Chapter 2

Websites

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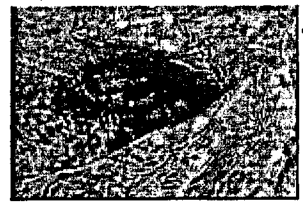
... they're not saved yet ...



cetacean Fact Packs

Spanish

Cetaceans are comprised of about 80 kinds of whales, dolphins, and porpoises. The word cetacean is derived from the Latin "*cetus*" (a large sea animal) and the Greek "*kEtos*" (sea monster). We say "about 80" because the number keeps changing as scientists learn more about these elusive animals and have had to reclassify some and add more. Cetaceans range from human-sized to larger than the largest dinosaur. On the small side, we have the vaquita porpoise and the franciscana dolphin, at under 6 feet in length & around 100 pounds. The blue whale is the largest animal on the Earth, averaging around 100 feet & and weighing over 100 tons (200,000 pounds). These magnificent creatures have fascinated people for centuries, but little is known about them because they spend most of their time underwater. Usually people only get to see them when they return to the surface to breathe.

The American Cetacean Society has prepared Whale and Dolphin Fact Packs that contain concise information about selected whales and dolphins on Fact Sheets. Each Sheet provides information on one species, including distribution map, feeding, natural history, current status, physical description, biology and behavior. Experts in the fields of marine biology and marine mammal research have reviewed all Fact Sheets for accuracy.

The Fact Packs provide sufficient information for teachers to prepare their own instructional units about whales or cam be used as an adjunct to the Cetacean Curriculum. Students can use them to complete reports or papers. Each Fact Sheet also includes a bibliography for additional research.

FACT SHEETS AVAILABLE ONLINE

BAIRD'S BEAKED WHALE
BELUGA WHALE
BLUE WHALE
BOTO (Amazon River Dolphin)
BOTTLENOSE DOLPHIN
BOWHEAD WHALE
BRYDE'S WHALE
COMMON DOLPHIN
CUVIER'S BEAKED WHALE
DALL'S PORPOISE
FIN WHALE
FRANCISCANA
GRAY WHALE
HARBOR PORPOISE
HUMPBACK WHALE
KILLER WHALE (Orca)
MINKE WHALE
NARWHAL
ORCA (Killer Whale)
PACIFIC WHITE-SIDED DOLPHIN
PILOT WHALE
PYGMY RIGHT WHALE
PYGMY SPERM WHALE
RIGHT WHALE
RISSO'S DOLPHIN
SEI WHALE
SPERM WHALE
SPINNER DOLPHIN
SPOTTED DOLPHIN

FACT SHEET PICTURE MENUS

DOLPHINS & PORPOISES (200k)
LARGER WHALES (100k)
SMALLER WHALES (100k)

ADDITIONAL RESOURCES
BIBLIOGRAPHY
BREATH CHART
DOLPHINS vs PORPOISES
GLOSSARY
LINKS
SIZE CHART
TAXONOMY
WHALE PARTS

ACS grants permission to copy the Sheets provided they are distributed without charge, are used for educational purposes, and are not altered in any way.

Two Fact Packs are available. Each Fact Pack costs $5.25 plus shipping and handling. Use the **Sales Order Form** to order Fact Packs.

The **ACS Dolphin Fact Pack** contains :

- 11 species sheets
  - bottlenose dolphin
  - boutu (Amazon River dolphin)
  - common dolphin
  - Dall's porpoise
  - franciscana
  - harbor porpoise
  - killer whale (orca)
  - Pacific white-sided Dolphin
  - Risso's Dolphin
  - spinner dolphin
  - spotted dolphin
- 3 subject sheets
  - Whales, Dolphins & Porpoises
  - About Dolphins (Richard Ellis)
  - Small Cetaceans-the Forgotten Whales
- 6 How-to-Draw-a-Dolphin sheets
  - bottlenose dolphin
  - boutu (Amazon River dolphin)
  - common dolphin
  - Dall's porpoise
  - killer whale (orca)
  - Pacific white-sided dolphin
- bibliography

The **ACS Whale Fact Pack** contains:

- 17 species sheets
  - Baird's beaked whale
  - beluga whale
  - blue whale
  - bowhead whale
  - Cuvier's beaked whale
  - fin whale
  - gray whale
  - humpback whale
  - killer "whale" (orca - dolphin)
  - minke whale
  - narwhal
  - pygmy right whale
  - pilot "whale" (dolphin)
  - pygmy sperm whale
  - right whale
  - sei & Bryde's whales
  - sperm whale
- 4 subject sheets
  - Jojoba
  - Krill
  - Whale Product Substitutes
  - Whale Comparison Chart
- 5 How-to-Draw-a-Whale sheets
  - humpback whale
  - killer whale (orca)
  - pilot whale
  - narwhal
  - right whale
- bibliography

Whale Words (a glossary of terms)

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American Cetacean Society

protecting whales, dolphins, porpoises, & their habitats through education, conservation, & research since 1967

Farrell & Hall 2004

Economic Impact Study of the Progress Energy, Inc., Brunswick Nuclear Power Facility on North Carolina State Planning Region O

by

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October 2004

Research Project for Progress Energy, Inc.

Economic Impact Study of the Progress Energy, Inc., Brunswick Nuclear Facility on North Carolina State Planning Region O

Executive Summary

The Progress Energy, Inc., nuclear facility located in Brunswick County near Southport, North Carolina, has significant positive impacts on the four counties of Brunswick, Columbus, New Hanover, and Pender that comprise State Planning Region O in Southeastern North Carolina. The facility has impacts on gross output or income, employment, payrolls, self-employment income, property income, indirect business taxes, and local property taxes.

The facility's impact on gross output or income in the four counties of Region O was almost $901 million in 2003, 14 percent of the value of total regional output in the four-county area. The facility supported 2,030 jobs (1.3 percent of total employment) and $88.4 million in payrolls in the region in 2003, with an annual average salary per job of $43,500. These jobs include jobs at the Brunswick facility and jobs supported by companies that supply and/or are supported by the facility's operations. The impact on self-employment income was $12.4 million. The impact on property income, viz., rents, dividends and interest, was $184.7 million. Indirect business tax collections, e.g., sales and excise taxes, attributed to the operation of the facility totaled $48.4 million. County property tax revenues attributable to facility were $8.1 million (3.7 percent of total collections on real property) with an implied real property tax base of $1,274.3 million (3.7 percent of the total tax base).

Quite surprising is the magnitude of the nuclear facility's economic contributions in New Hanover and Pender Counties. In New Hanover County, the

facility supported approximately $352 million in total output. This is a little over 70 percent of the output effects in Brunswick County of $490 million.

Pender County impacts are perhaps the most surprising. The nuclear facility supported 29 percent, almost one-third, of the total value of output for the entire county.

The nuclear facility is one of the regional economy's major contributors. Prior to this report, little, if any was known about the facility's economic impact inside or outside of Brunswick County. It has been an unknown and, perhaps, at times, misunderstood and unappreciated, major asset to the four-county regional economy and will continue to be in the future. Also, not to be overlooked are Progress Energy's significant public service contributions associated with the nuclear facility.

Economic Impact Study of the Progress Energy, Inc., Brunswick Nuclear Facility on North Carolina State Planning Region O

Introduction

In July 2004, Progress Energy, Inc., (PGN) contracted with Dr. Claude Farrell and Dr. William W. Hall, Jr., economics professors at UNC Wilmington, to conduct a study of the impact that the facility had on the economy of the four counties of Brunswick, Columbus, New Hanover, and Pender in 2003. These four counties comprise State Planning Region O in Southeastern North Carolina.

II. The Nature of an Economic Impact Study

As the name implies, an economic impact study is conducted to estimate the impact that firms in a specific business sector have on the economy of the surrounding area. The impacts take several forms. The most obvious is the direct impact that measures payments made by the firms in that sector that flow directly into the local economy. These direct impacts include, but are not limited to, employee salaries and payments for raw materials and supplies. Beyond the direct impact, there are the indirect and induced impacts that reflect the "ripple effect" associated with the direct impact. These impacts are based on the "multiplier effect," an economics principle that provides an estimate of the total amount of spending that takes place, including the "ripple effect." Some proportion of every dollar received by employees and suppliers is re-spent in the local economy, i.e., initial sales are multiplied by some factor, and this recirculation generates additional income and revenue.

The model used to estimate various measures of the economic impact on the four-county economy was developed using the IMPLAN Professional™ for

Windows (Version 2.2) software.[i] This software is commonly used by business, government, and academic institutions to help develop economic impact analyses.

III. The Study

This study estimates the total economic impact – the sum of direct, indirect, and induced impacts – of the PGN Brunswick nuclear facility. All data are for 2003. The impacts that are calculated include those on output or income, employment, payrolls, gross or before-tax personal income, self-employment income, property income, indirect business taxes, and local property taxes. Personal income is income earned by city residents. Self-employment income is income earned by those self-employed in the City. Property income is income from such sources as rents, royalties, and dividends. Indirect business taxes include excise and sales taxes paid by individuals to businesses. The impact on county property tax collections, excluding any property taxes collected by the municipalities in the counties, is also calculated.

IV. The Brunswick Nuclear Facility

The Brunswick nuclear plant is located on a 1,200 acre site near Southport, North Carolina, at the mouth of the Cape Fear River and is owned jointly by PGN (81.67%) and the N. C. Eastern Municipal Power Agency (18.33%). The plant is a dual-unit power plant that has a combined capacity of approximately 1,770 megawatts, generating enough electricity for approximately 1 million homes. The first nuclear plant built in North Carolina, the Brunswick plant generates between 20 and 25 percent of PGN's electricity produced for its customers in North and South Carolina.

The Brunswick units began commercial operation in November 1975 (Unit 2) and March 1977 (Unit 1). The Brunswick units are utilized as "base load" plants, operating at full power continuously except when maintenance or refueling activities are needed.

V. The 2003 Impacts

V.A. The Regional Impacts

Table 1 shows the 2003 impacts that were estimated for the Brunswick nuclear plant. As certain data are proprietary, only the total impacts, i.e., the sum of the direct, indirect, and induced impacts, are shown. All dollar figures are in 2003 dollars.

Based on the data in Table 1, in 2003 the PGN Brunswick nuclear facility supported almost $901 million in output, 2,030 jobs, $100.8 million in personal income, $88.4 million in payrolls, $12.4 million in self-employment income, $184.7 million in property income, $48.4 million in indirect business taxes, and $8.1 million in county tax collections on real property.[ii] The property tax collections exclude any municipal collections. The implied real property tax necessary to generate these property tax collections was almost $1.3 billion.[iii]

Table 1
2003 Economic Impact of PGN Brunswick Nuclear Facility Operations on North Carolina State Planning Region O[1]

Impact Measure	Impact
Output	$900.7 million
Employment[2]	2,030
Personal Income	$100.8 million
Payrolls	$88.4 million
Self-Employment Income	$12.4 million
Property Income	$184.7 million
Indirect Business Tax Collections	$48.4 million
County Property Tax Collections[3]	$8.1 million
Implied Real Property Tax Base[4]	1,274.3 million

1 Region O includes Brunswick, Columbus, New Hanover, and Pender Counties.
2 Employment includes employment at the PGN Brunswick nuclear facility and employment due to the "ripple effect."
3 This is a four-county total, excluding municipal collections.
4 The implied real property tax base is the tax base necessary to generate the associated property tax collections.

Source: IMPLAN Model and Authors' Calculations.

To place the above numbers in some perspective, total regional product or output in 2003 is estimated at $6.4 billion. Thus, the PGN Brunswick nuclear facility supported 14 percent of the value of total regional economic activity in 2003. Data from the North Carolina Employment Security Commission (ESC) indicate that average monthly employment in the four-county region over 2003 was 156,000. Thus, the nuclear facility supported 1.3 percent of total regional employment in 2003. ESC data also indicate an average annual salary across all sectors in the four-county region of $28,300 in 2003. Thus, the average annual salary supported by the nuclear facility of $43,500, calculated by dividing payrolls by employment, was 53.5 percent above the all-sector average. Total property taxes on real property collected by the four counties, exclusive of municipal collections, was $215.8 million in FY 2003-2004. Thus, the nuclear facility supported 3.7 percent of these collections. The implied real property tax base supported by the nuclear facility was also 3.7 percent of the value of all real property in the region.

Table 2 shows the distribution of the output impact across selected sectors of the regional economy. Not surprisingly, the bulk of the impact (91 percent) is in the nuclear power facilities sector itself. Maintenance and repair services receive 1.7 percent of the impact. Real estate, home owners, and banking receive 0.5 percent of the impact each.

Table 2
Distribution of the PGN Brunswick Nuclear Facility Output Impact in 2003

Sector	Impact
Nuclear Power Facilities	$819.3 million
Maintenance and Repair Services	$15.4 million
Real Estate	$5.1 million
Home Owners	$4.9 million
Banking	$4.5 million
All Other Sectors	$51.4 million

Source: IMPLAN Model and Authors' Calculations.

Table 3 shows the distribution of the employment impact across selected sectors of the regional economy. Not surprisingly, most of the employment impact (40 percent) is in the nuclear power facilities sector itself. Maintenance and repair services receive 13 percent of the impact. Eating and drinking places receive 5 percent of the impact, followed by miscellaneous retail outlets and food stores with 3 percent of the impact each.

Table 3
Distribution of the PGN Nuclear Facility Employment Impact in 2003

Sector	Impact
Nuclear Power Facilities	810
Maintenance and Repair Services	260
Eating and Drinking Places	100
Miscellaneous Retail Outlets	70
Food Stores	50
All Other Sectors	740

Source: IMPLAN Model and Authors' Calculations.

V.B. The County Impacts

This section estimates the impacts in each of the four counties comprising State Planning Region O.[iv] Table 4 provides the information on the 2003 impact.

Table 4
Distribution of the PGN Brunswick Nuclear Facility Impact in 2003 by County

Impact Measure	Brunswick County	Columbus County	New Hanover County	Pender County
Output	$490.2 m	$36.8 m	$351.7 m	$22.1 m
Employment	1,100	80	800	50
Personal Income	$54.9 m	$4.1 m	$39.4 m	$2.5 m
Payrolls	$48.1 m	$3.6 m	$34.5 m	$2.2 m
Self-Employment Income	$6.7 m	$0.5 m	$4.8 m	$0.3 m
Property Income	$100.5 m	$7.5 m	$72.1 m	$4.5 m
Indirect Business Tax Collections	$26.3 m	$2.0 m	$18.9 m	$1.2 m
County Property Tax Collections	$3.3 m	$0.4 m	$3.2 m	$1.2 m
Implied Real Property Tax Base	*$549.1 m*	*$52.6 m*	*$469.8 m*	*$202.8 m*

Source: IMPLAN Model and Authors' Calculations.

To place the numbers in Table 4 in some perspective, total output in Brunswick County in 2003 is estimated at $1.26 billion. Thus, the PGN Brunswick nuclear facility supported almost 16 percent of the value of total county output in 2003. ESC data indicate an average monthly employment during 2003 in Brunswick County of 34,700. Thus, the facility supported 3.2 percent of total county employment in 2003. Real property tax collections in the county totaled $64

million in 2003 with an implied real property tax base of $10.8 billion. Thus, the facility supported 5.1 percent of property tax collections in the county. The implied property tax base was also 5.1 percent of the total real property tax base in the county.

Total output in Columbus County in 2003 is estimated at $611.1 million. Thus, the PGN Brunswick nuclear facility supported almost 19 percent of the value of total county output in 2003. ESC data indicate an average monthly employment in the county of 20,100 over 2003. Thus, the facility supported 0.4 percent of total county employment in 2003. Real property tax collections in the county totaled $15.8 million in 2003 with an implied real property tax base of $2 billion. Thus, the facility supported 2.6 percent of county property tax collections in 2003. The implied property tax base was also 2.6 percent of the total real property tax base in the county.

Total output in New Hanover County in 2003 is estimated at almost $4.2 billion. Thus, the PGN Brunswick nuclear facility supported almost 12 percent of the value of total county output in 2003. ESC data indicate an average monthly employment in the county of 84,100 over 2003. Thus, the facility supported 0.9 percent of total county employment in 2003. Real property tax collections in the county totaled $115.4 million with an implied real property tax base of almost $17 billion. Thus, the facility supported 2.8 percent of county property tax collections in 2003. The implied property tax base was also 2.8 percent of the total real property tax base in the county.

Total output in Pender County in 2003 is estimated at $352.2 million. Thus, the PGN Brunswick nuclear facility supported almost 29 percent of the value of total county output in 2003. ESC data indicate an average monthly employment in the county of 17,560 over 2003. Thus, the facility supported 0.3 percent of total county employment in 2003. Real property tax collections in the county totaled $20.5 million with an implied real property tax base of $202.8 million. Thus, the facility supported 5.8 percent of county property tax collections in 2003. The implied property tax base was also 5.8 percent of the total real property tax base in the county.

VI. Additional Impacts of the Brunswick Nuclear Facility

PGN's Brunswick nuclear facility also makes substantial contributions to the social, aesthetic, and cultural environment of the region. For example, through the first seven months of 2004, facility employees had provided nearly 1,500 volunteer hours to numerous local organizations. These employees had also pledged more than $17,000 to Habitat of Brunswick County. Since 2000, PGN has made more than $1.9 million in grants to nonprofit organizations in the region.

VII. Summary and Conclusions

As expected by the authors the impact of PGN's Brunswick nuclear facility is quite significant. As a stand-alone enterprise, the authors believe that it is the largest single contributor to the Brunswick County economy with respect to income, employment, and taxes. Obviously, without knowledge of other stand-alone enterprises in the county this statement cannot be made with absolute certainty. However, the evidence presented in this study and anecdotal evidence indicates the

statement is a fact, that the nuclear facility is the largest single enterprise contributor to Brunswick County's economy.

The effect on the other three counties offered some surprises to the authors. The Columbus County and Pender County impacts were in line with what the authors anticipated. The surprises were mostly in New Hanover County.

In New Hanover County, the impact on output of $351.7 million, about 70 percent of the output impact in Brunswick County, was unanticipated. Not only was the magnitude of this contribution by the nuclear facility unexpected, but also the contribution to New Hanover County's tax base of approximately $470 million.

Also, worthy of note is the contribution of the nuclear facilities to Pender County's tax collections on real property, representing 5.8 percent of the total, and to Pender's tax base at 5.8 percent of the total. This most likely is a reflection of home and property ownership by persons living in Pender County and working at the nuclear facility and in enterprises supporting the operation of the facility.

The Brunswick County nuclear facility has a huge economic impact not only in Brunswick County but in Columbus, New Hanover, and Pender Counties as well. Prior to this study, the facility's importance as a major economic contributor to the four-county economy of State Planning Region O was largely unknown and unappreciated.

Endnotes

i The IMPLAN Professional™ software for Windows (Version 2.0) is available from MIG, Inc., Stillwater Minnesota.

ii The impact on real property tax collections was calculated by calculating real property tax collections per dollar of output produced and then multiplying this ratio by induced output.

iii The size of the implied real property tax base was calculated by dividing tax collections by the tax rate. The relevant FY 2003-2004 tax rates per $100 property valuation were $0.59 in Brunswick County, $0.78 in Columbus County, $0.68 in New Hanover County, and $0.59 in Pender County.

iv These calculations were estimated using information supplied by PGN on resident counties of employees. Specifically, 54 percent of the employees designated their county of residence as Brunswick County, 4 percent as Columbus County, 39 percent as New Hanover County, and 2 percent as Pender County. These percentages were used to allocate the impact across the separate counties.

cover page FONA refs 2003

Flora of North America

Welcome to the Flora of North America Web Site

FNA presents for the first time, in one published reference source, information on the names, taxonomic relationships, continent-wide distributions, and morphological characteristics of all plants native and naturalized found in North America north of Mexico.

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230. **Orchidaceae** Jussieu

Orchid Family

Gustavo A. Romero-González, Germán Carnevali Fernández-Concha, Robert L. Dressler, Lawrence K. Magrath & George W. Argus

Epipactis helleborine

Credit: Harvard University Herbaria

Herbs or rarely vines, perennial, rarely annual, strongly mycotrophic, epiphytic, terrestrial, lithophytic, or rarely aquatic or subterranean, usually green and photosynthetic, some without chlorophyll and saprophytic. Roots subterranean or aerial, tuberoid or stolonoid, usually with spongy, multilayered velamen. Stems erect or pendent or modified into creeping rhizomes, simple or sympodially or monopodially branched, delicate to stout, or thickened as corms or pseudobulbs, or greatly reduced, sometimes proliferous (especially diverse in sympodial orchids). Leaves solitary, several, or reduced to scales, basal or cauline, alternate, distichous, or sometimes opposite or whorled, either convolute or duplicate, simple, sessile or petiolate; stipules absent; blade articulate or not, plicate or conduplicate, cylindric, triangular, or laterally flattened, margins entire. Inflorescences terminal or lateral, racemes, spikes, panicles, or rarely cymose, erect or variously pendent, 1–many-flowered, lax or dense, flowering successively or simultaneously. Flowers bisexual [rarely unisexual], epigynous, resupinate or not, pedicellate or sessile, 3-merous, usually bilaterally symmetric [rarely nearly radially symmetric], with abscission layer between pedicel and peduncle, rarely between ovary and perianth or ovary and pedicel; perianth of 6 tepals in 2 whorls, all petaloid or sepals sometimes greener and more foliaceous in texture; sepals alike or not, lateral sepals often connate (forming synsepal), or all 3 sepals variously connate and/or adnate or distinct and/or free; petals 3, median petal modified as lip, commonly larger or differing in form and color, lateral petals commonly but not always similar to sepals; nectaries of various sorts; extrafloral nectaries sometimes present on pedicels, bracts, or leaf sheaths; stamens usually 1–2 (–3, if 3 the 3d modified into sterile staminode), all on side opposite lip, fully or partially adnate to style, forming column; pollen grains in monads or tetrads, usually in 2–8 pollinia, sometimes subdivided into small packets, rarely granular, sometimes pollinia with caudicles and/or stipes; gynoecium 3-carpellate, connate, forming compound, inferior, 1- or 3-locular ovary; style variously adnate to filaments; stigmas usually 3-lobed, concave to convex, part of median stigma lobe modified into rostellum, often separating anther from fertile portions of stigma, commonly preventing or in some cases facilitating self-pollination; ovules numerous, anatropous, minute. Fruits capsules, opening (dehiscing) by longitudinal slits, rarely fleshy and indehiscent berries. Seeds numerous (millions in some species), minute; endosperm absent.

Genera ca. 800, species 22,000–35,000 (701 genera, 208 species in the flora; 1 genus, 6 species introduced): worldwide except Antarctica, most diverse in tropical forests.

The overall count for orchid genera in the flora includes Spathoglottis plicata Blume, which was recently reported from Palm Beach County, Florida. The plants, known locally since 1982, are apparently widely naturalized in old shellpits. The number of species in the flora includes one newly recognized species in Habenaria that is morphologically described, but not fully treated here. Orchidaceae are by far the largest and most diverse monocot family and rank among the largest families of flowering plants. An accurate account of the number of genera and species has eluded orchid scientists, and species counts published in the last 20 years range from 15,000 to 35,000. New species are continually being described. In addition, numerous natural and artificial hybrids exist.

Although orchids are important in horticulture, most of the plants traded in the national and international market belong to a small number of species and their hybrids in only a few genera; the majority of orchids are not commonly cultivated. Few orchids are economically important outside the horticultural trade: the fruits of several species of Vanilla are the source of the spice vanilla, and the dry roots of some species of Dactylorhiza, Eulophia, and Orchis are made into salep, a flour consumed in northern Africa, the Middle East (especially Turkey), and Asia. Some species are locally used for medicinal purposes; the mucilage from pseudobulbs of several species is sometimes used as glue; and in the Far East the stems of some species of Dendrobium are split into strips used to weave handicrafts. A few orchids have been found to cause contact dermatitis (e.g., Cypripedium reginae).

Orchids range vegetatively from Lilliputian plants a few millimeters long (Bulbophyllum Thouars and Platystele

Schlechter) to gigantic clusters weighing several hundred kilograms (Grammatophyllum Blume) to some as much as 13.4 meters in height (Sobralia altissima D. E. Bennett & Christenson, a recently described species from Peru). Likewise, flowers vary in size from less than 1 mm and barely visible to the naked eye (Platystele Garay), to 15–20 cm diameter (some Paphiopedilum Pfitzer, Phragmipedium Rolfe, and Cattleya Lindley spp.), and ultimately to 76 cm [Phragmipedium caudatum (Lindley) Rolfe]. Weight can vary from a fraction of a gram (many Pleurothallus R. Brown spp.) to nearly 100 grams (Coryanthes Hooker spp.). Their fragrances vary from delightful (Cattleya Lindley) to repulsive and unbearable (in some species of Bulbophyllum Thouars). The plants colonize habitats ranging from some of the driest and hottest places on earth to the wettest and coolest, literally occurring from polar regions to the equator. Within the monocots, the most important diagnostic features of Orchidaceae are reduction of adaxial stamens, fusion of the remaining stamens to the gynoecium forming the column, aggregation of pollen into compact pollinia (present elsewhere only in the dicots, in Asclepiadaceae), differentiation of the median petal into the lip, a sometimes complex organ, and the exceedingly small size of the seed, which lacks endosperm. Among other distinguishing characteristics: pollen in the pollinia is usually not available as a nutrient-source (Cleistes Richard ex Lindley being a notable exception), and the often complex interaction with pollinators culminates in the phenomenon of pseudocopulation in several genera (e.g., Ophrys Linnaeus, Caladenia R. Brown sect. Calonema, Drakaea Lindley). In the latter process, the flower mimics the appearance, the smell, and often the movements of a female wasp, attracting a male of a suitable species that tries to copulate with the flower. It usually only succeeds in becoming attached to a pollinium, which will then be transferred if the male tries to copulate with another flower.

Roots of orchids may be covered with velamen, spongy layers derived from the epidermis; fleshy thickenings of roots are tuberoids (tubers being restricted to stems). Stems may be swollen or thickened, underground corms or aerial pseudobulbs. Flowers are often resupinate: the lip (modified median petal) is "lowermost," usually as a result of the pedicel being twisted or bent in its development by 180°. Pedicellate ovary, usually used in reference to length, refers to the combined pedicel and ovary. Flowers are not always borne on pedicels; when they are, it is sometimes difficult to distinguish between a slender ovary and the pedicel. Consequently, because of their slender ovaries, flowers of a "racemose spike" appear to be pedicellate even though they are sessile, while a "spicate raceme" has pedicels so short that they appear to be absent. Orchid flowers often have a modified median sepal, the dorsal sepal. Sepals coalescing at their tips form a synsepal. The middle portion of the upper (adaxial) face of the lip is the disc: it may be a thickened callus and may bear hairs, papillae, or other ornamentation. In orchids the style, stigmas, filaments, and one or more anthers are united to form a column; appendages projecting laterally from the stigma are column wings; the lip may be attached to the protrusion at the base of the column to form a column foot; lateral sepals that are also attached to the foot form a mentum (chin). In most orchids the column bears a single anther at its apex; the clinandrium is the cavity within which the anther is borne or embedded. Pollen is borne in discrete masses (pollinia). Genera with mealy (sectile) pollinia may have pollinia within the anther tapering into a caudicle (stalk), which is attached to a sticky viscidium. Those with waxy pollinia have pollinia attached to one or two stipes (of stigmatic origin and formed outside the anther), which in turn are attached to a viscidium. The various aggregations of pollinia, caudicles, stipes, and viscidium form a pollinarium, the pollination unit carried by pollinators. The median stigma lobe may have a slender extension or little beak (rostellum), which aids in gluing the pollinarium to the pollinator.

Taxa excluded from the flora as neither native nor definitely naturalized are discussed below.

Bletia florida (Salisbury) R. Brown, grows in gardens near Homestead, Florida. This species has escaped and may persist but does not spread to the surrounding area (P. M. Brown 2002). Bletia patula Hooker is an apparent garden escape (P. M. Brown 2000). A single vegetative specimen, which later flowered, was collected in 1947. No specimens that can be referred to this species have been collected or seen since then (P. M. Brown 2002).

Bletilla striata (Thunberg) Reichenbach f. is a garden escape (P. M. Brown 2000, 2002) that has been reported growing along roadsides and in lawns in Escambia County, Florida (G. S. Wilhelm 1984). A specimen is located in FLAS but its naturalized status cannot be established (R. Wunderlin, pers. comm.).

Brassavola nodosa (Linnaeus) Lindley is a dubious record (C. McCartney 1997; P. M. Brown 2000, 2002).

Encyclia rufa (Lindley) Britton & Millspaugh has been excluded because only one specimen has been recorded. R. P. Sauleda and R. M. Adams (1983) considered it to have been introduced. Epidendrum blancheanum Urban is endemic to Hispaniola. It is not confirmed for Florida. Epidendrum radicans Pavón ex Lindley has been reported to be a persistent escape in Lee County, Florida (P. M. Brown 2000). Two specimens previously identified as this species from Captiva Island, Florida, are probably hybrids and not the pure species, which is very easily identified (E. Hágsater, pers. comm.). Gymnadenia conopsea (Linnaeus) R. Brown was reported for Litchfield, Connecticut, by R. C. Bean et al. (1951), who noted that a specimen was in the herbarium of the Torrey Botanical Club but that the station has not been relocated. Apparently the species did not persist (P. M. Brown 1997), and it is not a likely naturalization.

Laelia rubescens Lindley was discovered in 1999, growing on a large branch of a live oak in Hammock County Park, Miami, Miami-Dade County, Florida. It was believed to have originated from seed rather than an intentional planting because the plant could be traced from a pea-sized pseudobulb for at least 8 growth periods, and other seedlings were found in the area (P. M. Brown 2000, 2002). The species may be a possible naturalization.

Leochilus labiatus (Swartz) Kuntze was reported by C. A. Luer (1972) to be naturalized in Florida based on second-hand evidence (C. McCartney 1997). The purported occurrence in the Fakahatchee Swamp may have been a deliberate deception at Luer's expense (R. L. Hammer, pers. comm.). All of Luer's photographs were of cultivated plants and there is no herbarium voucher. Its reported naturalization in Florida is dubious (P. M. Brown 2000).

Lophiaris carthagenensis (Jacquin) Braem was reported in Florida [as Oncidium carthagenense (Jacquin) Swartz] based upon a single specimen collected by J. K. Small in 1916, at Coot Bay (near Flamingo in Everglades National Park), Monroe County, Florida (D. S. Correll 1950; C. A. Luer 1972). The specimen, in New York, includes a partial inflorescence and lacks foliage. A number of attempts were made to relocate the species at Coot Bay but all were unsuccessful (R. P. Sauleda and R. M. Adams 1989; R. L. Hammer, pers. comm.). Sauleda and Adams suggested that the specimen collected by Small had come from a garden in southern Florida where he kept plants until they flowered. They stated that Small probably collected the specimen under the mistaken belief that the plant was collected in Florida although it had actually come from Central America. Others, including P. M. Brown (2000), simply consider it to be a possible introduction but not naturalized. Maxillaria sanguinea Rolfe has reportedly become naturalized, but naturalization of the species in the flora area is dubious (C. McCartney 1997; P. M. Brown 2000).

Restrepiella ophiocephala (Lindley) Garay & Dunsterville was reported to occur in North America. Apparently, it has not become naturalized in the flora area (P. M. Catling, pers. comm.). It is considered a dubious record (C. McCartney 1997; P. M. Brown 2000).

Tetramicra canaliculata (Aublet) Urban was treated as naturalized in the flora of Florida (C. A. Luer 1972). Recent evidence (C. A. Luer, pers. comm.) indicates that the species is not native and has not become naturalized. Moreover, it has not been reported for Jamaica or Cuba and reports for the Bahamas are erroneous (D. S. Correll and H. B. Correll 1982). Other citations (L. A. Garay and H. R. Sweet 1974; J. G. Williams and A. E. Williams 1983) also are erroneous, probably based on C. A. Luer (1972). The scenarios that could have led to this and other cases of dubious reports of naturalized orchids are discussed in C. McCartney (1997).

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1	Lip inflated, slipper (calceolate) or sac-shaped (saccate).	(2)
+	Lip not inflated.	(4)
2 (1)	Lateral anthers 2, fertile, dorsal anther a large, subapical staminode, partially closing entrance to lip.	1 Cypripedium
+	Anthers 1, fertile, staminode absent.	(3)
3 (2)	Apex of lip 2-horned; flowers solitary; leaf solitary.	51 Calypso
+	Apex of lip blunt or acute; flowers 5–72, in spikes; leaves more than 1, in basal rosettes.	6 Goodyera
4 (1)	Plants without leaves at anthesis, or without green blade either diverging from axis or reduced to bract.	(5)
+	Plants with leaves at anthesis, or at least with green blade diverging from axis.	(18)
5 (4)	Plants epiphytes or vines.	(6)
+	Plants terrestrial, never vines.	(9)
6 (5)	Plants long, thick, succulent vines; lip without spur.	2 Vanilla

+	Plants epiphytes with conspicuous grayish green roots, stems much reduced; lip with spur.	(7)
7 (6)	Lip middle lobe terminating in 2 arching, twisting, caudate lobes, 45–70 mm.	49 Dendrophylax
+	Lip middle lobe not as above, less than 10 mm.	(8)
8 (7)	Flowers more than 12, in 2 rows, in spike.	48 Campylocentrum
+	Flowers fewer than 12, not in 2 rows, in lax racemes or panicles.	50 Harrisella
9 (5)	Plants pure white except for lip with yellow markings.	31 Cephalanthera
+	Plants green or not, never entirely white with yellow-marked lip.	(10)
10 (9)	Anther acute with terminal viscidium; petals often adherent to dorsal sepal and difficult to separate.	17 Sacoila
+	Anther not acute, terminal viscidium absent; petals not adherent to dorsal sepal.	(11)
11 (10)	Flowers asymmetric; spur longer than lip.	52 Tipularia
+	Flowers symmetric; spur absent or shorter than lip.	(12)
12 (11)	Spur broad-based and conic.	62 Galeandra
+	Spur narrow-based, or a mentum, or absent.	(13)
13 (12)	Inflorescences corymbose racemes; perianth closed to slightly gaping, not resupinate; pollinia 2.	34 Triphora
+	Inflorescences spikes, racemes, or panicles; perianth spreading, resupinate; pollinia 4 or 8 (2 half anthers only in Piperia).	(14)
14 (13)	Plants achlorophyllous.	(15)
+	Plants chlorophyllous.	(16)
15 (14)	Rhizomes annulate; lip 3-lobed with 3–5 lamellae; lateral sepals distinct at base; pollinia 8.	39 Hexalectris
+	Rhizomes corraloid; lip 1–3-lobed with 2 lamellae; sepals connate at base forming mentum; pollinia 4.	56 Corallorhiza
16 (14)	Lips with clavate to filiform spurs; leaves not plicate.	27 Piperia
+	Lips without spurs; leaves plicate.	(17)
17 (16)	Leaves basal, solitary, elliptic, withering by anthesis; column 7 mm; pollinia 4; mature capsules pendent.	55 Aplectrum
+	Leaves basal and cauline, 3–5, linear, narrowly elliptic, or lanceolate, present at anthesis; column 8–25 mm; pollina 8; mature capsules erect to suberect or pendulous.	38 Bletia
18 (4)	Plants with leaves at anthesis, or at least with green blade diverging from axis.	(19)
+	Leaves not articulate, persistent (except in Trichocentrum).	(38)
19 (18)	Leaves plicate, thin, never conduplicate.	(20)
+	Leaves not plicate, not thin, distinctly conduplicate or not.	(22)

20 (19)	Pseudobulbs fusiform, 15–50 cm.	61 Cyrtopodium
+	Pseudobulbs ovoid to subglobose, not fusiform, less than 10 cm.	(21)
21 (20)	Flowers mostly pink, rosy purple, or deep purple, rarely white; lip with elongate crests; leaf bases almost wiry.	38 Bletia
+	Flowers mostly white or tinged with purple; lip without crests; leaf sheaths multiple, concentric, polygonal, keeled.	57 Govenia
22 (19)	Inflorescences distinctly lateral, not continuous with stem axis.	(23)
+	Inflorescences distinctly terminal, continuous with stem axis.	(30)
23 (22)	Flowers solitary from leaf axils.	63 Maxillaria
+	Flowers in racemes or spikes or panicles.	(24)
24 (23)	Plants terrestrial; spurs 4–5 mm.	59 Oeceoclades
+	Plants epiphytic; spurs absent.	(25)
25 (24)	Inflorescences spikes; flowers sessile.	47 Bulbophyllum
+	Inflorescences racemes or panicles; flowers pedicellate.	(26)
26 (25)	Lips unlobed or 2-lobed.	(27)
+	Lips 3-lobed.	(28)
27 (26)	Lips 2-lobed, 6–17 mm; sepals 3–7 mm; column 3.5 mm; flowers pink to rose, pink-lavender, or white with pink flush.	65 Ionopsis
+	Lips unlobed, 14–27 mm; sepals 30–200 mm; column 2 mm; flowers yellow-green to yellow-orange with red-brown markings.	64 Brassia
28 (26)	Racemes pendent; column 8 mm; middle lobe of lip nearly linear, strongly reflexed; callus of 3 shallow keels.	66 Macradenia
+	Racemes or panicles erect to arching or pendent; column 5–6 mm; middle lobe of lip expanded, not reflexed; callus tuberculate.	(29)
29 (28)	Callus prominent tuberculate-lobulate; pseudobulbs reduced to absent.	69 Tolumnia
+	Callus prominent warty-tuberculate-fringed; pseudobulbs conspicuous.	67 Oncidium
30 (22)	Pedicel (± 1 mm) and ovary articulate; capsule deciduous.	(31)
+	Pedicel and ovary not articulate; capsule not deciduous.	(32)
31 (30)	Stem sheaths flared and hispid apically.	44 Lepanthopsis
+	Stem sheaths neither flared nor hispid apically.	45 Pleurothallis
32 (30)	Lip adnate to column throughout, forming nectary tube.	42 Epidendrum
+	Lip free from column or adnate for less than 1/2 column length.	(33)
33 (32)	Flowers not resupinate; column foot present or absent.	(34)
+	Flowers resupinate; column foot absent.	(36)
34 (33)	Flowers rosy pink to white; plants terrestrial.	37 Calopogon
+	Flowers various but not rosy pink to white; plants epiphytic or lithophytic or if terrestrial, then with yellow-green flowers.	(35)

35 (34)	Column foot present, conspicuous.	46 Polystachya
+	Column foot absent.	43 Prosthechea
36 (33)	Plants terrestrial; flowers incompletely opening; leaves 1–2, basal.	40 Basiphyllaea
+	Plants epiphytic or lithophytic; flowers completely opening; leaves 1–3, apical from pseudobulbs.	(37)
37 (36)	Pseudobulbs ovoid-pyriform, not flattened.	41 Encyclia
+	Pseudobulbs fusiform or suborbicular to ovoid or ellipsoid, flattened.	43 Prosthechea
38 (18)	Leaves distinctly plicate.	(39)
+	Leaves convolute, flat, or conduplicate, seldom plicate.	(43)
39 (38)	Leaves cauline.	(40)
+	Leaves basal.	(41)
40 (39)	Inflorescences racemes.	32 Epipactis
+	Inflorescences panicles.	35 Tropidia
41 (39)	Plants 6–60 cm; petals filiform, linear-oblanceolate, narrowly spatulate, or linear, less than 1/2 width of sepals.	53 Liparis
+	Plants 30–170 cm; petals elliptic, obovate, or oblong, equal to or more than 1/2 width of sepals.	(42)
42 (41)	Column 3–4 mm; lip without lamellae; mature capsules erect.	60 Pteroglossaspis
+	Column 7–10 mm; lip with lamellae; mature capsules pendent.	58 Eulophia
43 (38)	Plants vines.	2 Vanilla
+	Plants various but not vines.	(44)
44 (43)	Leaves opposite, subopposite, or whorled at terminal node proximal to inflorescence.	(45)
+	Leaves various but not opposite, subopposite (except for Malaxis monophyllos var. monophyllos), or whorled.	(46)
45 (44)	Leaves 2(–3); flowers, 2–100, in racemes.	33 Listera
+	Leaves whorled, usually 5; flowers 1(–2, rarely).	4 Isotria
46 (44)	Flowers with protruding spur at base of lip, spur free from ovary.	(47)
+	Flowers without spur at base of lip or spur adnate to ovary.	(63)
47 (46)	Flowers asymmetric; corms present; tuberoids absent.	52 Tipularia
+	Flowers bilaterally symmetric; corms absent; tuberoids sometimes present.	(48)
48 (47)	Leaves basal or radical.	(49)
+	Leaves basal and/or cauline.	(55)
49 (48)	Leaves 1(–2).	(50)
+	Leaves 2 or more.	(52)
50 (49)	Petiole conspicuous, erect; lip margin fringed.	13 Eltroplectris

+	Petiole inconspicuous, sheathing or clasping stem; lip margin entire to crenate to erose.	(51)
51 (50)	Lip deeply 3-lobed.	25 Amerorchis
+	Lip unlobed.	26 Platanthera
52 (49)	Leaves more than 2.	27 Piperia
+	Leaves 2.	(53)
53 (52)	Stems conspicuously angled.	24 Galearis
+	Stems terete.	(54)
54 (53)	Tuberoids ellipsoid-ovoid; lateral sepals adnate to base of lip; lip with midrib thickened.	27 Piperia
+	Tuberoids elongate; lateral sepals free; lip flat.	26 Platanthera
55 (48)	Plants from creeping rhizomes; leaves petiolate, with inflated tubular sheaths.	7 Platythelys
+	Plants from fusiform, fleshy or tuberous roots; leaves sessile, without inflated tubular sheaths.	(56)
56 (55)	Flowers purple, lavender, yellow, or orange.	(57)
+	Flowers white to green, never purple, lavender, yellow, or orange.	(58)
57 (56)	Anther cells parallel or nearly so, viscidia lying close together.	28 Dactylorhiza
+	Anther cells divergent, viscidia separated.	26 Platanthera
58 (56)	Pollinia parallel or nearly so, viscidia lying close together.	(59)
+	Pollinia divergent, viscidia separated.	(60)
59 (58)	Leaves basal; lateral sepals adnate to base of lip; lip with midrib thickened; column adnate to base of lip.	27 Piperia
+	Leaves cauline; lateral sepals free; lip flat; column diverging from lip.	26 Platanthera
60 (58)	Viscidia covered by membranes; mouth of spur covered by membrane with small aperture.	29 Coeloglossum
+	Viscidia exposed; mouth of spur widely open.	(61)
61 (60)	Stigmatic processes fleshy, well developed; petals often 2-partite; lip 3-partite into linear lobes or small basal teeth; tuberoids usually spheroid.	30 Habenaria
+	Stigmatic processes absent or poorly developed; petals not 2-partite; lip not 3-partite into linear divisions; tuberoids elongate, tapering.	(62)
62 (61)	Sepals less than 5 mm; lip apex with 3 subequal, lanceolate or oblong lobes.	23 Pseudorchis
+	Sepals more than 5 mm; lip various but not as above.	26 Platanthera
63 (46)	Plants arising from corms, pseudobulbs, or tuberoids, not from fascicles of fleshy roots.	(64)
+	Plants arising from slender fibrous roots or fascicles of thickened fleshy roots or creeping rhizomes, not from corms, pseudobulbs, or tuberoids (Cleistes occasionally has nodular tuberoids).	(75)

64 (63)	Plants epiphytic; some leaves at least 40 cm; inflorescences panicles.	(65)
+	Plants terrestrial; all leaves much less than 40 cm (except in Spiranthes odorata); inflorescences solitary flowers, spikes, or racemes, never panicles.	(66)
65 (64)	Leaves linear-lanceolate; pseudobulbs prominent.	67 Oncidium
+	Leaves broadly elliptic to ovate-lanceolate; pseudobulbs highly reduced.	68 Trichocentrum
66 (64)	Sepals more than 20 mm.	36 Arethusa
+	Sepals less than 20 mm.	(67)
67 (66)	Leaves basal, plicate.	(68)
+	Leaves basal and/or cauline, various, but not plicate.	(69)
68 (67)	Leaves 1, withering or absent at flowering; column straight, compressed, 7 mm; mature capsules pendent; lip 3-lobed.	55 Aplectrum
+	Leaves 2–7, present at flowering; column curved, apically winged, 3–5 mm; mature capsules erect; lip unlobed.	53 Liparis
69 (67)	Spurs present.	26 Platanthera
+	Spurs absent.	(70)
70 (69)	Lip 3-lobed.	(71)
+	Lip unlobed or 3-dentate.	(72)
71 (70)	Column 5–10 mm.	34 Triphora
+	Column 0.2–1 mm.	54 Malaxis
72 (70)	Flowers in racemes.	(73)
+	Flowers in spirally twisted or secund spikes.	(74)
73 (72)	Column 0.2–1 mm.	54 Malaxis
+	Column 1.5–5 mm.	53 Liparis
74 (72)	Lip white, 3.5–5 mm.	19 Spiranthes
+	Lip white with central cinnabar-red disc and 3 green stripes near apex, 5.5–8 mm.	18 Schiedeella
75 (63)	Inflorescences of 1(–3, rarely) flowers.	(76)
+	Inflorescences of 4 or more flowers.	(77)
76 (75)	Lip margin laciniate; petals and sepals pink or rarely white or bluish; sepals oblong, elliptic, or narrowly lanceolate, 14–23 mm.	5 Pogonia
+	Lip margin crenulate; petals rose-pink to white; sepals olive-green, brown, or maroon, linear-lanceolate, 24–65 mm.	3 Cleistes
77 (75)	Plants arising from creeping rhizomes.	6 Goodyera
+	Plants not arising from creeping rhizomes.	(78)
78 (77)	Flowers white with yellow lip.	(79)
+	Flowers various, not white with yellow lip.	(80)

79 (78)	Lip pandurate, apex slightly broadened to winglike, margins entire; leaves cauline.	8 Zeuxine
+	Lip ovate, apex rounded, recurved, margin crisped, crenulate; leaves basal.	19 Spiranthes
80 (78)	Flowers not resupinate.	(81)
+	Flowers resupinate.	(83)
81 (80)	Column 0.3 mm; lip 1–2 mm; dorsal sepal 1–2.2 mm, reflexed.	9 Prescottia
+	Column 1.5–5 mm; lip 2–7 mm; dorsal sepal 3–7 mm, not reflexed.	(82)
82 (81)	Petals obliquely triangular; lip obovate to suborbiculate, deeply concave, white with 1–2 dark green spots; column slightly winged, 2.5–5 mm.	22 Ponthieva
+	Petals linear; lip ovate-subquadrangular, shallowly concave, white with green or pale yellow spots; column prominently winged, 1.5–2 mm.	21 Cranichis
83 (80)	Flowers yellow-orange to scarlet.	(84)
+	Flowers various colors, not orange-yellow to scarlet.	(85)
84 (83)	Petals and sepals strongly recurved; lip 15–20 x 3–5 mm; lateral sepals free, not forming mentum.	14 Dichromanthus
+	Petals and sepals not recurved; lip 20–31 x 3–8 mm; lateral sepals forming mentum with base of lip.	17 Sacoila
85 (83)	Flower colors green, greenish brown, or yellowish brown.	(86)
+	Flowers of various colors, not green, greenish brown, or yellowish green, green markings present in some.	(89)
86 (85)	Petioles of leaves 12–16.5 cm, reddish purple.	16 Pelexia
+	Petioles of leaves 10 cm or less, green.	(87)
87 (86)	Column 11 mm; lip 20–24 mm.	17 Sacoila
+	Column 2–4 mm; lip 5–7 mm.	(88)
88 (87)	Flowers greenish or yellowish green; apices of petals and sepals not recurved; lip oblong, apex slightly flared or pandurate to oblong-ovate with apex usually fan-shaped, 5–7 mm; column 3.5–4.5 mm.	10 Cyclopogon
+	Flowers brownish green to coppery; apices of petals and sepals spreading to recurved; lip elliptic to ovate-lanceolate, apex obtuse-rounded, 3.5–6 mm; column 2–2.5 mm.	15 Mesadenus
89 (85)	Petals and sepals without green lines or veins.	19 Spiranthes
+	Petals and sepals with green lines or veins.	(90)
90 (89)	Flowers pink or dull brown to purplish; column 8 mm.	12 Deiregyne
+	Flowers various, not pink or dull brown to purplish; column 2–10 mm.	(91)
91 (90)	Column 8–10 mm; dorsal sepal 15–18 mm; lip 8–16 mm	20 Stenorrhynchos
+	Column 2–4 mm; dorsal sepal 4–8 mm; lip 4.5–7 mm.	(92)
92 (91)	Lip white with central green stripe, 4.5 mm, sagittate, 3-lobed, lateral lobes rounded, middle lobe elongate-rounded, margins finely denticulate.	11 Beloglottis
+	Lip white, centrally yellow to yellowish or greenish white, 5–7 mm, ovate to	19 Spiranthes

ovate-oblong, unlobed, truncate, obtuse to deeply laciniate, margins erose-crisped.

(Key to the Genera of Orchidaceae by Lawrence K. Magrath, Robert L. Dressler, John T. Atwood, John Beckner)

- List of lower taxa

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(FONA 2003b)

210. **CYPERACEAE** Jussieu

Sedge Family

Peter W. Ball, A. A. Reznicek, David F. Murray

Herbs, annual or perennial, cespitose or not, rhizomatous or not, stoloniferous or not. Roots fibrous, principally adventitious. Stems (culms) usually trigonous, occasionally terete, rarely compressed, usually solid, rarely hollow or septate. Leaves basal and/or cauline, alternate, usually 3-ranked, rarely 2-ranked or multi-ranked, bases forming cylindric sheaths enclosing stem, margins usually fused; junction of sheaths and blades often with adaxial flaps of tissue or fringes of hair (ligules); blades frequently absent from some basal leaves, rarely from cauline leaves, when present divergent or ascending, flat, folded, plicate, rolled, or terete, linear, venation parallel. Primary inflorescences (spikelets) a shortened axis; glumaceous bracts (scales) 1–many, spirally arranged, sometimes 2-ranked, usually appressed or ascending; scales usually all fertile, each subtending a single flower, sometimes proximal and/or distal scales empty; lateral spikes often with basal, usually empty, usually 2-keeled scale (prophyll); occasionally prophyll subtending and enclosing rachilla, bearing 1 pistillate, sometimes (0–)3 staminate flowers and empty scales (Carex, Cymophyllus, and Kobresia). Secondary inflorescences panicles, often modified to corymb, pseudoumbel, cyme (anthela), raceme, spike, or capitulum (head), rarely single spike, usually subtended by foliaceous or, less frequently, glumaceous bracts; secondary inflorescences sometimes simulating spikelets (Carex, Cymophyllus, and Kobresia). Flowers hypogynous, bisexual in most genera, unisexual in Scleria, Carex, Cymophyllus, and Kobresia; perianth absent or with (1–)3–6(–30) bristles and/or scales, usually falling off with fruit; stamens usually (1–)3, rarely more, usually distinct; anthers basifixed; pistils 1, 2–3(–4)-carpellate, fused, locule 1; style undivided or branches 2–3(–4); stigma sometimes papillate. Fruits achenes, usually trigonous or biconvex; pericarps thin (except in Scleria). Seeds 1; testa thin, free from pericarp; embryo basal; endosperm abundant. x = 5–ca. 100.

Genera ca. 100, species ca. 5000 (27 genera, 843 species in the flora): worldwide.

No consensus exists regarding the number of genera and the overall relationships of genera within Cyperaceae. The most recent account of the family (P. Goetghebeur 1998) recognized 104 genera distributed among 4 subfamilies and 14 tribes. That arrangement differs somewhat from that of J. Bruhl (1995). With one minor exception the arrangement of the family here follows that of Goetghebeur.

The family is characterized by the occurrence of a number of unusual cytological features including: (1) chromosomes with diffuse centromeres, (2) post-reductional meiosis, and (3) pollen grains formed from tetrads in which 3 of the 4 microspores fail to develop. The first two features are found in at least some Juncaceae and are unique to the two families. Juncaceae also have pollen in tetrads, but in that family all four microspores produce pollen grains. Some species in some genera of Cyperaceae (particularly Eleocharis) possess chromosomes with localized centromeres (S. S. Bir et al. 1993). The wide range of chromosome numbers found in Cyperaceae is largely because of agmatoploidy; polyploidy has been hypothesized for some genera, especially Eleocharis, although polyploidy has not been demonstrated unequivocally.

Because of morphologic similarities in vegetative and inflorescence characters, the family has commonly been associated with Poaceae. Cytological features discussed above clearly indicate that to be a superficial similarity. Data from rbcL studies also support the view that Cyperaceae and Poaceae are not closely related (M. R. Duvall et al. 1993b; G. M. Plunkett et al. 1995); they do support the concept of close relationship between Cyperaceae and Juncaceae.

For most families of flowering plants the phenological data given are flowering times. Because most Cyperaceae cannot be reliably identified when in flower, in this volume fruiting time is given for all species by season, sometimes qualified by early, mid, or late, or by months. The fruiting time has been interpreted broadly to include the period when the fruit is more or less fully formed but not yet ripe. The fruiting period provided covers the entire range of the taxon. Quite a difference between fruiting periods in different parts of the range of the species may well occur, especially for widespread species and species with extensive elevation range.

For a recent, comprehensive review of the economic importance of Cyperaceae, see D. A. Simpson and C. A. Inglis (2001).

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1	Flowers and achenes partially to completely enclosed in scalelike structure (perigynium); perigynium in axil of scale; flowers unisexual (see Plate 1. A, B, C).	(2)
+	Flowers and achenes not enclosed in scalelike perigynium; flowers in axil of scale; flowers usually bisexual, sometimes some, rarely all, flowers unisexual.	(4)
2 (1)	Perigynia open to 1 side, at least some containing 1–3 staminate flowers as well as 1 pistillate flower (see Plate 1. A).	25 Kobresia
+	Perigynia closed except for pore at tip through which style protrudes, always containing only 1 pistillate flower (see Plate 1. B, C).	(3)
3 (2)	Culms usually with several blade-bearing leaves, sometimes all basal; blades flat, V-shaped, M-shaped, rarely terete or involute in cross section, commonly less than 2 cm wide, if flat with distinct midrib.	26 Carex
+	Culms with 1(–2) basal leaves; blades flat, usually 2–5 cm wide, without evident midrib.	27 Cymophyllus
4 (1)	Flowers with perianth of 1 or more hairs, bristles, scales, or bristles and scales, usually persistent on achene (see Plate 1. D, E, F; Plate 2. A).	(5)
+	Flowers without perianth of hairs, bristles, or scales.	(27)
5 (4)	Perianth of hairs or bristles, much exceeding subtending scales in fruit, more than 2 times as long as achene, including persistent style base, if present (see Plate 1. D).	(6)
+	Perianth not or scarcely exceeding subtending scales in fruit, not more than 2 times as long as achene, including persistent style base, if present (see Plate 1. E, F; Plate 2. A).	(9)
6 (5)	Perianth hairs strongly curled, tangled in fruit (woolly in appearance).	1 Scirpus
+	Perianth hairs ± straight, not tangled (silky in appearance).	(7)
7 (6)	Perianth hairs (8–)10+ in each flower; spikelets (excluding hairs) 1+ cm.	2 Eriophorum
+	Perianth hairs mostly 6 in each flower; spikelets (excluding hairs) not more than 1 cm.	(8)
8 (7)	Perianth hairs antrorsely barbed; leaf blades to 25 cm × 2.5–4 mm.	2 Eriophorum
+	Perianth hairs smooth; leaf blades less than 1 cm × 1 mm.	4 Trichophorum
9 (5)	Spikelets compressed laterally; scales 2-ranked at least in proximal 1/2, keeled (see Plate 2. C).	(10)
+	Spikelets ± rounded in cross section; scales spirally arranged, not keeled (distichous in Websteria) (see Plate 2. D).	(13)
10 (9)	Achenes biconvex; styles 2-fid.	(11)
+	Achenes trigonous; styles 3-fid.	(12)
11 (10)	Persistent style base of achene enlarged (see Plate 2. B).	21 Rhynchospora
+	Persistent style base of achene linear.	19 Dulichium

12 (10)	Achenes with persistent enlarged style base; culms simple with 1 spikelet; scales pale or yellow-brown to red-brown (see Plate 2. A).	8 Eleocharis
+	Achenes without persistent enlarged style base; culms distally branched with several spikelets; scales black or very dark purple.	22 Schoenus
13 (9)	Perianth consisting of scales or of 3 scales and 3 bristles (see Plate 1. E, F).	(14)
+	Perianth consisting of hairs or bristles, bristles rarely somewhat flattened and straplike (see Plate 2. A).	(15)
14 (13)	Perianth consisting of 3 bristles and 3 spatulate scales; leaves usually hairy, hairs sometimes confined to junction of blade and sheath (see Plate 1. E).	5 Fuirena
+	Perianth consisting of 1–2 scales; leaves glabrous (see Plate 2. F).	18 Lipocarpha
15 (13)	Culms apparently without blade-bearing leaves; leaves absent or consisting only of sheaths.	(16)
+	Culms with blade-bearing leaves; at least distal leaves with blades 5+ mm.	(18)
16 (15)	Spikelets consisting of 2 scales, distal scale subtending flower; culms with branches in successive false whorls, which terminate in clusters of leaves essentially indistinguishable from stems; spikelets borne singly on branches arising from among leaves.	9 Websteria
+	Spikelets with 4+ scales and 2+ flowers; culms unbranched except sometimes in inflorescence; either 1 terminal spikelet or several spikelets in branched inflorescence.	(17)
17 (16)	Style base enlarged, persistent in fruit, usually clearly differentiated from achene; culms with 1 spikelet (see Plate 2. A).	8 Eleocharis
+	Style base not or scarcely enlarged, deciduous in fruit; culms usually with several spikelets in branched though sometimes congested inflorescence.	7 Schoenoplectus
18 (15)	Style base enlarged, persistent as differentiated tubercle on achene (see Plate 2. A, B).	(19)
+	Style base not or only slightly enlarged, deciduous or small portion persistent as undifferentiated beak.	(20)
19 (18)	Culms unbranched, with 1 spikelet; spikelets with 1 proximal scale empty.	8 Eleocharis
+	Culms usually distally branched, with more than 1 spikelet; spikelets usually with 2+ proximal scales empty.	21 Rhynchospora
20 (18)	Spikelets 2+, arranged in distichous spike.	20 Blysmopsis
+	Spikelets 1–500, arranged in panicle or clustered into 1 or more heads or solitary.	(21)
21 (20)	Leaf blades and bracts with prominent midrib forming keel on abaxial surface, or blades folded along midrib; inflorescences obviously terminal (see Plate 2. F).	(22)
+	Leaf blades and bracts various, midrib not forming prominent keel on abaxial surface, sometimes with several ribs equally prominent; proximal bract sometimes erect, as if continuation of culm; inflorescences then appearing lateral.	(23)
22 (21)	Scales glabrous, never both notched and awned at tip; spikelets less than 3.5(–5) mm diam.; achenes 0.6–1.8 mm, mnutely papillose.	1 Scirpus
+	Scales puberulent on abaxial surface, often glabrescent, notched and	6 Bolboschoenus

awned at tip; spikelets mostly 4–10 mm diam.; achenes 2.3–5.5 mm, smooth.

23 (21)	Bracts 2+, the proximal 10+ mm, exceeding spikelets by at least 3 mm; spikelets usually 2+.	(24)
+	Bracts mostly 1–2, less than 10 mm, shorter than or exceeding spikelet by no more than 3 mm; spikelets always solitary.	(25)
24 (23)	Proximal leaf sheaths often disintegrating into fibers; stems and leaf blades tough, wiry.	3 Amphiscirpus
+	Proximal leaf sheaths never disintegrating into fibers; leaf blades soft, herbaceous.	7 Schoenoplectus
25 (23)	Anthers 3 mm; achenes 2.5–3.5 mm.	7 Schoenoplectus
+	Anthers 1–2.5 mm; achenes 1.5–2.5 mm.	(26)
26 (25)	Culms with all leaves basal; sheaths often disintegrating into fibers; perianth bristles retrorsely spinulose.	3 Amphiscirpus
+	Culms with bladeless sheaths or distal sheaths with blade to 5 mm; sheaths not fibrous; perianth bristles smooth or scabrous.	4 Trichophorum
27 (4)	Spikelets with scales arranged in 2 rows, at least proximally, commonly compressed; scales keeled (see Plate 2. C).	(28)
+	Spikelets with scales spirally arranged or arranged in more than 2 rows, usually not compressed; scales not keeled (see Plate 2. D).	(32)
28 (27)	Spikelets with 1–2+ proximal scales empty.	(29)
+	Spikelets usually with all scales subtending flowers.	(30)
29 (28)	Inflorescences of 1–5 straw-colored spikelets.	12 Abildgaardia
+	Inflorescences of (1–)10–25 black or dark purple spikelets.	22 Schoenus
30 (28)	Styles 3-fid; achenes trigonous.	15 Cyperus
+	Styles 2-fid; achenes flat to biconvex.	(31)
31 (30)	Spikelets with 5–many scales; inflorescences variously arranged.	15 Cyperus
+	Spikelets with 1–3 scales; inflorescences with 1–4 dense spikes.	17 Kyllinga
32 (27)	Style base enlarged, persistent in fruit as differentiated or conic apical tubercle (see Plate 2. A, B).	(33)
+	Style base not or scarcely enlarged, deciduous or undifferentiated portion persisting as cylindric beak.	(35)
33 (32)	Culms with 1 spikelet, without blade-bearing leaves or with blade not exceeding 4 mm.	8 Eleocharis
+	Culms with inflorescences of 2+ spikelets, with 1+ blade-bearing leaves usually much exceeding 4 mm.	(34)
34 (33)	Mouth of leaf sheaths fimbriate-ciliate; styles 3-fid; achenes trigonous.	11 Bulbostylis
+	Mouth of leaf sheaths glabrous; styles usually 2-fid; achenes usually biconvex.	21 Rhynchospora
35 (32)	Flowers unisexual; spikelets with only one pistillate flower or entirely staminate (see Plate 2. E).	24 Scleria

+	Flowers usually bisexual; spikelets usually with 2+ bisexual flowers.	(36)
36 (35)	Leaves ligulate, ligules membranous or row of hairs or cilia (see Plate 2. F).	(37)
+	Leaves not ligulate, rarely with lateral groups of hairs at junction of blade and sheath.	(42)
37 (36)	Styles 2-fid; achenes biconvex.	(38)
+	Styles 3-fid; achenes trigonous.	(39)
38 (37)	Spikelets with all scales subtending flower.	1 Scirpus
+	Spikelets with proximal 1–2+ scales empty.	10 Fimbristylis
39 (37)	Culms with single terminal spikelet.	4 Trichophorum
+	Culms with 2+ spikelets.	(40)
40 (39)	Leaf blades and bracts not prominently keeled on abaxial surface.	10 Fimbristylis
+	Leaf blades and bracts with midrib forming prominent keel on abaxial surface.	(41)
41 (40)	Inflorescence bracts not ciliate; scales not spinose.	1 Scirpus
+	Inflorescence bracts ciliate proximally; scales with spinose tip.	14 Oxycaryum
42 (36)	Leaves with 2 lateral groups of hairs (at least some hairs 0.3 mm) at junction of blade and sheath.	11 Bulbostylis
+	Leaves glabrous or with only short hairs at junction of blade and sheath.	(43)
43 (42)	Inflorescences apparently lateral; proximal bract erect, appearing to be continuation of stem (see Plate 2. G).	(44)
+	Inflorescences evidently terminal (sometimes some axillary); bracts ascending or spreading, none appearing to be continuation of stem.	(46)
44 (43)	Achenes faintly to prominently rugose or transversely ridged.	7 Schoenoplectus
+	Achenes smooth, papillose, or longitudinally ridged.	(45)
45 (44)	Spikelets with 8–25 scales.	13 Isolepis
+	Spikelets with (1–)3 scales.	18 Lipocarpha
46 (43)	Spikelets with all scales subtending flowers.	13 Isolepis
+	Spikelets with 1+ proximal scales empty.	(47)
47 (46)	Styles 2-fid; achenes biconvex.	10 Fimbristylis
+	Styles 3-fid; achenes trigonous or round in cross section.	(48)
48 (47)	Plants annual, not rhizomatous; widest leaves not more than 2 mm wide; achenes usually 1.5 mm or less, reticulate-honeycombed.	10 Fimbristylis
+	Plants perennial, rhizomatous; widest leaves usually more than 2 mm wide; achenes 1.5–3 mm, smooth or rugose.	(49)
49 (48)	Inflorescences terminal, capitate; culms not more than 20 cm.	16 Remirea
+	Inflorescences terminal or some lateral, corymbose or subcapitate; culms usually 70+ cm.	23 Cladium

- List of lower taxa

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(Griffith et.al. 2002)

ECOREGIONS OF NORTH CAROLINA

Regional Descriptions

by

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August 31, 2002

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To obtain larger, color maps of the Level III and IV ecoregions of North Carolina or for an ARC/INFO export file of the ecoregion boundaries, contact the authors or see www.epa.gov/wed/pages/ecoregions/ecoregions.htm.

INTRODUCTION

Spatial frameworks are necessary to structure the research, assessment, monitoring, and ultimately the management of environmental resources. Ecological region (or ecoregion) frameworks are designed to meet these needs and have been developed in the United States (Bailey 1976, 1983, 1995; Bailey et al., 1994; Omernik 1987, 1995), Canada (Wiken 1986; Ecological Stratification Working Group 1995), New Zealand (Biggs et al., 1990), Australia (Thackway and Cresswell 1995), the Netherlands (Klijn 1994), Finland (Heino et al., 2002), and other countries. We define ecoregions as areas of relative homogeneity in ecological systems and their components. They portray areas within which there is similarity in the mosaic of all biotic and abiotic components of both terrestrial and aquatic ecosystems. Factors associated with spatial differences in the quality and quantity of ecosystem components, including soils, vegetation, climate, geology, and physiography, are relatively homogeneous within an ecoregion. These regions separate different patterns in human stresses on the environment and different patterns in the existing and attainable quality of environmental resources. Ecoregion classifications are effective for inventorying and assessing national and regional environmental resources, for setting regional resource management goals, and for developing biological criteria and water quality standards (Gallant et al., 1989; Hughes et al., 1990, 1994; Hughes 1989; Environment Canada 1989; U.S. Environmental Protection Agency, Science Advisory Board 1991; Warry and Hanau 1993).

The development of ecoregion frameworks in North America has evolved considerably in recent years (Bailey et al., 1985; Omernik and Gallant 1990; Omernik 1995). The U.S. Environmental Protection Agency's (EPA) first compilation of ecoregions of the conterminous United States was performed at a relatively cursory scale, 1:3,168,000, and was published at a smaller scale, 1:7,500,000 (Omernik 1987). The approach recognized that the combination and relative importance of characteristics that explain ecosystem regionality vary from one place to another and from one hierarchical level to another. This is similar to the approach used by Environment Canada (Wiken 1986). In describing ecoregionalization in Canada, Wiken (1986) stated:

"Ecological land classification is a process of delineating and classifying ecologically distinctive areas of the earth's surface. Each area can be viewed as a discrete system which has resulted from the mesh and interplay of the geologic, landform, soil, vegetative, climatic, wildlife, water and human factors which may be present. The dominance of any one or a number of these factors varies with the given ecological land unit. This holistic approach to land classification can be applied incrementally on a scale-related basis from very site specific ecosystems to very broad ecosystems."

The EPA's ecoregion framework has been revised and made hierarchical. It has been expanded to include Alaska (Gallant et al., 1995), as well as tie into a North American ecological region framework (Commission for Environmental Cooperation 1997). A Roman numeral classification scheme has been adopted for the hierarchical levels of ecoregions. This numbering is used, in part, to avoid confusion over different usage of terms such as ecozones, ecodistricts, ecoprovinces, subregions, etc. Level I is the coarsest level, dividing North America into 15 ecological regions. At level II, the continent is subdivided into 52 ecoregions, and at level III the continental United States contains 104 ecoregions (U.S. EPA 2002).

The goal of the U.S. EPA ecoregion work that began nearly 20 years ago was to develop a spatial framework for states to structure their regulatory programs more effectively, in tune with the regional potentials and resiliences of the land (Omernik 1987). It was suspected and subsequently learned that the quantity and quality of water tended to be similar within these ecological regions. The level III ecoregions defined initially by Omernik (1987) were shown to be useful for stratifying streams in Arkansas (Rohm et al., 1987), Ohio (Larsen et al., 1988), and Oregon (Hughes et al., 1987; Whittier et al., 1988), as well as in several other states (Hughes et al., 1994, Davis et al., 1996, Feminella 2000). They were used to identify lake management goals in Minnesota (Heiskary et al., 1987; Heiskary and Wilson 1989), and to develop biological criteria in Ohio (Yoder and Rankin 1995).

Many state agencies, however, have found that the resolution of the level III ecoregions does not provide enough detail to meet their needs. This has led to several collaborative projects, with states, EPA regional offices, and the EPA's National Health and Environmental Effects Research Laboratory in Corvallis, OR, to refine level III ecoregions and define level IV ecoregions at a larger (1:250,000) scale. These level IV ecoregion projects have been completed or are in process in Alabama, Florida, Georgia, Idaho, Indiana, Iowa, Kansas, Kentucky, Maryland, Massachusetts, Mississippi, Missouri, Montana, Nebraska, Nevada, North Dakota, Oregon, Ohio, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, Wisconsin, and Wyoming, and are largely in response to requests from EPA regional offices or state water resource management agencies. Many of these state projects are also associated with interagency efforts to develop a common framework of ecological regions (McMahon et al., 2001).

Water quality legislation and regulations, with a mandate to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters," depend on some model of attainable conditions, that is, on some measurable objectives towards which cleanup efforts are striving (Hughes et al., 1986). States are adopting biological criteria for surface waters to improve water quality standards. Biological criteria are defined as numeric values or narrative expressions that describe the reference biological integrity of aquatic communities inhabiting waters of a given designated aquatic life use (U.S. EPA 1990). Biological integrity has been defined as, " the ability of an aquatic ecosystem to support and maintain a balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of the natural habitats of a region," (Karr and Dudley 1981). Regional reference sites within an ecoregion can give managers and scientists a better understanding of attainable water body conditions. The biota and physical and chemical habitats characteristic of these regional reference sites serve as benchmarks for comparison to more disturbed streams, lakes, and wetlands in the same region (Hughes et al., 1986; Hughes 1995). Along with other information, these sites help indicate the range of conditions that could reasonably be expected in an ecoregion, given natural limits and present or possible land use practices.

The Biological Assessment Unit of North Carolina's Division of Water Quality has a long history of examining regional influences on water quality (Lenat 1993, Carson 1989). To facilitate ecological assessments and the continued development of biological criteria for streams and rivers in North Carolina, the North Carolina Department of Environment and Natural Resources (NCDENR), U.S. EPA Region IV, U.S. EPA-Corvallis, USDA-NRCS Watershed Science Institute, and other agencies collaborated to define level III and level IV ecoregions. This type of framework can be useful for assessing nonpoint source pollution problems, determining the effectivenes of best management practices, identifying high quality or outstanding resource waters, establishing ecoregion-specific chemical and biological water quality standards, for putting basin or statewide 305(b) water quality reports in an ecological context, and for managing areas to preserve biological diversity. In this paper, we discuss the method and materials used to refine level III ecoregions and define level IV ecoregions in North Carolina, and provide descriptions of the significant characteristics in these regions.

METHODS

Our regionalization process includes compiling and reviewing relevant materials, maps, and data; outlining the regional characteristics; drafting the ecoregion boundaries; creating digital coverages and cartographic products; and revising as needed after review by national, state, and local experts. In the regionalization process, we use primarily a qualitative, weight-of-evidence analysis of relevant data and information. Expert judgement is applied throughout the selection, analysis, and classification of data to form the regions, basing judgments on the quantity and quality of source data and on interpretation of the relationships between the data and other environmental factors. The analysis accounts for differences in map accuracy, scale, and generalization, as well as for differences in the relative importance of any one factor as it relates to ecological classification at any particular location. More detailed descriptions on the U.S. EPA's methods, materials, rationale, and philosophy for regionalization can be found in Omernik (1987, 1995), Omernik et al., (2000), Gallant et al., (1989), and Omernik and Gallant (1990). The regionalization process used for North Carolina was similar to that of other state-level EPA ecoregion projects (e.g., Griffith et al., 2002, 2001, 1997, 1994a,b,c; Omernik et al., 2000; Woods et al., 1996, 1998).

