elevations
TA	<i>Satyrium edwardsii</i>	Edwards hairstreak	G4	S3			Blackjack oak
TA	<i>Speyeria diana</i>	Diana fritillary	G3G4	S3			Hardwood forests
TA	<i>Temnothorax_GA_01</i>	Temnothorax new species	GNR	SU			Mixed open forest

**Table 7. Blue Ridge High Priority Plants (66 Records)**

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
<i>Agalinis decemloba</i>	Ten-lobed Purple Foxglove	G4Q	S1			Dry, grassy meadows.
<i>Agastache scrophulariifolia</i>	Purple Giant Hyssop	G4	SH			Forested floodplains; river terraces
<i>Amelanchier sanguinea</i>	Roundleaf Serviceberry	G5	S1?			Rocky slopes
<i>Berberis canadensis</i>	American Barberry	G3	S1		E	Cherty, thinly wooded slopes
<i>Buchnera americana</i>	American Bluehearts	G5?	S1			Wet meadows; seasonally moist barrens and limestone glades
<i>Carex acidicola</i>	Acid-Loving Sedge	G2G3	S2?			Granite outcrop woodlands
<i>Carex biltmoreana</i>	Biltmore Sedge	G3	S1		T	High elevation ledges and rock faces
<i>Chelone cuthbertii</i>	Cuthbert's Turtlehead	G3	S1		T	Bogs and wet meadows
<i>Coreopsis rosea</i>	Pink Tickseed	G3	S1			Banks of blackwater rivers; pond shores
<i>Cymophyllus fraserianus</i>	Fraser's Sedge	G4	S1		T	Mixed hardwood-hemlock forests
<i>Danthonia epilis</i>	Bog Oat-Grass	G3G4	S1?			Mountain bogs
<i>Diplophyllum andrewsii</i>	Andrews' Diplophyllum (Liverwort)	G3	SNR			Occurs as a pioneer on partly or strongly shaded (rarely quite sunny) open mineral soil, especially on loamy soil of roadside banks, or on eroding banks along streams, more rarely on soil and the accumulating detritus at the foot of ledges, where it may invade rock crevices.
<i>Euphorbia purpurea</i>	Glade Spurge	G3	S1			Seeps over amphibolite
<i>Fothergilla major</i>	Large Witch-Alder	G3	S1		T	Rocky (sandstone, granite) woods; bouldery stream margins
<i>Frullania appalachiana</i>	Appalachian Frullania	G1?	S1?			On tree trunks and decaying wood above 3800 ft.
<i>Gentianopsis crinita</i>	Fringed Gentian	G5	S1		T	Wet meadows and grassy roadsides over circumneutral soils
<i>Gymnoderma lineare</i>	Rock Gnome Lichen	G3	S1	LE	E	Moist cliff faces
<i>Helianthus glaucophyllus</i>	Whiteleaf Sunflower	G3G4	S1			Open, oak-hickory woods above 2500 ft.
<i>Helianthus smithii</i>	Smith's Sunflower	G2Q	S1			Dry open woods and thickets
<i>Helodium blandowii</i>	Blandow's Feather Moss	G5	S1?			On tree bases, hummocks in montane seeps
<i>Helonias bullata</i>	Swamp-Pink	G3	S1	LT	T	Open swamps
<i>Hydrastis canadensis</i>	Goldenseal	G3G4	S2		E	Rich woods in circumneutral soil
<i>Hypnum cupressiforme</i> var. <i>filiforme</i>	Filiform Cypress-Moss	G5TNR	S2?			Hanging as green threads from rocks or bark, perhaps above 3800 ft.
<i>Isotria medeoloides</i>	Small Whorled Pogonia	G2	S2	LT	T	Mixed hardwood- pine forests with open understory; history of nearby heavy logging, homesite or road clearing activity
<i>Juglans cinerea</i>	Butternut	G4	S2			Openings in bottomland forests and in the mesophytic hardwood forests of rich mountain coves
<i>Kalmia carolina</i>	Carolina Bog Myrtle	G4	S1		T	Open swamps and wet meadows; mountain bogs and Atlantic white-cedar swamps
<i>Leiophyllum buxifolium</i>	Sand-Myrtle	G4	S1		T	High altitude rocky ledges
<i>Lejeunea blomquistii</i>	Blomquist's Lejeunea	G1G2	SH			Waterfall spray zones
<i>Lilium canadense</i>	Canada Lily	G5	S2?			Openings in rich woods
<i>Liparis loeselii</i>	Fen Orchid	G5	S1			Ultramafic fens
<i>Lysimachia fraseri</i>	Fraser's Loosestrife	G3	S2		R	Moist, open, bouldery gravel bars and streambanks; edges of sandstone and granite outcrops
<i>Megaceros aenigmaticus</i>	Headwaters Hornwort	G3	S1		T	Shaded rocks in small streams, springs or waterfall spray zones

**Table 7. Blue Ridge High Priority Plants (66 Records)**

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
<i>Monotropis odorata</i>	Sweet Pinesap	G3	S1		T	Upland forests
<i>Oncophorus raii</i>	Rau's Oncophorus Moss	G3	SNR			Moist acidic rocks or cliffs near streams and waterfalls
<i>Packera millefolia</i>	Blue Ridge Golden Ragwort	G2	S1		T	High elevation rock outcrops
<i>Panax quinquefolius</i>	American Ginseng	G3G4	S3			Mesic hardwood forests; cove hardwood forests
<i>Panax trifolius</i>	Dwarf Ginseng	G5	S1			Mesic hardwood-coniferous forests
<i>Pedicularis lanceolata</i>	Swamp Lousewort	G5	S1		E	Bogs and wet woods
<i>Plagiochila caduciloba</i>	Brittle-Lobed Leafy Liverwort	G2	S1?			Moist cliff faces
<i>Plagiochila sharpii</i>	Sharp's Leafy Liverwort	G2G4	S1?			Moist cliff faces and spray zones
<i>Plagiomnium carolinianum</i>	Carolina Wavy-Leaf Moss	G3	S2?			Moist cliff faces
<i>Platanthera flava</i> var. <i>herbiola</i>	Pale Green Orchid	G4?T4Q	SH			Red maple-gum swamps
<i>Platanthera grandiflora</i>	Large Purple Fringed Orchid	G5	S1			Wet thickets; seepy open northern hardwood forests
<i>Platanthera integrilabia</i>	Monkeyface Orchid	G2G3	S1S2	C	T	Red maple-gum swamps; peaty seeps and streambanks with <i>Parnassia asarifolia</i> and <i>Oxypolis rigidior</i>
<i>Platanthera peramoena</i>	Purple Fringeless Orchid	G5	S1			Wet meadows, openings among bottomland hardwoods
<i>Platyhypnidium pringlei</i>	Pringle's Platyhypnidium	G2G3	S1			Seepy rock cliffs
<i>Pohlia rabunbaldensis</i>	Rabun Bald Feather-Moss	G1	S1?			Rocky moist openings, select high balds
<i>Quercus similis</i>	Swamp Post Oak	G4	S1			Bottomland swamps and other wet habitats
<i>Sanguisorba canadensis</i>	Canada Burnet	G5	S1		T	Seepy meadows and thickets
<i>Sarracenia oreophila</i>	Green Pitcherplant	G2	S1	LE	E	Wet meadows; upland bogs
<i>Sarracenia purpurea</i> var. <i>montana</i>	Mountain Purple Pitcherplant	G5T1T3	S1		E	Mountain bogs
<i>Shortia galacifolia</i>	Oconee Bells	G2G3	S1		E	Mesic forests with mountain laurel and rhododendron
<i>Sibbaldiopsis tridentata</i>	Three-Toothed Cinquefoil	G5	S1		E	Rocky summits
<i>Silene ovata</i>	Mountain Catchfly	G3	S1S2		R	Mesic deciduous or beech-magnolia forests over limestone; bouldery, high elevation oak forests
<i>Solidago simulans</i>	Cliffside Goldenrod	G2	S1		E	Seepy summits of granite domes; moist, steep, rocky slopes and cliffs
<i>Spiraea latifolia</i>	Broadleaf Bog Meadowsweet	G5T5	S1			Mountain bogs; roadside seepage slopes
<i>Streptopus lanceolatus</i> var. <i>lanceolatus</i>	Rosy Twisted-Stalk	G5T5	S1		T	High elevations boulderfields
<i>Symphyotrichum georgianum</i>	Georgia Aster	G3	S2	C	T	Upland oak-hickory-pine forests and openings; sometimes with <i>Echinacea laevigata</i> or over amphibolite
<i>Thalictrum coriaceum</i>	Appalachian Meadowrue	G4	S1?			Rich woods
<i>Thermopsis fraxinifolia</i>	Ash-Leaved Bush-Pea	G3?	S2?			Oak and oak-pine ridge forests
<i>Thermopsis villosa</i>	Carolina Golden Banner	G3?	S1?			Mesic forests, floodplains and roadsides; mostly in sandy soils
<i>Trillium persistens</i>	Persistent Trillium	G1	S1	LE	E	Mesic hardwood forests, upland forests
<i>Trillium</i> sp. nov. (unpublished)	Amicalola Trillium	GNR	S1			Mixed hardwood bluffs
<i>Triphora trianthophora</i>	Three-Birds Orchid	G3G4	S2?			Loamy soils of rhododendron thickets; hardwood forests
<i>Tsuga caroliniana</i>	Carolina Hemlock	G3	S1		E	Rocky bluffs
<i>Waldsteinia lobata</i>	Piedmont Barren Strawberry	G2G3	S2		R	Stream terraces and adjacent gneiss outcrops

## **Piedmont Ecoregion**

### High Priority Species and Habitats

The technical teams identified 87 high priority animal species in the Piedmont ecoregion. These included 17 birds, 3 reptiles, 5 mammals, 3 amphibians, 11 mollusks, 29 fish, 8 aquatic arthropods, and 14 terrestrial arthropods. These species are listed in Table 8, 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, 66 species of high priority plants were identified for the Piedmont. These are listed in Table 9.

High priority habitats for the Piedmont ecoregion are listed and briefly described below:

#### *1. Beaver Ponds; Freshwater Marsh*

Beaver ponds are temporary impoundments created by beaver on small to medium sized streams. Freshwater marshes develop in shallow beaver ponds and along the edges of larger lakes and ponds. Dominants include a variety of sedges, rushes, grasses, and forbs, with scattered buttonbush, red maple, swamp dogwood, and tag alder. Few Georgia examples exist that are not invaded by the exotic weed, *Murdannia*. These wetlands provide habitat for a wide variety of wildlife species.

#### *2. Bottomland Hardwood Forests*

Forested wetlands of alluvial river floodplains, characterized by a diverse association of deciduous hardwood trees. Canopy dominants vary, but may include water oak, willow oak, overcup oak, cherrybark oak, swamp chestnut oak, green ash, sweetgum, bitternut hickory, and pignut hickory. Shrub layer may be dense or relatively sparse, containing a variety of mesophytic or hydrophytic woody plants and often a significant woody vine component. Many of these habitats have been impacted by invasive exotic species such as Chinese privet and Nepalese browntop.

#### *3. Canebrakes*

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 fire or other form of periodic disturbance for maintenance. Most canebrakes in this region are relatively small and fire-suppressed, often occurring along the edges of fields and other clearings.

#### *4. Granite Outcrops*

Diverse mosaics of exposed granitic rock, herb and shrub dominated patches, and wetland microhabitats. Most have shallow solution pits that collect soil and support various stages of plant succession. These environments support rare or endemic species of plants and animals. The most important of these habitats contain a variety of solution pits, seepage zones, and bare rock exposures. Some outcrops are monadnocks (isolated rock domes or low mountains) while others are flat rock exposures. The Georgia Piedmont is the center of granite outcrop species diversity.

### *5. Medium to Large Rivers*

Low to moderate gradient meandering rivers, typically with heavy sediment loads. Floodplains are relatively narrow compared to similar rivers in the Coastal Plain. Extensive shoal habitats may occur, especially along the Fall Line. Dominant habitats include runs, pools, and shoals. Substrate is variable, but is dominated by sand in runs and pools and by bedrock in shoals. Aquatic vegetation may be present.

### *6. Mesic Hardwood Forests*

Non-wetland forests of floodplains, ravines, and north-facing slopes in the Piedmont. These may include species such as American beech, white oak, northern red oak, bitternut hickory, pignut hickory, shagbark hickory, bigleaf magnolia, yellow poplar, blackgum, dogwood, black cherry, and loblolly pine. Typical shrubs include spicebush, sweetshrub, pawpaw, Oconee azalea, rusty viburnum, and pinxter-flower.

### *7. Montane Longleaf Pine-Hardwood Forest*

A subxeric or xeric mixed forest with longleaf pine, oaks, and hickories. Georgia examples are typically fire-suppressed. Pine Mountain contains many globally significant examples; other occurrences of this rare forest type can be found along Dugdown and Hightower Mountains and in Paulding Forest and Sheffield WMAs. Includes a rare longleaf pine/Georgia oak subtype found on Hollis quartzite along the main Pine Mountain ridge.

### *8. Oak Woodlands and Savannas*

Rare upland hardwood habitats found in scattered locations in the Piedmont. These xeric or subxeric oak-dominated woodland are influenced by edaphic conditions (i.e. thin soils, mafic rocks) and periodic fire. Dominants may include southern red oak, scarlet oak, post oak, and blackjack oak, sometimes with shortleaf pine. Sparkleberry and hawbushes are common shrub components. A particularly rare type, the post oak-blackjack oak savanna, was apparently much more common in pre-settlement times; only small, fire-suppressed remnants of these habitats exist today.

### *9. Oak-Hickory-Pine Forest*

Considered the climax forest of the Piedmont, this forest type formerly covered 50% to 75% of the region; most examples on fertile soils were eliminated by conversion to agricultural uses. Remaining examples are often found in rocky areas that were difficult to convert to agricultural fields. Typically include a variety of hardwood species such as white oak, black oak, southern red oak, pignut hickory, shagbark hickory, mockernut hickory, red maple, blackgum, shortleaf pine, and loblolly pine, with dogwood, rusty viburnum, hog plum, dwarf pawpaw, and various hawbushes in the understory. American chestnut was formerly a major component of the canopy. Examples over circumneutral soils influenced by mafic or ultramafic bedrock are often floristically richer, and may contain species such as Oglethorpe oak, basswood, red mulberry, redbud, and fringetree.

### *10. Rocky or Cobbly River Shoals*

Shallow, high gradient reaches with swift water and rocky substrates. These habitats are important spawning areas for fish, including darters, shiners, and suckers (such as the extremely rare robust redhorse). In addition, shoals provide foraging areas for wading

birds, and sunning areas for turtles. May contain dense growths of riverweed (*Podostemum ceratophyllum*). The shoals spiderlily (*Hymenocallis coronaria*), a State-protected plant, is found on rocky shoals in the middle reaches of the Savannah, Flint, and Chattahoochee rivers. Many shoals have been degraded by stream impoundments, altered water quality, and excessive silt deposition.