Maps of environmental characteristics and other documents were collected from the state of North Carolina, U.S. EPA-Corvallis, USGS, and from other sources. The most important of these are listed in the References section. The most useful map types for our ecoregion delineation generally include physiography or land surface form, geology, soils, climate, vegetation, and land cover/land use. There are several different small-scale physiographic maps of North Carolina that can be found in a variety of publications. Statewide physiographic and land surface-form descriptions and maps were gathered primarily from Stuckey (1965). Wilson et al., (1980), Orr and Stuart (2000), Lonsdale (1967), Harrington (1982), NCCGIA (1997) among others; from surrounding states, e.g., Myers et al., (1986), Kovacik and Winberry (1987), Murphy (1995); and from regional or national scale information such as Hack (1982), Bayer (1983), Hammond (1970) and Fenneman (1938). Topography and land-form features were also discerned from 1:250,000 and 1:100,000 scale topographic maps. Geologic information was gathered from maps such as the 1:500,000-scale state map North Carolina Geological Survey (1985) and other regional maps (Owens 1989); from surrounding state maps in South Carolina (Maybin and Nystrom 1995, SCDNR 1997) Tennessee (Hardeman et al., 1966), and Virginia (Virginia Division of Mineral Resources 1993); from the 1:1,000,000-scale Quaternary geology series (Cleaves et al., 1987, Colquhoun et al., 1987, Howard et al., 1991, Johnson and Peebles 1986); from state, regional, or local geology descriptions (e.g., Horton and Zullo 1991, Stuckey 1965, Murphy 1995, Hack 1982, Snoke 1978, Horton et al., 1981, Wilson et al., 1980, Orr and Stuart 2000); and from national scale maps such as Hunt (1979), Bayer (1983), and King and Biekman (1974).

Soils information was obtained from the U.S. Department of Agriculture's (USDA) county soil surveys, the 1:250,000-scale STATSGO soil data base, and state and regional publications (e.g., Daniels et al., 1984, 1999; USDA-SCS 1981). Because soil taxonomy and interpretations are dynamic, and current soil series names may be different from those in earlier publications, soil information and ecological aggregations of STATSGO or other soil data were also obtained from state soil experts (Roy Vick, Jr., Chip Smith, USDA Natural Resources Conservation Service, personal communications).

Climate information and summaries were based primarily on 1961-1990 data from the Southeast Regional Climate Center, from precipitation and temperature information based on the PRISM model (Daly et al., 1997; www.ocs.orst.edu/prism/prism_new.html), from state summaries (Soule 1996), and from older data such as Hardy (1974) and climate information in the county soil surveys.

Statewide vegetation and forest cover maps for North Carolina are difficult to find. The most common forest type map is general and small in scale, and comes in several variations from different publications, but appears to be based mostly on a 1955 USDA Forest Service small-scale map. This 1955 map is still being distributed to the public by the NCDENR Division of Forest Resources. The variations of this map can be found in Orr and Stuart (2000), Clay et al., (1975), Lemert and Harrelson (1954), as well as an older 1940 version in Cruikshank (1943). Vegetation and forest type information were also obtained from Braun (1950), Kuchler (1964), the forest atlas of the South (USDA, Forest Service 1969), the national atlas (Kuchler 1970; U.S. Forest Service 1970), USDA Forest Service (1997), from natural community publications (Schafale and Weakley 1990, Fleming et al., 2001), from numerous journal manuscripts listed in the references, or from NCDENR Natural Heritage Program personnel (Mike Schafale, personal communication).

For land use/land cover we used primarily the National Land Cover Data set (NLCD), part of the Multi-Resolution Land Characterization (MRLC) consortium activities. This data is based on early to mid-1990's Landsat Thematic Mapper satellite data of 30 meter resolution (Vogelmann et al., 2001). We also used the 1:250,000 scale land use/land cover maps from the U.S. Geological Survey (USGS 1986), and the general land use classification of Anderson (1970). Also, for assessing variations in the mix of agriculture activities as an expression of land potential, many maps from the 1987, 1992 and 1997 Census of Agriculture were analyzed (U.S. Department of Commerce 1990, 1995; U.S. Department of Agriculture NASS 1999), as well as state and county agricultural statistics from the NC Department of Agriculture. In addition, a map produced from composited multi-temporal Advanced Very High Resolution Radiometer (AVHRR) satellite data was also used to assess boundaries and regional differences. This AVHRR NDVI (Normalized Difference Vegetation Index) data is also used by the USGS EROS Data Center to characterize land cover of the conterminous United States (Loveland et al., 1991, 1995).

In addition to the component information such as listed above, other existing ecological, biological, or physical frameworks were examined. These include the several ecoregion frameworks developed by NCDENR aquatic biologists such as Penrose, Eaton, Lenat and others (Dave Lenat, NCDENR, personal communication), the North Carolina ecoregions of Carson (1989), draft ecological planning regions of the Natural Heritage Program (Mike Schafale, NCDENR, personal communication), the South Carolina forest habitat regions (Myers et al., 1977), the USFS sections and subsections (Keys et al., 1995), Major Land Resource Areas (USDA 1981), and the natural land-use regions of Barnes and Marschner (1933), among others. Also of major importance were the mental maps that local experts brought to discussion meetings, reviews, or field reconnaissance trips.

We used USGS 1:250,000-scale topographic maps as the base for delineating the ecoregion boundaries. Although this map series is dated, it does provide quality in terms of the relative consistency and comparability of the series, in the accuracy of the topographic information portrayed, and in the locational control. It is also a very convenient scale. Seventeen of these maps give complete coverage of North Carolina.

RESULTS AND REGIONAL DESCRIPTIONS

We have divided North Carolina into four level III ecoregions (Figure 1, p. 52) and 27 level IV ecoregions (Figure 2, p. 53). Although these level IV ecoregions still contain some heterogeneity in factors that can affect water quality and biotic characteristics, they provide a more detailed framework and more precise ecoregion boundaries than the earlier national-scale ecoregions (Omernik 1987). The ecoregion framework also provides more homogeneous units for inventorying, monitoring, and assessing surface waters than the commonly used hydrologic unit frameworks or political unit frameworks (Omernik and Bailey 1997, Omernik and Griffith 1991, Griffith et al., 1999). Major river basins drain strikingly different ecological regions. A map of the ecoregions of North Carolina and South Carolina has been published by USGS (Griffith et al., 2002b).

Ecoregion boundaries are often portrayed by a single line, but in reality they are transition zones of varying widths. In some areas the change is distinct and abrupt, in other areas, the boundary is fuzzy and more difficult to determine. fuzzy boundaries are areas of uncertainty or where there may be a heterogeneous mosaic of characteristics from each of the adjacent areas.

45. Piedmont

Considered the nonmountainous portion of the old Appalachians Highland by physiographers, the northeast-southwest trending Piedmont ecoregion comprises a transitional area between the mostly mountainous ecological regions of the Appalachians to the northwest and the relatively flat coastal plain to the southeast. It is an erosional terrain of moderately dissected irregular plains with some hills, with a complex mosaic of Precambrian and Paleozoic metamorphic and igneous rocks. Most rocks of the Piedmont are covered by a thick mantle of saprolite, except along some major stream valley bluffs and on a few scattered granitic domes and flatrocks. Rare plants and animals are often found on the rock outcrops. Stream drainage in the Piedmont tends to be perpendicular to the structural trend of the rocks across which they flow. This lack of structural control is likely due to the drainage being superimposed from a Coastal Plain cover (Staheli 1976; Hack 1982).

The soils are generally finer-textured than those found in coastal plain regions with less sand and more clay (Markewich et al. 1990). Several major land cover transformations have occurred in the Piedmont over the past 200 years, from forest to farm, back to forest, and now in many areas, spreading urban- and suburbanization. The historic oak-hickory-pine forest was dominated by white oak (Quercus alba), southern red oak (Q. falcata), post oak (Q. stellata), and hickory (Carya spp.), with some shortleaf pine (Pinus echinata) and loblolly pine (P. taeda). Once largely cultivated with crops such as cotton, corn, tobacco and wheat, most of the Piedmont soils were moderately to severely eroded (Trimble 1974). Much of this region is now in planted pine or has reverted to successional pine and hardwood woodlands, with some pasture in the landcover mosaic. We have divided the Piedmont of North Carolina into seven level IV ecoregions: Southern Inner Piedmont (45a), Southern Outer Piedmont (45b), Carolina Slate Belt (45c), Northern Inner Piedmont (45e), Northern Outer Piedmont (45f), Triassic Basins (45g) and Kings Mountain (45i).

45a. Southern Inner Piedmont

The Southern Inner Piedmont extends from Alabama, across northern Georgia and South Carolina, and just into a small portion of the North Carolina Piedmont, primarily in Polk and Rutherford counties. The region is generally higher in elevation with more relief than 45b. As a transitional region from the Blue Ridge (66) to the Piedmont, it contains some mountain outliers, and it receives more rainfall than 45b and 45c. The general roughness of the landscape decreases to the southeast away from the mountains. The rolling to hilly well-dissected upland contains mostly gneiss and schist bedrock that is covered with clayey and micaceous saprolite. It is warmer than the Northern Inner Piedmont (45e) to the north that extends into Virginia, and it contains thermic soils rather than 45e's mesic soils. The region is now mostly forested, with major forest types of oak-pine and oak-hickory. Open areas are mostly in pasture, although there are some small areas of cropland. The boundary with 66d and 66l is relatively distinct, based primarily on topography and soils, while the boundary with 45b to the southeast is more transitional and fuzzy.

45b. Southern Outer Piedmont

The Southern Outer Piedmont extends from Alabama, across large portions of the Georgia and South Carolina Piedmont, and into northern North Carolina. It covers the middle portion of the North Carolina Piedmont in the south, narrowing to the north, northeast of Greensboro, between 45c and 45e. The ecoregion has lower elevations, less relief, and less precipitation than 45a and 45e, and tends to have more cropland than those Inner Piedmont regions. The landform class is mostly irregular plains rather than the plains with high hills of 45a and 45e (Hammond 1970). Gneiss, schist, and granite are typical rock types, and the rocks are more intensely deformed and metamorphosed than the geologic materials in 45c, 45g, and 45i.

The rocks are covered with deep saprolite and mostly red, clayey subsoils. Kanhapludults are common soils, such as the Cecil, Appling, and Madison series. The eastern portion of the region is complex, with a mixture of felsic crystalline and more mafic rocks contributing to complex soil patterns. Many gradations of soils occur from the felsic rocks to the mafic rocks. As Daniels et al., (1999, p.58) express it, "It must be emphasized that most rock types have gradational boundaries and the boundary between soils related to each rock type is even more diffuse." Soil variation even within a detailed soil survey map unit is larger than normal for the Piedmont.

Some areas within this region have more alkaline soils, such as the Iredell series, formed over diabase, diorite, or gabbro, and may be associated with areas once known as blackjack oak prairies. A few researchers in both South and North Carolina suggested that these basic rock/soil areas were distinctive and should be mapped as a separate region, but there was little evidence of their extent or exact location, and the areas appeared to be mostly small and scattered. The mafic rock types that were suggested, such as gabbro, diabase, and diorite did not always coincide with the suggested soil series of Iredell, Enon, Armenia, and Picture. In addition, there was not strong or well-mapped vegetation evidence or mutiple sources of evidence to show a distinctive region. As Shafale and Weakley (1990, p.76) noted for the basic oak-hickory forests of the Piedmont, sites mapped as having the soil series with higher soil pH sometimes give no vegetational indication of having basic soils.

For the ecoregion as a whole, pine (shortleaf, Virginia, and loblolly) dominates on old field sites and pine plantations, while mixed oak forest is found in less heavily altered areas. Land cover also includes some pasture and cropland, as well as spreading urban areas, especially around Charlotte, Winston-Salem, and Greensboro.

The northern or northwestern boundary with 45e is transitional or fuzzy, based in part on the mesic/thermic soil temperature line established by NRCS and others (Daniels et al., 1999), climatic patterns and characteristics, general physiographic differences, apparent differences indicated by major forest type maps, and differences in aquatic macroinvertebrate distributions. (See the discussion on this boundary in

45e). The eastern boundary of the ecoregion is somewhat sharper, occurring where the region meets the slate belt rocks and soils of 45c.

45c. Carolina Slate Belt

This region extends from southern Virginia, across the Carolinas, and into a small part of eastern Georgia. The mineral-rich metavolcanic and metasedimentary rocks with slatey cleavage tend to be finer-grained and less metamorphosed than other parts of the Piedmont (except for the Triassic Basins, 45g) and are somewhat less resistant to erosion. They therefore form areas of slightly lower elevations with wider valleys. In North Carolina, however, some parts of the region are more rugged and hilly, such as the Uwharrie Mountains, and other areas have hills and linear ridges. Trellised drainage patterns also occur in parts of the region. The volcanic-sedimentary rock formations include volcanic slates, basic and acid tuffs, breccias and flows that are interbedded. The volcanic rocks are intruded in some areas by granites. The Carolina Slate Belt has been an important region of mineral production and is thought to have potential for containing undiscovered deposits of gold and silver, as well as of copper, lead, zinc, molybdenum, and tin. The volcanic slates are deeply weathered in places forming clay and shale, and soils generally have high silt contents. Georgeville and Herndon soils (fine, kaolinitic, thermic Typic Hapludults) are common. The more silty and silty clay soils of the the Carolina Slate Belt contrast with the loam and sandy loam soils often found in 45a, 45e, 45b, 45g, and 45f. Streams tend to dry up and water yields to wells are low as this region contains some of the lowest water-yielding rock units in North Carolina (Giese and Mason 1991).

Similar Slate Belt regions have been defined on other regional frameworks, such as for natural land use areas (Barnes and Marschner 1933), soil system regions (Daniels et al., 1984, 1999), USFS subsections (Keys et al., 1995), and in South Carolina as a forest habitat region (Myers et al., 1986).

45e. Northern Inner Piedmont

Similar to 45a, the rolling to hilly Northern Inner Piedmont has higher elevations, more rugged topography, and more monadnocks or mountain outliers than other areas of the Piedmont. It has colder temperatures, more snowfall, and a shorter growing season than in 45a, b, c, and f, and it has mostly mesic soils rather than the thermic soils that cover other regions of the North Carolina Piedmont. The region contains more Virginia pine (Pinus virginiana) and less shortleaf pine (P. echinata) than 45b and 45c, more chestnut oak (Quercus montana), and many mountain disjunct plant species. Streams tend to have higher gradients than in the Outer Piedmont regions, and contain many mountain-type macroinvertebrate species.

The eastern boundary of the ecoregion with 45b is transitional or fuzzy, based in part on the mesic/thermic soil temperature line established by NRCS and others (Daniels et al., 1999), the climatic patterns and characteristics mentioned above, the general physiographic differences, the differences indicated by major forest type maps, and differences in aquatic macroinvertebrate distributions such as "extended mountain" stream macroinvertebrate species and higher EPT taxa richness scores. There was some disagreement among the collaborating researchers on where this boundary should be placed. One aquatic biologist thought that it extended too far to the east and south in the northern two tiers of counties. Some soil scientists suggested that the boundary should be moved slightly further to the southeast to follow exactly the designated mesic/thermic soil temperature line, but others argued that the soil temperature line was also a problematic, less-than-sharp boundary. The western boundary of the ecoregion is somewhat sharper, occurring where the region meets the higher relief of the Blue Ridge Front or foothill areas and mountain soils types of Ecoregion 66. However, the occurrence of higher relief areas of the inner-most Piedmont near the Blue Ridge boundary suggest some transitional width occurs in some sections as well.

45f. Northern Outer Piedmont

The Northern Outer Piedmont is composed of mostly gneiss and schist rock intruded by granitic plutons, and veneered with saprolite. It is lithologically distinct from the adjacent Piedmont regions 45c and 45g, as well as from the younger unconsolidated sediments of 65m. Rocks and soils are similar to 45b, but 45f is cooler with a shorter growing season. The region contains more loblolly pine (Pinus taeda) compared to the Virginia pine (P. virginiana) and shortleaf pine (P. echinata) found in the Piedmont to the west, but it also contains local concentrations of mountain disjunct plant species. The region extends into Virginia and becomes contiguous with the Northern Inner Piedmont, but relief and elevation are less than in 45e, and it contains thermic soils rather than 45e's mesic soils.

At the eastern boundary, the Fall Line is a broad transition zone where Piedmont rocks occur on the same landscape with Coastal Plain sediments. This Fall Zone contains a variety of aquatic habitats, and some cascades and waterfalls deter the upstream movement of fish, especially during low water. Some areas near this boundary have metavolcanic and metasedimentary rocks similar to 45c. Although we recognized the occurrence of Slate Belt rocks and soils in the eastern portion of the region, the consensus of opinion in the mapping meetings for this project was to not delineate this as a disjunct piece of the Carolina Slate Belt, considering its relatively small size and the heterogeneous nature of the rocks and soils throughout the entire Northern Outer Piedmont ecoregion.

45g. Triassic Basins

This region extends from Virginia, across North Carolina, and just slightly into South Carolina. The Triassic Basins of North Carolina occur in four narrow bands and have unusual Piedmont geology of unmetamorphosed shales, sandstones, mudstones, siltstones, and conglomerates. Local relief and elevations are often less than in surrounding regions (45c, 45e, and 45f), and, with rocks that are easier to erode, stream valleys that cross the region tend to widen. Soils are often clayey with low permeability, and streams have low base flows. The clay has a high shrink-swell potential that can hinder construction; it is also utilized by many brick makers in the region. A mosaic of mixed and deciduous forest, pasture, cropland, and urban land cover occurs here. In the wider floodplains, large bottomland hardwood forests once occurred, before they were covered by the water of reservoirs such as Jordan Lake, Falls Lake, and Harris Reservoir. The boundaries of the ecoregion are based on the close coincidence of breaks in geology and soils relative to adjacent regions.

45i. Kings Mountain

The Kings Mountain ecoregion is a hilly, somewhat rugged area with some northeast to southwest trending ridges and distinctive metasedimentary and metavolcanic rocks. Aluminum-rich quartz-sericite schist is common. The metamorphic grade is generally lower than adjacent geologic belts and the rocks contain an unusual variety of mineral deposits. Mining strongly influenced the early development of the region, including an iron industry in the late 1700's to late 1800's, and later production of marble, lime, gold, lead, silver, pyrite, lithium, mica, feldspar, silica, and clay. Soils derived from the fine-textured rocks are often a very fine sandy to silty texture, somewhat similar to Carolina Slate Belt (45c) soils. The region is covered with mixed oak and oak-hickory-pine forest. Some small but prominent natural Virginia pine-dominated woodlands occur on the high ridges. About two-thirds of the ecoregion occurs across the border in South Carolina, and it was delineated in that state as a forest habitat region by Myers et al., (1986). While relief and topography help define the region, soils and geology were the more important factors in determining the ecoregion boundary placement.

63. Middle Atlantic Coastal Plain

Ecoregion 63 is found primarily in the Carolinas and other states to the north, and has a broad transitional boundary with ecoregion 75 to the south. It consists of low elevation, flat plains, with many swamps, marshes, and estuaries. Forest cover in the region, once dominated by longleaf pine (Pinus palustris) in the Carolinas, is now mostly loblolly (P. taeda) and some shortleaf pine (P. echinata), with patches of oak (Quercus spp.), gum (Nyssa spp.), and cypress (Taxodium spp.) near major streams, as compared to the mainly longleaf-slash pine forests of the warmer Southern Coastal Plain (75). Its low terraces, marshes, dunes, barrier islands, and beaches are underlain by unconsolidated sediments. Poorly drained soils are common, and the region has a mix of coarse and finer textured soils compared to the mostly coarse soils in the majority of ecoregion 75. Ecoregion 63 is typically lower, flatter, less dissected, more poorly drained, and more marshy than ecoregion 65 to the west. Pine plantations for pulpwood and lumber are typical, with some areas of cropland.

We have divided the Middle Atlantic Coastal Plain of North Carolina into seven level IV ecoregions: Chesapeake-Pamlico Lowlands and Tidal Marshes (63b), Nonriverine Swamps and Peatlands (63c), Virginian Barrier Islands and Coastal Marshes (63d), Mid-Atlantic Flatwoods (63e), Carolinian Barrier Islands and Coastal Marshes (63g), Carolina Flatwoods (63h), and Mid-Atlantic Floodplains and Low Terraces (63n).

63b. Chesapeake-Pamlico Lowlands and Tidal Marshes

The Chesapeake-Pamlico Lowlands and Tidal Marshes occur on the lowest marine terrace with elevations ranging from sea level to about 25 feet. The western boundary of 63b generally occurs at the Suffolk Scarp. The region is characterized by nearly level plains with some broad shallow valleys, seasonally wet soils (Aquults), brackish and freshwater streams, and broad estuaries affected by wind tides. The region extends north into Maryland and surrounds most of the Chesapeake Bay. It is flatter and lower in elevation than 63e, with a slightly longer growing season than 63e and 65m. Some major areas of cropland are found in the region, growing corn, wheat, soybeans, and potatoes. The region once had large areas of nonriverine wet hardwood forests, now one of the most endangered natural community types in North Carolina (Schafale 1999).

Lake Mattamuskeet, the largest natural lake in North Carolina at about 18 miles long and 6 miles wide, is located in this region. The lake is generally shallow but provides valuable wintering areas for geese, swans, ducks, and other birds. Large-scale drainage operations to convert the lake bottom to farmland began around 1914, but the idea was abandoned as impractical and expensive.

63c. Nonriverine Swamps and Peatlands

Nonriverine Swamps and Peatlands are flat, poorly drained areas containing organic soils of peat and muck. The dark reddish-brown to black soils, acidic and nutrient-poor, often contain logs, stumps, and other woody matter from bald cypress (Taxodium disticum) and Atlantic white cedar (Chamaecyparis thyoides) trees. Pocosin lakes occur in some areas. The vegetation of the high and low pocosins contains a dense shrub layer, along with stunted pond pine (Pinus serotina), swamp red bay (Persea palustris), and sweet bay (Magnolia virginiana). Swamp forests are dominated by swamp tupelo (Nyssa biflora), bald cypress (Taxodium disticum), and Atlantic white cedar (Chamaecyparis thyoides). Fire during drought periods, logging, and construction of drainage ditches have affected natural vegetation patterns. Several areas of mineral and shallow organic soils have been drained and cultivated for crops of corn, soybeans, and wheat. The region extends just into southern Virginia to cover the northern portion of the Dismal Swamp.

63d. Virginian Barrier Islands and Coastal Marshes

Virginian Barrier Islands and Coastal Marshes occur in the northeast corner of North Carolina and contain salt, brackish, and freshwater marshes, dunes, beaches, and barrier islands that enclose Currituck Sound. The Quaternary-age deposits of unconsolidated sand, silt, and clay form dynamic landscapes affected by ocean wave, tide, wind, and river energy. The boundary with the Carolinian Barrier Islands and Coastal Marshes (63g) is a broad transition zone. The nearshore ocean water, influenced by the longshore Virginia Current, tends to be colder than in most of 63g, especially south of Cape Hatteras, where warmer Gulf Stream waters occur. On the barrier islands, northern beach grass (Ammophila breviligulata) and deciduous oaks are typical, compared to the sea oats (Uniola paniculata) and evergreen live oak (Quercus virginiana) more commonly found to the south in 63g. Salt marshes are dominated by saltmarsh and saltmeadow cordgrasses (Spartina alterniflora, S. patens) and black needlerush (Juncus roemarianus), while the freshwater marshes of upper Currituck Sound contain big cordgrass (Spartina cynosuroides), sawgrass (Cladium jamaicense), bulrush (Scirpus americanus), cattail (Typha latifolia, T. angustifolia), and wild rice (Zizania aquatica). The marshes provide wintering habitat for snow geese, Canada geese, tundra swans, and several species of ducks and wading birds. Piping plover and loggerhead sea turtles occasionally nest along the beaches.

63e. Mid-Atlantic Flatwoods

The Mid-Atlantic Flatwoods occupies the middle portion of the coastal plain in northern North Carolina and southern Virginia. Upland surfaces are wider, lower in elevation, with less local relief, and have more poorly drained soils compared to Ecoregion 65m. Soils such as Aquults and some Udults formed in the mostly Pleistocene-age clays and sands. With slow natural subsurface drainage, except near streams, artificial drainage is common for agriculture and forestry operations. Corn, peanuts, and cotton are typical crops. Although similar to 63h, the Mid-Atlantic Flatwoods historically had a lower frequency of fire, less longleaf pine (Pinus palustris), and a different mix of grasses than in 63h. There are fewer Carolina bays, and the region tends to be biologically less diverse than 63h in terms of plants and aquatic macroinvertebrates.

63g. Carolinian Barrier Islands and Coastal Marshes

The Carolinian Barrier Islands and Coastal Marshes region covers most of the North Carolina coast, extending from Bodie Island in the north to North Myrtle Beach, South Carolina in the south. Similar to 63d along the coast in northern North Carolina and southern Virginia, the region contains marshes, dunes, beaches, and barrier islands, but it tends to be slightly warmer and wetter. In the north, the boundary with 63d is transitional, and there is a high diversity of vegetation in the maritime forests in the boundary area where northern and southern maritime forests overlap, such as at Nags Head Woods. The maritime forests include live oak (Quercus virginiana), sand laurel oak (Quercus hemisphaerica), loblolly pine (Pinus taeda), red cedar (Juniperus virginiana), yaupon holly (Ilex vomitoria), wax myrtle (Myrica cerifera), dwarf palmetto (Sabal minor), with cabbage palm (Sabal palmetto) in the southern portion of the region. The region encloses Pamlico Sound, a shallow estuary supporting an important nursery for 90 percent of all the commercial seafood species caught in North Carolina, as well as for vast recreational fisheries.

63h. Carolina Flatwoods

The nearly level coastal plain of the Carolina Flatwoods has less relief, wider upland surfaces, and larger areas of poorly drained soils than the adjacent, higher elevation Ecoregion 65l. Covered by shallow coastal waters during the Pleistocene, the resultant terraces and shoreline-related landforms are covered typically by fine-loamy and coarse-loamy soils, with periodically high water tables. Other areas have clayey, sandy, or organic soils, contributing to the region's plant diversity. Carolina bays and pocosins are abundant in some areas. The region is a significant center of endemic biota, with more biological diversity and rare species compared to 63e to the north (Hall et al., 1999). Pine flatwoods, pine savannas, freshwater marshes, pond pine woodlands, pocosins, and some sandhill communities were once common. The boundary with 63e to the north is transitional. It is near the northern limits of wiregrass (Aristida stricta) and near the northern extent of the Southern Mixed Hardwood Forest as drawn by Quarterman and Keever (1962). In general, fewer longleaf pine (Pinus palustris) were found north of this region, although the longleaf pine range did extend into southern Virginia. The presettlement fire frequency was 1-3 years in this region compared to 4-6 years or more in regions to the north (Frost 1995). The boundary with 65m and 65l to the west generally corresponds to the Surry Scarp, and the boundary cuts further inland to include the distinctive Bladen lakes area within 63h. The Bladen lakes area of Bladen and Cumberland counties is a large area of eolian sands containing numerous Carolina bays and a vast complex of pocosin and flatwoods communities.

Loblolly pine (Pinus taeda) plantations are now widespread with an active forest industry, especially to the south in South Carolina. Artificial drainage for forestry and agriculture is common. North Carolina's blueberry industry is concentrated on some of the sandy, acidic soils of the region.

63n. Mid-Atlantic Floodplains and Low Terraces

The Mid-Atlantic Floodplains and Low Terraces are mostly a continuation of the riverine Ecoregion 65p, although a few floodplains mapped in this region originate within Ecoregion 63. Large, sluggish rivers, deep-water swamps, and some oxbow lakes characterize 63n. The alluvial deposits of the floodplains and terraces tend to have abrupt textural changes. Brownwater floodplains originate in or cross the Piedmont (45) and the sediments contain more weatherable minerals than the blackwater floodplains that have their watersheds entirely within the coastal plain. The blackwater rivers tend to have variable flow regimes, acidic water low in nutrients and colored by tannins but clear. Cypress-gum swamps (Taxodium distichum, T. ascendens, Nyssa aquatica, N. biflora) are common, along with bottomland hardwoods of wetland oaks (Quercus michauxii, Q. nigra, Q. phellos), green ash (Fraxinus pennsylvanica), red maple (Acer rubrum), and hickories (Carya aquatica, C. ovata, C. cordiformis). Vegetation communities along the blackwater floodplains and terraces tend to be less diverse than those in brownwater floodplains and terraces (Schafale and Weakley 1990).

65. Southeastern Plains

These irregular plains with broad interstream areas have a mosaic of cropland, pasture, woodland, and forest. Natural vegetation was mostly longleaf pine (Pinus palustris), with smaller areas of oak-hickory-pine. On some moist sites, especially in the far south near Florida, Southern mixed forest occurred with beech (Fagus grandifolia), sweetgum (Liquidambar styraciflua), southern magnolia (Magnolia grandiflora), laurel and live oaks (Quercus laurifolia, Q. virginiana), and various pines. The longleaf pine forests had a diversity of age classes, structure, and species in response to environmental gradients and natural disturbances. Over the past three centuries, naval stores or pine tar production, logging, open range cattle and feral hog grazing, agriculture, and fire suppression removed almost all of the longleaf pine forests. The Cretaceous or Tertiary-age sands, silts, and clays of the region contrast geologically with the older metamorphic and igneous rocks of the Piedmont (45) and Blue Ridge (66). Elevations and relief are greater than in the Southern Coastal Plain (75), but generally less than in much of the Piedmont or in the more mountainous Blue Ridge. streams in this area are relatively low-gradient and sandy-bottomed.

Ecoregion 65 has similarities to defined regions in the other major land classification systems. The Southern Coastal Plain MLRA includes this ecoregion within it (USDA, SCS 1981), and it is within the Coastal Plains and Flatwoods, Lower Section of the USFS (Bailey et al., 1994; Keys et al., 1995). The ecoregion has been divided into four level IV ecoregions within North Carolina: Sand Hills (65c), Atlantic Southern Loam Plains (65l), Rolling Coastal Plain (65m), and Southeastern Floodplains and Low Terraces (65p).

65c. Sand Hills

The Sand Hills are a rolling to hilly region composed primarily of Cretaceous-age marine sands and clays, capped in places with Tertiary sands, deposited over the crystalline and metamorphic rocks of the Piedmont (45). It tends to be more dissected, rolling and hilly than adjacent 65l, with a dense drainage network, and with a different mix of soils. Many of the droughty, low-nutrient soils formed in thick beds of sand, although some soils contain more loamy and clayey horizons. Sandy soils such as Candor and Lakeland are on the ridgetops, while more clayey soils such as Gilead and Vaucluse are on the valley slopes. Some upland areas are underlain by plinthite, and sideslopes tend to have fragipans that perch water and cause lateral flow and seepage. Stream flow is consistent; streams seldom flood or dry up because of the large infiltration capacity of the sandy soil and the great ground-water storage capability of the sand aquifer (Winner and Coble 1996).

On drier sites, turkey oak (Quercus laevis) and blackjack oak (Quercus marilandica) grow with longleaf pine (Pinus palustris) and a wiregrass (Aristida stricta) ground cover. Shortleaf-loblolly pine forests and other oak-pine forests are now more widespread due to fire suppression and logging. The Sand Hills are a center of rare plant diversity in the Carolinas.

The region in most areas has soils that are poorly suited to crops due to the droughtiness and rapid leaching of plant nutrients. Many areas are in woodland, and some areas are used for pasture. Portions of the region are also known for their peach orchards, golf courses, and horse farms.

The western (or northwestern) boundary is defined fairly well by boundary coincidences illustrated by geology, surficial geology, and soils maps. Parts of the eastern (or southeastern) boundary for this region appear obvious, where there is a close coincidence in the major breaks depicted by soils, topography, and to some degree landcover, but other parts are not as easily defined. In Scotland and Hoke counties the boundary tends to correspond to the Orangeburg Scarp. It does not extend further to the southeast where the

Cretaceous Middendorf Formation (Km) ends, as depicted on the state geology map (North Carolina Geological Survey 1985). Some aquatic ecologists suggested our boundary be moved further southeast, as streams coming out of the Sand Hills maintain those regional characteristics downstream. Along Rockfish Creek, there are also some excessively drained sandy soils, but this area overall does not have the regional patterns of the hilly, more dissected Sand Hills.

65l. Atlantic Southern Loam Plains

The Atlantic Southern Loam Plains ecoregion is lower, flatter, more gently rolling, with finer-textured soils than 65c. It is a major agricultural zone, with deep, well-drained soils, and more cropland than 65c or 63h. The sedimentary formations are younger than those of the Sand Hills (65c) and older and more dissected than the flatter terraces of the Carolina Flatwoods (63h). The flora is varied due to the variety of edaphic conditions, but is generally more mesic than found in 65c, and more xeric than in much of 63h. The region has a high concentration of Carolina bays. These are shallow, elliptical depressions, often swampy or wet in the middle with dry sandy rims. Carolina bays not drained for agriculture often contain rare or endangered plant and animal species.

Ecoregion 65l stretches from Georgia in the south to the Cape Fear River in North Carolina in the north. There were disagreements among researchers in North and South Carolina about where the level III boundary should be placed between ecoregion 65 and 63. Our early draft maps kept the boundary to the north of the Lumber River in the NC/SC border area. The 65l / 63h boundary in Bladen and Columbus counties of North Carolina is not easily discerned, and it is a fuzzy transitional mosaic of characteristics from each region. Scarps, where they are even detectable, do not appear to always be the best division between the 63 and 65 ecoregions. In North Carolina, the consensus was to move the boundary south of the Lumber River to cover some of the rolling, loamy soil, cropland areas, and in this area the boundary is close to the Surry Scarp. From Tabor City, NC, the boundary angles back toward Nichols, SC, near the Lumber River.

65m. Rolling Coastal Plain

The dissected Rolling Coastal Plain extends south from Virginia and covers much of the northern upper coastal plain of North Carolina. Relief, elevation, dissection, and stream gradients are generally greater than in Ecoregion 63 to the east, and soils tend to be better drained. It has a slightly cooler and shorter growing season than 65l, but is a productive agricultural region with typical crops of corn, soybeans, tobacco, cotton, sweet potatoes, peanuts, and wheat. The region appears to be biologically less diverse than the coastal plain regions 65l and 63h to the south.

The boundary on the west occurs in the transitional Fall Zone to the Piedmont. 45f to the west is lithologically distinct and has higher elevations. 65m's boundary on the east with 63e and 63h is also transitional in places, although in some sections to the south it corresponds with the Surry Scarp. In other areas, the patterns of higher proportions of well-drained soils and Udults and more rolling terrain characteristic of ecoregion 65 versus the flatter surfaces and more Aquults of ecoregion 63 do not always appear to correspond with the scarp and terraces, and in many areas the scarp is difficult to define.

65p. Southeastern Floodplains and Low Terraces

Southeastern Floodplains and Low Terraces comprise a riverine ecoregion that provides important wildlife corridors and habitat. Composed of alluvium and terrace deposits of sand, clay, and gravel, the region includes large sluggish rivers and backwaters with ponds, swamps, and oxbow lakes. It includes oak-dominated bottomland hardwood forests (Quercus michauxii, Q. nigra, Q. phellos, Acer rubrum, Fraxinus pennsylvanica, Carya aquatica, C. ovata, C. cordiformis), and some river swamp forests of bald cypress or pond cypress (Taxodium distichum, T. ascendens) and water tupelo and swamp tupelo (Nyssa aquatica, N. biflora). Similar to 63n, the flood-prone region includes brownwater floodplains and blackwater floodplains. The brownwater floodplains originate in or cross the Piedmont (45) and the sediments contain more weatherable and mixed minerals than the blackwater floodplains that have their watersheds entirely within the coastal plain. The low terraces are mostly forested, although some cropland or pasture occurs in some areas that are better drained.

66. Blue Ridge

The Blue Ridge level III ecoregion extends from southern Pennsylvania to northern Georgia, varying from narrow ridges to hilly plateaus to more massive mountainous areas with high peaks. The Blue Ridge is part of one of the richest temperate broadleaf forests in the world, with a high diversity of flora and fauna. From a national scale, the potential natural vegetation within North Carolina consists mostly of Appalachian oak forests (Kuchler 1964), but a variety of oak, hemlock, cove hardwoods, and pine communities comprise this general class. Many Blue Ridge forests were once dominated by the American chestnut (Castanea dentata), an ecologically and economically important tree that provided food and shelter to many animal species. A fungal disease, the Chestnut blight, introduced to the U.S. around 1904, killed most all of the chestnut trees by the 1930's. Root sprouts and small, young saplings can be found today, but they do not survive. In place of the chestnut, other trees, such as tulip poplar (Liriondendron tulipifera), chestnut oak (Quercus montana), white oak (Q. alba), black locust (Robinia pseudoacacia), red maple (Acer rubrum), and pine species have become the important canopy dominants. Fauna in the Blue Ridge include black bear, whitetail deer, wild boar, turkey, grouse, songbirds, many species of amphibians and reptiles, thousands of species of invertebrates, and a variety of small mammals. The ecoregion within North Carolina is characterized by floristically diverse forested slopes; high gradient, cool, clear streams with rocks and boulders; and rugged terrain on primarily metamorphic bedrock (gneiss, schist, and quartzites). Soils are mostly mesic, udic Dystrudepts and Hapludults. Elevations generally range from 1000-5000 feet, with Mount Mitchell, the highest point in North Carolina, and highest in the U.S. east of the Mississippi River, reaching 6684 feet. Annual precipitation ranges from 40 inches in the Asheville Basin to more than 100 inches on some of the higher peaks in the wetter areas in the southern part of the state. Forest-related land uses occur along with some small areas of pasture, apple orchards, and Fraser fir Christmas tree farms. Low-density recreational activities in forested settings have also become a typical land-use. Recreation activities such as rafting, kayaking, hiking, cycling, fishing, hunting, and camping are increasingly popular activities on the the public lands of the Blue Ridge.

The ecoregion in North Carolina contains nine level IV ecoregions: New River Plateau (66c), Southern Crystalline Ridges and Mountains (66d), Southern Sedimentary Ridges (66e), Southern Metasedimentary Mountains (66g), High Mountains (66i), Broad Basins (66j), Amphibolite Mountains (66k), Eastern Blue Ridge Foothills (66l), and Sauratown Mountains (66m).

66c. New River Plateau

The New River Plateau is a high, hilly plateau that extends north into the Virginia Blue Ridge. The region has less relief and a different land cover mosaic than surrounding Blue Ridge ecoregions. It has less dense woodland and forest cover, and more land devoted to pasture, orchards, cropland, livestock and dairy farms, and Christmas tree production. Elevations are generally between 2500-3500 feet, with a few higher peaks. Oak (Quercus spp.) dominates most of the forests, with beech (Fagus grandifolia), birch (Betula alleghaniensis), hemlock (Tsuga canadensis), and poplar (Liriondendron tulipifera) on more moist sites and pines on drier areas. Fish and macroinvertebrate communities are likely to likely to be distinct compared to adjacent regions. Aquatic macroinvertebrate communities are somewhat different in the New River basin than other Blue Ridge regions (Dave Lenat, NCDENR, personal communication). The New River Plateau ecoregion, however, does not include all of the headwaters of the New River basin.

The Plateau ecoregion boundary is relatively distinct, made evident by the break in topograghy and landcover differences. The southern portion of the boundary was more difficult to define. The area around the Ashe/Watauga County line, from the Othello/Beaver Creek area southwest to Boone appears to have slightly greater relief than the rest of the region to the north, beginning a transition to 66d.

66d. Southern Crystalline Ridges and Mountains

The Southern Crystalline Ridges and Mountains occur primarily on Precambrian-age igneous and high-grade metamorphic rocks, in contrast to the sedimentary and metasedimentary rocks of 66e and 66g. The crystalline rock types are mostly gneiss and schist, covered by well-drained, acidic, loamy soils. Some small areas of mafic and ultramafic rocks also occur, producing more basic soils. The heterogeneous region has greater relief and higher elevations than 66l, 66c, and 66j. Topographic break and soil types help define the boundary between 66d and 45a, 45e. Elevations of this rough, dissected region are generally 1200-4500 feet, with some higher peaks. The southern part of the region, south of Asheville, is wetter than the north. In the ecoregion meetings, discussions occurred about making the southern, wetter portion of 66d a separate region. Other than precipitation amounts and some anecdotal evidence, however, the differences were not well documented, and the consensus was to not split the region. Other consideration was also given to delineating a Blue Ridge Front or escarpment region on the eastern edge of 66d, or combining the escarpment with 66l. Although the escarpment might be drier than much of 66d, that area tends to be steeper with more relief and not as dry as much of the 66l foothills region.

66d is mostly forested, with chestnut oak (Quercus montana) and other oaks now dominating on most slopes and ridges, earlier dominated by American chestnut (Castanea dentata). Cove forests are common, and northern hardwoods forests are found at higher elevations. There are a few small areas of pasture, apple orchards, Fraser fir Christmas tree farms, or minor cropland at lower elevations.

66e. Southern Sedimentary Ridges

The Southern Sedimentary Ridges ecoregion occurs primarily in Tennessee and Virginia. In North Carolina, it consists of small areas near the Tennessee border in western Ashe, Watauga, Mitchell, Yancy, and Madison counties. The disjunct areas contain Cambrian-age sedimentary rocks of shale, sandstone, siltstone, conglomerate, and dolomite. Some metasiltstone or metasandstone occurs, but it is material of very low-grade metamorphism. One of the larger areas, in Madison County, is associated with the Hot Springs Window, an opening where the major thrust sheet was eroded to expose younger, underlying rocks such as the Shady Dolomite and Rome Formation shale and siltstone. Slopes of the region are typically steep and forested, with elevations mostly between 1500 to 4900 feet. The boundary with 66d generally follows the contact between the igneous/metamorphic crystalline rocks of that region and 66e's sedimentary and metasedimentary rocks. The Southern Metesedimentary Mountains (66g) ecoregion contains metasedimentary materials that are generally of a higher metamorphic grade than 66e.

66g. Southern Metasedimentary Mountains

The Southern Metasedimentary Mountains in North Carolina contain rocks that are not as strongly metamorphosed as the gneisses and schists of 66d. The geologic materials are mostly late Pre-Cambrian and include metagraywacke, metasiltstone, metasandstone, metaconglomerate, slate, schist, phyllite, and quartzite. These are steep, dissected, biologically-diverse mountains that are densely forested. The Appalachian oak forests and, at higher elevations, the northern hardwoods forests include a variety of oaks and pines, as well as silverbell (Helesia tetraptera), hemlock (Tsuga canadensis), tulip poplar (Liriondendron tulipifera), basswood (Tilia americana), buckeye (Aesculus flava), yellow birch (Betula alleghaniensis), and beech (Fagus grandifolia). The region supports complex and numerous plant communities and a great diversity of plant species. Much of the region is public land managed by the National Park Service or U.S. Forest Service.

A northern disjunct portion of this region covers the Linville Gorge / Grandfather Mountain Window area in Watauga, Avery, McDowell, and Burke counties. Although there are likely to be some ecological differences from the main portion of 66g to the southwest, the geology and soils suggest this northern area is more similar to 66g than to the surrounding 66d.

66i. High Mountains

The High Mountains ecoregion includes several disjunct high-elevation areas generally above 4500 feet. The region has a more severe, boreal-like climate than surrounding regions, with wind and ice affecting vegetation, and it has frigid soils rather than mesic soils. Evergreen red spruce (Picea rubens) and Fraser fir

(Abies fraseri) forests are found at the higher elevations, and red oak (Quercus rubra) forests and northern hardwood forests with beech (Fagus grandifolia), yellow birch (Betula alleghaniensis), yellow buckeye (Aesculus flava), and sugar maple (Acer sacharrum) are common. The spruce-fir forests have been affected by the balsam wooly adelgid (Adelges piceae), a non-native insect that kills mature Fraser firs, and some forest growth declines are possibly linked to air pollutants. Heath balds dominated by evergreen rhododendron (Rhododendron catawbiense, R. carolinianum, R. maximum) and mountain laurel (Kalmia latifolia), and grassy balds of mountain oat grass (Danthonia compressa) and other herbaceous and shrub species are found on some slopes and ridgetops. Northern flying squirrels (Glaucomys sabrinus), Blackburnian warblers (Dendroica fusca), black-capped chickadees (Parus atricapillus), and common ravens (Corvus corax) are seen in this region. It also provides habitat for the saw-whet owl (Aegolius acadicus), a species of special concern in North Carolina.

66j. Broad Basins

The Broad Basins ecoregion is drier, has lower elevations and less relief than the more mountainous Blue Ridge regions (66g, 66d). It also has less bouldery colluvium than those two surrounding regions and more saprolite. The soils are mostly deep, well-drained, loamy to clayey Ultisols, although there are soil variations between the uplands, the high and low terraces, and the floodplains within the region. The Asheville basin has the lowest annual precipitation amounts in North Carolina, receiving less than 42 inches. Compared to the higher mountainous ecoregions of 66, the Broad Basins have a mix of oaks and pines more similar to the Piedmont (45), with more shortleaf pine (Pinus echinata) and Virginia pine (P. virginiana), and white oak (Quercus alba), southern red oak (Q. falcata), black oak (Q. velutina), and scarlet oak (Q. coccinea). Although some areas of this rolling foothills region are mostly forested, overall it has more pasture, cropland, industrial land uses, and human settlement than other Blue Ridge ecoregions. Outlines of abandoned fields with pine-hardwood succession are apparent on many lower slopes. The ecoregion has four disjunct areas that occur in North Carolina, Georgia, and Tennessee.

66k. Amphibolite Mountains

Similar to some parts of 66d, the Amphibolite Mountains are a botanically diverse area with many rare species, including some relict and disjunct species from areas much further north. The rugged, steeply sloping mountains are composed of Precambrian amphibolite and gneiss. The amphibolite, a metamorphosed black volcanic rock, formed from lavas that spilled on the floor of a shallow sea, mixing with layers of mud, sand, and volcanic ash. In some areas this rock weathers to produce shallow soils high in calcium and magnesium, and less acidic than most Appalachian soils. Oak forests (formerly American chestnut forests) dominate on south, east, and west facing slopes with an understory of Catawba rhododendron (Rhododendron catawbiense), mountain laurel (Kalmia latifolia), flame azalea (Rhododendron calendulaceum), and dogwood (Cornus alternifolia.). Cove forests and northern hardwood forests are found on north slopes, and include sugar maple (Acer sacharrum), ash (Fraxinus americana), yellow birch (Betula alleghaniensis), tulip poplar (Liriondendron tulipifera), and basswood (Tilia americana).

66l. Eastern Blue Ridge Foothills

The open low mountains of the Eastern Blue Ridge Foothills are lower in elevation (1000-2800 feet) than most Blue Ridge regions and have more Piedmont influences. The region includes the Brushy Mountains in the north and the South Mountains to the south. Covered with mixed oak and oak-hickory-pine forests, these mountains tend to be slightly drier and warmer than most of Ecoregion 66. The South Mountains contain forested areas that harbor many uncommon or rare plant species, including turkey beard (Xerophyllum asphodeloides) on xeric ridges and one of North America's rarest orchids, the small whorled pogonia (Isotria medeoloides).

The boundary with the Piedmont (45) is based mostly on the break in relief and topography, soils, and land cover differences. In some regional schemes for North Carolina these foothills are considered as part of the Piedmont (e.g., Stuckey 1965, Keys et al., 1995, Lonsdale 1967), although several other regional frameworks place them with the Blue Ridge (Barnes and Marschner 1933, NCCGIA 1997, Daniels et al., 1999). The ruggedness of the terrain, the soil characteristics, the land use and landcover, and the mostly direct connection with the Blue Ridge suggested to us a more mountainous classification for this area.

66m. Sauratown Mountains

The prominent ridges and knobs of the Sauratown Mountains rise more than 1000 feet above the rolling Piedmont (45) surface. Sometimes called monadnocks or inselbergs, these isolated mountain outliers are formed in part by their caps of erosion-resistant, nearly horizontally-bedded quartzite. Pilot Mountain, the small, disjunct piece of the region, has an elevation of 2,421 feet and is a conspicuous inselberg in the area, once serving as a navigational landmark by Native Americans, early traders and settlers. The region has both Piedmont and Blue Ridge vegetation communities: mostly oak and oak-pine forests with some Canadian and Carolina hemlock (Tsuga canadensis, T. caroliniana) in moist areas. Other mountain flora found here include rhododendron and azalea (Rhododendron spp.), galax (Galax urceolata), mountain laurel (Kalmia latifolia), pitch pine (Pinus rigida), table mountain pine (P. pungens), and various ferns.

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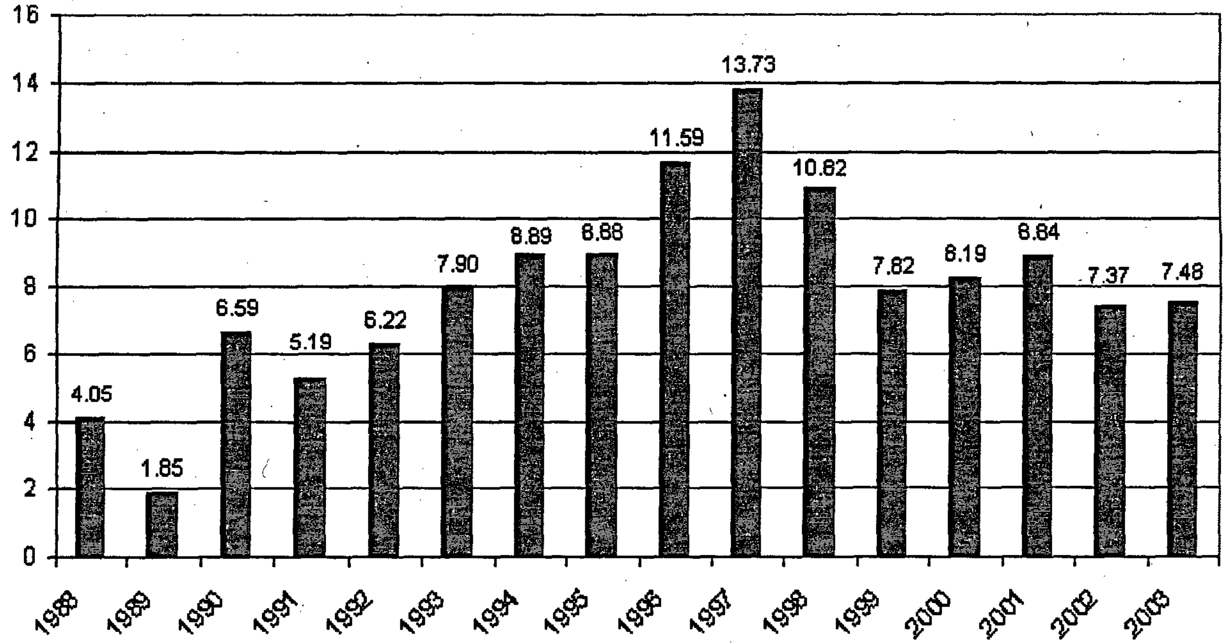
LCFWSA 2005

DaveA

Water Use By Customers (MGD)
Brunswick County



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Query Results

72 HURRICANE & TROPICAL STORM event(s) were reported in **North Carolina** between **01/01/1950** and **09/30/2004**.

*Click on **Location or County** to display Details.*

Mag: Magnitude
Dth: Deaths
Inj: Injuries
PrD: Property Damage
CrD: Crop Damage

Note earliest storm
8/93

North Carolina

	Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
	1 Outer Banks	08/31/1993	1127	Hurricane Emily	N/A	0	1	50.0M	0
Carteret Hyde	2 NCZ017 - 047 - 081 - 095 - 102>104	11/17/1994	1720	Hurricane Gordon	N/A	0	0	500K	0
Onslow Carteret Pamlico Hyde	3 NCZ047 - 081 - 094 - 095 - 098 - 102>104	08/15/1995	0000	Hurricane Felix	N/A	1	0	500K	500K
	4 NCZ029 - 044>047 - 079>081 - 090>095 - 098 - 103>104	06/18/1996	01:00 PM	Tropical Storm	N/A	0	0	1.0M	0
	5 NCZ044	06/18/1996	01:00 PM	Tropical Storm	N/A	0	0	0	0
	6 NCZ045	06/18/1996	01:00 PM	Tropical Storm	N/A	0	0	0	0
	7 NCZ046	06/18/1996	01:00 PM	Tropical Storm	N/A	0	0	0	0
	8 NCZ047	06/18/1996	01:00 PM	Tropical Storm	N/A	0	0	0	0
	9 NCZ079	06/18/1996	01:00 PM	Tropical Storm	N/A	0	0	0	0
	10 NCZ080	06/18/1996	01:00 PM	Tropical Storm	N/A	0	0	0	0
	11 NCZ081	06/18/1996	01:00 PM	Tropical Storm	N/A	0	0	0	0
	12 NCZ090	06/18/1996	01:00 PM	Tropical Storm	N/A	0	0	0	1.0M
	13 NCZ091	06/18/1996	01:00 PM	Tropical Storm	N/A	0	0	0	0
	14 NCZ092	06/18/1996	01:00 PM	Tropical Storm	N/A	0	0	0	0
	15 NCZ093	06/18/1996	01:00 PM	Tropical Storm	N/A	0	0	0	0
	16 NCZ094	06/18/1996	01:00 PM	Tropical Storm	N/A	0	0	0	0
	17 NCZ095	06/18/1996	01:00 PM	Tropical Storm	N/A	0	0	0	0
	18 NCZ098	06/18/1996	01:00 PM	Tropical Storm	N/A	0	0	0	0
	19 NCZ103	06/18/1996	01:00 PM	Tropical Storm	N/A	0	0	0	0
	20 NCZ104	06/18/1996	01:00 PM	Tropical Storm	N/A	0	0	0	0
	21 NCZ097	06/18/1996	10:00 AM	Tropical Storm	N/A	0	0	0	0
	22 NCZ100	06/18/1996	10:00 AM	Tropical Storm Arthur	N/A	0	0	0	0
	23 NCZ101	06/18/1996	10:00 AM	Tropical Storm	N/A	0	0	0	0
Pender Co	24 NCZ097	07/12/1996	02:00 PM	Hurricane	N/A	0	0	7.0M	7.5M

	25 NCZ012>017 - 030>032 - 102	07/12/1996	05:00 PM	Hurricane	N/A	0	0	200K	30K	
	26 NCZ007>011 - 021>028 - 038>043 - 073>078 - 083>086 - 088>089	07/12/1996	08:00 AM	Hurricane	N/A	0	0	0	0	
Carteret Onslow Pamlico	27 NCZ029 - 044>047 - 079>081 - 090>095 - 098 - 103>104	07/12/1996	10:00 AM Bertha	Hurricane Edouard	N/A	1	10	140.3M	127.0M	
Brunswick	28 NCZ100	07/12/1996	11:00 AM	Hurricane	N/A	0	0	2.0M	9.0M	
New Hanover	29 NCZ101	07/12/1996	11:00 AM	Hurricane	N/A	0	0	18.0M	1.0M	
	30 NCZ095 - 103	08/29/1996	10:00 AM	Hurricane	N/A	0	0	0	0	
Onslow Carteret Pamlico Hyde	31 NCZ029 - 044>047 - 079>081 - 090>095 - 098 - 103>104	09/04/1996	06:00 PM	Hurricane Fran	N/A	4	4	792.2M	0	
	32 NCZ007>011 - 021>028 - 038>043 - 073>078 - 083>086 - 088>089	09/05/1996	05:00 PM	Hurricane Fran	N/A	7	2	0	0	
	33 NCZ012>017 - 030>032 - 102	09/05/1996	06:00 PM	Hurricane	N/A	0	0	1.0M	0	
Brunswick	34 NCZ100	09/05/1996	11:00 AM	Hurricane Fran	N/A	0	0	5.0M	2.0M	Storm Surge 6'
New Hanover	35 NCZ101	09/05/1996	11:00 AM	Hurricane	N/A	0	0	200.0M	1.0M	Storm Surge 12' msl
Pender	36 NCZ097	09/05/1996	12:00 PM	Hurricane	N/A	2	0	180.0M	46.0M	
	37 NCZ012>017 - 030>032 - 102	10/07/1996	06:00 PM	Tropical Storm	N/A	0	0	100K	0	
	38 NCZ029 - 044>047 - 079>081 - 090>095 - 098 - 103>104	10/08/1996	01:00 AM	Tropical Storm	N/A	0	0	0	0	
B	39 NCZ100	08/26/1998	06:00 AM	Hurricane Bonnie	N/A	0	0	35.0M	64.0M	
	40 NCZ101	08/26/1998	06:00 AM	Hurricane	N/A	0	0	26.2M	0	

41 NCZ015>017 - 030>032 - 102	08/26/1998	08:00 PM	Hurricane	N/A	1	0	13.4M	0
42 NCZ097	08/26/1998	09:00 AM	Hurricane	N/A	0	0	11.0M	6.1M
43 NCZ029 - 044>047 - 079>081 - 090>095 - 098 - 103>104	08/26/1998	12:00 AM	Hurricane	N/A	0	0	6.4M	117.0M
44 NCZ026>028 - 041>043 - 077>078 - 086 - 088>089	08/27/1998	08:00 PM	Hurricane	N/A	0	0	0	50.0M
45 NCZ029 - 044>047 - 079>081 - 090>095 - 098 - 103>104	08/30/1999	12:00 AM	Hurricane	N/A	0	0	0	0
46 NCZ097 - 100>101	08/30/1999	12:00 AM	Hurricane Dennis Cat 2	N/A	0	0	75K	0
47 NCZ015>017 - 030>032 - 102	09/01/1999	12:00 AM	Hurricane	N/A	0	0	35K	0
48 NCZ029 - 044>047 - 079>081 - 090>095 - 098 - 103>104	09/01/1999	12:00 AM	Tropical Storm	N/A	0	0	21.3M	39.9M
49 NCZ007>011 - 021>028 - 038>043 - 073>078 - 083>086 - 088>089	09/04/1999	09:00 PM	Hurricane	N/A	0	0	0	3.0M
50 NCZ029 - 044>047 - 079>081 - 090>095 - 098 - 103>104	09/14/1999	11:00 PM	Hurricane Floyd	N/A	13	0	410.6M	413.6M
51 NCZ007>011 - 021>028 - 038>043 - 073>078 - 083>086 - 088>089	09/15/1999	04:00 PM	Hurricane	N/A	0	0	3.0B	500.0M

Cat

52 NCZ097 - 100>101	09/15/1999	05:00 PM	Hurricane Floyd	N/A	0	0	109.0M	4.0M	Surge 9-10'
53 NCZ015>017 - 030>032 - 102	09/15/1999	12:00 PM	Hurricane	N/A	0	0	12.0M	63.4M	
54 NCZ080>081 - 093>095 - 098 - 104	10/16/1999	05:00 PM	Hurricane	N/A	1	0	0	0	
55 NCZ045>047 - 103	10/16/1999	10:00 PM	Tropical Storm	N/A	0	0	0	0	
56 NCZ015>017 - 030>032 - 102	10/17/1999	04:00 PM	Hurricane	N/A	0	0	31K	0	
57 NCZ095 - 103>104	09/10/2002	05:00 AM	Tropical Storm	N/A	0	0	114K	0	
58 NCZ029 - 044>047 - 079>081 - 090>095 - 098 - 103>104	09/17/2003	06:00 PM	Hurricane/typhoon	N/A	0	0	435.6M	14.3M	
59 NCZ004>006	09/18/2003	01:30 PM	Tropical Storm	N/A	0	0	300K	0	
60 NCZ015>017 - 030>032 - 102	09/18/2003	03:00 AM	Hurricane/typhoon	N/A	1	0	16.9M	0	
61 NCZ012>014	09/18/2003	06:00 AM	Hurricane/typhoon	N/A	0	0	3.9M	0	
62 NCZ097 - 100>101	09/18/2003	08:00 AM	Tropical Storm Isabel	N/A	0	0	0	0	
63 NCZ007>011 - 025>028 - 041 - 043 - 078 - 088	09/18/2003	09:00 AM	Hurricane/typhoon	N/A	1	0	7.3M	0	
64 NCZ102	08/03/2004	03:00 PM	Tropical Storm	N/A	0	0	0	0	
65 NCZ045>047 - 080>081 - 093>095 - 098 - 103>104	08/03/2004	12:00 AM	Hurricane/typhoon	N/A	0	0	7.6M	0	
66 NCZ015>017 - 031>032 - 102	08/14/2004	03:00 PM	Tropical Storm	N/A	0	0	0	0	
67 NCZ096>097 - 099>101	08/14/2004	08:00 AM	Hurricane/typhoon Charlie	N/A	0	3	10.4M	2.5M	

68 NCZ029 - 044>047 - 079>081 - 090>095 - 098 - 103>104	08/14/2004	12:00 AM	Hurricane/typhoon	N/A	0	0	6.6M	2.9M
69 NCZ087 - 096 - 099>101	08/29/2004	04:00 PM	Tropical Storm Gaston	N/A	0	0	0	0
70 NCZ040 - 042	08/30/2004	04:45 AM	Tropical Depression	N/A	0	0	0	0
71 NCZ061	09/16/2004	06:40 PM	Tropical Depression	N/A	0	0	15K	0
72 NCZ060	09/16/2004	06:45 PM	Tropical Depression	N/A	0	0	15K	0
				TOTALS:	32	20	5.532B	1.476B

Top of Page

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Query Results

27 OCEAN & LAKE SURF event(s) were reported in **North Carolina** between **01/01/1950** and **09/30/2004**.

*Click on **Location or County** to display Details.*

Mag: Magnitude
Dth: Deaths
Inj: Injuries
PrD: Property Damage
CrD: Crop Damage

North Carolina

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
1 NCZ095 - 103 - 104 Carteret Jones	01/15/1995	0700	Coastal Flood	N/A	0	0	0	0
2 Rodanthe	08/13/1995	1130	Rip Currents	N/A	1	2	0	0
3 Hags Head	08/13/1995	1345	Rip Currents	N/A	1	1	0	0
4 NCZ095 - 098 - 104 - 105 Onslow, Carteret	09/08/1995	1000	Coastal Flooding	N/A	0	0	500K	0
Brunswick 5 Holden Beach	09/08/1995	1100	Coastal Flood	N/A	0	0	200K	0
Brunswick 6 Holden Beach	09/09/1995	0900	Coastal Flood	N/A	0	0	1.2M	0
Brunswick 7 Carolina Beach	09/09/1995	0910	Coastal Flood	N/A	0	0	0	0
" 8 Long Beach	09/09/1995	0910	Coastal Flood	N/A	0	0	0	0
Brun 9 Calabash	10/08/1996	04:00 AM	Storm Surge 3 ft	N/A	0	0	0	0
B 10 Wilmington	10/08/1996	05:00 AM	Storm Surge	N/A	0	0	0	0
11 Carolina Beach	07/01/1997	08:00 AM	Rip Currents	N/A	0	1	0	0
12 Carolina Beach	07/14/1997	08:00 AM	Rip Currents	N/A	0	0	0	0
13 Topsail	07/14/1997	08:00 AM	Rip Currents	N/A	0	1	0	0
B 14 Caswell Beach	02/03/1998	11:30 AM	Storm Surge 2 ft	N/A	0	0	0	0
Pender 15 Surf City	02/03/1998	11:30 AM	Storm Surge	N/A	0	0	0	0
New Hanover 16 Wrightsville Beach	02/03/1998	11:30 AM	Storm Surge 2 ft	N/A	0	0	0	0
17 Wrightsville Beach	08/11/2000	11:00 AM	Rip Currents	N/A	0	0	0	0
18 Kure Beach	08/20/2000	02:00 PM	Rip Currents	N/A	1	0	0	0
19 Kure Beach	09/13/2000	12:30 PM	Rip Currents	N/A	3	0	0	0
20 Manteo	03/06/2001	09:00 PM	Storm Surge	N/A	0	0	0	0
21 Whichards Beach	03/21/2001	01:00 AM	Storm Surge	N/A	0	0	0	0
22 Atlantic	05/31/2002	02:00 PM	Rip Currents	N/A	1	0	0	0

23 Rodanthe	06/22/2002	05:33 PM	Rip Currents	N/A	1	0	0	0
24 Atlantic Beach	07/23/2002	01:00 PM	Rip Currents	N/A	1	0	0	0
Pamlico 25 NCZ093>095	02/27/2004	12:00 AM	Storm Surge +3 to 4	N/A	0	0	0	0
Dare 26 NCZ103	03/10/2004	10:00 PM	Storm Surge	N/A	0	0	10K	0
Brunswick 27 NCZ100	09/25/2004	02:00 PM	Heavy Surf/high Surf	N/A	1	0	0	0
				TOTALS:	10	5	1.910M	0

Top of Page

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Query Results

9 HURRICANE & TROPICAL STORM event(s) were reported in **Brunswick County, North Carolina** between **01/01/1950** and **09/30/2004.**

*Click on **Location or County** to display Details.*

Mag: Magnitude
Dth: Deaths
Inj: Injuries
PrD: Property Damage
CrD: Crop Damage

North Carolina

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
1 NCZ100	06/18/1996	10:00 AM	Tropical Storm	N/A	0	0	0	0
2 NCZ100	07/12/1996	11:00 AM	Hurricane	N/A	0	0	2.0M	9.0M
3 NCZ100	09/05/1996	11:00 AM	Hurricane	N/A	0	0	5.0M	2.0M
4 NCZ100	08/26/1998	06:00 AM	Hurricane	N/A	0	0	35.0M	64.0M
5 NCZ097 - 100>101	08/30/1999	12:00 AM	Hurricane	N/A	0	0	75K	0
6 NCZ097 - 100>101	09/15/1999	05:00 PM	Hurricane	N/A	0	0	109.0M	4.0M
7 NCZ097 - 100>101	09/18/2003	08:00 AM	Tropical Storm	N/A	0	0	0	0
8 NCZ096>097 - 099>101	08/14/2004	08:00 AM	Hurricane/typhoon	N/A	0	3	10.4M	2.5M
9 NCZ087 - 096 - 099>101	08/29/2004	04:00 PM	Tropical Storm	N/A	0	0	0	0
				TOTALS:	0	3	161.505M	81.500M

Top of Page

TorStrk Version 1.86 11/27/2004 -- Final Regions

Input Data

Box Limits 33.9580 78.0110 2.0000 0.3000
Years of tornado data 53.67
Damage Threshold (mph) 59.
Ratio of translation to maximum speed 0.20
Tornado data input file TORNADO.CSV
Tornado data output file 1 Brunswick2.out
Tornado data output file 2 Brunswick2.tor

box boundaries -- lat, long 32.9580 34.9580 77.0110 79.0110

box dimensions (mi): E-W, N-S, Area 114.625 138.194 4752.159

Strike Lengths by F-Scale

F	No.	Tot Len	Ave Len	S L(Len)	S L(Len)	Var.	GM Len	Exp. Len
0	58	33.300	0.574	-72.763	152.027	1.047	0.285	0.481
1	50	80.317	1.606	-17.503	84.625	1.570	0.705	1.545
2	27	181.363	6.717	23.122	81.669	2.291	2.355	7.404
3	7	28.437	4.062	6.405	14.756	1.271	2.497	4.713
4	5	38.116	7.623	8.623	17.687	0.563	5.611	7.434
5	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Strike Areas by F-Scale

F	No.	Tot. Area	Ave. Area	S L(Area)	S L(Area)	Var.	GM Area	Exp. Area
0	58	0.717	0.012	-329.287	1997.377	2.205	0.003	0.010
1	50	8.633	0.173	-204.013	973.057	2.813	0.017	0.069
2	27	12.860	0.476	-61.720	261.421	4.457	0.102	0.944
3	7	13.861	1.980	-3.915	31.667	4.211	0.572	4.694
4	5	13.233	2.647	0.948	10.491	2.062	1.209	3.390
5	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Cumulative Expected Lengths

0	170	147	2.4594	-52.1152	350.7635	2.2605	2.1721
1	104	89	3.6880	20.6479	198.7364	2.1792	3.7494
2	45	39	6.3568	38.1506	114.1118	1.9690	7.1188
3	12	12	5.5461	15.0284	32.4428	1.1351	6.1715
4	5	5	7.6232	8.6232	17.6865	0.5629	7.4342
5	0	0	0.0000	0.0000	0.0000	0.0000	0.0000

Cumulative Expected Areas

0	170	147	0.3661	-597.9862	3274.0127	5.7241	0.2994
1	104	89	0.5955	-268.6988	1276.6354	5.2293	0.6674
2	45	39	1.0977	-64.6861	303.5789	5.0331	2.3582
3	12	12	2.2578	-2.9665	42.1581	3.4521	4.3878
4	5	5	2.6466	0.9482	10.4912	2.0623	3.3898
5	0	0	0.0000	0.0000	0.0000	0.0000	0.0000

Total number of segments = 170

F Class	0	1	2	3	4	5
Number	66	59	33	7	5	0
Cumulative	170	104	45	12	5	0
# with length	58	50	27	7	5	0
Ave. Length	0.57	1.61	6.72	4.06	7.62	0.00
# with length cum	147	89	39	12	5	0
Cumulative length	2.46	3.69	6.36	5.55	7.62	0.00
# with area	58	50	27	7	5	0
Average area	0.01	0.17	0.48	1.98	2.65	0.00
# with area cum	147	89	39	12	5	0
Cumulative area	0.37	0.60	1.10	2.26	2.65	0.00
# with length	58	50	27	7	5	0
Exp. Length	0.48	1.54	7.40	4.71	7.43	0.00
# with length cum	147	89	39	12	5	0
Cumulative length	2.17	3.75	7.12	6.17	7.43	0.00
# with area	58	50	27	7	5	0
Expected area	0.01	0.07	0.94	4.69	3.39	0.00
# with area cum	147	89	39	12	5	0
Cumulative area	0.30	0.67	2.36	4.39	3.39	0.00

Average Values

F Class	0	1	2	3	4	5

Point Probablity	2.11E-04	2.08E-04	1.68E-04	1.06E-04	5.19E-05	0.00E+00
Line Probablity	6.21E-05	5.70E-05	4.25E-05	9.88E-06	5.66E-06	0.00E+00
Total Probablity	2.73E-04	2.65E-04	2.10E-04	1.16E-04	5.75E-05	0.00E+00

Expected Values

F Class	0	1	2	3	4	5
Point Probablity	2.00E-04	2.72E-04	4.16E-04	2.06E-04	6.65E-05	0.00E+00
Line Probablity	5.48E-05	5.79E-05	4.76E-05	1.10E-05	5.52E-06	0.00E+00
Total Probablity	2.54E-04	3.30E-04	4.64E-04	2.17E-04	7.20E-05	0.00E+00

Design data using standard speed distributions

Tornado Region 3 Weibull Parameters 49.22 1.380 60.28 1.491 51.31 1.411 62.08 1.510

Strike Probabilities 2.00E-04 5.48E-05 3.78E-04 7.39E-05

Strike Probabilities vs Wind Speed

Speed		Expected			95 %	
(mph)	Point	Line	Total	Point	Line	Total
41.	2.0E-04	5.5E-05	2.5E-04	3.8E-04	7.4E-05	4.5E-04
75.	1.1E-04	3.5E-05	1.4E-04	2.1E-04	4.9E-05	2.6E-04
100.	5.4E-05	2.0E-05	7.4E-05	1.1E-04	2.9E-05	1.4E-04
125.	2.4E-05	1.0E-05	3.4E-05	4.9E-05	1.5E-05	6.4E-05
150.	9.6E-06	4.7E-06	1.4E-05	2.0E-05	6.9E-06	2.7E-05
175.	3.6E-06	2.0E-06	5.5E-06	7.5E-06	2.9E-06	1.0E-05
200.	1.2E-06	7.5E-07	2.0E-06	2.6E-06	1.1E-06	3.7E-06
225.	4.0E-07	2.7E-07	6.7E-07	8.4E-07	4.1E-07	1.2E-06
250.	1.2E-07	8.8E-08	2.1E-07	2.5E-07	1.4E-07	3.9E-07
275.	3.5E-08	2.7E-08	6.2E-08	7.2E-08	4.2E-08	1.1E-07
300.	9.6E-09	7.9E-09	1.8E-08	2.0E-08	1.2E-08	3.2E-08
325.	2.5E-09	2.2E-09	4.7E-09	5.0E-09	3.4E-09	8.4E-09
350.	6.2E-10	5.6E-10	1.2E-09	1.2E-09	8.8E-10	2.1E-09
375.	1.5E-10	1.4E-10	2.9E-10	2.8E-10	2.1E-10	4.9E-10
400.	3.4E-11	3.2E-11	6.6E-11	6.2E-11	5.0E-11	1.1E-10
425.	7.5E-12	7.0E-12	1.5E-11	1.3E-11	1.1E-11	2.4E-11

Expected pressure drop rate and total

	1.0E-05	1.0E-06	1.0E-07
Maximum wind speed (mph)	159.	216.	265.
V trans (mph)	32.	43.	53.
V rot (mph)	128.	173.	212.
Rmax (ft)	213.	282.	285.
total press. drop (psi)	0.56	1.02	1.55
dp/dt (psi/s)	0.123	0.230	0.423
V trans (mph)	5.	5.	5.
V rot (mph)	154.	211.	260.
Rmax (ft)	176.	231.	232.
total press. drop (psi)	0.82	1.53	2.33
dp/dt (psi/s)	0.034	0.048	0.074

95% pressure drop rate and total

	1.0E-05	1.0E-06	1.0E-07
Maximum wind speed (mph)	176.	230.	278.
V trans (mph)	35.	46.	56.
V rot (mph)	141.	184.	222.
Rmax (ft)	193.	265.	272.
Total press. drop (psi)	0.68	1.16	1.70
dp/dt (psi/s)	0.183	0.296	0.508
V trans (mph)	5.	5.	5.
V rot (mph)	171.	225.	273.
Rmax (ft)	159.	217.	222.
Total press. drop (psi)	1.01	1.74	2.56
dp/dt (psi/s)	0.047	0.059	0.085

Normal End

Query Results

70 HAIL event(s) were reported in **Brunswick County, North Carolina** between **01/01/1950** and **09/30/2004**.

*Click on **Location or County** to display Details.*

Mag: Magnitude
Dth: Deaths
Inj: Injuries
PrD: Property Damage
CrD: Crop Damage

North Carolina

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
1 BRUNSWICK	05/11/1979	1400	Hail	1.00 in.	0	0	0	0
2 BRUNSWICK	07/04/1979	1840	Hail	1.00 in.	0	0	0	0
3 BRUNSWICK	04/04/1980	1143	Hail	0.75 in.	0	0	0	0
4 BRUNSWICK	04/14/1984	0355	Hail	1.75 in.	0	0	0	0
5 BRUNSWICK	05/16/1985	1607	Hail	1.00 in.	0	0	0	0
6 BRUNSWICK	05/29/1986	1627	Hail	0.75 in.	0	0	0	0
7 BRUNSWICK	06/02/1986	1300	Hail	0.75 in.	0	0	0	0
8 BRUNSWICK	06/02/1986	1300	Hail	0.75 in.	0	0	0	0
9 BRUNSWICK	07/25/1986	1250	Hail	0.75 in.	0	0	0	0
10 BRUNSWICK	04/25/1987	1300	Hail	1.00 in.	0	0	0	0
11 BRUNSWICK	04/25/1987	1320	Hail	0.75 in.	0	0	0	0
12 BRUNSWICK	07/15/1987	1000	Hail	0.75 in.	0	0	0	0
13 BRUNSWICK	04/27/1989	2000	Hail	0.75 in.	0	0	0	0
14 BRUNSWICK	04/30/1990	1900	Hail	1.00 in.	0	0	0	0
15 BRUNSWICK	04/30/1991	1340	Hail	0.75 in.	0	0	0	0
16 BRUNSWICK	06/21/1992	1330	Hail	0.75 in.	0	0	0	0
17 BRUNSWICK	06/21/1992	1330	Hail	0.75 in.	0	0	0	0
18 Bolivia	03/17/1996	11:20 AM	Hail	0.75 in.	0	0	0	0
19 Leland	06/12/1996	03:30 PM	Hail	0.75 in.	0	0	0	0
20 Leland	06/13/1996	02:27 PM	Hail	1.75 in.	0	0	0	0
21 Leland	07/03/1996	04:10 PM	Hail	1.00 in.	0	0	0	0
22 Ash	07/03/1996	12:40 PM	Hail	1.50 in.	0	0	0	0
23 Shallotte	04/22/1997	11:15 PM	Tstm Wind/hail	0 kts.	0	0	20K	0
24 Bolivia	06/03/1997	12:25 PM	Hail	1.50 in.	0	0	0	0
25 Leland	07/05/1997	09:00 PM	Hail	0.75 in.	0	0	0	0
26 Calabash	08/05/1997	02:15 PM	Hail	1.50 in.	0	0	0	0
27 Shallotte	08/05/1997	02:40 PM	Hail	0.75 in.	0	0	0	0
28 Seaside	08/05/1997	03:00 PM	Tstm Wind/hail	0 kts.	0	0	25K	0
29 Supply	04/09/1998	07:17 AM	Hail	0.75 in.	0	0	0	0
30 Leland	04/09/1998	07:33 AM	Hail	1.00 in.	0	0	0	0
31 Ash	04/22/1998	03:30 PM	Hail	0.75 in.	0	0	0	0

32 Shallotte	05/04/1998	03:40 PM	Hail	0.75 in.	0	0	0	0
33 Holden Beach	05/04/1998	04:30 PM	Hail	0.75 in.	0	0	0	0
34 Leland	05/04/1998	05:05 PM	Hail	1.25 in.	0	0	0	0
35 Leland	05/08/1998	07:20 PM	Hail	1.00 in.	0	0	0	0
36 Maco	05/17/1998	05:20 PM	Hail	1.25 in.	0	0	0	0
37 Leland	05/23/1998	02:00 PM	Hail	0.75 in.	0	0	0	0
38 Leland	06/13/1998	04:10 PM	Hail	0.75 in.	0	0	0	0
39 Leland	08/19/1998	03:35 PM	Hail	1.00 in.	0	0	0	0
40 Supply	05/14/1999	03:24 PM	Hail	1.75 in.	0	0	0	0
41 Bolivia	05/14/1999	03:43 PM	Hail	1.75 in.	0	0	0	0
42 Long Beach	05/14/1999	03:59 PM	Hail	0.88 in.	0	0	0	0
43 Southport	05/14/1999	04:45 PM	Hail	1.75 in.	0	0	0	0
44 Supply	04/18/2000	12:15 AM	Hail	0.75 in.	0	0	0	0
45 Ash	04/28/2000	02:40 PM	Hail	0.88 in.	0	0	0	0
46 Winnabow	04/28/2000	03:13 PM	Hail	0.75 in.	0	0	0	0
47 Leland	04/28/2000	03:25 PM	Hail	1.00 in.	0	0	0	0
48 Grissettown	04/29/2000	07:55 PM	Hail	0.75 in.	0	0	0	0
49 Holden Beach	05/25/2000	05:25 PM	Hail	0.88 in.	0	0	0	0
50 Leland	05/28/2000	02:10 PM	Hail	0.75 in.	0	0	0	0
51 Caswell Beach	05/28/2000	03:22 PM	Hail	0.75 in.	0	0	0	0
52 Ash	07/16/2000	08:57 PM	Hail	1.75 in.	0	0	0	0
53 Holden Beach	04/01/2001	01:15 PM	Hail	0.75 in.	0	0	0	0
54 Bolivia	04/01/2001	01:30 PM	Hail	0.75 in.	0	0	0	0
55 Ash	05/26/2001	01:05 PM	Hail	1.75 in.	0	0	0	0
56 Leland	05/28/2001	11:43 AM	Hail	1.75 in.	0	0	0	0
57 Shallotte	05/28/2001	12:25 PM	Hail	0.75 in.	0	0	0	0
58 Holden Beach	03/11/2003	10:35 AM	Hail	0.75 in.	0	0	0	0
59 Long Beach	03/11/2003	10:45 AM	Hail	1.00 in.	0	0	0	0
60 Southport	03/11/2003	10:56 AM	Hail	1.00 in.	0	0	0	0
61 Leland	03/11/2003	12:15 PM	Hail	0.75 in.	0	0	0	0
62 Leland	03/11/2003	12:27 PM	Hail	0.75 in.	0	0	0	0
63 Maco	05/03/2003	09:28 PM	Hail	1.00 in.	0	0	0	0

64 Leland	05/31/2003	04:25 PM	Hail	1.25 in.	0	0	0	0
65 Maco	07/12/2003	12:57 PM	Hail	0.75 in.	0	0	0	0
66 Leland	08/23/2003	04:06 PM	Hail	0.88 in.	0	0	0	0
67 Winnabow	06/03/2004	01:35 PM	Hail	0.75 in.	0	0	0	0
68 Leland	06/03/2004	01:45 PM	Hail	0.88 in.	0	0	0	0
69 Leland	06/03/2004	01:50 PM	Hail	0.88 in.	0	0	0	0
70 Leland	06/03/2004	01:55 PM	Hail	1.25 in.	0	0	0	0
				TOTALS:	0	0	45K	0

Top of Page

NCDC / Climate Resources / Climate Data / Events / Storm Events / Results / Search / Help

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Query Results

4 SNOW & ICE event(s) were reported in **Brunswick County, North Carolina** between **01/01/1950** and **09/30/2004**.

Mag: Magnitude
Dth: Deaths
Inj: Injuries
PrD: Property Damage
CrD: Crop Damage

*Click on **Location or County** to display Details.*

North Carolina

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
1 NCZ087 - 096>097 - 099>101	01/17/2000	11:00 PM	Snow	N/A	0	0	0	0
2 NCZ087 - 096>097 - 099>101	01/25/2000	02:30 AM	Winter Storm	N/A	0	0	0	0
3 NCZ087 - 096>097 - 099>101	01/02/2002	03:00 PM	Winter Storm	N/A	0	0	0	0
4 NCZ087 - 096>097 - 099>101	01/23/2003	05:00 AM	Winter Storm	N/A	0	0	150K	0
				TOTALS:	0	0	150K	0

Top of Page

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Query Results

88 THUNDERSTORM & HIGH WIND event(s) were reported in **Brunswick County, North Carolina** between **01/01/1950** and **09/30/2004.**

*Click on **Location or County** to display Details.*

Mag: Magnitude
Dth: Deaths
Inj: Injuries
PrD: Property Damage
CrD: Crop Damage

North Carolina

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
1 BRUNSWICK	03/31/1962	2050	Tstm Wind	69 kts.	0	0	0	0
2 BRUNSWICK	07/04/1962	1630	Tstm Wind	0 kts.	0	0	0	0
3 BRUNSWICK	05/12/1965	1600	Tstm Wind	0 kts.	0	0	0	0
4 BRUNSWICK	07/19/1966	1300	Tstm Wind	0 kts.	0	0	0	0
5 BRUNSWICK	07/30/1967	1315	Tstm Wind	87 kts.	0	0	0	0
6 BRUNSWICK	07/20/1971	1415	Tstm Wind	0 kts.	0	0	0	0
7 BRUNSWICK	07/11/1973	1645	Tstm Wind	0 kts.	0	0	0	0
8 BRUNSWICK	07/25/1978	2025	Tstm Wind	52 kts.	0	0	0	0
9 BRUNSWICK	12/04/1978	2310	Tstm Wind	52 kts.	0	0	0	0
10 BRUNSWICK	03/24/1979	0140	Tstm Wind	0 kts.	0	0	0	0
11 BRUNSWICK	03/24/1979	0215	Tstm Wind	0 kts.	0	0	0	0
12 BRUNSWICK	04/27/1980	1045	Tstm Wind	0 kts.	0	0	0	0
13 BRUNSWICK	08/03/1982	1400	Tstm Wind	56 kts.	0	0	0	0
14 BRUNSWICK	04/18/1983	1245	Tstm Wind	0 kts.	0	0	0	0
15 BRUNSWICK	07/22/1983	1500	Tstm Wind	61 kts.	0	0	0	0
16 BRUNSWICK	07/24/1983	1828	Tstm Wind	50 kts.	0	0	0	0

17 BRUNSWICK	07/24/1983	1828	Tstm Wind	51 kts.	0	0	0	0
18 BRUNSWICK	03/21/1984	0045	Tstm Wind	0 kts.	0	0	0	0
19 BRUNSWICK	03/25/1984	0730	Tstm Wind	0 kts.	0	0	0	0
20 BRUNSWICK	03/25/1984	0800	Tstm Wind	0 kts.	0	0	0	0
21 BRUNSWICK	07/25/1985	0615	Tstm Wind	0 kts.	0	0	0	0
22 BRUNSWICK	06/17/1986	1930	Tstm Wind	0 kts.	0	0	0	0
23 BRUNSWICK	04/15/1987	1210	Tstm Wind	0 kts.	0	0	0	0
24 BRUNSWICK	07/15/1987	1445	Tstm Wind	0 kts.	0	0	0	0
25 BRUNSWICK	09/04/1988	1908	Tstm Wind	65 kts.	0	0	0	0
26 BRUNSWICK	05/05/1989	2105	Tstm Wind	0 kts.	0	0	0	0
27 BRUNSWICK	05/22/1990	1300	Tstm Wind	0 kts.	0	0	0	0
28 BRUNSWICK	07/01/1990	1800	Tstm Wind	0 kts.	0	0	0	0
29 BRUNSWICK	03/03/1991	1025	Tstm Wind	0 kts.	0	0	0	0
30 BRUNSWICK	07/01/1992	1730	Tstm Wind	0 kts.	0	0	0	0
31 BRUNSWICK	07/01/1992	1753	Tstm Wind	50 kts.	0	0	0	0
32 Shallotte	03/04/1993	0530	High Winds	0 kts.	0	0	50K	0
33 BRUNSWICK	05/08/1994	1300	Thunderstorm Winds	N/A	0	0	0	0
34 Near Holden Beach	09/18/1994	1655	Thunderstorm Winds	N/A	0	0	50K	0
35 Near Long Beach	09/18/1994	1745	Thunderstormw Winds	N/A	0	0	0	0
36 BRUNSWICK	01/07/1995	0500	Thunderstorm Winds	N/A	0	0	10K	0
37 BRUNSWICK	01/15/1995	0400	Thunderstorm Winds	N/A	0	0	0	0
38 Exum	03/23/1995	1915	Thunderstorm Winds	N/A	0	0	7K	0
39 BRUNSWICK	06/07/1995	1515	Thunderstorm Wind	N/A	0	0	0	10K
40 BRUNSWICK	06/12/1995	1805	Thunderstorm Wind 60 Mph	N/A	0	0	0	0
41 BRUNSWICK	06/12/1995	1815	Thunderstorm Wind 65mph	N/A	0	0	4K	0

42 BRUNSWICK	06/12/1995	1820	Thunderstorm Wind/ Trees	N/A	0	0	2K	0
43 BRUNSWICK	06/12/1995	1830	Thunderstorm Wind/awning	N/A	0	0	2K	0
44 BRUNSWICK	06/12/1995	1845	Thunderstorm Wind 98 Mph	N/A	0	0	25K	0
45 BRUNSWICK	06/12/1995	1850	Thunderstorm Wind/ Trees	N/A	0	0	15K	0
46 Leland	07/03/1995	1430	Thunderstorm Winds	N/A	0	0	0	0
47 New Hanover	07/03/1995	1620	Thunderstorm Winds	N/A	0	0	0	0
48 Sunset Beach	11/07/1995	1755	Thunderstorm Winds	N/A	0	0	0	0
49 Ocean Isle Beach	11/07/1995	1800	Thunderstorm Winds	N/A	0	0	0	0
50 Holden Beach	11/07/1995	1805	Thunderstorm Winds	N/A	0	0	0	0
51 Long Beach	11/07/1995	1812	Thunderstorm Winds	N/A	0	0	0	0
52 Southport	11/07/1995	1825	Thunderstorm Winds	N/A	0	0	0	0
53 Bolivia	11/11/1995	1950	Thunderstorm Winds	N/A	0	0	0	0
54 Winnabow	04/26/1996	02:20 PM	Tstm Wind	65 kts.	0	0	0	0
55 Leland	07/30/1996	04:20 PM	Tstm Wind	45 kts.	0	0	0	0
56 Southport	10/08/1996	05:20 AM	Tstm Wind	55 kts.	0	0	0	0
57 Supply	02/14/1997	11:50 PM	Tstm Wind	50 kts.	0	0	0	0
58 Shallotte	04/22/1997	11:15 PM	Tstm Wind/hail	0 kts.	0	0	20K	0
59 Leland	07/05/1997	09:10 PM	Tstm Wind	50 kts.	0	0	0	0
60 Seaside	08/05/1997	03:00 PM	Tstm Wind/hail	0 kts.	0	0	25K	0
61 Long Beach	11/02/1997	02:55 AM	Tstm Wind	55 kts.	0	0	0	0

62 Ash	03/09/1998	03:05 AM	Tstm Wind	65 kts.	0	0	0	0
63 Caswell Beach	03/09/1998	03:24 AM	Tstm Wind	60 kts.	0	0	0	0
64 Leland	05/07/1998	10:40 PM	Tstm Wind	55 kts.	0	0	0	0
65 Bolivia	05/07/1998	11:20 PM	Tstm Wind	65 kts.	0	0	0	0
66 Ash	05/27/1998	12:55 PM	Tstm Wind	60 kts.	0	0	1K	0
67 Supply	06/19/1998	05:55 PM	Tstm Wind	65 kts.	0	0	30K	0
68 Maco	07/31/1998	04:45 PM	Tstm Wind	65 kts.	0	0	50K	0
69 Long Beach	09/03/1998	02:31 PM	Tstm Wind	63 kts.	0	0	0	0
70 Supply	09/03/1998	06:55 PM	Tstm Wind	65 kts.	0	0	0	0
71 Southport	01/03/1999	03:30 AM	Tstm Wind	60 kts.	0	0	0	0
72 Southport	07/06/1999	08:30 AM	Tstm Wind	60 kts.	0	0	10K	0
73 Longwood	05/25/2000	05:10 PM	Tstm Wind	60 kts.	0	0	75K	0
74 Shallotte	07/21/2000	03:57 PM	Tstm Wind	55 kts.	0	0	5K	0
75 NCZ087 - 097 - 099>101	12/17/2000	08:30 AM	High Wind	52 kts.	0	2	50K	0
76 NCZ097 - 100>101	03/06/2001	11:00 AM	High Wind	50 kts.	0	0	0	0
77 Winnabow	04/01/2001	02:30 PM	Tstm Wind	55 kts.	0	0	0	0
78 Longwood	08/29/2001	01:30 PM	Tstm Wind	52 kts.	0	0	0	0
79 Leland	05/10/2002	06:15 PM	Tstm Wind	60 kts.	0	0	0	0
80 Winnabow	06/14/2002	09:15 PM	Tstm Wind	55 kts.	0	0	0	0

81 Leland	07/20/2002	04:55 PM	Tstm Wind	56 kts.	0	0	10K	0
82 Maco	08/24/2002	09:00 PM	Tstm Wind	55 kts.	0	0	0	0
83 Winnabow	02/22/2003	04:15 PM	Tstm Wind	55 kts.	0	0	0	0
84 Leland	07/09/2003	10:40 PM	Tstm Wind	60 kts.	0	0	0	0
85 NCZ096>097 - 099>101	03/07/2004	09:30 PM	High Wind	57 kts.	0	0	10K	0
86 Leland	06/03/2004	01:50 PM	Tstm Wind	61 kts.	0	0	0	0
87 Southport	07/17/2004	01:00 PM	Tstm Wind	65 kts.	0	0	0	0
88 Leland	07/17/2004	12:50 PM	Tstm Wind	60 kts.	0	0	0	0
				TOTALS:	0	2	451K	10K

Top of Page

NCDC / Climate Resources / Climate Data / Events / Storm Events / Results / Search / Help

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Query Results

27 HURRICANE & TROPICAL STORM event(s) were reported in **South Carolina** between **01/01/1950** and **09/30/2004**.

*Click on **Location or County** to display Details.*

Mag: Magnitude
Dth: Deaths
Inj: Injuries
PrD: Property Damage
CrD: Crop Damage

South Carolina

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
1 Statewide	08/28/1995	2359	Tropical Storm	N/A	0	0	10.0M	100K
2 SCZ034	06/18/1996	10:00 AM	Tropical Storm	N/A	0	0	0	0
3 SCZ046	06/18/1996	10:00 AM	Tropical Storm	N/A	0	0	0	0
4 SCZ046	07/11/1996	08:00 PM	Hurricane	N/A	0	0	0	0
5 SCZ044>045 - 047>050	07/12/1996	01:00 AM	Hurricane	N/A	0	0	0	0
6 SCZ034	07/12/1996	11:00 AM	Hurricane	N/A	0	0	780K	0
7 SCZ034	07/12/1996	11:00 AM	Hurricane	N/A	0	0	800K	500K
8 SCZ049>050	08/31/1996	10:00 AM	Hurricane	N/A	0	0	0	0
9 SCZ034	09/05/1996	10:00 AM	Hurricane	N/A	1	0	1.0M	19.8M
10 SCZ045 - 050	09/05/1996	10:00 AM	Hurricane	N/A	0	0	0	0
11 SCZ046	09/05/1996	10:00 AM	Hurricane	N/A	0	0	0	0
12 SCZ046	10/08/1996	03:00 AM	Tropical Storm	N/A	0	0	0	0
13 SCZ034	10/08/1996	04:00 AM	Tropical Storm	N/A	0	0	0	0
14 SCZ050	08/26/1998	08:15 AM	Hurricane	N/A	0	0	0	0
15 SCZ034	08/26/1998	12:00 PM	Hurricane	N/A	0	0	3.8M	0
16 SCZ034 - 046	08/30/1999	12:00 AM	Hurricane	N/A	0	0	0	0
17 SCZ034 - 046	09/15/1999	06:00 PM	Hurricane	N/A	0	0	0	0
18 SCZ040 - 042>045 - 047>050	09/15/1999	12:00 PM	Hurricane	N/A	0	0	17.0M	0
19 SCZ044>045 - 050	10/17/1999	12:00 AM	Hurricane	N/A	0	0	0	0
20 SCZ040 - 042>045 - 048>050	09/17/2000	08:00 AM	Tropical Storm	N/A	0	0	0	0
21 SCZ045 - 050	08/14/2004	07:00 AM	Hurricane/typhoon	N/A	0	0	0	0
22 SCZ034 - 046	08/14/2004	08:00 AM	Hurricane/typhoon	N/A	0	3	6.5M	0

23 SCZ044>045 - 050	08/29/2004	06:00 AM	Tropical Storm	N/A	0	0	16.6M	0
24 SCZ017 - 023>024 - 032>033 - 039 - 046	08/29/2004	09:00 AM	Tropical Storm	N/A	0	0	320K	0
25 SCZ016 - 029 - 031 - 036 - 038	08/29/2004	09:30 AM	Tropical Storm	N/A	0	0	0	0
26 SCZ016 - 030>031	09/07/2004	04:30 PM	Tropical Storm	N/A	0	0	0	0
27 SCZ043 - 047>050	09/28/2004	05:00 AM	Tropical Storm	N/A	0	0	0	0
				TOTALS:	1	3	56.800M	20.400M

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Query Results

14 HURRICANE & TROPICAL STORM event(s) were reported in **Georgia** between **01/01/1950** and **09/30/2004.**

*Click on **Location or County** to display Details.*

Mag: Magnitude
Dth: Deaths
Inj: Injuries
PrD: Property Damage
CrD: Crop Damage

Georgia

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
1 Southwest And South C	10/04/1995	0000	Hurricane Opal	N/A	0	0	0	0
2 GAZ116>119 - 138>141	07/11/1996	10:00 PM	Hurricane	N/A	0	0	0	0
3 GAZ121 - 124>125 - 127 - 129>131 - 142>143 - 145 - 148 - 155>157 - 159>161	09/03/1998	12:00 AM	Tropical Storm	N/A	0	0	650K	0
4 GAZ087>088 - 099>101 - 114>119 - 137>141	09/15/1999	12:00 PM	Hurricane	N/A	0	0	0	0
5 GAZ039 - 050>051 - 060>061 - 073 - 107	06/11/2001	03:00 PM	Tropical Storm	N/A	0	0	0	0
6 GAZ142>143 - 146 - 155>158	09/14/2002	06:00 PM	Tropical Storm	N/A	0	0	5.7M	2.2M
7 GAZ001>009 - 011>016 - 019>025 - 027 - 030>039 - 041>062 - 066>076 - 078>086 - 089>098 - 102>113	09/14/2002	11:00 AM	Tropical Storm	N/A	0	0	0	0
8 GAZ001>009 - 011>016 - 019>025 - 027 - 030>039 - 041>062 - 066>076 - 078>086 - 089>098 - 102>113	07/01/2003	12:00 AM	Tropical Depression	N/A	0	0	0	0
9 GAZ120>122 - 124>129 - 142>148 - 155>160	09/05/2004	04:00 PM	Tropical Storm	N/A	0	0	2.2M	0
10 GAZ132>136 - 149>154 - 162>166	09/05/2004	12:01 AM	Tropical Storm	N/A	0	0	0	0
11 GAZ120>123 - 125 - 129 - 142>146 - 155>161	09/15/2004	12:00 PM	Tropical Storm	N/A	0	0	2.0M	0
12 GAZ132>136 - 149>154 - 162>166	09/25/2004	12:00 PM	Tropical Storm	N/A	0	0	0	0
13 GAZ125>127 - 129>131 - 143>148 - 156>161	09/26/2004	06:00 PM	Tropical Storm	N/A	0	0	2.2M	0

14 GAZ087>088 - 099>101 - 114>119 - 137>141	09/27/2004	02:00 AM	Tropical Storm	N/A	0	0	0	0
				TOTALS:	0	0	12.800M	2.200M

Top of Page

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2

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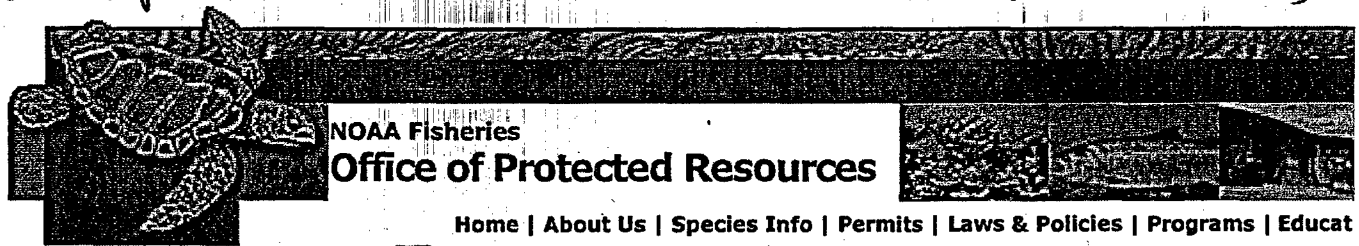


Species Information

The Office of Protected Resources works to conserve and recover species listed under the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA) in partnership with NOAA Fisheries Regions and Science Centers, environmental organizations, industry groups, other Federal and state agencies, and the academic community.

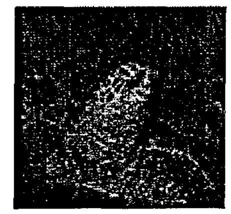
Species Numbers, Types, and Status
There are 1,290 U.S. species* listed under the ESA. The Office of Protected Resources manages mostly marine and anadromous species, and the U.S. Fish and Wildlife Service manages the remainder of the listed species, mostly terrestrial and freshwater species.

The Office of Protected Resources manages:

- 61 ESA-listed species
- 43 species of concern
- approximately 175 marine mammal stocks listed under the MMPA.

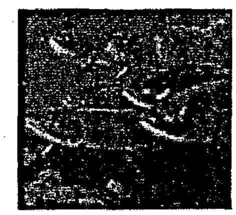
Threats
Key threats to marine species are largely due to human impacts, including accidental capture in fishing gear, habitat destruction, pollution, overharvest, and ship strikes. These threats may contribute to a species' status as threatened or endangered. For more information on threats, please visit our web pages for each species group.

For More Information
Integrated Taxonomic Information System
Marine Mammal Stock Assessment Reports
Recovery Plans
Status Reviews
U.S. Fish & Wildlife Service - Endangered

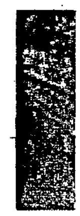


Marine Turtles

M



Marine and Anadromous Fish



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***species** is defined as sp
subspecies, distinct popul
segments (DPSs), or Evol
Significant Units (ESUs), c
on how they were listed u
ESA.

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Species Program

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(3)
(NOAA 2005b)

Protected Resources
NOAA Fisheries National Marine Fisheries Service
"conserving protected marine resources and maintaining marine biodiversity"

News and Hot Topics

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Species of Concern and Candidate Species

Purpose of the Species of Concern list:

- Identify species potentially at risk;
- Identify data deficiencies and uncertainties in species' status and threats;
- Increase public awareness about those species;
- Stimulate cooperative research efforts to obtain the information necessary to evaluate species status and threats; and
- Foster voluntary efforts to conserve the species before listing becomes warranted.

Why are Most Former Candidate Species Now "Species of Concern"?
Under the ESA, a Candidate Species is one that is being considered for listing as an endangered or a threatened species. Most former Candidate Species had uncertain biologic status and threats, but were not actively being considered for listing under the ESA. In fact, former Candidate Species had undergone an ESA biological status review determining that was "not warranted," but significant concerns or uncertainties remained regarding their extin risk and/or threats.

To better reflect the purposes of the list that NOAA Fisheries maintains, these species are n considered"Species of Concern." (64 FR 19975 - April 15, 2004 View the Official Notice). Or those species that are being actively considered for ESA listing are also "Candidate Specie Neither status carries any procedural or substantive protections under the ESA.

For more information, please see our Frequently Asked Questions on Species of Concern a Candidate Species

Species of Concern List

Common name *(click for species profile)*	Genus and Species	Family	Added to List	Population or Area of Conc

Marine Mammals				
beluga whale	*Delphinapterus leucas*	Monodontidae	1988	AK (Cook Inlet population)
killer whale	*Orcinus orca*	Dephinidae	2001	WA (Southern Resident populatic
Fishes				
dusky shark	*Carcharhinus obscurus*	Carcharhinidae	1997	Atlantic; Gulf of Mexico; Pacific
sand tiger shark	*Odontaspis taurus*	Odontaspididae	1997	Atlantic; Gulf of Mexico
night shark	*Carcharinus signatus*	Carcharhinidae	1997	Atlantic; Gulf of Mexico
largetooth sawfish	*Pristis pristis*	Pristidae	1988	Noth and South America - tropica subtropical waters
barndoor skate	*Raja laevis*	Rajidae	1999	Cape Hatteras, NC to Newfoundl Canada
thorny skate	*Raja radiata*	Rajidae	2004	Atlantic-West Greenland to NY
Atlantic sturgeon	*Acipenser oxyrinchus oxyrinchus*	Acipenseridae	1988	North America, Atlantic coastal w
green sturgeon	*Acipenser medirostris*	Acipenseridae	2003	Pacific-northern DPS* (including coastal spawning populations fro Eel River north, to the Klamath a Rogue rivers) and southern DPS (includes Sacramento River spav population); anadromous.
Alabama shad	*Alosa alabamae*	Clupeidae	1997	AL, FL, anadromous
coho salmon	*Oncorhynchus kisutch*	Salmonidae	1997	Pacific, anadromous. Puget Sound/Strait of Georgia and Sou WA ESUs
steelhead trout	*Oncorhynchus mykiss*	Salmonidae	1997	Pacific, anadromous. OR Coast E
Chinook salmon	*Oncorhynchus tshawytscha*	Salmonidae	1997	Pacific, Central Valley, fall and la run ESU
Atlantic salmon	*Salmo salar*	Salmonidae	1997	Atlantic, anadromous. Kennebec Tunk Stream, Penobscot River, a Croix River DPSs
rainbow smelt	*Osmerus mordax*	Osmeridae	2004	Atlantic-Labrador to NJ; anadrom
cusk	*Brosme brosme*	Gadidae	2004	Atlantic-Gulf of Maine.
Pacific hake	*Merluccius*	Gadidae	1999	Georgia Basin

	productus			
mangrove rivulus	*Rivulus marmoratus*	Aplocheilidae	1997	FL, estuarine
saltmarsh topminnow	*Fundulus jenkinsi*	Cyprinodontidae	1991	TX, LA, MS, AL, FL
key silverside	*Menidia conchorum*	Atherinidae	1991	Florida Keys
opossum pipefish	*Microphis brachyurus lineatus*	Syngnathidae	1991	Florida, Indian River Lagoon
striped croaker	*Bairdiella sanctaeluciae*	Sciaenidae	1991	Atlantic-FL, Antilles and Caribbea from Costa Rica to Guyana.
humphead wrasse	*Cheilinus undulatus*	Labridae	2004	Indo-Pacific-Red Sea to the Tuar north to the Ryukyus, east to Wa Islands, south to New Caledonia, throughout Micronesia; includes l territories of Guam and American Samoa.
bumphead parrotfish	*Bolbometopon muricatum*	Scaridae	2004	Indo-Pacific-Red Sea and East A the Line Islands and Samoa; nort Yaeyama, south to the Great Bar Reef and New Caledonia; Paulau Caroline, Mariana in Micronesia; it occurs in Guam, American San CNMI and the Pacific Remote Isl Areas (Wake Islands).
Atlantic wolffish	*Anarhichas lupus*	Anarhichadidae	2004	Atlantic-Georges Bank and weste Gulf of Maine.
white marlin	*Tetrapturus albidus*	Istiophoridae	2002	Atlantic.
cowcod	*Sebastes levis*	Scorpaenidae	2004	Pacific-Central OR to central Baja California and Guadalupe Island, Mexico.
bocaccio	*Sebastes paucispinis*	Scorpaenidae	1999	Pacific, CA to OR
Atlantic halibut	*Hippoglossus hippoglossus*	Pleuronectidae	2004	Atlantic-Labrador to southern Ne England.
speckled hind	*Epinephelus drummondhayi*	Serranidae	1997	NC to Gulf of Mexico
goliath grouper	*Epinephelus itijara*	Serranidae	1991	NC southward to Gulf of Mexico
warsaw grouper	*Epinephelus nigritus*	Serranidae	1997	MA to Gulf of Mexico
Nassau	*Epinephelus*	Serranidae	1991	NC southward to Gulf of Mexico

grouper	*striatus*			
Brachiopods				
inarticulate brachiopod	*Lingula reevii*	Lingulidae	2004	Pacific-Hawaii, only Kaneohe Ba
Mollusks				
pink abalone	*Haliotis corrugata*	Haliotidae	2004	Pacific-Point Conception, CA, to de Tortuga, Baja California.
black abalone	*Haliotis cracherodii*	Haliotidae	1999	OR, CA, Baja CA
green abalone	*Haliotis fulgens*	Haliotidae	2004	Pacific-Point Conception, CA, to Magdalena, Baja California.
pinto abalone	*Haliotis kamtschatkana*	Haliotidae	2004	Pacific-Sitka, AK, to Point Conce CA.
Anthozoans (corals)				
elkhorn coral	*Acropora palmata*	Acroporidae	1991	western Atlantic; Gulf of Mexico a Caribbean Sea *
staghorn coral	*Acropora cervicornis*	Acroporidae	1991	western Atlantic; Gulf of Mexico a Caribbean Sea *
Hawaiian reef coral	*Montipora dilitata*	Acroporidae	2004	Pacific-Hawaii (Kaneohe Bay, Mi atoll, and Maro Reef).
ivory bush coral	*Oculina varicosa*	Oculinidae	1991	Atlantic-West Indies, Bermuda, N Gulf of Mexico, Caribbean.
Fused-Staghorn Coral	*Acropora prolifera*	Acroporidae	2004	western Atlantic; Gulf of Mexico a Caribbean Sea *

*** NOAA Fisheries is reviewing the status of these Species of Concern as a result of petition to list ther the ESA. Therefore, they are also considered to be Candidate Species**

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(NPS 2005)

National Park Service
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EXPLORE TOPICS

Green Swamp
National Natural Landmark

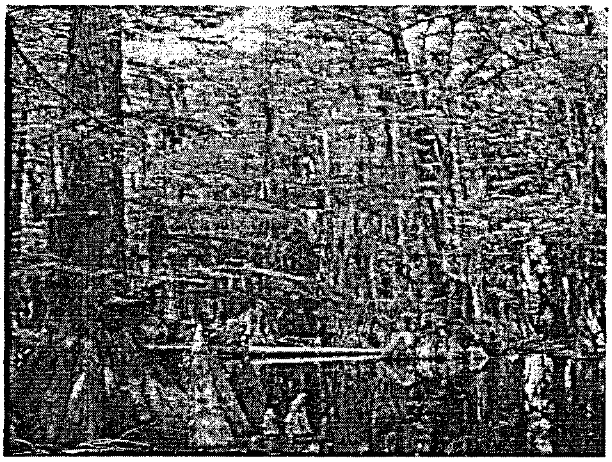

Photo of Green Swamp

IN BRIEF

Brunswick County - The largest and most unique mosaic of wetland communities in the Carolinas. The site is also a refuge for rare animal species. Owner: Private

DESIGNATION DATE

May 1974

Links
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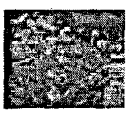
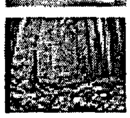


Canadian Species Faring Well in Global Context
But More than 360 Are of Global Conservation Concern (9.27.05)

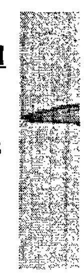
Coastal/Marine Ecological Classification Standard Published
NatureServe and NOAA Collaborate on Study (7.01.05)



Read Mark Schaefer Editorial on Biodiversity in Journal *Science*
"In Search of a Lifeline" Suggests Collaborative Solutions (4.15.05)

Biodiversity Insigl

Rediscovery of the Ivory-Billed Woodpecker



When "Extinct" is Not the Final Word

(4.28.05)

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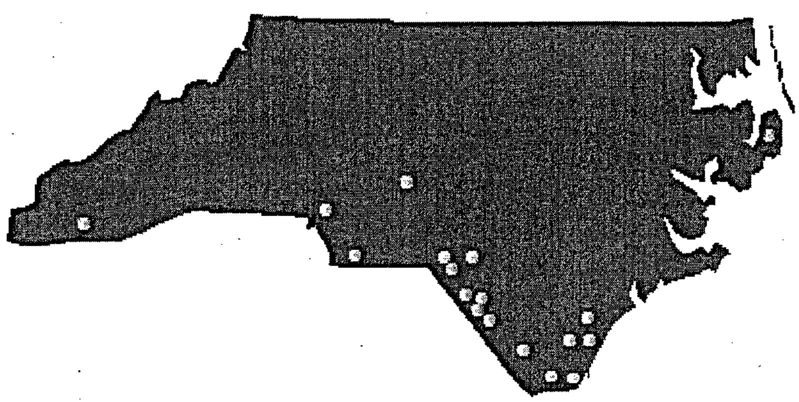
(Nature Conservancy 2001)

The Nature Conservancy

State Success Stories

North Carolina Fire Management Program



= Sites under current fire management

= Sites targeted for future fire management

North Carolina Fire Program

- Program Narrative
- Major Project Overview
- Cooperative Agencies/Fire Management Partners
- Fire Management Data Summary
- North Carolina TNC Fire Program Contacts

www.conserve~~~~online.org/........

Program Narrative

The Nature Conservancy's North Carolina Chapter began its prescribed fire program in 1985 in the Green Swamp in the Southeast Coastal Plain. The chapter currently has 13 preserves covering 20,000 acres under fire management. Four additional preserves are targeted for future fire management.

For the past decade, the chapter has conducted prescribed burns on an ecosystem level. These burns are designed and timed to mimic fire regimes under which the natural communities evolved, while also protecting and promoting the associated indigenous rare species. North Carolina conducts prescribed burns year-round, but mostly in the growing season to mimic wildfires as a key process. The chapter uses a nomadic fire crew which they share with the South Carolina and Virginia chapters of TNC, along with trained volunteers. Conservancy staff have developed preserve goals and state transition models for major natural communities with support from the NC Natural Heritage Program. Research and monitoring focus on rare species and experimental burns. TNC will redirect the fire management if its ecological goals are not achieved as determined by post-burn evaluations.

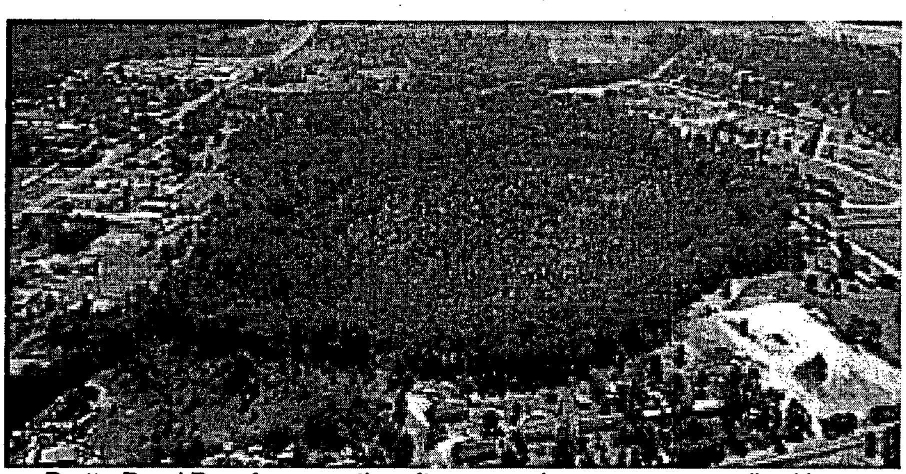
The Neck Savanna, a fire-dependent longleaf pine savanna in Green Swamp, NC
Photo by North Carolina Field Office staff

The longleaf pine communities on the Conservancy's coastal preserves are renowned for their high diversity of herbaceous species (often more than 30 species per square meter) and endemic species such as Venus flytrap *(Dionea muscipula)*, and rough-leaf loosestrife

(Lysimachia asperulifolia). Frequent fires (1-10 year return intervals) are critical to maintain the open character of the savannas. Open conditions are an important environmental factor for the health and persistence of associated rare species such as the red-cockaded woodpecker *(Picoides borealis)*, Venus flytrap moth *(Hemipachnobia subporphyrea)*, the Harper's wireleaf dropseed *(Sporobulus teretifolius)*, and the pineland plantain *(Plantago sparsiflora)*.

The chapter's staff also conducts prescribed burns in three clay-based Carolina bay preserves located in the inner coastal plain. Carolina bays are shallow, elliptical depressions that are seasonally wet and provide critical breeding habitat for amphibians such as the tiger salamander *(Ambystoma tigrinum)*, dwarf salamander *(Eurycea quadridigitata)*, and Carolina gopher frog *(Rana capito capito)*. They also support rare plant species such as Canby's cowbane *(Oxypolis canbyii)*, and the awned meadow beauty *(Rhexia aristosa)*.

Prescribed burning helps to restore the longleaf pine communities on the sandy bay rim, and maintains open conditions in cypress savannas in the bays themselves. Past fire suppression allowed loblolly pines to become established on the bay rim and seed into the bays. If there is no fire to kill loblolly pine seedlings and consume organic matter in bays, succession toward pine forest in the bays seems to accelerate. Bays with a heavy loblolly pine canopy are no longer suitable habitat for the rare species targeted for protection. Smoke management is the greatest challenge when prescribed burning here, especially as more and more development occurs in the surrounding area.



Pretty Pond Bay, four months after a growing season prescribed burn
Photo by Margit Bucher

The chapter is also using prescribed burning in the restoration and management of Piedmont prairies near Charlotte, and to maintain an open habitat for rare pitcher plants in a seepage bog in the southern Appalachians.

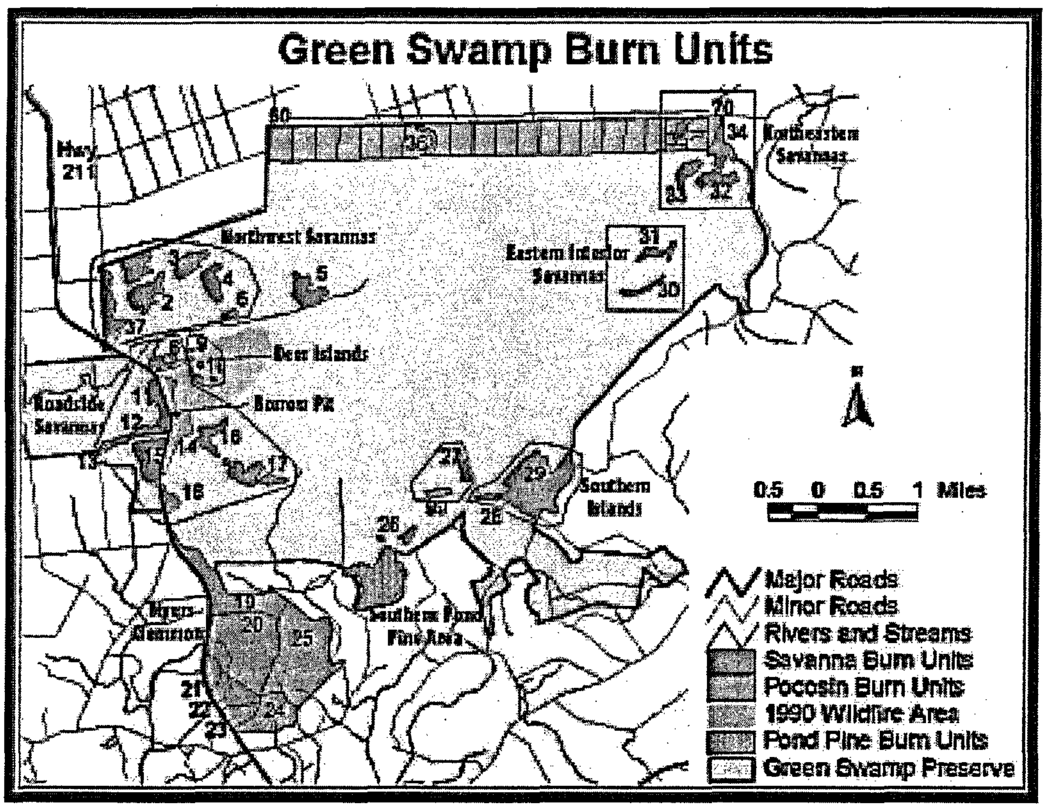
Major Project Overview

The Green Swamp Preserve (15,729 acres), located in southeastern North Carolina, has extensive, contiguous areas of organic soils (13,900 acres) supporting pocosin and pondpine woodland. These communities form 3-10 foot tall thickets of evergreen shrubs which are difficult to traverse. They have high fuel loads (10-20 tons/acre), and are notorious for erratic fire behavior. Organic soils, high fire intensity, erratic fire behavior, sea breezes, and extreme difficulty in establishing fire breaks create challenging conditions for prescribed burning as well as wildfire control (which is quite important to the surrounding timber plantations). Pocosin fuels tend to either not burn or burn with great intensity from late February though May, the fire season in North Carolina.

Experimental pocosin burns in the Green Swamp. The unit at the bottom was burned with wet organic soils, the unit in the back with dry soils.
Photo courtesy of Gary Curcio, NC DFR

So far, the North Carolina chapter has conducted two experimental burns in these systems in conjunction with the US Forest Service's Intermountain Fire Sciences Lab, with extensive support from the NC Division of Forest Service. The experimental burns supported lab results predicting the moisture content at which soils would ignite or extinguish.

For more information on these experimental burns in the Green Swamp



Map showing burn units within Green Swamp Preserve

TNC monitors the vegetation response to the different depth of burns using permanent plots. The knowledge gained from these will feed into the stage transition models, future fuel maps, and future burn plans. The NC chapter needs customized fuel models for the range of developmental stages in the pocosin, more detailed mapping of the fuels, and more research into prescription parameters to conduct larger prescribed burns in pocosin. They also need to find ways to construct fire breaks with less severe long-term impacts than plow lines to effectively and safely prescribe burns and control wildfires with minimal impacts on the soils and plant communities.

Cooperative Agencies/Fire Management Partners

Following is a list of current cooperative agencies:

Cooperative Agency	Contact Information

NC Division of Forest Resources-Region 1 Rt. 7, Box 88, Stallings Field Kinston, NC 28501	**Jim Sain Gary Curcio 252-520-2402**
NC Natural Heritage Program Division of Parks and Recreation, DENR P.O. Box 27687 Raleigh, NC 27611	**Mike Schafale Community Ecologist 919-733-4181**
USFS, Intermountain Fire Sciences Lab P.O. Box 8089 Missoula, MT 59807	**Kevin Ryan, Roger Hungerford 406-329-4807**
USFWS-Alligator River National Wildlife Refuge P.O. Box 1969 Manteo, NC 27954	**Tom Crews Fire Management Officer 252-473-1131**
NC Plant Conservation Program P.O. Box 27647 Raleigh, NC 27611	**Cecil Frost 919-733-3610**
TNC Virginia Chapter 1233-A Cedars Ct. Charlottesville, VA 22903	**Judy Dunscomb 804-295-6106**
TNC South Carolina Chapter P.O. Box 5475 Columbia, SC 29250	**Dale Soblo 803-254-9049**

North Carolina Prescribed Fire Management Summary

YEAR	# OF BURNS	ACRES BURNED
1989	2	25
1990	3	570
1991	2	90
1992	7	207
1993	7	1179
1994	5	183
1995	4	955
1996	6	153
1997	14	357
1998	10	291

1999	13	420
2000	10	337

North Carolina Fire Program Contacts

The following is a list of TNC personnel who actively work with the North Carolina Fire Program:

Name	Location	Contact Information
Margit Bucher **Margaret Fields** **Maura High**	**North Carolina Field Office** **4011 University Dr., Suite 201** **Durham, NC 27707**	919-403-8558 E-mail: mbucher@tnc.org
Dave Fowler **Fire Ecologist**	**SE Coastal Plain Office** **Bldg. 4, Unit E** **2725 Old Wrightsboro Rd** **Wilmington, NC 28405**	910-762-4352
Jeff Horton	**122 S. King St.** **P.O. Box 568** **Windsor, NC 27983**	919-794-1818

(NCCLT 2001)

NORTH CAROLINA COASTAL LAND TRUST

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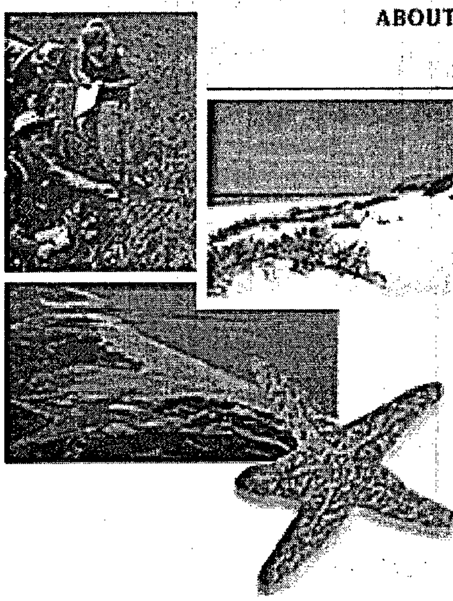

The North Carolina Coastal Land Trust is a non-profit organization formed in 1992 to help protect locally and regionally valuable natural areas and waters. Since its inception, the Coastal Land Trust has protected over 30,000 acres of barrier island beaches, riparian corridors, and other special natural areas.

We would like to extend a special thank you to our **Corporate Sponsors**.

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CURRENT EVENTS

Nov 5, 2005 - 2nd Annual Wrightsville Beach Kayak Race
Oct 22, 2005 - Family Fun Day at Cool Springs, New Bern
Oct 16, 2005 - Second Annual Outer Banks Land Trust Day
Oct 15, 2005 - Second Annual Outer Banks Land Trust Day
Oct 1, 2005 - Masonboro Island Big Sweep
Sep 17, 2005 - Camilla Herlevich Receives Radio Award!

Join Us!
What you can do to help.

TIDEWATER Society

NEWS RELEASES

Oct 26, 2005 - Fundraising and Outreach Assistant Position Open
The North Carolina Coastal Land Trust is seeking an exceptionally organized, detail-oriented individual to serve as a part-time Fundraising and ...
View Full Story

Sep 30, 2005 - Saving land yields results
Weyerhaeuser, one of the nation's largest forest products companies, did something unusual five years ago: *It agreed not to* disturb ...
View Full Story

COASTAL LAND TRUST T-SHIRTS

We are pleased to announce that we now have some great Coastal Land Trust logo tee-shirts for sale. They are Patagonia organic cotton tees in both men's and women's long sleeve and short sleeve and come in some great fall colors. The t-shirts are being sold for $12 for short sleeve and $18 for long sleeve and are available by mail or through our office. **We can ship!, please call office.**

 Funding for this website made possible by Progress Energy Foundation.
North Carolina Coastal Land Trust | 131 Racine Drive, Suite 101 | Wilmington, NC 28403 | (910)-790-4524

NCDENR 2002

North Carolina Department of Environment and Natural Resources

Division of Water Resources

Cape Fear River Basin Water Supply Plan

On 12 July 2000, the Environmental Management Commission's (EMC) Water Allocation Committee directed the Division of Water Resources to prepare a Cape Fear River Basin Water Supply Plan by September 2001. The initial purpose of this Cape Fear River Basin plan is to give the EMC a review of long-range, basinwide water supply issues before making Jordan Lake water supply allocations (see Future Plans).

The Cape Fear River Basin Water Supply Plan will in no way dictate the future water supply activities of local units of government. Rather, the plan will rely upon information provided by local governments in their own plans and on other public information to project long-range water supply needs and how those needs might be met. The plan will identify future water supply requirements and water supply sources for that portion of the Cape Fear River Basin located above Lock and Dam #1. The plan may evaluate several water use scenarios to determine their effects on Basin water resources. These scenarios should not be interpreted as recommendations of the Division of Water Resources.

Basin Water Supply Planning

- Framework

Data & Modeling

- Cape Fear River Basin Model
- Review model results

Water Supply Allocation

- Jordan Lake Water Supply Allocation

Reports & Publications

- Cape Fear River Basin Water Supply Plan, Draft 2 (March 2002, 2.00 MB)
- Cape Fear River Basin Water Supply Plan, Draft 1 (December 2001, 2.18 MB)
- Status Report (August 2001)

If you have any questions or comments contact Phil Fragapane at phil.fragapane@ncmail.net or (919)715-0389.

North Carolina
Department of State Treasurer
Financial Information
Brunswick County

NCDST 2005

Financial Profile | General Fund | Enterprise Funds | Cash, Investments and Financing
Capital Resources and Expenditures for Schools | Annual Financial Information Report Detail
Financial Graphs and Comparisons | Download Excel 97 Version of Financial Summary

Institute of Government North Carolina Counties Web Site
Economic Development Information System (EDIS) County Profiles

Go to North Carolina County and Municipal Financial Information Home Page
Go to Brunswick County Map Page

The audit report that is not due until 12/01/2005 has not been received as of 09/27/05The AFIR report that is not due until 12/01/2005 has not been received as of 09/27/05

Note: All data unless otherwise specified is for the 12 month period ending June, 30th of the designated year

		Brunswick County						
County Revenues and Expenditures Financial Profile Go to top of page			2005	2004	2003	2002	2001	2000
	Revenues by Source							
		Property Taxes	$0	68,478,690	62,753,365	60,982,737	55,689,742	52,822,490
		Other Taxes	0	5,509,615	3,932,679	3,165,825	2,512,047	2,748,573
		Sales Tax	0	16,636,215	14,157,057	12,645,932	12,233,671	11,664,082
		Sales & Services	0	22,550,893	19,247,677	16,108,379	15,998,390	15,415,234
		Intergovernmental	0	14,941,387	23,317,734	17,826,562	14,181,080	17,944,250
		Debt Proceeds	0	59,562,852	18,320,000	0	54,300,000	13,000,000
		Other Miscellaneous	0	5,924,863	4,321,835	4,968,683	8,262,924	6,452,604
		Total	$0	193,604,515	146,050,347	115,698,118	163,177,854	120,047,233
	Expenditures by Function							
		Education	$0	41,638,556	43,163,940	48,312,910	30,681,898	27,483,952
		Debt Service	0	17,040,211	13,013,098	13,671,262	11,403,247	9,278,017
		Human Services	0	19,444,080	18,667,682	18,451,159	17,316,897	17,271,251
		General Government	0	18,192,279	16,223,184	19,959,762	20,793,797	13,540,497
		Public Safety	0	18,789,409	13,926,294	12,749,865	12,322,973	12,682,431
		Other	0	35,436,018	36,080,513	33,723,770	26,163,736	24,652,340
		Total	$0	150,540,553	141,074,711	146,868,728	118,682,548	104,908,488
	Expenditures by Object							
		Salaries & Wages	$0	24,321,740	22,476,699	20,693,689	19,303,659	18,324,365
		Capital Outlay	0	14,739,072	14,158,201	18,854,530	14,137,334	9,235,298

		Other Operating	0	66,425,421	57,595,922	55,534,379	51,569,137	47,357,732
		Public School Capital	0	18,549,581	21,004,990	27,997,871	10,942,483	9,441,784
		Public School Current	0	21,003,440	20,119,670	18,430,339	17,324,079	16,201,312
		Other	0	5,501,299	5,719,229	5,357,920	5,405,856	4,347,997
		Total	$0	150,540,553	141,074,711	146,868,728	118,682,548	104,908,488
	Per Capita Revenues by Source							
		Property Taxes	$0	838	793	793	756	757
		Other Taxes	0	67	50	41	34	40
		Sales Tax	0	203	179	164	166	168
		Sales & Services	0	276	243	209	217	222
		Intergovernmental	0	183	295	232	192	258
		Debt Proceeds	0	728	232	0	737	187
		Other Miscellaneous	0	72	55	65	112	93
		Total	$0	2,367	1,847	1,504	2,214	1,725
	Per Capita Expenditures by Function							
		Education	$0	509	547	627	417	396
		Debt Service	0	208	165	178	155	133
		Human Services	0	238	236	240	235	248
		General Government	0	222	205	260	282	195
		Public Safety	0	230	176	166	167	182
		Other	0	433	456	439	355	354
		Total	$0	1,840	1,785	1,910	1,611	1,508
	Per Capita Expenditures by Object							
		Salaries & Wages	$0	297	284	269	262	263
		Capital Outlay	0	180	179	245	192	133
		Other Operating	0	812	729	722	701	681
		Public School Capital	0	227	266	364	148	136
		Public School Current	0	257	255	240	235	233
		Other	0	67	72	70	73	62
		Total	$0	1,840	1,785	1,910	1,611	1,508
	Group Average Per Capita Revenues by Source							
		Property Taxes	Not Yet Available	420	402	388	345	337
		Other Taxes	Not Yet Available	46	42	41	37	38
		Sales Tax	Not Yet Available	165	141	132	132	135
		Sales & Services	Not Yet Available	132	126	109	103	108
		Intergovernmental	Not Yet Available	212	243	284	285	304
		Debt Proceeds	Not Yet Available	65	86	110	118	48
		Other Miscellaneous	Not Yet Available	38	37	34	50	48
		Total	Not Yet Available	1,078	1,077	1,098	1,070	1,018

	Group Average Per Capita Expenditures by Function							
		Education	Not Yet Available	247	279	311	295	299
		Debt Service	Not Yet Available	84	99	75	67	66
		Human Services	Not Yet Available	297	291	290	289	289
		General Government	Not Yet Available	89	90	89	87	77
		Public Safety	Not Yet Available	168	157	150	144	147
		Other	Not Yet Available	157	170	167	150	138
		Total	Not Yet Available	1,042	1,086	1,082	1,032	1,016
	Group Average Per Capita Expenditures by Object							
		Salaries & Wages	Not Yet Available	259	252	251	240	240
		Capital Outlay	Not Yet Available	63	73	76	73	62
		Other Operating	Not Yet Available	397	401	363	348	344
		Public School Capital	Not Yet Available	59	100	130	122	128
		Public School Current	Not Yet Available	164	159	160	153	151
		Other	Not Yet Available	100	101	102	96	91
		Total	Not Yet Available	1,042	1,086	1,082	1,032	1,016
		Number of Reporting (AFIR) Counties in Group	0	27	27	24	23	23
		Average Population of Group	0	1,907,545	1,895,064	1,725,572	1,663,592	1,595,035
General Fund **Go to top of page**			2005	2004	2003	2002	2001	2000
	General Fund revenues		$0	112,232,226	99,540,474	96,314,129	90,694,701	88,703,368
	General Fund expenditures		0	102,276,143	93,721,754	88,954,119	84,219,218	76,823,692
	Operating transfers in		0	7,422,668	5,030,359	3,680,297	5,526,949	4,506,980
	Operating transfers out		0	8,647,818	8,697,216	9,181,231	11,576,409	10,147,345
	Proceeds from capital leases and installment purchases		0	0	0	0	0	0
	Other items		0	513,131	0	0	0	0
	Excess of revenues and other sources over (under) expenditures and other uses		$0	9,244,064	2,151,863	1,859,076	426,023	6,239,311
	Fund balance available (FBA):							
		In dollars	$0	44,505,018	34,434,194	35,211,748	34,913,423	35,645,042
		FBA as a % of GF Net Expenditures:						
		Unit's FBA %	0.00%	40.12%	33.62%	35.88%	36.45%	40.98%

Group weighted average FBA %	Not Yet Available	22.71%	19.36%	18.36%	17.52%	18.20%
State weighted average FBA %	Not Yet Available	19.57%	21.81%	21.75%	20.84%	21.43%
Number of Reporting Counties in Group (Audit)	0	27	27	24	23	23
Enterprise Funds: Go to top of page						
Water/Sewer						
Combined financial results:						
Working capital		$9,895,480	$4,314,044	$5,871,568	$5,645,615	$0
Net income		3,579,025	7,039,769	4,622,608	5,317,403	0
Cash, Investments and Financing Go to top of page	2005	2004	2003	2002	2001	2000
Population at July 1st of the Previous Year	85,034	81,810	79,054	76,904	73,692	69,577
Population Group	50,000 - 99,999	50,000 - 99,999	50,000 - 99,999	50,000 - 99,999	50,000 - 99,999	50,000 - 99,999
Cash & Investments at June 30th	0	83,996,338	69,257,709	66,892,185	62,914,870	62,171,562
Investment Earnings	0	761,842	852,662	1,426,021	3,428,041	3,402,935
Tax Rate Equivalent	0.0000	0.0058	0.0078	0.0138	0.0349	0.0354
Tax Rate Equivalent Group weighted average	Not Yet Available	0.0068	0.0112	0.0160	0.0364	0.0370
Tax Rate Equivalent Statewide weighted average	Not Yet Available	0.0067	0.0112	0.0184	0.0411	0.0388
Latest year of Revaluation	2003	2003	1999	1999	1999	1999
January 1, Prior Year Assessed Valuation	13,459,362,571	13,169,445,376	10,869,982,673	10,303,652,171	9,818,026,178	9,608,830,149
Tax Rate	0.5400	0.5200	0.5925	0.5925	0.5650	0.5500
Tax Rate Group weighted average	0.6147	0.6161	0.6381	0.6287	0.6076	0.6291
Tax Rate State Wide	0.6460	0.6630	0.6686	0.6684	0.6548	0.7069
Assessment -to-Sales Ratio	87.38	100.00	81.22	85.77	93.21	100.00
Assessment -to-Sales Ratio Group Average	91.68	92.86	88.66	89.09	84.56	87.03
Assessment -to-Sales Ratio Statewide	91.52	91.40	88.96	89.36	87.85	86.74
Assessed Valuation adjusted for Assessed to Sales Ratio	15,403,253,114	13,169,445,376	13,383,381,769	12,013,119,005	10,533,232,677	9,608,830,149
Tax Rate Adjusted	0.4719	0.5200	0.4812	0.5082	0.5266	0.5500

		Tax Rate Adjusted Group weighted average	0.5635	0.5721	0.5657	0.5601	0.5137	0.5475
		Tax Rate Adjusted Statewide	0.5912	0.6060	0.5948	0.5973	0.5752	0.6131
		Percent Collected	0.00	96.03	94.42	94.89	95.45	95.46
		Percent Collected Group weighted average	Not Yet Available	95.70	95.00	95.42	95.31	95.42
		Percent Collected Statewide weighted average	Not Yet Available	96.70	96.36	96.49	96.46	96.72
		Percent Collected Excluding Motor Vehicles	0.00	96.77	95.60	95.76	96.23	96.23
		Percent Collected Excluding Motor Vehicles Group weighted average	Not Yet Available	96.90	96.33	96.72	96.83	96.90
		Percent Collected Excluding Motor Vehicles Statewide	Not Yet Available	97.78	97.46	97.63	97.67	97.94
		Percent Collected Motor Vehicles Only	0.00	82.84	75.36	80.44	82.70	83.12
		Percent Collected Motor Vehicles Only Group weighted average	Not Yet Available	85.62	84.38	85.28	84.56	84.33
		Percent Collected Motor Vehicles Only Statewide weighted average	Not Yet Available	86.69	86.77	86.77	86.95	87.22
		Tax Uncollected	0	2,669,984	3,539,795	3,128,520	2,529,014	
		Tax Rate Equivalent	0.0000	0.0203	0.0326	0.0304	0.0258	0.0000
	Debt Information		2005	2004	2003	2002	2001	2000
		Population Group	50,000 - 99,999	50,000 - 99,999	50,000 - 99,999	50,000 - 99,999	50,000 - 99,999	50,000 - 99,999
		Ratings:						
		Fitch	AA-	A+	A+	A+	A+	A+
		Moody's	Aa3	A1	A1	A1	A1	A1
		S & P	AA-	A+	A+	A+	A+	A
		General Obligation Debt (GO) where the taxing power of the entire County is pledged to satisfy the obligation. The figure does not include General Obligations of sub-divisions such as water districts even though such obligations may appear on the County's financial statements.						
		Enterprise	$2,737,607	4,476,429	6,802,291	9,210,376	11,693,832	14,208,122
		General Government	81,272,393	80,818,571	69,922,709	53,674,625	55,781,168	18,801,878
		Total	84,010,000	85,295,000	76,725,000	62,885,000	67,475,000	33,010,000
		Total Per Capita	988	1,043	971	818	916	474
		Total Per Capita for the Population Group	269	264	271	265	235	225
		Total Per Capita Statewide	704	685	644	587	560	523
		Total per Assessed Valuation Adjusted for Current Year	0.5454%	0.6477%	0.5733%	0.5235%	0.6406%	0.3435%

Sales						
Total per Assessed Valuation Adjusted for Current Year Sales- Group Average	0.3500%	0.3600%	0.3800%	0.3800%	0.3500%	0.3500%
Total per Assessed Valuation Adjusted for Current Year Sales - Statewide	0.8200%	0.8400%	0.8100%	0.7600%	0.7700%	0.7300%
Total Authorized but not Issued Including Enterprise Debt	14,990,000	0	13,880,000	32,200,000	111,311,378	114,528,445
Installment Sales Purchases and Lease Obligations*						
--Enterprise*	$0	0	650,241	2,160,893	3,588,302	4,938,754
--General Government*	23,935,000	25,272,304	19,334,061	21,360,092	23,330,210	9,226,568
Total*	23,935,000	25,272,304	19,984,302	23,520,985	26,918,513	14,165,321
* The total only includes the contracts that require Local Government Commission approval.						
Revenue Bond Debt	39,447,388	31,540,000	0	0	0	0
Total Debt Listed Above*	$63,382,388	56,812,304	19,984,302	23,520,985	26,918,513	14,165,321
County School Report **Go to top of page**	2005	2004	2003	2002	2001	2000
Sources of County Funding for Public School Capital Outlays:						
Restricted portions of local option sales taxes:						
Article 40 (30% restricted)		942,505	972,437	964,098	945,327	945,327
Article 42 (60% restricted)		1,859,095	1,926,504	1,910,939	1,875,348	1,875,348
Interest on restricted sales taxes		33,746	48,402	85,882	207,710	207,710
Withdrawals from the State Public School Building Capital Fund					151,081	151,081
Grants from Public School Building Bond Fund					1,204,768	1,204,768
Net proceeds from public school debt financing:						
General obligation bonds		13,880,000	18,320,000		13,000,000	13,000,000
Installment purchase contracts						
Interest on public school debt proceeds		188,479	253,236	908,817	411,146	411,146
Unrestricted sources		5,777,464			66,968	66,968
Total Sources		22,681,289	21,520,579	3,869,736	17,862,348	17,862,348
Deduct: Uses of County Funding for Public School Capital Outlays:						

	Funded by Article 40 restricted local option sales taxes:						
		Public school debt service (principal and interest)	463,984	519,498	527,655	618,211	618,211
		Public school capital outlay	622,453	473,499	417,306	384,017	384,017
	Funded by Article 42 restricted local option sales taxes:						
		Public school debt service (principal and interest)	914,868	1,008,437	1,071,301	1,255,156	1,255,156
		Public school capital outlay	1,227,333	919,147	847,258	779,672	779,672
	Funded by Public School Building Capital Fund:						
		Public school debt service (principal and interest)					
		Public school capital outlay				151,081	151,081
	Funded by Public School Building Bond Fund:						
		Public school capital outlay				1,251,397	1,251,397
	Funded by other sources:						
		Public school debt service (principal and interest)	5,533,785	3,488,000	3,532,500		
		Public school capital outlay:					
		From Capital Projects Funds	16,699,795	19,612,344	26,134,352	6,014,184	6,014,184
		From General Fund and all other funds			598,955	861,433	861,433
		Fair market value of assets donated to public school county					
		Total Uses	25,462,218	26,020,925	33,129,327	11,315,151	11,315,151
Sources of county funding over (under) uses of county funding			-2,780,929	-4,500,346	-29,259,591	6,547,197	6,547,197
Add: Beginning Balance, July 1, Prior Year							
	Unexpended restricted portions of local option sales taxes		3,621,447	3,656,870	3,443,972	3,000,092	3,000,092
	Unexpended proceeds from other sources restricted						
		for public school capital outlay	23,093,860	12,697,555	42,054,545	6,865,041	6,865,041
Equals: Ending Balance, June 30, Current Year							
	Total ending balance		23,934,378	11,854,079	16,354,425	16,412,330	16,412,330
	Total ending balance comprised of:						
		Unexpended restricted portions of local option sales taxes	3,228,155	3,683,632	3,656,870	2,991,421	2,991,421

		Unexpended proceeds from other sources restricted for public school capital outlay		20,706,223	8,170,447	12,697,555	13,420,909	13,420,909
Additional Information:								
	Average daily membership			10,910	10,749	10,578	10,285	10,142
	Adjusted unit-wide tax rate		0.4719	0.5200	0.4812	0.5082	0.5266	0.5500
	Weighted average adjusted unit-wide tax rate for population group		0.5635	0.5721	0.5657	0.5601	0.5137	0.5475
	Assessed valuation per student			1,207,099	1,011,255	974,064	954,597	947,430
	School bonds authorized and Unissued as of 3/31 of the following year					32,200,000	32,200,000	70,500,000
Annual Financial Information Report Detail **Go to top of page**			2005	2004	2003	2002	2001	2000
		Population at July 1st of the Previous Year	85,034	81,810	79,054	76,904	73,692	69,577
1A	Non GASB34	General Fund Assets				49,869,151	47,685,277	49,958,888
1B	FISCAL	General Fund Liabilities				6,319,287	6,089,888	5,775,548
2A	SUMMARY	Debt Service Fund Assets						
2B		Debt Service Fund Liabilities						
3A		Enterprise Fund Assets				89,925,256	80,322,600	77,012,790
3B		Enterprise Fund Liabilities				15,953,772	23,466,550	20,509,213
4A		Internal Service Fund Assets						
4B		Internal Service Fund Liabilities						
5A		Special Revenue Fund Assets				20,583,634	21,585,155	19,150,007
5B		Special Revenue Fund Liabilities				2,757,445	2,665,074	2,706,689
6A		Trust & Agency Fund Assets				1,151,899	743,177	642,723
6B		Trust & Agency Fund Liabilities				1,151,899	743,177	642,723
7A		Capital Project Fund Assets				25,242,618	56,735,464	14,410,708
7B		Capital Project Fund Liabilities				1,459,948	2,664,856	944,690
8A		General Fixed Assets - Assets				86,909,104	80,893,886	70,390,855
9B		General Long-Term Liabilities				87,380,800	90,759,328	39,250,416
1.5A	GASB34	Governmental Activities Assets		184,860,785	164,090,645			
1.5B	FISCAL	Governmental Activities Liabilities		125,076,321	108,261,951			

3.5A	SUMMARY	Business Type Activities Assets		132,360,272	99,307,167			
3.5B		Business Type Activities Liabilties		39,727,431	10,253,351			
6.5A		Fiduciary Funds Assets		4,572,611	11,980,979			
6.5B		Fiduciary Funds Liabilties		4,572,611	11,980,979			
10	PART 2	Current Collections Of Unit Wide Levy		64,507,757	59,851,207	58,085,913	53,047,534	50,565,486
11	TAX	Current Collections of Special Tax District						
12	REVENUES	Prior Years' Levy Collections		3,250,239	2,331,041	2,293,425	2,067,578	1,784,306
13		Penalties and Interest		712,481	568,660	603,399	574,630	472,255
14		Collections of Tax Previously Written off		8,213	2,457			443
15		Animal Tax						
16		Deed Stamp Excise Tax		3,552,667	2,130,217	1,618,323	1,334,552	1,376,599
17		Real Property Transfer Tax						
18		Scrap Tire Disposal Tax		97,952	90,659	89,172	66,269	95,087
19		1% Local Government Option Sales Tax		7,371,470	6,339,193	6,247,375	5,783,022	5,474,325
20		1/2% Local Government Option Sales Tax (40)		3,141,684	3,241,458	3,213,659	3,239,122	3,107,674
21		1/2% Local Government Option Sales Tax (42)		3,098,491	3,210,840	3,184,898	3,211,527	3,082,083
21.1		1/2% Local Government Option Sales Tax (44)		3,024,570	1,365,566			
22		Local Occupancy Tax		832,935	793,002	761,786	731,179	640,700
23		Prepared Food Tax						
24		911 Charges		801,977	602,091	625,361	204,401	441,574
25		Gross Receipts Tax on Short Term Leased Vehicles						
26		White Goods Disposal Tax		29,102	28,460	28,604	27,895	27,590
27		Privilege Licenses						28,520
28		Other Licenses		194,982	288,250	42,579	147,751	138,503
29		Payments in Lieu of Taxes - US Forest Serv		2,089	2,037	3,469	1,181	
30	FEDERAL	Payments in Lieu of Taxes - TVA						
31	INTERGOV	Payments in Lieu of Taxes - Other						
32	REVENUES	Equitable Sharing of Fed. Forfeited Prop.						914