#### *11. Rocky/Sandy River Bluffs*

Exposed rocky or sandy bluffs along rivers in the Piedmont are often characterized by mixed pine-oak vegetation with shortleaf pine, loblolly pine post oak, eastern redcedar, southern red oak, blackjack oak, and white oak. Small trees and shrubs may include hornbeam, winged elm, sparkleberry, winged sumac, yucca, and century plant. More sheltered or east-facing bluffs may have mountain laurel and rosebay rhododendron.

#### *12. Serpentine Outcrops/Woodland/Savanna*

This globally rare habitat represents a complex mosaic of woodlands and savannas with scattered outcropping of serpentine rocks. The pine-mixed hardwood vegetation includes longleaf pine as a dominant. This type is maintained by fire and edaphic conditions. The only known Georgia examples are fire-suppressed. These habitats include disjunct coastal plain species such as pineland Barbara-buttons and Georgia plume.

#### *13. Springs and Spring Runs*

Springs are highly localized groundwater expressions. The waters of springs and associated habitats can be highly variable, depending on hydrology (hydroperiod and volume) and edaphic factors. Springs of the Piedmont have varying mineral content, chemical properties, and temperatures. Includes spring pools and first order streams immediately below springs where rare fish and invertebrates may occur.

#### *14. Streams*

In the upper Piedmont, streams are low to moderate gradient and typically contain well-defined riffles and pools. Substrate consists of gravel, pebble, sand, and silt; some bedrock may also be present. Lower Piedmont streams are lower gradient, have fewer riffles and pools, and their substrates have a higher proportion of silt, clay, and detritus than upper Piedmont streams. Turbidity is highly variable, but most of these streams become highly turbid after rain.

#### *15. Upland Depression Swamp*

A non-alluvial open swamp with water oak, southern shagbark hickory, Oglethorpe oak, and loblolly and shortleaf pine. Coastal plain elements in the understory include swamp palmetto and parsley haw. Usually found on Iredell or Enon soils in the lower Piedmont. These sticky, plastic soils pond water in the spring, resulting in swampy conditions for a portion of the year.

#### *16. Xeric Pine Woodlands*

Pine-dominated habitats of dry, rocky ridgetops and granitic outcrops. Dominants are loblolly, shortleaf, and Virginia pine. These woodland habitats are maintained by a combination of edaphic factors and periodic fire.

**Table 8. Piedmont High Priority Animals (90 Records)**

Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
AA	<i>Cambarus englishi</i>	Tallapoosa Crayfish	G3	S2		R	Cobble-rubble riffles of medium size rivers.
AA	<i>Cambarus fasciatus</i>	Etowah Crayfish	G3	S2		T	Lotic habitats under rocks in flowing water
AA	<i>Cambarus harti</i>	Piedmont Blue Burrower	G1	S1		E	Complex burrows in floodplain areas with sandy-organic soil
AA	<i>Cambarus howardi</i>	Chattahoochee Crayfish	G3Q	S2		T	Riffle areas of streams; in rocks with swift-flowing water
AA	<i>Cambarus strigosus</i>	Lean Crayfish	G2	S2		T	Complex burrows in sandy clay soil, often among roots; Savannah R. drainage
AA	<i>Distocambarus devexus</i>	Broad River Burrowing Crayfish	G1	S1		T	Sandy-clay burrows in Broad River drainage.
AA	<i>Ophiogomphus incurvatus</i>	Appalachian Snaketail	G3T2T3	S2			Small to medium spring-fed streams with mud and gravel bottoms.
AA	<i>Procambarus acutissimus</i>	Sharpnose Crayfish	G5	S2			Temporary fluctuating pools or ponds to permanent lotic habitats (not typical of GA populations); sometimes in simple burrows
AM	<i>Eurycea chamberlaini</i>	Chamberlain's Dwarf Salamander	G4	S2			Seepage ravines/stream sides; bogs, sphagnum beds, marshes
AM	<i>Necturus punctatus</i>	Dwarf Waterdog	G5	S2S3			Sluggish streams with substrate of leaf litter or woody debris
AM	<i>Urspelerpes brucei</i>	Patch-nosed Salamander	G1	S1			headwater streams
BI	<i>Ammodramus savannarum pratensis</i>	Grasshopper Sparrow	G5	S4			Breeds in grasslands, pasture lands, PD RV, rare in CP. Wintering range poorly known.
BI	<i>Colinus virginianus</i>	Northern Bobwhite	G5	S5			Early successional habitat, open pine savanna (frequent fire maintained in small burn unit size), fallow habitats associated with crop lands, extensive forest regen areas (area sensitive - minimal fall pop of 700 birds for viability on 3000+acres)
BI	<i>Elanoides forficatus</i>	Swallow-tailed Kite	G5	S2		R	River swamps; marshes, forages over pastures and ag fields - post breeding. Forage in well burned open pine woodlands where exist. Open pine and bottomland forest with super canopy pines preferred nest sites. Will nest in non-emergent hardwoods and thinned pine plantations as well - typically several years before final harvest.
BI	<i>Euphagus carolinus</i>	Rusty Blackbird	G4	S3			Bottomland forest, pecan orchards, agricultural fields
BI	<i>Falco peregrinus</i>	Peregrine Falcon	G4	S1		R	Rocky cliffs & ledges; seacoasts - migration; skyscrapers
BI	<i>Grus americana</i>	Whooping Crane	G1	S1	LE		Open, mostly emergent herbaceous freshwater wetlands and fields for stop-over sites
BI	<i>Haliaeetus leucocephalus</i>	Bald Eagle	G5	S3		T	Edges of lakes & large rivers; seacoasts
BI	<i>Ixobrychus exilis</i>	Least Bittern	G5	S3			Fresh and brackish water wetlands with emergent herbaceous cover including impoundments, natural freshwater marshes, and tidally influenced marshes
BI	<i>Lanius ludovicianus</i>	Loggerhead Shrike	G4T3Q	S3			Open woods; field edges, pastures, ball fields, industrial park, primary dunes, hammocks
BI	<i>Laterallus jamaicensis</i>	Black Rail	G3G4	S1			Very shallowly flooded freshwater marshes, brackish marshes, and saltmarshes. Some high marsh areas of the saltmarsh may have breeding pairs
BI	<i>Limnothlypis swainsonii</i>	Swainson's Warbler	G4	S3			Dense undergrowth or canebrakes in swamps and river floodplains, small mountain pop in rhododendron and mountain laurel thickets
BI	<i>Peucaea aestivalis</i>	Bachman's Sparrow	G3	S2		R	Open pine or oak woods; old fields; brushy areas, young large grassy pine regeneration areas
BI	<i>Picoides borealis</i>	Red-cockaded Woodpecker	G3	S2	LE	E	Open pine woods; pine savannas
BI	<i>Protonotaria citrea</i>	Prothonotary Warbler	G5	S4			Bottomland forest, swamps, and similar forested wetlands. Nests in tree cavities.
BI	<i>Rallus elegans</i>	King Rail	G4	S3			Freshwater to brackish emergent herbaceous wetlands of grasses, sedges, cattails, wild rice; herbaceous portions of forested wetlands.

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

**Table 8. Piedmont High Priority Animals (90 Records)**

Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
BI	<i>Setophaga kirtlandii</i>	Kirtland's Warbler	G3G4	SNRN	LE	E	Transient; varying habitats during late spring and fall
BI	<i>Tyto alba</i>	Barn Owl	G5	SU			Nests in large hollow trees or old buildings (particularly cement silos) in areas with extensive pasture or grassland or other open habitats such as marsh
FI	<i>Acipenser oxyrinchus oxyrinchus</i>	Atlantic Sturgeon	G3T3	S3	LE	E	Estuaries; lower end of large rivers in deep pools with soft substrates; spawn as far inland as Macon, GA on the Ocmulgee
FI	<i>Alosa sapidissima</i>	American Shad	G5	S5			large rivers between coast and fall zone are used for spawning and early life history stages
FI	<i>Ameiurus serracanthus</i>	Spotted Bullhead	G3	S3		R	Large streams and rivers with moderate current and rock-sand substrate
FI	<i>Carpionodes velifer</i>	Highfin Carpsucker	G4G5	S2S3			swift sandy areas associated with sandbars, yoy found in backwaters and on margins of sandbars
FI	<i>Cyprinella callitaenia</i>	Bluestripe Shiner	G2G3	S2		R	Flowing areas in large creeks and medium-sized rivers over rocky substrates
FI	<i>Cyprinella gibbsi</i>	Tallapoosa Shiner	G4	S3			Medium-sized creeks in moderate to swift current over sand, gravel, or bedrock substrates
FI	<i>Cyprinella xaenura</i>	Altamaha Shiner	G2G3	S2S3		T	Medium-sized to large streams in runs or pools over sand to rocky substrates
FI	<i>Etheostoma brevirostrum</i>	Holiday Darter	G2	S1		E	Small creeks to moderate sized rivers in gravel and bedrock pools
FI	<i>Etheostoma chuckwachatte</i>	Lipstick Darter	G3	S2		E	Medium to large streams with moderate to swift current over gravel, cobble, and boulder substrate
FI	<i>Etheostoma etowahae</i>	Etowah Darter	G1	S1	LE	E	moderate to high gradient streams over cobble to gravel in areas of swift current
FI	<i>Etheostoma parvipinne</i>	Goldstripe Darter	G4G5	S2S3		R	Small sluggish streams and spring seepage areas in vegetated habitat
FI	<i>Etheostoma rupestre</i>	Rock Darter	G4	S2		R	Swift rocky riffles often associated with attached vegetation such as <i>Podostemum</i>
FI	<i>Etheostoma scotti</i>	Cherokee Darter	G2	S2	LT	T	Small to medium-sized creeks with moderate current and rocky substrates
FI	<i>Fundulus bifax</i>	Stippled Studfish	G2G3	S1		E	Slow eddies over sand or gravel along the margins of riffles and runs in medium-sized streams to small rivers
FI	<i>Hybopsis lineapunctata</i>	Lined Chub	G3G4	S2		R	Upland creeks over sandy substrate with gentle current
FI	<i>Hybopsis</i> sp. 9	Etowah Chub	G1Q	S1S2			Generally in creeks and small to medium rivers over sand-silt bottom, usually in pools adjacent to riffle areas. Tends to occupy smaller streams in east than in west.
FI	<i>Macrhybopsis</i> sp. 1	Coosa Chub	G3G4	S1		E	Fast water in large streams and rivers
FI	<i>Micropterus cataractae</i>	Shoal Bass	G3	S2			large river, shoal and fluvial specialist
FI	<i>Micropterus chattahoochee</i>	Chattahoochee Bass	GNR	S1			flowing sections of streams and rivers, including river shoals
FI	<i>Micropterus</i> sp. cf <i>coosae</i> "Altamaha/Ogeechee"	Undescribed Redeye Bass	GNR	S3			believed to be headwater species but patterns altered by non-native species
FI	<i>Micropterus</i> sp. cf <i>coosae</i> "Savannah"	Bartrams Bass	GNR	S3			upland streams and rivers
FI	<i>Moxostoma robustum</i>	Robust Redhorse	G1	S1		E	Med to large rivers, shallow riffles to deep flowing water; moderately swift current
FI	<i>Notropis hypsilepis</i>	Highscale Shiner	G3	S3		R	Flowing areas of small to large streams over sand or bedrock substrates
FI	<i>Notropis scepticus</i>	Sandbar Shiner	G4	S2		R	Large streams to medium-sized rivers in flowing pools over sandy to rocky substrates
FI	<i>Noturus munitus</i>	Frecklebelly Madtom	G3	S1		E	Shoals and riffles of moderate to large streams and rivers
FI	<i>Percina antesella</i>	Amber Darter	G1G2	S1	LE	E	Riffles & runs of medium-sized rivers, patches of sand and small gravel, riverweed

**Table 8. Piedmont High Priority Animals (90 Records)**

Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
FI	<i>Percina crypta</i>	Halloween Darter	G2	S2		T	larger streams in riffle/shoal habitat
FI	<i>Percina kusha</i>	Bridled Darter	G2	S1		E	Flowing pools and runs in large streams and small to medium sized rivers with clear water
FI	<i>Percina smithvanizi</i>	Muscadine Darter	G3	S3		R	Flowing pool areas with substrate of sand, detritus, or bedrock in small rivers
MA	<i>Myotis austroriparius</i>	Southeastern Myotis	G3G4	S3			Caves & buildings near water; large hollow trees in bottomland hardwood swamps
MA	<i>Myotis grisescens</i>	Gray Myotis	G3	S1	LE	E	Caves with flowing water or with large creeks or bodies of water nearby, also storm sewers and artificial caves in other states. Unknown summer roosts in eastern portion of GA range. Marble mines?
MA	<i>Myotis septentrionalis</i>	Northern Myotis	G2G3	S2S3			Caves & mines in winter; riparian areas, upland forests, cracks and crevices in dead and live trees in summer
MA	<i>Perimyotis subflavus</i>	Tri-colored Bat	G3	S5			Open forests with large trees and woodland edges; roost in tree foliage; hibernate in caves or mines with high humidity.
MA	<i>Spilogale putorius</i>	Eastern Spotted Skunk	G4	S3			brushy, rocky, wooded habitats; avoids wetlands
MO	<i>Alasmodonta arcuata</i>	Altamaha Arcmussel	G2	S3		T	Large rivers and reservoirs on gently sloping banks with soft and fine sediments. Often under overhanging willows.
MO	<i>Anodontoides radiatus</i>	Rayed Creekshell	G3	S2		T	Small creeks to large rivers with moderate current in mud, sand, and gravel
MO	<i>Elimia mutabilis</i>	Oak Elimia	G2Q	S2			shoals in medium sized rivers
MO	<i>Elliptio nigella</i>	Winged Spike	G1	S2			Large rivers in swift and shallow shoals. Often times associated with large crevices and cavities in and around limestone boulders.
MO	<i>Hamiota altilis</i>	Finelined Pocketbook	G2G3	S2	LT	T	Small streams to large rivers; sand, gravel, and cobble substrates; usually not in swift current
MO	<i>Hamiota subangulata</i>	Shinyrayed Pocketbook	G2	S2	LE	E	Medium sized creeks to large rivers in sand substrates in slow to swift flowing water.
MO	<i>Lampsilis straminea</i>	Southern Fatmucket	G5T	S2			Small creeks to rivers in slow to moderate current; sand, sandy mud and gravel substrates
MO	<i>Medionidus penicillatus</i>	Gulf Moccasinshell	G2	S1	LE	E	Large rivers to small creeks; found in a variety of substrates
MO	<i>Pleurobema pyriforme</i>	Oval Pigtoe	G2	S1	LE	E	Large rivers to small creeks with slow to moderate current in pool, run, and riffle habitats; combinations of clay, sand, and gravel substrate
MO	<i>Somatogyrus alcoviensis</i>	Reverse Pebblesnail	G1Q	S1			Medium to small rivers with moderate gradient in riffle habitat; found on bedrock, cobble, and boulders
MO	<i>Somatogyrus tenax</i>	Savannah Pebblesnail	G2G3 Q	S2S3			Medium rivers, undersides of cobbles and boulders in shallow rocky rapids; also found in association with aquatic vegetation
RE	<i>Graptemys barbouri</i>	Barbour's Map Turtle	G2	S3		T	Rivers & large creeks of Apalachicola River drainage; possible in Ochlockonee
RE	<i>Macrochelys temminckii</i>	Alligator Snapping Turtle	G3G4	S3		T	Streams and rivers; impoundments; river swamps
RE	<i>Pituophis melanoleucus melanoleucus</i>	Northern Pine Snake	G4T4	S2			Dry pine or pine-hardwood forests
TA	<i>Amblyscirtes alternata</i>	Dusky roadside-skipper	G2G3	S3			Sunny patches in pine forests
TA	<i>Amblyscirtes belli</i>	Bell's Roadside-skipper	G3G4	S3			Wet hardwoods, river oaks
TA	<i>Amblyscirtes carolina</i>	Carolina roadside-skipper	G3G4	S2S3			Wet situations with cane
TA	<i>Bombus affinis</i>	Rusty-patched bumblebee	G1	SH			
TA	<i>Bryophaenocladus chrissichuckorum</i>	Midge (Heggie's Rock)		S1			Heggie's Rock pools, adjacent outcrops?
TA	<i>Danaus plexippus</i>	Monarch butterfly	G4	S4			Milkweeds
TA	<i>Euphydryas phaeton</i>	Baltimore checkerspot	G4	S2			Chattahoochee River parks