33		General Government						
34		Public Safety		551,055	176,532	1,171,309	447,374	203,380
35		Transportation - Streets						
36		Transportation - Mass Transit						
37		Transportation - Other Transportation						
38		Environmental Protection		105,000	1,067,877	53,289	159,099	1,220,779
39		Econ. & Phys. Dev. - Housing/Comm. Dev.		1,096,073	4,280,579	2,261,317	2,160,438	2,139,663
40		Econ. & Phys. Dev. - All Other			62,500	51,598	2,623	
41		Human Services: Health		1,700,760	1,401,575	1,545,478	1,255,820	1,152,852
42		Human Services: Mental Health						
43		Human Services: Hospitals						
44		Human Services: Social Services		7,463,311	7,008,948	6,958,618	6,729,341	8,518,590
45		Human Services: All Other					70,030	106,591
46		Culture and Recreation					137,824	162,897
47		Payments in Lieu of Taxes - State						
48	STATE	Controlled Substance Tax		18,092	19,780	19,235	28,995	22,834
49	INTERGOV	Intangibles Tax Reimbursement				523,604	522,763	532,141
49.1	REVENUES	Transitional Hold Harmless Revenues						
50		Wireless Enhanced 911 Service Charges		271,483	107,252	84,451	76,197	
51		Beer and Wine Tax		209,433	179,180		192,083	186,928
52		Court Costs - Facilities, Jail and Arrest Fees		401,055	234,375	273,492	232,701	231,919
53		Public School Building Capital Fund					397,164	151,082
54		Public School building bond fund					-246,856	1,204,768
55		Food Stamp Purchases Tax Reimbursement				48,973	49,106	49,269
56		Inventories Tax Reimbursement				335,329	669,075	674,737
57		Senior Citizens Exemption - 50%					59,648	59,648
58		General Government		61,719	58,747		15,000	66,157
59		Public Safety		107,449	93,377	225,678	186,893	87,894
60		Transportation		2,104,247	3,036,628	200,201	207,014	51,114

61		Environmental Protection		212,390	4,745,973	2,811,802	136,254	144,634
62		Econ. & Phys. Dev. - Housing/Community Dev		90,136	97,486	298,502	84,329	321,476
63		Econ. & Phys. Dev. - All Other			70,254			
64		Human Services: Health		80,000	136,216	195,230	298,429	372,983
65		Human Services: Mental Health						
66		Human Services: Hospitals						
67		Human Services: Social Services			89,193	34,360	564	13,223
68		Human Services: All Other		232,087	207,629	247,478	158,526	153,344
69		Culture and Recreation		153,966	150,531	126,721	13,695	
70	LOCAL	Other State Intergov.				79,419	116,770	104,433
71	INTERGOV	Payments in Lieu of Taxes - Local						
72	REVENUES	General Government			4,500			
73		Public Safety		81,042	69,185	79,078	19,000	
74		Transportation			17,380			
75		Environmental Protection						
76		Economic And Physical Development						
77		Human Services: Health, Mental Hlt & Hosp				197,931		
78		Human Services: Social Services						
79		Human Services: All Other						
80	PERMITS	Culture And Recreation						10,000
81	& FEES	Building Permits		1,351,174	607,019	492,280	503,074	539,581
82		Register of Deeds		1,399,447	1,154,825	746,914	534,938	421,762
83		Inspection Fees		224,123	128,193	115,128	117,610	128,305
84		Concealed Handgun Permits		25,265	19,880	22,345	9,390	
85		Other Permits		395,199	153,023	118,954	145,973	93,603
86	SALES &	Parking Revenues						
87	SERVICES	Rents and Royalties		19,853	20,898	19,290	17,683	19,290
88		Airport						
89		Fire Protection Charges						
90		Solid Waste		1,391,467	1,029,562	923,848	911,156	1,034,950
91		Ambulance and Rescue Squad Charges		882,717	921,351	767,480	239,182	299,819
92		Cemeteries						

93		Recreation Service Revenues		124,755	125,200	105,252	58,284	66,698
94		Library Service Revenues		20,594	18,064	40,566	108,674	35,837
95		Other Cultural and Rec Service Revenues						
96		Client and Third Party Payments - Health		878,890	592,344	658,312	583,466	470,566
97		Client and Third Party Payments - Ment Hlth						
98		Client and Third Party Payments - Soc Serv		56,165	62,971	77,617	65,005	57,051
99		Client and Third Party Payments - Cty Home						
100	UTILITY	Mass Transit - County Operated						
101	MISC.	Other Sales and Services		1,575,134	1,761,873	1,823,462	1,275,340	1,006,992
102	REVENUES	Water and Sewer Charges		17,601,318	14,715,414	11,692,552	12,739,600	12,424,031
103		Investment Earnings - Bond Proceeds		344,080	253,236	1,111,502	1,882,883	476,385
104		Investment Earnings - All Other Funds		761,842	852,662	1,426,021	3,428,041	3,402,935
105		Special Assessments		81,718	126,715	133,020	195,791	613,622
106		Private Contributions and Other Donations		358,991	85,706	22,633	81,538	109,451
107		Sales of Materials and Fixed Assets		119,366	4,950	44,739	600	142
108		Sale of Real Property						
109		1 Cent and 5 Cent Bottle Tax		42,241	34,066	35,838	38,495	27,656
110		Mixed Drink Surcharge						
111		ABC Profit Distribution		30,000	24,000	24,000	18,000	24,000
112		Other Miscellaneous Revenues		791,417	877,560	675,309	1,306,591	615,162
113		Proceeds of the Sale of Bonds & Notes		55,894,087	18,320,000		38,300,000	13,000,000
114		Proceeds of Capital Leases & Install Purch		3,668,765			16,000,000	
115		Other						
116	NON-REV	Fines and Forfeitures		379,279	355,244	441,470	306,147	272,163
117	RECEIPTS	School - Current Levy Collections						
118		School - Prior Years' Levy Collections						
119		Tax Collections for Other Units		1,125,240	2,482,434	2,364,183	3,634,418	962,225

120		Utilities Customers' Deposits		71,526	136,676	91,959	77,641	143,080
121		Deposits Other Than Utility						
122		Prepaid Taxes		35,564	-6,961	-35,815	-3,488	-3,594
123		Prepaid Privilege Licenses						
124		Assistance Passed Directly To Recipients		81,658,567	73,751,874	68,084,085	58,963,176	52,429,392
125A	PART 4	Governing Body - Salaries & Wages		100,606	94,594	89,693	98,642	89,562
125B	GENERAL	Governing Body - Other Direct		135,723	138,511	115,095	131,088	124,664
125C	GOVT	Governing Body - Construction						
125D		Governing Body - Purchase of P,P&E					8,563	143,977
126A		Administration - Salaries & Wages		377,827	354,291	345,188	318,595	247,838
126B		Administration - Other Direct		1,615,157	1,994,272	1,504,207	1,399,715	1,121,341
126C		Administration - Construction						
126D		Administration - Purchase of P,P&E		30,509			9,828	5,252
127A		Elections - Salaries & Wages		135,201	128,027	111,592	120,744	90,041
127B		Elections - Other Direct		132,085	156,260	120,363	110,190	107,352
127C		Elections - Construction						
127D		Elections - Purchase of P,P&E			6,830	33,099	9,680	11,470
128A		Finance - Salaries & Wages		448,640	419,380	372,606	357,684	316,869
128B		Finance - Other Direct		204,137	262,750	222,300	220,273	195,738
128C		Finance - Construction						
128D		Finance - Purchase of P,P&E			10,632	1,676	5,205	966
129A		Taxes - Salaries & Wages		1,030,172	964,133	819,643	767,954	718,762
129B		Taxes - Other Direct		798,259	744,445	792,065	662,224	624,182
129C		Taxes - Construction						
129D		Taxes - Purchase of P,P&E				4,331	30,634	117,453
130A		Legal - Salaries & Wages		164,671	171,529	143,019	112,600	99,706
130B		Legal - Other Direct		78,266	128,441	130,864	205,936	70,407
130C		Legal - Construction						
130D		Legal - Purchase of P,P&E				3,573		1,925
131A		Register of Deeds - Salaries & Wages		543,827	463,952	393,902	358,498	358,156
131B		Register of Deeds - Other Direct		2,290,264	1,555,646	1,202,389	1,029,363	970,922

131C		Register of Deeds - Construction						
131D		Register of Deeds - Purchase of P,P&E		19,348	6,840	32,318	2,232	9,040
132A		Public Buildings - Salaries & Wages		1,464,129				
132B		Public Buildings - Other Direct		1,897,177				
132C		Public Buildings - Construction						
132D		Public Buildings - Purchase of P,P&E		730,625				
133A		Court Facilities - Salaries & Wages		45,603	35,242	37,468	37,322	
133B		Court Facilities - Other Direct		71,993	101,602	88,022	115,254	121,764
133C		Court Facilities - Construction		193,813	705,089	6,047,237	7,533,257	435,502
133D		Court Facilities - Purchase of P,P&E			2,171	23,349	54,818	74,395
134A		Central Services - Salaries & Wages		979,650	2,087,269	1,981,250	1,821,374	1,652,514
134B		Central Services - Other Direct		4,022,332	4,690,741	4,167,521	3,954,463	3,637,271
134C		Central Services - Construction				154,027	287,749	
134D		Central Services - Purchase of P,P&E		125,396	504,397	323,542	549,099	483,214
135A		Gen. Govt. All Other - Salaries & Wages		307,999	269,953	258,664	226,372	201,135
135B		Gen. Govt. All Other - Other Direct		239,170	217,737	434,372	249,941	357,650
135C		Gen. Govt. All Other - Construction						1,138,279
135D		Gen. Govt. All Other - Purchase of P,P&E		9,700	8,450	6,387	4,500	13,150
136A	PUBLIC	Sheriff & Communications - Salaries & Wages		3,282,426	3,062,156	2,881,640	2,612,894	2,491,585
136B	SAFETY	Sheriff & Communications - Other Direct		1,389,539	1,370,382	1,637,910	1,054,623	997,145
136C		Sheriff & Communications - Construction						
136D		Sheriff & Communications - Purchase of P,P&E		423,788	344,509	406,869	388,692	546,860
137A		Jail - Salaries & Wages		956,749	945,386	608,776	462,838	440,856
137B		Jail - Other Direct		1,209,476	1,079,096	841,417	741,661	680,415
137C		Jail - Construction		2,883,216	231,741			
137D		Jail - Purchase of P,P&E				7,402	10,426	4,109
138A		Emergency Communications - Salaries & Wages		799,119	672,495	587,139	526,637	502,766

138B		Emergency Communications - Other Direct		2,330,483	889,235	224,209	687,941	441,024
138C		Emergency Communications - Construction						
138D		Emergency Communications - Purchase of P,P&E		69,832	256,103		115,028	36,748
139A		Emergency Management - Salaries & Wages		146,696	156,276	111,440	106,062	102,042
139B		Emergency Management - Other Direct		290,500	185,368	193,305	165,948	821,997
139C		Emergency Management - Construction						
139D		Emergency Management - Purchase of P,P&E		142,350	36,966	74,130	30,406	26,195
140A		Fire - Salaries & Wages						
140B		Fire - Other Direct		325,000	346,325	607,119	1,380,505	1,277,423
140C		Fire - Construction						
140D		Fire - Purchase of P,P&E						
141A		Inspectors - Salaries & Wages		308,434	298,420	252,036	238,909	235,600
141B		Inspectors - Other Direct		137,196	132,000	105,456	98,950	83,538
141C		Inspectors - Construction						
141D		Inspectors - Purchase of P,P&E				18,127	47,343	18,968
142A		Rescue Units - Salaries & Wages		1,865,309	1,670,049	1,611,046	1,478,143	1,401,613
142B		Rescue Units - Other Direct		1,136,614	1,180,904	977,115	943,094	822,576
142C		Rescue Units - Construction						170,225
142D		Rescue Units - Purchase of P,P&E		220,032	169,042	189,817	350,402	321,213
143A		Animal Control - Salaries & Wages		247,295	235,825	185,930	177,074	168,047
143B		Animal Control - Other Direct		194,798	198,854	193,389	172,935	148,428
143C		Animal Control - Construction					111,783	547,423
143D		Animal Control - Purchase of P,P&E		14,871	11,226	4,650	22,979	16,986
144A		Med Examiner/Coroner - Salaries & Wages						
144B		Med Examiner/Coroner - Other Direct		55,728	63,881	51,875	64,141	57,737
144C		Med Examiner/Coroner - Construction						

144D		Med Examiner/Coroner - Purchase of P,P&E						
145A		Pub. Safety All Other - Salaries & Wages		80,975	77,812	51,509	46,406	53,997
145B		Pub. Safety All Other - Other Direct		106,748	96,047	67,932	86,603	97,102
145C		Pub. Safety All Other - Construction						
145D		Pub. Safety All Other - Purchase of P,P&E			20,108	680,801	23,581	16,556
146A	TRANS	Improvements Subdivisions and Streets - Salaries & Wages						
146B	PORTATION	Improvements Subdivisions and Streets - Other Direct						
146C		Improvements Subdivisions and Streets - Construction						
146D		Improvements Subdivisions and Streets - Purchase of P,P&E						
147A		Parking Facilities - Salaries & Wages						
147B		Parking Facilities - Other Direct						
147C		Parking Facilities - Construction						
147D		Parking Facilities - Purchase of P,P&E						
148A		Airport - Salaries & Wages						
148B		Airport - Other Direct		85,000	85,000	80,000	66,000	66,000
148C		Airport - Construction		2,961,258	2,358,617	374,399	210,334	
148D		Airport - Purchase of P,P&E						
149A		Mass Transit-County - Salaries & Wages						
149B		Mass Transit-County - Other Direct						
149C		Mass Transit-County - Construction						
149D		Mass Transit-County - Purchase of P,P&E						
150B		Mass Transit-Private - Other Direct						
151A		Trans. All Other - Salaries & Wages						

151B		Trans. All Other - Other Direct				108,243	78,847	
151C		Trans. All Other - Construction						
151D		Trans. All Other - Purchase of P,P&E						
152A	ENVIRON	Solid Waste - Salaries & Wages		294,752	278,291	252,386	251,279	243,094
152B	MENTAL	Solid Waste - Other Direct		8,871,884	8,551,040	8,189,397	7,834,679	7,180,703
152C	PROTECT.	Solid Waste - Construction				1,514	32,517	148,396
152D		Solid Waste - Purchase of P,P&E		70,346	62,451	8,983	169,694	
153A		Drainage & Watershed - Salaries & Wages						
153B		Drainage & Watershed - Other Direct						
153C		Drainage & Watershed - Construction						
153D		Drainage & Watershed - Purchase of P,P&E						
154A		Cemeteries - Salaries & Wages						
154B		Cemeteries - Other Direct						
154C		Cemeteries - Construction						
154D		Cemeteries - Purchase of P,P&E						
155A		Environ. All Other - Salaries & Wages		139,757	120,797	104,629	101,752	95,699
155B		Environ. All Other - Other Direct		303,403	250,329	258,724	319,228	374,537
155C		Environ. All Other - Construction						
155D		Environ. All Other - Purchase of P,P&E						
156A	ECON &	Planning & Zoning - Salaries & Wages		399,922	354,198	336,109	329,272	284,029
156B	PHYS	Planning & Zoning - Other Direct		232,526	235,065	266,730	247,961	236,211
156C	DEVELOP.	Planning & Zoning - Construction						
156D		Planning & Zoning - Purchase of P,P&E		22,487	15,933	1,714	962	1,977
157A		Economic Development - Salaries & Wages						
157B		Economic Development - Other Direct		300,000	262,000	262,000	321,616	554,400
157C		Economic Development - Construction						757,669

157D		Economic Development - Purchase of P,P&E						
158A		Community Development - Salaries & Wages		207,913	203,297	176,148	157,312	150,467
158B		Community Development - Other Direct		3,782,314	3,777,383	4,346,005	1,982,138	1,614,463
158C		Community Development - Construction						
158D		Community Development - Purchase of P,P&E			14,876		6,805	
159A		Agriculture Extension - Salaries & Wages		321,669	326,126	326,191	305,046	240,835
159B		Agriculture Expansion - Other Direct		239,571	249,907	170,360	148,130	106,651
159C		Agriculture Expansion - Construction						
159D		Agriculture Expansion - Purchase Of P,P&E		7,000	18,563	13,980	20,684	13,087
160A		Special Empl Programs - Salaries & Wages						
160B		Special Empl Programs - Other Direct						
160C		Special Empl Programs - Construction						
160D		Special Empl Programs - Purchase of P,P&E						
161A		Econ. Dev. All Other - Salaries & Wages						
161B		Econ. Dev. All Other - Other Direct				50,000	717,714	628,762
161C		Econ. Dev. All Other - Construction						
161D		Econ. Dev. All Other - Purchase of P,P&E						
162A	HUMAN	Health - Salaries & Wages		2,859,376	2,681,686	2,560,051	2,490,833	2,454,906
162B	SERVICES	Health - Other Direct		1,829,848	1,662,855	1,576,889	1,492,573	1,276,892
162C		Health - Construction						
162D		Health - Purchase of P,P&E		138,409	91,141	423,378	114,494	112,850
163A		Mental Health - Salaries & Wages						
163B		Mental Health - Other Direct		534,740	534,309	533,838	530,629	511,044

163C		Mental Health - Construction						
163D		Mental Health - Purchase of P,P&E						
164A		Administration - Salaries & Wages		3,162,006	3,281,327	3,181,237	3,012,809	3,072,292
164B		Administration - Other Direct		1,817,811	2,458,420	2,187,664	2,076,626	2,455,016
164C		Administration - Construction						
164D		Administration - Purchase of P,P&E		36,555	34,750	33,556	65,889	105,812
165B		Assistance Programs - Other Direct		4,501,528	3,703,613	3,887,192	3,951,594	4,307,978
166B		Hospital-County - Other Direct						
167B		Hospital-Private - Other Direct						
168A		Other Human Services - Salaries & Wages		68,156	64,257	58,704	61,122	55,700
168B		Other Human Services - Other Direct		34,671	37,908	30,103	26,271	22,667
168C		Other Human Services - Construction						
168D		Other Human Services - Purchase of P,P&E						589
169A		Legal Aid - Salaries & Wages						
169B		Legal Aid - Other Direct						
169C		Legal Aid - Construction						
169D		Legal Aid - Purchase of P,P&E						
170A		Human Serv. All Other - Salaries & Wages						
170B		Human Serv. All Other - Other Direct		1,045,216	437,467	505,327	503,537	388,364
170C		Human Serv. All Other - Construction						
170D		Human Serv. All Other - Purchase of P,P&E						
171A	CULTURE	Recreation & Parks - Salaries & Wages		743,460	658,876	615,989	585,679	557,776
171B	AND	Recreation & Parks - Other Direct		772,024	795,248	690,297	675,885	558,965
171C	RECREAT.	Recreation & Parks - Construction						
171D		Recreation & Parks - Purchase of P,P&E		372,194	336,505	390,944	391,630	210,278
172A		Coliseum - Salaries & Wages						
172B		Coliseum - Other Direct						

172C		Coliseum - Construction						
172D		Coliseum - Purchase of P,P&E						
173A		Museums - Salaries & Wages						
173B		Museums - Other Direct						45,000
173C		Museums - Construction						
173D		Museums - Purchase of P,P&E						
174A		Libraries - Salaries & Wages		486,792	446,323	426,722	393,595	380,292
174B		Libraries - Other Direct		360,131	355,225	311,340	254,064	229,701
174C		Libraries - Construction						
174D		Libraries - Purchase of P,P&E		556,900	83,878	80,050	200,276	137,417
175A		All Other - Salaries & Wages						
175B		All Other - Other Direct		83,650	128,550	151,727	173,432	81,772
175C	UTILITY	All Other - Construction						
175D		All Other - Purchase of P,P&E						
176A		Water & Sewer - Salaries & Wages		2,352,609	1,954,732	1,812,982	1,746,212	1,618,186
176B		Water & Sewer - Other Direct		5,758,013	5,329,920	4,401,530	5,113,149	4,528,656
176C		Water & Sewer - Construction		4,262,411	8,452,521	9,163,951	2,622,174	3,418,700
176D		Water & Sewer - Purchase of P,P&E		1,448,032	374,862	350,726	705,670	188,617
177B	DEBT	Water & Sewer - Interest & Fees		598,130	494,612	848,506	965,666	1,310,117
177D	SERVICE	Water & Sewer - Principal		3,355,164	3,917,713	3,910,093	3,864,170	3,343,686
178B		Public School - Interest & Fees		3,401,823	2,781,677	2,939,133	1,148,185	453,252
178D		Public School - Principal		6,818,081	2,570,621	2,551,104	1,421,896	1,420,115
179B		Comm/Tech College - Interest & Fees		78,758	111,053	143,633		8,750
179D		Comm/Tech College - Principal		707,938	733,797	757,503		125,000
180B		Hospital - Interest & Fees						
180D		Hospital - Principal						
181B		All Other - Interest & Fees		880,165	892,960	978,413	1,323,963	564,018
181D		All Other - Principal		1,200,152	1,510,665	1,542,877	2,679,367	2,053,079
182B	PENSION	Direct Benefit Program - Other Direct						
183B	FRINGE	Fringe Benefits Unallocated						

184B	BENEFITS	Separation Allowance - Law Enforcement		14,448	38,301	38,634	54,245	32,445
185B		Separation Allowance - Other Employees						
186B		Supplemental Retirement - Law Enforcement		157,787	157,787	140,192	122,724	120,812
187B		Other						
188A	INTERGOV	Medicaid Payments Cty - Recipient				State	State	S
188B	EXPEND	Medicaid Payments Cty - Item Number				Part 4f, 165	Part 4F, 165	162
188C		Medicaid Payments Cty - Amount		3,415,764	3,679,949	3,473,220	2,990,520	2,507,141
189A		AFDC Payments Cty - Recipient						
189B		AFDC Payments Cty - Item Number						
189C		AFDC Payments Cty - Amount						
190A		Special Assistance to Adults - Recipient						
190B		Special Assistance to Adults - Item Number						
190C		Special Assistance to Adults - Amount						
191A		Education - School Current Exp - Recipient						
191B		Education - School Current Exp - Item Number						
191C		Education - School Current Exp - Amount		21,003,440	20,119,670	18,430,339	17,324,079	16,201,312
192A		Education - School Capital Outlay - Recipient						
192B		Education - School Capital Outlay - Item #						
192C		Education - School Capital Outlay - Amount		18,549,581	21,004,990	27,997,871	10,942,483	9,441,784
193A		Education - Comm College - Current Recipient						
193B		Education - Comm College - Current - Item #						
193C		Education - Comm College - Current - Amount		1,957,035	1,725,360	1,627,700	2,177,500	1,634,356
194A		Education - Comm College - Cap Outlay - Recipient						

194B		Education - Comm College - Cap Outlay - Item						
194C		Education - Comm College - Cap Outlay - Amount		128,500	313,920	257,000	237,836	206,500
195A		Multi-Cty Health Dist - Recipient						
195B		Multi-Cty Health Dist - Item Number						
195C		Multi-Cty Health Dist - Amount						
196A		Multi-Cty Area Mental Hlth Auth - Recipient						
196B		Multi-Cty Area Mental Hlth Auth - Item #						
196C		Multi-Cty Area Mental Hlth Auth - Amount						
197A		Multi-Cty or Mun Library District - Recipient						
197B		Multi-Cty or Mun Library District - Item #						
197C		Multi-Cty or Mun Library District - Amount						
198A		Fire Protection to a Munic - Recipient						
198B		Fire Protection to a Munic - Item #						
198C		Fire Protection to a Munic - Amount						
199A		Gen Govt Activities W/ City - Recipient						
199B		Gen Govt Activities W/ City - Item #						
199C		Gen Govt Activities W/ City - Amount						
200A		Other - Recipient						
200B		Other - Item Number						
200C		Other - Amount						
201A		Other - Recipient						
201B		Other - Item Number						
201C		Other - Amount						
202A		Other - Recipient						
202B		Other - Item Number						
202C		Other - Amount						
203A		Other - Recipient						
203B		Other - Item Number						
203C		Other - Amount						
204A		Other - Recipient						

204B		Other - Item Number						
204C		Other - Amount						
204.1A		Other - Recipient						
204.1B		Other - Item Number						
204.1C		Other - Amount						
204.2A		Other - Recipient						
204.2B		Other - Item Number						
204.2C		Other - Amount						
205	PART 6	Current year's levy -- Excluding motor vehicles		63,583,586	59,671,365	57,718,278	52,377,655	49,926,048
206	OTHER	Current year's levy -- Motor vehicles (only)		3,594,154	3,719,637	3,496,155	3,198,925	3,057,518
207	DATA	Uncollected Taxes - Curr Year's Levy Exclude Motor Vehicles		2,053,148	2,623,447	2,444,516	1,975,677	1,882,212
208		Uncollected Taxes - Curr Year's Levy Motor Vehicles		616,836	916,348	684,004	553,337	516,109
209		Percentage of Taxes Collected All Property %	0.00	96.03	94.42	94.89	95.45	95.46
210		Percentage of Taxes Collected Exclude Motor Vehicles %	0.00	96.77	95.60	95.76	96.23	96.23
211		Percentage of Taxes Collected Motor Vehicles %	0.00	82.84	75.36	80.44	82.70	83.12
212		Total Amount of Exp for Salaries & Wages						
213A		Capital Rev Funds - Schools - Beginning Balance		5,577,009	5,986,870	5,076,323	3,874,516	5,319,930
213B		Capital Rev Funds - Schools - Ending Balance		6,765,540	5,577,009	5,986,870	5,076,323	3,874,516
214A		Capital Rev Funds - Hosp - Beginning Balance						
214B		Capital Rev Funds - Hosp - Ending Balance						
215A	PART 7	Cash On Hand & in Bank - Debt Service Fund		2,903,909				
215B	CASH &	Cash On Hand & in Bank - Construction Bond		54,675,114	36,056,584	25,124,025	57,785,127	14,013,660
215C	INVEST	Cash On Hand & in Bank - All Other Funds		81,092,429	69,257,709	66,892,185	62,914,870	62,171,562
216A	PART 8-A	Appropriations Made During FY - B(1) - B(7)						

216B		Expenditures Made During FY - B(1) - B(7)						
217		Investment in Property - B(1) - B(4)						
218		Amount Expended During FY - B(5) and B(7)						
219		Amount of Tax Revenues Taken Into Account						
220A	PART 8-B	Opening Balance(s) White Goods Account Designated						
220B		Opening Balance(s) White Goods Account Undesignated		-86,303	-86,302	-87,010	-91,768	-38,577
221		Total Revenue Credited to white Goods Account		96,256	99,523	74,931	76,688	27,590
222A		Total Expenditures for Operations		95,808	99,524	74,223	71,930	72,729
222B		Total Expenditures for Capital Improvements						
222C		Expenditures for illegal dump cleanups		418				8,052
223A		Ending Balance in White Goods Account Designated						
223B		Ending Balance in White Goods Account Undesignated		-86,273	-86,303	-86,302	-87,010	-91,768
224B		The Amount of White Goods Tax Actually Received		29,102	28,460	28,604	27,895	27,590
225B		Amount in 218 that would have been received if 100% eligible		29,102	28,460		27,895	
226		Calculate Threshold Amount.		7,276	7,115		6,974	
227		Total Tonnage of White Goods Scrap Metal Collected		2,339	1,421	1,424	1,543	1,150
228		Name of Recycler or Disposal Facility						
229A	PART 9	Amount - Total Revenues & Other Financing Sources		217,325,129	165,112,412	131,833,672	176,906,307	138,211,163
229B	FISCAL	Amount - Subtract Refunding Debt Proceeds						
229C	SUMMARY	Amount - Subtract Interfund Transfers In		23,720,614	19,062,065	16,135,554	13,728,453	18,163,930

229D		Amount - Net Revenues Per AFIR		193,604,515	146,050,347	115,698,118	163,177,854	120,047,233
		Calculated amount		193,604,515	146,050,347	115,698,118	163,177,854	120,047,233
		Amounts in AGREEMENT??	Yes	Yes	Yes	Yes	Yes	Yes
		Difference						
230A		Amount - Total Expend & Other Financing Uses		174,261,167	160,136,776	163,004,282	132,411,001	120,021,989
230B		Amount - Subtract Pymts to Refunded Debt Agent						
230C		Amount - Subtract Interfund Transfers Out		23,720,614	19,062,065	16,135,554	13,728,453	15,113,501
230D		Amount - Net Expenditures Per AFIR		150,540,553	141,074,711	146,868,728	118,682,548	104,908,488
		Calculated amount		150,540,553	141,074,711	146,868,728	118,682,548	104,908,488
		Amounts in AGREEMENT??	Yes	Yes	Yes	Yes	Yes	Yes
		Difference						
950	PART 10	Official	Patricia P. Galloway					
951	CERTI-	Title	Interim Finance Director					
952	FICATION	Date		12/01/2004	12/31/2003	1/8/2003		
953		Contact	Patricia P. Galloway					
954		Title	Interim Finance Director					
955		Telephone	910-253-2070					
956		Fax #	910-253-2068					

Financial Graphs and Comparisons

- Analysis of Available Fund Balance: General Fund
- Analysis of Property Tax Collection %
- Analysis of General Obligation Debt
- Analysis of Revenue (5 years)
- Analyis of Revenue (most recent fiscal year)
- Analysis of Expenditures by Function
- Analysis of Expenditures by Object

Go to top of page

Analysis of Available Fund Balance: General Fund

	2000	2001	2002	2003	2004
County	40.98%	36.45%	35.88%	33.62%	40.12%
Pop. Group	18.20%	17.52%	18.36%	19.36%	22.71%
Statewide	21.43%	20.84%	21.75%	21.81%	19.57%

Brunswick County

Population Group for 1999: 50,000 - 99,999

Go to top of page

Analysis of Property Tax

2000	2001	2002	2003	2004

County	95.46%	95.45%	94.89%	94.42%	96.03%
Pop. Group	95.42%	95.31%	95.42%	95.00%	95.70%
Statewide	96.72%	96.46%	96.49%	96.36%	96.70%

Brunswick County

Population Group for 1999: 50,000 - 99,999

Go to top of page

Analysis of General Obligation Debt

	2001	**2002**	**2003**	**2004**	**2005**
County	916	818	971	1,043	988
Pop. Group	235	265	271	264	269
Statewide	560	587	644	685	704

Brunswick County

Population Group for 1999: 50,000 - 99,999

Go to top of page

Analysis of Revenue

	2000	**2001**	**2002**	**2003**	**2004**
Property Taxes	757	756	793	793	838
Other Taxes	40	34	41	50	67
Sales Tax	168	166	164	179	203
Sales & Services	222	217	209	243	276
Intergovernmental	258	192	232	295	183
Debt Proceeds	187	737	0	232	728
Other Miscellaneous	93	112	65	55	72
Total	1,725	2,214	1,504	1,847	2,367

Go to top of page

Analysis of Revenue for Fiscal 2004

Category	**2004 Total**	**2004 Per Capita**
Property Taxes	$68,478,690	$838
Other Taxes	5,509,615	67
Sales Tax	16,636,215	203
Sales & Services	22,550,893	276
Intergovernmental	14,941,387	183
Debt Proceeds	59,562,852	728
Other Miscellaneous	5,924,863	72
Total	$193,604,515	$2,367

Population Group: 50,000 - 99,999

Go to top of page

Analysis of Expenditures by Function for Fiscal 2004

Category	**2004 Total**	**2004 Per Capita**
Education	$41,638,556	$509
Debt Service	17,040,211	208
Human Services	19,444,080	238
General Government	18,192,279	222
Public Safety	18,789,409	230
Other	35,436,018	433
Total	$150,540,553	$1,840

Population Group: 50,000 - 99,999

Go to top of page

Analysis of Expenditures by Object for Fiscal 2004

2004 **2004**

Category	Total	Per Capita
Salaries & Wages	$24,321,740	$297
Capital Outlay	14,739,072	180
Other Operating	66,425,421	812
Public School Capital	18,549,581	227
Public School Current	21,003,440	257
Other	5,501,299	67
Total	$150,540,553	$1,840

Population Group: 50,000 - 99,999

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(2-1998)

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JOB NUMBER 000380

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Alicia Williamson	NRR	X1878	O11F1	ARW1	11/15/05

TITLE OF DOCUMENT: GIS Maps for Brunswick Steam Electric Plant

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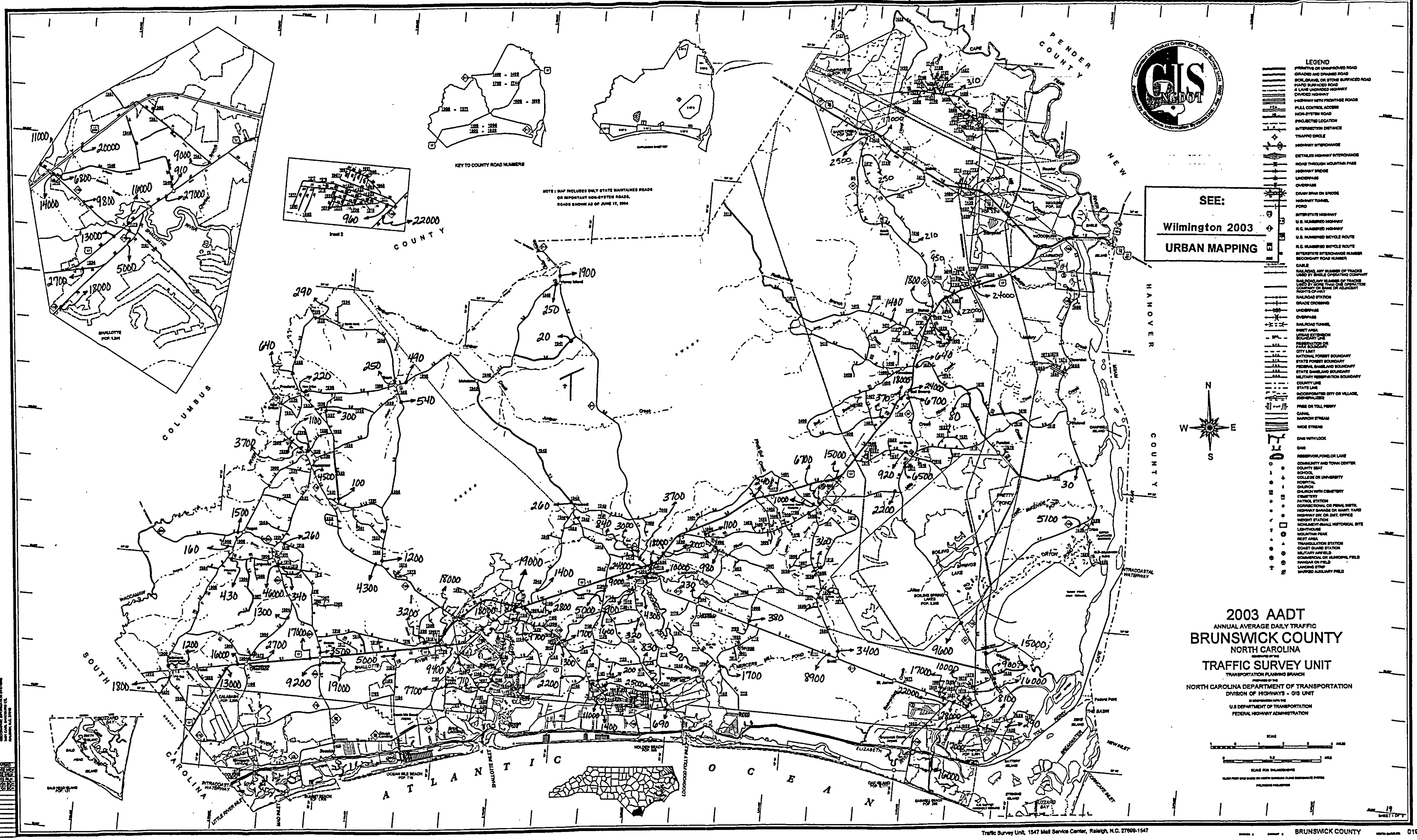

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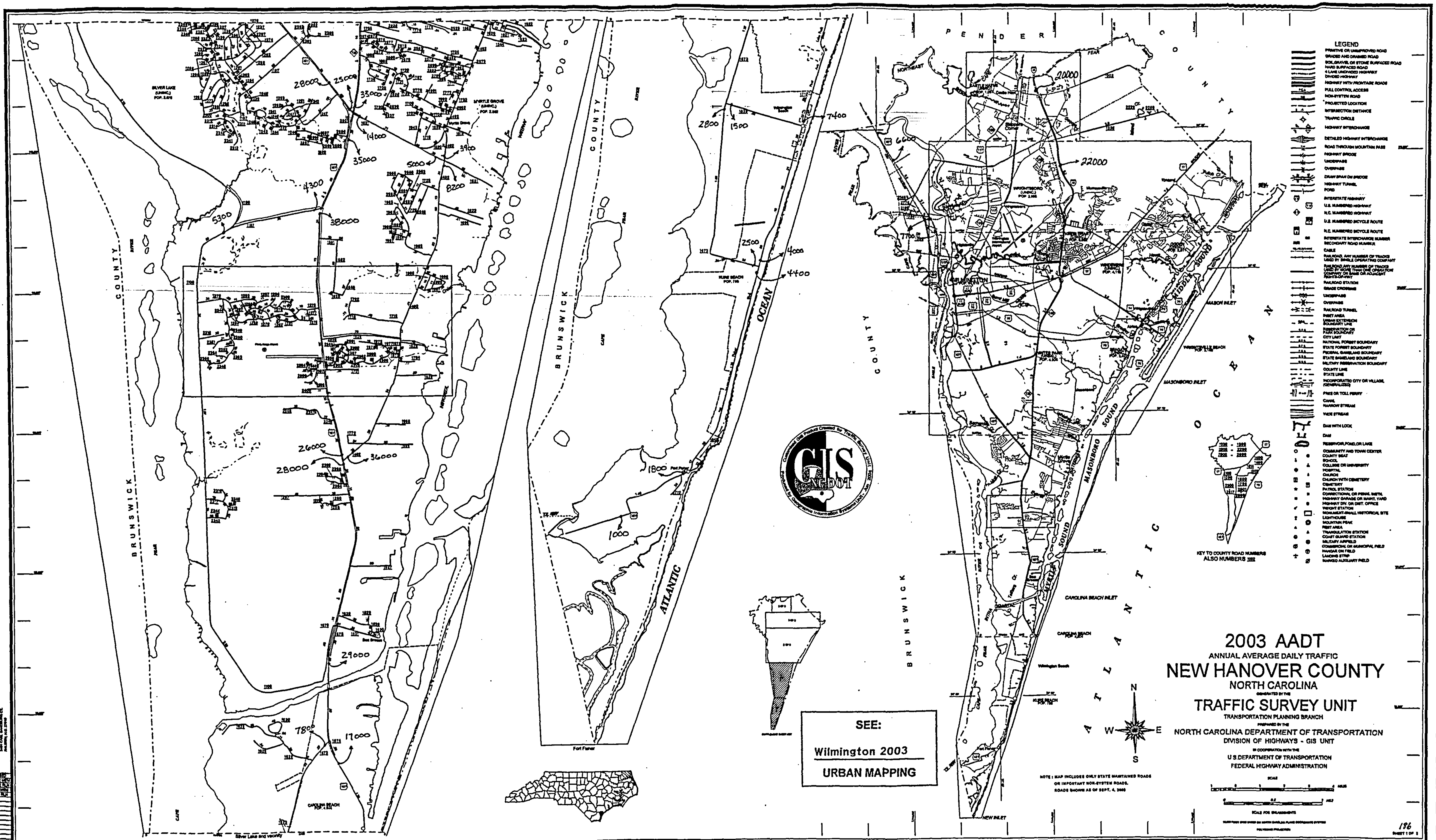
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Silver Lake and Vicinity
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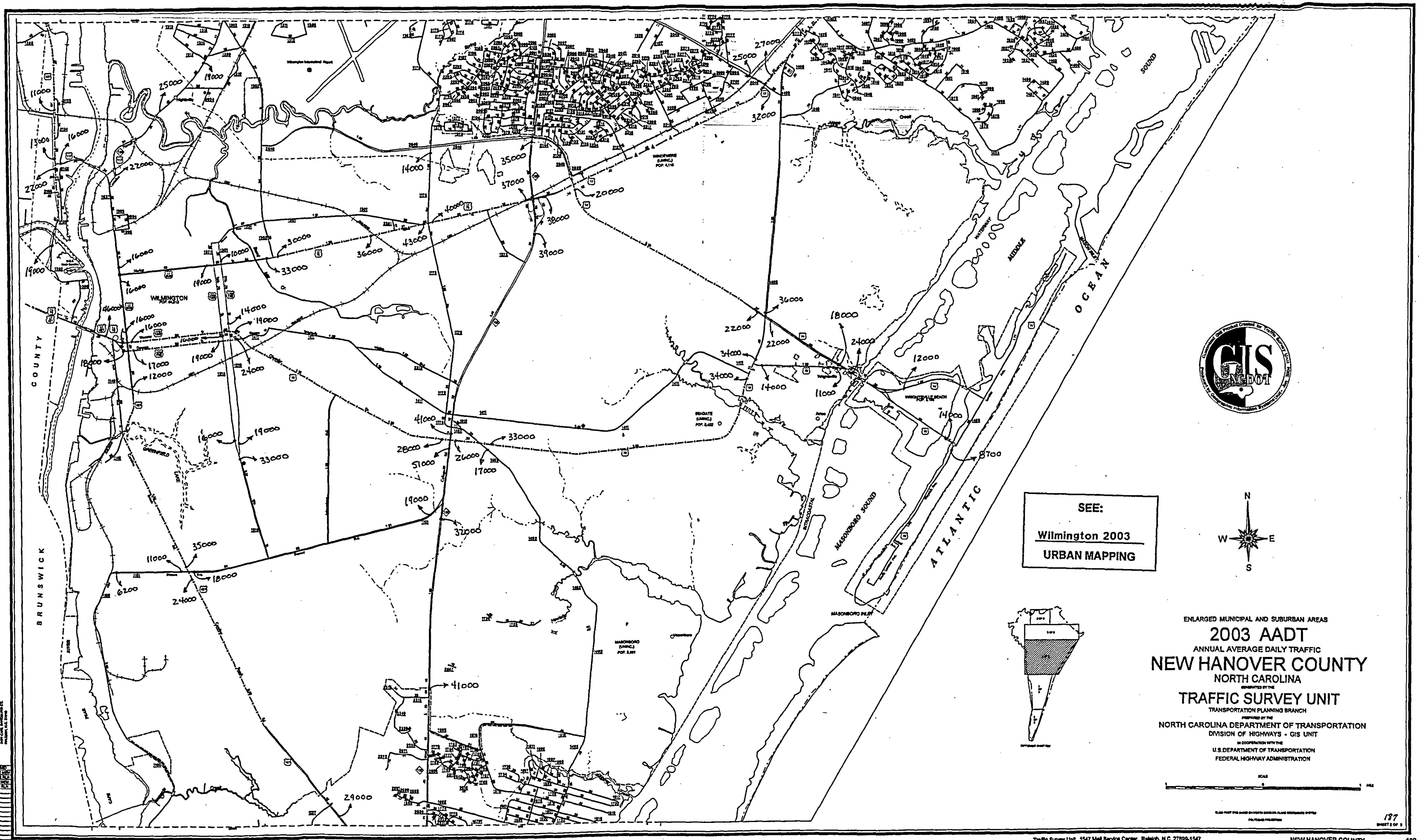
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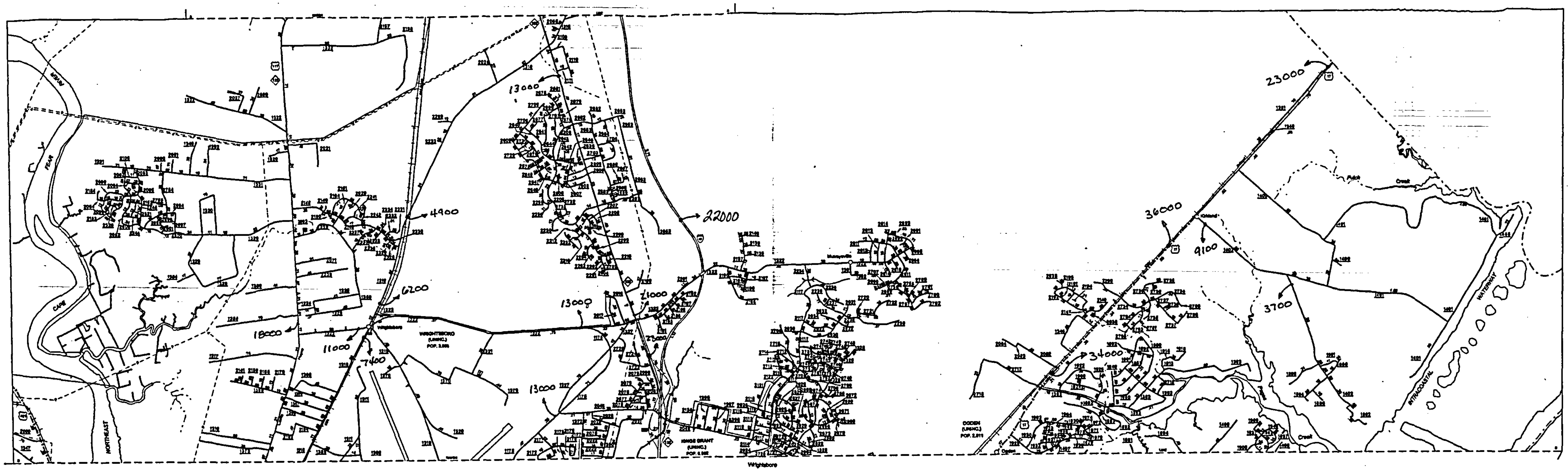

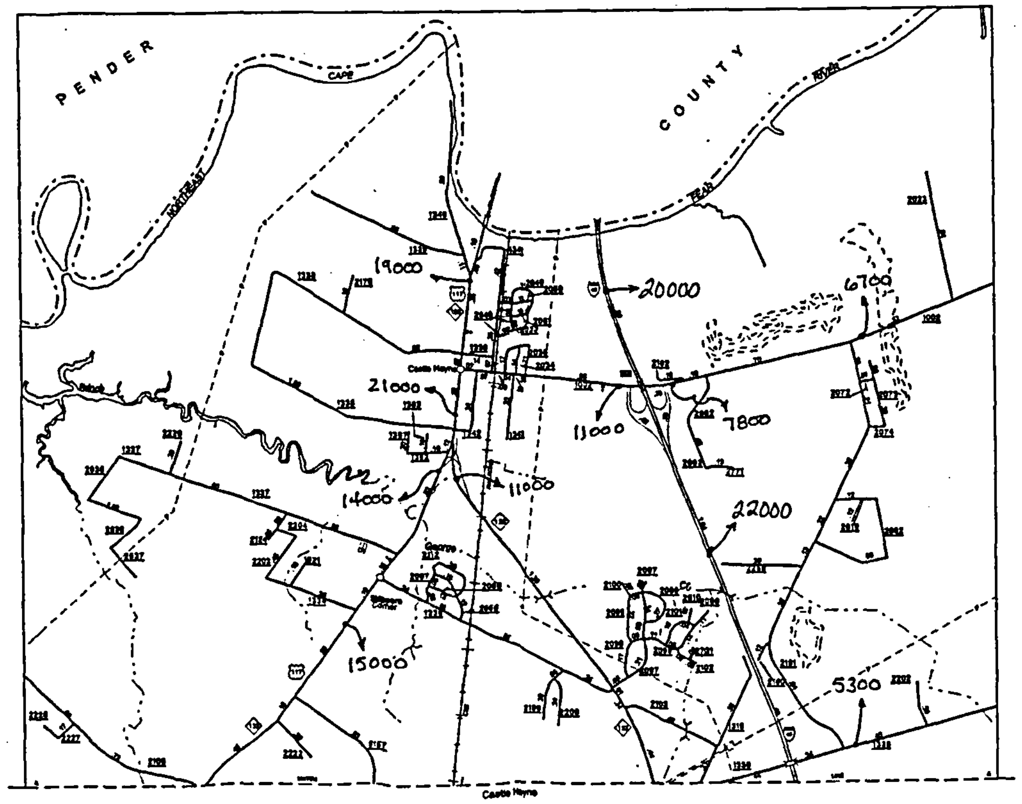

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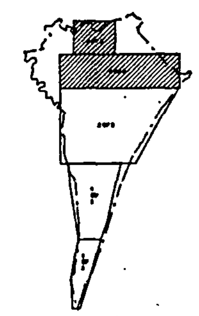

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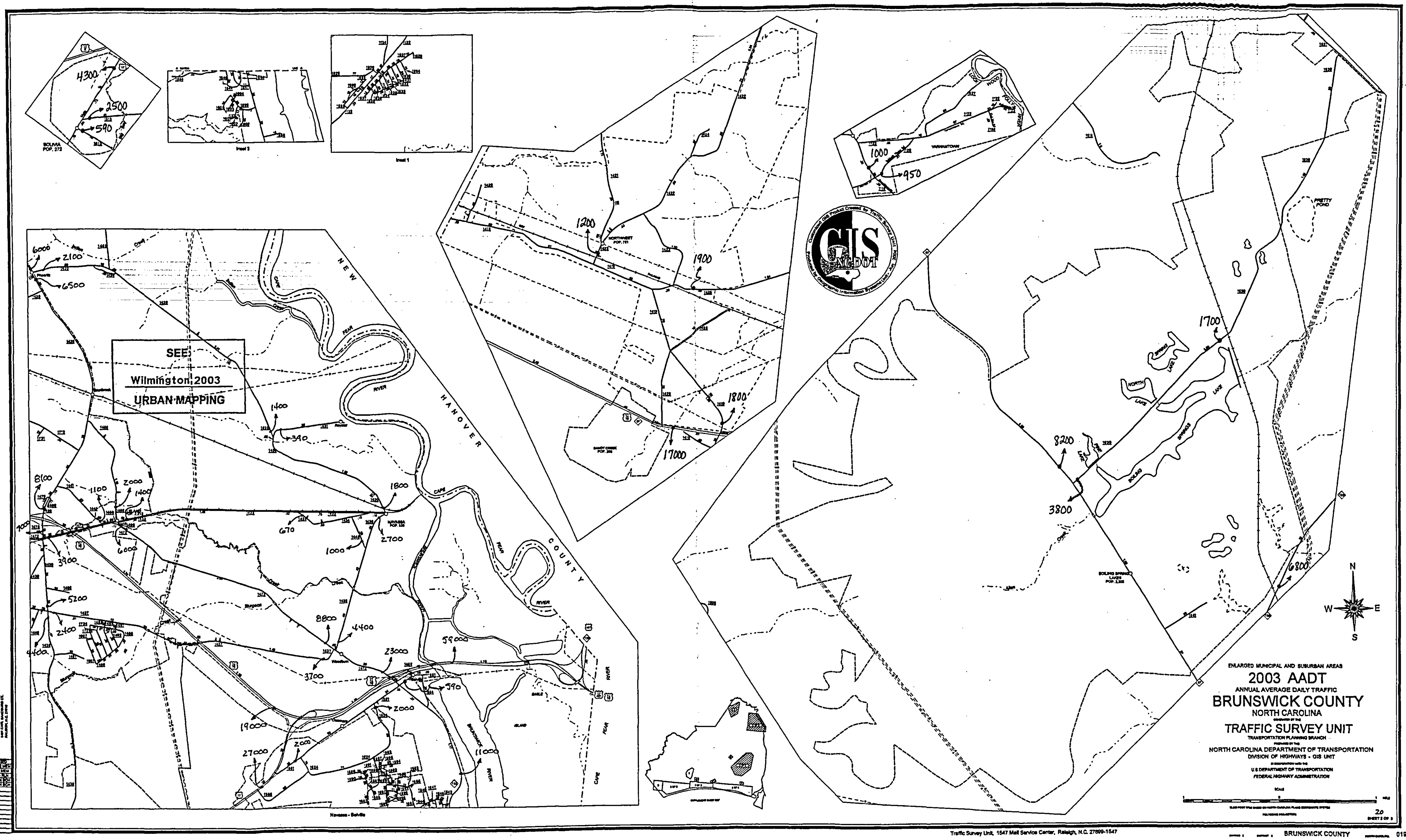

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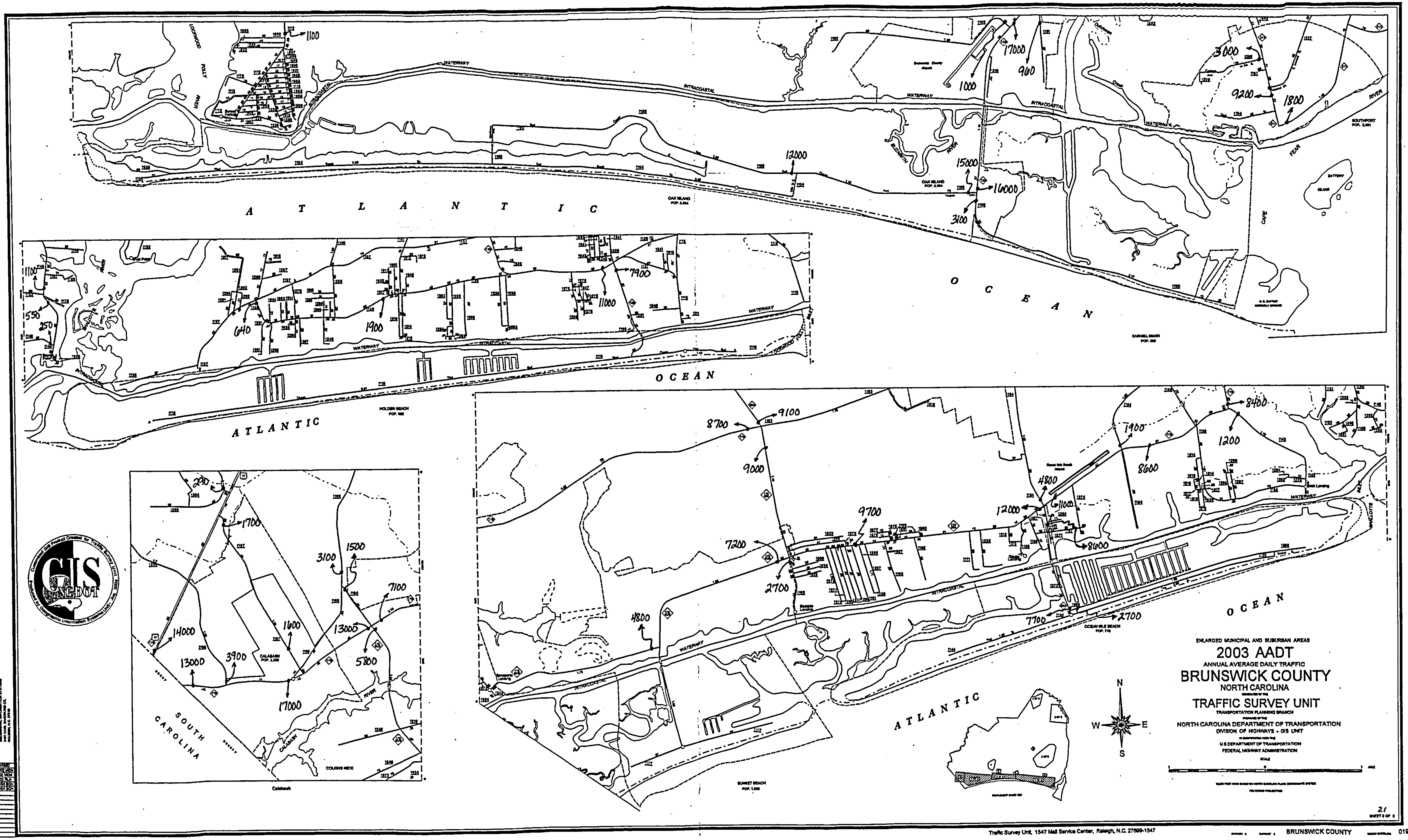
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OCEAN
INTRACOASTAL
WATERWAY
SOUTH
CAROLINA
CAPE FEAR RIVER
ELIZABETH RIVER
LOCKWOOD FOLLY RIVER
CALABASH
Calabash
COLKINS NECK
SOUTHPORT
OAK ISLAND
HOLDEN BEACH
SUNSET BEACH
OCEAN ISLE BEACH
CASWELL BEACH
N
S
E
W
1100
17000
960
1000
3000
9200
1800
12000
15000
16000
3100
1100
550
250
640
1900
11000
7900
8700
9100
9000
7200
2700
9700
4800
12000
11000
8600
7700
2700
1900
8400
1200
8600
4800
290
1700
1500
3100
7100
1600
13000
14000
13000
3900
5800
17000
21

NCESC 2005

Now Superceded

Planning Region O
Insured Employment in North Carolina
for Aggregate of all types by Subsector (3 digit)
for Quarter Ending June 30, 2004

"*" in table indicates disclosure suppression.

Industry	NAICS Code	No of Units	Apr Empl	May Empl	June Empl	Avg Empl for Qtr
Total Federal Government	000000	87	1,500	1,493	1,501	1,497
Total State Government	000000	84	5,916	5,919	5,741	5,862
Total Local Government	000000	210	20,054	20,047	17,061	19,053
Total Private Industry	000000	10,200	114,060	116,003	118,045	116,026
Total All Industries	000000	10,581	141,530	143,462	142,348	142,438
Crop Production	111	32	710	840	921	825
Animal Production	112	27	303	303	306	303
Forestry and Logging	113	45	246	245	244	245
Fishing, Hunting and Trapping	114	*	*	*	*	*
Agriculture & Forestry Support Activity	115	13	48	46	47	47
Mining (except Oil and Gas)	212	3	74	75	76	75
Support Activities for Mining	213	*	*	*	*	*
Utilities	221	24	1,408	1,411	1,414	704
Construction of Buildings	236	518	2,679	2,744	2,835	2,753
Heavy and Civil Engineering Construction	237	118	1,460	1,468	1,466	1,466
Specialty Trade Contractors	238	818	6,484	6,572	6,525	6,525
Food Manufacturing	311	21	290	290	284	288
Beverage & Tobacco Product Manufacturing	312	4	126	122	122	123
Textile Mills	313	10	387	385	381	384
Textile Product Mills	314	14	93	93	94	93
Apparel Manufacturing	315	11	172	168	174	172
Wood Product Manufacturing	321	35	1,356	1,356	1,387	1,367
Paper Manufacturing	322	10	1,274	1,238	1,233	1,248
Printing and Related Support Activities	323	30	166	172	162	167
Petroleum & Coal Products Manufacturing	324	*	*	*	*	*
Chemical Manufacturing	325	19	1,698	1,689	1,716	1,701

Plastics & Rubber Products Manufacturing	326	8	177	178	175	177
Nonmetallic Mineral Product Mfg	327	25	1,184	1,133	1,130	1,150
Primary Metal Manufacturing	331	5	39	43	43	41
Fabricated Metal Product Manufacturing	332	45	1,199	1,205	1,221	1,208
Machinery Manufacturing	333	29	677	666	685	676
Computer and Electronic Product Mfg	334	12	96	97	100	97
Electrical Equipment and Appliances	335	*	*	*	*	*
Transportation Equipment Manufacturing	336	15	1,263	1,300	1,331	1,298
Furniture and Related Product Mfg	337	28	216	214	212	213
Miscellaneous Manufacturing	339	39	315	322	331	322
Merchant Wholesalers, Durable Goods	423	292	2,255	2,251	2,287	2,263
Merchant Wholesalers, Nondurable Goods	424	144	1,945	2,021	2,095	2,020
Electronic Markets and Agents/Brokers	425	92	308	304	312	309
Motor Vehicle and Parts Dealers	441	212	2,779	2,820	2,814	2,805
Furniture and Home Furnishings Stores	442	103	809	744	738	764
Electronics and Appliance Stores	443	71	458	455	432	450
Building Material & Garden Supply Stores	444	140	2,157	2,215	2,191	2,187
Food and Beverage Stores	445	176	3,744	3,831	4,126	1,950
Health and Personal Care Stores	446	137	1,250	1,272	1,289	1,271
Gasoline Stations	447	181	1,133	1,195	1,199	1,174
Clothing and Clothing Accessories Stores	448	204	1,641	1,668	1,704	1,671
Sporting Goods/Hobby/Book/Music Stores	451	101	751	772	769	763
General Merchandise Stores	452	91	4,090	4,151	4,123	4,120
Miscellaneous Store Retailers	453	212	1,131	1,134	1,174	1,147
Nonstore Retailers	454	49	614	607	589	603
Air Transportation	481	4	50	50	49	50
Water Transportation	483	4	6	6	5	6
Truck Transportation	484	140	1,307	1,306	1,317	1,310
Transit and Ground Passenger Transport	485	11	123	121	115	119
Scenic and Sightseeing Transportation	487	10	121	129	130	126
Support Activities for Transportation	488	65	1,418	1,424	1,504	362
Postal Service	491	36	615	614	619	308
Couriers and Messengers	492	12	314	319	326	320
Warehousing and Storage	493	16	147	134	133	138

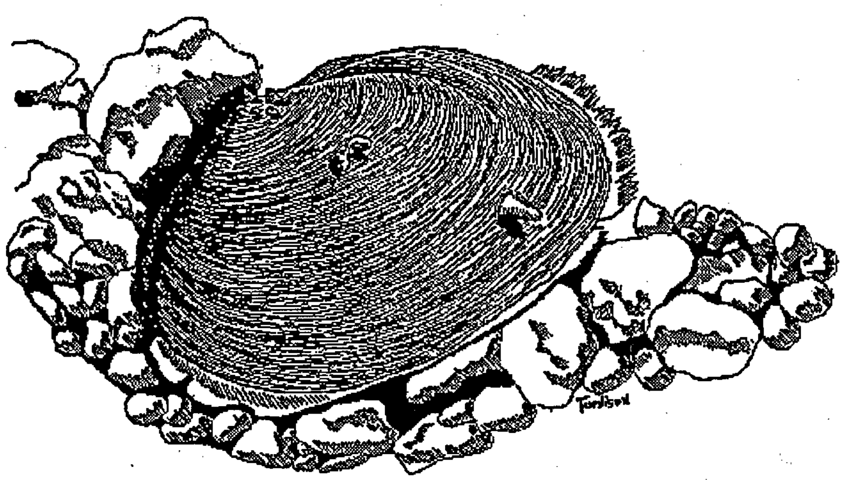
Publishing Industries	511	29	453	456	461	457
Motion Picture & Sound Recording Ind	512	19	215	210	221	215
Broadcasting (except Internet)	515	25	601	597	638	612
Internet Publishing and Broadcasting	516	*	*	*	*	*
Telecommunications	517	39	521	511	512	515
ISPs, Search Portals, & Data Processing	518	18	51	53	49	51
Other Information Services	519	3	24	22	22	12
Monetary Authorities - Central Bank	521	*	*	*	*	*
Credit Intermediation & Related Activity	522	259	2,523	2,535	2,566	1,270
Financial Investment & Related Activity	523	59	238	238	246	241
Insurance Carriers & Related Activities	524	190	908	908	903	906
Funds, Trusts & Other Financial Vehicles	525	4	5	6	5	5
Real Estate	531	358	2,079	2,150	2,293	2,173
Rental and Leasing Services	532	90	801	839	852	830
Professional and Technical Services	541	982	6,547	6,466	6,500	3,252
Management of Companies and Enterprises	551	40	1,213	1,200	1,184	1,199
Administrative and Support Services	561	571	6,198	6,407	6,529	2,126
Waste Management and Remediation Service	562	37	355	441	361	386
Educational Services	611	173	13,049	13,012	9,625	3,966
Ambulatory Health Care Services	621	611	8,366	8,446	8,522	4,223
Hospitals	622	6	5,766	5,802	5,807	1,930
Nursing and Residential Care Facilities	623	99	3,688	3,667	3,662	1,836
Social Assistance	624	146	2,355	2,387	2,364	1,184
Performing Arts and Spectator Sports	711	17	92	79	78	82
Museums, Parks and Historical Sites	712	11	113	116	122	29
Amusement, Gambling & Recreation Ind	713	150	2,860	3,029	3,192	3,026
Accommodation	721	116	2,202	2,309	2,398	2,302
Food Services and Drinking Places	722	728	13,697	14,301	14,920	14,306
Repair and Maintenance	811	304	1,484	1,467	1,439	732
Personal and Laundry Services	812	199	1,195	1,177	1,180	1,184

Membership Organizations & Associations	813	109	960	996	1,077	1,008
Private Households	814	160	236	242	241	240
Executive, Legislative, & Gen Government	921	55	5,557	5,527	5,670	1,862
Justice, Public Order, and Safety Activi	922	31	1,331	1,333	1,335	666
Administration of Human Resource Program	923	13	133	132	137	66
Administration of Environmental Programs	924	25	356	359	369	121
Community and Housing Program Admin	925	*	*	*	*	*
Administration of Economic Programs	926	34	735	740	744	247
National Security & International Affair	928	*	*	*	*	*
Unclassified	999	389	782	848	920	850

NCNHP 2004a (4)

NATURAL HERITAGE PROGRAM LIST OF THE RARE ANIMAL SPECIES OF NORTH CAROLINA

2004

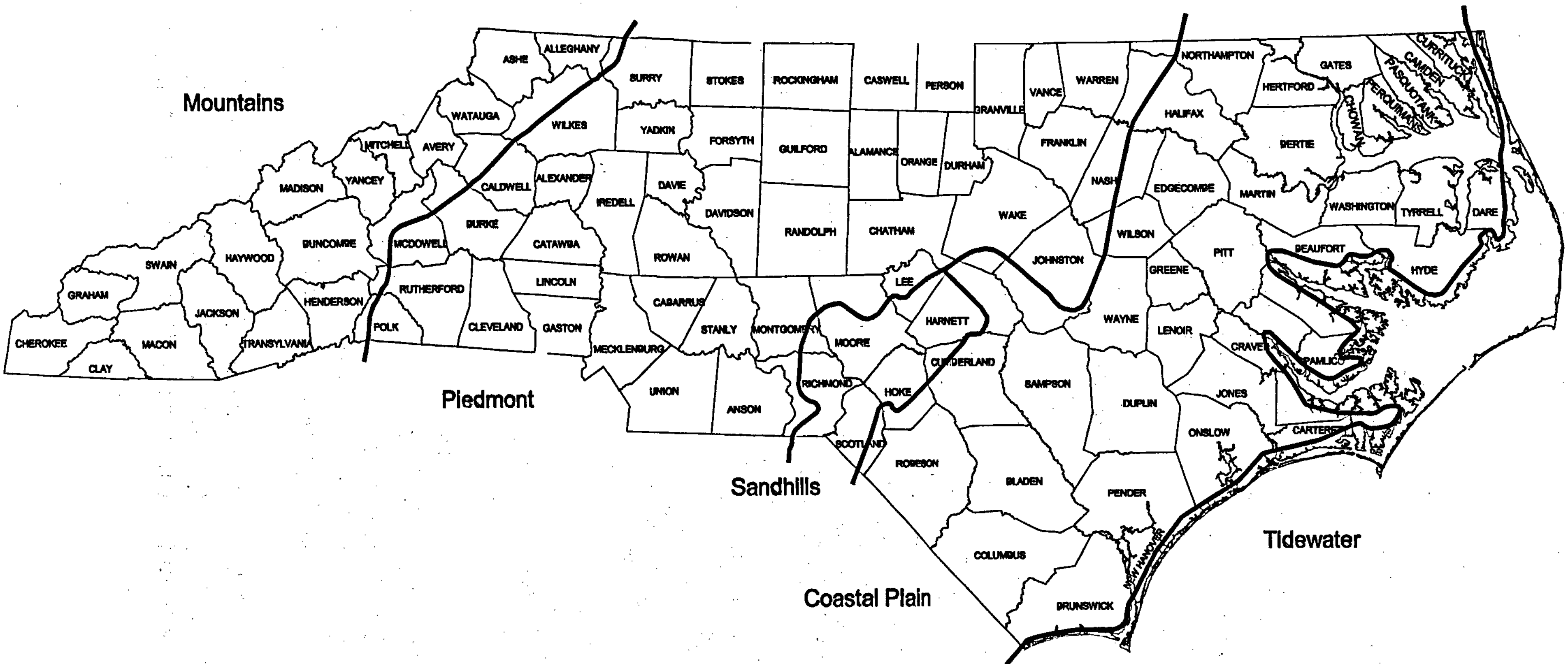


Tar River Spinymussel (Elliptio steinstansana)
drawing by R. Tumlison; courtesy of the U.S. Fish and Wildlife Service

Compiled by
Harry E. LeGrand, Jr., Vertebrate Zoologist
Sarah E. McRae, Freshwater Ecologist
Stephen P. Hall, Invertebrate Zoologist
John T. Finnegan, Information Systems Manager

North Carolina Natural Heritage Program
Office of Conservation and Community Affairs
N.C. Department of Environment and Natural Resources

THE COUNTIES AND PHYSIOGRAPHIC PROVINCES OF NORTH CAROLINA



THE COUNTIES AND PHYSIOGRAPHIC PROVINCES OF NORTH CAROLINA

NATURAL HERITAGE PROGRAM LIST OF THE RARE ANIMAL SPECIES OF NORTH CAROLINA

2004

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North Carolina Natural Heritage Program
Office of Conservation and Community Affairs
N.C. Department of Environment and Natural Resources

This list is dynamic and is revised frequently as further data become available. New species are added to the list, and others are dropped from the list for various reasons. The list is revised periodically, generally every two years. If you are using a copy of this list that is dated 2001 or older, it might be invalid and you should request a new version. Further information on these species may be obtained by contacting the North Carolina Natural Heritage Program, Department of Environment and Natural Resources, 1601 MSC, Raleigh, NC 27699-1601, or by contacting the North Carolina Wildlife Resources Commission, 1724 MSC, Raleigh, NC 27604-1724. Additional information on species can be obtained from the Natural Heritage Program's website at <www.ncsparks.net/nhp>.

TABLE OF CONTENTS

INTRODUCTION 1

LIST FORMAT 3

STATUS OF ANIMAL TAXA ON NHP RARE ANIMAL LIST 10

MAMMALS 12
BIRDS 15
REPTILES 21
AMPHIBIANS 25
FRESHWATER FISHES 27
MOLLUSKS 32
- FRESHWATER BIVALVES 32
- FRESHWATER GASTROPODS 37
- TERRESTRIAL GASTROPODS 37

ARACHNIDS 40
CRUSTACEANS 41
INSECTS 43
- MAYFLIES 43
- STONEFLIES 45
- CADDISFLIES 45
- DRAGONFLIES 47
- DAMSELFLIES 49
- FLIES 49
- MOTHS 49
- BUTTERFLIES 53
- GRASSHOPPERS AND KATYDIDS 57
- BEETLES 58
- TRUE BUGS 58

NORTH CAROLINA ANIMAL WATCH LIST 59
- MAMMALS 61
- BIRDS 61
- REPTILES 63
- AMPHIBIANS 64
- FRESHWATER FISHES 65
- MOLLUSKS 66
  - FRESHWATER BIVALVES 66
  - FRESHWATER GASTROPODS 66
  - TERRESTRIAL GASTROPODS 66

ARACHNIDS 66
CRUSTACEANS 67
INSECTS 68
MAYFLIES 68
STONEFLIES 69
CADDISFLIES 70
DRAGONFLIES 72
DAMSELFLIES 73
MOTHS 73
BUTTERFLIES 78
GRASSHOPPERS AND KATYDIDS 79
BEETLES 80

EXTIRPATED ANIMALS IN NORTH CAROLINA 82
MAMMALS 82
BIRDS 82
FRESHWATER FISHES 83
MOLLUSKS 83
FRESHWATER BIVALVES 83

POTENTIAL NEW TO NORTH CAROLINA ANIMALS 84
MAMMALS 84
BIRDS 85
REPTILES 86
AMPHIBIANS 86
FISHES 87
INSECTS 88
BUTTERFLIES 88

SIGNIFICANT 2004 REVISIONS TO THE ANIMAL LIST 90

INDEX OF GENERA 96

NORTH CAROLINA NATURAL HERITAGE PROGRAM SPECIAL ANIMAL SURVEY FORM 99

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Portions of this list have been developed with the assistance of biologists in North Carolina and elsewhere. Scientific Councils for each vertebrate group and several invertebrates groups compiled the bulk of the rare species lists (for N.C. Endangered, Threatened, and Special Concern species). Members of the current Scientific Councils are:
MAMMALS -- Mary Kay Clark (chair), Mary Bunch, Susan Loeb, Chris McGrath, Nancy Moncrief, Nora Murdock, Roger Powell, Terry Sharpe, David Webster, Peter Weigl. Former members: David Adams, Bill Adams, Carl Betsill, John Funderburg.
BIRDS -- Dave Lee (chair), Dave Allen, John Gerwin, Walker Golder, Herb Hendrickson, Mark Johns, Harry LeGrand, Merrill Lynch, Jim Parnell, Eloise Potter, Matt Rowe, Ted Simons, Haven Wiley. Former members: Allen Boynton, Phil Crutchfield, Tom Howard, Wayne Irvin, Jeff Walters.
AMPHIBIANS AND REPTILES -- Alvin Braswell (chair), Jeff Beane, Ruth Boettcher, Dick Bruce, Julian Harrison, Harold Heatwole, Dennis Herman, Wilson Laney, Nora Murdock, Dave Stephan, Wayne Van Devender, Dave Woodward. Former members: Bill Palmer, Jim Parnell.
FRESHWATER FISHES -- Wayne Starnes (chair), John Alderman, Brooks Burr, David Etnier, Robert Jenkins, David Lindquist, Ed Menhinick, Anthony Mullis, Richard Neves, Richard Noble, Bill Palmer, Gerald Pottern, Fred Rohde, Steve Ross. Former members: Alvin Braswell, Peter Coleman, Jerry West.
MARINE AND ESTUARINE FISHES -- Steve Ross (chair), Fred Rohde, David Lindquist.
FRESHWATER AND TERRESTRIAL MOLLUSKS -- Art Bogan (chair), Bill Adams, John Alderman, Dick Biggins, John Fridell, Eugene Keferl, Hugh Porter, Amy Van Devender. Former member: Andy Gerberich.
FRESHWATER AND TERRESTRIAL CRUSTACEANS -- John Clamp (chair), Bill Adams, John Alderman, John Cooper, David DeMont, Chris McGrath, Bill McLarney, Gabriela Mottesi, Janet Reid, Annette Taylor, Jan Williams.