**Table 8. Piedmont High Priority Animals (90 Records)**

Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
TA	<i>Habronattus sabulosus</i>	Jumping spider (Heggie's Rock)	GNR	S1S2			Granite flatrock outcrops
TA	<i>Melanoplus longicornis</i>	A spur-throat grasshopper	G1G2	S2			Hardwoods
TA	<i>Neonympha helicta</i>	Helicta satyr	G3G4	S2			Dry fields
TA	<i>Pieris virginiensis</i>	West Virginia White	G3	S3			Hardwoods
TA	<i>Satyrium edwardsii</i>	Edwards hairstreak	G4	S3			Blackjack oak
TA	<i>Speyeria diana</i>	Diana fritillary	G3G4	S3			Hardwood forests
TA	<i>Trimerotropis saxatalis</i>	Lichen or rock grasshopper	G3	S3			Granite flatrock outcrops

**Table 9. Piedmont High Priority Plants (66 Records)**

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
<i>Acemispion helleri</i>	Carolina Trefoil	G5T3	S1		E	Clayey soil over ultramafic rock; post oak-blackjack oak savannas
<i>Aesculus glabra</i>	Ohio Buckeye	G5	S2			Mesic forests in circumneutral soil
<i>Allium speculae</i>	Flatrock Onion	G2	S2		T	Granite outcrops (limited to Lithonia Gneiss types)
<i>Amorpha nitens</i>	Shining Indigo-Bush	G3?	S1?			Rocky, wooded slopes; alluvial woods
<i>Amorpha schwerinii</i>	Schwerin's Indigo-Bush	G3G4	S2			Rocky upland woods
<i>Amphianthus pusillus</i>	Pool Sprite, Snorkelwort	G2	S2	LT	T	Vernal pools on granite outcrops
<i>Amsonia ludoviciana</i>	Louisiana Blue Star	G3	S2			Open woods near granite outcrops (limited to Lithonia Gneiss types)
<i>Anemone berlandieri</i>	Glade Windflower	G4?	S1S2			Granite outcrop ecotones; openings over basic rock
<i>Anemone caroliniana</i>	Carolina Windflower	G5	S1?			Upland seepage swamp openings over Iredell soils; wet meadows
<i>Arabis georgiana</i>	Georgia Rockcress	G1	S1	C	T	Rocky or sandy river bluffs and banks, in circumneutral soil
<i>Baptisia megacarpa</i>	Bigpod Wild Indigo	G2	S1			Floodplain forests
<i>Berberis canadensis</i>	American Barberry	G3	S1		E	Cherty, thinly wooded slopes
<i>Boechera missouriensis</i>	Missouri Rockcress	G5	S2			Granite and amphibolite outcrops
<i>Calamintha</i> sp. nov. (undescribed)	Indian Grave Mountain Wild Savory	GNR	S1			Montane longleaf woodlands
<i>Carex biltmoreana</i>	Biltmore Sedge	G3	S1		T	High elevation ledges and rock faces
<i>Carex radfordii</i>	Radford's Sedge	G2	S1?		T	Rich woods of marble ravines
<i>Cirsium virginianum</i>	Virginia Thistle	G3	S2?			Moist pinelands; moist longleaf pine/wiregrass savannas
<i>Crataegus aemula</i>	Rome Hawthorn	G2G3	S2?			Upland hardwood forests; creek flats
<i>Crataegus aprica</i>	Sunny Hawthorn	GNR	S1			Open, sandy, rocky dry sites in lower elevation mountains and perhaps Piedmont.
<i>Croomia pauciflora</i>	Croomia	G3	S2		T	Mesic hardwood forests, usually with <i>Fagus</i> and <i>Tilia</i>
<i>Cuscuta harperi</i>	Harper's Dodder	G2G3	S1		E	Altamaha Grit outcrops; granite outcrops; often with <i>Liatris microcephala</i> as host
<i>Danthonia epilis</i>	Bog Oat-Grass	G3G4	S1?			Mountain bogs
<i>Draba aprica</i>	Open-Ground Whitlow-Grass	G3	S1S2		E	Granite and amphibolite outcrops, usually in redcedar litter
<i>Echinacea laevigata</i>	Smooth Purple Coneflower	G2G3	S2	LE	E	Upland forests over amphibolite
<i>Eleocharis wolfii</i>	Spikerush	G3G5	S1			Shallow pools on granite outcrops
<i>Eriocaulon koernickianum</i>	Dwarf Pipewort	G2	S1		E	Granite outcrops
<i>Eurybia jonesiae</i>	Piedmont Bigleaf Aster	G3?	S2			Mixed oak-hickory forests
<i>Fimbristylis brevivaginata</i>	Flatrock Fimbry	G2	S2			Granite outcrops
<i>Fothergilla gardenii</i>	Dwarf Witch-Alder	G3G4	S2		T	Openings in low woods; swamps

**Table 9. Piedmont High Priority Plants (66 Records)**

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
<i>Helianthus smithii</i>	Smith's Sunflower	G2Q	S1			Dry open woods and thickets
<i>Hydrastis canadensis</i>	Goldenseal	G3G4	S2		E	Rich woods in circumneutral soil
<i>Hymenocallis coronaria</i>	Shoals Spiderlily	G2Q	S2		T	Rocky shoals of broad, open rivers
<i>Isoetes melanospora</i>	Black-Spored Quillwort	G1	S1	LE	E	Vernal pools on granite outcrops
<i>Isoetes tegetiformans</i>	Mat-Forming Quillwort	G1	S1	LE	E	Vernal pools on granite outcrops
<i>Juglans cinerea</i>	Butternut	G4	S2			Openings in bottomland forests and in the mesophytic hardwood forests of rich mountain coves
<i>Juniperus communis</i> var. <i>depressa</i>	Ground Juniper	G5T5	S1			Gneiss ledges
<i>Lilium canadense</i>	Canada Lily	G5	S2?			Openings in rich woods
<i>Lysimachia fraseri</i>	Fraser's Loosestrife	G3	S2		R	Moist, open, bouldery gravel bars and streambanks; edges of sandstone and granite outcrops
<i>Monotropis odorata</i>	Sweet Pinesap	G3	S1		T	Upland forests
<i>Nestronia umbellula</i>	Indian Olive	G4	S3		R	Mixed with dwarf shrubby heaths in oak-hickory-pine woods; often in transition areas between flatwoods and uplands
<i>Panax quinquefolius</i>	American Ginseng	G3G4	S3			Mesic hardwood forests; cove hardwood forests
<i>Paronychia virginica</i>	Yellow Nailwort	G4	S1		E	Serpentine outcrops
<i>Pediomelum piedmontanum</i>	Dixie Mountain Breadroot	G1	S1		E	Shallow soils over mafic (serpentine) rock, upland longleaf pine-mixed oak savanna and powerline rights-of-way
<i>Platanthera integrilabia</i>	Monkeyface Orchid	G2G3	S1S2	C	T	Red maple-gum swamps; peaty seeps and streambanks with <i>Parnassia asarifolia</i> and <i>Oxypolis rigidior</i>
<i>Portulaca umbraticola</i> ssp. <i>coronata</i>	Wingpod Purslane	G5T2	S2			Granite outcrops; Altamaha Grit outcrops
<i>Ptilimnium nodosum</i>	Harperella	G2	S1	LE	E	Granite outcrop seeps; shallow seasonal ponds in limesink depressions
<i>Quercus oglethorpensis</i>	Oglethorpe Oak	G3	S2		T	Broad River bottomlands; upland seepage swamps over Iredell and Enon soils with seasonally wet clay beds
<i>Rhus michauxii</i>	Dwarf Sumac	G2G3	S1	LE	E	Open forests over ultramafic rock
<i>Sabatia capitata</i>	Cumberland Rose Gentian	G2	S2		R	Meadows over sandstone or shale
<i>Schisandra glabra</i>	Bay Starvine	G3	S2		T	Rich woods on stream terraces and lower slopes
<i>Schwalbea americana</i>	Chaffseed	G2G3	S1	LE	E	Open pinelands, as in well-managed, somewhat moist longleaf pine-wiregrass forests seeps
<i>Sedum nevii</i>	Nevius' Stonecrop	G3	S1		T	Gneiss ledges on river bluffs
<i>Sedum pusillum</i>	Granite Stonecrop, Puck's Orpine	G3	S3		T	Granite outcrops, often in mats of <i>Hedwigia</i> moss under <i>Juniperus virginiana</i>
<i>Silene polypetala</i>	Fringed Champion	G2	S2	LE	E	Mesic deciduous forests
<i>Stewartia malacodendron</i>	Silky Camellia	G4	S2		R	Along streams on lower slopes of beech-magnolia or beech-basswood-Florida maple forests
<i>Symphotrichum georgianum</i>	Georgia Aster	G3	S2	C	T	Upland oak-hickory-pine forests and openings; sometimes with <i>Echinacea laevigata</i> or over amphibolite

**Table 9. Piedmont High Priority Plants (66 Records)**

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
<i>Trillium persistens</i>	Persistent Trillium	G1	S1	LE	E	Mesic hardwood forests, upland forests
<i>Trillium reliquum</i>	Relict Trillium	G3	S3	LE	E	Mesic hardwood forests; limesink forests; usually with <i>Fagus</i> and <i>Tilia</i>
<i>Trillium</i> sp. nov. (unpublished)	Southern Decumbent Trillium	GNR	S1			Mesic hardwoods
<i>Triphora trianthophora</i>	Three-Birds Orchid	G3G4	S2?			Loamy soils of rhododendron thickets; hardwood forests
<i>Veratrum woodii</i>	Ozark Bunchflower	G5	S2		R	Mesic hardwood forests over basic soils
<i>Viburnum rafinesquianum</i> var. <i>affine</i>	Downy Arrowwood	G5TNR	S1			Limestone bluffs along major rivers
<i>Waldsteinia lobata</i>	Piedmont Barren Strawberry	G2G3	S2		R	Stream terraces and adjacent gneiss outcrops
<i>Xerophyllum asphodeloides</i>	Eastern Turkeybeard	G4	S1		R	Xeric oak-pine forests
<i>Xyris scabrifolia</i>	Harper's Yellow-Eyed Grass	G3	S1			Sedge bogs; pitcherplant bogs; pine flatwoods
<i>Xyris tennesseensis</i>	Tennessee Yellow-Eyed Grass	G2	S1	LE	E	Seepy margins of limestone spring runs

## **Southeastern Plains Ecoregion**

### High Priority Species and Habitats

The technical teams identified 145 high priority animal species in the Southeastern Plains ecoregion. These included 22 birds, 7 mammals, 11 reptiles, 10 amphibians, 13 mollusks, 22 fishes, 9 aquatic arthropods, and 57 terrestrial arthropods. These species are listed in Table 7, 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, 117 species of high priority plants were identified for the Southeastern Plains. These are listed in Table 8.

High priority habitats for the Southeastern Plains 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. Extensive cypress-gum swamps can be found on all major alluvial rivers in the upper portion of the Southeastern Plains. These systems have been impacted by altered flows from upstream dams.

#### *2. Altamaha Grit Outcrops*

These small patch habitats represent mosaics of indurated sandstone outcrops (vertical and horizontal surfaces) interspersed with rock-influenced pine woodland, bogs, and bottomlands. Characterized by several endemic species and plant associations.

#### *3. Atlantic Whitecedar Swamps; Clearwater Stream Swamps*

Narrow, linear forested systems along cold, clear streams of the Fall Line sandhills. Characterized by a fairly dense canopy of Atlantic whitecedar, with pond pine, red maple, sweetbay, and other mesic-hydric site species. Clearwater stream swamps are similar but without Atlantic whitecedar in the canopy. The shrub layer is usually well developed and diverse, while the groundlayer herbaceous vegetation is often sparse. These systems are thought to be maintained by periodic fire, beaver activity, and possibly other forms of disturbance.

#### *4. 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*). Considered a late successional community in a variety of hydrogeomorphic settings in the Coastal Plain.

#### *5. 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.

#### *6. Black Belt Prairies*

Small-patch prairie habitats occurring over alkaline Oktibbeha soils. These soils are adhesive when wet and hard when dry, limiting the growth of woody plants. Black Belt prairies consist of herb-dominated patches interspersed with woody scrub component. These rare habitats are maintained by a combination of soil conditions and periodic fire.

#### *7. 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.

#### *8. Calcareous Swamps*

Hardwood dominated swamp forests that are influenced by calcareous soils. Examples include Spring Creek in the Dougherty Plain. These spring-fed swamps may contain rare plants such as variable-leaved water plantain. Similar habitats are found along tributaries of the Ocmulgee and Ogeechee rivers (e.g., Limestone Creek, Williamson Swamp Creek)

#### *9. Canebrakes*

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.

#### *10. Caves*

Found primarily along the Pelham Escarpment in the southwestern portion of the ecoregion. A few caves are also found in karst environments near Cochran and Sandersville. These Coastal Plain caves provide habitat for high priority species such as the southeastern myotis and Georgia blind salamander.

#### *11. 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.

#### *12. Flint Kaolin Outcrops*

Rare and unusual rock outcrops composed of flint kaolin, a hard, flinty conglomerate of metamorphosed sediments. The outcrops are surrounded by xeric mixed oak/pine forest. Plant communities of these habitats resemble those of Altamaha Grit outcrops. Known only from Columbia County in the northeastern portion of this ecoregion.

#### *13. Forested Depressional Wetlands*

Seasonally or semi-permanently flooded forests of depressional features, including Carolina bays, limesinks, and Grady ponds. 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 Grand Bay, possibly the largest Carolina bay known. Other examples can be found in the Tallahassee Hills/Valdosta Limesink region. 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. Limestone and Marl Outcrops; Calcareous Bluffs*

Rich riparian or ravine habitats influenced by limestone substrate. Marl gorges and bluffs are restricted to tributaries of the Chattahoochee River (Town Creek, Kolomoki Creek) near Fort Gaines. These "blue marl gorges" have diverse mesic hardwood forests and unusual seepage cliffs. Mesic calcareous bluffs are also found along the Savannah River and contain plant species of northern affinities.

#### *17. 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.

#### *18. 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. These can range from mesic to dry, depending on topographic position and soils. Transition

downslope into wet pine savanna. These habitats are heavily dependent on frequent fire for maintenance.

#### *19. Nonalluvial (Blackwater) Rivers and Swamps*

Large, meandering rivers with darkly stained but translucent waters and narrow to wide floodplains. Dominant substrate is sand, which may form bars in larger systems. In contrast to smaller blackwater streams, the forest canopy may only shade a portion of the stream width. Runs and pools are dominant habitats. Large snags represent a significant component of habitat heterogeneity. Limestone shoals occur on some of these rivers. These systems are vulnerable to negative impacts from nutrient loadings and hydrologic disruptions resulting from a wide variety of human activities.

#### *20. 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. Many wildlife species are dependent on these habitats. Limesinks are generally round, formed by the collapse of underground caverns, and are found primarily in the Dougherty Plain. Carolina bays are characterized by an elliptical shape, NW-SE axis, and a deep sandy rim on the east and south edges. Beaver activity along small branches may semi-permanently inundate areas, creating open wetlands.

#### *21. Pine Flatwoods*

Seasonally wet forests with open to closed pine canopy, often with an ericaceous shrub understory. Canopy dominants may include slash, longleaf, and occasionally pond pine. These habitats generally occur on nonalluvial flats and low terraces, and have a strong herbaceous component (although not as diverse as the longleaf pine savanna). Maintained by periodic fire.

#### *22. Rocky/Sandy River Bluffs*

Suberic mixed pine-hardwood forest on river bluffs that are sandy, or rarely, rocky. May contain species such as white oak, southern red oak, post oak, laurel oak, mockernut hickory, shortleaf pine, loblolly pine and spruce pine. The woody understory may include red buckeye, blueberry, and possumhaw. The herb layer is typically sparse, but may include rare species such as Alabama milkvine.

#### *23. Springs and Spring Runs*

Clear, flowing systems with circumneutral pH and stable temperature and flow regimes. Limestone, detritus, and woody debris are dominant substrata. Floodplains of these systems are poorly developed. Mostly confined to the Dougherty Plain. Many of the larger springs in this ecoregion serve as important cool-water refuges for species such as striped bass.

#### *24. Steephead Ravines*

Rich mesic ravine forests characterized by a diverse canopy of hardwood trees, including American beech, southern sugar maple, southern magnolia, pyramid magnolia, basswood, and sugarberry. The most significant examples are the “Torreya Ravines” of the lower

Pelham Escarpment near Lake Seminole. Similar habitats are found in the upper ends of narrow ravines in the Fall Line Sandhills and along the edges of deep limesinks in the Dougherty Plain.

*25. Streams (Blackwater)*

Meandering acidic streams with tea-stained, translucent waters and small to moderate-sized floodplains. Blackwater streams are highly acidic, high in dissolved organic materials, and low in suspended materials. Streambeds are characterized by sandy substrates, often with extensive woody debris and live plant roots are often interspersed. Pools and runs are the dominant microhabitats, but these are occasionally interspersed with beaver ponds and limestone outcroppings. Many of these aquatic systems have been impacted by channelization, impoundment, and encroachment by agricultural and silvicultural uses.

*26. Wet Pine Savannas, Herb and Shrub Bogs*

Open pine savanna dominated by longleaf or slash pine, with interspersed bogs. Herb bogs are found in low swales or depressions. Herb bogs are often characterized by pitcherplants and a high diversity of forbs. Shrub bogs occur in the ecotones of Carolina bays or cypress ponds and along the drier edges of bay swamps. Dominated by shrubs with a few (usually stunted) scattered pines and a sparse herb layer.

*27. Xeric Aeolian Dunes*

Wind-formed deep and well-drained dunes found mostly along the eastern side of rivers such as the Ochopee, Little Ochopee, Canoochee, and Little Ocmulgee. These unusual xeric habitats are dominated by deciduous or evergreen scrub oaks and scattered pines, with little groundcover other than patches of wiregrass and lichens. A number of rare plants are associated with these habitats, including sandhills rosemary and Ashe's savory.

**Table 10. Southeastern Plains High Priority Animals (151 Records)**

Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
AA	<i>Cambarus cryptodytes</i>	Dougherty Plain Cave Crayfish	G2	S2		T	Pool areas of subterranean systems
AA	<i>Cambarus doughertyensis</i>	Dougherty Burrowing Crayfish	G1	S1		E	Primary burrower in wooded wetlands; black sticky clay soil.
AA	<i>Cambarus truncatus</i>	Oconee Burrowing Crayfish	G2	S2		T	Complex burrows in sandy clay soil
AA	<i>Cordulegaster sayi</i>	Say's Spiketail	G2	S2		T	Trickling hillside seepages in deciduous forest with scrub-oak sandhills nearby
AA	<i>Ophiogomphus australis</i>	Southern Snaketail	G1G2	S1			Small streams in woodland with some gravelly substrate
AA	<i>Procambarus acutissimus</i>	Sharpnose Crayfish	G5	S2			Temporary fluctuating pools or ponds to permanent lotic habitats (not typical of GA populations); sometimes in simple burrows
AA	<i>Procambarus gibbus</i>	Muckalee Crayfish	G3Q	S2		T	Found in flowing streams with good oxygen supply
AA	<i>Procambarus verrucosus</i>	Grainy Crayfish	G4	S2		R	Marshes and standing water (often temporary) adjacent to small, coastal plain creeks.
AA	<i>Procambarus versutus</i>	Sly Crayfish	G5	S1		R	Found in debris in moderately swift streams. Found in root masses and plants.
AM	<i>Ambystoma bishopi</i>	Reticulated Flatwoods Salamander	G2	S1	LE		Pine flatwoods; moist savannas; isolated cypress/gum ponds
AM	<i>Ambystoma cingulatum</i>	Frosted Flatwoods Salamander	G2	S1	LT	T	Pine flatwoods; moist savannas; isolated cypress/gum ponds
AM	<i>Ambystoma tigrinum tigrinum</i>	Eastern Tiger Salamander	G5	S3S4			isolated wetlands for breeding; variety of open, upland habitats; CP - sandhills, oldfields, dry pine savanna
AM	<i>Amphiuma pholeter</i>	One-toed Amphiuma	G3	S1		R	Organic muck beds in floodplains and seepage bogs
AM	<i>Desmognathus auriculatus</i>	Southern Dusky Salamander	G5	S2			Mucky areas usually in or near moving water
AM	<i>Eurycea chamberlaini</i>	Chamberlain's Dwarf Salamander	G4	S2			Seepage ravines/stream sides; bogs, sphagnum beds, marshes
AM	<i>Haideotriton wallacei</i>	Georgia Blind Salamander	G2	S1		T	Cave pools; aquifer
AM	<i>Lithobates capito</i>	Gopher Frog	G3	S2S3		R	Sandhills; dry pine flatwoods; breed in isolated wetlands
AM	<i>Necturus punctatus</i>	Dwarf Waterdog	G5	S2S3			Sluggish streams with substrate of leaf litter or woody debris
AM	<i>Notophthalmus perstriatus</i>	Striped Newt	G2G3	S2	C	T	Pine flatwoods, sandhills; isolated wetlands
BI	<i>Ammodramus henslowii</i>	Henslow's Sparrow	G4	S2		R	Grassy areas, especially wet grasslands, pitcher plant bogs, pine flatwoods, power-line corridors in CP. Require open veg at ground level with grass canopy above
BI	<i>Ammodramus savannarum pratensis</i>	Grasshopper Sparrow	G5	S4			Breeds in grasslands, pasture lands, PD RV, rare in CP. Wintering range poorly known.
BI	<i>Colinus virginianus</i>	Northern Bobwhite	G5	S5			Early successional habitat, open pine savanna (frequent fire maintained in small burn unit size), fallow habitats associated with crop lands, extensive forest regen areas (area sensitive - minimal fall pop of 700 birds for viability on 3000+acres)
BI	<i>Coturnicops noveboracensis</i>	Yellow Rail	G4	SU			
BI	<i>Egretta caerulea</i>	Little Blue Heron	G5	S4			Nest in single species and mixed species colonies in various inland forested fresh-water wetlands, including impounded wetlands, cypress swamps, and similar habitats
BI	<i>Egretta tricolor</i>	Tricolored Heron	G5	S4			Nests in colonies (often with other wading bird species) in wetlands and on isolated islands. Feeds in shallow wetlands, creeks and rivers. The most coastal of all our waders.
BI	<i>Elanoides forficatus</i>	Swallow-tailed Kite	G5	S2		R	River swamps; marshes, forages over pastures and ag fields - post breeding. Forage in well burned open pine woodlands where exist. Open pine and bottomland forest with super canopy pines preferred nest sites. Will nest in non-emergent hardwoods and thinned pine plantations as well - typically several years before final harvest.
BI	<i>Euphagus carolinus</i>	Rusty Blackbird	G4	S3			Bottomland forest, pecan orchards, agricultural fields

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

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Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
BI	<i>Falco sparverius paulus</i>	Southeastern American Kestrel	G5T4	S2		R	Open pine grasslands with snags in Coastal Plain, also hayfields and pasture lands
BI	<i>Grus americana</i>	Whooping Crane	G1	S1	LE		Open, mostly emergent herbaceous freshwater wetlands and fields for stop-over sites
BI	<i>Haliaeetus leucocephalus</i>	Bald Eagle	G5	S3		T	Edges of lakes & large rivers; seacoasts
BI	<i>Ixobrychus exilis</i>	Least Bittern	G5	S3			Fresh and brackish water wetlands with emergent herbaceous cover including impoundments, natural freshwater marshes, and tidally influenced marshes
BI	<i>Lanius ludovicianus</i>	Loggerhead Shrike	G4T3Q	S3			Open woods; field edges, pastures, ball fields, industrial park, primary dunes, hammocks
BI	<i>Laterallus jamaicensis</i>	Black Rail	G3G4	S1			Very shallowly flooded freshwater marshes, brackish marshes, and saltmarshes. Some high marsh areas of the saltmarsh may have breeding pairs
BI	<i>Limnothlypis swainsonii</i>	Swainson's Warbler	G4	S3			Dense undergrowth or canebrakes in swamps and river floodplains, small mountain pop in rhododendron and mountain laurel thickets
BI	<i>Mycteria americana</i>	Wood Stork	G4	S3	LT	E	Breeding Cypress/gum ponds; impounded wetlands with islands or emergent cypress, river swamps; Foraging - marshes (fresh and intertidal); river swamps; bays; farm ponds,
BI	<i>Passerina ciris</i>	Painted Bunting	G5	S2S3			Most in Lower Coastal Plain in thickets, woodland borders, marsh edges, and brushy areas. Smaller numbers in Upper Coastal Plain, particularly the eastern half, agricultural habitat
BI	<i>Peucaea aestivalis</i>	Bachman's Sparrow	G3	S2		R	Open pine or oak woods; old fields; brushy areas, young large grassy pine regeneration areas
BI	<i>Picoides borealis</i>	Red-cockaded Woodpecker	G3	S2	LE	E	Open pine woods; pine savannas
BI	<i>Protonotaria citrea</i>	Prothonotary Warbler	G5	S4			Bottomland forest, swamps, and similar forested wetlands. Nests in tree cavities.
BI	<i>Rallus elegans</i>	King Rail	G4	S3			Freshwater to brackish emergent herbaceous wetlands of grasses, sedges, cattails, wild rice; herbaceous portions of forested wetlands.
BI	<i>Tyto alba</i>	Barn Owl	G5	SU			Nests in large hollow trees or old buildings (particularly cement silos) in areas with extensive pasture or grassland or other open habitats such as marsh
FI	<i>Acipenser brevirostrum</i>	Shortnose Sturgeon	G3	S2	LE	E	Estuaries; lower end of large rivers in deep pools with soft substrates
FI	<i>Acipenser oxyrinchus desotoi</i>	Gulf Sturgeon	G3T2	SX			Estuaries; deep pools at lower end of large rivers
FI	<i>Acipenser oxyrinchus oxyrinchus</i>	Atlantic Sturgeon	G3T3	S3	LE	E	Estuaries; lower end of large rivers in deep pools with soft substrates; spawn as far inland as Macon, GA on the Ocmulgee
FI	<i>Alosa alabamae</i>	Alabama Shad	G2G3	S1		T	Migrates into Gulf coastal rivers for reproduction
FI	<i>Alosa sapidissima</i>	American Shad	G5	S5			large rivers between coast and fall zone are used for spawning and early life history stages
FI	<i>Ameiurus serracanthus</i>	Spotted Bullhead	G3	S3		R	Large streams and rivers with moderate current and rock-sand substrate
FI	<i>Carpionodes velifer</i>	Highfin Carpsucker	G4G5	S2S3			swift sandy areas associated with sandbars, yoy found in backwaters and on margins of sandbars
FI	<i>Chologaster cornuta</i>	Swampfish	G5	S2S3			near vegetation and debris in swamps, ponds, ditches, and slow moving streams, pools backwaters
FI	<i>Cyprinella callitaenia</i>	Bluestripe Shiner	G2G3	S2		R	Flowing areas in large creeks and medium-sized rivers over rocky substrates
FI	<i>Elassoma gilberti</i>	Gulf Coast Pygmy Sunfish	G4G5	S2S3			vegetated habitats with no or slow flow in the Coastal Plain
FI	<i>Elassoma okatie</i>	Bluebarred Pygmy Sunfish	G2G3	S1		E	Temporary ponds and stream backwaters with dense aquatic vegetation
FI	<i>Enneacanthus chaetodon</i>	Blackbanded Sunfish	G3G4	S1		E	Blackwater streams; bays; cypress/gum ponds
FI	<i>Etheostoma parvipinne</i>	Goldstripe Darter	G4G5	S2S3		R	Small sluggish streams and spring seepage areas in vegetated habitat