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NATURAL HERITAGE PROGRAM
LIST OF THE RARE ANIMALS OF NORTH CAROLINA

INTRODUCTION

The attached list of animals represents those species of vertebrates and invertebrates for which the N.C. Natural Heritage Program (NC NHP) is collecting data - in files, on computer, and on topographic maps. This is not strictly a list of protected animals; in fact, the majority of these species receive no formal protection whatsoever. Rather, it is a list of species that are endangered, threatened, or otherwise occur in small or unknown numbers in the state. The primary functions of the list are its use: 1) in determining priorities of inventory and protection for these animals - including the proposed listing of species for federal or state protection; 2) in determining priorities for protection of natural areas that contain such listed animals; and 3) in environmental assessments to "flag" rare species and their locations that might be negatively affected by proposed actions.

The majority of the vertebrates on the list are those species currently listed for state protection by the N.C. Wildlife Resources Commission (WRC), based on lists of Endangered (E), Threatened (T), and Special Concern (SC) species developed nearly 15 years ago by Scientific Councils on mammals, birds, reptiles and amphibians, freshwater fishes, and mollusks. All of these species are included on this list, with the corresponding status listed in the "N.C. Status" column. (In addition, NC NHP is tracking other rare vertebrates and mollusks not given a formal state designation. These species are considered to be Significantly Rare [SR] in North Carolina.)

As of March 2004, Endangered, Threatened, and Special Concern species of mammals, birds, reptiles, amphibians, freshwater fishes, freshwater and terrestrial mollusks, and crustaceans are protected by state law, under the jurisdiction of the WRC. Protection for crustaceans (so far, only crayfishes) and certain venomous snakes was enacted in 2002. However, State law does not allow for protection of invertebrate groups other than mollusks and crustaceans.

During 1997 and 1998, the Scientific Councils re-convened, prepared updated lists of species needing State protection, and submitted these lists to the WRC's Nongame Wildlife Advisory Committee. These lists were sent to the WRC for review; and approved in 1999. A recent change in State law requires any proposed legislation (such as lists of Endangered, Threatened, and Special Concern species) must go to the State General Assembly; if there is no action by that body to overturn proposed legislation by a specified date, the legislation becomes law. Fortunately, these lists became law on July 1, 2002. Since that date, a few Scientific Councils have met and made suggestions (though not formally) for changes in state statuses; those statuses are listed in parentheses next to the current status.

The list of rare marine and estuarine fishes was presented in 1988 by the N.C. Museum of Natural Sciences. Except for the federally listed Endangered Shortnose Sturgeon, all other marine and estuarine fishes were listed in 1988 as "Vulnerable, Category 2". Because the Atlantic Sturgeon also occurs in fresh waters, it has been listed by WRC as a Special Concern species, and thus it is listed in this publication under Freshwater Fishes (as is the state Endangered Shortnose Sturgeon). Marine and estuarine fishes are under the jurisdiction of the N.C. Division of Marine Fisheries; however, this agency does not have a list of endangered, threatened, and special concern fishes. **Beginning with this 2004**

list, the NC NHP is no longer tracking (nor including on the Watch List) marine and estuarine fishes. This decision is not due to their lack of state listing; rather, we receive few data on such species, survey for such species can be cumbersome, protection of them is difficult if not impossible, and there has no been no recent systematic account of the rarity and distribution of the hundreds of such fishes that occur in our salt and brackish waters.

NC NHP lists of rare invertebrates - other than mollusks and crustaceans - have been derived from multiple sources. These lists have been prepared in consultation with other biologists in North Carolina and in the eastern United States. Because none of the invertebrates -- other than mollusks and crayfishes -- have been given legal state protection by WRC as Endangered, Threatened, or Special Concern, these species are given a status of Significantly Rare by NC NHP. **For the same reasons as for marine and estuarine fishes given above, the NC NHP is no longer keeping marine invertebrates on its Rare or Watch lists. NC NHP has also removed millipedes, scorpionflies, most beetles, ants, and annelids from its Watch List, primarily due to lack of new data on them and the apparent lack or scarcity of biologists working with these groups to provide data or provide updated lists of rare taxa.**

LIST FORMAT

Species are grouped by major taxa. The vertebrates are arranged by class, beginning with the most advanced phylogenetically (mammals). Within a given taxa, species are listed alphabetically by scientific name. The following information is presented for each species on the list. "Status" is a word or phrase that indicates the degree of protection (if any), based on rarity, of a species; "rank" is a numerical scale of the rarity of a species, regardless of legal protection.

Scientific Name.

Common Name. For most groups, these names are not standardized.

North Carolina Status. Endangered, Threatened, and Special Concern species of mammals, birds, reptiles, amphibians, freshwater fishes, freshwater and terrestrial mollusks, and crustaceans have legal protection status in North Carolina (Wildlife Resources Commission). In addition to the above categories, the Natural Heritage Program maintains computer and map files on Significantly Rare species, as well as species considered Extirpated. Paper files only are maintained for a few of the above species; these species are indicated by the phrase "not tracking."

STATUS CODE	STATUS	DEFINITION
E	Endangered	"Any native or once-native species of wild animal whose continued existence as a viable component of the State's fauna is determined by the Wildlife Resources Commission to be in jeopardy or any species of wild animal determined to be an 'endangered species' pursuant to the Endangered Species Act." (Article 25 of Chapter 113 of the General Statutes; 1987).
T	Threatened	"Any native or once-native species of wild animal which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range, or one that is designated as a threatened species pursuant to the Endangered Species Act." (Article 25 of Chapter 113 of the General Statutes; 1987).
SC	Special Concern	"Any species of wild animal native or once-native to North Carolina which is determined by the Wildlife Resources Commission to require monitoring but which may be taken under regulations adopted under the provisions of this Article." (Article 25 of Chapter 113 of the General Statutes; 1987).
P_	Proposed	Species has been proposed by a Scientific Council as a status (Endangered, Threatened, Special Concern, Watch List, or for De-listing) that is different from the current status, but the status has not yet been adopted by the General Assembly as law. In the lists of rare species in this book, these proposed statuses are listed in parentheses below the current status. Only those proposed statuses that are different from the current statuses are listed.

STATUS CODE	STATUS	DEFINITION
SR	Significantly Rare	Any species which has not been listed by the N.C. Wildlife Resources Commission as an Endangered, Threatened, or Special Concern species, but which exists in the state in small numbers and has been determined by the N.C. Natural Heritage Program to need monitoring. (This is a N.C. Natural Heritage Program designation.) Significantly Rare species include "peripheral" species, whereby North Carolina lies at the periphery of the species' range (such as Hermit Thrush).
EX	Extirpated	A species which is no longer believed to occur in the state. (This is a N.C. Natural Heritage Program designation, though WRC also uses this status; the NHP list includes those on the WRC list.)
W	Watch List	Any other species believed to be of conservation concern in the state because of scarcity, declining populations, threats to populations, or inadequacy of information to assess its rarity (see page 59 for a more complete discussion). (This is a N.C. Natural Heritage Program designation.)
G	---	Species is a game animal, and therefore (by law) cannot be listed for State protection as E, T, or SC.

United States Status. This status is designated by the U.S. Fish and Wildlife Service. Federally listed Endangered and Threatened species are protected under the provisions of the Endangered Species Act of 1973, as amended through the 100th Congress. Unless otherwise noted, definitions are taken from the *Federal Register*, Vol. 56, No. 225, November 21, 1991 (50 CFR Part 17).

STATUS CODE	STATUS	DEFINITION
E	Endangered	A taxon "which is in danger of extinction throughout all or a significant portion of its range" (Endangered Species Act, Section 3).
T	Threatened	A taxon "which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range" (Endangered Species Act, Section 3).
FSC	(Federal) Species of Concern [also known as Species at Risk]	"... the Service is discontinuing the designation of Category 2 species as candidates in this notice. The Service remains concerned about these species, but further biological research and field study are needed to resolve the conservation status of these taxa. Many species of concern will be found not to warrant listing, either because they are not threatened or endangered or because they do not qualify as species under the definition in the [Endangered Species] Act. Others may be found to be in greater danger of extinction than some present candidate taxa. The Service is working with the States and other private and public interests to assess their need for protection under the Act. Such species are the pool from which future candidates for listing will be drawn." (*Federal Register*, February 28, 1996). The Service suggests that such taxa be considered as "Species of Concern" or "Species at Risk", neither of which has official status. The N.C. Natural Heritage Program uses "(Federal) Species of Concern" in this document for those taxa formerly considered as Category 2.
P_	Proposed	Species proposed in the *Federal Register* as a status different from its current Federal status.

STATUS CODE	STATUS	DEFINITION
T (S/A)	Threatened due to Similarity of Appearance	"Section 4 (e) of the [Endangered Species] Act authorizes the treatment of a species (subspecies or population segment) as endangered or threatened even though it is not otherwise listed as endangered or threatened if -- (a) the species so closely resembles in appearance an endangered or threatened species that enforcement personnel would have substantial difficulty in differentiating between the listed and unlisted species; (b) the effect of this substantial difficulty is an additional threat to an endangered or threatened species; and (c) such treatment of an unlisted species will substantially facilitate the enforcement and further the policy of the Act." (*Federal Register*, November 4, 1997). [The American Alligator is listed as T (S/A) due to Similarity of Appearance with other rare crocodilians, and the southern population of the Bog Turtle is listed as T (S/A) due to Similarity of Appearance with the northern population of the Bog Turtle (which is federally listed as Threatened and which does not occur in North Carolina).]
XN	Nonessential Experimental Population	"Section 10 (j) of the Endangered Species Act of 1973, as amended, provides for the designation of introduced populations of federally listed species as nonessential experimental. This designation allows for greater flexibility in the management of these populations by local, state, and Federal agencies. Specifically, the requirement for Federal agencies to avoid jeopardizing these populations by their actions is eliminated and allowances for taking the species are broadened." (U.S. Fish and Wildlife Service, 1995).
D	De-listed	Species has been proposed by the U.S. Fish and Wildlife Service for de-listing from the List of Endangered and Threatened Wildlife. However, at the present time, the species is still on the List of Endangered and Threatened Wildlife and is thus protected under the Endangered Species Act. Because such species still have legal Federal protection, the NHP will maintain existing records on the species, though new records might not necessarily be added. If the status becomes law prior to the next publication of the NHP Rare Animal List, the Program will remove the Federal designation from its database (and thus the species will no longer appear on printouts of Federally listed species). NHP may or may not continue to track the species, depending on its legal State status and other factors such as overall abundance and range in the state.

North Carolina Rank. North Carolina ranks are based on The Nature Conservancy's system of measuring rarity and threat status. This system is widely used by other agencies and organizations, as the best available scientific and objective assessment of a species' rarity at the state level. State ranks are assigned by biologists within each Natural Heritage Program.

RANK	NUMBER OF EXTANT POPULATIONS	DESCRIPTION
S1	1-5	Critically imperiled in North Carolina because of extreme rarity or because of some factor(s) making it especially vulnerable to extirpation from North Carolina.
S2	6-20	Imperiled in North Carolina because of rarity or because of some factor(s) making it very vulnerable to extirpation from North Carolina.
S3	21-100	Rare or uncommon in North Carolina.
S4	100-1000	Apparently secure in North Carolina, with many occurrences.
S5	1000+	Demonstrably secure in North Carolina and essentially ineradicable under present conditions.
SA	1-?	Accidental or casual; one to several records for North Carolina, but the state is outside the normal range of the species.
SH	0?	Of historical occurrence in North Carolina, perhaps not having been verified in the past 20 years, and suspected to be still extant.
SR	--	Reported from North Carolina, but without persuasive documentation which would provide a basis for either accepting or rejecting the report.
SX	0	Apparently extirpated from North Carolina.
SU	--	Possibly in peril in North Carolina but status uncertain; need more information.
S?	--	Unranked, or rank uncertain.
_B	1-?	Rank of the breeding population in the state. Used for migratory species only.
_N	1-?	Rank of the non-breeding population in the state. Used for migratory species only.
_Z_	1-?	Population is not of significant conservation concern. For example, the status "SZN" indicates that the population in the non-breeding seasons (generally in migration or in winter) is transitory, without any regular locales of occurrence whereby the species can be protected. Where a number is listed with the "B" or "N" modifier, there are definable locales of occurrence that can be identified for protection.

Global Rank. Global ranks are assigned by NatureServe (formerly the science branch of The Nature Conservancy) staff biologists and contract biologists, based on a consensus of scientific experts, the individual natural heritage programs, and the Natural Heritage Network. Global ranks apply to the status of a species throughout its range, and are based on data on the species' status rangewide. This system is widely used by other agencies and organizations, as the best available scientific and objective assessment of a species' rarity throughout its range. NOTE: Global ranks in brackets are those suggested by Scientific Councils in North Carolina, or by the N.C. Natural Heritage Program, and are not NatureServe's assigned ranks. These suggested ranks are listed below the TNC assigned ranks. In some cases, these suggested ranks were made to indicate that the Global Rank perhaps should be changed, with the taxa apparently more common in North Carolina than the Global Rank will allow (i.e., a rank of S3 G2 isn't technically allowed; thus, the global rank is suggested to be G3.)

RANK	NUMBER OF EXTANT POPULATIONS	DESCRIPTION
G1	1-5	Critically imperiled globally because of extreme rarity or because of some factor(s) making it especially vulnerable to extinction.
G2	6-20	Imperiled globally because of rarity or because of some factor(s) making it very vulnerable to extinction throughout its range.
G3	21-100	Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g., a single physiographic region) or because of other factors making it vulnerable to extinction throughout its range.
G4	100-1000	Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.
G5	1000+	Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
GH	0?	Of historical occurrence throughout its range, i.e., formerly part of the established biota, with the expectation that it may be rediscovered.
GX	0	Believed to be extinct throughout its range (e.g., Passenger Pigeon) with virtually no likelihood that it will be rediscovered.
GU	--	Possibly in peril range-wide, but status uncertain; more information is needed.
G?	--	Unranked, or rank uncertain.
G_Q	--	Questionable taxonomic assignment.
T_	--	The rank of a subspecies or variety. As an example, G4T1 would apply to a subspecies of a species with an overall rank of G4, but the subspecies warranting a rank of G1.

Physiographic Province/Region. The provinces/regions in which the animal is known to occur are indicated. This should not be regarded as the only province(s) or region(s) of the state in which the species could occur; our knowledge of the fauna of North Carolina, especially the invertebrates, is still very imperfect. The provinces are abbreviated as follows:

M	Mountains	All parts of North Carolina west of the foot of the Blue Ridge Escarpment.
P	Piedmont	All parts of North Carolina east of the foot of the Blue Ridge Escarpment and west of the Fall Line, including outlying "foothill" ranges, such as the Brushy, Uwharrie, and Sauratown mountains.
S	Sandhills	The southwestern portion of the Coastal Plain province consisting mostly of deep aeolian sands of the Middendorf and Pinehurst formation (portions of Cumberland, Harnett, Hoke, Lee, Moore, Richmond, Scotland, and Montgomery counties). The Sandhills are actually part of the Coastal Plain but are here distinguished because of their distinctive geomorphology and vegetation.
C	Coastal Plain	All parts of North Carolina east of the Fall Line, but excluding the Sandhills region and those portions associated with tidal water (ocean, sounds, barrier islands, and mainland brackish or salt marshes).
T	Tidewater	That part of the state associated with tidal water, such as the ocean and barrier islands, sounds, estuaries, and mainland brackish or salt marshes.

Habitat. The known, or the most typical, habitats are described briefly; as with provinces, these should not be regarded as the only possible habitats of the species in the state.

Counties of occurrence. Following the description of habitats is a listing, in parentheses, of the known counties of occurrence of the records in the Natural Heritage Program database. For most vertebrate species, this listing of counties is complete or reasonably complete. However, for many invertebrates, and a few vertebrates (generally those newly added to the Rare List), there is no listing of counties, as records have yet to be added to the database. Where county names appear in brackets, records from these counties have not yet been added to the database.) **Counties in which the element was last observed more than 20 years ago are marked with an asterisk (*).** The asterisk does not necessarily mean that the species no longer exists in that county; simply, it means that the date of the last observation available to the Natural Heritage Program from that county is 1983 or earlier. **Counties where no date of occurrence (e.g., data from an atlas/dot map) is available are marked with a plus (+).** Without additional information, the Program has no way of knowing whether such data should be considered as current or historic (marked with *). Records from such references, atlases, and other lists that were published or made available to the Program from 1983 or earlier should be considered as historic, but the Program has not yet updated the database for these obscure date records.

STATUS OF ANIMAL TAXA ON NHP RARE ANIMAL LIST

(as of March, 2004)

For names and definitions of statuses, see pages 3-5. Numbers in the table indicate number of taxa – generally species – for each group and status. Because many taxa have both an N.C. and a U.S. status, totals cannot be added across a complete line.

Group	Total Number of Species (rounded to nearest five)	N.C. Status				U.S. Status		
		E	T	SC	SR	E	T	FSC
Mammals	120	6	2	11	11	7	0	8
Birds	450	5	4	16	30	3	2	13
Reptiles	70	5	4	11	4	3	4	4
Amphibians	90	1	4	12	11	0	0	5
Freshwater Fishes	245	9	13	26	19	2	2	26
Freshwater Bivalves	75	19	10	6	7	7	0	11
Freshwater and Terrestrial Gastropods	250+	4	10	24	9	0	1	10
Arachnids	?	0	0	0	11	1	0	1
Crustaceans [Crayfishes]	? [45]	0 [0]	0 [0]	0 [8]	19	0	0	10
Mayflies	?	0	0	0	16	0	0	1

Stoneflies	?	0	0	0	7	0	0	0
Caddisflies	?	0	0	0	14	0	0	0
Dragonflies and Damselflies	190	0	0	0	37	0	0	8
Flies	?	0	0	0	1	0	0	0
Moths	?	0	0	0	70	0	0	4
Butterflies	170	0	0	0	38	1	0	8
Grasshoppers and Katydids	?	0	0	0	15	0	0	0
Beetles	?	0	0	0	5	1	0	1
True Bugs	?	0	0	0	1	0	0	0
Totals	?	49	47	114	325	25	9	110

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global

MAMMALS

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Canis rufus CM: swamps, pocosins, extensive forests (Beaufort+, Dare, Hyde, Tyrrell, Washington)	Red Wolf	SR	E - XN	S1	G1
Condylura cristata pop 1 SC: moist meadows, bogs, swamps, bottomlands [mountain population not of concern] (Bladen, Brunswick, Currituck*, Dare, Hoke, Mecklenburg*, Moore*, New Hanover*, Pitt, Randolph, Richmond, Robeson*, Sampson, Scotland*, Wake, Washington*)	Star-nosed Mole - Coastal Plain population	SC	-	S2	G5T2Q
Corynorhinus rafinesquii macrotis CS: roosts in hollow trees, old buildings, and beneath bridges, usually near water (Beaufort*, Bertie, Bladen, Brunswick, Chowan, Columbus*, Dare, Gates, Hoke+, Martin, Pender, Perquimans, Richmond, Robeson, Tyrrell, Washington, Wayne*)	Rafinesque's Big-eared Bat - Coastal Plain subspecies	T	FSC	S3	G3G4T?
Corynorhinus rafinesquii rafinesquii M: roosts in caves, mines, and hollow trees, usually near water (Alexander*, Buncombe*, Burke, Cherokee*, Graham, Macon, Madison*, Swain, Transylvania*)	Rafinesque's Big-eared Bat - Mountain subspecies	T	FSC	S2	G3G4T?
Corynorhinus townsendii virginianus M: roosts in caves (and rarely in mines), especially in limestone areas (Avery, Watauga+, Yancey)	Virginia Big-eared Bat	E	E	S1	G4T2
Glaucomys sabrinus coloratus M: high elevation forests, mainly spruce-fir (Avery, Buncombe, Graham, Haywood, Jackson, McDowell, Mitchell, Swain, Transylvania, Watauga, Yancey)	Carolina Northern Flying Squirrel	E	E	S2	G5T1
Lasionycteris noctivagans MP: roosts near water in tree cavities, clumps of leaves, crevices, etc. [breeding season only] (records not yet entered)	Silver-haired Bat	SR	-	S2?B,S4N	G5
Lasiurus cinereus M: mid- to high elevations [breeding season only] (records not yet entered)	Hoary Bat	SR	-	S1?B,S3?N	G5
Lasiurus intermedius CP: roosts in Spanish moss and other thick vegetation near water, often in longleaf pine habitats (Mecklenburg, New Hanover)	Northern Yellow Bat	SR	-	SU	G4G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Microtus chrotorrhinus carolinensis M: rocky areas at high elevations, forests or fields (Avery, Haywood, Jackson*, Macon*, Swain+, Yancey)	Southern Rock Vole	SC	FSC	S3	G4T3
Mustela nivalis M: fields and forests, mostly at high elevations (Avery*, Buncombe, Haywood*, Henderson*, Jackson+, Madison*, Mitchell*, Watauga, Yancey*)	Least Weasel	SR	-	S2	G5
Myotis austroriparius CP: roosts in buildings, hollow trees; forages near water (Bertie, Bladen, Chowan+, Clay, Columbus, Gates, Halifax, Martin, New Hanover, Pender, Robeson, Wake*)	Southeastern Myotis	SC	FSC	S3	G3G4
Myotis grisescens M: roosts in caves; forages mainly over open water (Buncombe*)	Gray Myotis	E	E	SA	G3
Myotis leibii M: roosts in hollow trees (warmer months), in caves and mines (winter) (Alleghany*, Avery, Buncombe*, Graham, Henderson, Macon, Rutherford, Swain, Wilkes, Yancey)	Eastern Small-footed Myotis	SC	FSC	SUB,S2N	G3
Myotis septentrionalis MP: roosts in hollow trees and buildings (warmer months), in caves and mines (winter) (Ashe, Avery, Buncombe*, Burke, Cherokee*, Graham, Henderson, Macon, Polk, Rutherford, Swain, Transylvania, Wake*, Watauga, Wilkes)	Northern Long-eared Myotis	SC	-	S3	G4
Myotis sodalis M: roosts in hollow trees or under loose bark (warmer months), in caves (winter) (Graham, Jackson*, Mitchell*, Rutherford, Swain)	Indiana Myotis	E	E	SUB,SZN	G2
Neotoma floridana floridana C: forests, mainly in moist areas (Brunswick*, Carteret*, New Hanover, Onslow, Pender)	Eastern Woodrat - Coastal Plain population	T	-	S1	G5T5
Neotoma floridana haematoreia MP: rocky places in deciduous or mixed forests, in southern mountains and adjacent Piedmont (Buncombe, Burke, Catawba, Haywood, Henderson, Jackson, Macon, Madison, McDowell, Polk, Rutherford, Swain, Transylvania)	Eastern Woodrat - Southern Appalachian population	SC	FSC	S3	G5T4Q

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Neotoma magister MP: rocky places and abandoned buildings in deciduous or mixed forests in the northern mountains and adjacent Piedmont (Avery, Buncombe, Burke, Caldwell+, Iredell, McDowell, Mitchell+, Watauga, Yancey)	Appalachian Woodrat	SC	FSC	S2	G3G4
Peromyscus leucopus easti T: dunes and maritime thickets along coast south to Corolla (Currituck)	Pungo White-footed Mouse	SC	-	S2	G5T1
Peromyscus leucopus ssp 1 T: maritime forests in Cape Hatteras vicinity (Dare+)	Buxton Woods White-footed Mouse	SR	-	S2	G5T?
Peromyscus polionotus P: sandy, fallow fields near South Carolina line (Cleveland+, Rutherford*)	Oldfield Mouse	SR	-	S1?	G5
Puma concolor couguar MPC: extensive forests, remote areas (Brunswick*, Buncombe*, Carteret+, Haywood*, Montgomery*, Onslow*, Swain*, Yancey*)	Eastern Cougar	E	E	SH	G5TH
Sciurus niger MPSC: open forests, mainly longleaf pine/scrub oak (Anson, Avery*, Beaufort, Bertie*, Bladen, Brunswick, Buncombe*, Carteret+, Cherokee*, Clay*, Columbus, Craven+, Cumberland, Duplin+, Edgecombe, Franklin*, Graham*, Guilford*, Halifax, Harnett, Hertford*, Hoke, Johnston, Jones+, Lee*, Lenoir+, Macon*, Martin+, Moore, New Hanover, Onslow, Pamlico+, Pender, Pitt, Richmond, Robeson+, Sampson, Scotland, Swain*, Wake, Wayne, Yadkin*)	Eastern Fox Squirrel	SR - G	-	S3	G5
Sorex dispar M: high elevation forests with talus or rocky slopes (Avery, Buncombe, Haywood, Macon, Swain*, Transylvania*, Yancey)	Long-tailed Shrew	SC	-	S2	G4
Sorex palustris punctulatus M: stream banks in montane forests (Avery, Buncombe, Clay*, Haywood*, Macon, Swain*, Watauga+)	Southern Water Shrew	SC	FSC	S2	G5T3
Sorex sp 1 C: early succession fields, possibly low pocosins (endemic to eastern North Carolina) (Dare, Hyde)	an undescribed shrew	SR	-	S2	G1G2Q

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Sylvilagus obscurus [formerly *S. transitionalis*] M: dense cover of montane woods and thickets (Alleghany, Ashe, Avery, Clay, Graham, Haywood, Macon, Mitchell, Swain, Transylvania*, Watauga*, Yancey)	Appalachian Cottontail	SR - G	FSC	S3	G4
Synaptomys cooperi helaletes C: low pocosins, early succession wetlands (Beaufort, Craven, Gates, Jones, Pasquotank, Perquimans*)	Dismal Swamp Southern Bog Lemming	SR	-	S2	G5T3
Trichechus manatus T: warm waters of estuaries and river mouths (Beaufort, Brunswick, Carteret, Craven, Currituck, Dare, Hyde, New Hanover, Onslow, Pamlico*, Pender, Pitt)	West Indian Manatee	E	E	S1N	G2

BIRDS

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Accipiter striatus MPS: forests and woodlands (for nesting) [breeding evidence only] (Avery, Mitchell+, Orange*, Watauga*, Yancey*)	Sharp-shinned Hawk	SR	-	S2B,S4N	G5
Aegolius acadicus pop 1 M: spruce-fir forests or mixed hardwood/spruce forests (for nesting) [breeding season only] (Avery, Buncombe, Graham, Haywood, Jackson, Macon, Mitchell, Swain, Transylvania, Watauga, Yancey)	Northern Saw-whet Owl - Southern Appalachian population	T	FSC	S2B,S2N	G5T?
Aimophila aestivalis PSC: open longleaf pine forests, old fields [breeding season only] (Bladen, Brunswick, Buncombe*, Carteret, Chatham, Columbus, Craven, Cumberland, Halifax*, Harnett, Hoke, Jones, Macon*, Moore, Onslow, Pender, Richmond, Robeson, Sampson, Scotland, Wake*, Warren)	Bachman's Sparrow	SC	FSC	S3B,S2N	G3
Ammodramus henslowii C: clearcut pocosins and other damp weedy fields [breeding season only] (Beaufort, Bertie, Brunswick, Carteret, Columbus, Edgecombe, Gates, Martin, Onslow, Pender, Pitt, Wilson)	Henslow's Sparrow [the subspecies *A. h. susurrans* (Eastern Henslow's Sparrow) is FSC, not the entire species]	SR	FSC	S2B,S1N	G4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Anhinga anhinga C: wooded lakes or ponds, or open swamps (for nesting) [breeding evidence only] (Bertie, Bladen, Brunswick, Carteret*, Columbus*, Craven, Cumberland, Dare, Halifax, Jones, New Hanover, Robeson)	Anhinga	SR	-	S2B,SZN	G5
Botaurus lentiginosus CT: fresh or brackish marshes [breeding season only] (Beaufort*, Carteret, Hyde, Pamlico)	American Bittern	SR	-	S1B,S3N	G4
Catharus guttatus M: spruce-fir forests (for nesting) [breeding season only] (Avery, Haywood, Mitchell, Swain, Yancey)	Hermit Thrush	SR	-	S1B,S5N	G5
Certhia americana M: high elevation forests, favoring spruce-fir mixed with hardwoods (Avery, Buncombe, Haywood, Jackson, Mitchell, Swain, Transylvania, Watauga, Yancey)	Brown Creeper	SC	-	S3B,S5N	G5
Charadrius melodus T: ocean beaches and island-end flats [breeding evidence only] (Brunswick, Carteret, Currituck, Dare, Hyde, New Hanover, Onslow, Pender)	Piping Plover	T	T	S2B,S2N	G3
Charadrius wilsonia T: beaches, island-end flats, estuarine islands [breeding evidence only] (Brunswick, Carteret, Dare, Hyde, New Hanover, Onslow, Pender)	Wilson's Plover	SR	-	S3B,SZN	G5
Chondestes grammacus S: barren, sandy fields with scattered saplings in the sandhills region [breeding season only] (Cumberland, Hoke, Richmond, Scotland)	Lark Sparrow	SR	-	S1B,SZN	G5
Circus cyaneus T: extensive brackish marshes (for nesting) [breeding evidence only] (Carteret, Dare, Hyde)	Northern Harrier	SR	-	S1B,S4N	G5
Coccyzus erythropthalmus M: deciduous forests, mainly at higher elevations [breeding season and habitat only] (Ashe*, Avery, Buncombe, Burke, Caldwell, Haywood, Henderson, Jackson, McDowell, Mitchell+, Transylvania, Watauga)	Black-billed Cuckoo	SR	-	S2B,SZN	G5
Columbina passerina T: dunes, sandy fields, margins of maritime woods and thickets [breeding season only] (Brunswick, New Hanover, Pender)	Common Ground-Dove	SR	-	SHB,SZN	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Contopus cooperi M: montane conifer forests (mainly spruce-fir) with openings or dead trees [breeding season only] (Haywood, Macon*, McDowell*, Mitchell*, Swain, Yancey)	Olive-sided Flycatcher	SC	FSC	SUB,SZN	G4
Coturnicops noveboracensis TC: brackish or fresh marshes, wet fields [winter season only] (Carteret, Currituck, Dare, Hyde, New Hanover*)	Yellow Rail	SR	-	S2N	G4
Dendroica cerulea MC: mature hardwood forests; steep slopes and coves in mountains, natural levees in Coastal Plain [breeding season only] (Bertie, Buncombe, Clay, Graham, Halifax, Haywood, Johnston, Macon, McDowell, Northampton, Polk, Rutherford, Transylvania, Watauga, Wilkes)	Cerulean Warbler	SR	FSC	S2B,SZN	G4
Dendroica magnolia M: spruce-fir forests, especially in immature stands [breeding season only] (Avery, Buncombe, Graham, Haywood, Jackson*, McDowell, Mitchell, Watauga, Yancey)	Magnolia Warbler	SR	-	S1S2B,SZN	G5
Dendroica virens waynei C: nonriverine wetland forests, especially where white cedar or cypress are mixed with hardwoods [breeding season only] (Beaufort, Bladen, Brunswick, Camden, Carteret, Craven, Cumberland, Dare, Gates, Hyde*, Jones, Pamlico, Tyrrell, Washington)	Black-throated Green Warbler - Coastal Plain population	SR	-	S3B,SZN	G5TU
Egretta caerulea T: forests or thickets on maritime islands [breeding sites only] (Brunswick, Carteret, Columbus*, Cumberland, Currituck, Dare, Hyde, Jones, New Hanover, Robeson)	Little Blue Heron	SC	-	S3B,S3N	G5
Egretta thula T: forests or thickets on maritime islands [breeding sites only] (Brunswick, Carteret, Columbus*, Currituck, Dare, Hyde, New Hanover, Robeson)	Snowy Egret	SC	-	S3B,S3N	G5
Egretta tricolor T: forests or thickets on maritime islands [breeding sites only] (Brunswick, Carteret, Currituck, Dare, Hyde, New Hanover)	Tricolored Heron	SC	-	S3B,S3N	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Empidonax alnorum M: high elevation shrub/sapling thicket [breeding season only] (Alleghany, Ashe, Avery, Buncombe, Haywood, Jackson, Mitchell, Watauga, Yancey)	Alder Flycatcher	SR	-	S2B,SZN	G5
Falco peregrinus MT: cliffs (for nesting); coastal ponds and mudflats (for foraging in winter) [nesting evidence; regular wintering sites] (Avery, Brunswick, Buncombe, Burke, Carteret, Dare, Haywood, Hyde*, Jackson, Madison, Rutherford, Stokes, Surry, Transylvania, Wilkes*, Yancey)	Peregrine Falcon	E	-	S1B,S2N	G4
Haematopus palliatus T: estuaries, oyster beds, mudflats [breeding evidence only] (records not yet entered)	American Oystercatcher	SR	-	S3B,S4N	G5
Haliaeetus leucocephalus PCT: mature forests near large bodies of water (for nesting); lakes and sounds [nesting sites; regular non-breeding sites] (Alexander, Anson, Beaufort, Bertie, Bladen, Brunswick, Burke, Camden, Catawba, Chatham, Chowan, Columbus, Craven, Currituck, Dare, Davidson, Durham, Gaston, Granville, Guilford, Halifax, Harnett, Haywood, Hyde, Johnston*, Lenoir, Martin*, Mecklenburg, Montgomery, Nash, Northampton*, Onslow, Orange, Pamlico, Pasquotank, Pitt, Richmond, Rowan, Stanly, Tyrrell, Vance*, Wake, Warren*, Washington, Wilson)	Bald Eagle	T	T (PD)	S3B,S3N	G4
Himantopus mexicanus T: fresh or brackish ponds and impoundments [breeding sites only] (Beaufort, Brunswick, Carteret, Dare, Onslow, Pamlico)	Black-necked Stilt	SR	-	S2B	G5
Ictinia mississippiensis C: mature, extensive bottomland forests [regular summer locations only] (Bladen, Carteret, Columbus, Halifax, Harnett, Johnston, Martin, Nash, Richmond, Scotland, Wayne)	Mississippi Kite	SR	-	S2B	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Lanius ludovicianus ludovicianus PSC: fields and pastures [breeding season only] (Alamance+, Ashe+, Bladen+, Brunswick, Carteret, Catawba, Chatham, Cleveland, Davie, Edgecombe+, Forsyth, Franklin, Gaston, Granville+, Greene+, Guilford, Halifax, Iredell, Johnston+, Lenoir+, Lincoln, Mecklenburg, Montgomery, Moore, New Hanover+, Pitt, Polk, Richmond, Robeson, Rowan, Rutherford, Scotland+, Stanly, Transylvania+, Wake+, Wayne)	Loggerhead Shrike	SC	-	S3B,S3N	G4T4
Lanius ludovicianus migrans M: fields and pastures [breeding season only]	Migrant Loggerhead Shrike	SC	-	SUB,SUN	G4T3Q
Laterallus jamaicensis TCP: brackish marshes, rarely fresh marshes [breeding season only] (Carteret, Craven, Currituck, Dare, Hyde, Onslow, Pamlico)	Black Rail	SR	FSC	S3B,S2N	G4
Loxia curvirostra pop 1 M: coniferous forests, preferably spruce-fir (Ashe*, Avery, Buncombe, Burke, Haywood, Jackson, McDowell, Mitchell, Swain, Transylvania, Yancey)	Southern Appalachian Red Crossbill	SC	FSC	S3B,S3N	G5T?
Mycteria americana T: fresh or brackish ponds (for foraging) [regular non-breeding sites] (Brunswick)	Wood Stork	E	E	S1N	G4
Passerculus sandwichensis M: grassy fields and pastures [breeding season only] (Alleghany, Ashe, Watauga)	Savannah Sparrow	SR	-	S2B,S5N	G5
Passerina ciris ciris T: maritime shrub thickets and forest edges [breeding season only] (Brunswick, Carteret, New Hanover, Onslow, Pender)	Eastern Painted Bunting	SR	FSC	S3B,SZN	G5T3T4
Pelecanus occidentalis T: maritime islands [breeding sites only] (Brunswick, Carteret, Dare, New Hanover)	Brown Pelican	SR	-	S3B,S4N	G4
Phalacrocorax auritus CP: lakes with scattered trees for nesting [breeding sites only] (Chatham, Craven)	Double-crested Cormorant	SR	-	S1B,S5N	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Picoides borealis SCP: mature open pine forests, mainly in longleaf pine [breeding evidence only] (Anson, Beaufort, Bertie, Bladen, Brunswick, Camden*, Carteret, Chatham*, Columbus, Craven, Cumberland, Currituck*, Dare, Duplin, Edgecombe*, Forsyth*, Gates, Halifax*, Harnett, Hertford*, Hoke, Hyde, Johnston, Jones, Lee*, Lenoir*, Montgomery, Moore, Nash*, New Hanover, Northampton*, Onslow, Orange*, Pamlico*, Pender, Pitt*, Richmond, Robeson, Sampson, Scotland, Tyrrell, Wake*, Wayne, Wilson*)	Red-cockaded Woodpecker	E	E	S2	G3
Plegadis falcinellus T: forests or thickets on maritime islands [breeding sites only] (Brunswick, Carteret, Currituck, Dare, Hyde, New Hanover)	Glossy Ibis	SC	-	S2B,SZN	G5
Poecile atricapillus practicus M: high elevation forests, mainly spruce-fir [breeding season only] (Avery, Buncombe*, Haywood, Jackson, Swain, Transylvania, Yancey*)	Southern Appalachian Black-capped Chickadee	SC	FSC	S3	G5T?
Pooecetes gramineus M: high elevation pastures and grassy fields [breeding season only] (Ashe, Avery, Haywood, Mitchell, Watauga)	Vesper Sparrow	SR	-	S2B,S2N	G5
Porphyrula martinica C: freshwater ponds with floating vegetation [breeding sites only] (Brunswick, Onslow*, Robeson)	Purple Gallinule	SR	-	SHB	G5
Riparia riparia MP: high, vertical banks for nesting [breeding sites only] (Avery, Wilkes*)	Bank Swallow	SR	-	SUB,SZN	G5
Rynchops niger T: sand flats on maritime islands [breeding sites only] (Brunswick, Carteret, Dare, Hyde, New Hanover, Onslow, Pender)	Black Skimmer	SC	-	S3B,S3N	G5
Sphyrapicus varius appalachiensis M: mature, open hardwoods with scattered dead trees [breeding season only] (Avery*, Buncombe, Clay*, Graham, Haywood, Henderson, Jackson, Macon, Mitchell*, Swain, Transylvania, Watauga, Yancey)	Appalachian Yellow-bellied Sapsucker	SC	FSC	S3B,S5N	G5T?
Sterna antillarum T: beaches, sand flats, open dunes (Brunswick, Carteret, Craven, Dare, Hyde, New Hanover, Onslow, Pender)	Least Tern	SC	-	S3B,SZN	G4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	 U.S.	Rank N.C.	 Global
Sterna caspia T: sand flats on maritime islands [breeding sites only] (Dare, Hyde*)	Caspian Tern	SR	-	S1B,S2N	G5
Sterna dougallii T: sand flats on maritime islands [breeding evidence only] (Carteret*, Dare)	Roseate Tern	E	E	SAB,SZN	G4
Sterna hirundo T: sand flats on maritime islands [breeding sites only] (Carteret, Dare, Hyde, New Hanover, Onslow, Pender)	Common Tern	SC	-	S3B,SZN	G5
Sterna nilotica T: sand flats on maritime islands [breeding sites only] (Brunswick, Carteret, Dare, Hyde, Onslow*)	Gull-billed Tern	T	-	S3B,SZN	G5
Thryomanes bewickii altus M: woodland borders or openings, farmlands or brushy fields, at high elevations [breeding season only] (Ashe*, Avery*, Buncombe*, Haywood*, Jackson*, Macon*, Transylvania*)	Appalachian Bewick's Wren	E	FSC	SHB,SZN	G5T2Q
Vermivora chrysoptera M: old fields and successional hardwoods (Alleghany, Ashe, Watauga; plus many additional counties)	Golden-winged Warbler	SR	FSC	S3B,SZN	G4
Vermivora pinus M: low elevation brushy fields and thickets [breeding season only] (Alleghany, Ashe, Buncombe*, Cherokee*, Graham*, Macon)	Blue-winged Warbler	SR	-	S2B,SZN	G5
Vireo gilvus M: groves of hardwoods along rivers and streams [breeding season only] (Alleghany, Ashe, Avery, Buncombe, Cleveland, Halifax, Henderson, Macon*, Orange, Watauga)	Warbling Vireo	SR	-	S2B,SZN	G5

REPTILES

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Alligator mississippiensis CT: fresh to slightly brackish lakes, ponds, rivers, and marshes (Bladen, Brunswick, Camden*, Carteret, Columbus, Craven, Cumberland, Dare, Duplin*, Gates*, Hyde, Jones*, New Hanover, Onslow, Pamlico*, Pender, Robeson, Sampson*, Scotland*, Tyrrell*, Washington)	American Alligator	T	T(S/A)	S3	G5
Apalone spinifera spinifera M: large streams in the French Broad system (Buncombe, Madison)	Eastern Spiny Softshell	SC	-	S1	G5T5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Caretta caretta T: nests on beaches; forages in ocean and sounds (Brunswick, Carteret, Currituck, Dare, Hyde, New Hanover, Onslow, Pender)	Loggerhead	T	T	S3B,S3N	G3
Chelonia mydas T: nests on beaches; forages in ocean and sounds (Brunswick, Carteret, Dare, Hyde+, New Hanover, Onslow, Pender)	Green Turtle	T	T	S1B,SZN	G3
Clemmys (see *Glyptemys*)					
Crotalus adamanteus C: pine flatwoods, savannas, pine-oak sandhills (Bladen, Brunswick+, Carteret, Columbus+, Craven+, Cumberland*, Duplin+, Jones*, New Hanover*, Onslow, Pender*, Robeson*, Sampson*)	Eastern Diamondback Rattlesnake	E	-	S1?	G4
Crotalus horridus CMP: wetland forests in the Coastal Plain; rocky, upland forests elsewhere (Alexander, Alleghany, Anson+, Ashe, Avery+, Beaufort+, Bertie+, Bladen+, Brunswick+, Buncombe*, Burke, Camden+, Carteret, Catawba+, Cherokee+, Chowan+, Clay*, Cleveland+, Columbus+, Craven+, Cumberland+, Currituck+, Dare+, Davidson, Duplin+, Durham+, Gaston, Graham*, Granville+, Haywood+, Henderson, Hoke+, Hyde+, Jackson, Jones+, Lenoir+, Lincoln+, Macon*, Madison+, McDowell, Mitchell*, Montgomery+, Moore+, New Hanover, Onslow+, Pamlico+, Pasquotank+, Pender, Perquimans+, Pitt+, Polk*, Randolph, Richmond+, Robeson+, Rutherford, Sampson+, Scotland, Stanly, Stokes, Surry*, Swain*, Transylvania*, Tyrrell+, Union+, Washington+, Watauga+, Wayne+, Wilkes, Yancey+)	Timber Rattlesnake	SC	-	S3	G4
Deirochelys reticularia SC: quiet waters of ponds, ditches, and sluggish streams (Bladen, Brunswick, Carteret+, Columbus, Craven+, Cumberland, Dare, Hoke, New Hanover, Onslow+, Pender, Robeson, Sampson, Scotland, Wayne+)	Chicken Turtle	SR	-	S3	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Dermochelys coriacea T: oceans, rarely in sounds (Brunswick*, Carteret, Craven*, Currituck*, Dare, Hyde, Onslow)	Leatherback	E	E	SAB,SZN	G2
Eretmochelys imbricata T: oceans, very rarely in sounds (Carteret*, Dare)	Hawksbill	E	E	SZN	G3
Glyptemys muhlenbergii MP: bogs, wet pastures, wet thickets (Alexander, Alleghany, Ashe, Avery, Buncombe, Burke, Cherokee, Clay, Forsyth, Gaston, Graham, Henderson, Iredell*, Macon, McDowell, Mitchell, Surry, Transylvania, Watauga, Wilkes, Yancey)	Bog Turtle	T	T(S/A)	S2	G3
Heterodon simus SC: sandy woods, particularly pine-oak sandhills (Bladen, Brunswick*, Carteret+, Craven+, Cumberland+, Duplin+, Edgecombe+, Hoke, Jones+, Moore, New Hanover, Onslow, Pender, Pitt+, Richmond+, Robeson, Sampson, Scotland, Wake+, Wayne+)	Southern Hognose Snake	SC	FSC	S2	G2
Lampropeltis getula sticticeps T: maritime forests, thickets, and grasslands on the Outer Banks (Carteret*, Currituck*, Dare*, Hyde*)	Outer Banks Kingsnake	SC	-	S2	G5T2Q
Lepidochelys kempii T: ocean and sounds (Beaufort, Brunswick, Carteret*, Dare, Hyde, Pamlico)	Atlantic Ridley	E	E	SAB,SZN	G1
Liochlorophis vernalis M: fields and grassy meadows (Rutherford*)	Smooth Green Snake	SC	-	SH	G5
Malaclemys terrapin centrata T: salt or brackish marshes, estuaries; southern half of the coast (Beaufort+, Brunswick+, Carteret, Hyde+, New Hanover, Onslow, Pamlico, Pender)	Carolina Diamondback Terrapin	SC	-	S3	G4T4
Malaclemys terrapin terrapin T: salt or brackish marshes, estuaries; northern half of the coast (Dare+)	Northern Diamondback Terrapin	SC	FSC	S3	G4T4
Masticophis flagellum SCTP: dry and sandy woods, mainly in pine/oak sandhills (Anson*, Bladen, Brunswick, Carteret+, Cumberland, Hoke+, Lenoir+, Moore+, New Hanover, Onslow+, Pender, Richmond, Sampson, Scotland, Stanly, Union+, Wayne+)	Coachwhip	SR	-	S3	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Micrurus fulvius CS: pine-oak sandhills, sandy flatwoods, maritime forests (Bladen, Brunswick*, Cumberland*, Harnett+, Hoke*, Moore+, New Hanover, Onslow, Pender, Scotland+)	Eastern Coral Snake	E	-	S1	G5
Nerodia sipedon williamengelsi T: salt or brackish marshes (Beaufort, Carteret, Currituck, Dare, Hyde, Pamlico)	Carolina Water Snake	SC	-	S3	G5T3
Opheodrys (see *Liochlorophis*)					
Ophisaurus mimicus C: pine flatwoods, savannas, pine/oak sandhills (Bladen*, Brunswick, Carteret, Columbus*, New Hanover*, Onslow, Sampson*)	Mimic Glass Lizard	SC	FSC	S2	G3
Pituophis melanoleucus melanoleucus SCM: dry and sandy woods, mainly in pine/oak sandhills (Brunswick, Cherokee*, Clay+, Cumberland+, Graham*, Harnett+, Hoke, Montgomery, Moore, New Hanover*, Richmond, Rutherford+, Scotland, Swain*)	Northern Pine Snake	SC	FSC	S3	G4T4
Regina rigida C: marshes, cypress ponds, other wetlands (Bladen+, Brunswick*, Carteret+, Craven, Dare, Hoke, Hyde+, Jones+, New Hanover*, Onslow+, Robeson, Tyrrell+)	Glossy Crayfish Snake	SR	-	S2S3	G5
Seminatrix pygaea C: in lush vegetation of ponds, ditches, or sluggish streams (Brunswick, Carteret+, Craven+, Dare, Hyde+, New Hanover*, Onslow+, Pender*, Tyrrell+)	Black Swamp Snake	SR	-	S2	G5
Sistrurus miliarius CSP: pine flatwoods, pine/oak sandhills, other pine/oak forests (Beaufort, Bladen, Brunswick*, Carteret, Cleveland*, Craven, Cumberland+, Gaston, Harnett+, Hoke+, Hyde, Montgomery+, Moore, New Hanover, Onslow, Pender, Pitt, Richmond+, Sampson, Scotland)	Pigmy Rattlesnake	SC	-	S3	G5
Sternotherus minor M: streams and rivers in Mississippi drainage (Cherokee, Madison)	Loggerhead Musk Turtle	SC	-	S1	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global

AMPHIBIANS

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Ambystoma mabeei SC: savannas, wet woods, swamps (Bladen*, Columbus*, Hoke, New Hanover*, Pender*, Robeson, Sampson, Scotland)	Mabee's Salamander	SR	-	S3	G4
Ambystoma talpoideum MP: breeds in fish-free semipermanent woodland ponds; forages in adjacent woodlands (Alleghany*, Buncombe, Cherokee, Guilford, Henderson*, Macon*, Montgomery, Person, Polk, Richmond, Rockingham, Rowan, Surry, Transylvania*, Union)	Mole Salamander	SC	-	S2	G5
Ambystoma tigrinum SC: breeds in fish-free semipermanent ponds; forages in adjacent woods, usually sandy pinewoods (Cumberland, Hoke, Richmond, Robeson, Scotland, Wake)	Eastern Tiger Salamander	T	-	S2	G5
Aneides aeneus M: damp, shaded crevices of cliffs or rock outcrops in deciduous forests (southern mountains) (Henderson, Jackson, Macon, Rutherford, Transylvania)	Green Salamander	E	FSC	S2	G3G4
Bufo quercicus CS: pine flatwoods and savannas, pine sandhills where near water (records not yet entered)	Oak Toad	SR	-	S3	G5
Cryptobranchus alleganiensis M: large and clear fast-flowing streams (Alleghany, Ashe, Avery*, Buncombe, Cherokee, Clay, Graham, Haywood, Henderson, Jackson, Macon, Madison, Mitchell, Swain+, Transylvania, Watauga, Yancey)	Hellbender	SC	FSC	S3	G3G4
Desmognathus aeneus M: seeps, springs, or streams in forests in extreme southwestern counties (Cherokee, Clay*, Graham, Macon)	Seepage Salamander	SR	FSC	S3	G3G4
Desmognathus imitator pop 1 M: forests in the vicinity of Waterrock Knob (Jackson+)	Imitator Salamander - Waterrock Knob population	SR	-	S1	G3T1Q
Desmognathus santeetlah M: stream headwaters and seepage areas; southwestern mountains (Graham, Jackson*, Swain*)	Santeetlah Dusky Salamander	SR	-	S2S3	G3G4Q
Desmognathus wrighti M: spruce-fir and other high elevation forests (records not yet entered)	Pigmy Salamander	SR	-	S3	G3G4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Eurycea junaluska M: forests near seeps and streams, mainly in the Cheoah River system (Cherokee, Clay, Graham)	Junaluska Salamander	T	FSC	S2	G3
Eurycea longicauda M: moist woods and floodplains; small ponds for breeding (Alleghany*, Clay*, Graham, Haywood*, Macon*, Watauga+)	Longtail Salamander	SC	-	S2	G5
Eurycea quadridigitata pop 1 C: pocosins, bay forests, flatwoods, savannas (Hoke, Robeson, Scotland)	Dwarf Salamander - silver morph	SC	-	S2	G5T2Q
Hemidactylium scutatum MPC: pools, bogs, and other wetlands in hardwood forests (Alamance+, Avery, Bladen*, Buncombe*, Chatham, Cherokee+, Cumberland*, Duplin*, Durham, Gates, Graham+, Granville, Henderson*, Macon*, Mitchell*, Montgomery, Moore, Nash, Orange, Person, Polk+, Randolph, Rockingham*, Surry, Wake)	Four-toed Salamander	SC	-	S3	G5
Hyla versicolor PM?: deciduous or mixed forests, often near water; range uncertain in NC (Warren+)	Northern Gray Treefrog	SR	-	S1?	G5
Necturus lewisi PC: rivers and large streams in Neuse and Tar drainages (endemic to North Carolina) (Beaufort*, Craven*, Durham, Edgecombe, Franklin, Granville*, Greene*, Halifax, Johnston, Jones, Lenoir, Nash, Orange, Person*, Pitt*, Vance*, Wake, Warren, Wayne*, Wilson*)	Neuse River Waterdog	SC	-	S3	G3
Necturus maculosus M: rivers and large streams (French Broad drainage) (Buncombe*, Henderson*, Transylvania*)	Common Mudpuppy	SC	-	SH	G5
Plethodon amplus M: mesic forests in the Hickorynut Gorge vicinity (endemic to this area) (Buncombe+, Henderson+, Rutherford+)	Blue Ridge Gray-cheeked Salamander	SR	-	S1S2	G1G2
Plethodon aureolus M: forests in the Unicoi Mountains (Cherokee*, Graham*)	Tellico Salamander	SR	-	S2	G2G3
Plethodon cheoah M: mesic forests on Cheoah Bald (endemic to this area) (Graham+, Swain+)	Cheoah Bald Salamander	SR	-	S2?	G2

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Plethodon ventralis M: moist areas of talus slopes or rock outcrops in hardwood forests (Buncombe*, Haywood, Henderson*, Madison*, Yancey)	Southern Zigzag Salamander	SC	-	S1	G4
Plethodon wehrlei P: upland forests (low mountains near Virginia border) (Alleghany, Stokes, Surry, Wilkes)	Wehrle's Salamander	T	-	S1	G5
Plethodon welleri M: high elevation forests in northern mountains, mainly in spruce-fir and to a lesser degree, northern hardwood forests (Avery, Mitchell, Watauga, Yancey)	Weller's Salamander	SC	-	S2	G3
Plethodon yonahlossee pop 1 M: Hickorynut Gorge area (endemic to this area); crevices in moist shaded rocks (Buncombe*, Henderson+, Rutherford)	Crevice Salamander	SC	-	S1	G4T1Q
Pseudacris brachyphona M: forests near temporary pools or ponds, in extreme southwestern mountains (Cherokee, Haywood*)	Mountain Chorus Frog	SC	-	S1	G5
Pseudacris ornata SC: swamps, savannas, wooded ponds and pools (Bladen*, Brunswick*, Hoke, New Hanover*, Robeson, Sampson*, Scotland)	Ornate Chorus Frog	SR	-	S3	G5
Rana capito SC: breeds in temporary fish-free pools; forages in sandy woods, especially pine-oak sandhills (Beaufort*, Bladen*, Brunswick, Carteret, Hoke, Jones*, New Hanover*, Onslow, Pender, Robeson, Sampson, Scotland)	Carolina Gopher Frog	T	FSC	S2	G3
Rana heckscheri SC: river floodplains, such as pools or borrow pit ponds (Cumberland*, Moore*, Robeson*, Sampson*, Scotland*)	River Frog	SC	-	SH	G5

FRESHWATER FISHES

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Acipenser brevirostrum TC: brackish water of large rivers and estuaries; spawns in freshwater areas (Anson, Bertie, Bladen, Brunswick, Camden*, Carteret*, Columbus, Currituck*, Dare, Hyde*, New Hanover, Onslow*, Pamlico*, Pasquotank*, Pender, Richmond)	Shortnose Sturgeon	E	E	S1	G3

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	 U.S.	Rank N.C.	 Global
Acipenser oxyrinchus TC: coastal waters, estuaries, large rivers (records not yet entered)	Atlantic Sturgeon	SC	-	S3	G3
Ambloplites cavifrons PC: streams in Neuse and Tar systems, rarely in Cape Fear system (Durham, Edgecombe+, Franklin+, Granville, Halifax, Johnston+, Moore, Nash, Orange, Person, Pitt*, Wake+, Warren)	Roanoke Bass	SR	FSC	S3	G3
Aplodinotus grunniens M: French Broad River (Madison)	Freshwater Drum	T (PSC)	-	S1?	G5
Carpiodes carpio M: French Broad River (Madison*)	River Carpsucker	SC	-	SH	G5
Carpiodes velifer PC: Catawba, Pee Dee, and Cape Fear rivers (Anson, Bladen, Catawba, Gaston, Iredell, Mecklenburg, Richmond)	Highfin Carpsucker	SC	-	S2	G4G5
Clinostomus funduloides ssp 1 M: Little Tennessee drainage (Jackson, Macon, Swain)	Little Tennessee River Rosyside Dace	SC	FSC	S2	G5T3Q
Cottus caeruleomentum P: Dan drainage (Stokes+)	Blue Ridge Sculpin	SR (PSC)	-	S1	G4
Cottus carolinae M: French Broad and Toe drainages (Avery, Madison)	Banded Sculpin	T	-	S1	G5
Cyprinella monacha M: Little Tennessee River; formerly in French Broad drainage (Buncombe*, Macon, Madison*, Swain)	Spotfin Chub	T	T	S1	G2
Cyprinella sp 1 (formerly considered part of *C. zanema*) SC: Cape Fear, Lumber, and Pee Dee drainages (Anson, Bladen*, Cumberland+, Richmond, Robeson+, Sampson, Scotland+)	Thinlip Chub	SC	-	S2	GUQ
Cyprinella zanema P: Catawba and Broad drainages (Burke, Caldwell, Catawba+, Iredell+, Lincoln, McDowell+, Mecklenburg+, Polk, Rutherford)	Santee Chub	SR	-	S3	G4
Elassoma boehlkei C: streams and canals in Waccamaw drainage (Brunswick, Columbus)	Carolina Pygmy Sunfish	T	FSC	S1	G2
Erimystax insignis M: primarily French Broad drainage (Buncombe+, Cherokee+, Clay+, Henderson+, Madison+, Mitchell+, Yancey+)	Blotched Chub	SR	FSC	S3	G3G4
Etheostoma acuticeps M: streams in Nolichucky system (Toe and Cane rivers) (Mitchell, Yancey)	Sharphead Darter	T	FSC	S1	G3

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Etheostoma collis pop 1 P: streams in the Yadkin - Pee Dee and Catawba drainages (Anson+, Cabarrus, Davidson+, Mecklenburg, Montgomery, Richmond, Stanly, Union)	Carolina Darter - central Piedmont population	SC	FSC	S3	G3T3Q
Etheostoma collis pop 2 P: streams in the Roanoke, Tar, Neuse, and Cape Fear drainages (Chatham, Durham+, Granville, Guilford, Moore, Orange*)	Carolina Darter - eastern Piedmont population	SC	FSC	S2	G3T3Q
Etheostoma inscriptum M: streams of Savannah drainage (Jackson, Macon, Transylvania)	Turquoise Darter	SC (PT)	-	S1	G4
Etheostoma jessiae M: streams in Mills River system (Henderson*)	Blueside Darter	SC	-	SH	G4Q
Etheostoma kanawhae M: New drainage (Alleghany, Ashe, Watauga)	Kanawha Darter	SR	-	S3	G4
Etheostoma mariae SC: streams of Lumber drainage, mainly in the sandhills; perhaps in adjacent Pee Dee drainage (Hoke, Montgomery, Moore, Richmond, Robeson+, Scotland)	Pinewoods Darter	SC	FSC	S2	G3
Etheostoma perlongum C: Lake Waccamaw (endemic to North Carolina) (Columbus)	Waccamaw Darter	T	FSC	S1	G1Q
Etheostoma podostemone P: large streams in Dan River system (Caswell, Rockingham, Stokes)	Riverweed Darter	SC	-	S2	G4
Etheostoma simoterum M: streams of French Broad drainage (Madison*)	Snubnose Darter	SC	-	SH	G5
Etheostoma vulneratum M: streams of Little Tennessee system; perhaps extirpated from French Broad system (Jackson, Macon, Madison*, Swain)	Wounded Darter	SC	FSC	S2	G3
Exoglossum laurae M: New drainage (Alleghany, Ashe, Watauga)	Tonguetied Minnow	SR	-	S2	G4
Exoglossum maxillingua P: streams of Dan River system (Stokes)	Cutlips Minnow	E (PSC)	-	S1	G5
Fundulus cf diaphanus (formerly considered part of *F. waccamensis*) (taxon endemic to North Carolina, but may be a population of *F. diaphanus*) C: Lake Phelps (Washington)	Lake Phelps Killifish	SR	FSC	S1	GUQ
Fundulus confluentus T: fresh to brackish waters along coast (Carteret*, Dare*, Hyde*, Onslow+)	Marsh Killifish	SR	-	S2	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Fundulus luciae TC: ponds and pools along coast (Brunswick*, Carteret+, New Hanover*, Onslow+)	Spotfin Killifish	SR	-	S2	G4
Fundulus waccamensis C: Lake Waccamaw (endemic to North Carolina) (Columbus)	Waccamaw Killifish	SC	FSC	S1	G1
Heterandria formosa C: streams and lakes near Wilmington (Brunswick, New Hanover)	Least Killifish	SC	-	S2	G5
Hiodon tergisus M: French Broad River (Henderson*, Madison+)	Mooneye	SC	-	SH	G5
Hybopsis rubrifrons M: Savannah drainage (Transylvania)	Rosyface Chub	T	-	S1	G4
Hypentelium roanokense P: Dan drainage (Caswell, Rockingham+, Stokes)	Roanoke Hog Sucker	SR	-	S3	G4
Ichthyomyzon bdellium M: French Broad drainage (Madison)	Ohio Lamprey	SR	-	S1	G3G4
Ictiobus niger M: French Broad River (Madison)	Black Buffalo	SR	-	S1	G5
Lampetra aepyptera CP: Tar and Neuse drainages (Franklin, Halifax, Jones*, Pitt*, Wake, Warren)	Least Brook Lamprey	T	-	S2	G5
Lampetra appendix M: French Broad drainage (Madison)	American Brook Lamprey	T	-	S1	G4
Lucania goodei C: stream in Wilmington area; possibly introduced (New Hanover)	Bluefin Killifish	SC	-	S1	G5
Luxilus chrysocephalus M: Cane drainage; reported in Little Tennessee drainage (Macon, Yancey)	Striped Shiner	T (PSC)	-	S2	G5
Menidia extensa C: Lake Waccamaw (endemic to North Carolina) (Columbus)	Waccamaw Silverside	T	T	S1	G1
Micropterus coosae M: Savannah drainage (Burke*, Jackson*, Transylvania)	Redeye Bass	SR	-	S1	G5
Moxostoma robustum P: Pee Dee River (Anson, Davie*, Richmond, Rowan*, Surry*, Yadkin*)	Robust Redhorse	SR (PE)	FSC	S1	G1
Moxostoma sp 1 M: Little Tennessee and Hiwassee rivers (Cherokee, Clay, Jackson, Macon, Swain)	Sicklefin Redhorse	SR (PT)	FSC	S2	G2G3Q
Moxostoma sp 2 P: Cape Fear and Pee Dee drainages (Anson, Chatham, Harnett*, Lee, Moore, Richmond)	Carolina Redhorse	SR (PE)	FSC	S1	G1G2Q
Notropis bifrenatus C: stream near lower Neuse River (Craven)	Bridle Shiner	SC (PE)	FSC	S1	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Notropis lutipinnis MP: Savannah, Little Tennessee, and Broad drainages [only the Savannah and Little Tennessee drainages are listed as SC] (Jackson, Macon, Transylvania)	Yellowfin Shiner	SC	-	S3	G4Q
Notropis mekistocholas P: Cape Fear drainage (endemic to North Carolina) (Chatham, Harnett, Lee, Moore, Randolph)	Cape Fear Shiner	E	E	S1	G1
Noturus eleutherus M: French Broad drainage (Madison*)	Mountain Madtom	SC	-	SH	G4
Noturus flavus M: Nolichucky, French Broad, and Little Tennessee drainages (Madison, Swain, Yancey)	Stonecat	E	-	S1	G5
Noturus furiosus CP: Tar and Neuse drainages (endemic to North Carolina) (Craven*, Durham*, Edgecombe, Franklin, Greene*, Halifax, Johnston, Jones, Lenoir, Nash, Pitt*, Vance*, Wake, Wayne, Wilson*)	Carolina Madtom	SC (PT)	FSC	S2	G2
Noturus gilberti P: Dan drainage (Stokes)	Orangefin Madtom	E	FSC	S1	G2
Noturus insignis ssp 1 P: Dan River (no county data)	Spotted Madtom	SR	FSC	SR	G5T1T2Q
Noturus sp 1 C: Cape Fear, Waccamaw, and Lumber drainages (Bladen+, Brunswick*, Columbus*, Cumberland+, Duplin, Robeson, Sampson+)	Broadtail Madtom	SC	FSC	S1	G2
Percina burtoni M: South Toe River; formerly in French Broad drainage (Buncombe*, Yancey)	Blotchside Logperch	E	FSC	S1	G2
Percina caprodes M: Tennessee drainages (Alleghany, Ashe, Madison)	Logperch	T	-	S2	G5
Percina nigrofasciata M: Savannah drainage (Transylvania)	Blackbanded Darter	SR (PT)	-	S1	G5
Percina oxyrhynchus M: New River drainage (Alleghany, Ashe)	Sharpnose Darter	SC	-	S1	G4
Percina sciera M: French Broad drainage (Madison*)	Dusky Darter	E	-	SH	G5
Percina squamata M: Tennessee drainages (Cherokee, Jackson*, Macon, Madison*, Mitchell, Swain, Yancey)	Olive Darter	SC	FSC	S2	G3
Phenacobius teretulus M: New drainage (Alleghany, Ashe, Watauga)	Kanawha Minnow	SC	FSC	S2	G3G4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Polyodon spathula M: French Broad River (Buncombe*, Madison*)	Paddlefish	E	-	SH	G4
Sander canadensis M: French Broad and Hiwassee rivers (Cherokee+, Haywood+, Madison)	Sauger	SR	-	S2	G5
Scartomyzon ariommus P: Dan drainage (Forsyth, Rockingham, Stokes)	Bigeye Jumprock	T	-	S2	G4
Semotilus lumbee S: streams in the sandhills (Cumberland, Harnett, Hoke, Montgomery*, Moore, Richmond, Scotland)	Sandhills Chub	SC	FSC	S3	G3
Stizostedion (see *Sander*)					
Thoburnia hamiltoni P: Dan drainage (Stokes)	Rustyside Sucker	E	FSC	S1	G3

MOLLUSKS – FRESHWATER BIVALVES

Alasmidonta heterodon PC: Tar and Neuse drainages, mainly near Fall Line (Franklin, Granville, Halifax, Johnston, Nash, Orange, Vance, Wake, Warren, Wilson)	Dwarf Wedgemussel	E	E	S1	G1G2
Alasmidonta raveneliana M: Tennessee drainages (Buncombe*, Graham, Haywood, Henderson, Jackson, Macon, Mitchell, Swain, Transylvania, Yancey)	Appalachian Elktoe	E	E	S1	G1
Alasmidonta robusta P: Uwharrie River drainage; formerly Long Creek in Mecklenburg County (endemic to North Carolina) (Mecklenburg*, Montgomery)	Carolina Elktoe	SR	-	S1	G1
Alasmidonta undulata PC: most river systems in Piedmont and Coastal Plain (Caswell, Chatham, Durham, Edgecombe, Franklin, Gates, Granville, Halifax, Harnett, Hertford, Johnston, Jones, Montgomery, Moore, Nash, Northampton, Orange, Person, Pitt*, Randolph, Vance, Wake, Warren, Wilson)	Triangle Floater	T	-	S2	G4
Alasmidonta varicosa PM: Piedmont systems and along Blue Ridge escarpment of Catawba River system (Anson, Burke, Caldwell, Chatham, Forsyth, Granville, Macon, Montgomery, Moore, Orange, Randolph, Surry, Yadkin)	Brook Floater	E	FSC	S1	G3

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Alasmidonta viridis M: Little Tennessee and Mills rivers (Henderson, Macon, Swain)	Slippershell Mussel	E	-	S1	G4G5
Anodonta couperiana C: Bladen County; formerly in Greenfield Lake (Bladen*, New Hanover*)	Barrel Floater	E	-	SH	G4
Anodonta implicata C: Chowan, Meherrin, lower Roanoke, and Pee Dee rivers (Anson, Bertie, Chowan, Gates, Halifax, Hertford, Northampton, Richmond, Washington)	Alewife Floater	T	-	S1	G5
Cyclonaias tuberculata M: New River (Alleghany)	Purple Wartyback	E	-	S1	G5
Elliptio dilatata M: Little Tennessee, Hiwassee, and New rivers (Alleghany, Ashe, Cherokee, Macon, Swain, Watauga)	Spike	SC	-	S1	G5
Elliptio folliculata C: Coastal Plain, mainly in Lake Waccamaw (Bladen, Brunswick, Columbus, Cumberland, Duplin, Harnett, Pender, Sampson)	Pod Lance	SC	-	S1	G2G3Q
Elliptio lanceolata PC: Tar and Neuse systems, mainly near the Fall Line (Edgecombe, Franklin, Granville, Halifax, Johnston, Nash, Vance, Wake, Warren, Wayne)	Yellow Lance	E	FSC	S1	G2G3
Elliptio marsupiobesa C: Cape Fear and Neuse basins (endemic to North Carolina) (Bladen, Craven, Cumberland, Duplin, Johnston, Pender, Robeson, Sampson)	Cape Fear Spike	SC	-	S3	G3Q
Elliptio roanokensis PC: Cape Fear north to Roanoke river systems (Anson, Bladen, Craven, Cumberland, Edgecombe, Halifax, Harnett, Johnston, Montgomery, Nash, Northampton, Pitt, Randolph, Richmond, Stanly, Wake, Wayne*)	Roanoke Slabshell	T	-	S1	G2G3
Elliptio steinstansana PC: Tar River drainage, very rare in Neuse drainage (endemic to North Carolina) (Edgecombe, Franklin, Halifax, Johnston, Nash, Pitt*, Warren)	Tar River Spinymussel	E	E	S1	G1
Elliptio waccamawensis C: Lake Waccamaw and vicinity (endemic to North Carolina; possibly in adjacent South Carolina) (Brunswick, Columbus)	Waccamaw Spike	E	FSC	S1	G2Q

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	 U.S.	Rank N.C.	 Global
Fusconaia barnesiana M: Little Tennessee River (Macon, Swain)	Tennessee Pigtoe	E	-	S1	G2G3
Fusconaia masoni CP: most Atlantic drainages, in lower Piedmont and upper Coastal Plain; also in Black River in lower Coastal Plain (Bladen, Caswell, Chatham*, Cumberland, Durham, Edgecombe, Franklin, Granville, Halifax, Harnett, Johnston, Montgomery, Moore, Nash, Northampton*, Orange, Pender, Person, Pitt*, Randolph, Union, Wake, Warren, Wayne, Wilson)	Atlantic Pigtoe	E	FSC	S1	G2
Fusconaia subrotunda M: Hiwassee and French Broad systems (Buncombe*, Cherokee, Clay, Transylvania)	Long-solid	SR	-	S1	G3
Lampsilis cariosa PC: a number of river systems; mainly near the Fall Line (Alamance*, Anson, Bladen, Chatham, Columbus, Cumberland, Davie, Durham, Edgecombe, Franklin, Granville, Halifax, Harnett, Johnston, Montgomery, Moore, Nash, Orange, Pender, Person, Pitt*, Randolph, Richmond, Rowan, Vance)	Yellow Lampmussel	E	FSC	S1	G3G4
Lampsilis fasciola M: French Broad, Pigeon, Hiwassee, and Little Tennessee systems (Cherokee, Haywood, Jackson, Macon, Mitchell, Swain, Yancey)	Wavy-rayed Lampmussel	SC	-	S1	G4
Lampsilis fullerkati C: Lake Waccamaw and vicinity (endemic to North Carolina and adjacent South Carolina) (Columbus)	Waccamaw Fatmucket	T	FSC	S1	G1Q
Lampsilis radiata conspicua P: Neuse and Pee Dee systems (Alamance, Anson, Cabarrus, Davidson, Durham, Granville, Montgomery, Orange, Person, Randolph, Richmond, Stanly)	Carolina Fatmucket	T	-	S1?	G5T2Q
Lampsilis radiata radiata CP: a number of river systems (Bladen, Chowan, Columbus, Craven, Edgecombe, Franklin, Gates, Halifax, Hertford, Johnston, Jones, Nash, Northampton, Pender, Pitt, Sampson, Wake, Warren, Wilson)	Eastern Lampmussel	T	-	S1S2	G5T5
Lampsilis sp 2 PC: Neuse and Tar systems (endemic to North Carolina) (records not yet entered)	a bivalve	SR	-	S1	G1