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Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
FI	<i>Lucania goodei</i>	Bluefin Killifish	G5	S1		R	Heavily vegetated ponds and streams with little or no current; frequently associated with springs
FI	<i>Micropterus notius</i>	Suwannee Bass	G3	S2		R	Flowing water over rocky shoals or large springs and spring runs
FI	<i>Micropterus</i> sp. cf <i>coosae</i> "Altamaha/Ogeechee"	Undescribed Redeye Bass	GNR	S3			believed to be headwater species but patterns altered by non-native species
FI	<i>Micropterus</i> sp. cf <i>coosae</i> "Savannah"	Bartrams Bass	GNR	S3			upland streams and rivers
FI	<i>Moxostoma robustum</i>	Robust Redhorse	G1	S1		E	Med to large rivers, shallow riffles to deep flowing water; moderately swift current
FI	<i>Notropis hypsilepis</i>	Highscale Shiner	G3	S3		R	Flowing areas of small to large streams over sand or bedrock substrates
FI	<i>Percina crypta</i>	Halloween Darter	G2	S2		T	larger streams in riffle/shoal habitat
FI	<i>Pteronotropis euryzonus</i>	Broadstripe Shiner	G3	S3		R	Flowing areas of medium sized streams associated with sandy substrate and woody debris or vegetation
FI	<i>Pteronotropis welaka</i>	Bluenose Shiner	G3G4	S1		T	Quiet backwaters and vegetated pools of streams and rivers
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
MA	<i>Geomys pinetis</i>	Southeastern Pocket Gopher	G5	S3S4		T	sandy well-drained soils in open pine woodlands with grassy or herbaceous groundcover, fields, grassy roadsides
MA	<i>Lasiurus intermedius</i>	Northern Yellow Bat	G4G5	S3			Wooded areas near open water or fields, hardwoods - live oaks preferred, large trees
MA	<i>Myotis austroriparius</i>	Southeastern Myotis	G3G4	S3			Caves & buildings near water; large hollow trees in bottomland hardwood swamps
MA	<i>Neofiber alleni</i>	Round-tailed Muskrat	G3	S3		T	Freshwater marshes; bogs
MA	<i>Perimyotis subflavus</i>	Tri-colored Bat	G3	S5			Open forests with large trees and woodland edges; roost in tree foliage; hibernate in caves or mines with high humidity.
MA	<i>Spilogale putorius</i>	Eastern Spotted Skunk	G4	S3			brushy, rocky, wooded habitats; avoids wetlands
MO	<i>Alasmodonta triangulata</i>	Southern Elktoe	G1Q	S1		E	Gently sloping banks with soft substrate. Often in slackwater areas and possibly in reservoirs. Mixtures of mud, sand, and gravel substrate
MO	<i>Anodontoides radiatus</i>	Rayed Creekshell	G3	S2		T	Small creeks to large rivers with moderate current in mud, sand, and gravel
MO	<i>Elimia darwini</i>	Pup Elimia	G1	S1			small streams and springs
MO	<i>Elimia inclinans</i>	Slanted Elimia	G1G2	S1S2			Creeks and medium-sized rivers in the Flint River basin
MO	<i>Elimia induta</i>	Gem Elimia	G2	S2			Flint River tributaries in SW GA
MO	<i>Elimia timida</i>	Timid Elimia	G1	S1			small streams and springs on the right side of the Ocmulgee River.
MO	<i>Elliptio spinosa</i>	Altamaha Spinymussel	G1G2	S1	LE	E	Large Rivers in firm sand substrate; good flow
MO	<i>Fusconaia masoni</i>	Atlantic Pigtoe	G2	S1		E	Medium sized streams to large rivers from the Ogeechee River northward; coarse sand and gravel at downstream edge of riffles; fast flowing and well oxygenated water
MO	<i>Lampsilis straminea</i>	Southern Fatmucket	G5T	S2			Small creeks to rivers in slow to moderate current; sand, sandy mud and gravel substrates
MO	<i>Marstonia agarhecta</i>	Ocmulgee Marstonia	G1	S1			Submerged logs in clear water with slight current; occasionally individuals found in silt that contained large amounts of diatoms (Thompson, 1977)
MO	<i>Marstonia gaddisorum</i>	Emily's Marstonia	G1	S1			Springs/small stream in Oconee basin
MO	<i>Quadrula kleiniana</i>	Suwannee Pigtoe	G2G3	S2			Georgia habitat information not available
MO	<i>Somatogyryus rheophilus</i>	Flint Pebblesnail	G1	S1			Mainstem of medium to large rivers
RE	<i>Clemmys guttata</i>	Spotted Turtle	G5	S3		U	Heavily vegetated swamps, marshes, bogs, small ponds, tidally influenced freshwater wetlands; nest and possibly hibernate in surrounding uplands

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Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
RE	<i>Crotalus adamanteus</i>	Eastern Diamond-backed Rattlesnake	G4	S4			Early successional habitats on barrier islands and mainland; pine flatwoods; sandhills; maritime forests/hammocks; ruderal habitats
RE	<i>Drymarchon couperi</i>	Eastern Indigo Snake	G3	S2	LT	T	Sandhills; pine flatwoods; dry hammocks; summer habitat includes wetlands
RE	<i>Eumeces anthracinus</i>	Coal Skink	G5	S2			Mesic forests; often near streams, springs or bogs
RE	<i>Gopherus polyphemus</i>	Gopher Tortoise	G3	S3	C	T	Sandhills; dry hammocks; longleaf pine-turkey oak woods; old fields
RE	<i>Graptemys barbouri</i>	Barbour's Map Turtle	G2	S3		T	Rivers & large creeks of Apalachicola River drainage; possible in Ochlockonee
RE	<i>Heterodon simus</i>	Southern Hognose Snake	G2	S1S2		T	Sandhills; fallow fields; longleaf pine-turkey oak
RE	<i>Macrochelys temminckii</i>	Alligator Snapping Turtle	G3G4	S3		T	Streams and rivers; impoundments; river swamps
RE	<i>Ophisaurus compressus</i>	Island Glass Lizard	G3G4	S2			Pine savannas, pine flatwoods, secondary dunes/interdunal swales on islands
RE	<i>Ophisaurus mimicus</i>	Mimic Glass Lizard	G3	S1		R	Pine flatwoods; savannas; seepage bogs
RE	<i>Pituophis melanoleucus mugitus</i>	Florida Pine Snake	G4T3	S3			Sandhills; scrub; pine savanna; old fields
TA	<i>Acronicta albarufa</i>	Albarufan dagger moth	G3G4	S2			Ochoopee dunes
TA	<i>Alloblackburneus troglodytes</i>	Little gopher tortoise scarab beetle	GNR	SU			Gopher tortoise burrows
TA	<i>Amblyomma tuberculatum</i>	Gopher tortoise tick	G2G3	S2			Sandhills, longleaf pine woodlands, other sandy open habitats
TA	<i>Amblyscirtes alternata</i>	Dusky roadside-skipper	G2G3	S3			Sunny patches in pine forests
TA	<i>Aphodius aegrotus</i>	A dung beetle	G3G4	S3			Pocket gopher mounds
TA	<i>Aphodius alabama</i>	A dung beetle	G2	S2			Pocket gopher mounds
TA	<i>Aphodius baileyi</i>	A dung beetle	G2G3	S2S3			Pocket gopher mounds
TA	<i>Aphodius bakeri</i>	A dung beetle	G2G3	S2S3			Pocket gopher mounds
TA	<i>Aphodius dyspistus</i>	A dung beetle	G3G4	S3			Pocket gopher mounds
TA	<i>Aphodius gambrinus</i>	Amber pocket gopher Aphodius beetle	G2	S2			Pocket gopher mounds
TA	<i>Aphodius hubbelli</i>	A dung beetle	GNR	S3			Pocket gopher mounds
TA	<i>Aphodius laevigatus</i>	Large pocket gopher Aphodius beetle	G3G4	S3			Pocket gopher mounds
TA	<i>Aphodius phoetus</i>	Rare pocket gopher Aphodius beetle	G1G2	S1			Pocket gopher mounds
TA	<i>Aphodius platypleurus</i>	Broad-sided pocket gopher Aphodius beetle	G2G3	S2			Pocket gopher mounds
TA	<i>Aphodius tanytarsus</i>	Long-clawed pocket gopher Aphodius beetle	G2G3	S2			Pocket gopher mounds
TA	<i>Aptenopedes apalachee</i>	Apalachee linear-winged grasshopper	GU	S2			Longleaf pine savannas
TA	<i>Atrytone arogos arogos</i>	Eastern Arogos Skipper	G3T1T2	SH			Sandhills/longleaf: opsided indiagrass or big bluestem
TA	<i>Bombus affinis</i>	Rusty-patched bumblebee	G1	SH			
TA	<i>Callophrys hesselli</i>	Hessell's hairstreak	G3G4	S2			Atlantic white cedar
TA	<i>Callophrys irus</i>	Frosted elfin	G3	SH			Lupinus perennis, sandhills
TA	<i>Catocala grisatra</i>	Grisatra underwing moth	G1G3	SU			Sandhills with hawthorns
TA	<i>Caupolicana electa</i>	Plasterer bee	GNR	S1S2			Sandhills
TA	<i>Chelyoxenus xerobatis</i>	Gopher tortoise hister beetle	G2G3s2	S2			Gopher tortoise burrows
TA	<i>Chlosyne gorgone gorgone</i>	Gorgone checkerspot	G5T2T3Q	S2			Sandhills
TA	<i>Cicindela nigrior</i>	Autumn tiger beetle	G2G3	S2			Sandhills
TA	<i>Crossidius grahmi</i>	Ochoopee dunes Crossidius beetle	GNR	S2			Sandhills with <i>Chrysoma pauciflosculosa</i>

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Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
TA	<i>Cyclocosmia torreya</i>	Torreya trap-door spider	GNR	SU			Hardwood ravines
TA	<i>Danaus plexippus</i>	Monarch butterfly	G4	S4			Milkweeds
TA	<i>Dorymyrmex bossutus</i>	Sandhills cone ant	G?	S2			Sandhills
TA	<i>Eotettix palustris</i>	Longleaf spur-throated grasshopper	GU	S3			Longleaf pine savannas
TA	<i>Erynnis martialis</i>	Mottled duskywing	G3	S2			New Jersey tea, longleaf-wiregrass, mountain hardwoods
TA	<i>Euphoria aesusutosa</i>	Pocket gopher flower beetle	G2	S2			Pocket gopher mounds
TA	<i>Fernaldella georgiana</i>	Ohoopree Geometer	G1G3	S2S3			Woody goldenrod, sandy dune systems
TA	<i>Floritettix borealis</i>	A grasshopper	G5TU	S2			Longleaf pine savannas
TA	<i>Geopsammodius ohoopree</i>	Ohoopree dunes scarab beetle	GNR	S2			Sandhills
TA	<i>Hesperia attalus slossonae</i>	Dotted skipper	G3G4T3	S1			Sandhills, buckwheat
TA	<i>Hesperia meskei</i>	Meske's skipper	G3G4	S2S3			Sandhills
TA	<i>Hesperotettix floridensis</i>	A grasshopper	GU	S2			Longleaf pine savannas
TA	<i>Hypothyce osburni</i>	Osburn's hypothyce	GNR	S1			Sandhills
TA	<i>Idia gopheri</i>	Gopher tortoise burrow noctuid moth	G2G3	S1S2			Sandhills, open longleaf pine uplands; gopher tortoise commensal occurring at some subset of tortoise sites
TA	<i>Machimus polyphemi</i>	Gopher tortoise robber fly	G2	S1?			Gopher tortoise burrows
TA	<i>Melanoplus acidocercus</i>	A spur-throat grasshopper	GU	S3			Sandhills
TA	<i>Melanoplus clypeatus</i>	Shield-tailed spur-throat Grasshopper	GU	S3			Mesic longleaf
TA	<i>Melanoplus nossi</i>	Noss' spur-throat grasshopper	G3 (rec)	S2/S3			Hardwoods
TA	<i>Melanoplus sp nov 1</i>	A spur-throat grasshopper	G2 (rec)	S2			Fall Line Sandhills; GA endemic
TA	<i>Melanoplus sp nov 2</i>	A spur-throat grasshopper	G1 (rec)	S1			Fall Line Sandhills; GA endemic
TA	<i>Melanoplus stegocercus</i>	A spur-throat grasshopper	G1G3	S2			Georgia endemic; Ohoopree Dunes sandhills
TA	<i>Melanoplus tumidicercus</i>	A spur-throat grasshopper	GU	S2			Pine woods
TA	<i>Mycotrupes cartwrighti</i>	Cartwright's burrowing beetle	G3	S2			Longleaf pine savannas
TA	<i>Mycotrupes lethroides</i>	Large Mycotrupes	GU	S1S2			Sandhills
TA	<i>Onthophagus polyphemi polyphemi</i>	Onthophagus tortoise commensal scarab beetle	G2G3	S2			In association with <i>Gopherus polyphemus</i> burrows
TA	<i>Pheidole davisii</i>	Pine barrens Pheidole	GNR	S3			Sandhills
TA	<i>Polites baracoa</i>	Baracoa skipper	G4	SH			Sandhill habitats, grassy areas
TA	<i>Polyphylla donaldsoni</i>	Donaldson's lined june beetle	GNR	S2			Sandhills
TA	<i>Satyrium edwardsii</i>	Edwards hairstreak	G4	S3			Blackjack oak
TA	<i>Sphodros abbotii</i>	Purse-web spider	G4G5	S2			Hardwoods
TA	<i>Zale perculata</i>	Okefenokee zale moth	G2	S2			Cypress swamps

**Table 11. Southeastern Plains High Priority Plants (117 Records)**

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
<i>Agalinis georgiana</i>	Georgia Purple Foxglove	G1Q	S1			Mesic to submesic wiregrass pinelands
<i>Arnoglossum sulcatum</i>	Grooved-Stem Indian-Plantain	G3	S1			Bottomland forests
<i>Asclepias rubra</i>	Red Milkweed	G4G5	S1			Bogs, wet savannas
<i>Asplenium heteroresiliens</i>	Morzeni's Spleenwort	G2	S1		T	Limestone and marl outcrops; tabby ruins
<i>Astragalus michauxii</i>	Sandhill Milkvetch	G3	S2		T	Longleaf pine-wiregrass savannas; turkey oak scrub
<i>Balduina atropurpurea</i>	Purple Honeycomb Head	G2	S2S3		R	Wet savannas, pitcherplant bogs
<i>Baptisia megacarpa</i>	Bigpod Wild Indigo	G2	S1			Floodplain forests
<i>Brickellia cordifolia</i>	Heartleaf Brickellia	G2G3	S2		T	Mesic hardwood forests
<i>Calystegia catesbiana</i> ssp. <i>Sericata</i>	Catesby's Bindweed	G3T2?Q	S1?			Longleaf pine- wiregrass savannas
<i>Carex baltzellii</i>	Baltzell's Sedge	G3	S1		E	Beech-magnolia slope forests
<i>Carex decomposita</i>	Cypress-Knee Sedge	G3G4	S2?			Swamps and lake margins on floating logs
<i>Carex exilis</i>	Meager Sedge	G5	S1			Atlantic white-cedar swamps
<i>Carex thornei</i>	Thorne's Sedge	G2G3	S2?			Floodplain low terraces, sw. GA.
<i>Ceratiola ericoides</i>	Rosemary	G4	S2		T	Ochoopee Dunes; deep sandridges
<i>Chamaecrista deeringiana</i>	Florida Senna	G2G4Q	S1?			Sandhill scrub; longleaf pine-wiregrass savannas
<i>Chamaecyparis thyoides</i>	Atlantic White-Cedar	G4	S2		R	Clearwater stream swamps in fall line sandhills
<i>Coreopsis integrifolia</i>	Ciliate-Leaf Tickseed	G1G2	S1S2		T	Floodplain forests, streambanks
<i>Crataegus aprica</i>	Sunny Hawthorn	GNR	S1			Open, sandy, rocky dry sites in lower elevation mountains and perhaps Piedmont.
<i>Crataegus mendosa</i>	Albertville Hawthorn	G2G3Q	S1			Rocky woods, glades
<i>Crataegus triflora</i>	Three-Flower Hawthorn	G2G3	S1		T	Hardwood forests on rocky, limestone slopes
<i>Croomia pauciflora</i>	Croomia	G3	S2		T	Mesic hardwood forests, usually with <i>Fagus</i> and <i>Tilia</i>
<i>Croton elliotii</i>	Pondshore Croton	G2G3	S2S3			Pond margins and wet savannas
<i>Cuscuta harperi</i>	Harper's Dodder	G2G3	S1		E	Altamaha Grit outcrops; granite outcrops; often with <i>Liatris microcephala</i> as host
<i>Cypripedium kentuckiense</i>	Kentucky Ladyslipper	G3	S1		E	Forested, springhead seeps in sandy soils
<i>Desmodium ochroleucum</i>	Cream-Flowered Tick-Trefoil	G1G2	S1		T	Open, calcareous woodlands, including lower slope of Pigeon Mountain
<i>Elliottia racemosa</i>	Georgia Plume	G2G3	S2S3		T	Scrub forests; Altamaha Grit outcrops; open forests over ultramafic rock
<i>Eriophorum virginicum</i>	Tawny Cottongrass	G5	S1			Mountain bogs; peaty wet meadows in alluvial flats in Fall Line sandhills; also in Okefenokee Swamp
<i>Eustachys floridana</i>	Florida Finger Grass	G2?	S1?			Sandhills and flatwoods
<i>Fimbristylis perpusilla</i>	Harper's Fimbry	G2	S1		E	Exposed muddy margins of pineland ponds
<i>Fothergilla gardenii</i>	Dwarf Witch-Alder	G3G4	S2		T	Openings in low woods; swamps
<i>Glandularia bipinnatifida</i> var. <i>bipinnatifida</i>	Dakota Vervain	G5T5	S1			Georgia habitat information not available
<i>Habenaria quinqueseta</i>	Michaux's Orchid	G4G5	S1?		T	Rich, moist hardwood hammocks, pine flatwoods, roadside ditches
<i>Hamamelis ovalis</i>	Bigleaf Witch-Hazel	GNR	S1			Ecotone between bay swamp and Slash Pine woodland
<i>Helenium brevifolium</i>	Bog Sneezeweed	G4	S1			Seepage bogs, sometimes with <i>Sarracenia rubra</i> near the Fall Line
<i>Hypericum adpressum</i>	Bog St. Johnswort	G3	S1			Swamps

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Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
<i>Hypericum erythraeae</i>	Georgia St.-John's-Wort	G2	S2			Seepage bogs; roadside ditches
<i>Illicium floridanum</i>	Florida Anise-Tree	G5	S1		E	Steepheads, floodplain forests
<i>Isoetes boomii</i>	Boom's Quillwort	G1	S1S2			Shallow water (one foot deep) of slow moving streams
<i>Isoetes flaccida</i>	Florida Quillwort	G3	S2?			Shaded pond margins, cypress swamps, open miry places; margins of sluggish pineland streams often with cypress
<i>Isoetes hyemalis</i>	Winter Quillwort	G2G3	S1?			Sandy blackwater creek banks; deciduous swamps
<i>Isoetes junciformis</i>	Rush Quillwort	G1?Q	S1?			Low, seasonally flooded swales
<i>Justicia angusta</i>	Narrowleaf Water-Willow	G3Q	S1			Roadside ditches; perhaps with <i>Hartwrightia</i> in shallow sloughs and wet savannas
<i>Kalmia carolina</i>	Carolina Bog Myrtle	G4	S1		T	Open swamps and wet meadows; mountain bogs and Atlantic white-cedar swamps
<i>Lachnocaulon beyrichianum</i>	Southern Bog-Button	G4	S1?			Flatwoods
<i>Leitneria floridana</i>	Corkwood	G3	S1		T	Swamps; sawgrass-cabbage palmetto marshes
<i>Liatris tenuifolia</i> var. <i>quadriflora</i>	Florida Narrowleaf Blazing Star	G4G5T4T5	S1?			Open oak or pine woods
<i>Lilium pyrophilum</i>	Pineland Lily	G2	S1			Altamaha grit, open low woods
<i>Lindera melissifolia</i>	Pondberry	G2G3	S2	LE	E	Pond margins and wet savannas
<i>Lindera subcoriacea</i>	Bog Spicebush	G2G3	S1?			Bayheads; seepy forested slopes
<i>Litsea aestivalis</i>	Pondspice	G3?	S2		R	Cypress ponds; swamp margins
<i>Lythrum curtissii</i>	Curtiss' Loosestrife	G1	S1		T	Openings in calcareous swamps
<i>Macbridea caroliniana</i>	Carolina Bogmint	G2G3	S1		R	Bogs; marshes; alluvial woods
<i>Macranthera flammea</i>	Bog Flameflower	G3	S1?		T	Wet, sandy thickets; pitcherplant bogs
<i>Malaxis spicata</i>	Florida Adders-Mouth Orchid	G4?	S1			Low hammocks; spring-fed river swamps
<i>Matelea alabamensis</i>	Alabama Milkvine	G2	S1		T	Open bluff forests; mesic margins of longleaf pine sandridges
<i>Matelea floridana</i>	Florida Milkvine	G2	S1			Open bluff forests
<i>Morella inodora</i>	Odorless Bayberry	G4	S1?		T	Bayheads, titi swamps; forests with pond pine
<i>Najas filifolia</i>	Narrowleaf Naiad	G1	S1		E	Lakes
<i>Nestronia umbellula</i>	Indian Olive	G4	S3		R	Mixed with dwarf shrubby heaths in oak-hickory-pine woods; often in transition areas between flatwoods and uplands
<i>Oxypolis canbyi</i>	Canby's Dropwort	G2	S2	LE	E	Cypress ponds and sloughs; wet savannas
<i>Oxypolis ternata</i>	Savanna Cowbane	G3	S2			Wet pine savannas and bogs
<i>Panax quinquefolius</i>	American Ginseng	G3G4	S3			Mesic hardwood forests; cove hardwood forests
<i>Pinguicula primuliflora</i>	Clearwater Butterwort	G3G4	S1		T	In shallow, sandy, clearwater streams and seeps; Atlantic whitecedar swamps
<i>Pityopsis oligantha</i>	Few-Flowered Golden-Aster	G2G4	S1S2			Flatwoods, bogs and seeps of Southwest Georgia
<i>Plagiochila floridana</i>	Florida Leafy Liverwort	G2?	SNR			Deep, partially evergreen swamp forests and rich hammock forests, where most often at tree bases and on exposed roots, sometimes on exposed knees of <i>Taxodium distichum</i>
<i>Plantago sparsiflora</i>	Pineland Plantain	G3	S2			Open, wet pine savannas; shallow ditches and seeps, especially in mowed rights-of-way
<i>Platanthera conspicua</i>	Large White Fringed Orchid	G4G5T3T4	S1			Bogs, seeps, roadsides, wet savannas

**Table 11. Southeastern Plains High Priority Plants (117 Records)**

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
<i>Platanthera integra</i>	Yellow Fringeless Orchid	G3G4	S1			Wet savannas, pitcherplant bogs
<i>Portulaca biloba</i>	Grit Portulaca	G1G2	S1			Altamaha Grit outcrops
<i>Pteroglossaspis ecristata</i>	Wild Coco	G2G3	S2		T	Grassy saw palmetto barrens; longleaf pine grasslands, sometimes with <i>Schwalbea americana</i>
<i>Ptilimnium nodosum</i>	Harperella	G2	S1	LE	E	Granite outcrop seeps; shallow seasonal ponds in limesink depressions
<i>Rhexia aristosa</i>	Awnead Meadowbeauty	G3G4	S2			Pond margins and wet savannas
<i>Rhexia salicifolia</i>	Willowleaf Meadowbeauty	G2	S1			Georgia habitat information not available
<i>Rhododendron eastmanii</i>	May Pink Azalea	G2	S1S2			Deciduous forest streamsides
<i>Rhododendron prunifolium</i>	Plumleaf Azalea	G3	S3		T	Mesic hardwood forests in ravines and on sandy, seepy streambanks
<i>Rhynchospora brevisetata</i>	Short-Bristle Beakrush	G3G4	SU			Bogs; flatwoods
<i>Rhynchospora crinipes</i>	Bearded Beakrush	G2	S1			Streambanks and shallow streambeds
<i>Rhynchospora culixa</i>	Georgia Beakrush	G1Q	S1			Pine savannas; flatwoods
<i>Rhynchospora decurrens</i>	Decurrent Beakrush	G3G4	S2?			Swamps
<i>Rhynchospora pleiantha</i>	Clonal Thread-Leaved Beakrush	G2G3	SH			Margins of limesink depression ponds (dolines)
<i>Rhynchospora punctata</i>	Spotted Beakrush	G1?	S1?			Wet savannas, pitcherplant bogs
<i>Rhynchospora solitaria</i>	Solitary Beakrush	G1	S1		E	Wet, sandy, peaty depressions
<i>Rhynchospora thornei</i>	Thorne's Beakrush	G3	S2			Margins of limesink ponds; moist limestone barrens, wet prairies
<i>Sageretia minutiflora</i>	Climbing Buckthorn	G4	S2		T	Calcareous bluff forests; maritime forests over shell mounds
<i>Salix floridana</i>	Florida Willow	G2	S1		E	Spring runs; seepy, sphagnous wetlands with <i>Eleocharis tortilis</i> , <i>Itea</i> , <i>Alnus</i> , <i>Orontium</i> , <i>Arnoglossum sulcatum</i>
<i>Sarracenia leucophylla</i>	Whitetop Pitcherplant	G3	S1		E	Wet savannas, pitcherplant bogs
<i>Sarracenia psittacina</i>	Parrot Pitcherplant	G4	S2S3		T	Wet savannas, pitcherplant bogs
<i>Sarracenia purpurea</i> var. <i>venosa</i>	Lowland Purple Pitcherplant	GNR	S1		E	Pitcherplant bogs of S. Atlantic Coastal Plain and rarely Piedmont
<i>Sarracenia rubra</i> aff. <i>gulfensis</i>	Sweet Pitcherplant	GNR	S1		T	Atlantic white-cedar swamps
<i>Schisandra glabra</i>	Bay Starvine	G3	S2		T	Rich woods on stream terraces and lower slopes
<i>Schoenoplectus erectus</i> ssp. <i>raynalianii</i>	Raynal's Bulrush	G4G5T4T5	S1			Margins of seasonal ponds
<i>Schoenoplectus etuberculatus</i>	Clearwater Bulrush	G3G4	S2			Marshes; shallow ponds; peaty swamps, as Okefenokee Swamp and Atlantic whitecedar swamps
<i>Schwalbea americana</i>	Chaffseed	G2G3	S1	LE	E	Open pinelands, as in well-managed, somewhat moist longleaf pine-wiregrass forests seeps
<i>Scutellaria altamaha</i>	Altamaha Skullcap	G2G3	S2?			Sandy, deciduous woods
<i>Scutellaria mellichampii</i>	Mellichamp's Skullcap	GNR	S2?			Sandy deciduous woods
<i>Sideroxylon macrocarpum</i>	Ohoopee Bumelia	G3Q	S3		R	Dry longleaf pine woods with oak understory; often hidden in wiregrass
<i>Silene ovata</i>	Mountain Catchfly	G3	S1S2		R	Mesic deciduous or beech-magnolia forests over limestone; bouldery, high elevation oak forests
<i>Silene polypetala</i>	Fringed Campion	G2	S2	LE	E	Mesic deciduous forests
<i>Sium floridanum</i>	Florida Water-Parsnip	G1Q	S1?			Calcareous swamps; floodplains
<i>Spiranthes longilabris</i>	Giant Spiral Ladies-Tresses	G3	S1			Pine flatwoods, wet savannas, low hammocks with saw palmetto
<i>Sporobolus teretifolius</i>	Wire-Leaf Dropseed	G2	S2?			Longleaf pine-wiregrass savannas, pitcherplant bogs
<i>Stachys hyssopifolia</i> var. <i>lythroides</i>	Tallahassee Hedge-Nettle	G5T1Q	S1			Moist longleaf pine savannas; roadside ditches

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Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
<i>Stewartia malacodendron</i>	Silky Camellia	G4	S2		R	Along streams on lower slopes of beech-magnolia or beech-basswood-Florida maple forests
<i>Stokesia laevis</i>	Stokes Aster	G4	S1			Pitcherplant bogs
<i>Symphotrichum georgianum</i>	Georgia Aster	G3	S2	C	T	Upland oak-hickory-pine forests and openings; sometimes with <i>Echinacea laevigata</i> or over amphibolite
<i>Tephrosia mohrii</i>	Dwarf Goat's-Rue	G3	S1?			Scrub; longleaf pine-wiregrass savannas
<i>Thalictrum cooleyi</i>	Cooley's Meadowrue	G2	S1	LE	E	Pond margins and wet savannas
<i>Torreya taxifolia</i>	Florida Torreya	G1	S1	LE	E	Rich ravines in extreme Southwest Georgia
<i>Tridens carolinianus</i>	Carolina Redtop	G3G4	S2?			Dry, open mixed oak-pine forests of the Fall Line Sandhills
<i>Trillium decipiens</i>	Mimic Trillium	G3	S3?			Mesic hardwood forests; limesink forests
<i>Trillium reliquum</i>	Relict Trillium	G3	S3	LE	E	Mesic hardwood forests; limesink forests; usually with <i>Fagus</i> and <i>Tilia</i>
<i>Trillium</i> sp. nov. (unpublished)	Southern Decumbent Trillium	GNR	S1			Mesic hardwoods
<i>Veratrum woodii</i>	Ozark Bunchflower	G5	S2		R	Mesic hardwood forests over basic soils
<i>Verbesina walteri</i>	Carolina Crownbeard	G4	S1?			Moist slopes of hardwood bluffs and edges of colluvial swamps with calcareous substrate; along Savannah River
<i>Waldsteinia lobata</i>	Piedmont Barren Strawberry	G2G3	S2		R	Stream terraces and adjacent gneiss outcrops
<i>Xyris drummondii</i>	Drummond's Yellow-Eyed Grass	G3	S1			Pine flatwoods
<i>Xyris scabrifolia</i>	Harper's Yellow-Eyed Grass	G3	S1			Sedge bogs; pitcherplant bogs; pine flatwoods

## **Southern Coastal Plain Ecoregion**

### High Priority Species and Habitats

The technical teams identified 120 high priority animal species in the Southern Coastal Plain. These included 35 birds, 14 reptiles, 11 mammals, 7 amphibians, 15 mollusks, 12 fish, 4 aquatic arthropods, and 22 terrestrial arthropods. 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, 68 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. Canebrakes*

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 Oak Flats*

These forested habitats occur on fluvial terraces and interstream divides in the Southern Coastal Plain. The soils of this vegetation are saturated by rainfall and seasonally high water tables with little influence from river or tidal flooding. Wet oak flats contain a unique mix of upland and wetland species, including live oak, willow oak, southern magnolia, bottomland post oak, red maple, cherrybark oak, swamp chestnut oak, diamondleaf oak, and loblolly pine. Calcareous examples can be quite diverse in the herbaceous layer.