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Lasmigona decorata P: Catawba and Pee Dee drainages in Union County (endemic to this area and adjacent South Carolina) (Anson*, Cabarrus*, Mecklenburg*, Richmond*, Union)	Carolina Heelsplitter	E	E	S1	G1
Lasmigona holstonia M: Mills River; formerly in Valley Creek in Cherokee County (Cherokee*, Henderson)	Tennessee Heelsplitter	E	FSC	S1	G3
Lasmigona subviridis CPM: Tar, Neuse, and Cape Fear systems downstate; New and Watauga systems in mountains (Alleghany, Ashe, Durham, Edgecombe, Granville, Halifax, Johnston, Nash, Northampton, Orange, Person, Rockingham, Stokes, Wake, Watauga)	Green Floater	E	FSC	S1	G3
Leptodea ochracea CP: a number of systems, primarily in the Coastal Plain; abundant in Lake Waccamaw (Bertie, Chowan, Columbus, Edgecombe*, Gates, Halifax, Hertford, Martin, Northampton, Pitt, Washington)	Tidewater Mucket	T	-	S1	G4
Ligumia nasuta C: Chowan, Roanoke, and Cape Fear systems (Anson, Bertie, Brunswick, Chowan, Gates, Hertford, Nash*, Pitt*, Richmond, Washington)	Eastern Pondmussel	T	-	S1	G4G5
Pegias fabula M: Little Tennessee River; formerly in Valley River in Cherokee County (Cherokee*, Macon, Swain)	Littlewing Pearlymussel	E	E	S1	G1
Pleurobema collina P: Dan and Mayo rivers (Rockingham, Stokes)	James Spinymussel	SR	E	S1	G1
Pleurobema oviforme M: Little Tennessee and Hiwassee drainages (Cherokee, Transylvania)	Tennessee Clubshell	E	FSC	S1?	G3
Sphaerium simile C: White Oak River (Jones, Onslow)	Grooved Fingernailclam	SR	-	S1?	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Strophitus undulatus PC: Tar, Neuse, Cape Fear, and Pee Dee systems, perhaps other systems in Piedmont (Alamance, Anson, Caswell, Chatham, Davidson, Durham, Edgecombe*, Forsyth, Franklin, Granville, Halifax, Harnett, Henderson, Johnston, Jones, Mecklenburg, Montgomery, Moore, Nash, Orange, Person, Pitt, Polk, Randolph, Richmond, Rockingham, Stanly, Surry, Transylvania, Union, Vance, Wake, Warren, Wilson, Yadkin)	Creeper	T	-	S2	G5
Toxolasma pullus PC: a number of Atlantic drainages (Columbus, Montgomery, Orange, Randolph, Union)	Savannah Lilliput	E	FSC	S1	G2
Villosa constricta PC: most Atlantic drainages, mainly in lower Piedmont (Alamance, Burke, Chatham, Durham, Franklin, Granville, Halifax, Harnett, Johnston, Lee*, Montgomery, Moore, Nash, Orange, Person, Randolph, Rockingham, Stanly, Union, Vance, Wake, Warren, Wilson)	Notched Rainbow	SC	-	S3	G3
Villosa delumbis PC: most Atlantic drainages (Alamance, Anson, Bladen, Brunswick, Burke, Cabarrus, Chatham, Cumberland, Duplin, Granville, Mecklenburg, Montgomery, Person, Randolph, Rockingham, Sampson, Stanly, Union)	Eastern Creekshell	SR	-	S3	G4
Villosa iris M: Hiwassee and Little Tennessee drainages; formerly in French Broad drainage (Cherokee, Clay, Jackson, Macon, Swain)	Rainbow	SC	-	S1	G5
Villosa trabalis M: Hiwassee River (Cherokee)	Cumberland Bean	SR	E	S1	G1
Villosa vanuxemensis M: Hiwassee drainage; formerly French Broad drainage (Cherokee)	Mountain Creekshell	T	-	S1	G4
Villosa vaughaniana P: Pee Dee, Catawba, and Cape Fear systems (endemic to North Carolina and adjacent South Carolina) (Alamance, Anson, Cabarrus, Chatham, Mecklenburg, Montgomery, Moore, Randolph, Richmond, Stanly, Union)	Carolina Creekshell	E	FSC	S2	G2

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global

MOLLUSKS – FRESHWATER GASTROPODS

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Amnicola sp 1 C: Lake Waccamaw and adjacent Big Creek (endemic to North Carolina) (Columbus*)	Waccamaw Snail	SC	-	S1	G? [G1Q]
Cincinnatia sp 1 C: Lake Waccamaw and adjacent Big Creek (endemic to North Carolina) (Columbus)	Waccamaw Siltsnail	SC	-	S1	G? [G1Q]
Elimia interrupta M: Hiwassee River and tributaries (Cherokee*)	Knotty Elimia	E	FSC	S1	G1
Ferrissia hendersoni CP: scattered locales in Coastal Plain and Piedmont, but mainly on margins of Carolina bay lakes (records not yet entered)	Blackwater Ancylid	SC	-	S1	G5
Helisoma eucosmium C: Greenfield Lake (formerly), creek in Brunswick County (endemic to North Carolina) (Brunswick, New Hanover*)	Greenfield Rams-horn	E	FSC	S1	G1Q
Leptoxis dilatata M: New River drainage in Ashe, Alleghany, and Watauga counties (Alexander*, Alleghany, Ashe, Watauga)	Seep Mudalia	T	-	S1	G2? [G3]
Leptoxis virgata M?: reported from Hiwassee River, possibly in error	Smooth Mudalia	SR	FSC	SU	G2
Planorbella magnifica C: Orton Pond and pond on Sand Hill Creek; formerly Greenfield Lake (endemic to North Carolina) (Brunswick, New Hanover*)	Magnificent Rams-horn	E	FSC	S1	G1
Somatogyrus virginicus P: Eno River (Durham)	Panhandle Pebblesnail	SR	FSC	S1?	G1G2
Viviparus intertextus C: swamps in Lumber and Waccamaw drainages (Columbus, Robeson)	Rotund Mysterysnail	SR	-	S2?	G3G4

MOLLUSKS – TERRESTRIAL GASTROPODS

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Appalachina chilhoweensis M: southern half of the mountains (Graham+, Haywood+, Madison+, Swain+)	Queen Crater	SC	-	S2	G2
Catinella waccamawensis C: shoreline of Lake Waccamaw (Columbus)	Waccamaw Ambersnail	T	-	S1	GUQ

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Discus bryanti M: Watauga to Madison counties (Buncombe, Madison, Mitchell)	Sawtooth Disc	SC	-	S2	G2
Fumonelix jonesiana M: Newfound Gap area of Great Smoky Mountains National Park (endemic to this area) (Swain*)	Big-tooth Covert	T	-	S1	G1
Fumonelix orestes M: Plott Balsam mountains (endemic to this area) (Haywood, Jackson)	Engraved Covert	T	-	S1	G1
Fumonelix wheatleyi clingmanicus M: Clingmans Dome region of Great Smoky Mountains National Park (endemic to this area) (Swain)	Clingman Covert	T	FSC	S1	G4T3T4
Glyphyalinia clingmani M: Black Mountains of Yancey County (endemic to North Carolina) (Yancey)	Fragile Glyph	E	FSC	S1	G1
Glyphyalinia junaluskana M: southwestern mountains (Cherokee+, Graham+, Macon+, Swain+)	Dark Glyph	SC	-	S2	G2
Glyphyalinia pentadelphia M: southwestern mountains (Cherokee+, Clay+, Graham+, Macon+, Swain+)	Pink Glyph	SC	-	S2	G2G3
Glyphyalinia vanattai M: Avery, Mitchell, and Yancey counties (Avery+, Mitchell+, Yancey+)	Honey Glyph	SC	-	S1S2	G1G2
Haplotrema kendeighi M: southwestern mountains (Macon+, Swain+)	Blue-footed Lancetooth	SC	-	S1S2	G1G2
Helicodiscus bonamicus M: Nantahala Gorge vicinity (endemic to this area) (Graham+, Macon+, Swain+)	Spiral Coil	SC	-	S1	G1
Helicodiscus fimbriatus M: extreme southwestern corner of the state, in Cherokee and Graham counties (Cherokee+, Graham+)	Fringed Coil	SC	-	S2	G2G3
Helicodiscus triodus M: Madison County (Madison)	Talus Coil	SR	-	S1?	G2
Inflectarius downieanus M: northern mountains (Watauga)	Dwarf Globelet	SR	-	S1	G3
Inflectarius ferrissi M: Great Smoky Mountains and Plott Balsams (endemic to these ranges) (Haywood+, Jackson+, Swain+)	Smoky Mountain Covert	T	-	S2	G2
Inflectarius subpalliatus M: central mountains (Avery to Haywood counties) (Avery, Haywood+, Madison, Mitchell, Watauga)	Velvet Covert	SC	-	S2	G2

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Pallifera hemphilli M: high elevation forests, mainly spruce-fir (Avery+, Jackson+, Mitchell+, Swain+, Yancey+)	Black Mantleslug	SC	-	S2	G3
Paravitrea andrewsae M: northern half of the mountains (Avery, Buncombe+, Madison, Mitchell, Watauga, Yancey+)	High Mountain Supercoil	SC	-	S2	G2
Paravitrea clappi M: high elevations in Great Smoky Mountains National Park (Swain+)	Mirey Ridge Supercoil	SC	-	S1S2	G1G2
Paravitrea lacteodens M: Graham County, possibly Cherokee County (endemic to this area) (Graham+)	Ramp Cove Supercoil	SC	-	S1	G1
Paravitrea lamellidens M: southern half of the mountains (Cherokee+, Graham+, Haywood+, Macon+, Swain+, Yancey+)	Lamellate Supercoil	SC	-	S2	G2
Paravitrea placentula M: Madison, Mitchell and Swain counties (Madison, Mitchell, Swain+)	Glossy Supercoil	SC	-	S2	G3
Paravitrea ternaria M: found under moist leaf litter on wooded hillsides and slopes (endemic to Madison County and Unicoi County, Tennessee) (Madison)	Sculpted Supercoil	T	FSC	S1	G1
Paravitrea umbilicaris M: extreme southwestern mountains (Cherokee+, Graham+, Macon+)	Open Supercoil	SC	-	S2	G2
Paravitrea varidens M: Mitchell and Yancey counties (endemic to North Carolina and adjacent Tennessee) (Mitchell*, Yancey+)	Roan Supercoil	T	FSC	S1S2	G1G2
Patera clarki M: southwestern mountains (Cherokee+, Clay+, Graham+, Jackson+, Macon+, Swain+)	Dwarf Proud Globe	SC	-	S2	G3
Patera clarki nantahala M: Nantahala Gorge (endemic to this site) (Swain)	Noonday Globe	T	T	S1	G3T1
Stenotrema depilatum M: Great Smoky Mountains National Park (essentially endemic to this area) (Graham+, Swain+)	Great Smoky Slitmouth	SC	-	S2	G2
Triodopsis fulciden P: southwestern Piedmont (endemic to North Carolina) (Burke+, Catawba+, Cleveland+, Lincoln+)	Dwarf Threetooth	SC	-	S1S2	G1G2

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Triodopsis soelneri C: swampy habitats in the extreme southeastern corner of the state (endemic to North Carolina) (Brunswick, Columbus*, New Hanover)	Cape Fear Threetooth	T	FSC	S2	G2
Triodopsis tennesseensis M: Hot Springs vicinity (Madison)	Budded Threetooth	SR	-	S1S3	G3G4
Valvata sincera P: Pee Dee drainage (Richmond)	a valvatid snail	SR	-	S1	GUQ
Ventridens coelaxis M: northern mountains (Alleghany+, Avery+, Madison, Watauga+)	Bidentate Dome	SC	-	S2	G3
Ventridens collisella M: northern mountains (Mitchell, Watauga)	Sculptured Dome	SR	-	S1	G4
Ventridens lasmodon M: Madison County (Madison)	Hollow Dome	SR	-	S1S3	G3
Zonitoides patuloides M: southwestern mountains (Macon+, Swain+)	Appalachian Gloss	SC	-	S2	G2

ARACHNIDS

This arachnid list is a selective one, concentrating on cave and other montane spiders, and is not intended to be a complete list of the rare arachnids in the state.

Hypochilus coylei M: rock outcrops (apparently endemic to southern mountains of North Carolina) (Buncombe, Henderson, Polk, Rutherford)	a lampshade spider	SR	-	S3?	G3?
Hypochilus sheari M: rock outcrops (apparently endemic to Buncombe, McDowell, and Yancey counties, NC) (Buncombe, McDowell, Yancey)	a lampshade spider	SR	-	S2S3	G2G3
Microhexura montivaga M: in moss of spruce-fir forests (endemic to North Carolina and adjacent Tennessee) (Avery, Caldwell, Mitchell, Swain*, Yancey*)	Spruce-fir Moss Spider	SR	E	S1	G1
Nesticus brimleyi M: caves (endemic to the vicinity of Bat Cave)	a nesticid spider	SR	-	S1?	G1G2
Nesticus carolinensis M: caves (apparently endemic to Linville Caverns) (McDowell*)	Linville Caverns Spider	SR	-	S1	G1?
Nesticus cooperi M: caves and along Nantahala River (apparently endemic to Swain County, NC) (Macon, Swain+)	Lost Nantahala Cave Spider	SR	FSC	S1	G1G2

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Nesticus crosbyi M: spruce-fir forests (apparently endemic to Mount Mitchell)	a nesticid spider	SR	-	S1?	G1?
Nesticus mimus M: rocky areas; known from Grandfather Mountain and Table Rock; also in Virginia	a nesticid spider	SR	-	S2?	G2
Nesticus sheari M: on ground in moist or rich forests (apparently endemic to Graham County, NC)	a nesticid spider	SR	-	S2?	G2?
Nesticus silvanus M: habitat not indicated (apparently endemic to southern mountains of North Carolina)	a nesticid spider	SR	-	S2?	G2?
Nesticus sp 1 M: habitat not indicated (known only from Jackson and Transylvania counties, NC, and Oconee County, SC)	a nesticid spider	SR	-	S2?	G2?

CRUSTACEANS

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Ascetocythere cosmeta M: symbiotic on crayfish in sub-surface waters of burrows (Alleghany*, Avery*)	Grayson Crayfish Ostracod	SR	FSC	S2?	G?
Caecidotea carolinensis P: caves; in McDowell County (McDowell*)	Bennett's Mill Cave Water Slater	SR	FSC	S1	G1G2
Cambarus acanthura M: pools and small creeks in the Hiwassee drainage (records not yet entered)	Spinytail Crayfish	SR	-	S1	G4
Cambarus catagius P: Greensboro area to Uwharries (endemic to North Carolina) (Davidson, Guilford, Montgomery, Randolph)	Greensboro Burrowing Crayfish	SC	-	S2	G3 [G2]
Cambarus chaugaensis M: streams in Savannah drainage (endemic to northwest South Carolina and adjacent North Carolina and Georgia) (Jackson, Macon, Transylvania)	Oconee Stream Crayfish	SC	-	S2	G2 [G3]
Cambarus davidi P: Neuse and Cape Fear drainages (endemic to North Carolina) (Alamance, Caswell*, Chatham, Durham, Harnett, Orange, Rockingham, Wake)	Carolina Ladle Crayfish	SR	-	S2S3	G2G3 [G3]

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Cambarus georgiae M: streams in Little Tennessee drainage (Jackson, Macon)	Little Tennessee River Crayfish	SC	-	S2S3	G1 [G2G3]
Cambarus histricosus S: endemic to streams in the Sandhills (records not yet entered)	Sandhills Spiny Crayfish	SR	-	S2	G2
Cambarus lenati P: streams in the Broad River drainage (endemic to North Carolina) (Cleveland*, Rutherford)	Broad River Stream Crayfish	SR	-	S2	G1G2 [G2]
Cambarus nodosus M: seepages and other mucky areas in Hiwassee drainage (records not yet entered)	Knotty Burrowing Crayfish	SR	-	S2	G4
Cambarus parrishi M: streams in Hiwassee drainage (Cherokee, Clay)	Hiwassee Headwaters Crayfish	SC	FSC	S2S3	G1 [G3G4]
Cambarus reburrus M: streams in upper portions of French Broad drainage, and in one stream in Savannah drainage (endemic to North Carolina) (Buncombe, Henderson, Jackson, Madison, Transylvania)	French Broad River Crayfish	SR	FSC	S2S3	G3G4 [G2G3]
Cambarus spicatus P: streams in Broad River drainage (Cleveland, Polk)	Broad River Spiny Crayfish	SC	-	S2	G3
Cambarus tuckasegee M: streams in Tuckasegee River subdrainage of Little Tennessee River drainage (endemic to North Carolina) (Jackson, Swain)	Tuckasegee Stream Crayfish	SR	-	S1	G1
Cymocythere clavata M: symbiotic on crayfish in mountain streams and rivers (Transylvania*)	Oconee Crayfish Ostracod	SR	FSC	S2?	G?
Dactylocythere isabelae P: symbiotic on crayfish in Lyle Creek in Catawba drainage (endemic to North Carolina) (Catawba*)	Catawba Crayfish Ostracod	SR	FSC	S1?	G?
Dactylocythere prinsi M: cold streams of Savannah drainage in Jackson County (endemic to North Carolina, but possible in adjacent South Carolina and Georgia) (Jackson+)	Whitewater Crayfish Ostracod	SR	FSC	S1	G?
Diacyclops jeanneli putei P: dug well, in Orange County (endemic to North Carolina) (Orange*)	Carolina Well Diacyclops	SR	-	SH	G3G4T1T2
Lynceus gracilicornis C: temporary ponds, pools, and ditches (Craven, New Hanover)	Graceful Clam Shrimp	SR	-	S2?	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Orconectes carolinensis CP: rivers and streams in the Neuse and Tar drainages (Craven*, Edgecombe, Franklin, Granville, Greene*, Halifax*, Johnston, Jones, Lenoir*, Nash*, Pitt*, Vance, Wake*, Warren*, Wilson)	North Carolina Spiny Crayfish	SC	-	S4	G3 [G4]
Orconectes sp 1 M: Cheoah River subdrainage of the Little Tennessee River basin (probably endemic to this area) (records not yet entered)	a crayfish	SR	-	S2?	G?
Orconectes virginiensis C: streams and rivers in the Chowan and Roanoke drainages (Bertie, Granville+, Halifax, Hertford, Martin*, Northampton)	Chowanoke Crayfish	SC	FSC	S3	G3 [G3G4]
Procambarus braswelli C: Waccamaw River and tributary streams (endemic to North Carolina and adjacent South Carolina) (Brunswick, Columbus, Scotland)	Waccamaw Crayfish	SC	-	S2S3	G2G3
Procambarus plumimanus C: rivers, ponds, ditches, and borrow pits in eastern Coastal Plain (endemic to North Carolina) (Carteret*, Craven+, Duplin*, Jones+, New Hanover*, Onslow*, Pender*)	Croatan Crayfish	SR	-	S3	G4
Skistodiaptomus carolinensis M: Lake Ravenel in Macon County (endemic to North Carolina) (Macon)	Carolina Skistodiaptomus	SR	-	S1?	G?
Stygobromus carolinensis M: seeps at Mount Mitchell (endemic to North Carolina) (Yancey+)	Yancey Sideswimmer	SR	FSC	S1	G1G2
Waltoncythere acuta M: symbiotic on crayfish in high gradient rivers and streams in Transylvania County (endemic to North Carolina, but likely occurs in SC) (Transylvania*)	Transylvania Crayfish Ostracod	SR	FSC	S2?	G?

INSECTS – MAYFLIES

Asioplax dolani P: Neuse River (Wayne, Johnston)	a mayfly	SR	-	S2	G4
Baetisca becki PC: Swift Creek (Nash), Fishing Creek (Edgecombe, Halifax)	a mayfly	SR	-	S1	G2
Baetisca laurentina PC: Lower Jacobs Fork (Catawba), Trent River (Jones)	a mayfly	SR	-	SU	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Baetisca obesa C: known in NC only from the lower Tar River (Edgecombe, Pitt)	a mayfly	SR	-	S1	G5
Baetopus trishae no locality data	a mayfly	SR	-	S1	G1
Barbaetis benfieldi M: Jacob Fork (Burke), French Broad River (Buncombe, Transylvania), Caney Fork (Jackson); may be undersampled -- narrow window of collectibility)	Benfield's Bearded Small Minnow Mayfly	SR	-	S1	G2
Cercobrachys etowah P: known in NC only from the Tar River; taxonomically difficult	a caenid mayfly	SR	-	S2	G2
Choroterpes basalis PSC: Waccamaw River (Columbus, Brunswick), Drowning Creek (Moore, Richmond), Bear Creek (Chatham), Lanes Creek (Union), UT Laurens Creek (Union), Dutchmans Creek (?)	a mayfly	SR	-	S2	G5
Dolania americana C: only known NC occurrence is from the Black River; not seen since 1974 (Sampson*)	American Sand Burrowing Mayfly	SR	FSC	SH	G4
Drunella longicornis M: recorded from nine streams and rivers in the mountains, from Watauga River (Watauga) to Williamson Creek (Transylvania) (Avery, Henderson, McDowell, Transylvania, Yancey)	a mayfly	SR	-	S3	G5
Ephemerella berneri PM: probably widespread in clean streams and rivers with Podostemum (Ashe, Buncombe, Burke, Durham, McDowell, Rockingham)	a mayfly	SR	-	S2	G3
Habrophlebiodes spp very small streams; no locality data	Habrophlebiodes mayflies	SR	-	S2	G?
Homoeoneuria cahabensis P: South Fork Yadkin River (Davie), South Fork Catawba River (Lincoln), Hunting Creek (Iredell), Third Creek (Rowan), Second Broad River (Rutherford)	Cahaba Sand-filtering Mayfly	SR	-	S1S2	G2
Macdunnoa brunnea MP: French Broad River (Buncombe), Mills River (Henderson), Hunting Creek (Davie, Iredell), Leepers Creek (Gaston), Yadkin River (Wilkes), Swift Creek (Nash)	a mayfly	SR	-	S2	G3
Serratella spiculosa Reported from the state, but no specimens have been confirmed (Maçon)	Spiculose Serratellan Mayfly	SR	-	S1S2	G2

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Tortopus puella P: only one NC specimen known, from Tar River (Franklin*)	a mayfly	SR	-	S1	G4

INSECTS – STONEFLIES

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Attaneuria ruralis MS: Cataloochee Creek (Haywood), West Fork Pigeon River (Haywood), South Fork New River (Ashe), Naked Creek (Richmond)	a stonefly	SR	-	S2	G4
Bolotoperla rossi M: known from eight streams and rivers in the mountains, from Ashe County to Transylvania County (Alleghany, Ashe, Caldwell, McDowell, Transylvania, Watauga)	a stonefly	SR	-	S3	G4
Isoperla frisoni MP: known from six streams and rivers in the mountains, from Ashe County to Macon County; also found in the Dan River (Ashe, Macon, Transylvania)	a stonefly	SR	-	S3	G5
Isoperla lata M: recent state records from Fires Creek (Clay) and Big Creek (Haywood)	a perlid stonefly	SR	-	S3	G5
Megaleuctra williamsae M: UT Cullasaja River (Macon), Cove Creek (Haywood), Mull Creek (Jackson), Beech Flats Prong (Swain); possibly undersampled -- semi-aquatic	Williams' Rare Winter Stonefly	SR	-	S1	G2
Perlinella ephyre PSC: known from eight streams and rivers in the Sandhills and inner Coastal Plain; also occurs in Flat River (Person) and Terrible Creek (Wake)	a stonefly	SR	-	S3	G5
Zapada chila M: small streams – Beech Flats Prong (Swain), also in Ashe County; hard to identify and may be undersampled	a stonefly	SR	-	S1S2	G2

INSECTS – CADDISFLIES

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Ceraclea cancellata PSC: Naked Creek (Richmond*), Roanoke River (Bertie), Ellis and Turnbull creeks (Bladen)	a caddisfly	SR	-	S1S2	G?

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Ceraclea mentiea MP: Big Horse Creek (Ashe), North and South Forks of New River (Ashe, Alleghany), Mayo River (Rockingham)	a caddisfly	SR	-	S2	G?
Ceraclea slossonae M: North Fork New River (Ashe), Johns River (Burke); may be more numerous but difficult to identify	a caddisfly	SR	-	S2?	G?
Dibusa angata P: South Yadkin River (Davie, Rowan), Eno River (Durham), Little River (Wake), Little River (Durham), Cane Creek (Orange)	a caddisfly	SR	-	S3	G?
Diplectrona metaqui P: known in NC only from Hanging Rock State Park (Stokes), but has possibly been undersampled -- occurs in small streams	a diplectronan caddisfly	SR	-	S1	G?
Manophylax altus M: recorded only from Mt. Mitchell (Yancey), but probably occurs elsewhere	Mount Mitchell Caddisfly	SR	-	S1	G?
Matrioptila jeanae PM: known from ten streams and rivers in the Mountains and Piedmont; poorly sampled due to occurrence in small streams (Burke, Clay, Henderson, Johnston, Macon, Transylvania)	a caddisfly	SR	-	S3	G?
Micrasema burksi M: known from eleven streams in the Mountains, from Avery County to Clay County (Avery, Buncombe, Caldwell, Clay, Haywood, Jackson, Macon, Swain, Yancey)	a caddisfly	SR	-	S3	G?
Micrasema sprulesi PM: known from eight streams and rivers, primarily in the Mountains but also in the Mayo River (Burke, Henderson, Macon, McDowell, Rockingham, Surry, Yancey)	a caddisfly	SR	-	S3	G?
Palaeagapetus celsus M: Wilson Creek (Avery), Boone Fork (Watuaga); may be undersampled due to occurrence in small streams	a caddisfly	SR	-	S2	G?
Rhyacophila amicis M: Cullasaja River (Macon), Nantahala River (Macon, Clay), Whiterock Creek (Jackson), Spainhour Creek (Caldwell), North Toe River (? County), Deep Creek (? County), Oconoluftee River (Swain)	a caddisfly	SR	-	S2	G?

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Rhyacophila mainensis M: rivers and streams (Clay, Haywood, Henderson, Macon, McDowell, Swain, Transylvania, Yancey)	a caddisfly	SR	-	S2	G?
Rhyacophila vibox MP: Whiteoak Creek (Macon), Mitchell River (Surry)	a rhyacophilan caddisfly	SR	-	S1S2	G?
Triaenodes marginata PSC: Stewart Creek (Mecklenburg), Long Creek (Gaston), Whiteoak Creek (Polk); Lumber River (Robeson), UT Hitchcock Creek (Richmond), Mill Creek (Moore)	a triaenode caddisfly	SR	-	S3	G?

INSECTS – DRAGONFLIES

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Aeshna tuberculifera M: boggy or marshy ponds (Burke+, Wilkes+)	Black-tipped Darner	SR	-	S1S2	G4
Aeshna verticalis M: marshy ponds (Burke+, Henderson+)	Green-striped Darner	SR	-	S1S2	G5
Cordulia shurtleffii M: ponds, lakes, bogs (Burke+)	American Emerald	SR	-	S1?	G5
Dromogomphus spoliatus M?: rivers, creeks, ponds	Flag-tailed Spinyleg	SR	-	SR	G4G5
Gomphus abbreviatus PC: rivers (Chatham+, Cumberland+, Durham+, Lee+, Mecklenburg+, Montgomery+, Moore+, Person+, Randolph+, Union+)	Spine-crowned Clubtail	SR	-	S3?	G3G4
Gomphus adelphus M: small rivers with rapids (Avery+, Haywood+, Madison+, Yancey+)	Moustached Clubtail	SR	-	S1S2	G4
Gomphus australis C: lakes and ponds (Brunswick+, New Hanover+)	Clearlake Clubtail	SR	-	S2?	G4
Gomphus borealis M: lakes, ponds, streams (Mitchell*)	Beaverpond Clubtail	SR	-	SH	G4
Gomphus cavillaris brimleyi C: sand-bottomed lakes and streams (Bladen+, Brunswick+)	Brimley's Clubtail	SR	-	S1S2	G4T3
Gomphus consanguis MP: small spring-fed streams (Burke+, Davie+)	Cherokee Clubtail	SR	FSC	S1S2	G2G3
Gomphus descriptus M: large streams and rivers (Avery+, Haywood+)	Harpoon Clubtail	SR	-	S1?	G4
Gomphus fraternus P: rocky rivers (Anson+, Stanly+)	Midland Clubtail	SR	-	S1?	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Gomphus lineatifrons MP: rivers (Alleghany+, Ashe+, Avery+, Durham, Haywood+, Orange)	Splendid Clubtail	SR	-	S2S3	G4
Gomphus quadricolor P: rocky rivers (Chatham+, Moore+)	Rapids Clubtail	SR	-	S1S2	G3G4
Gomphus septima P: rivers (Chatham, Durham*, Lee)	Septima's Clubtail	SR	FSC	S1S3	G2
Gomphus ventricosus P: rivers (Caswell+, Franklin+, Vance+)	Skillet Clubtail	SR	-	S1S2	G3
Gomphus viridifrons M: rivers (Alleghany+, Ashe+)	Green-faced Clubtail	SR	-	S1S2	G3
Lanthus parvulus M: small spring-fed streams	Northern Pygmy Clubtail	SR	-	SR	G4
Libellula julia M: bogs, marshes (Jackson)	Chalk-fronted Corporal	SR	-	S1	G5
Macromia margarita PM: rivers (Burke, Caldwell+, Macon+, Transylvania)	Mountain River Cruiser	SR	FSC	S2S3	G3
Neurocordulia molesta C: rivers (Bladen+, Cumberland+, Edgecombe+, Harnett+, Lenoir+, Richmond+, Sampson+, Wayne+)	Smoky Shadowdragon	SR	-	S2S3	G4
Neurocordulia virginiensis P: large rivers (Chatham+, Durham+, Halifax+, Harnett+, Nash+)	Cinnamon Shadowdragon	SR	-	S2S3	G4
Neurocordulia yamaskanensis M: rivers (Alleghany+, Madison+)	Stygian Shadowdragon	SR	-	S1S2	G5
Ophiogomphus aspersus M: rapids of rivers and streams (Alleghany+, Ashe, Haywood+)	Brook Snaketail	SR	-	S1S2	G3G4
Ophiogomphus edmundo M: Blue Ridge Escarpment streams (Burke, Caldwell)	Edmund's Snaketail	SR	FSC	S1?	G1G2
Ophiogomphus howei M: rivers (Alleghany, Ashe, Burke)	Pygmy Snaketail	SR	FSC	S1S2	G3
Ophiogomphus mainensis M: rapids of rivers and streams (Burke+, Caldwell+, Haywood+, Mitchell+, Watauga+, Yancey+)	Maine Snaketail	SR	-	S2?	G4
Ophiogomphus rupinsulensis M: streams	Rusty Snaketail	SR	-	SR	G5
Progomphus bellei C: sand-bottomed lakes and streams (Bladen)	Belle's Sanddragon	SR	FSC	S1	G3
Somatochlora elongata M: slow to moderate streams (Avery+, Burke+, Clay+, Jackson+, Macon+)	Ski-tailed Emerald	SR	-	S2S3	G5
Stylurus notatus P: large rivers	Elusive Clubtail	SR	FSC	SR	G3
Stylurus scudderi M: streams and rivers (Ashe+, Avery+, Jackson+, Macon+, Swain+, Wilkes+)	Zebra Clubtail	SR	-	S3?	G4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Stylurus townesi C: small rivers (Columbus+, Robeson+)	Townes' Clubtail	SR	FSC	S1?	G3
Sympetrum obtrusum M: boggy or marshy ponds and lakes (Watauga+)	White-faced Meadowhawk	SR	-	S1?	G5

INSECTS – DAMSELFLIES

Enallagma minusculum C: lakes and ponds (Bladen+)	Little Bluet	SR	-	S1?	G3G4
Enallagma sulcatum C: ? (Columbus+)	Golden Bluet	SR	-	S1?	G4
Lestes congener M: ? (Alleghany+)	Spotted Spreadwing	SR	-	S1?	G5

INSECTS – FLIES

Eulonchus marialiciae M: high elevation hardwood-hemlock forests (endemic to North Carolina) (Haywood, Jackson, Macon*, Swain, Transylvania)	Mary Alice's Small-headed Fly	SR	-	S1S3	G1G3

INSECTS – MOTHS

Acronicta albarufa P: oak glades and barrens	Barrens Daggermoth	SR	-	SH	G3G4
Acronicta sinescripta C: savannas and flatwoods (Brunswick+, Pender+)	a dagger moth	SR	-	S1S3	G?
Agrotis sp 1 nr buchholzi SC: flatwoods with pyxie-moss (Bladen+, Brunswick, Craven+, Onslow+, Pender)	a dart moth	SR	FSC	S2S3	G2G3
Amphipyrinae new genus 2 sp 3 C: woodland canebrakes	a canebrake moth	SR	-	S2S3	G?
Amphipyrinae new genus 4 sp 1 C: woodland canebrakes	a canebrake moth	SR	-	S2S3	G?
Anacamptodes cypressaria C: cypress swamps (Brunswick+, Dare, Martin+)	an inchworm moth	SR	-	SU	G2G4
Apamea inebriata C: sedge meadows	a noctuid moth	SR	-	S1S2	G3G4
Apamea mixta C: savannas	an owlet moth	SR	-	S2?	GU
Apantesis sp. 1 nr. carlotta C: savannas and sandhill seeps	a tiger moth	SR	-	S2?	G4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Callosamia securifera C: pocosins and other wetlands with sweetbay (Bladen+, Brunswick+, Hoke+, Washington+)	Sweetbay Silkmoth	SR	-	S2S3	G4
Catocala amestris C: sand ridges and flatwoods with leadplant (New Hanover+)	Three-staff Underwing	SR	-	S1S2	G4
Catocala dulciola M: forests with hawthorns (Alleghany*)	Sweet Underwing	SR	-	SU	G3
Catocala grisatra C: sandhills and dry woods with hawthorns (Bladen+)	Grisatra Underwing	SR	-	S1S3	G2G3
Catocala herodias gerhardi M: oak forests, particularly with bear oak (Quercus ilicifolia) (Stokes+)	Herodias Underwing	SR	-	SU	G3T3
Catocala jair SC: xeric pine-oak sandhills (New Hanover+, Richmond+)	Jair Underwing	SR	-	S1S3	G4
Catocala lincolnana C: wooded areas with hawthorns (Brunswick+, Martin+, Pender+)	Lincoln Underwing	SR	-	S2S3	G3
Catocala louiseae C: flatwoods and other habitats with blueberries (Bladen+)	Louise's Underwing	SR	-	S1S3	G4
Catocala marmorata C: swamp forests with swamp cottonwood (Brunswick+, Martin+, New Hanover+)	Marbled Underwing	SR	-	S1S3	G3G4
Catocala messalina T: maritime forests and xeric sandhills (Dare*, New Hanover+)	Messalina Underwing	SR	-	S2?	G4
Cerma cora C: levee forests with hawthorn (Martin+, New Hanover+)	a bird-dropping moth	SR	-	S2S3	G3G4
Chaetaglaea fergusoni C: sandhills? (Brunswick+, New Hanover+)	a bird-dropping moth	SR	-	SU	G4
Cyclophora sp 1 (*culicaria* of authors) C: flatwoods with sand-myrtle (Leiophyllum) (Brunswick+)	Sand-myrtle Geometer	SR	-	S2S3	G3G4
Doryodes sp 1 C: brackish marshes (Brunswick+, Carteret+, New Hanover+, Onslow+)	a new owlet moth	SR	-	S3?	G3G4
Drasteria graphica T: maritime shrub thickets (Brunswick+, New Hanover+)	Graphic Moth	SR	-	S2S3	G4
Dysgonia similis C: pocosins and flatwoods (Brunswick+, Carteret+, Dare, Onslow+, Pender+, Washington+)	an owlet moth	SR	-	S2S3	G3G4
Eubaphe meridiana C: savannas	The Little Beggar	SR	-	S2S3	G4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Euchlaena milnei M: unknown	Milne's Euchlaena	SR	-	S1S3	G2G4
Eupithecia peckorum C: sandhills and flatwoods (Brunswick+, New Hanover+, Pender+)	an inchworm moth	SR	-	S2?	G?
Euxoa violaris C: beach dunes	Violet Dart	SR	-	S2S3	G4
Exyra semicrocea C: wetlands with pitcher-plants (Bladen+, Brunswick+, Onslow+, Pender+)	a pitcher-plant moth	SR	-	S2S3	G3G4
Gabara sp 1 C: savannas and flatwoods (Brunswick+, Onslow+, Pender+)	an owlet moth	SR	-	SU	GU
Grammia phyllira C: sandhills	Phyllira Tiger Moth	SR	-	S2S3	G4
Grammia placentia SC: sandhills	Placentia Tiger Moth	SR	-	S2S3	G4
Heliomata infulata MPC: unknown habitat	Rare Spring Moth	SR	-	S2S3	G2G4
Hemeroplanis sp 1 nr obliqualis CP: unknown habitat	an owlet moth	SR	-	S2S3	G?
Hemipachnobia monochromatea C: cranberry bogs and northern low pocosins (Dare)	Sundew Cutworm Moth	SR	-	S1?	G4
Hemipachnobia subporphyrea C: savannas with Venus flytraps (Bladen+, Brunswick+, Carteret+, Pender)	Venus Flytrap Cutworm Moth	SR	FSC	S1?	G1
Hepialus sciophanes M: spruce-fir forests	a ghost moth	SR	-	S1S3	GU
Heterocampa varia SC: xeric pine-oak sandhills	a prominent moth	SR	-	SH	G3G4
Hypagyrtis brendae C: Atlantic white cedar forests (Dare)	Brenda's Hypagyrtis	SR	-	S2S3	G4
Hypomecis buchholzaria C: fire-maintained glades and barrens	Buchholz's Gray	SR	-	SH	G3G4
Itame subcessaria M: high elevation forests with gooseberries	Barred Itame	SR	-	S1S3	G4?
Lagoa pyxidifera C: savannas, flatwoods, and sandhills (Brunswick+, Pender+)	Yellow Flannel Moth	SR	-	S2S3	G?
Lithophane georgii M: spruce-fir forests (Yancey+)	a pinion moth	SR	-	S1?	G5
Lithophane laceyi C: swamp forests (Brunswick+, New Hanover+, Pender+)	a pinion moth	SR	-	S1S3	G4?
Lithophane lemmeri CP: cedar glades and Atlantic white cedar forests (Craven, Wake+)	Lemmer's Pinion	SR	-	S1S3	G3G4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Macrochilo louisiana C: grassy wetlands (Dare, New Hanover+, Onslow+, Pender+)	Louisiana Owlet Moth	SR	-	S2S3	G4
Macrochilo sp 1 nr absorptalis C: sedge meadows	a noctuid moth	SR	-	S1S2	G3
Meropleon cinnamicolor TC: coastal marshes (Carteret)	an owlet moth	SR	-	S2S3	GU
Meropleon diversicolor sullivani T: coastal marshes (Brunswick+, Craven+)	an owlet moth	SR	-	S1S3	G4T1T3
Metarranthis lateritiaria C: flatwoods and pocosins (Brunswick, Dare+, Onslow+, Pender)	an inchworm moth	SR	-	S1S3	G2G4
Metarranthis sp 1 C: pocosins (Brunswick+, Dare, New Hanover+, Washington+)	a new inchworm moth	SR	-	S2S3	G3
Nematocampa baggetaria C: unknown habitat (Brunswick+, Onslow+, Pender+)	Baggett's Nematocampa	SR	-	SU	G2G4
Nemoria tuscarora M: unknown habitat	Tuscarora Emerald	SR	-	S1S3	GU
Papaipema appassionata C: wetlands with pitcher-plants	Pitcher-plant Borer Moth	SR	-	S2?	G4
Papaipema duplicata M: rich woods with <u>Collinsonia canadensis</u>	Dark Stoneroot Borer Moth	SR	-	SH	G2G4
Papaipema eryngii C: savannas (Pender+)	Rattlesnake-master Borer Moth	SR	-	S1	G1G2
Phragmatiphila interrogans C: canebrakes (Carteret+)	an owlet moth	SR	-	S2?	G3G4
Ptichodis bistrigata C: xeric sandhills (Bladen+, Brunswick+, New Hanover+, Onslow+)	Southern Ptichodis	SR	-	S2S3	G3
Pygarctia abdominalis C: flatwoods? (Brunswick+, Onslow+, Pender+)	Yellow-edged Pygarctia	SR	-	S2S3	G3G4
Pyreferra ceromatica C: flatwoods and pocosins with <u>Fothergilla</u>? (Craven+)	Annointed Sallow Moth	SR	FSC	S1S3	GU
Schinia carolinensis C: savannas	Carolina Schinia	SR	-	S2S3	G?
Schinia jaguarina C: savannas and sandhills	Jaguar Flower Moth	SR	-	S1S3	G4
Schizura apicalis C: unknown habitat	Plain Schizura	SR	-	S1S3	G2G4
Schizura sp 1 PC: unknown habitat (Brunswick+, Onslow+, Wake+)	a new prominent moth	SR	-	S1S3	G3G4
Semiothisa fraserata M: spruce-fir forests	Fraser Fir Geometrid Moth	SR	-	S1S2	G2Q

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Spartiniphaga carterae C: savannas and sandhills with pinebarrens sandreed (Calamovilfa brevipilis) (Bladen+, Brunswick+, Carteret*, Pender)	Carter's Noctuid Moth	SR	FSC	S2S3	G2G3
Tornos cinctarius C: unknown habitat	a gray	SR	-	S2?	G?
Trichosilia manifesta C: sandhills (Brunswick+, New Hanover+, Onslow+, Pender+)	an owlet moth	SR	-	S2S3	G4
Zale declarans T: maritime forests with live oak (Brunswick+, Carteret+, Dare+, New Hanover+)	an owlet moth	SR	-	S2S3	G5

INSECTS – BUTTERFLIES

Amblyscirtes alternata SC: open pine woods, savannas; host plants -- unknown, but presumably grasses (Brunswick, Cumberland, Jones+, Moore, New Hanover+, Onslow, Pender, Richmond, Scotland)	Dusky Roadside-Skipper	SR	-	S2	G3G4
Amblyscirtes reversa CSP: flatwoods, savannas, pocosin borders, near cane; host plant -- cane (Arundinaria) (Beaufort, Bertie+, Brunswick, Carteret, Craven, Cumberland, Dare, Franklin, Gaston+, Hoke, Martin+, Moore, Onslow, Pender, Richmond, Robeson*, Scotland)	Reversed Roadside-Skipper	SR	-	S3	G3G4
Atrytone arogos arogos SC: savannas, open pinewoods, and other relatively undisturbed grasslands; host plants -- grasses, mainly pinebarrens sandreed (Calamovilfa brevipilis) (Brunswick+, Carteret, Moore*, New Hanover+, Richmond+)	Arogos Skipper	SR	FSC	S1	G3G4T1T2
Atrytonopsis loammi CT: grassy areas near the coast; host plants presumed to be Andopogon grasses (Brunswick, New Hanover+)	Loammi Skipper	SR	FSC	S1?	G2G3
Atrytonopsis sp 1 T: dunes and sandy flats; host plant -- seaside little bluestem (Schizachyrium littorale) (Carteret, Onslow)	an undescribed skipper	SR	FSC	S1	G1?

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Autochton cellus MPC: moist woods near streams; host plant -- hog peanut (Amphicarpa bracteata) (Alleghany, Burke+, Caswell, Gaston+, Graham, Haywood, Macon, Madison+, Mitchell, Orange*, Pitt+, Polk+, Swain)	Golden Banded-Skipper	SR	-	S1S2	G4
Calephelis virginiensis C: savannas and pine flatwoods; host plant -- vanilla-plant (Trilisa odoratissima) (Brunswick, Carteret, Craven, Cumberland+, Dare+, Moore+, New Hanover, Onslow, Pender)	Little Metalmark	SR	-	S2	G4
Callophrys hesseli SC: Atlantic white cedar swamps; host plant -- white cedar (Chamaecyparis thyoides) (Bladen, Brunswick, Camden, Columbus, Cumberland*, Dare, Gates+, Hoke*, Moore, Pender, Richmond, Scotland, Tyrrell+, Washington+)	Hessel's Hairstreak	SR	-	S3	G3G4
Callophrys irus SCPM: open woods and borders, usually in dry situations; host plants -- lupines (Lupinus) and wild indigos (Baptisia) (Brunswick, Buncombe+, Cherokee+, Craven+, Cumberland+, Franklin, Gates+, Jones, Moore, Pender, Polk+, Richmond+, Scotland)	Frosted Elfin	SR	-	S2	G3
Celastrina nigra M: rich, moist deciduous forests; host plant -- goat's-beard (Aruncus dioicus) (Buncombe+, Clay, Graham, Haywood, Macon, Mitchell, Polk, Swain*, Transylvania+)	Dusky Azure	SR	-	S2?	G4
Chlosyne gorgone M: woodland openings and borders; host plants -- sunflowers, rosinweeds, and other tall composites (Clay, Macon)	Gorgone Checkerspot	SR	-	S1?	G5
Erora laeta M: deciduous forests, especially along roads or edges at high elevations; host plants -- mainly American beech (Fagus grandifolia) (Alleghany+, Ashe, Avery, Buncombe+, Clay, Haywood, Jackson, Macon, Mitchell, Swain+, Transylvania+)	Early Hairstreak	SR	-	S2S3	G3G4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Erynnis martialis MPSC: upland woods and wooded edges; host plant -- New Jersey tea (Ceanothus americanus) (Alleghany, Brunswick+, Buncombe+, Caswell, Craven+, Cumberland, Durham, Franklin, Gaston+, Granville, Henderson, Macon+, Montgomery, Moore+, Polk, Richmond+, Rutherford, Surry, Wake+, Warren, Yadkin)	Mottled Duskywing	SR	-	S3	G3G4
Euchloe olympia M: high elevation openings and glades; host plants -- mainly cresses (Arabis) (Swain)	Olympia Marble	SR	-	S1	G4G5
Euphydryas phaeton M: bogs, marshes, wet meadows; rarely in upland woods; host plants -- turtlehead (Chelone) and false foxglove (Aureolaria) (Alleghany, Ashe, Avery, Buncombe+, Haywood, Henderson, Jackson, Macon, Mitchell, Polk+, Transylvania*, Watauga)	Baltimore Checkerspot	SR	-	S2	G4
Euphyes berryi C: wet areas near ponds, canals, or marshes; host plant -- not known, but probably sedges (Carteret, Craven, Dare, Hyde)	Berry's Skipper	SR	-	S1?	G3G4
Euphyes bimacula CSP: marshes, wet savannas, sedgy areas near wet woods; host plants -- sedges (Carex) (Brunswick, Carteret, Craven, Gates+, Harnett, Johnston, Jones+, Moore+, Pender, Vance)	Two-spotted Skipper	SR	-	S2	G4
Euphyes dukesi dukesi CT: ecotones of brackish or fresh marshes with swamps; host plants -- sedges (Carex) (Beaufort, Brunswick, Craven+, Currituck)	Dukes' Skipper	SR	-	S1S2	G3T3
Fixsenia favonius favonius T: maritime forests along southern coast; host plant -- oaks, especially live oak (Quercus virginiana) (Brunswick+)	Southern Oak Hairstreak	SR	-	S1?	G4T4
Fixsenia favonius ontario MPSCT: oak-dominated woods, usually in dry sites; host plants -- oaks (Quercus) (Alleghany, Brunswick, Camden+, Carteret+, Caswell, Cleveland, Cumberland+, Currituck+, Dare*, Hoke, Hyde+, Montgomery, Moore, New Hanover, Orange, Pender+, Richmond, Wilkes)	Northern Oak Hairstreak	SR	-	S3?	G4T4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Hesperia attalus slossonae SC: pine/oak sandhills, flatwoods, mainly in Sandhills; host plants -- grasses (Brunswick+, Craven+, Cumberland, Hoke, Moore+, Pender+, Richmond, Scotland)	Dotted Skipper	SR	-	S2S3	G3G4T3
Hesperia meskei SC: open pine woods, especially in Sandhills; host plants -- grasses (Bladen, Cumberland*, Hoke, Moore, Onslow+, Richmond, Scotland)	Meske's Skipper	SR	-	S3	G2G4
Megathymus cofaqui cofaqui P: monadnocks with yucca; host plant -- Yucca filamentosa (Alexander, Polk*)	Cofaqui Giant-Skipper	SR	-	S1?	G3G4T3
Neonympha mitchellii francisci S: boggy areas, overgrown beaver ponds, and pocosin margins with sedges in sandhills; host plants -- sedges (taxon endemic to North Carolina) (Cumberland, Hoke)	Saint Francis' Satyr (full species = Mitchell's Satyr)	SR	E	S1	G1G2T1
Papilio cresphontes TCPM: primarily coastal in maritime forests or thickets; host plants -- prickly ash (Zanthoxylum), hoptree (Ptelea) (Alexander, Ashe, Brunswick, Carteret, Cherokee+, Currituck+, Dare, Hyde, New Hanover, Onslow, Orange*, Wake+)	Giant Swallowtail	SR	-	S2	G5
Phyciodes batesii maconensis M: rocky ridges, woodland openings, at higher elevations; host plants -- asters, mainly Aster undulatus (Buncombe*, Clay, Graham, Haywood, Jackson, Macon, Swain)	Tawny Crescent	SR	FSC	S2	G4T1T3
Phyciodes cocyta M: rocky areas (in Appalachians), but habitat poorly known; host plants -- asters (Buncombe+)	Northern Crescent	SR	-	SU	G5
Phyciodes texana seminole C: river floodplains; host plants -- Acanthaceae (Brunswick, Columbus)	Seminole Texan Crescent	SR	-	S1?	G5T3T4
Poanes aaroni aaroni T: brackish marshes along northern coast and sounds; host plants -- grasses, perhaps saltgrass (Distichlis spicata) (Currituck+, Dare, Hyde)	Aaron's Skipper	SR	-	S1S2	G4T4
Polygonia faunus smythi M: spruce, fir, or hemlock forests, where mixed with hardwoods; host plants -- mainly birches (Avery*, Buncombe, Graham, Haywood, Henderson+, Macon, Swain+, Transylvania*, Watauga+, Yancey)	Smyth's Green Comma	SR	-	S2	G5T3T4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Polygonia progne M: rich deciduous forests; host plants -- mainly gooseberries (Ribes), but also on wild azalea (Rhododendron nudiflorum) (Avery, Buncombe, Clay, Madison+, Mitchell+, Swain+)	Gray Comma	SR	-	S1	G5
Problema bulenta T: fresh to brackish marshes with tall grasses in Wilmington area; host plant -- wild rice (Zizania aquatica), probably other tall grasses (Brunswick, New Hanover)	Rare Skipper	SR	FSC	S1	G2G3
Pyrgus wyandot M: openings and edges in wooded hilltops; host plants -- Rosaceae, such as cinquefoil (Potentilla) (Polk*, Transylvania*)	Appalachian Checkered-Skipper	SR	FSC	SH	G2
Satyrium caryaevorum M: mid- to high elevation deciduous forests; host plants -- hickories (Carya) (Buncombe, Macon+, McDowell, Watauga)	Hickory Hairstreak	SR	-	S1?	G4
Satyrium edwardsii SM: scrubby or xeric oak woods; host plants -- oaks (Quercus) (Cumberland, Hoke*, Macon, Moore, Polk+, Sampson, Scotland, Transylvania*, Watauga+)	Edwards' Hairstreak	SR	-	S2?	G4
Satyrium kingi SCPM: forests, often moist, usually near sweetleaf; host plant -- sweetleaf (Symplocos) (Brunswick, Carteret+, Craven, Cumberland, Dare*, Gaston, Hoke, Moore, Onslow+, Pender+, Richmond, Scotland, Transylvania+)	King's Hairstreak	SR	-	S2S3	G3G4
Speyeria aphrodite cullasaja M: forest openings and edges west of the Little Tennessee River; host plants -- violets (Viola) (Clay, Macon+)	Cullasaja Aphrodite Fritillary	SR	-	S1?	G5T1
Speyeria idalia M: wet or dry meadows, bogs, open hilltops; host plants -- violets (Viola) (Alleghany*, Ashe*, Avery, Wilkes*)	Regal Fritillary	SR	FSC	SH	G3

INSECTS – GRASSHOPPERS AND KATYDIDS

Eotettix pusillus C: sandhills (wet swales?)	Little Eastern Grasshopper	SR	-	S2?	G2G3
Melanoplus angustipennis impiger C: sandhills	Narrow-winged Melanoplus	SR	-	S1S3	G5T?
Melanoplus attenuatus C: wet swales in pinewoods	Slender-bodied Melanoplus	SR	-	S1S3	G2G3

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Melanoplus cherokee M: woodlands, 1800' - 5100'	Cherokee Melanoplus	SR	-	S1S3	G1G3
Melanoplus decorus C: savannas, flatwoods, low pocosins (Dare)	Decorated Spur-throat Grasshopper	SR	-	S2S3	G3G4
Melanoplus divergens M: glades and balds, 1800' - 4717'	Divergent Melanoplus	SR	-	S1S3	G2G3
Melanoplus mirus PC: open woodlands	a short-winged melanoplus	SR	-	S2S3	G2G3
Melanoplus nigrescens CT: pinewoods and maritime forests	Black-sided Spur-throat Grasshopper	SR	-	S1S3	GU
Melanoplus nubilus C: flatwoods, savannas, sandhills	a short-winged melanoplus	SR	-	S2S3	G2G3
Melanoplus serrulatus M: valleys and lower slopes, Nantahala Mountains	Serrulate Melanoplus	SR	-	S1S3	G1G3
Melanoplus viridipes eurycerus M: woodlands and forest edges	Green-legged Melanoplus	SR	-	S1S3	G4T4
Montezumina modesta C: pinewoods and other habitats	Montezuma Katydid	SR	-	SU	GU
Scudderia septentrionalis M: forests	Northern Bush Katydid	SR	-	SH	G3?
Stethophyma celatum C: bogs, wet tallgrass prairies (Pender)	Broad-winged Sedge Grasshopper	SR	-	S1S2	G4
Trimerotropis saxatilis M: lichen-covered rock outcrops (Transylvania)	Rock-loving Grasshopper	SR	-	S1S2	G3?

INSECTS – BEETLES

Cicindela lepida T: sand dunes along northern coast	Little White Tiger Beetle	SR	-	S1?	G4
Cicindela patruela no location data; sandy soil in open pine or pine oak woods	a tiger beetle	SR	-	S2?	G3
Lordithon niger no location data	Black Lordithon Rove Beetle	SR	-	SH	GU
Nicrophorus americanus M: sites with abundance of small vertebrate carrion	American Burying Beetle	SR	E	SH	G2G3
Stenelmis gammoni M: South Fork New River (Ashe*)	Gammon's Stenelmis Riffle Beetle	SR	FSC	S1	G1G3

INSECTS – TRUE BUGS

Chlorochroa dismalia C: swamps, bottomlands, flatwoods (Craven, Harnett*, Hyde*, Onslow*)	Dismal Swamp Green Stink Bug	SR	-	S1?	GU

NORTH CAROLINA ANIMAL WATCH LIST

The *North Carolina Animal Watch List* includes animals that are rare or uncommon, are not well-studied, or are otherwise threatened with serious decline, but that are not placed on the List of Rare Animals of North Carolina by the NC NHP. Watch List species are additional indicators of significant habitats, and their presence should be considered in planning natural area protection efforts, though obviously with less weight than higher priority rare species and natural communities. The NC NHP maintains paper files on these species, but does not include them in its map and computer files. Animals placed on this list fall into a number of categories, as discussed below. The NC NHP requests additional information about these species in order to clarify their status and reclassify them into other appropriate and more specific categories.

Reasons for the current placement of species on the Watch List rather than at a higher rarity status (Endangered, Threatened, Special Concern, Significantly Rare) are varied. For many of them, the Natural Heritage Program lacks adequate documentation of their historic or present occurrence in North Carolina; this is especially true for invertebrates. Others are known to be rare or uncommon in North Carolina, but may or may not be declining. Some others may not be necessarily rare as yet, but they are undergoing significant losses of their habitat, such as animals of the spruce-fir forest, or are undergoing significant disturbances to their habitat, such as human disturbances to beach-nesting birds.

The following five Watch Categories have been devised to indicate the reasons for each species' current placement(s). These categories and the descriptions of them have been developed by the NC NHP.

A number of species have been placed in two Watch Categories, because it is believed they may be "in trouble" for at least two reasons. For example, the Red-breasted Nuthatch has a rather small breeding population in the state, in the higher elevations of the mountains, giving it a W2 status. However, as a portion of the breeding population occurs in the spruce-fir zone, which is undergoing degradation of the canopy, it is also given a W5 status, as well.

<u>Watch Category 1 (W1)</u> includes species that are known to be declining in North Carolina, for one reason or another. The distribution or population sizes of such species in the state are fairly well known; loss of habitat is not necessarily a factor. A large number of species are known to be declining in the state, such as Neotropical migrant birds, but the species in this category must have an N.C. Rank of S3S4 or higher (S3, S2, S1, etc.). Examples: American Black Duck, Slender Glass Lizard.

<u>Watch Category 2 (W2)</u> includes species that are rare to uncommon in North Carolina, but are not necessarily considered to be declining or otherwise in trouble. Generally speaking, the distribution or population sizes of such species in the state are fairly well known. Examples: Baltimore Oriole, Coal Skink, Spotted Sunfish.

<u>Watch Category 3 (W3)</u> includes species that are poorly known in North Carolina, but are not necessarily considered to be declining or otherwise in trouble. The distribution and population sizes of such species are not well known; this is especially true for a large number of invertebrates, as well as secretive or nocturnal vertebrates. Examples: Striped Mud Turtle, Sandhills Salamander, Regal Darner.

<u>Watch Category 4 (W4)</u> includes species reported from North Carolina without adequate documentation. These species should be listed at a higher level, if their reported occurrence in North Carolina is true. This category includes sight records of uncertain validity, old and vague reports for which no documentation has appeared, and, in a few cases, more recent reports for which we have not yet received documentation. Example: Cumberland Crayfish Ostracod.

<u>Watch Category 5 (W5)</u> includes species with increasing amounts of threats to its habitat, whether or not populations are known to be declining. These threats can include loss of habitat (e.g., the dramatic loss of maritime forests), degradation of habitat (e.g., pollution and sedimentation of rivers and streams), and disturbance to the habitat (e.g., humans and their vehicles on beaches), among other types of threats. Threats can also include use of pesticides, acid rain, fire suppression, over-collection by zoologists, and varied other factors. Examples: American Kestrel, Georgia Satyr.

Scientific Name / Province: Habitat/Locations	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global

WATCH LIST CODES

W1 = species known to be declining in the state; may need listing in upcoming years
W2 = species rare to uncommon, but probably not in trouble
W3 = species that is poorly known; perhaps needs listing in upcoming years
W4 = species reported from the state without adequate documentation
W5 = species with increasing amount of threats to its habitat, whether populations are known to be declining or not
SC = Special Concern (see Page 3). Though still on the State Protected List, biologists consider the species to no longer need tracking by the N.C. Natural Heritage Program.

MAMMALS

Scientific Name / Province: Habitat/Locations	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Cervus canadensis M: high elevation meadows, grass balds (released in Great Smoky Mountains NP)	Elk	SC	-	S1	G5
Lasiurus seminolus CP: forages over open areas, often over water (summer)	Seminole Bat	W2	-	S3S4B,SZN	G5
Mustela frenata MPC: forests, brushy areas	Long-tailed Weasel	W3	-	S3S4	G5
Sorex hoyi winnemana MC: montane deciduous forests; old fields and forests in northeastern Coastal Plain	Southern Pygmy Shrew	W2	-	S3	G5T4
Spilogale putorius M: open forests with rocks, cliffs, and other den sites	Eastern Spotted Skunk	W2	-	S3	G5
Synaptomys cooperi stonei M: bogs and wet meadows	Southern Bog Lemming	W2	-	S3	G5T?
Zapus hudsonius MP: open moist fields and brushy places, usually near water	Meadow Jumping Mouse	W2	-	S3	G5

BIRDS

Only the breeding season populations are of concern; provinces and habitats are for these populations only.

Scientific Name / Province: Habitat/Locations	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Accipiter cooperii MPSC: forests and woodlands	Cooper's Hawk	SC	-	S3S4B,S4N	G5
Accipiter gentilis M: extensive, remote forests, mainly at high elevations	Northern Goshawk	W3	-	SUB,SZN	G5
Ammodramus caudacutus T: tidal marshes	Saltmarsh Sharp-tailed Sparrow	W3	-	SUB,S4N	G4
Ammodramus savannarum PSCM: pastures and other grasslands	Grasshopper Sparrow	W1,W5	-	S3B,S1N	G5
Anas discors TC: fresh to slightly brackish marshes, usually at impoundments	Blue-winged Teal	W2	-	SHB,S2N	G5

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Anas rubripes TC: fresh or brackish marshes, often at impoundments	American Black Duck	W1	-	S3B,S4N	G5
Asio flammeus TC: coastal marshes	Short-eared Owl	W3	-	SUB,S3N	G5
Asio otus M: high elevation forests in northern mountains	Long-eared Owl	W3	-	SUB,SZN	G5
Carduelis pinus M: spruce-fir forests	Pine Siskin	W3	-	SUB,S4N	G5
Coragyps atratus MPSC: forested areas for nesting; forests or open country for foraging	Black Vulture	SC	-	S3S4	G5
Corvus corax MP: cliffs for nesting; forests or fields (mainly at high elevations) for foraging	Common Raven	W2	-	S3	G5
Dendroica coronata M: spruce-fir forests, especially in immature stands	Yellow-rumped Warbler	W3	-	SUB,S5N	G5
Dolichonyx oryzivorus M: meadows and other grasslands	Bobolink	W3,W5	-	SUB,SZN	G5
Elanoides forficatus C: extensive swamps and bottomlands, often forages over nearby fields or marshes	Swallow-tailed Kite [the subspecies *E. f. forficatus* (American Swallow-tailed Kite) is FSC, not the entire species]	W3	FSC	SUB,SZN	G5
Empidonax minimus M: open hardwood forests, groves, streamside trees	Least Flycatcher	W2	-	S3B,SZN	G5
Empidonax traillii MP: wet thickets in open country, often along streams in broad valleys	Willow Flycatcher	W2	-	S3B,SZN	G5
Eudocimus albus T: forests or thickets on maritime islands	White Ibis	W2	-	S3B,S3N	G5
Falco sparverius MPSC: open country; nests in cavities, even in buildings or poles in cities	American Kestrel	W1,W5	-	S3B,S5N	G5
Helmitheros vermivorus pop 1 C: nonriverine wet hardwoods, pocosins	Worm-eating Warbler - Coastal Plain population	W5	-	S3B,SZN	G5T?
Icterus galbula MP: hardwood groves or streamside trees, in open country	Baltimore Oriole	W2	-	S3B,S3N	G5
Ixobrychus exilis TCSP: fresh or brackish marshes	Least Bittern	W3	-	S3B,SZN	G5
Limnothlypis swainsonii CSMP: forests with dense understory, often with cane in Coastal Plain and rhododendron in mountains	Swainson's Warbler	W2,W5	-	S3B,SZN	G4
Lophodytes cucullatus PMC: lakes and ponds, with dead trees for nesting	Hooded Merganser	W3	-	S1B,S4N	G5

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Nyctanassa violacea TCP: swamps; woods or thickets on maritime islands	Yellow-crowned Night-Heron	W2,W3	-	S3B,SZN	G5
Pheucticus ludovicianus M: hardwood forests at mid- to high elevations	Rose-breasted Grosbeak	W1	-	S3B,SZN	G5
Rallus elegans TCPS: fresh to slightly brackish marshes	King Rail	W1,W3	-	S3B,S3N	G4G5
Regulus satrapa M: spruce-fir forests; hardwood forests mixed with spruce or hemlock	Golden-crowned Kinglet	W2	-	S3S4B,S5N	G5
Sitta canadensis M: high-elevation coniferous forests, preferably spruce-fir	Red-breasted Nuthatch	W2,W5	-	S3B,S4N	G5
Spiza americana PC: fallow fields and pastures with tall forbs	Dickcissel	W3,W5	-	S2B,SZN	G5
Sterna forsteri T: salt or brackish marshes, nesting on wrack material or matted grasses	Forster's Tern	W2	-	S3B,S5N	G5
Sterna fuscata T: sand flats on maritime islands; forages over open ocean	Sooty Tern	W2	-	SUB,S3N	G5
Sterna sandvicensis T: sand flats on maritime islands	Sandwich Tern	W2,W5	-	S3B,SZN	G5
Tachycineta bicolor MPC: cavities near ponds or other open water	Tree Swallow	W2	-	S2S3B,S4N	G5
Troglodytes troglodytes M: cool, moist forests at mid- to high elevations	Winter Wren	W2,W5	-	S3B,S5N	G5
Tyto alba MPSCT: extensive open country, nesting in old buildings, silos, large tree cavities	Barn Owl	W2,W3	-	S3B,S3N	G5

REPTILES

Apalone spinifera aspera PC: large streams, ponds, and lakes with sandy bottoms	Gulf Coast Spiny Softshell	W2	-	S3	G5T5
Cemophora coccinea CSPM: sandhills, sandy woods, and other dry woods	Scarlet Snake	W1,W5	-	S3	G5
Clemmys guttata CTSP: shallow water of pools, marshes, wet pastures and other smaller wetlands	Spotted Turtle	W1	-	S3	G5
Eumeces anthracinus M: rocky slopes, wooded hillsides, roadbanks	Coal Skink	W2	-	S3	G5

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Farancia erytrogramma CS: swamps, lakes, rivers, and other sluggish water	Rainbow Snake	W1	-	S3	G5
Kinosternon baurii C: various shallow wet places; ponds, pools, ditches	Striped Mud Turtle	W3	-	S3?	G5
Lampropeltis triangulum elapsoides CSPM: pine flatwoods, mesic pine-hardwood forests	Scarlet Kingsnake	W1,W5	-	S3	G5T5
Lampropeltis triangulum triangulum MP: wooded slopes, pastures, meadows, especially in rocky areas	Eastern Milk Snake	W3	-	S2S3	G5T5
Ophisaurus attenuatus CPSM: old fields, wooded edges, open woods	Slender Glass Lizard	W1	-	S3	G5
Rhadinaea flavilata C: pine flatwoods and other damp woodlands	Pine Woods Snake	W2	-	S3	G4
Virginia valeriae CSPM: deciduous or mixed woods, usually in mesic soils	Smooth Earth Snake	W2	-	S3	G5

AMPHIBIANS

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Desmognathus imitator M: cool, moist high elevation hardwood or spruce-fir forests; nearly confined to Great Smoky Mountains National Park	Imitator Salamander	W2	-	S3	G3
Eurycea sp 1 C: small streams in the Sandhills	Sandhills Salamander	W3	-	S3?	G3?Q
Hyla andersonii SC: pocosins, bay forests, boggy areas	Pine Barrens Treefrog	W2	-	S3S4	G4
Plethodon meridianus P: mesic forests of the South Mountains (endemic to this area)	South Mountain Gray-cheeked Salamander	W2	-	S3S4	G1G2 [G3G4]
Plethodon richmondi M: moist, high-elevation forests, usually on slopes; northern mountains	Southern Ravine Salamander	W2	-	S3	G5
Pseudacris brimleyi C: swamps, marshes, and other wetlands	Brimley's Chorus Frog	W1	-	S3S4	G5
Siren lacertina CS: lakes, ponds, and streams, especially where muddy or with weedy vegetation	Greater Siren	W3	-	S3?	G5
Stereochilus marginatus CS: swamps, shallow wooded ponds in savannas	Many-lined Salamander	W3	-	S3?	G5

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global

FRESHWATER FISHES

Ameiurus brunneus PCMS: many drainages	Snail Bullhead	W1	-	S3	G4
Ameiurus platycephalus PCMS: many drainages	Flat Bullhead	W1	-	S4	G5
Cyprinella labrosa P: Yadkin, Catawba, and Broad drainages	Thicklip Chub	W2	-	S3	G4
Cyprinella spiloptera M: primarily New and French Broad drainages	Spotfin Shiner	W2	-	S2S3	G5
Enneacanthus chaetodon CS: many drainages, particularly Lumber and Waccamaw	Blackbanded Sunfish	W1	-	S3	G4
Etheostoma thalassinum MP: Santee River drainage	Seagreen Darter	W5	-	S3	G4
Etheostoma zonale M: small to medium mountain streams	Banded Darter	W5	-	S3	G5
Lepomis punctatus C: most drainages in southern Coastal Plain	Spotted Sunfish	W2	-	S3	G5
Lythrurus matutinus CP: Tar and Neuse drainages (endemic to North Carolina)	Pinewoods Shiner	W2	FSC	S3S4	G3 [G3G4]
Moxostoma carinatum M: French Broad, Little Tennessee, and Hiwassee drainages	River Redhorse	W2	-	S2	G4
Nocomis platyrhynchus M: New drainage	Bigmouth Chub	W2	-	S2	G4Q
Nocomis raneyi PC: Atlantic slope drainages	Bull Chub	W1	-	S3	G4
Notropis chalybaeus C: Coastal Plain rivers and creeks	Ironcolor Shiner	W5	-	S3?	G4
Notropis maculatus C: southern Coastal Plain drainages	Taillight Shiner	W2	-	S2	G5
Notropis scabriceps M: New drainage	New River Shiner	W2	-	S3	G4
Notropis volucellus MPC: scattered drainages in mountains and near Fall Line	Mimic Shiner	W2,W3	-	S3	G5
Percina aurantiaca M: Tennessee drainages	Tangerine Darter	W2	-	S3	G4
Percina gymnocephala M: New drainage	Appalachia Darter	W2	-	S3	G4
Phenacobius crassilabrum M: Little Tennessee, French Broad, and Toe drainages	Fatlips Minnow	W2	-	S3	G3G4

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
MOLLUSKS – FRESHWATER BIVALVES					
Elliptio cistellaeformis C: Neuse, Lumber, Pee Dee drainages; Lake Waccamaw	Box Spike	W3,W5	-	SU	G4Q
Elliptio congaraea C: drainages north to the White Oak drainage	Carolina Slabshell	W2,W5	-	S3	G4
Elliptio producta C: Lake Waccamaw, and perhaps elsewhere; very difficult to identify	Atlantic Spike	W3,W5	-	SU	G4Q
Elliptio raveneli PC: most rivers in southern part of state; taxonomic problems	Carolina Spike	W3,W5	-	SU	GU
Elliptio sp 2 C: lakes and rivers in southeastern part of state	File Spike	W3	-	SU	GUQ
Lampsilis sp 3 no locality data	a bivalve	W3	-	S1?	GU
MOLLUSKS – FRESHWATER GASTROPODS					
Gyraulus deflectus C: eastern Coastal Plain	Flexed Gyro	W3	-	S2?	G5
Promenetus exacuous C: mainly Chowan and Pasquotank basins	Sharp Sprite	W3	-	S2?	G5
MOLLUSKS – TERRESTRIAL GASTROPODS					
Stenotrema pilula no locality data	Pygmy Slitmouth	W3	-	SU	G3G4
ARACHNIDS					
Nesticus bishopi M: on ground in forests (endemic to North Carolina)	a nesticid spider	W3	-	S3?	G3?
Nesticus gertschi M: caves; Bat Cave, NC, and in Tennessee	a nesticid spider	W4	-	S1?	G1?
Nesticus nasicus M: boulderfields and cove forests (apparently endemic to Jackson County, NC)	a nesticid spider	W3	-	S3?	G3?
Nesticus reclusus M: on ground in forests (apparently in Buncombe, McDowell, and Swain counties, NC, and in Tennessee)	a nesticid spider	W3	-	S3?	G3?