*26. 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.

**Table 12. Southern Coastal Plain High Priority Animals (120 Records)**

Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
AA	<i>Callinectes sapidus</i>	Blue Crab	GNR	S4			estuarine habitats: marshes, tidal creeks, estuaries, and coastal rivers
AA	<i>Cambarus truncatus</i>	Oconee Burrowing Crayfish	G2	S2		T	Complex burrows in sandy clay soil
AA	<i>Cordulegaster sayi</i>	Say's Spiketail	G2	S2		T	Trickling hillside seepages in deciduous forest with scrub-oak sandhills nearby
AA	<i>Procambarus petersi</i>	Ogeechee Crayfish	G3	S2			burrows in lotic waters without appreciable silt deposits
AM	<i>Ambystoma cingulatum</i>	Frosted Flatwoods Salamander	G2	S1	LT	T	Pine flatwoods; moist savannas; isolated cypress/gum ponds
AM	<i>Ambystoma tigrinum tigrinum</i>	Eastern Tiger Salamander	G5	S3S4			isolated wetlands for breeding; variety of open, upland habitats; CP - sandhills, oldfields, dry pine savanna
AM	<i>Desmognathus auriculatus</i>	Southern Dusky Salamander	G5	S2			Mucky areas usually in or near moving water
AM	<i>Lithobates capito</i>	Gopher Frog	G3	S2S3		R	Sandhills; dry pine flatwoods; breed in isolated wetlands
AM	<i>Necturus punctatus</i>	Dwarf Waterdog	G5	S2S3			Sluggish streams with substrate of leaf litter or woody debris
AM	<i>Notophthalmus perstriatus</i>	Striped Newt	G2G3	S2	C	T	Pine flatwoods, sandhills; isolated wetlands
AM	<i>Plethodon savannah</i>	Savannah Slimy Salamander	G2G3	S2?			Hardwood forest, mixed forest
BI	<i>Ammodramus caudacutus</i>	Saltmarsh Sparrow	G4	S3			Tidal brackish and salt marsh (low marsh)
BI	<i>Ammodramus henslowii</i>	Henslow's Sparrow	G4	S2		R	Grassy areas, especially wet grasslands, pitcher plant bogs, pine flatwoods, power-line corridors in CP. Require open veg at ground level with grass canopy above
BI	<i>Ammodramus maritimus macgillivraii</i>	Seaside Sparrow (Macgillivray's)	G4T2	S3			Tidal low marsh on or adjacent to creek levees
BI	<i>Ammodramus nelsoni</i>	Nelson's Sparrow	G5	S3			Tidal brackish and salt marsh (low marsh)
BI	<i>Calidris canutus</i>	Red Knot	G4	S3	C	R	Beaches and exposed mudflats
BI	<i>Charadrius melodus</i>	Piping Plover	G3	S2	LT	T	Sandy beaches; tidal flats, inlets
BI	<i>Charadrius wilsonia</i>	Wilson's Plover	G5	S2		T	Sandy beaches; tidal flats
BI	<i>Colinus virginianus</i>	Northern Bobwhite	G5	S5			Early successional habitat, open pine savanna (frequent fire maintained in small burn unit size), fallow habitats associated with crop lands, extensive forest regen areas (area sensitive - minimal fall pop of 700 birds for viability on 3000+acres)
BI	<i>Coturnicops noveboracensis</i>	Yellow Rail	G4	SU			
BI	<i>Egretta caerulea</i>	Little Blue Heron	G5	S4			Nest in single species and mixed species colonies in various inland forested fresh-water wetlands, including impounded wetlands, cypress swamps, and similar habitats
BI	<i>Egretta tricolor</i>	Tricolored Heron	G5	S4			Nests in colonies (often with other wading bird species) in wetlands and on isolated islands. Feeds in shallow wetlands, creeks and rivers. The most coastal of all our waders.
BI	<i>Elanoides forficatus</i>	Swallow-tailed Kite	G5	S2		R	River swamps; marshes, forages over pastures and ag fields - post breeding. Forage in well burned open pine woodlands where exist. Open pine and bottomland forest with super canopy pines preferred nest sites. Will nest in non-emergent hardwoods and thinned pine plantations as well - typically several years before final harvest.
BI	<i>Euphagus carolinus</i>	Rusty Blackbird	G4	S3			Bottomland forest, pecan orchards, agricultural fields
BI	<i>Falco peregrinus</i>	Peregrine Falcon	G4	S1		R	Rocky cliffs & ledges; seacoasts - migration; skyscrapers
BI	<i>Falco sparverius paulus</i>	Southeastern American Kestrel	G5T4	S2		R	Open pine grasslands with snags in Coastal Plain, also hayfields and pasture lands
BI	<i>Gelochelidon nilotica</i>	Gull-billed Tern	G5	S1		T	Salt marshes; fields; sandy beaches, interdune, dredge islands
BI	<i>Grus canadensis pratensis</i>	Florida Sandhill Crane	G5T2T3	S1			Freshwater marshes; bays; fields. Only known from Okefenokee NWR (recent surveys outside swamp detected no birds)

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

**Table 12. Southern Coastal Plain High Priority Animals (120 Records)**

Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
BI	<i>Haematopus palliatus</i>	American Oystercatcher	G5	S2		R	Sandy beaches; tidal flats; salt marshes, shell rakes, sand bars
BI	<i>Haliaeetus leucocephalus</i>	Bald Eagle	G5	S3		T	Edges of lakes & large rivers; seacoasts
BI	<i>Himantopus mexicanus</i>	Black-necked Stilt	G5	S2			Shallow ponds; lagoons, beach, managed impoundments, dredge spoil island/impoundments
BI	<i>Ixobrychus exilis</i>	Least Bittern	G5	S3			Fresh and brackish water wetlands with emergent herbaceous cover including impoundments, natural freshwater marshes, and tidally influenced marshes
BI	<i>Lanius ludovicianus</i>	Loggerhead Shrike	G4T3Q	S3			Open woods; field edges, pastures, ball fields, industrial park, primary dunes, hammocks
BI	<i>Laterallus jamaicensis</i>	Black Rail	G3G4	S1			Very shallowly flooded freshwater marshes, brackish marshes, and saltmarshes. Some high marsh areas of the saltmarsh may have breeding pairs
BI	<i>Limnothlypis swainsonii</i>	Swainson's Warbler	G4	S3			Dense undergrowth or canebrakes in swamps and river floodplains, small mountain pop in rhododendron and mountain laurel thickets
BI	<i>Mycteria americana</i>	Wood Stork	G4	S3	LT	E	Breeding Cypress/gum ponds; impounded wetlands with islands or emergent cypress, river swamps; Foraging - marshes (fresh and intertidal); river swamps; bays; farm ponds,
BI	<i>Numenius phaeopus</i>	Whimbrel	G5	S3			Saltmarsh habitat and outer bars
BI	<i>Passerina ciris</i>	Painted Bunting	G5	S2S3			Most in Lower Coastal Plain in thickets, woodland borders, marsh edges, and brushy areas. Smaller numbers in Upper Coastal Plain, particularly the eastern half, agricultural habitat
BI	<i>Peucaea aestivalis</i>	Bachman's Sparrow	G3	S2		R	Open pine or oak woods; old fields; brushy areas, young large grassy pine regeneration areas
BI	<i>Picoides borealis</i>	Red-cockaded Woodpecker	G3	S2	LE	E	Open pine woods; pine savannas
BI	<i>Protonotaria citrea</i>	Prothonotary Warbler	G5	S4			Bottomland forest, swamps, and similar forested wetlands. Nests in tree cavities.
BI	<i>Rallus elegans</i>	King Rail	G4	S3			Freshwater to brackish emergent herbaceous wetlands of grasses, sedges, cattails, wild rice; herbaceous portions of forested wetlands.
BI	<i>Rynchops niger</i>	Black Skimmer	G5	S1		R	Foraging tidal creeks and Tidal ponds; Nesting sandy beaches, spits and dredge islands
BI	<i>Setophaga kirtlandii</i>	Kirtland's Warbler	G3G4	SNRN	LE	E	Transient; varying habitats during late spring and fall
BI	<i>Sternula antillarum</i>	Least Tern	G4	S2		R	Sandy beaches; sandbars, dredge islands
BI	<i>Tyto alba</i>	Barn Owl	G5	SU			Nests in large hollow trees or old buildings (particularly cement silos) in areas with extensive pasture or grassland or other open habitats such as marsh
FI	<i>Acipenser brevirostrum</i>	Shortnose Sturgeon	G3	S2	LE	E	Estuaries; lower end of large rivers in deep pools with soft substrates
FI	<i>Acipenser oxyrinchus oxyrinchus</i>	Atlantic Sturgeon	G3T3	S3	LE	E	Estuaries; lower end of large rivers in deep pools with soft substrates; spawn as far inland as Macon, GA on the Ocmulgee
FI	<i>Alosa sapidissima</i>	American Shad	G5	S5			large rivers between coast and fall zone are used for spawning and early life history stages
FI	<i>Carpionodes velifer</i>	Highfin Carpsucker	G4G5	S2S3			swift sandy areas associated with sandbars, yoy found in backwaters and on margins of sandbars
FI	<i>Chologaster cornuta</i>	Swampfish	G5	S2S3			near vegetation and debris in swamps, ponds, ditches, and slow moving streams, pools backwaters
FI	<i>Cynoscion nebulosus</i>	Spotted Seatrout	G5	S5			estuarine habitats: oyster bed, salt marshes, tidal creeks
FI	<i>Elassoma okatie</i>	Bluebarred Pygmy Sunfish	G2G3	S1		E	Temporary ponds and stream backwaters with dense aquatic vegetation
FI	<i>Enneacanthus chaetodon</i>	Blackbanded Sunfish	G3G4	S1		E	Blackwater streams; bays; cypress/gum ponds

**Table 12. Southern Coastal Plain High Priority Animals (120 Records)**

Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
FI	<i>Lucania goodei</i>	Bluefin Killifish	G5	S1		R	Heavily vegetated ponds and streams with little or no current; frequently associated with springs
FI	<i>Micropterus cataractae</i>	Shoal Bass	G3	S2			large river, shoal and fluvial specialist
FI	<i>Moxostoma robustum</i>	Robust Redhorse	G1	S1		E	Med to large rivers, shallow riffles to deep flowing water; moderately swift current
FI	<i>Sphyrna lewini</i>	Scalloped Hammerhead	GNR	S2S3			estuarine and marine: subadults are in estuaries, adults in ocean
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
MA	<i>Eubalaena glacialis</i>	Northern Atlantic Right Whale	G1	S1	LE	E	Inshore and offshore ocean waters
MA	<i>Geomys pinetis</i>	Southeastern Pocket Gopher	G5	S3S4		T	sandy well-drained soils in open pine woodlands with grassy or herbaceous groundcover, fields, grassy roadsides
MA	<i>Lasiurus intermedius</i>	Northern Yellow Bat	G4G5	S3			Wooded areas near open water or fields, hardwoods - live oaks preferred, large trees
MA	<i>Megaptera novaeangliae</i>	Humpback Whale	G4	SNR	LE	E	Inshore and offshore ocean waters
MA	<i>Myotis austroriparius</i>	Southeastern Myotis	G3G4	S3			Caves & buildings near water; large hollow trees in bottomland hardwood swamps
MA	<i>Neofiber alleni</i>	Round-tailed Muskrat	G3	S3		T	Freshwater marshes; bogs
MA	<i>Perimyotis subflavus</i>	Tri-colored Bat	G3	S5			Open forests with large trees and woodland edges; roost in tree foliage; hibernate in caves or mines with high humidity.
MA	<i>Sciurus niger shermani</i>	Sherman's Fox Squirrel	G5T2	SNR?			Pine forests; pine savannas
MA	<i>Trichechus manatus</i>	Manatee	G2	S2	LE	E	Estuaries, tidal rivers, nearshore ocean waters
MA	<i>Tursiops truncatus</i>	Atlantic Bottle-nose Dolphin	G5	S4			Estuaries, tidal rivers, ocean waters
MO	<i>Alasmidonta arcuala</i>	Altamaha Arcmussel	G2	S3		T	Large rivers and reservoirs on gently sloping banks with soft and fine sediments. Often under overhanging willows.
MO	<i>Amblema neislerii</i>	Fat Threeridge	G1	S1	LE	E	Sm-Lg rivers with fine sediments with low-moderate gradient & slow-moderate current; pools and riffles; substrate gravel/cobble to sand and sandy mud
MO	<i>Crassostrea virginica</i>	American Oyster	G5	S4			estuarine habitats: intertidal
MO	<i>Elliptio fraterna</i>	Brother Spike	G1	S1			Large Rivers with sand substrates, little info available.
MO	<i>Elliptio nigella</i>	Winged Spike	G1	S2			Large rivers in swift and shallow shoals. Often times associated with large crevices and cavities in and around limestone boulders.
MO	<i>Elliptio purpurella</i>	Inflated Spike	G2	S2		T	Medium creeks to small rivers; clay, sand, and gravel substrate; moderate current
MO	<i>Elliptoideus sloatianus</i>	Purple Bankclimber	G2	S2	LT	T	Medium to large rivers in the ACF and Ochlockonee basins; all substrates except bedrock. Species was 20 times more likely to occur in cobble substrates (Wisniewski et al. 2013)
MO	<i>Hamiota subangulata</i>	Shinyrayed Pocketbook	G2	S2	LE	E	Medium sized creeks to large rivers in sand substrates in slow to swift flowing water.
MO	<i>Lampsilis cariosa</i>	Yellow Lampmussel	G3G4	S3			Large streams and rivers with good current, sand and gravel
MO	<i>Marstonia castor</i>	Beaverpond Marstonia	G1	S1			Found on aquatic macrophytes in clear flowing water of low gradient creeks
MO	<i>Medionidus penicillatus</i>	Gulf Moccasinshell	G2	S1	LE	E	Large rivers to small creeks; found in a variety of substrates
MO	<i>Medionidus simpsonianus</i>	Ochlockonee Moccasinshell	G1	SH	LE	E	Medium sized river to large creeks with moderate current; muddy sand, sand, and gravel substrates
MO	<i>Medionidus walkeri</i>	Suwannee Moccasinshell	GNR	SX			medium creeks and rivers in slow to moderate current; muddy sand, sand, and gravel.

**Table 12. Southern Coastal Plain High Priority Animals (120 Records)**

Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
MO	<i>Pleurobema pyriforme</i>	Oval Pigtoe	G2	S1	LE	E	Large rivers to small creeks with slow to moderate current in pool, run, and riffle habitats; combinations of clay, sand, and gravel substrate
MO	<i>Toxolasma pullus</i>	Savannah Lilliput	G2	S2		T	Large rivers to small creeks, oxbows, and sloughs; found in silty sand and sand in shallow water along banks to about 1 foot deep in some lakes, ponds, streams, and big rivers
RE	<i>Caretta caretta</i>	Loggerhead Sea Turtle	G3	S3	LT	E	Open ocean; sounds; coastal rivers; beaches
RE	<i>Chelonia mydas</i>	Green Sea Turtle	G3	S1	LE	T	Open ocean; sounds; coastal rivers; beaches
RE	<i>Clemmys guttata</i>	Spotted Turtle	G5	S3		U	Heavily vegetated swamps, marshes, bogs, small ponds, tidally influenced freshwater wetlands; nest and possibly hibernate in surrounding uplands
RE	<i>Crotalus adamanteus</i>	Eastern Diamond-backed Rattlesnake	G4	S4			Early successional habitats on barrier islands and mainland; pine flatwoods; sandhills; maritime forests/hammocks; ruderal habitats
RE	<i>Dermochelys coriacea</i>	Leatherback Sea Turtle	G2	S1	LE	E	Open ocean; sounds; coastal beaches
RE	<i>Drymarchon couperi</i>	Eastern Indigo Snake	G3	S2	LT	T	Sandhills; pine flatwoods; dry hammocks; summer habitat includes wetlands
RE	<i>Gopherus polyphemus</i>	Gopher Tortoise	G3	S3	C	T	Sandhills; dry hammocks; longleaf pine-turkey oak woods; old fields
RE	<i>Heterodon simus</i>	Southern Hognose Snake	G2	S1S2		T	Sandhills; fallow fields; longleaf pine-turkey oak
RE	<i>Lepidochelys kempii</i>	Kemp's or Atlantic Ridley	G1	S1	LE	E	Open ocean; sounds; coastal rivers; beaches
RE	<i>Macrochelys temminckii</i>	Alligator Snapping Turtle	G3G4	S3		T	Streams and rivers; impoundments; river swamps
RE	<i>Malaclemys terrapin</i>	Diamondback Terrapin	G4	S4		U	Entire coast, estuarine and marine edge; All saltmarsh, beaches
RE	<i>Ophisaurus compressus</i>	Island Glass Lizard	G3G4	S2			Pine savannas, pine flatwoods, secondary dunes/interdunal swales on islands
RE	<i>Ophisaurus mimicus</i>	Mimic Glass Lizard	G3	S1		R	Pine flatwoods; savannas; seepage bogs
RE	<i>Pituophis melanoleucus mugitus</i>	Florida Pine Snake	G4T3	S3			Sandhills; scrub; pine savanna; old fields
TA	<i>Alloblackburneus troglodytes</i>	Little gopher tortoise scarab beetle	GNR	SU			Gopher tortoise burrows
TA	<i>Amblyomma tuberculatum</i>	Gopher tortoise tick	G2G3	S2			Sandhills, longleaf pine woodlands, other sandy open habitats
TA	<i>Aphodius aegrotus</i>	A dung beetle	G3G4	S3			Pocket gopher mounds
TA	<i>Aphodius dyspistus</i>	A dung beetle	G3G4	S3			Pocket gopher mounds
TA	<i>Aphodius hubbelli</i>	A dung beetle	GNR	S3			Pocket gopher mounds
TA	<i>Aphodius laevigatus</i>	Large pocket gopher Aphodius beetle	G3G4	S3			Pocket gopher mounds
TA	<i>Bombus affinis</i>	Rusty-patched bumblebee	G1	SH			
TA	<i>Callophrys irus</i>	Frosted elfin	G3	SH			Lupinus perennis, sandhills
TA	<i>Caupolicana electa</i>	Plasterer bee	GNR	S1S2			Sandhills
TA	<i>Chelyoxenus xerobatis</i>	Gopher tortoise hister beetle	G2G3s2	S2			Gopher tortoise burrows
TA	<i>Danaus plexippus</i>	Monarch butterfly	G4	S4			Milkweeds
TA	<i>Euphyes berryi</i>	Berry's Skipper	G1G3	S2S3			Freshwater marshes, boggy areas, swamps, utility easements
TA	<i>Euphyes bimacula arbogastii</i>	Two-spotted Skipper	G4	S2S3			Freshwater marshes, sedges
TA	<i>Euphyes dukesi</i>	Duke's Skipper	G3	S2S3			Tidal shrub/swamp, brackish water
TA	<i>Euphyes pilatka</i>	Palatka Skipper	G3G4	S2S3			Sawgrass, brackish water
TA	<i>Machimus polyphemi</i>	Gopher tortoise robber fly	G2	S1?			Gopher tortoise burrows
TA	<i>Neonympha areolatus</i>	Georgia Satyr	G3G4	S3			Freshwater marsh, powerlines
TA	<i>Onthophagus polyphemi polyphemi</i>	Onthophagus tortoise commensal scarab beetle	G2G3	S2			In association with <i>Gopherus polyphemus</i> burrows

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

**Table 12. Southern Coastal Plain High Priority Animals (120 Records)**

Group	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
TA	<i>Poanes aaroni howardi</i>	Aaron's skipper	G4T4	S2S3			Freshwater marshes
TA	<i>Problema bulenta</i>	Rare Skipper	G2G3	S2S3			Brackish marshes
TA	<i>Satyrium kingi</i>	King's hairstreak	G3G4	S3			Wormsloe, sweetleaf
TA	<i>Sphodros abbotii</i>	Purse-web spider	G4G5	S2			Hardwoods

**Table 13. Southern Coastal Plain High Priority Plants (68 Records)**

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
<i>Amorpha georgiana</i>	Georgia Indigo-Bush	G3	S1		E	Longleaf pine flatwoods; stream terraces
<i>Amorpha herbacea</i> var. <i>floridana</i>	Florida Leadbush	G4TNRQ	S1			River terraces along the Alapaha River
<i>Arabis georgiana</i>	Georgia Rockcress	G1	S1	C	T	Rocky or sandy river bluffs and banks, in circumneutral soil
<i>Arnoglossum diversifolium</i>	Variable-Leaf Indian-Plantain	G2	S2		T	Calcareous swamps
<i>Arnoglossum sulcatum</i>	Grooved-Stem Indian-Plantain	G3	S1			Bottomland forests
<i>Asplenium heteroresiliens</i>	Morzeni's Spleenwort	G2	S1		T	Limestone and marl outcrops; tabby ruins
<i>Astragalus michauxii</i>	Sandhill Milkvetch	G3	S2		T	Longleaf pine-wiregrass savannas; turkey oak scrub
<i>Balduina atropurpurea</i>	Purple Honeycomb Head	G2	S2S3		R	Wet savannas, pitcherplant bogs
<i>Baptisia arachnifera</i>	Hairy Rattleweed	G1	S1	LE	E	Pine flatwoods
<i>Brickellia cordifolia</i>	Heartleaf Brickellia	G2G3	S2		T	Mesic hardwood forests
<i>Carex calcifugens</i>	Lime-Fleeing Sedge	G2G4	S2?			Rich bluff forests; evergreen maritime forests
<i>Carex decomposita</i>	Cypress-Knee Sedge	G3G4	S2?			Swamps and lake margins on floating logs
<i>Coreopsis integrifolia</i>	Ciliate-Leaf Tickseed	G1G2	S1S2		T	Floodplain forests, streambanks
<i>Coreopsis rosea</i>	Pink Tickseed	G3	S1			Banks of blackwater rivers; pond shores
<i>Crocantemum nashii</i>	Florida Scrub Sunrose	G3?	S1			Sand dunes
<i>Ctenium floridanum</i>	Florida Orange-Grass	G2	S1			Moist pine barrens
<i>Dicerandra radfordiana</i>	Radford's Dicerandra	G1Q	S1		E	Sandridges
<i>Ecchremidium floridanum</i>	Florida Pygmy Moss	G1?	SNR			Sandy (or clay) dry, open, disturbed sites, thin soil over exposed rocks around <i>Taxodium</i> swamp margins
<i>Elliottia racemosa</i>	Georgia Plume	G2G3	S2S3		T	Scrub forests; Altamaha Grit outcrops; open forests over ultramafic rock
<i>Eriochloa michauxii</i> var. <i>michauxii</i>	Michaux's Longleaf Cupgrass	G3G4T3T4	S2?			Coastal freshwater and brackish marshes; flatwoods
<i>Eriophorum virginicum</i>	Tawny Cottongrass	G5	S1			Mountain bogs; peaty wet meadows in alluvial flats in Fall Line sandhills; also in Okefenokee Swamp
<i>Evolvulus sericeus</i> var. <i>sericeus</i>	Creeping Morning-Glory	G5T3T5	S1			Altamaha Grit outcrops; open calcareous uplands
<i>Forestiera godfreyi</i>	Godfrey's Wild Privet	G2	S1		E	Mesic, maritime forests over shell mounds
<i>Forestiera segregata</i> var. <i>segregata</i>	Florida Wild Privet	G4T4?	S2			Georgia habitat information not available
<i>Fothergilla gardenii</i>	Dwarf Witch-Alder	G3G4	S2		T	Openings in low woods; swamps
<i>Habenaria quinqueseta</i>	Michaux's Orchid	G4G5	S1?		T	Rich, moist hardwood hammocks, pine flatwoods, roadside ditches
<i>Hartwrightia floridana</i>	Hartwrightia	G2	S1		T	Wet savannas; ditches, sloughs and flatwood seeps
<i>Hypericum erythraeae</i>	Georgia St.-John's-Wort	G2	S2			Seepage bogs; roadside ditches
<i>Justicia angusta</i>	Narrowleaf Water-Willow	G3Q	S1			Roadside ditches; perhaps with <i>Hartwrightia</i> in shallow sloughs and wet savannas
<i>Lachnocaulon beyrichianum</i>	Southern Bog-Button	G4	S1?			Flatwoods
<i>Leitneria floridana</i>	Corkwood	G3	S1		T	Swamps; sawgrass-cabbage palmetto marshes
<i>Lindera melissifolia</i>	Pondberry	G2G3	S2	LE	E	Pond margins and wet savannas
<i>Litsea aestivalis</i>	Pondspice	G3?	S2		R	Cypress ponds; swamp margins
<i>Lycium carolinianum</i>	Carolina Wolfberry	G4	S1			Coastal sand spits
<i>Malaxis spicata</i>	Florida Adders-Mouth Orchid	G4?	S1			Low hammocks; spring-fed river swamps

**Table 13. Southern Coastal Plain High Priority Plants (68 Records)**

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat in Georgia
<i>Matelea alabamensis</i>	Alabama Milkvine	G2	S1		T	Open bluff forests; mesic margins of longleaf pine sandridges
<i>Oxypolis ternata</i>	Savanna Cowbane	G3	S2			Wet pine savannas and bogs
<i>Plantago sparsiflora</i>	Pineland Plantain	G3	S2			Open, wet pine savannas; shallow ditches and seeps, especially in mowed rights-of-way
<i>Platanthera blephariglottis</i>	Small White Fringed Orchid	G4G5	S1?			Pine flatwoods, roadside ditches, seeps and wet savannas
<i>Platanthera chapmanii</i>	Chapman's Fringed Orchid	G2	S1			Open, wet meadows; pine flatwoods
<i>Platanthera conspicua</i>	Large White Fringed Orchid	G4G5T3T4	S1			Bogs, seeps, roadsides, wet savannas
<i>Platanthera integra</i>	Yellow Fringeless Orchid	G3G4	S1			Wet savannas, pitcherplant bogs
<i>Portulaca biloba</i>	Grit Portulaca	G1G2	S1			Altamaha Grit outcrops
<i>Pteroglossaspis ecristata</i>	Wild Coco	G2G3	S2		T	Grassy saw palmetto barrens; longleaf pine grasslands, sometimes with <i>Schwalbea americana</i>
<i>Ptilimnium ahlesii</i>	Coastal Bishopweed	G1	SH			Tidal freshwater marshes
<i>Quercus similis</i>	Swamp Post Oak	G4	S1			Bottomland swamps and other wet habitats
<i>Rhynchospora breviseta</i>	Short-Bristle Beakrush	G3G4	SU			Bogs; flatwoods
<i>Rhynchospora decurrens</i>	Decurrent Beakrush	G3G4	S2?			Swamps
<i>Rhynchospora fernaldii</i>	Fernald's Beakrush	G3G4	S2?			Sandy, peaty pond margins and depressions
<i>Rhynchospora macra</i>	Many-Bristled Beakrush	G3	S1?			Peaty, sandhill seepage slopes; streamhead pocosins
<i>Rhynchospora pleiantha</i>	Clonal Thread-Leaved Beakrush	G2G3	SH			Margins of limesink depression ponds (dolines)
<i>Rhynchospora punctata</i>	Spotted Beakrush	G1?	S1?			Wet savannas, pitcherplant bogs
<i>Ruellia noctiflora</i>	Night-Blooming Wild Petunia	G2	S1			Open, slash pine flatwoods
<i>Sageretia minutiflora</i>	Climbing Buckthorn	G4	S2		T	Calcareous bluff forests; maritime forests over shell mounds
<i>Sapindus saponaria</i> var. <i>marginatus</i>	Soapberry	G5TNR	SNR			Georgia habitat information not available
<i>Sarracenia psittacina</i>	Parrot Pitcherplant	G4	S2S3		T	Wet savannas, pitcherplant bogs
<i>Sarracenia rubra</i> ssp. <i>rubra</i>	Sweet Pitcherplant	G4T3T4	S2		E	Georgia habitat information not available
<i>Schoenolirion albiflorum</i>	White Sunnybell	G3	S1?			Wet savannas
<i>Scutellaria altamaha</i>	Altamaha Skullcap	G2G3	S2?			Sandy, deciduous woods
<i>Scutellaria mellichampii</i>	Mellichamp's Skullcap	GNR	S2?			Sandy deciduous woods
<i>Sideroxylon macrocarpum</i>	Ochoopee Bumelia	G3Q	S3		R	Dry longleaf pine woods with oak understory; often hidden in wiregrass
<i>Sideroxylon thornei</i>	Swamp Buckthorn	G2	S2		R	Forested limesink depressions; calcareous swamps
<i>Spiranthes floridana</i>	Florida Ladies-Tresses	G1	S1?			Wet savannas; mowed grassy openings in Okefenokee area
<i>Sporobolus pinetorum</i>	Pineland Dropseed	G3	S2?			Wet savannas with wiregrass
<i>Sporobolus teretifolius</i>	Wire-Leaf Dropseed	G2	S2?			Longleaf pine-wiregrass savannas, pitcherplant bogs
<i>Stewartia malacodendron</i>	Silky Camellia	G4	S2		R	Along streams on lower slopes of beech-magnolia or beech-basswood-Florida maple forests
<i>Xyris drummondii</i>	Drummond's Yellow-Eyed Grass	G3	S1			Pine flatwoods
<i>Xyris scabrifolia</i>	Harper's Yellow-Eyed Grass	G3	S1			Sedge bogs; pitcherplant bogs; pine flatwoods