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Nesticus sp 2 M: on ground in forests (only known from Clay County, NC)	a nesticid spider	W3	-	S1S3	G1G3
Vaejovis carolinianus MP: under shelter of rocks, leaves, and buildings, along southern border of state	Carolina Scorpion	W2,W3	-	S2?	G5

CRUSTACEANS

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Cambarus carolinus M: Little Tennessee and Hiwassee drainage	Red Burrowing Crayfish	W3	-	S2	G4 [G3G4]
Cambarus chasmodactylus M: rivers and large streams in New River drainage	New River Crayfish	W5	-	S3	G4 [G4G5]
Cambarus hiwasseensis M: streams in Hiwassee drainage	Hiwassee Crayfish	W2	-	S3S4	G3G4 [G4]
Cambarus sp A (cf C. howardi) MP: many drainages in mountains and upper Piedmont	a crayfish from western NC	W3	-	S2S3	GU [G4]
Canthocamptus vagus CP: in benthos of lakes and ponds within swampy environments	Swamp Canthocamptus	W2,W3	-	S3?	G?
Cytheridella ilosvayi C: quiet backwaters associated with large coastal rivers	Backwater Ostracod	W3	-	S2?	G?
Dactylocythere chelomata M: symbiotic on crayfish in streams and rivers in southwestern mountains	Cherokee Crayfish Ostracod	W2,W3	-	S2?	G?
Dactylocythere peedeensis P: symbiotic on crayfish in Pee Dee drainage (endemic to North Carolina, but likely occurs in South Carolina)	Pee Dee Crayfish Ostracod	W3	-	S2?	G?
Dactylocythere susanae M: symbiotic on crayfish in Hiwassee and Nolichucky drainages	Hiwassee Crayfish Ostracod	W2,W3	-	S2?	G3G4
Harpagocythere baileyi M: symbiotic on crayfish in Little Tennessee and Savannah drainages (endemic to North Carolina, but likely occurs in SC and GA)	Highlands Crayfish Ostracod	W3	-	S2?	G?
Hesperodiaptomus augustaensis P: ephemeral ponds, such as floodplain pools; near Chapel Hill	Augusta Hesperodiaptomus	W3	-	SH	G?
Lordocythere petersi M: symbiotic on crayfish in the Hiwassee drainage (record based on a sketch only)	Cumberland Crayfish Ostracod	W4	-	SR	G?
Orconectes cristavarius M: New drainage	a crayfish	W3	-	S3	G5
Procambarus ancylus C: ditches, streams, and lakes in southeastern corner of the state	Edisto Crayfish	W2	-	S3	G4G5 [G4]

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Procambarus blandingii C: Lumber and Waccamaw drainages	Santee Crayfish	W3	-	S3S4	G4 [G4G5]
Procambarus medialis C: sluggish streams and ditches in Tar and Neuse drainages (endemic to North Carolina)	Tar River Crayfish	W3	-	S2	G3 [G2]
Procambarus pearsei C: still-water habitats and burrows in Cape Fear and Pee Dee drainages	Sandhills Crayfish	W2	-	S4	G4
Stygobromus sp 1 M: seep below Jones Knob (endemic to North Carolina)	Plott Balsam Sideswimmer	W3	-	S1?	G?

INSECTS – MAYFLIES

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Ameletus cryptostimulus M: small mountain streams	a mayfly	W5	-	S2	G4
Anthopotamus myops M: First Broad River (Cleveland)	a mayfly	W3	-	S3	G5
Anthopotamus verticis P: recorded in Yadkin River (Caldwell) and Flat River (Person) but probably is more widespread	Walker's Tusked Sprawler	W3	-	S3	G5
Baetisca lacustris M: Wilson Creek (Caldwell)	a mayfly	W4	-	S3?	G5
Centroptilum sp nov M: Little Ivy Creek (Madison)	a mayfly	W4	-	S1?	G?
Drunella walkeri pop 1 P: disjunct population in Sandy/Swift Creek (Nash)	a mayfly	W5	-	S1?	G5
Ephemerella argo SC: Lower Little River (Hoke), Naked Creek (Richmond), Drowning Creek (Richmond), Lumber River (Robeson, Scotland); needs more sampling in the spring (Bertie, Halifax, Martin, Moore, Northampton, Richmond, Robeson, Scotland)	Argo Ephemerellan Mayfly	W3	-	S2S3	G4
Ephemerella crenula no locality data	Smoky Mountains Ephemerellan Mayfly	W3	-	SR	G3
Ephemerella hispida M: recorded from four streams in Alleghany and Haywood counties	a mayfly	W5	-	S1S2	G5
Eurylophella enoensis CMP: wide-ranging but infrequently collected	a mayfly	W5	-	S3	G4
Eurylophella minimella CMP: a widespread species, but rare in North Carolina	a mayfly	W2	-	S3	G4
Heterocloeon sp nov no locality data	a mayfly	W4	-	S2	G?
Leptophlebia bradleyi no locality data	a mayfly	W5	-	S2	G5

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Leptophlebia johnsoni no locality data	Johnson's Pronggill Mayfly	W2	-	S2	G4
Nixe sp nr inconspicua M: very rare, collected from upper Johns River, upper Wilson Creek, and Harper Creek	a mayfly	W5	-	S1	G5
Paracloeodes fleeki no locality data	a mayfly	W3	-	S3	G?
Plauditus gloveri no locality data	a mayfly	W3	-	S2	G2
Pseudiron centralis P: no locality data (Iredell)	White Sand-river Mayfly	W2	-	S2S3	G5
Pseudocentroptiloides usa no locality data	a mayfly	W3	-	S2	G2
Rhithrogena uhari no locality data	a mayfly	W5	-	S3	G3
Siphloplecton speciosum PS: Lumber River	a mayfly	W5	-	S2	G3
Stenonema lenati often in vulnerable habitats; no locality data	a mayfly	W5	-	S3	G3
Stenonema sp nov M: upper Wilson Creek and lower Linville River (Caldwell, Burke)	a mayfly	W2	-	S1	G?
Tricorythodes robacki P: Uwharrie River and other sites (Chatham, Johnston*, Montgomery)	a mayfly	W3	-	S3	G3

INSECTS – STONEFLIES

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Acroneuria evoluta P: central slate belt streams (Randolph, Chatham, Stanly, Montgomery, Moore)	a stonefly	W5	-	S2	G5
Acroneuria lycorias C: Barbecue Swamp (Harnett)	a stonefly	W3	-	SU	G5
Acroneuria mela C: Cape Fear, Neuse, Lumber, Black, South, and Waccamaw rivers	a stonefly	W5	-	S3	G?
Acroneuria perplexa M: Panthertown Creek, Left Prong Stony Fork (Jackson, Wilkes)	a perlid stonefly	W4	-	S2	G4
Agnetina annulipes CMP: recorded from nine streams and rivers from the mountains to the Coastal Plain	a stonefly	W3	-	S3S4	G5
Agnetina flavescens PM: recorded from nine streams and rivers, primarily in the mountains but also from Mayo River	a stonefly	W3	-	S3S4	G5
Alloperla lenati SC: Lumber River at Wagram and Upper Rockfish Creek	a stonefly	W5	-	S1	G?

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Diploperla morgani PM: Ashe, Burke, Caldwell, Clay, Jackson, Macon, McDowell, Surry, Swain	a stonefly	W3	-	S3	G2
Helopicus bogaloosa PC: known from eleven streams and rivers in Piedmont, Sandhills, and Inner Coastal Plain	a stonefly	W3	-	S3	G3
Hydroperla phormidia PSC: Lumber River and Pee Dee River	a stonefly	W4	-	S2	G3
Isogenoides varians P: Yadkin River (Davie)	a stonefly	W2	-	S2	G3
Isoperla burksi P: slate belt streams (Orange, Durham, Chatham)	a spring stonefly	W4	-	S2	G4
Isoperla sp nov 1 S: Little Crane Creek (Moore)	a stonefly	W4	-	S2?	G?
Isoperla sp nov 2 S: upper Lumber River, Naked Creek (Hoke, Moore, Richmond)	a stonefly	W5	-	S2	G?
Oemopteryx contorta C: Recent record from Suck Creek (Moore)	a stonefly	W3	-	SU	G4
Paragnetina sp nov? M: Wilson Creek (Caldwell)	a stonefly	W4	-	S1?	G?
Perlesta puttnami no locality data	a stonefly	W4	-	S2?	G?
Pteronarcys biloba M: streams in Cherokee and Madison counties	a stonefly	W3	-	S3	G5
Shipsa rotunda CPM: known from twelve streams in mountains, Piedmont, and Coastal Plain	a stonefly	W3	-	S2S3	G5
Viehoperla ada no locality data	a stonefly	W3	-	S1?	G3
Yugus arinus no locality data	a stonefly	W3	-	S3	G3

INSECTS – CADDISFLIES

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Agapetus hessi P: Swift Creek (Nash)	a glossosomatid caddisfly	W5	-	S2	G?
Agapetus pinatus M: mountain streams (Transylvania, Haywood, Graham, Cherokee)	a caddisfly	W3	-	S3	G?
Agapetus tomus M: mountain streams (Cherokee)	a caddisfly	W5	-	S2	G?
Ceraclea cama C: Lake Waccamaw	a caddisfly	W5	-	S1	G?
Ceraclea sp nov 3 M: Panthertown Creek (Jackson)	Morman's Ceraclea Caddisfly	W5	-	S1	G?

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Ceraclea sp nov 4 C: streams in Columbus County	a caddisfly	W5	-	S2	G?
Ceraclea tarsipunctata P: Cane Creek, Yadkin River, Long Creek	a caddisfly	W3	-	S3	G?
Ceratopsyche ventura no locality data	a caddisfly	W5	-	S3	G?
Ceratopsyche walkeri M: Beech Creek (Watauga)	a caddisfly	W4	-	S1?	G?
Culoptila thoracica no locality data	a caddisfly	W2	-	S4?	G?
Goerita betteni M: cold spring runs in mountainous areas	a caddisfly	W4	-	S?	G?
Goerita semata M: cold spring runs in mountainous areas	a caddisfly	W4	-	S?	G?
Helicopsyche paralimnella M: Fires Creek (Clay), Bearwallow Creek (Transylvania) (confined to southwestern mountains in NC)	a caddisfly	W3	-	S2	G?
Homoplectra flinti M: streams in Haywood and Macon counties	a caddisfly	W4	-	S2	G?
Hydroptila coweetensis M: Coweeta Creek (Macon)	a caddisfly	W4	-	S1	G?
Hydroptila lloganae S: Lumber River	Llogan's Vari-colored Microcaddisfly	W4	-	S2	G1G3
Mayatrichia ayama no locality data	a caddisfly	W5	-	S2	G?
Molanna uniophila C: found in larger rivers and lakes from Chowan River (Hertford) to Drowning Creek (Richmond) and Lake Waccamaw (Columbus)	a caddisfly	W3	-	S3	G?
Nectopsyche sp nov C: Lake Waccamaw	a caddisfly	W5	-	S1	G?
Neophylax fuscus MP: Johns River (Caldwell), South Fork New River (Ashe), North Fork New River (Ashe), New River (Alleghany), Alleghany Creek (Alleghany), Swift Creek (Nash), Little Fishing Creek (Halifax)	a caddisfly	W3	-	S3	G?
Neotrichia sp no locality data	a caddisfly	W5	-	S2	G?
Oecetis morsei S: uknown locality	Morse's Long-horn Sedge	W3	-	S3	G2
Oecetis porteri C: White Lake and Lake Waccamaw	Porter's Long-horn Sedge	W5	-	S3	GH
Oecetis sp B C: Lake Mattamuskeet and Perquimans River	a caddisfly	W5	-	S1	G?
Oecetis sp D C: Lake Waccamaw	a caddisfly	W5	-	S1	G?

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Oecetis sp E SC: bay lakes and swamp streams	a caddisfly	W5	-	S2	G?
Oecetis sp F C: unknown locality	a caddisfly	W5	-	S3	G?
Oropsyche howellae M: streams in Haywood, Jackson, and Macon counties	a caddisfly	W4	-	S2	G?
Pseudogoera singularis M: Coweeta Creek, and seep near upper Wilson Creek (Caldwell)	a caddisfly	W5	-	S1	G?
Psilotreta amera M: mountain streams (Haywood, Macon, Swain)	a caddisfly	W5	-	S2	G?
Psilotreta rossi M: seeps and springs (Macon, Transylvania)	a caddisfly	W5	-	S2	G?
Psilotreta rufa M: mountain streams (Macon, Transylvania)	a caddisfly	W2	-	S3?	G?
Rhyacophila accola M: mountain streams	a caddisfly	W5	-	S1	G?
Rhyacophila appalachia M: mountain streams	a rhyacophilan caddisfly	W5	-	S2	G3
Rhyacophila montana M: high elevation seeps (Swain)	a caddisfly	W5	-	S2?	G?
Setodes arenatus C: Lumber River	a caddisfly	W5	-	S2	G?
Setodes stehri M: unknown locality	a caddisfly	W5	-	S3	G?
Triaenodes melacus no locality data	a caddisfly	W3	-	S3?	G?
Triaenodes sp nov C S: bays in Scotland County	a caddisfly	W5	-	S1	G?
Triaenodes sp nov D C: Lake Waccamaw	a caddisfly	W5	-	S1?	G?
Wormaldia thyria ?: Reported from NC, but without occurrence data	a caddisfly	W3	-	S3	G3?

INSECTS – DRAGONFLIES

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Aphylla williamsoni C: lakes and rivers	Two-striped Forceptail	W3	-	S3?	G5
Arigomphus pallidus C: ponds, lakes, and streams	Gray-green Clubtail	W3	-	S1?	G5
Arigomphus villosipes MPC: ponds, lakes, slow-flowing streams	Unicorn Clubtail	W3	-	S3?	G5
Boyeria grafiana M: rocky forest streams	Ocellated Darner	W3	-	S3?	G5
Cordulegaster erronea MP: small forested streams	Tiger Spiketail	W2	-	S3?	G4
Coryphaeschna ingens C: lakes and ponds	Regal Darner	W3	-	S3?	G5

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Dromogomphus armatus C: pools in slow-flowing rivers	Southeastern Spinyleg	W3	-	S3?	G4
Epitheca spinosa PC: ponds and lakes	Robust Baskettail	W3	-	S3S4	G4
Erpetogomphus designatus PC: streams and rivers	Eastern Ringtail	W3	-	S3?	G5
Gomphus apomyius PC: spring-fed streams	Banner Clubtail	W3	-	S3?	G4
Gomphus diminutus S: sand-bottomed streams	Diminutive Clubtail	W2	-	S3S4	G3
Gomphus dilatatus PC: rivers	Blackwater Clubtail	W3	-	S3?	G5
Gomphus rogersi M: small spring-fed streams	Sable Clubtail	W2	-	S2S3	G4
Libellula quadrimaculata M: marshy ponds	Four-spotted Skimmer	W3	-	SR	G5
Macrodiplax balteata C: ponds and lakes, usually brackish or near marl	Marl Pennant	W3	-	S2S3	G5
Nannothemis bella S: boggy swales	Elfin Skimmer	W3	-	S3S4	G4
Orthemis ferruginea C: ponds and slow-flowing streams	Roseate Skimmer	W2	-	S2S4	G5
Stylurus amnicola MPC: rivers	Riverine Clubtail	W3	-	S3?	G4
Triacanthagyna trifida C: slow-flowing streams	Phantom Darner	W3	-	S2?	G5

INSECTS – DAMSELFLIES

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Calopteryx amata M: cold, shallow, rocky rivers	Superb Jewelwing	W3	-	S3?	G4
Lestes forcipatus P: vegetated ponds	Sweetflag Spreadwing	W3	-	S2S3	G5
Lestes vidua C: ponds and pools	Carolina Spreadwing	W3	-	S2?	G5

INSECTS – MOTHS

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Abrostola ovalis M: high elevation forests with nettles	a looper moth	W3	-	SU	G4
Acrapex relicta C: canebrakes	a cane borer	W3	-	S2S3	G4
Acronicta hamamelis MP: unknown	Puzzling Dagger Moth	W3	-	SU	G4?
Acronicta lanceolaria C: flatwoods	Lanceolate Daggermoth	W3	-	S3?	G4
Acronicta perblanda C: cypress swamps	Cypress Daggermoth	W3	-	S1S2	G?
Amphipyrinae, new genus 1 sp 1 MC: woodland canebrakes	a canebrake moth	W3	-	S1S2	G?
Amphipyrinae, new genus 2 sp 1 C: woodland canebrakes	a canebrake moth	W3	-	S1S2	G?

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Amphipyrinae, new genus 2 sp 2 C: woodland canebrakes	a canebrake moth	W3	-	S3S4	G?
Anticlea multiferata MPC: unknown	Many-lined Carpet	W3	-	SU	G5
Apantesis carlotta M: unknown	Carlotta's Tiger Moth	W3	-	S3?	G4
Argillophora furcilla C: canebrakes	a cane moth	W3	-	S2S3	G2G4
Argyrostrotis carolina no locality data	an owlet moth	W3	-	SH	G?
Argyrostrotis quadrifilaris C: pocosins and flatwoods	Four-lined Chocolate	W3	-	S3?	G4
Arugisa watsoni PC: sedgy glades	Watson's Arugisa	W3	-	S3?	G4
Bleptina sangamonia C: sandhills	an owlet moth	W3	-	S2?	G4
Bomolocha appalachiensis M: unknown	Appalachian Bomolocha	W3	-	SU	G3G4
Cabera quadrifasciaria C: unknown	Four-lined Cabera	W3	-	SU	G?
Caripeta aretaria MPC: pine forests	Southern Pine Looper	W3	-	S3?	G4
Catocala blandula ssp 1 C: riparian hawthorns	Southern Charming Underwing	W3	-	S1S3	G5T3
Catocala orba C: levee forests with hawthorn	Orba Underwing	W3	-	SU	G4
Catocala pretiosa texarkana MPC: unknown	Texarkana Underwing	W3	-	SU	G4T4
Catocala sappho P: bottomland hardwoods with hickories	Sappho Underwing	W3	-	SU	G4
Cepphis sp 1 nr decoloraria C: unknown	a new inchworm moth	W3	-	S3?	GUQ
Ceratonyx satanaria C: swamps and bottomlands	an inchworm moth	W3	-	S2?	G4
Chrysanympha formosa MP: heath thickets	Formosa Looper Moth	W3	-	S3S4	G5
Chytonix sensilis C: sandhills and flatwoods	an owlet moth	W3	-	S3?	G4
Cisthene kentuckiensis C: bottomlands?	Kentucky Lichen Moth	W3	-	SU	G4
Cleora projecta C: peatlands and flatwoods	Projecta Gray	W3	-	S3?	G4
Cosmosoma myrodora C: on climbing hempweed	an owlet moth	W3	-	SU	G?
Cryphia cyanympha C: sandhills	an owlet moth	W3	-	SU	G?
Cycnia inopinatus MPC: on milkweeds	Unexpected Cycnia	W3	-	SU	G4
Dasychira atrivenosa C: hardwood forests	a tussock moth	W3	-	S3?	G4
Dasychira leucophaea C: unknown	a tussock moth	W3	-	SU	G4
Datana robusta C: savannas, flatwoods, and sandhills	a prominent moth	W3	-	S2?	G?

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Doryodes bistrialis C: savannas and flatwoods	an owlet moth	W3	-	S3S4	G4
Dysgonia smithii C: flatwoods	Smith's Darkwing	W3	-	S3?	G4
Erastria coloraria no locality data	Broad-lined Catopyrrha	W3	-	SU	G4
Euagrotis lubricans SC: savannas and flatwoods	Slippery Dart Moth	W3	-	S3?	G4
Euagrotis simplicia C: unknown	a noctuid moth	W3	-	SU	G?
Eucoptocnemis dapsilis C: unknown	an owlet moth	W3	-	S2S3	G4
Euxoa declarata M: unknown	a dart moth	W3	-	SU	G4G5
Exyra fax PC: wetlands with purple pitcher-plants	Purple Pitcher-plant Moth	W3	-	S3?	G4
Exyra ridingsii PC: wetlands with yellow pitcher-plants	a pitcher-plant moth	W3	-	S3?	G3G4
Faronta aleada C: unknown	an owlet moth	W3	-	SU	G?
Faronta rubripennis C: beach grasslands	Pink Streak	W3	-	S2S3	G3G4
Gabara distema humeralis C: savannas	an owlet moth	W3	-	S3?	G4T?
Gabara pulverosalis C: savannas	an owlet moth	W3	-	S3?	G4
Hypocoena enervata C: tidal marshes	an owlet moth	W3	-	SU	G4
Hypomecis longipectinaria C: hardwood stands	a wave	W3	-	SU	G?
Idaea eremiata C: sandhills	a wave	W3	-	SU	G4
Idaea micropterata C: unknown	a wave	W3	-	S3?	G?
Idaea ostentaria C: sandhills	a wave	W3	-	S3?	G?
Idaea productata C: sandhills	a wave	W3	-	S2S3	G4
Idaea scintillularia C: unknown	a wave	W3	-	SU	G?
Idaea violacearia C: sandhills and dunes	Violaceous Wave	W3	-	S3?	G4
Lepipolys perscripta C: on toadflax	an owlet moth	W3	-	SU	G4
Leptostales laevitaria C: unknown	a wave	W3	-	SU	G?
Leucania callidior C: canebrakes	Cane Wainscot	W3	-	SU	GU
Leucania incognita C: savannas	an owlet moth	W3	-	SU	G?
Lithacodia sp 1 C: pocosins and other wetlands	a bird-dropping moth	W3	-	S1S3	G4

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Lithophane lepida adipel C: unknown	a pinion moth	W3	-	SU	G4T4
Litoprosopus futilis C: palmettos	Palmetto Borer	W3	-	SU	G4
Lobocleta peralbata C: unknown	an inchworm moth	W3	-	SU	G?
Macrochilo santerivalis C: brackish marshes	an owlet moth	W3	-	SU	G3G4
Meropleon diversicolor MC: sedge meadows	a noctuid moth	W3	-	SU	G4
Metalectra albilinea C: unknown	White-lined Fungus Moth	W3	-	S3?	G?
Metalepsis fishii C: heath thickets	an owlet moth	W3	-	SU	G4G5
Morrisonia sp 1 C: unknown	a new woodgrain moth	W3	-	S3?	G3G4
Nemoria bifilata C: sandhills	an emerald moth	W3	-	S3?	G4
Nemoria bifilata bifilata C: sandhills	an emerald moth	W3	-	S3?	G?T?
Neoplynes eudora C: unknown	a wasp moth	W3	-	SU	G?
New noctuid genus 1 C: canebrakes	a new reddish cane borer moth	W3	-	S3	GU
Notondontidae, new genus 1 species 1 C: hardwoods?	a new prominent moth	W3	-	S2S3	G3G4
Oligia chlorostigma C: unknown	a brocade moth	W3	-	SU	G4
Orgyia detrita C: maritime forests	a tussock moth	W3	-	S3?	G4
Paonias astylus C: heath thickets	Huckleberry Sphinx	W3	-	S3S4	G4G5
Papaipema baptisiae P: on Baptisia or Apocynum	Wild Indigo Borer Moth	W3	-	SU	G4
Papaipema lysimachiae M: on loosestrife	Loosestrife Borer Moth	W3	-	SU	G4
Papaipema sp 3 C: canebrakes	Southeastern Cane Borer Moth	W3	-	S3?	G4
Parahypenodes quadralis C: unknown	an owlet moth	W3	-	S1S2	G4
Pimaphera percata C: unknown	an inchworm moth	W3	-	S1S2	G?
Properigea tapeta C: bottomlands?	an owlet moth	W3	-	S2S3	G?
Pyreferra pettiti PC: on Ostrya	a sallow moth	W3	-	SU	G?
Schinia inclara C: marshes and sandhills with Heterotheca	a flower moth	W3	-	SU	G?
Schinia nubila C: unknown	a flower moth	W3	-	SU	G?
Schinia obscurata C: sandhills	Obscure Schinia	W3	-	S2S3	G4
Schinia scissoides C: open areas	a flower moth	W3	-	SU	G?

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Schinia siren C: open maritime forests	a flower moth	W3	-	SU	G?
Schinia sordida C: savannas	a flower moth	W3	-	SU	G4?
Scopula aemulata MC: on Trillium	a wave moth	W3	-	SU	G?
Scopula cacuminaria C: sandhills	Frosted Tan Wave	W3	-	S3?	G4
Scopula ordinata CM: mesic hardwoods	a wave	W3	-	S2S3	G5
Scopula purata C: acidic wetlands	Chalky Wave	W3	-	S3?	G4
Semiothisa eremiata C: on Tephrosia	Three-lined Angle	W3	-	S3?	G4
Semiothisa ordinata C: sandhills	Amorpha Angle	W3	-	S2S3	G?
Semiothisa punctolineata C: unknown	an angle	W3	-	SU	G?
Sphingicampa bicolor C?: on honey locust	Honey Locust Moth	W3	-	S3S4	G5
Sphinx franckii P: on Fraxinus	Franck's Sphinx	W3	-	SU	G4
Spilosoma dubia C: acidic wetlands	Dubious Tiger Moth	W3	-	S3S4	G?
Stiria rugifrons C?: sandhills	an owlet moth	W3	-	SU	G4
Syngrapha alias M: spruce-fir forests	a looper moth	W3	-	SU	G5
Tarachidia parvula C: cypress swamps?	a bird-dropping moth	W3	-	SU	G?
Tolype minta C: longleaf pine stands	Southern Tolype	W3	-	S2S3	G5
Tornos abjectarius C: unknown	a gray	W3	-	S2S3	G?
Tripudia flavofasciata C: bottomlands	an owlet moth	W3	-	SU	G?
Tripudia quadrifera P: unknown	an owlet moth	W3	-	SU	G?
Ulolonche modesta C: unknown	Modest Quaker Moth	W3	-	SU	G5
Xestia youngii C: peatlands	Young's Xestia	W3	-	S3S4	G?
Zale calycanthata C: oak forests	Double-banded Zale	W3	-	S3?	G4
Zale fictilis C: unknown	a zale	W3	-	SA?	G5
Zale sp 2 nr squamularis C: unknown	a new zale	W3	-	SU	G4Q
Zale sp 3 nr buchholzi C: pine forests	an owlet moth	W3	-	S2S3	G3?
Zanclognatha atrilineella C: unknown	an owlet moth	W3	-	S1?	G4?
Zanclognatha sp 1 M: dry pitch pine stands	an owlet moth	W3	-	SU	G3G4

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
INSECTS – BUTTERFLIES					
Amblyscirtes carolina CSP: wet woods (mainly hardwoods) near cane; host plant -- cane (Arundinaria)	Carolina Roadside-Skipper	W2	-	S3S4	G3G4
Callophrys augustinus MPSC: dry acidic areas with an abundance of ericads, such as pine/oak heaths; host plants -- ericaceous shrubs	Brown Elfin	W2	-	S3S4	G5
Celastrina neglectamajor M: rich deciduous forests; host plant -- black cohosh (Cimicifuga)	Appalachian Azure	W2	-	S3S4	G4
Glaucopsyche lygdamus M: open upland woods, roadbanks, and borders; host plants -- legumes, especially Carolina vetch (Vicia caroliniana)	Silvery Blue	W2	-	S2S3	G5
Hesperia leonardus PM: wooded borders and openings, brushy fields; host plants -- grasses	Leonard's Skipper	W2	-	S3S4	G4
Hesperia metea PSM: dry barren sites, such as pine/oak sandhills and upland wood margins; host plants -- mainly broomsedge (Andropogon)	Cobweb Skipper	W2	-	S3	G4G5
Hesperia sassacus M: old fields, clearings, wood margins, mainly at high elevations; host plants -- grasses	Indian Skipper	W2	-	S3	G5
Megathymus yuccae C: dunes, flatwoods, sandhills, and other places near yuccas; host plants -- Yucca species	Yucca Giant-Skipper	W2	-	S3S4	G5
Neonympha areolata CSP: savannas, wet powerline clearings, other damp grassy areas; host plants -- sedges, perhaps grasses	Georgia Satyr	W5	-	S3	G4
Phyciodes phaon T: open, often dry areas, mainly on barrier islands; host plants -- fogfruit (Lippia)	Phaon Crescent	W5	-	S3	G5
Pontia protodice PCSM: fields, croplands, brushy areas; host plants -- mustard species (Family Brassicaceae)	Checkered White	W1,W5	-	S3	G4
Problema byssus C: wetland ecotones, swamp margins, ditches; host plant -- gamma grass (Tripsacum dactyloides)	Byssus Skipper	W2	-	S3	G3G4

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Speyeria diana MP: rich woods and adjacent edges and openings; believed extirpated from the lower Piedmont; host plants -- violets (Viola)	Diana Fritillary	W2	FSC	S3S4	G3 [G3G4]
Thorybes confusis SCP: dry woodland borders and openings, brushy fields; host plants -- legumes	Confused Cloudywing	W3	-	S3S4	G4

INSECTS -- GRASSHOPPERS AND KATYDIDS

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Arphia granulata C: flatwoods, sandhills	Southern Yellow-winged Grasshopper	W3	-	S2S4	G5
Atlanticus gibbosus C: oak and pine forests	Gibbous Shield-back Katydid	W3	-	SU	G?
Belocephalus subapterus C: flatwoods and other shrubby areas	Half-winged Cone Head Katydid	W3	-	SU	G?
Dendrotettix australis M: forests	Southern Dendrotettix	W3	-	SU	GU
Dendrotettix zimmermanni M: forests	Zimmermann's Dendrotettix	W3	-	SU	GU
Hesperotettix viridis brevipennis C: grasslands, forest edges	Green-striped Grasshopper	W3	-	SU	G5T5
Hubbellia marginifera C: pinewoods	Hubbell's Shield-back Katydid	W3	-	SU	G?
Inscudderia walkeri C: cypress stands	Walker's Cypress Katydid	W3	-	SU	G?
Melanoplus acrophilus acrophilus M: shrubby areas, 3600'- >5000'	a short-winged melanoplus	W3	-	SU	G2G3T2T3
Melanoplus carnegiei M: open pine and oak forests	Carnegie's Melanoplus	W3	-	SU	GU
Melanoplus celatus M: undescribed, 1200' - 4000'	a short-winged melanoplus	W3	-	SU	GU
Melanoplus deceptus M: balds?, 4000' - 5700'	Deceptive Melanoplus	W3	-	SU	G2G4
Melanoplus decoratus M: dry woodlands	Decorated Melanoplus	W3	-	SU	GU
Melanoplus hubbelli M: dry woodlands, including second growth	Hubbell's Melanoplus	W3	-	SU	G4
Melanoplus impudicus M: barrens and glades	Immodest Spur-throat Grasshopper	W3	-	SU	G4G5
Melanoplus propinquus C: savannas and other wooded grasslands	Southern Red-legged Melanoplus	W3	-	SU	G5
Melanoplus similis M: open woodlands	a short-winged melanoplus	W3	-	SU	G5
Melanoplus strumosus C: sandhills	Swollen Spur-throat Grasshopper	W3	-	SU	G4G5
Melanoplus tribulus M: glades and open woodlands	Tribulus Spur-throat Grasshopper	W3	-	SU	G4G5
Mermiria bivittata T: sandhills, wooded grasslands	Two-striped Mermiria	W3	-	SU	G5

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Mermiria intertexta T: marshes	Intertexta Mermiria	W3	-	SU	G4?
Neoconocephalus velox C: shrubby undergrowth in pinewoods	Swift-flying Cone Head Katydid	W3	-	SU	G?
Opshomala vitreipennis C: marshes	Glassy-winged Toothpick Grasshopper	W3	-	SU	G5
Orchelimum superbum C: bogs and tidal marshes	Superb Meadow Katydid	W3	-	SU	G?
Romalea guttatus P: open woods and roadsides	Eastern Lubber Grasshopper	W3	-	SU	G5
Scudderia curvicauda laticauda C: savannas, flatwoods, open pinewoods	Broad-tailed Bush Katydid	W3	-	SU	G?T?

INSECTS – BEETLES

Gonielmis dietrichi S: ten sites in and around Fort Bragg (Hoke, Richmond, Scotland)	a beetle	W4	-	S2	G?
Stenelmis morsei S: Lumber River (Robeson)	a riffle beetle	W5	-	S2	G?
Stenelmis sp nov 1 S: Lumber River (Scotland, Hoke)	Harley's Stenelmis Riffle Beetle	W5	-	S1	G?
Stenelmis sp nov 2 PS: James Creek, Upper Little River, Deep River (Moore, Harnett, Lee)	William's Stenelmis Riffle Beetle	W2	-	S2	G?
Stenelmis sp nov 3 PSC: Little River (Harnett, Cumberland, Moore)	a riffle beetle	W4	-	S2	G?
Trechus balsamensis M: Plott Balsam mountains (endemic to North Carolina) (Jackson*)	a ground beetle	W3	-	S1?	G1?
Trechus carolinae M: Black Mountains (endemic to North Carolina) (Yancey*)	a ground beetle	W3	-	S1?	G1?
Trechus luculentus luculentus M: mountains of southwestern North Carolina (Clay*, Graham*, Macon*, Swain+)	a ground beetle	W3	-	S2?	G2T2?
Trechus luculentus unicoi M: apparently the mountains of Graham County (Graham*)	a ground beetle	W3	-	S2?	G2T2?
Trechus mitchellensis M: Black Mountains (endemic to North Carolina) (Buncombe*, McDowell*, Yancey*)	a ground beetle	W3	-	S1?	G1?
Trechus novaculosus M: Great Smoky Mountains National Park (endemic to the park) (Swain*)	a ground beetle	W3	-	S2?	G2?
Trechus roanicus M: Roan Mountain (endemic to the mountain) (Mitchell*)	a ground beetle	W3	-	S1?	G1?

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Trechus rosenbergi M: Plott Balsam and Great Balsam mountains (endemic to North Carolina) (Haywood*, Jackson*)	a ground beetle	W3	-	S1?	G1?
Trechus satanicus M: vicinity of Devils Courthouse and Graveyard Fields (endemic to North Carolina) (Haywood*, Transylvania*)	a ground beetle	W3	-	S1?	G1?
Trechus subtilis M: mountains of Haywood County (endemic to North Carolina) (Haywood*, Jackson*)	a ground beetle	W3	-	S1?	G1?

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global

EXTIRPATED ANIMALS IN NORTH CAROLINA

This is a list of all taxa considered by state biologists and NC NHP to be extirpated (N.C. Rank of SX) in North Carolina. On past NC NHP rare animal lists, some such taxa were included in the Rare List, some were included in the Watch List, and others were not mentioned at all. Some of these taxa are Federally Listed, and some also have a state protected status (SC). However, as none are believed to presently occur in the state, with little or no hope of being re-discovered, we feel that they should be placed in a common section of this publication. For those species that have been tracked in the past, NC NHP will still keep records of their locations and keep other materials on file. (See pages 3-8 for status codes and definitions.)

NOTE: Quite a few species that might be gone from NC are included in the Rare and Watch lists with an SH (= historic) rank, generally indicating that they have not been seen for over 20 years, but because of inadequate survey or other factors may well still exist in the state, or may be absent but expected to be found again in upcoming years.

MAMMALS

Scientific Name / Habitat	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Bos bison MP: open woodlands	American Bison	-	-	SX	G4
Canis lupus MPS?C?: extensive forests and other remote areas	Gray Wolf	-	-	SX	G4
Erethizon dorsatum M: high elevation hardwood forests; no positively documented records	North American Porcupine	-	-	SX	G5
Eschrichtius robustus T: offshore waters	Gray Whale	-	-	SX	G3G4
Lepus americanus M: spruce-fir and other high elevation forests; no positively documented records	Snowshoe Hare	-	-	SX	G5
Martes pennanti M: spruce-fir forests; no positively documented records	Fisher	-	-	SX	G5

BIRDS

Scientific Name / Habitat	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Campephilus principalis C: extensive swamps and bottomlands with old-growth trees (one NC record)	Ivory-billed Woodpecker	-	E	SX	GH
Conuropsis carolinensis CSPM?: forests, especially swamps and bottomlands	Carolina Parakeet	-	-	SX	GX
Ectopistes migratorius MPSC: forests (winter only)	Passenger Pigeon	-	-	SX	GX

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
FRESHWATER FISHES					
Acipenser fulvescens M: large rivers of Tennessee drainages (Madison*)	Lake Sturgeon	SC	FSC	SX	G3G4
Lepomis megalotis M: French Broad drainage (Buncombe*, Haywood*)	Longear Sunfish	EX	-	SX	G5
Percina macrocephala M: French Broad River (Buncombe*)	Longhead Darter	SC	FSC	SX	G3
MOLLUSKS – FRESHWATER BIVALVES					
Epioblasma capsaeformis M: French Broad River (Buncombe*, Madison*)	Oyster Mussel	EX	E	SX	G1
Medionidus conradicus M: French Broad River (Buncombe*)	Cumberland Moccasinshell	EX	-	SX	G3G4
Ptychobranchus fasciolaris M: Tennessee drainages	Kidneyshell	EX	-	SX	G4G5
Quadrula pustulosa M: Tennessee drainages	Pimpleback	EX	-	SX	G5
Toxolasma lividus M: French Broad River	Purple Lilliput	EX	-	SX	G2
Tritogonia verrucosa M: New River near the Virginia border (Alleghany+, Ashe+)	Pistolgrip	EX	-	SX	G4

POTENTIAL NEW TO NORTH CAROLINA ANIMALS

The following list contains species of well-known animal groups that are not currently known to occur in North Carolina, or those species not currently known to breed in North Carolina, but which are considered to have some possibility of being found to occur on a regular basis or to breed in the state. The list is based on the species' currently known range and habitat preferences. Nearly all are species that occur in the adjacent states of South Carolina, Georgia, Tennessee, or Virginia, in habitats (or drainages) at least relatively similar to habitats known to exist in North Carolina. The purpose of this list is to encourage and challenge field workers to find new state occurrences and new breeding records. This list should give field investigators an idea of some of the species that may be regular components of North Carolina's fauna. (Species that might occur as single record accidentals, such as Western species of birds or Gulf Coast butterflies, are generally not included.) While some of these species may have relatively remote chances of being found in North Carolina, the likelihood of finding new state records is greatly increased by being aware of the possibilities and by species-directed searching. Our knowledge of many of our animal groups is still quite imperfect, especially invertebrate groups. Many natural areas are being destroyed before they can be investigated, and it can be assumed that a number of native species have been extirpated from North Carolina before they were ever documented as occurring in the state.

Following each species is the North Carolina province in which the species is considered most likely to be found occurring or found breeding. Where possible, a description of the typical habitat of the species in the vicinity of North Carolina is also given. Sometimes, the nearest known occurrence(s) to North Carolina are also listed, with the distance from North Carolina in number of counties in brackets. For instance, [1] indicates that the species has been reported from a county immediately adjacent to North Carolina; [5] indicates that the species has been reported from a county five counties away from the North Carolina border. An average county width in and around North Carolina is about 25 miles, so [5] indicates an approximate distance from North Carolina of 100-125 miles. It should be obvious that a species known to occur south only to the Virginia mountains would be best searched for in North Carolina counties near the Virginia line, such as Ashe, Alleghany, and Watauga. Likewise, Coastal Plain species occurring north to South Carolina are most likely searched for in counties along the southern border, such as Brunswick and Columbus.

The following additional symbols are used:

- * May have occurred in North Carolina (no conclusive records) with the remote possibility of being conclusively found in the state

- \+ Known to occur in the state on a regular basis (as an Element Occurrence) but not known conclusively to breed, though suspected or assumed to breed; conclusive breeding records lacking

NOTE: Since the last version of this publication in 2001, the following species have been found or reported in North Carolina and have been removed from the lists: Olympia Marble (Euchloe olympia) and Texan Crescent (Phyciodes texana seminole); plus, breeding evidence has been documented for Hermit Thrush (Catharus guttatus).

MAMMALS

There are very few terrestrial mammals that could be discovered for the first time in North Carolina; three of them -- North American Porcupine, Shoeshoe Hare, and Fisher -- <u>may</u> have occurred in the mountains many decades or centuries ago, but reports are fuzzy or second-hand; they are included on the Extirpated List. Nearly all of the potential new-to-North Carolina mammals are cetaceans. A few cetaceans probably occur regularly in the Atlantic off North Carolina, but far offshore; however, most of them are primarily either subtropical or Arctic inhabitants and would be considered accidental in the state.

Balaenoptera edeni -- Bryde's Whale
T: ocean, primarily in subtropical waters; VA (one record), GA
Balaenoptera musculus -- Blue Whale
T: ocean, entire north Atlantic, far offshore; MD (one record)
Peponocephala electra -- Melon-headed Whale
T: ocean, in subtropical waters; MD (one record)
Phoca groenlandica -- Harp Seal
T: ocean, in cold waters north of NC; VA (one record)

BIRDS

The species below are all considered to be potential breeders in North Carolina; some may possibly be breeding already. All have been recorded from the state on numerous occasions; those marked by (+) are known to occur in summer in the state to an extent and probably are nesting, but conclusive evidence is lacking.

Accipiter gentilis -- Northern Goshawk
M: extensive forests, mainly at high elevations; MD, WV, VA ?; a few summer records for the NC mountains [see Watch List]
Ammospiza caudacuta -- Saltmarsh Sharp-tailed Sparrow
T: salt or brackish marshes; VA [3]; some references list NC in the breeding range -- this is erroneous; there have been a few summer reports, but some may be erroneous or of late migrating individuals [see Watch List]
Asio flammeus -- Short-eared Owl
T: extensive brackish marshes; MD ?, VA formerly, and might still nest there; several summer records for the NC coastal marshes [see Watch List]
Asio otus -- Long-eared Owl
M: conifers or mixed woods at high elevations in northern mountains; VA [2]; one or two summer reports from the NC mountains, but without visual confirmation [see Watch List]
Carpodacus purpureus -- Purple Finch
M: spruce-fir forests; VA [1] (Mt. Rogers); one or two summer records for the NC mountains
Catharus ustulatus -- Swainson's Thrush
M: spruce-fir forests, mainly in northern mountains; VA [1] (Mt. Rogers); possibly nested in NC mountains in 19th Century, but no summer records in many decades
Cistothorus platensis -- Sedge Wren
T: brackish marshes; VA [3] (northern portion of Chesapeake Bay); several summer records from NC, mainly in brackish marshes, but these might be of wandering birds or migrants
Contopus cooperi -- Olive-sided Flycatcher +
[breeding records for TN side of Great Smoky Mountains NP]; no active nest has been found in NC [see Rare List]
Dendroica magnolia -- Magnolia Warbler +
[breeding evidence needed]; no active nest yet found, but probably nests [see Rare List]
Elanoides forficatus -- Swallow-tailed Kite
C: swamps, river bottoms; SC [2] (Santee River); numerous summer records, but nearly all believed to be of visitors/postbreeders; up to one-half-dozen birds, possibly including a family group, spent much of the summer 2003 along the Cape Fear River
Empidonax flaviventris -- Yellow-bellied Flycatcher
M: high elevation spruce-fir, usually where stunted or young; VA [1] (Mt. Rogers); two summer reports from NC mountains
Melospiza georgiana -- Swamp Sparrow
M: bogs at high elevation; VA [5-6]; no summer reports for NC

Mycteria americana -- Wood Stork
C: swamps, with open water somewhat nearby; SC [4]; no reports from NC suggestive of breeding in the state [see Rare List]
Oporornis philadelphia -- Mourning Warbler
M: thickets, brushy places, clearings; VA [5]; a pair believed to have nested in mid-1980s near Great Smoky Mountains N.P. in NC, and another territorial male was present at Roan Mountain in the early 2000s
Passerculus sandwichensis -- Savannah Sparrow +
[breeding evidence needed]; VA [1]; believed to be nesting in Alleghany and Ashe counties, but no active nest has yet to be found [see Rare List]
Seiurus noveboracensis -- Northern Waterthrush
M: bogs where spruce-fir is present; VA [5-6], plus two reports from Mt. Rogers; no summer reports for NC
Vermivora pinus -- Blue-winged Warbler +
[breeding evidence needed]; no active nest yet found, but presumed to breed in southwestern counties [see Rare List]
Vermivora ruficapilla -- Nashville Warbler
M: spruce-fir forests, mainly along margins or in young or stunted trees; VA [6], but also a report from Mt. Rogers; no summer reports for NC

REPTILES

Graptemys geographica -- Map Turtle
M: large rivers in the Tennessee drainage; VA [2], TN [1]
Graptemys pseudogeographica -- False Map Turtle
M: large rivers in the Tennessee drainage; TN [1-2]
Nerodia cyclopion -- Green Water Snake
C: streams, lakes, ponds, marshes; SC [2]
Ophisaurus compressus -- Island Glass Lizard
TC: maritime or other coastal forests, in dry habitats; SC [2]
Trionyx ferox -- Florida Softshell
C: lakes, ponds, rivers; SC [3]
Trionyx muticus -- Smooth Softshell
M: large rivers in the Tennessee drainage; TN [2?]

AMPHIBIANS

Ambystoma cingulatum -- Flatwoods Salamander
C: flatwoods, bottomlands, swamps; SC [2-3]
Ambystoma jeffersonianum -- Jefferson Salamander
M: low woods, bottomlands; VA [2]
Ambystoma texanum -- Smallmouth Salamander
M: moist forests; TN [6]; ranges east to central TN
Desmognathus welteri -- Black Mountain Salamander
M: along streams in mesic forests; TN [3]
Eurycea lucifuga -- Cave Salamander
M: limestone caves and ledges; TN [1], VA [2]
Gyrinophilus palleucus -- Tennessee Cave Salamander
M: caves, in limestone areas; TN [2]
Plethodon hoffmani -- Valley and Ridge Salamander
M: montane forests; VA [3-4]

Plethodon hubrichti -- Peaks of Otter Salamander
M: cool moist woods; VA [2]; endemic to Peaks of Otter Mountain
Plethodon websteri -- Webster's Salamander
P: moist forests with steep north-facing slopes; SC [4]
Pseudobranchus striatus -- Dwarf Siren
C: swamps, ponds, other sluggish freshwater habitats; SC [2-3]
Rana grylio -- Pig Frog
C: lakes, ponds, marshes; SC [2]

FISHES

The absence in North Carolina of the very large number of Tennessee fishes occurring just over the state line is not an artifact of collecting intensity. Much sampling has occurred in the state near the Tennessee border for such species. The streams where they occur do extend into North Carolina; however, most of the streams where the fishes occur in Tennessee become high gradient near the border, with riffles and rapids preventing the fishes from occurring in North Carolina. A few reservoirs along the state line also block some species from entering the state. On the other hand, there are a number of species that occur within one or two counties of North Carolina that are not listed here; these are fishes in drainages that do not reach North Carolina, particularly the Chattahoochee and the Coosa in Georgia, the Clinch in Tennessee and Virginia, and the James in Virginia.

Alosa chrysochloris -- Skipjack Herring Reported from NC in the past few years, but not confirmed
M: Tennessee drainages; TN [1]
Cottus baileyi -- Black Sculpin
M: Tennessee drainages; TN [1], VA [1-2]
Etheostoma caeruleum -- Rainbow Darter
M: Tennessee drainages; TN [1]
Etheostoma camurum -- Bluebreast Darter Reported from NC in the past few years, but not confirmed
M: Tennessee drainages; TN [1]
Etheostoma cinereum -- Ashy Darter
M: Tennessee drainages; TN [1-2]
Etheostoma hopkinsi -- Christmas Darter
M: Savannah drainage; SC [1-2]
Etheostoma kennicotti -- Stripetail Darter
M: Tennessee drainages; TN [1]
Etheostoma osburni -- Finescale Saddled Darter
M: New drainage; VA [2]
Fundulus catenatus -- Northern Studfish
M: Tennessee drainages; TN [1]
Fundulus notatus -- Blackstripe Topminnow
M: Tennessee drainages; TN [1]
Fundulus olivaceous -- Blackspotted Topminnow
M: Tennessee drainages; TN [1]
Gasterosteus aculeatus -- Threespine Stickleback
T: tidal waters; VA [2?]
Hemitremia flammea -- Flame Chub
M: Tennessee drainages; TN [1]
Hybognathus nuchalis -- Central Silvery Minnow
M: Tennessee drainages; TN [2-3]
Hybopsis aestivalis -- Speckled Chub
M: Tennessee drainages; TN [1-2]

Hybopsis dissimilis -- Streamline Chub
M: Tennessee drainages; TN [1-2]
Hybopsis storeriana -- Silver Chub
M: Tennessee drainages; TN [2-3]
Hypentelium etowanum -- Alabama Hog Sucker
M: Tennessee drainages; TN [1], GA [1]
Ichthyomyzon castaneus -- Chestnut Lamprey
M: Tennessee drainages; TN [1]
Ichthyomyzon gagei -- Southern Brook Lamprey
M: Tennessee drainages; TN [1-2]
Ictalurus furcatus -- Blue Catfish
M: Tennessee drainages; TN [1]
Lepisosteus oculatus -- Spotted Gar
M: Tennessee drainages; TN [1-2]
Notropis ariommus -- Popeye Shiner
M: Tennessee drainages; TN [1-2]
Notropis atherinoides -- Emerald Shiner
M: Tennessee drainages; TN [1]
Notropis lirus -- Mountain Shiner
M: Tennessee drainages; TN [1]
Notropis stramineus -- Sand Shiner
M: Tennessee drainages; TN [1]
Noturus baileyi -- Smoky Madtom
M: Tennessee drainages; TN [1]
Noturus leptacanthus -- Speckled Madtom
M: Savannah drainage; SC [1]
Percina rex -- Roanoke Logperch
P: Roanoke and Chowan drainages; VA [1-2]
Percina shumardi -- River Darter
M: Tennessee drainages; TN [1-2]
Phenacobius uranops -- Stargazing Minnow
M: Tennessee drainages; TN [1]
Pimephales promelas -- Fathead Minnow
M: Tennessee drainages; TN [1], VA [1]
Pimephales vigilax -- Bullhead Minnow
M: Tennessee drainages; TN [1-2]
Scaphirhynchus platyrynchus -- Shovelnose Sturgeon
M: Tennessee drainages; TN [1-2]

INSECTS -- BUTTERFLIES

A species marked with the @ symbol is considered to be a Visitor, with breeding occurring elsewhere. Most of these breed to the south of North Carolina and would be expected to occur as a visitor in the warmer months. Otherwise, all other species on this list are presumed to breed in adjacent states.

There are numerous butterfly species whose presently known range extends south in the mountains only to Virginia. Some of these certainly must occur in the northern mountain counties of North Carolina, particularly those not restricted to habitats rare or absent in the state (e.g., shale barrens or limestone outcrops). North Carolina has apparently not had thorough statewide coverage of its Lepidopteran fauna, nor has a book or treatise been published on that fauna of the state. In summary, there is much to be learned about butterfly distribution in the state, including new species to be added to the state list.

Amblyscirtes belli -- Bell's Roadside-Skipper

MP: wooded edges and openings, wooded creeks; host plant -- wild oats (Uniola latifolia); SC [1] (Oconee and Pickens counties)

Boloria selene -- Silver-bordered Fritillary

M: wet meadows, bogs, marshes; host plant -- violets (Viola) and other species; VA [3]

Brephidium isophthalma -- Eastern Pygmy-Blue

T: tidal flats and marshes; host plant -- glassworts (Salicornia), possibly saltwort (Batis maritima); SC [2]

Calephelis borealis -- Northern Metalmark

M: rocky areas near shale, serpentine, or limestone, usually near streams; host plant -- ragworts (Senecio), possibly fleabanes (Erigeron); VA [2]

Callophrys polios -- Hoary Elfin

M: sunny, dry slopes and other barren or rocky habitats; host plant -- heaths, possibly trailing arbutus (Epigaea repens) in the Appalachians; VA [3]

Chlosyne harrisii -- Harris' Checkerspot

M: marshes, damp meadows, and other wet brushy places; host plant -- flat-topped white aster (Aster umbellatus); WV [6-7].

Colias interior -- Pink-edged Sulphur

M: high elevation areas with acidic soils, such as wood margins, openings, and heath balds; host plant -- blueberries (Vaccinium); VA [5-6]

Erynnis lucilius -- Columbine Duskywing

M: rocky woods, ravines, and wooded edges; host plant – wild columbine (Aquilegia canadensis); VA (2); reported from NC in early 2000s, but report retracted, likely an identification error

Erynnis persius -- Persius Duskywing

M: openings in cool forests, fields or bogs near woods; host plant -- lupine (Lupinus perennis); VA [3]

Euphyes conspicuus -- Black Dash

CM: marshes, wet meadows, but rarely in bogs; host plant -- sedges, mainly Carex stricta; VA [1]

Leptotes cassius -- Cassius Blue @

TC: mainly coastal towns, gardens, and residential areas; SC [3]

Speyeria atlantis -- Atlantis Fritillary

M: cool, open woods, wooded streams, clearings; host plant -- violets (Viola); VA [5]

SIGNIFICANT 2004 REVISIONS TO THE ANIMAL LIST

NOTE: Large numbers of mayflies, stoneflies, caddisflies, and moths have been added to, and in some cases deleted from, the Rare List and the Watch List. Because of the numbers of such taxa, they are not listed below.

New Taxa Added to the Rare Animal List

Cambarus histricosus [Sandhills Spiny Crayfish]	[newly described species, endemic to North Carolina?]
Cambarus tuckasegee [Tuckasegee Stream Crayfish]	[newly described species, endemic to North Carolina]
Corynorhinus rafinesquii macrotis [Rafinesque's Big-eared Bat – Coastal Plain subspecies]	[desire to track records by subspecies]
Corynorhinus rafinesquii rafinesquii [Rafinesque's Big-eared Bat – Mountain subspecies]	[desire to track records by subspecies]
Euchloe olympia [Olympia Marble]	[newly discovered in North Carolina]
Ictiobus niger [Black Buffalo]	[newly discovered in North Carolina]
Inflectarius downieanus [Dwarf Globelet]	[newly discovered in North Carolina]
Lasionycteris noctivagans [Silver-haired Bat]	[breeding season records are scarce]
Lasiurus cinereus [Hoary Bat]	[breeding season records are very scarce]
Libellula julia [Chalk-fronted Corporal]	[newly discovered in North Carolina]
Phyciodes texana seminole [Seminole Texan Crescent]	[newly discovered in North Carolina]
Plethodon amplus [Blue Ridge Gray-cheeked Salamander]	[new split; endemic to North Carolina]
Plethodon cheoah [Cheoah Bald Salamander]	[new split; endemic to North Carolina]
Sphaerium simile [Grooved Fingernailclam]	[apparently newly discovered in North Carolina]
Viviparus intertextus [Rotund Mysterysnail]	[apparently newly discovered in North Carolina]

Taxa Added to the Rare Animal List from the Watch List

Bufo quercicus [Oak Toad]	[populations threatened by habitat loss]
Cambarus acanthura [Spinytail Crayfish]	[considered by biologists to be rare enough to track]
Cambarus davidi [Carolina Ladle Crayfish]	[endemic to North Carolina, considered rare enough to track]
Cambarus nodosus [Knotty Burrowing Crayfish]	[considered by biologists to be rare enough to track]
Cambarus reburrus [French Broad River Crayfish]	[endemic to North Carolina, considered rare enough to track]
Desmognathus wrighti [Pigmy Salamander]	[concern over further impacts to spruce-fir habitat]
Haematopus palliatus [American Oystercatcher]	[populations threatened by habitat loss and human impacts]
Hyla versicolor [Northern Gray Treefrog]	[conclusive documentation, and populations believed to be resident]
Lasiurus intermedius [Northern Yellow Bat]	[might well be a resident and not a vagrant]
Orconectes sp 1 [a crayfish] (listed as Orconectes cf spinosus on previous list)	[considered by biologists to be rare enough to track]
Procambarus plumimanus [Croatan Crayfish]	[endemic to North Carolina, considered rare enough to track]

New Taxa Added to the Watch List

Cemophora coccinea [Scarlet Snake]	[declining numbers and habitat loss, though not yet rare]
Elanoides forficatus [Swallow-tailed Kite]	[possibly breeding in North Carolina (in 2003)]
Etheostoma thalassinum [Seagreen Darter]	[apparently declining numbers]
Etheostoma zonale [Banded Darter]	[apparently declining numbers]

Farancia erytrogramma [Rainbow Snake]	[declining numbers, though not yet rare]
Gonielmis dietrichi [a beetle]	[apparently present only in a small area of North Carolina]
Gyraulus deflectus [Flexed Gyro]	[status poorly known in North Carolina]
Lampropeltis triangulum triangulum [Eastern Milk Snake]	[poorly known, seemingly more difficult to find]
Lampsilis sp 3 [a bivalve]	[potential new species; needs study]
Lophodytes cucullatus [Hooded Merganser]	[small but erratic breeding population in North Carolina]
Nocomis raneyi [Bull Chub]	[apparently declining numbers and deteriorating habitat]
Notropis chalybaeus [Ironcolor Shiner]	[steep declines south of North Carolina; thus, needs monitoring in the state]
Plethodon meridianus [South Mountain Gray-cheeked Salamander]	[newly split species; endemic to North Carolina, though common within its small range]
Promenetus exacuous [Sharp Sprite]	[status poorly known in North Carolina]
Siren lacertina [Greater Siren]	[seemingly declining numbers, though not yet rare]
Stenelmis morsei [a riffle beetle]	[apparently small range in North Carolina]
Stenelmis sp nov 1 [Harley's Stenelmis Riffle Beetle]	[apparently small range in North Carolina]
Stenelmis sp nov 2 [William's Stenelmis Riffle Beetle]	[apparently small range in North Carolina]
Stenelmis sp nov 3 [a riffle beetle]	[apparently small range in North Carolina]
Stenotrema pilula [Pygmy Slitmouth]	[status poorly known in North Carolina]
Stereochilus marginatus [Many-lined Salamander]	[scarce or difficult to find, despite much seemingly suitable habitat]
Tachycineta bicolor [Tree Swallow]	[small breeding population in North Carolina]
Virginia valeriae [Smooth Earth Snake]	[relatively few recent records, despite seemingly abundant habitat]

Taxa Removed from the Rare Animal List

Apeltes quadracus [Fourspine Stickleback]	[NC NHP no longer tracking marine and estuarine fishes]
Eleotris pisonis [Spinycheek Sleeper]	[NC NHP no longer tracking marine and estuarine fishes]
Epioblasma capsaeformis [Oyster Mussel]	[considered to be extirpated from North Carolina]
Erynnis lucilius [Columbine Duskywing]	[reported occurrence believed to be a mis-identification]
Evorthodus lyricus [Lyre Goby]	[NC NHP no longer tracking marine and estuarine fishes]
Gobionellus stigmaticus [Marked Goby]	[NC NHP no longer tracking marine and estuarine fishes]
Hypsoblennius ionthas [Freckled Blenny]	[NC NHP no longer tracking marine and estuarine fishes]
Leucorrhinia frigida [Frosted Whiteface]	[questionable identification; species far out of range]
Medionidus conradicus [Cumberland Moccasinshell]	[considered to be extirpated from North Carolina]
Microphis brachyurus [Opossum Pipefish]	[NC NHP no longer tracking marine and estuarine fishes]
Percina macrocephala [Longhead Darter]	[considered to be extirpated from North Carolina]
Poecilia latipinna [Sailfin Molly]	[NC NHP no longer tracking marine and estuarine fishes]
Ptychobranchus fasciolaris [Kidneyshell]	[considered to be extirpated from North Carolina]
Quadrula pustulosa [Pimpleback]	[considered to be extirpated from North Carolina]
Toxolasma lividus [Purple Lilliput]	[considered to be extirpated from North Carolina]
Tritogonia verrucosa [Pistolgrip]	[considered to be extirpated from North Carolina]

Taxa Moved from the Rare Animal List to the Watch List

Celastrina neglectamajor [Appalachian Azure]	[more numerous than formerly believed]
Gomphus diminutus [Diminutive Clubtail]	[more numerous than formerly believed]
Hyla andersonii [Pine Barrens Treefrog]	[more widespread than formerly believed, and habitat not overly threatened]
Lythrurus matutinus [Pinewoods Shiner]	[quite common within its rather small range]
Speyeria diana [Diana Fritillary]	[more widespread than formerly believed, and habitat not overly threatened]
Trechus (all species) [ground beetles]	[lack of new data and scarcity or absence of biologists working with this group of animals; however, because most have very small ranges and are endemic to North Carolina, they are retained on the Watch List]

Taxa Removed from the Watch List

Lepus americanus [Snowshoe Hare]	[considered to be extirpated from North Carolina]
Myotis lucifugus [Little Brown Myotis]	[considered to be reasonably common in North Carolina]
Sorex longirostris fisheri [Dismal Swamp Southeastern Shrew]	[considered to be common in North Carolina]
Tadarida brasiliensis [Brazilian Free-tailed Bat]	[considered to be reasonably common in North Carolina]

NOTE: The following animal groups have also been removed from the Watch List: marine bivalves, marine gastropods, millipedes, scorpionflies, most beetles, ants, and annelids. NC NHP has received essentially no data on these groups in over a decade, and there are few if any biologists working with these groups.

Scientific Name Changes to the Rare Animal List

NOTE: Slight spelling changes, whether officially recognized changes or spelling errors from the 2001 edition of this list, are not included below. Only completely new genus or species names are given below.

Changed from:	Changed to:
Catinella vermeta [Suboval Ambersnail]	Catinella waccamawensis [Waccamaw Ambersnail]
Cervus elaphus [Elk]	Cervus canadensis
Clemmys muhlenbergii [Bog Turtle]	Glyptemys muhlenbergii
Cyprinella zanema pop 1 [Santee Chub – Piedmont population]	Cyprinella zanema [Santee Chub]
Cyprinella zanema pop 2 [Santee Chub – Coastal Plain population]	Cyprinella sp 1 [Thinlip Chub] (formerly thought to be part of C. zanema, but might be a separate species)
Desmognathus sp 1 [Waterrock Knob Salamander]	Desmognathus imitator pop 1 [Imitator Salamander - Waterrock Knob population]
Eurycea longicauda longicauda [Long-tailed Salamander]	Eurycea longicauda [Longtail Salamander] (now a full species)
Fundulus waccamensis pop 1 [Waccamaw Killifish – Lake Waccamaw population]	Fundulus waccamensis [Waccamaw Killifish]
Fundulus waccamensis pop 2 [Waccamaw Killifish – Lake Phelps population]	Fundulus cf diaphanus [Lake Phelps Killifish] (population is closer in characters to F. diaphanus than to F. waccamensis in Lake Waccamaw)
Hybopsis monacha [Spotfin Chub]	Cyprinella monacha

Ivesia carolinensis [Linville Caverns Spider]	Nesticus carolinensis
Noturus furiosus pop 1 [Carolina Madtom – Neuse drainage population]	Noturus furiosus [Carolina Madtom]
Noturus furiosus pop 2 [Carolina Madtom – Tar drainage population]	Noturus furiosus [Carolina Madtom] (entire species proposed for State Threatened status, thus no need to track separate populations)
Opheodrys vernalis [Smooth Green Snake]	Liochlorophis vernalis
Orconectes cf spinosus [a crayfish]	Orconectes sp 1
Rana capito capito [Carolina Gopher Frog]	Rana capito (now a full species)
Stizostedion canadensis [Sauger]	Sander canadensis
Sylvilagus transitionalis [New England Cottontail]	Sylvilagus obscurus [Appalachian Cottontail]
Valvata cf sincera [a valvatid snail]	Valvata sincera

N.C. Status Changes on the Rare Animal List

All state status (E, T, and SC) changes must be approved by the N.C. Wildlife Resources Commission and published in the State Register for public comment. The changes below became official on July 1, 2002. These taxa are given state protection under the State Endangered Species Act (G.S. 113-331 to 113-337). [SR and W are NC NHP designations only, not affording official state protection.]

	From:	To:
Aegolius acadicus [Northern Saw-whet Owl]	SC	T
Alasmidonta varicosa [Brook Floater]	T	E
Anodonta implicata [Alewife Floater]	SC	T
Cambarus catagius [Greensboro Burrowing Crayfish]	SR	SC
Cambarus chaugaensis [Oconee Stream Crayfish]	SR	SC
Cambarus georgiae [Little Tennessee River Crayfish]	SR	SC
Cambarus parrishi [Hiwassee Headwaters Crayfish]	SR	SC
Cambarus spicatus [Broad River Spiny Crayfish]	SR	SC
Certhia americana [Brown Creeper]	SR	SC
Cervus canadensis [Elk]	W	SC (because this is an experimental release population, NC NHP is not tracking the species, and retains it on its Watch List)
Corynorhinus rafinesquii [Rafinesque's Big-eared Bat]	SC	T
Crotalus adamanteus [Eastern Diamondback Rattlesnake]	SR	E
Crotalus horridus [Timber Rattlesnake]	SR	SC
Cyclonaias tuberculata [Purple Wartyback]	SR	E
Elliptio lanceolata [Yellow Lance]	T	E
Elliptio marsupiobesa [Cape Fear Spike]	T	SC
Eurycea junaluska [Junaluska Salamander]	SC	T
Fusconaia masoni [Atlantic Pigtoe]	T	E
Haliaeetus leucocephalus [Bald Eagle]	E	T
Helisoma eucosmium [Greenfield Rams-horn]	SR	E
Heterodon simus [Southern Hognose Snake]	SR	SC
Lampetra aepyptera [Least Brook Lamprey]	SC	T
Lampsilis cariosa [Yellow Lampmussel]	T	E
Lampsilis radiata conspicua [Carolina Fatmucket]	SR	T
Lampsilis radiata radiata [Eastern Lampmussel]	SC	T
Leptodea ochracea [Tidewater Mucket]	SC	T

	From:	To:
Ligumia nasuta [Eastern Pondmussel]	SC	T
Loxia curvirostris [Red Crossbill]	SR	SC
Micrurus fulvius [Eastern Coral Snake]	SR	E
Moxostoma robustum [Robust Redhorse]	SC	SR (since the downlisting, has been re-discovered and will be proposed for E status)
Orconectes carolinensis [North Carolina Spiny Crayfish]	SR	SC
Orconectes virginiensis [Chowanoke Crayfish]	SR	SC
Pelecanus occidentalis [Brown Pelican]	SC	SR
Peromyscus leucopus easti [Pungo White-footed Mouse]	SR	SC
Pleurobema oviforme [Tennessee Clubshell]	SR	E
Procambarus braswelli [Waccamaw Crayfish]	SR	SC
Rana capito [Carolina Gopher Frog]	SC	T
Regulus satrapa [Golden-crowned Kinglet]	SC	W
Scartomyzon ariommus [Bigeye Jumprock]	SC	T
Sistrurus miliarius [Pigmy Rattlesnake]	SR	SC
Sorex hoyi winnemana [Southern Pygmy Shrew]	SC	W
Sorex longirostris fisheri [Dismal Swamp Southeastern Shrew]	T	—
Sphyrapicus varius [Yellow-bellied Sapsucker]	SR	SC
Sterna antillarum [Least Tern]	SR	SC
Sterna hirundo [Common Tern]	SR	SC
Tadarida brasiliensis [Brazilian Free-tailed Bat]	SC	—
Toxolasma pullus [Savannah Lilliput]	T	E
Tritogonia verrucosa [Pistolgrip]	E	EX (extirpated)
Villosa constricta [Notched Rainbow]	SR	SC
Villosa vaughaniana [Carolina Creekshell]	SC	E

U.S. Status Changes on the Rare Animal List

There have been no changes to the U.S. Status, in terms of listed taxa (E or T), since the 2001 NC NHP animal list. There have been some changes in the FSC (Federal Species of Concern) status, indicating a species that may or may not be listed in the future, but for which there is insufficient information to support listing at the present time. NC NHP has been working with U.S. Fish and Wildlife Service staff at the Raleigh and Asheville offices to make sure that we have the most up-to-date statuses, and working to suggest future additions to and deletions from the FSC list. Currently, we are working from the FWS list revised on March 16, 2004.

	From:	To:
Acronicta albarufa [Barrens Daggermoth]	FSC	—
Agrotis sp 1 nr buchholzi [a dart moth]	—	FSC (listed by FWS as Agrotis buchholzi [Buchholz's Dart Moth]
Ambloplites cavifrons [Roanoke Bass]	—	FSC
Atrytonopsis loammi [Loammi Skipper]	—	FSC
Clinostomus funduloides ssp 1 [Little Tennessee River Rosyside Dace]	—	FSC
Contopus cooperi [Olive-sided Flycatcher]	—	FSC
Desmognathus wrighti [Pigmy Salamander]	FSC	—

	From:	To:
Elimia interrupta [Knotty Elimia]	—	FSC
Ephemerella argo [Argo Ephemerellan Mayfly]	FSC	—
Etheostoma acuticeps [Sharphead Darter]	—	FSC
Etheostoma perlongum [Waccamaw Darter]	—	FSC
Etheostoma vulneratum [Wounded Darter]	—	FSC
Euchlaena milnei [Milne's Euchlaena]	FSC	—
Lanius ludovicianus migrans [Migrant Loggerhead Shrike]	FSC	—
Lordithon niger [Black Lordithon Rove Beetle]	FSC	—
Notropis bifrenatus [Bridle Shiner]	—	FSC
Noturus furiosus [Carolina Madtom]	—	FSC
Percina burtoni [Blotchside Logperch]	—	FSC
Polyodon spathula [Paddlefish]	FSC	—
Semotilus lumbee [Sandhills Chub]	—	FSC
Skistodiaptomus carolinensis [Carolina Skistodiaptomus]	FSC	—
Thoburnia hamiltoni [Rustyside Sucker]	—	FSC
Toxolasma lividus [Purple Lilliput]	FSC	— (considered extirpated in North Carolina)
Vermivora chrysoptera [Golden-winged Warbler]	—	FSC

NOTE: There are some additional changes to the FWS list of FSC taxa, but only those appearing on the NHP's Rare List and Watch List (and list of extirpated species) are indicated above. A few taxa on the FWS list -- E, T, and FSC – are not found in this NHP publication; these are primarily taxa that occur only in offshore waters (such as whales or seabirds), are of uncertain occurrence in the state, or are of uncertain taxonomic status.

Rank Changes on the Rare Animal List

Between 2001 and 2004, the N.C. Natural Heritage Program has made numerous changes to the N.C. Ranks, as has NatureServe (formerly the science branch of The Nature Conservancy) to the Global Ranks. Only those changes involving taxa formerly or presently considered extinct, extirpated, or of historical occurrence are listed below. However, taxa changing from SH to SX are not listed.

	From:	To:	
Alasmidonta robusta [Carolina Elktoe]	SX	S1	[recently re-discovered]
Dolania americana [American Sand Burrowing Mayfly]	S1	SH	[no records in 1974]
Hiodon tergisus [Mooneye]	S1	SH	[no records in over 20 years]

INDEX OF GENERA

Abrostola 73
Accipiter 15, 61, 85
Acipenser 27, 28, 83
Acrapex 73
Acroneuria 69
Acronicta 49, 73, 94
Aegolius 15, 93
Aeshna 47
Agapetus 70
Agnetina 69
Agrotis 49, 94
Aimophila 15
Alasmidonta 32, 33, 93, 95
Alligator 6, 21
Alloperla 69
Ambloplites 28, 94
Amblyscirtes 53, 78, 89
Ambystoma 25, 86
Ameiurus 65
Ameletus 68
Ammodramus 15, 61
Amnicola 37, 73
Amphipyrinae 49, 73, 74
Anacamptodes 49
Anas 61, 62
Aneides 25
Anhinga 16
Anodonta 33, 93
Anthopotamus 68
Anticlea 74
Apalone 21, 63
Apamea 49
Apantesis 49, 74
Aphylla 72
Aplodinotus 28
Appalachina 37
Argillophora 74
Argyrostrotis 74
Arigomphus 72
Arphia 79
Arugisa 74
Ascetocythere 41
Asio 62, 85
Asioplax 43
Atlanticus 79
Atrytone 53
Atrytonopsis 53, 94
Attaneuria 45
Autochton 54
Baetisca 43, 44, 68
Baetopus 44
Barbaetis 44
Belocephalus 79
Bleptina 74
Bolotoperla 45
Bomolocha 74
Bos 82
Botaurus 16
Boyeria 72
Bufo 25, 90
Cabera 74
Caecidotea 41
Calephelis 54, 89
Callophrys 54, 78, 89
Callosamia 50
Calopteryx 73
Cambarus 41, 42, 67, 90, 93
Campephilus 82
Canis 12, 82
Canthocamptus 67
Carduelis 62
Caretta 22
Caripeta 74
Carpiodes 28
Catharus 16, 84, 85
Catinella 37, 92
Catocala 50, 74
Celastrina 54, 78, 92
Cemophora 63, 90
Centroptilum 68
Cepphis 74
Ceraclea 45, 46, 70, 71
Ceratonyx 74
Ceratopsyche 71
Cercobrachys 44
Cerma 50
Certhia 16, 93
Cervus 61, 92, 93
Chaetaglaea 50
Charadrius 16
Chelonia 22
Chlorochroa 58
Chlosyne 54, 89
Chondestes 16
Choroterpes 44
Chrysanympha 74
Chytonix 74
Cicindela 58
Cincinnatia 37
Circus 16
Cisthene 74
Clemmys 22, 63, 92
Cleora 74
Clinostomus 28, 94
Coccyzus 16
Columbina 16
Condylura 12
Contopus 17, 85, 94
Conuropsis 82
Cordulegaster 72
Cordulia 47
Corvus 62
Corynorhinus 12, 90, 93
Coryphaeschna 72
Cosmosoma 74
Cottus 28, 87
Coturnicops 17
Crotalus 22, 93
Cryphia 74
Cryptobranchus 25
Culoptila 71
Cyclonaias 33, 93
Cyclophora 50
Cycnia 74
Cymocythere 42
Cyprinella 28, 65, 92
Cytheridella 67
Dactylocythere 42, 67
Dasychira 74
Datana 74
Deirochelys 22
Dendroica 17, 62, 85
Dendrotettix 79
Dermochelys 23
Desmognathus 25, 64, 86, 90, 92, 94
Diacyclops 42
Dibusa 46
Diplectrona 46
Diploperla 70
Discus 38
Dolania 44, 95
Dolichonyx 62
Doryodes 50, 75
Drasteria 50
Dromogomphus 47, 73
Drunella 44, 68
Dysgonia 50, 75
Ectopistes 82
Egretta 17
Elanoides 62, 85, 90
Elassoma 28
Elimia 37, 95
Elliptio 1, 33, 66, 93
Empidonax 18, 62, 85
Enallagma 49
Enneacanthus 65
Eotettix 57
Ephemerella 44, 68, 95
Epioblasma 83, 91
Epitheca 73
Erastria 75
Erethizon 82
Eretmochelys 23
Erimystax 28
Erora 54
Erpetogomphus 73
Erynnis 55, 89, 91
Eschrichtius 82

Etheostoma . 28, 29, 65, 87, 90, 95
Euagrotis 75
Eubaphe 50
Euchlaena 51, 95
Euchloe 55, 84, 90
Eucoptocnemis 75
Eudocimus 62
Eulonchus 49
Eumeces 63
Euphydryas 55
Euphyes 55, 89
Eupithecia 51
Eurycea 26, 64, 86, 92, 93
Eurylophella 68
Euxoa 51, 75
Exoglossum 29
Exyra 51, 75
Falco 18, 62
Farancia 64, 91
Faronta 75
Ferrissia 37
Fixsenia 55
Fumonelix 38
Fundulus 29, 30, 87, 92
Fusconaia 34, 93
Gabara 51, 75
Glaucomys 12
Glaucopsyche 78
Glyphyalinia 38
Glyptemys 22, 23, 92
Goerita 71
Gomphus 47, 48, 73, 92
Gonielmis 80, 91
Grammia 51
Gyraulus 66, 91
Habrophlebiodes 44
Haematopus 18, 90
Haliaeetus 18, 93
Haplotrema 38
Harpagocythere 67
Helicodiscus 38
Helicopsyche 71
Heliomata 51
Helisoma 37, 93
Helmitheros 62
Helopicus 70
Hemeroplanis 51
Hemidactylium 26
Hemipachnobia 51
Hepialus 51
Hesperia 56, 78
Hesperodiaptomus 67
Hesperotettix 79
Heterandria 30
Heterocampa 51
Heterocloeon 68
Heterodon 23, 32, 93
Himantopus 18
Hiodon 30, 95
Homoeoneuria 44
Homoplectra 71
Hubbellia 79
Hybopsis 30, 87, 88, 92
Hydroperla 70
Hydroptila 71
Hyla 26, 64, 90, 92
Hypagyrtis 51
Hypentelium 30, 88
Hypochilus 40
Hypocoena 75
Hypomecis 51, 75
Ichthyomyzon 30, 88
Icterus 62
Ictinia 18
Ictiobus 30, 90
Idaea 75
Inflectarius 38, 90
Inscudderia 79
Isogenoides 70
Isoperla 45, 70
Itame 51
Ixobrychus 62
Kinosternon 64
Lagoa 51
Lampetra 30, 93
Lampropeltis 23, 64, 91
Lampsilis 34, 66, 91, 93
Lanius 19, 95
Lanthus 48
Lasionycteris 12, 90
Lasiurus 12, 61, 90
Lasmigona 35
Laterallus 19
Lepidochelys 23
Lepipolys 75
Lepomis 65, 83
Leptodea 35, 93
Leptophlebia 68, 69
Leptostales 75
Leptoxis 37
Lepus 82, 92
Lestes 49, 73
Leucania 75
Libellula 48, 73, 90
Ligumia 35, 94
Limnothlypis 62
Liochlorophis 23, 24, 93
Lithacodia 75
Lithophane 51, 76
Litoprosopus 76
Lobocleta 76
Lophodytes 62, 91
Lordithon 58, 95
Lordocythere 67
Loxia 19, 94
Lucania 30
Luxilus 30
Lynceus 42
Lythrurus 65, 92
Macdunnoa 44
Macrochilo 52, 76
Macrodiplax 73
Macromia 48
Malaclemys 23
Manophylax 46
Martes 82
Masticophis 23
Matrioptila 46
Mayatrichia 71
Medionidus 83, 91
Megaleuctra 45
Megathymus 56, 78
Melanoplus 57, 58, 79
Menidia 30
Mermiria 79, 80
Meropleon 52, 76
Metalectra 76
Metalepsis 76
Metarranthis 52
Micrasema 46
Microhexura 40
Micropterus 30
Microtus 13
Micrurus 24, 94
Molanna 71
Montezumina 58
Morrisonia 76
Moxostoma 30, 65, 94
Mustela 13, 61
Mycteria 19, 86
Myotis 13, 92
Nannothemis 73
Nectopsyche 71
Necturus 26
Nematocampa 52
Nemoria 52, 76
Neoconocephalus 80
Neonympha 56, 78
Neophylax 71
Neoplynes 76
Neotoma 13, 14
Neotrichia 71
Nerodia 24, 86
Nesticus 40, 41, 66, 67, 93
Neurocordulia 48
Nicrophorus 58
Nixe 69
Nocomis 65, 91
Notondontidae, ... 76
Notropis ... 30, 31, 65, 88, 91, 95
Noturus 31, 88, 93, 95
Nyctanassa 63
Oecetis 71, 72
Oemopteryx 70
Oligia 76
Ophiogomphus 48
Ophisaurus 24, 64, 86

Opshomala 80
Orchelimum 80
Orconectes 43, 67, 90, 93, 94
Orgyia 76
Oropsyche 72
Orthemis 73
Palaeagapetus 46
Pallifera 39
Paonias 76
Papaipema 52, 76
Papilio 56
Paracloeodes 69
Paragnetina 70
Parahypenodes 76
Paravitrea 39
Passerculus 19, 86
Passerina 16, 19
Patera 39
Pegias 35
Pelecanus 19, 94
Percina 31, 65, 83, 88, 91, 95
Perlesta 70
Perlinella 45
Peromyscus 14, 94
Phalacrocorax 19
Phenacobius 31, 65, 88
Pheucticus 63
Phragmatiphila 52
Phyciodes 56, 78, 84, 90
Picoides 20
Pimaphera 76
Pituophis 24
Planorbella 37
Plauditus 69
Plegadis 20
Plethodon 26, 27, 64, 86, 87, 90, 91
Pleurobema 35, 94
Poanes 56
Poecile 20
Polygonia 56, 57
Polyodon 32, 95
Pontia 78
Pooecetes 20
Porphyrula 20
Problema 57, 78
Procambarus ... 43, 67, 68, 90, 94
Progomphus 48
Promenetus 66, 91
Properigea 76
Pseudacris 27, 64
Pseudiron 69
Pseudogoera 72
Psilotreta 72
Pteronarcys 70
Ptichodis 52
Ptychobranchus 83, 91
Puma 14
Pygarctia 52
Pyreferra 52, 76
Pyrgus 57
Quadrula 83, 91
Rallus 63
Rana 27, 87, 93, 94
Regina 24
Regulus 63, 94
Rhadinaea 64
Rhithrogena 69
Rhyacophila 46, 47, 72
Riparia 20
Romalea 80
Rynchops 20
Sander 32, 93
Satyrium 57
Scartomyzon 32, 94
Schinia 52, 76, 77
Schizura 52
Sciurus 14
Scopula 77
Scudderia 58, 80
Seminatrix 24
Semiothisa 52, 77
Semotilus 32, 95
Serratella 44
Setodes 72
Shipsa 70
Siphloplecton 69
Siren 64, 77, 87, 91
Sistrurus 24, 94
Sitta 63
Skistodiaptomus 43, 95
Somatochlora 48
Somatogyrus 37
Sorex 14, 61, 92, 94
Spartiniphaga 53
Speyeria 57, 79, 89, 92
Sphaerium 35, 90
Sphingicampa 77
Sphinx 76, 77
Sphyrapicus 20, 94
Spilogale 61
Spilosoma 77
Spiza 63
Stenelmis 58, 80, 91
Stenonema 69
Stenotrema 39, 66, 91
Stereochilus 64, 91
Sterna 20, 21, 63, 94
Sternotherus 24
Stethophyma 58
Stiria 77
Strophitus 36
Stygobromus 43, 68
Stylurus 48, 49, 73
Sylvilagus 15, 93
Sympetrum 49
Synaptomys 15, 61
Syngrapha 77
Tachycineta 63, 91
Tarachidia 77
Thoburnia 32, 95
Thorybes 79
Thryomanes 21
Tolype 77
Tornos 53, 77
Tortopus 45
Toxolasma 36, 83, 91, 94, 95
Trechus 80, 81, 92
Triacanthagyna 73
Triaenodes 47, 72
Trichechus 15
Trichosilia 53
Tricorythodes 69
Trimerotropis 58
Triodopsis 39, 40
Tripudia 77
Tritogonia 83, 91, 94
Troglodytes 63
Tyto 63
Ulolonche 77
Vaejovis 67
Valvata 40, 93
Ventridens 40
Vermivora 21, 86, 95
Viehoperla 70
Villosa 36, 94
Vireo 21
Virginia 64, 91
Viviparus 37, 90
Waltoncythere 43
Wormaldia 72
Xestia 77
Yugus 70
Zale 53, 77
Zanclognatha 77
Zapada 45
Zapus 61
Zonitoides 40

NORTH CAROLINA NATURAL HERITAGE PROGRAM
SPECIAL ANIMAL SURVEY FORM

Scientific Name:

Common Name:

Observer(s):

Date(s) of Observation:

County: 7.5' Quad Map:

Exact Location **(be specific! - attach copy of map with site marked):**

Number of Animals **(include age and sex, if known):**

Type of Observation **(sight record, vocal record, specimen, photograph, etc.):**

Behavior of Animals **(singing, foraging, at nest, etc.):**

Habitat **(use NC NHP natural community name if known; describe dominant vegetation, maturity of vegetation, slope, aspect, etc.):**

Owner(s) of Land, if known:

Other Comments **(significance of record, disturbance to habitat, etc.):**

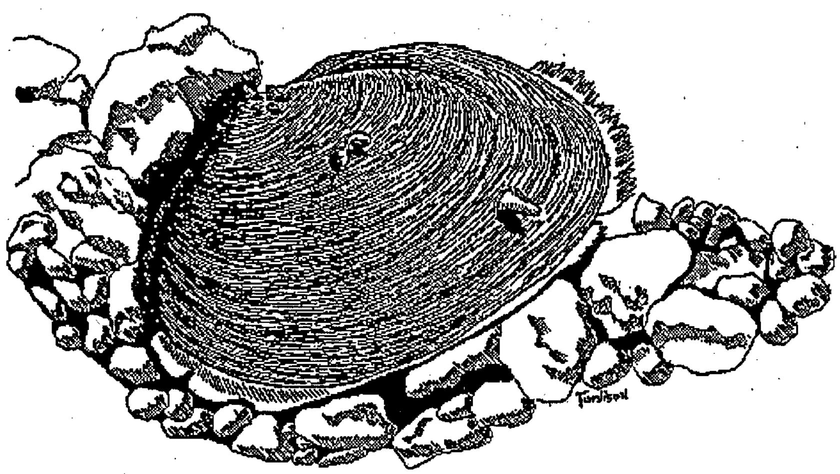
Person making this report: Date:
Address: Phone:

Return form to: N.C. Natural Heritage Program
1601 MSC; Raleigh, NC 27699-1601

NCNHP 2004a
(terrestrial input)

NATURAL HERITAGE PROGRAM LIST OF THE RARE ANIMAL SPECIES OF NORTH CAROLINA

2004

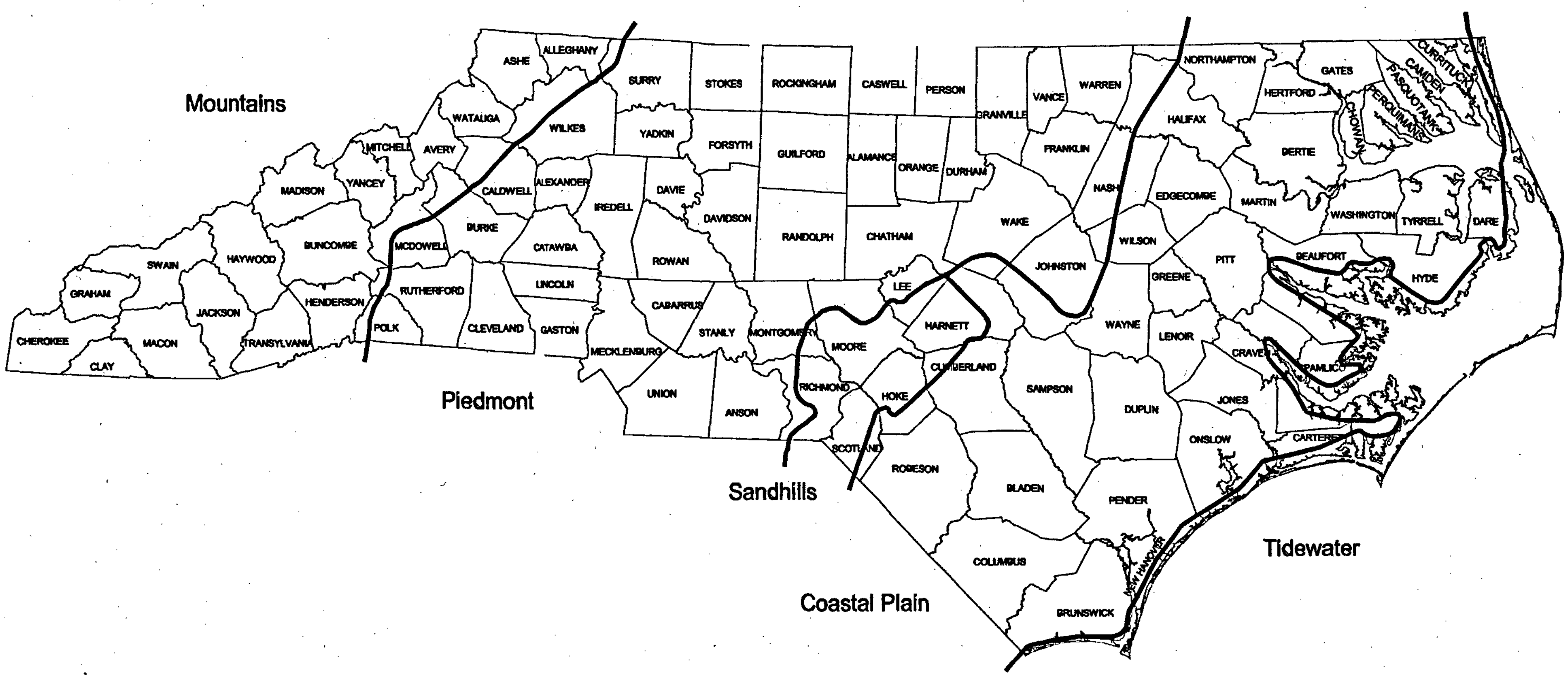


Tar River Spinymussel (Elliptio steinstansana)
drawing by R. Tumlison; courtesy of the U.S. Fish and Wildlife Service

Compiled by
Harry E. LeGrand, Jr., Vertebrate Zoologist
Sarah E. McRae, Freshwater Ecologist
Stephen P. Hall, Invertebrate Zoologist
John T. Finnegan, Information Systems Manager

North Carolina Natural Heritage Program
Office of Conservation and Community Affairs
N.C. Department of Environment and Natural Resources

THE COUNTIES AND PHYSIOGRAPHIC PROVINCES OF NORTH CAROLINA



THE COUNTIES AND PHYSIOGRAPHIC PROVINCES OF NORTH CAROLINA

NATURAL HERITAGE PROGRAM LIST OF THE RARE ANIMAL SPECIES OF NORTH CAROLINA

2004

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North Carolina Natural Heritage Program
Office of Conservation and Community Affairs
N.C. Department of Environment and Natural Resources

This list is dynamic and is revised frequently as further data become available. New species are added to the list, and others are dropped from the list for various reasons. The list is revised periodically, generally every two years. If you are using a copy of this list that is dated 2001 or older, it might be invalid and you should request a new version. Further information on these species may be obtained by contacting the North Carolina Natural Heritage Program, Department of Environment and Natural Resources, 1601 MSC, Raleigh, NC 27699-1601, or by contacting the North Carolina Wildlife Resources Commission, 1724 MSC, Raleigh, NC 27604-1724. Additional information on species can be obtained from the Natural Heritage Program's website at <www.ncsparks.net/nhp>.

TABLE OF CONTENTS

INTRODUCTION 1

LIST FORMAT 3

STATUS OF ANIMAL TAXA ON NHP RARE ANIMAL LIST 10

MAMMALS 12
BIRDS 15
REPTILES 21
AMPHIBIANS 25
FRESHWATER FISHES 27
MOLLUSKS 32
- FRESHWATER BIVALVES 32
- FRESHWATER GASTROPODS 37
- TERRESTRIAL GASTROPODS 37

ARACHNIDS 40
CRUSTACEANS 41
INSECTS 43
- MAYFLIES 43
- STONEFLIES 45
- CADDISFLIES 45
- DRAGONFLIES 47
- DAMSELFLIES 49
- FLIES 49
- MOTHS 49
- BUTTERFLIES 53
- GRASSHOPPERS AND KATYDIDS 57
- BEETLES 58
- TRUE BUGS 58

NORTH CAROLINA ANIMAL WATCH LIST 59
- MAMMALS 61
- BIRDS 61
- REPTILES 63
- AMPHIBIANS 64
- FRESHWATER FISHES 65
- MOLLUSKS 66
  - FRESHWATER BIVALVES 66
  - FRESHWATER GASTROPODS 66
  - TERRESTRIAL GASTROPODS 66

ARACHNIDS 66
CRUSTACEANS 67
INSECTS 68
MAYFLIES 68
STONEFLIES 69
CADDISFLIES 70
DRAGONFLIES 72
DAMSELFLIES 73
MOTHS 73
BUTTERFLIES 78
GRASSHOPPERS AND KATYDIDS 79
BEETLES 80

EXTIRPATED ANIMALS IN NORTH CAROLINA 82
MAMMALS 82
BIRDS 82
FRESHWATER FISHES 83
MOLLUSKS 83
FRESHWATER BIVALVES 83

POTENTIAL NEW TO NORTH CAROLINA ANIMALS 84
MAMMALS 84
BIRDS 85
REPTILES 86
AMPHIBIANS 86
FISHES 87
INSECTS 88
BUTTERFLIES 88

SIGNIFICANT 2004 REVISIONS TO THE ANIMAL LIST 90

INDEX OF GENERA 96

NORTH CAROLINA NATURAL HERITAGE PROGRAM
SPECIAL ANIMAL SURVEY FORM 99

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Portions of this list have been developed with the assistance of biologists in North Carolina and elsewhere. Scientific Councils for each vertebrate group and several invertebrates groups compiled the bulk of the rare species lists (for N.C. Endangered, Threatened, and Special Concern species). Members of the current Scientific Councils are:

MAMMALS -- Mary Kay Clark (chair), Mary Bunch, Susan Loeb, Chris McGrath, Nancy Moncrief, Nora Murdock, Roger Powell, Terry Sharpe, David Webster, Peter Weigl. Former members: David Adams, Bill Adams, Carl Betsill, John Funderburg.

BIRDS -- Dave Lee (chair), Dave Allen, John Gerwin, Walker Golder, Herb Hendrickson, Mark Johns, Harry LeGrand, Merrill Lynch, Jim Parnell, Eloise Potter, Matt Rowe, Ted Simons, Haven Wiley. Former members: Allen Boynton, Phil Crutchfield, Tom Howard, Wayne Irvin, Jeff Walters.

AMPHIBIANS AND REPTILES -- Alvin Braswell (chair), Jeff Beane, Ruth Boettcher, Dick Bruce, Julian Harrison, Harold Heatwole, Dennis Herman, Wilson Laney, Nora Murdock, Dave Stephan, Wayne Van Devender, Dave Woodward. Former members: Bill Palmer, Jim Parnell.

FRESHWATER FISHES -- Wayne Starnes (chair), John Alderman, Brooks Burr, David Etnier, Robert Jenkins, David Lindquist, Ed Menhinick, Anthony Mullis, Richard Neves, Richard Noble, Bill Palmer, Gerald Pottern, Fred Rohde, Steve Ross. Former members: Alvin Braswell, Peter Coleman, Jerry West.

MARINE AND ESTUARINE FISHES -- Steve Ross (chair), Fred Rohde, David Lindquist.

FRESHWATER AND TERRESTRIAL MOLLUSKS -- Art Bogan (chair), Bill Adams, John Alderman, Dick Biggins, John Fridell, Eugene Keferl, Hugh Porter, Amy Van Devender. Former member: Andy Gerberich.

FRESHWATER AND TERRESTRIAL CRUSTACEANS -- John Clamp (chair), Bill Adams, John Alderman, John Cooper, David DeMont, Chris McGrath, Bill McLarney, Gabriela Mottesi, Janet Reid, Annette Taylor, Jan Williams.

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NATURAL HERITAGE PROGRAM
LIST OF THE RARE ANIMALS OF NORTH CAROLINA

INTRODUCTION

The attached list of animals represents those species of vertebrates and invertebrates for which the N.C. Natural Heritage Program (NC NHP) is collecting data - in files, on computer, and on topographic maps. This is not strictly a list of protected animals; in fact, the majority of these species receive no formal protection whatsoever. Rather, it is a list of species that are endangered, threatened, or otherwise occur in small or unknown numbers in the state. The primary functions of the list are its use: 1) in determining priorities of inventory and protection for these animals - including the proposed listing of species for federal or state protection; 2) in determining priorities for protection of natural areas that contain such listed animals; and 3) in environmental assessments to "flag" rare species and their locations that might be negatively affected by proposed actions.

The majority of the vertebrates on the list are those species currently listed for state protection by the N.C. Wildlife Resources Commission (WRC), based on lists of Endangered (E), Threatened (T), and Special Concern (SC) species developed nearly 15 years ago by Scientific Councils on mammals, birds, reptiles and amphibians, freshwater fishes, and mollusks. All of these species are included on this list, with the corresponding status listed in the "N.C. Status" column. (In addition, NC NHP is tracking other rare vertebrates and mollusks not given a formal state designation. These species are considered to be Significantly Rare [SR] in North Carolina.)

As of March 2004, Endangered, Threatened, and Special Concern species of mammals, birds, reptiles, amphibians, freshwater fishes, freshwater and terrestrial mollusks, and crustaceans are protected by state law, under the jurisdiction of the WRC. Protection for crustaceans (so far, only crayfishes) and certain venomous snakes was enacted in 2002. However, State law does not allow for protection of invertebrate groups other than mollusks and crustaceans.

During 1997 and 1998, the Scientific Councils re-convened, prepared updated lists of species needing State protection, and submitted these lists to the WRC's Nongame Wildlife Advisory Committee. These lists were sent to the WRC for review; and approved in 1999. A recent change in State law requires any proposed legislation (such as lists of Endangered, Threatened, and Special Concern species) must go to the State General Assembly; if there is no action by that body to overturn proposed legislation by a specified date, the legislation becomes law. Fortunately, these lists became law on July 1, 2002. Since that date, a few Scientific Councils have met and made suggestions (though not formally) for changes in state statuses; those statuses are listed in parentheses next to the current status.

The list of rare marine and estuarine fishes was presented in 1988 by the N.C. Museum of Natural Sciences. Except for the federally listed Endangered Shortnose Sturgeon, all other marine and estuarine fishes were listed in 1988 as "Vulnerable, Category 2". Because the Atlantic Sturgeon also occurs in fresh waters, it has been listed by WRC as a Special Concern species, and thus it is listed in this publication under Freshwater Fishes (as is the state Endangered Shortnose Sturgeon). Marine and estuarine fishes are under the jurisdiction of the N.C. Division of Marine Fisheries; however, this agency does not have a list of endangered, threatened, and special concern fishes. **Beginning with this 2004**

list, the NC NHP is no longer tracking (nor including on the Watch List) marine and estuarine fishes. This decision is not due to their lack of state listing; rather, we receive few data on such species, survey for such species can be cumbersome, protection of them is difficult if not impossible, and there has no been no recent systematic account of the rarity and distribution of the hundreds of such fishes that occur in our salt and brackish waters.

NC NHP lists of rare invertebrates - other than mollusks and crustaceans - have been derived from multiple sources. These lists have been prepared in consultation with other biologists in North Carolina and in the eastern United States. Because none of the invertebrates -- other than mollusks and crayfishes -- have been given legal state protection by WRC as Endangered, Threatened, or Special Concern, these species are given a status of Significantly Rare by NC NHP. **For the same reasons as for marine and estuarine fishes given above, the NC NHP is no longer keeping marine invertebrates on its Rare or Watch lists. NC NHP has also removed millipedes, scorpionflies, most beetles, ants, and annelids from its Watch List, primarily due to lack of new data on them and the apparent lack or scarcity of biologists working with these groups to provide data or provide updated lists of rare taxa.**

LIST FORMAT

Species are grouped by major taxa. The vertebrates are arranged by class, beginning with the most advanced phylogenetically (mammals). Within a given taxa, species are listed alphabetically by scientific name. The following information is presented for each species on the list. "Status" is a word or phrase that indicates the degree of protection (if any), based on rarity, of a species; "rank" is a numerical scale of the rarity of a species, regardless of legal protection.

Scientific Name.

Common Name. For most groups, these names are not standardized.

North Carolina Status. Endangered, Threatened, and Special Concern species of mammals, birds, reptiles, amphibians, freshwater fishes, freshwater and terrestrial mollusks, and crustaceans have legal protection status in North Carolina (Wildlife Resources Commission). In addition to the above categories, the Natural Heritage Program maintains computer and map files on Significantly Rare species, as well as species considered Extirpated. Paper files only are maintained for a few of the above species; these species are indicated by the phrase "not tracking."

STATUS CODE	STATUS	DEFINITION
E	Endangered	"Any native or once-native species of wild animal whose continued existence as a viable component of the State's fauna is determined by the Wildlife Resources Commission to be in jeopardy or any species of wild animal determined to be an 'endangered species' pursuant to the Endangered Species Act." (Article 25 of Chapter 113 of the General Statutes; 1987).
T	Threatened	"Any native or once-native species of wild animal which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range, or one that is designated as a threatened species pursuant to the Endangered Species Act." (Article 25 of Chapter 113 of the General Statutes; 1987).
SC	Special Concern	"Any species of wild animal native or once-native to North Carolina which is determined by the Wildlife Resources Commission to require monitoring but which may be taken under regulations adopted under the provisions of this Article." (Article 25 of Chapter 113 of the General Statutes; 1987).
P_	Proposed	Species has been proposed by a Scientific Council as a status (Endangered, Threatened, Special Concern, Watch List, or for De-listing) that is different from the current status, but the status has not yet been adopted by the General Assembly as law. In the lists of rare species in this book, these proposed statuses are listed in parentheses below the current status. Only those proposed statuses that are different from the current statuses are listed.

STATUS CODE	STATUS	DEFINITION
SR	Significantly Rare	Any species which has not been listed by the N.C. Wildlife Resources Commission as an Endangered, Threatened, or Special Concern species, but which exists in the state in small numbers and has been determined by the N.C. Natural Heritage Program to need monitoring. (This is a N.C. Natural Heritage Program designation.) Significantly Rare species include "peripheral" species, whereby North Carolina lies at the periphery of the species' range (such as Hermit Thrush).
EX	Extirpated	A species which is no longer believed to occur in the state. (This is a N.C. Natural Heritage Program designation, though WRC also uses this status; the NHP list includes those on the WRC list.)
W	Watch List	Any other species believed to be of conservation concern in the state because of scarcity, declining populations, threats to populations, or inadequacy of information to assess its rarity (see page 59 for a more complete discussion). (This is a N.C. Natural Heritage Program designation.)
G	----	Species is a game animal, and therefore (by law) cannot be listed for State protection as E, T, or SC.

United States Status. This status is designated by the U.S. Fish and Wildlife Service. Federally listed Endangered and Threatened species are protected under the provisions of the Endangered Species Act of 1973, as amended through the 100th Congress. Unless otherwise noted, definitions are taken from the *Federal Register*, Vol. 56, No. 225, November 21, 1991 (50 CFR Part 17).

STATUS CODE	STATUS	DEFINITION
E	Endangered	A taxon "which is in danger of extinction throughout all or a significant portion of its range" (Endangered Species Act, Section 3).
T	Threatened	A taxon "which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range" (Endangered Species Act, Section 3).
FSC	(Federal) Species of Concern [also known as Species at Risk]	"... the Service is discontinuing the designation of Category 2 species as candidates in this notice. The Service remains concerned about these species, but further biological research and field study are needed to resolve the conservation status of these taxa. Many species of concern will be found not to warrant listing, either because they are not threatened or endangered or because they do not qualify as species under the definition in the [Endangered Species] Act. Others may be found to be in greater danger of extinction than some present candidate taxa. The Service is working with the States and other private and public interests to assess their need for protection under the Act. Such species are the pool from which future candidates for listing will be drawn." (*Federal Register*, February 28, 1996). The Service suggests that such taxa be considered as "Species of Concern" or "Species at Risk", neither of which has official status. The N.C. Natural Heritage Program uses "(Federal) Species of Concern" in this document for those taxa formerly considered as Category 2.
P_	Proposed	Species proposed in the *Federal Register* as a status different from its current Federal status.

STATUS CODE	STATUS	DEFINITION
T (S/A)	Threatened due to Similarity of Appearance	"Section 4 (e) of the [Endangered Species] Act authorizes the treatment of a species (subspecies or population segment) as endangered or threatened even though it is not otherwise listed as endangered or threatened if -- (a) the species so closely resembles in appearance an endangered or threatened species that enforcement personnel would have substantial difficulty in differentiating between the listed and unlisted species; (b) the effect of this substantial difficulty is an additional threat to an endangered or threatened species; and (c) such treatment of an unlisted species will substantially facilitate the enforcement and further the policy of the Act." (*Federal Register*, November 4, 1997). [The American Alligator is listed as T (S/A) due to Similarity of Appearance with other rare crocodilians, and the southern population of the Bog Turtle is listed as T (S/A) due to Similarity of Appearance with the northern population of the Bog Turtle (which is federally listed as Threatened and which does not occur in North Carolina).]
XN	Nonessential Experimental Population	"Section 10 (j) of the Endangered Species Act of 1973, as amended, provides for the designation of introduced populations of federally listed species as nonessential experimental. This designation allows for greater flexibility in the management of these populations by local, state, and Federal agencies. Specifically, the requirement for Federal agencies to avoid jeopardizing these populations by their actions is eliminated and allowances for taking the species are broadened." (U.S. Fish and Wildlife Service, 1995).
D	De-listed	Species has been proposed by the U.S. Fish and Wildlife Service for de-listing from the List of Endangered and Threatened Wildlife. However, at the present time, the species is still on the List of Endangered and Threatened Wildlife and is thus protected under the Endangered Species Act. Because such species still have legal Federal protection, the NHP will maintain existing records on the species, though new records might not necessarily be added. If the status becomes law prior to the next publication of the NHP Rare Animal List, the Program will remove the Federal designation from its database (and thus the species will no longer appear on printouts of Federally listed species). NHP may or may not continue to track the species, depending on its legal State status and other factors such as overall abundance and range in the state.

North Carolina Rank. North Carolina ranks are based on The Nature Conservancy's system of measuring rarity and threat status. This system is widely used by other agencies and organizations, as the best available scientific and objective assessment of a species' rarity at the state level. State ranks are assigned by biologists within each Natural Heritage Program.

RANK	NUMBER OF EXTANT POPULATIONS	DESCRIPTION
S1	1-5	Critically imperiled in North Carolina because of extreme rarity or because of some factor(s) making it especially vulnerable to extirpation from North Carolina.
S2	6-20	Imperiled in North Carolina because of rarity or because of some factor(s) making it very vulnerable to extirpation from North Carolina.
S3	21-100	Rare or uncommon in North Carolina.
S4	100-1000	Apparently secure in North Carolina, with many occurrences.
S5	1000+	Demonstrably secure in North Carolina and essentially ineradicable under present conditions.
SA	1-?	Accidental or casual; one to several records for North Carolina, but the state is outside the normal range of the species.
SH	0?	Of historical occurrence in North Carolina, perhaps not having been verified in the past 20 years, and suspected to be still extant.
SR	--	Reported from North Carolina, but without persuasive documentation which would provide a basis for either accepting or rejecting the report.
SX	0	Apparently extirpated from North Carolina.
SU	--	Possibly in peril in North Carolina but status uncertain; need more information.
S?	--	Unranked, or rank uncertain.
_B	1-?	Rank of the breeding population in the state. Used for migratory species only.
_N	1-?	Rank of the non-breeding population in the state. Used for migratory species only.
_Z_	1-?	Population is not of significant conservation concern. For example, the status "SZN" indicates that the population in the non-breeding seasons (generally in migration or in winter) is transitory, without any regular locales of occurrence whereby the species can be protected. Where a number is listed with the "B" or "N" modifier, there are definable locales of occurrence that can be identified for protection.

Global Rank. Global ranks are assigned by NatureServe (formerly the science branch of The Nature Conservancy) staff biologists and contract biologists, based on a consensus of scientific experts, the individual natural heritage programs, and the Natural Heritage Network. Global ranks apply to the status of a species throughout its range, and are based on data on the species' status rangewide. This system is widely used by other agencies and organizations, as the best available scientific and objective assessment of a species' rarity throughout its range. NOTE: Global ranks in brackets are those suggested by Scientific Councils in North Carolina, or by the N.C. Natural Heritage Program, and are not NatureServe's assigned ranks. These suggested ranks are listed below the TNC assigned ranks. In some cases, these suggested ranks were made to indicate that the Global Rank perhaps should be changed, with the taxa apparently more common in North Carolina than the Global Rank will allow (i.e., a rank of S3 G2 isn't technically allowed; thus, the global rank is suggested to be G3.)

RANK	NUMBER OF EXTANT POPULATIONS	DESCRIPTION
G1	1-5	Critically imperiled globally because of extreme rarity or because of some factor(s) making it especially vulnerable to extinction.
G2	6-20	Imperiled globally because of rarity or because of some factor(s) making it very vulnerable to extinction throughout its range.
G3	21-100	Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g., a single physiographic region) or because of other factors making it vulnerable to extinction throughout its range.
G4	100-1000	Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.
G5	1000+	Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
GH	0?	Of historical occurrence throughout its range, i.e., formerly part of the established biota, with the expectation that it may be rediscovered.
GX	0	Believed to be extinct throughout its range (e.g., Passenger Pigeon) with virtually no likelihood that it will be rediscovered.
GU	--	Possibly in peril range-wide, but status uncertain; more information is needed.
G?	--	Unranked, or rank uncertain.
G_Q	--	Questionable taxonomic assignment.
T_	--	The rank of a subspecies or variety. As an example, G4T1 would apply to a subspecies of a species with an overall rank of G4, but the subspecies warranting a rank of G1.

Physiographic Province/Region. The provinces/regions in which the animal is known to occur are indicated. This should not be regarded as the only province(s) or region(s) of the state in which the species could occur; our knowledge of the fauna of North Carolina, especially the invertebrates, is still very imperfect. The provinces are abbreviated as follows:

M	Mountains	All parts of North Carolina west of the foot of the Blue Ridge Escarpment.
P	Piedmont	All parts of North Carolina east of the foot of the Blue Ridge Escarpment and west of the Fall Line, including outlying "foothill" ranges, such as the Brushy, Uwharrie, and Sauratown mountains.
S	Sandhills	The southwestern portion of the Coastal Plain province consisting mostly of deep aeolian sands of the Middendorf and Pinehurst formation (portions of Cumberland, Harnett, Hoke, Lee, Moore, Richmond, Scotland, and Montgomery counties). The Sandhills are actually part of the Coastal Plain but are here distinguished because of their distinctive geomorphology and vegetation.
C	Coastal Plain	All parts of North Carolina east of the Fall Line, but excluding the Sandhills region and those portions associated with tidal water (ocean, sounds, barrier islands, and mainland brackish or salt marshes).
T	Tidewater	That part of the state associated with tidal water, such as the ocean and barrier islands, sounds, estuaries, and mainland brackish or salt marshes.

Habitat. The known, or the most typical, habitats are described briefly; as with provinces, these should not be regarded as the only possible habitats of the species in the state.

Counties of occurrence. Following the description of habitats is a listing, in parentheses, of the known counties of occurrence of the records in the Natural Heritage Program database. For most vertebrate species, this listing of counties is complete or reasonably complete. However, for many invertebrates, and a few vertebrates (generally those newly added to the Rare List), there is no listing of counties, as records have yet to be added to the database. Where county names appear in brackets, records from these counties have not yet been added to the database.) **Counties in which the element was last observed more than 20 years ago are marked with an asterisk (*).** The asterisk does not necessarily mean that the species no longer exists in that county; simply, it means that the date of the last observation available to the Natural Heritage Program from that county is 1983 or earlier. **Counties where no date of occurrence (e.g., data from an atlas/dot map) is available are marked with a plus (+).** Without additional information, the Program has no way of knowing whether such data should be considered as current or historic (marked with *). Records from such references, atlases, and other lists that were published or made available to the Program from 1983 or earlier should be considered as historic, but the Program has not yet updated the database for these obscure date records.

STATUS OF ANIMAL TAXA ON NHP RARE ANIMAL LIST

(as of March, 2004)

For names and definitions of statuses, see pages 3-5. Numbers in the table indicate number of taxa – generally species – for each group and status. Because many taxa have both an N.C. and a U.S. status, totals cannot be added across a complete line.

Group	Total Number of Species (rounded to nearest five)	N.C. Status				U.S. Status		
		E	T	SC	SR	E	T	FSC
Mammals	120	6	2	11	11	7	0	8
Birds	450	5	4	16	30	3	2	13
Reptiles	70	5	4	11	4	3	4	4
Amphibians	90	1	4	12	11	0	0	5
Freshwater Fishes	245	9	13	26	19	2	2	26
Freshwater Bivalves	75	19	10	6	7	7	0	11
Freshwater and Terrestrial Gastropods	250+	4	10	24	9	0	1	10
Arachnids	?	0	0	0	11	1	0	1
Crustaceans [Crayfishes]	? [45]	0 [0]	0 [0]	0 [8]	19	0	0	10
Mayflies	?	0	0	0	16	0	0	1

Stoneflies	?	0	0	0	7	0	0	0
Caddisflies	?	0	0	0	14	0	0	0
Dragonflies and Damselflies	190	0	0	0	37	0	0	8
Flies	?	0	0	0	1	0	0	0
Moths	?	0	0	0	70	0	0	4
Butterflies	170	0	0	0	38	1	0	8
Grasshoppers and Katydids	?	0	0	0	15	0	0	0
Beetles	?	0	0	0	5	1	0	1
True Bugs	?	0	0	0	1	0	0	0
Totals	?	49	47	114	325	25	9	110

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	 U.S.	Rank N.C.	 Global

MAMMALS

Canis rufus CM: swamps, pocosins, extensive forests (Beaufort+, Dare, Hyde, Tyrrell, Washington)	Red Wolf	SR	E - XN	S1	G1
Condylura cristata pop 1 SC: moist meadows, bogs, swamps, bottomlands [mountain population not of concern] (Bladen, Brunswick, Currituck*, Dare, Hoke, Mecklenburg*, Moore*, New Hanover*, Pitt, Randolph, Richmond, Robeson*, Sampson, Scotland*, Wake, Washington*)	Star-nosed Mole - Coastal Plain population	SC	-	S2	G5T2Q
Corynorhinus rafinesquii macrotis CS: roosts in hollow trees, old buildings, and beneath bridges, usually near water (Beaufort*, Bertie, Bladen, Brunswick, Chowan, Columbus*, Dare, Gates, Hoke+, Martin, Pender, Perquimans, Richmond, Robeson, Tyrrell, Washington, Wayne*)	Rafinesque's Big-eared Bat - Coastal Plain subspecies	T	FSC	S3	G3G4T?
Corynorhinus rafinesquii rafinesquii M: roosts in caves, mines, and hollow trees, usually near water (Alexander*, Buncombe*, Burke, Cherokee*, Graham, Macon, Madison*, Swain, Transylvania*)	Rafinesque's Big-eared Bat - Mountain subspecies	T	FSC	S2	G3G4T?
Corynorhinus townsendii virginianus M: roosts in caves (and rarely in mines), especially in limestone areas (Avery, Watauga+, Yancey)	Virginia Big-eared Bat	E	E	S1	G4T2
Glaucomys sabrinus coloratus M: high elevation forests, mainly spruce-fir (Avery, Buncombe, Graham, Haywood, Jackson, McDowell, Mitchell, Swain, Transylvania, Watauga, Yancey)	Carolina Northern Flying Squirrel	E	E	S2	G5T1
Lasionycteris noctivagans MP: roosts near water in tree cavities, clumps of leaves, crevices, etc. [breeding season only] (records not yet entered)	Silver-haired Bat	SR	-	S2?B,S4N	G5
Lasiurus cinereus M: mid- to high elevations [breeding season only] (records not yet entered)	Hoary Bat	SR	-	S1?B,S3?N	G5
Lasiurus intermedius CP: roosts in Spanish moss and other thick vegetation near water, often in longleaf pine habitats (Mecklenburg, New Hanover)	Northern Yellow Bat	SR	-	SU	G4G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Microtus chrotorrhinus carolinensis M: rocky areas at high elevations, forests or fields (Avery, Haywood, Jackson*, Macon*, Swain+, Yancey)	Southern Rock Vole	SC	FSC	S3	G4T3
Mustela nivalis M: fields and forests, mostly at high elevations (Avery*, Buncombe, Haywood*, Henderson*, Jackson+, Madison*, Mitchell*, Watauga, Yancey*)	Least Weasel	SR	-	S2	G5
Myotis austroriparius CP: roosts in buildings, hollow trees; forages near water (Bertie, Bladen, Chowan+, Clay, Columbus, Gates, Halifax, Martin, New Hanover, Pender, Robeson, Wake*)	Southeastern Myotis	SC	FSC	S3	G3G4
Myotis grisescens M: roosts in caves; forages mainly over open water (Buncombe*)	Gray Myotis	E	E	SA	G3
Myotis leibii M: roosts in hollow trees (warmer months), in caves and mines (winter) (Alleghany*, Avery, Buncombe*, Graham, Henderson, Macon, Rutherford, Swain, Wilkes, Yancey)	Eastern Small-footed Myotis	SC	FSC	SUB,S2N	G3
Myotis septentrionalis MP: roosts in hollow trees and buildings (warmer months), in caves and mines (winter) (Ashe, Avery, Buncombe*, Burke, Cherokee*, Graham, Henderson, Macon, Polk, Rutherford, Swain, Transylvania, Wake*, Watauga, Wilkes)	Northern Long-eared Myotis	SC	-	S3	G4
Myotis sodalis M: roosts in hollow trees or under loose bark (warmer months), in caves (winter) (Graham, Jackson*, Mitchell*, Rutherford, Swain)	Indiana Myotis	E	E	SUB,SZN	G2
Neotoma floridana floridana C: forests, mainly in moist areas (Brunswick*, Carteret*, New Hanover, Onslow, Pender)	Eastern Woodrat - Coastal Plain population	T	-	S1	G5T5
Neotoma floridana haematoreia MP: rocky places in deciduous or mixed forests, in southern mountains and adjacent Piedmont (Buncombe, Burke, Catawba, Haywood, Henderson, Jackson, Macon, Madison, McDowell, Polk, Rutherford, Swain, Transylvania)	Eastern Woodrat - Southern Appalachian population	SC	FSC	S3	G5T4Q

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Neotoma magister MP: rocky places and abandoned buildings in deciduous or mixed forests in the northern mountains and adjacent Piedmont (Avery, Buncombe, Burke, Caldwell+, Iredell, McDowell, Mitchell+, Watauga, Yancey)	Appalachian Woodrat	SC	FSC	S2	G3G4
Peromyscus leucopus easti T: dunes and maritime thickets along coast south to Corolla (Currituck)	Pungo White-footed Mouse	SC	-	S2	G5T1
Peromyscus leucopus ssp 1 T: maritime forests in Cape Hatteras vicinity (Dare+)	Buxton Woods White-footed Mouse	SR	-	S2	G5T?
Peromyscus polionotus P: sandy, fallow fields near South Carolina line (Cleveland+, Rutherford*)	Oldfield Mouse	SR	-	S1?	G5
Puma concolor couguar MPC: extensive forests, remote areas (Brunswick*, Buncombe*, Carteret+, Haywood*, Montgomery*, Onslow*, Swain*, Yancey*)	Eastern Cougar	E	E	SH	G5TH
Sciurus niger MPSC: open forests, mainly longleaf pine/scrub oak (Anson, Avery*, Beaufort, Bertie*, Bladen, Brunswick, Buncombe*, Carteret+, Cherokee*, Clay*, Columbus, Craven+, Cumberland, Duplin+, Edgecombe, Franklin*, Graham*, Guilford*, Halifax, Harnett, Hertford*, Hoke, Johnston, Jones+, Lee*, Lenoir+, Macon*, Martin+, Moore, New Hanover, Onslow, Pamlico+, Pender, Pitt, Richmond, Robeson+, Sampson, Scotland, Swain*, Wake, Wayne, Yadkin*)	Eastern Fox Squirrel	SR - G	-	S3	G5
Sorex dispar M: high elevation forests with talus or rocky slopes (Avery, Buncombe, Haywood, Macon, Swain*, Transylvania*, Yancey)	Long-tailed Shrew	SC	-	S2	G4
Sorex palustris punctulatus M: stream banks in montane forests (Avery, Buncombe, Clay*, Haywood*, Macon, Swain*, Watauga+)	Southern Water Shrew	SC	FSC	S2	G5T3
Sorex sp 1 C: early succession fields, possibly low pocosins (endemic to eastern North Carolina) (Dare, Hyde)	an undescribed shrew	SR	-	S2	G1G2Q

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Sylvilagus obscurus [formerly *S. transitionalis*] M: dense cover of montane woods and thickets (Alleghany, Ashe, Avery, Clay, Graham, Haywood, Macon, Mitchell, Swain, Transylvania*, Watauga*, Yancey)	Appalachian Cottontail	SR - G	FSC	S3	G4
Synaptomys cooperi helaletes C: low pocosins, early succession wetlands (Beaufort, Craven, Gates, Jones, Pasquotank, Perquimans*)	Dismal Swamp Southern Bog Lemming	SR	-	S2	G5T3
Trichechus manatus T: warm waters of estuaries and river mouths (Beaufort, Brunswick, Carteret, Craven, Currituck, Dare, Hyde, New Hanover, Onslow, Pamlico*, Pender, Pitt)	West Indian Manatee	E	E	S1N	G2

BIRDS

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Accipiter striatus MPS: forests and woodlands (for nesting) [breeding evidence only] (Avery, Mitchell+, Orange*, Watauga*, Yancey*)	Sharp-shinned Hawk	SR	-	S2B,S4N	G5
Aegolius acadicus pop 1 M: spruce-fir forests or mixed hardwood/spruce forests (for nesting) [breeding season only] (Avery, Buncombe, Graham, Haywood, Jackson, Macon, Mitchell, Swain, Transylvania, Watauga, Yancey)	Northern Saw-whet Owl - Southern Appalachian population	T	FSC	S2B,S2N	G5T?
Aimophila aestivalis PSC: open longleaf pine forests, old fields [breeding season only] (Bladen, Brunswick, Buncombe*, Carteret, Chatham, Columbus, Craven, Cumberland, Halifax*, Harnett, Hoke, Jones, Macon*, Moore, Onslow, Pender, Richmond, Robeson, Sampson, Scotland, Wake*, Warren)	Bachman's Sparrow	SC	FSC	S3B,S2N	G3
Ammodramus henslowii C: clearcut pocosins and other damp weedy fields [breeding season only] (Beaufort, Bertie, Brunswick, Carteret, Columbus, Edgecombe, Gates, Martin, Onslow, Pender, Pitt, Wilson)	Henslow's Sparrow [the subspecies *A. h. susurrans* (Eastern Henslow's Sparrow) is FSC, not the entire species]	SR	FSC	S2B,S1N	G4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Anhinga anhinga C: wooded lakes or ponds, or open swamps (for nesting) [breeding evidence only] (Bertie, Bladen, Brunswick, Carteret*, Columbus*, Craven, Cumberland, Dare, Halifax, Jones, New Hanover, Robeson)	Anhinga	SR	-	S2B,SZN	G5
Botaurus lentiginosus CT: fresh or brackish marshes [breeding season only] (Beaufort*, Carteret, Hyde, Pamlico)	American Bittern	SR	-	S1B,S3N	G4
Catharus guttatus M: spruce-fir forests (for nesting) [breeding season only] (Avery, Haywood, Mitchell, Swain, Yancey)	Hermit Thrush	SR	-	S1B,S5N	G5
Certhia americana M: high elevation forests, favoring spruce-fir mixed with hardwoods (Avery, Buncombe, Haywood, Jackson, Mitchell, Swain, Transylvania, Watauga, Yancey)	Brown Creeper	SC	-	S3B,S5N	G5
Charadrius melodus T: ocean beaches and island-end flats [breeding evidence only] (Brunswick, Carteret, Currituck, Dare, Hyde, New Hanover, Onslow, Pender)	Piping Plover	T	T	S2B,S2N	G3
Charadrius wilsonia T: beaches, island-end flats, estuarine islands [breeding evidence only] (Brunswick, Carteret, Dare, Hyde, New Hanover, Onslow, Pender)	Wilson's Plover	SR	-	S3B,SZN	G5
Chondestes grammacus S: barren, sandy fields with scattered saplings in the sandhills region [breeding season only] (Cumberland, Hoke, Richmond, Scotland)	Lark Sparrow	SR	-	S1B,SZN	G5
Circus cyaneus T: extensive brackish marshes (for nesting) [breeding evidence only] (Carteret, Dare, Hyde)	Northern Harrier	SR	-	S1B,S4N	G5
Coccyzus erythropthalmus M: deciduous forests, mainly at higher elevations [breeding season and habitat only] (Ashe*, Avery, Buncombe, Burke, Caldwell, Haywood, Henderson, Jackson, McDowell, Mitchell+, Transylvania, Watauga)	Black-billed Cuckoo	SR	-	S2B,SZN	G5
Columbina passerina T: dunes, sandy fields, margins of maritime woods and thickets [breeding season only] (Brunswick, New Hanover, Pender)	Common Ground-Dove	SR	-	SHB,SZN	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Contopus cooperi M: montane conifer forests (mainly spruce-fir) with openings or dead trees [breeding season only] (Haywood, Macon*, McDowell*, Mitchell*, Swain, Yancey)	Olive-sided Flycatcher	SC	FSC	SUB,SZN	G4
Coturnicops noveboracensis TC: brackish or fresh marshes, wet fields [winter season only] (Carteret, Currituck, Dare, Hyde, New Hanover*)	Yellow Rail	SR	-	S2N	G4
Dendroica cerulea MC: mature hardwood forests; steep slopes and coves in mountains, natural levees in Coastal Plain [breeding season only] (Bertie, Buncombe, Clay, Graham, Halifax, Haywood, Johnston, Macon, McDowell, Northampton, Polk, Rutherford, Transylvania, Watauga, Wilkes)	Cerulean Warbler	SR	FSC	S2B,SZN	G4
Dendroica magnolia M: spruce-fir forests, especially in immature stands [breeding season only] (Avery, Buncombe, Graham, Haywood, Jackson*, McDowell, Mitchell, Watauga, Yancey)	Magnolia Warbler	SR	-	S1S2B,SZN	G5
Dendroica virens waynei C: nonriverine wetland forests, especially where white cedar or cypress are mixed with hardwoods [breeding season only] (Beaufort, Bladen, Brunswick, Camden, Carteret, Craven, Cumberland, Dare, Gates, Hyde*, Jones, Pamlico, Tyrrell, Washington)	Black-throated Green Warbler - Coastal Plain population	SR	-	S3B,SZN	G5TU
Egretta caerulea T: forests or thickets on maritime islands [breeding sites only] (Brunswick, Carteret, Columbus*, Cumberland, Currituck, Dare, Hyde, Jones, New Hanover, Robeson)	Little Blue Heron	SC	-	S3B,S3N	G5
Egretta thula T: forests or thickets on maritime islands [breeding sites only] (Brunswick, Carteret, Columbus*, Currituck, Dare, Hyde, New Hanover, Robeson)	Snowy Egret	SC	-	S3B,S3N	G5
Egretta tricolor T: forests or thickets on maritime islands [breeding sites only] (Brunswick, Carteret, Currituck, Dare, Hyde, New Hanover)	Tricolored Heron	SC	-	S3B,S3N	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Empidonax alnorum M: high elevation shrub/sapling thicket [breeding season only] (Alleghany, Ashe, Avery, Buncombe, Haywood, Jackson, Mitchell, Watauga, Yancey)	Alder Flycatcher	SR	-	S2B,SZN	G5
Falco peregrinus MT: cliffs (for nesting); coastal ponds and mudflats (for foraging in winter) [nesting evidence; regular wintering sites] (Avery, Brunswick, Buncombe, Burke, Carteret, Dare, Haywood, Hyde*, Jackson, Madison, Rutherford, Stokes, Surry, Transylvania, Wilkes*, Yancey)	Peregrine Falcon	E	-	S1B,S2N	G4
Haematopus palliatus T: estuaries, oyster beds, mudflats [breeding evidence only] (records not yet entered)	American Oystercatcher	SR	-	S3B,S4N	G5
Haliaeetus leucocephalus PCT: mature forests near large bodies of water (for nesting); lakes and sounds [nesting sites; regular non-breeding sites] (Alexander, Anson, Beaufort, Bertie, Bladen, Brunswick, Burke, Camden, Catawba, Chatham, Chowan, Columbus, Craven, Currituck, Dare, Davidson, Durham, Gaston, Granville, Guilford, Halifax, Harnett, Haywood, Hyde, Johnston*, Lenoir, Martin*, Mecklenburg, Montgomery, Nash, Northampton*, Onslow, Orange, Pamlico, Pasquotank, Pitt, Richmond, Rowan, Stanly, Tyrrell, Vance*, Wake, Warren*, Washington, Wilson)	Bald Eagle	T	T (PD)	S3B,S3N	G4
Himantopus mexicanus T: fresh or brackish ponds and impoundments [breeding sites only] (Beaufort, Brunswick, Carteret, Dare, Onslow, Pamlico)	Black-necked Stilt	SR	-	S2B	G5
Ictinia mississippiensis C: mature, extensive bottomland forests [regular summer locations only] (Bladen, Carteret, Columbus, Halifax, Harnett, Johnston, Martin, Nash, Richmond, Scotland, Wayne)	Mississippi Kite	SR	-	S2B	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Lanius ludovicianus ludovicianus PSC: fields and pastures [breeding season only] (Alamance+, Ashe+, Bladen+, Brunswick, Carteret, Catawba, Chatham, Cleveland, Davie, Edgecombe+, Forsyth, Franklin, Gaston, Granville+, Greene+, Guilford, Halifax, Iredell, Johnston+, Lenoir+, Lincoln, Mecklenburg, Montgomery, Moore, New Hanover+, Pitt, Polk, Richmond, Robeson, Rowan, Rutherford, Scotland+, Stanly, Transylvania+, Wake+, Wayne)	Loggerhead Shrike	SC	-	S3B,S3N	G4T4
Lanius ludovicianus migrans M: fields and pastures [breeding season only]	Migrant Loggerhead Shrike	SC	-	SUB,SUN	G4T3Q
Laterallus jamaicensis TCP: brackish marshes, rarely fresh marshes [breeding season only] (Carteret, Craven, Currituck, Dare, Hyde, Onslow, Pamlico)	Black Rail	SR	FSC	S3B,S2N	G4
Loxia curvirostra pop 1 M: coniferous forests, preferably spruce-fir (Ashe*, Avery, Buncombe, Burke, Haywood, Jackson, McDowell, Mitchell, Swain, Transylvania, Yancey)	Southern Appalachian Red Crossbill	SC	FSC	S3B,S3N	G5T?
Mycteria americana T: fresh or brackish ponds (for foraging) [regular non-breeding sites] (Brunswick)	Wood Stork	E	E	S1N	G4
Passerculus sandwichensis M: grassy fields and pastures [breeding season only] (Alleghany, Ashe, Watauga)	Savannah Sparrow	SR	-	S2B,S5N	G5
Passerina ciris ciris T: maritime shrub thickets and forest edges [breeding season only] (Brunswick, Carteret, New Hanover, Onslow, Pender)	Eastern Painted Bunting	SR	FSC	S3B,SZN	G5T3T4
Pelecanus occidentalis T: maritime islands [breeding sites only] (Brunswick, Carteret, Dare, New Hanover)	Brown Pelican	SR	-	S3B,S4N	G4
Phalacrocorax auritus CP: lakes with scattered trees for nesting [breeding sites only] (Chatham, Craven)	Double-crested Cormorant	SR	-	S1B,S5N	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Picoides borealis SCP: mature open pine forests, mainly in longleaf pine [breeding evidence only] (Anson, Beaufort, Bertie, Bladen, Brunswick, Camden*, Carteret, Chatham*, Columbus, Craven, Cumberland, Currituck*, Dare, Duplin, Edgecombe*, Forsyth*, Gates, Halifax*, Harnett, Hertford*, Hoke, Hyde, Johnston, Jones, Lee*, Lenoir*, Montgomery, Moore, Nash*, New Hanover, Northampton*, Onslow, Orange*, Pamlico*, Pender, Pitt*, Richmond, Robeson, Sampson, Scotland, Tyrrell, Wake*, Wayne, Wilson*)	Red-cockaded Woodpecker	E	E	S2	G3
Plegadis falcinellus T: forests or thickets on maritime islands [breeding sites only] (Brunswick, Carteret, Currituck, Dare, Hyde, New Hanover)	Glossy Ibis	SC	-	S2B,SZN	G5
Poecile atricapillus practicus M: high elevation forests, mainly spruce-fir [breeding season only] (Avery, Buncombe*, Haywood, Jackson, Swain, Transylvania, Yancey*)	Southern Appalachian Black-capped Chickadee	SC	FSC	S3	G5T?
Pooecetes gramineus M: high elevation pastures and grassy fields [breeding season only] (Ashe, Avery, Haywood, Mitchell, Watauga)	Vesper Sparrow	SR	-	S2B,S2N	G5
Porphyrula martinica C: freshwater ponds with floating vegetation [breeding sites only] (Brunswick, Onslow*, Robeson)	Purple Gallinule	SR	-	SHB	G5
Riparia riparia MP: high, vertical banks for nesting [breeding sites only] (Avery, Wilkes*)	Bank Swallow	SR	-	SUB,SZN	G5
Rynchops niger T: sand flats on maritime islands [breeding sites only] (Brunswick, Carteret, Dare, Hyde, New Hanover, Onslow, Pender)	Black Skimmer	SC	-	S3B,S3N	G5
Sphyrapicus varius appalachiensis M: mature, open hardwoods with scattered dead trees [breeding season only] (Avery*, Buncombe, Clay*, Graham, Haywood, Henderson, Jackson, Macon, Mitchell*, Swain, Transylvania, Watauga, Yancey)	Appalachian Yellow-bellied Sapsucker	SC	FSC	S3B,S5N	G5T?
Sterna antillarum T: beaches, sand flats, open dunes (Brunswick, Carteret, Craven, Dare, Hyde, New Hanover, Onslow, Pender)	Least Tern	SC	-	S3B,SZN	G4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Sterna caspia T: sand flats on maritime islands [breeding sites only] (Dare, Hyde*)	Caspian Tern	SR	-	S1B,S2N	G5
Sterna dougallii T: sand flats on maritime islands [breeding evidence only] (Carteret*, Dare)	Roseate Tern	E	E	SAB,SZN	G4
Sterna hirundo T: sand flats on maritime islands [breeding sites only] (Carteret, Dare, Hyde, New Hanover, Onslow, Pender)	Common Tern	SC	-	S3B,SZN	G5
Sterna nilotica T: sand flats on maritime islands [breeding sites only] (Brunswick, Carteret, Dare, Hyde, Onslow*)	Gull-billed Tern	T	-	S3B,SZN	G5
Thryomanes bewickii altus M: woodland borders or openings, farmlands or brushy fields, at high elevations [breeding season only] (Ashe*, Avery*, Buncombe*, Haywood*, Jackson*, Macon*, Transylvania*)	Appalachian Bewick's Wren	E	FSC	SHB,SZN	G5T2Q
Vermivora chrysoptera M: old fields and successional hardwoods (Alleghany, Ashe, Watauga; plus many additional counties)	Golden-winged Warbler	SR	FSC	S3B,SZN	G4
Vermivora pinus M: low elevation brushy fields and thickets [breeding season only] (Alleghany, Ashe, Buncombe*, Cherokee*, Graham*, Macon)	Blue-winged Warbler	SR	-	S2B,SZN	G5
Vireo gilvus M: groves of hardwoods along rivers and streams [breeding season only] (Alleghany, Ashe, Avery, Buncombe, Cleveland, Halifax, Henderson, Macon*, Orange, Watauga)	Warbling Vireo	SR	-	S2B,SZN	G5

REPTILES

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Alligator mississippiensis CT: fresh to slightly brackish lakes, ponds, rivers, and marshes (Bladen, Brunswick, Camden*, Carteret, Columbus, Craven, Cumberland, Dare, Duplin*, Gates*, Hyde, Jones*, New Hanover, Onslow, Pamlico*, Pender, Robeson, Sampson*, Scotland*, Tyrrell*, Washington)	American Alligator	T	T(S/A)	S3	G5
Apalone spinifera spinifera M: large streams in the French Broad system (Buncombe, Madison)	Eastern Spiny Softshell	SC	-	S1	G5T5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Caretta caretta T: nests on beaches; forages in ocean and sounds (Brunswick, Carteret, Currituck, Dare, Hyde, New Hanover, Onslow, Pender)	Loggerhead	T	T	S3B,S3N	G3
Chelonia mydas T: nests on beaches; forages in ocean and sounds (Brunswick, Carteret, Dare, Hyde+, New Hanover, Onslow, Pender)	Green Turtle	T	T	S1B,SZN	G3
Clemmys (see *Glyptemys*)					
Crotalus adamanteus C: pine flatwoods, savannas, pine-oak sandhills (Bladen, Brunswick+, Carteret, Columbus+, Craven+, Cumberland*, Duplin+, Jones*, New Hanover*, Onslow, Pender*, Robeson*, Sampson*)	Eastern Diamondback Rattlesnake	E	-	S1?	G4
Crotalus horridus CMP: wetland forests in the Coastal Plain; rocky, upland forests elsewhere (Alexander, Alleghany, Anson+, Ashe, Avery+, Beaufort+, Bertie+, Bladen+, Brunswick+, Buncombe*, Burke, Camden+, Carteret, Catawba+, Cherokee+, Chowan+, Clay*, Cleveland+, Columbus+, Craven+, Cumberland+, Currituck+, Dare+, Davidson, Duplin+, Durham+, Gaston, Graham*, Granville+, Haywood+, Henderson, Hoke+, Hyde+, Jackson, Jones+, Lenoir+, Lincoln+, Macon*, Madison+, McDowell, Mitchell*, Montgomery+, Moore+, New Hanover, Onslow+, Pamlico+, Pasquotank+, Pender, Perquimans+, Pitt+, Polk*, Randolph, Richmond+, Robeson+, Rutherford, Sampson+, Scotland, Stanly, Stokes, Surry*, Swain*, Transylvania*, Tyrrell+, Union+, Washington+, Watauga+, Wayne+, Wilkes, Yancey+)	Timber Rattlesnake	SC	-	S3	G4
Deirochelys reticularia SC: quiet waters of ponds, ditches, and sluggish streams (Bladen, Brunswick, Carteret+, Columbus, Craven+, Cumberland, Dare, Hoke, New Hanover, Onslow+, Pender, Robeson, Sampson, Scotland, Wayne+)	Chicken Turtle	SR	-	S3	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Dermochelys coriacea T: oceans, rarely in sounds (Brunswick*, Carteret, Craven*, Currituck*, Dare, Hyde, Onslow)	Leatherback	E	E	SAB,SZN	G2
Eretmochelys imbricata T: oceans, very rarely in sounds (Carteret*, Dare)	Hawksbill	E	E	SZN	G3
Glyptemys muhlenbergii MP: bogs, wet pastures, wet thickets (Alexander, Alleghany, Ashe, Avery, Buncombe, Burke, Cherokee, Clay, Forsyth, Gaston, Graham, Henderson, Iredell*, Macon, McDowell, Mitchell, Surry, Transylvania, Watauga, Wilkes, Yancey)	Bog Turtle	T	T(S/A)	S2	G3
Heterodon simus SC: sandy woods, particularly pine-oak sandhills (Bladen, Brunswick*, Carteret+, Craven+, Cumberland+, Duplin+, Edgecombe+, Hoke, Jones+, Moore, New Hanover, Onslow, Pender, Pitt+, Richmond+, Robeson, Sampson, Scotland, Wake+, Wayne+)	Southern Hognose Snake	SC	FSC	S2	G2
Lampropeltis getula sticticeps T: maritime forests, thickets, and grasslands on the Outer Banks (Carteret*, Currituck*, Dare*, Hyde*)	Outer Banks Kingsnake	SC	-	S2	G5T2Q
Lepidochelys kempii T: ocean and sounds (Beaufort, Brunswick, Carteret*, Dare, Hyde, Pamlico)	Atlantic Ridley	E	E	SAB,SZN	G1
Liochlorophis vernalis M: fields and grassy meadows (Rutherford*)	Smooth Green Snake	SC	-	SH	G5
Malaclemys terrapin centrata T: salt or brackish marshes, estuaries; southern half of the coast (Beaufort+, Brunswick+, Carteret, Hyde+, New Hanover, Onslow, Pamlico, Pender)	Carolina Diamondback Terrapin	SC	-	S3	G4T4
Malaclemys terrapin terrapin T: salt or brackish marshes, estuaries; northern half of the coast (Dare+)	Northern Diamondback Terrapin	SC	FSC	S3	G4T4
Masticophis flagellum SCTP: dry and sandy woods, mainly in pine/oak sandhills (Anson*, Bladen, Brunswick, Carteret+, Cumberland, Hoke+, Lenoir+, Moore+, New Hanover, Onslow+, Pender, Richmond, Sampson, Scotland, Stanly, Union+, Wayne+)	Coachwhip	SR	-	S3	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Micrurus fulvius CS: pine-oak sandhills, sandy flatwoods, maritime forests (Bladen, Brunswick*, Cumberland*, Harnett+, Hoke*, Moore+, New Hanover, Onslow, Pender, Scotland+)	Eastern Coral Snake	E	-	S1	G5
Nerodia sipedon williamengelsi T: salt or brackish marshes (Beaufort, Carteret, Currituck, Dare, Hyde, Pamlico)	Carolina Water Snake	SC	-	S3	G5T3
Opheodrys (see *Liochlorophis*)					
Ophisaurus mimicus C: pine flatwoods, savannas, pine/oak sandhills (Bladen*, Brunswick, Carteret, Columbus*, New Hanover*, Onslow, Sampson*)	Mimic Glass Lizard	SC	FSC	S2	G3
Pituophis melanoleucus melanoleucus SCM: dry and sandy woods, mainly in pine/oak sandhills (Brunswick, Cherokee*, Clay+, Cumberland+, Graham*, Harnett+, Hoke, Montgomery, Moore, New Hanover*, Richmond, Rutherford+, Scotland, Swain*)	Northern Pine Snake	SC	FSC	S3	G4T4
Regina rigida C: marshes, cypress ponds, other wetlands (Bladen+, Brunswick*, Carteret+, Craven, Dare, Hoke, Hyde+, Jones+, New Hanover*, Onslow+, Robeson, Tyrrell+)	Glossy Crayfish Snake	SR	-	S2S3	G5
Seminatrix pygaea C: in lush vegetation of ponds, ditches, or sluggish streams (Brunswick, Carteret+, Craven+, Dare, Hyde+, New Hanover*, Onslow+, Pender*, Tyrrell+)	Black Swamp Snake	SR	-	S2	G5
Sistrurus miliarius CSP: pine flatwoods, pine/oak sandhills, other pine/oak forests (Beaufort, Bladen, Brunswick*, Carteret, Cleveland*, Craven, Cumberland+, Gaston, Harnett+, Hoke+, Hyde, Montgomery+, Moore, New Hanover, Onslow, Pender, Pitt, Richmond+, Sampson, Scotland)	Pigmy Rattlesnake	SC	-	S3	G5
Sternotherus minor M: streams and rivers in Mississippi drainage (Cherokee, Madison)	Loggerhead Musk Turtle	SC	-	S1	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global

AMPHIBIANS

Ambystoma mabeei SC: savannas, wet woods, swamps (Bladen*, Columbus*, Hoke, New Hanover*, Pender*, Robeson, Sampson, Scotland)	Mabee's Salamander	SR	-	S3	G4
Ambystoma talpoideum MP: breeds in fish-free semipermanent woodland ponds; forages in adjacent woodlands (Alleghany*, Buncombe, Cherokee, Guilford, Henderson*, Macon*, Montgomery, Person, Polk, Richmond, Rockingham, Rowan, Surry, Transylvania*, Union)	Mole Salamander	SC	-	S2	G5
Ambystoma tigrinum SC: breeds in fish-free semipermanent ponds; forages in adjacent woods, usually sandy pinewoods (Cumberland, Hoke, Richmond, Robeson, Scotland, Wake)	Eastern Tiger Salamander	T	-	S2	G5
Aneides aeneus M: damp, shaded crevices of cliffs or rock outcrops in deciduous forests (southern mountains) (Henderson, Jackson, Macon, Rutherford, Transylvania)	Green Salamander	E	FSC	S2	G3G4
Bufo quercicus CS: pine flatwoods and savannas, pine sandhills where near water (records not yet entered)	Oak Toad	SR	-	S3	G5
Cryptobranchus alleganiensis M: large and clear fast-flowing streams (Alleghany, Ashe, Avery*, Buncombe, Cherokee, Clay, Graham, Haywood, Henderson, Jackson, Macon, Madison, Mitchell, Swain+, Transylvania, Watauga, Yancey)	Hellbender	SC	FSC	S3	G3G4
Desmognathus aeneus M: seeps, springs, or streams in forests in extreme southwestern counties (Cherokee, Clay*, Graham, Macon)	Seepage Salamander	SR	FSC	S3	G3G4
Desmognathus imitator pop 1 M: forests in the vicinity of Waterrock Knob (Jackson+)	Imitator Salamander - Waterrock Knob population	SR	-	S1	G3T1Q
Desmognathus santeetlah M: stream headwaters and seepage areas; southwestern mountains (Graham, Jackson*, Swain*)	Santeetlah Dusky Salamander	SR	-	S2S3	G3G4Q
Desmognathus wrighti M: spruce-fir and other high elevation forests (records not yet entered)	Pigmy Salamander	SR	-	S3	G3G4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Eurycea junaluska M: forests near seeps and streams, mainly in the Cheoah River system (Cherokee, Clay, Graham)	Junaluska Salamander	T	FSC	S2	G3
Eurycea longicauda M: moist woods and floodplains; small ponds for breeding (Alleghany*, Clay*, Graham, Haywood*, Macon*, Watauga+)	Longtail Salamander	SC	-	S2	G5
Eurycea quadridigitata pop 1 C: pocosins, bay forests, flatwoods, savannas (Hoke, Robeson, Scotland)	Dwarf Salamander - silver morph	SC	-	S2	G5T2Q
Hemidactylium scutatum MPC: pools, bogs, and other wetlands in hardwood forests (Alamance+, Avery, Bladen*, Buncombe*, Chatham, Cherokee+, Cumberland*, Duplin*, Durham, Gates, Graham+, Granville, Henderson*, Macon*, Mitchell*, Montgomery, Moore, Nash, Orange, Person, Polk+, Randolph, Rockingham*, Surry, Wake)	Four-toed Salamander	SC	-	S3	G5
Hyla versicolor PM?: deciduous or mixed forests, often near water; range uncertain in NC (Warren+)	Northern Gray Treefrog	SR	-	S1?	G5
Necturus lewisi PC: rivers and large streams in Neuse and Tar drainages (endemic to North Carolina) (Beaufort*, Craven*, Durham, Edgecombe, Franklin, Granville*, Greene*, Halifax, Johnston, Jones, Lenoir, Nash, Orange, Person*, Pitt*, Vance*, Wake, Warren, Wayne*, Wilson*)	Neuse River Waterdog	SC	-	S3	G3
Necturus maculosus M: rivers and large streams (French Broad drainage) (Buncombe*, Henderson*, Transylvania*)	Common Mudpuppy	SC	-	SH	G5
Plethodon amplus M: mesic forests in the Hickorynut Gorge vicinity (endemic to this area) (Buncombe+, Henderson+, Rutherford+)	Blue Ridge Gray-cheeked Salamander	SR	-	S1S2	G1G2
Plethodon aureolus M: forests in the Unicoi Mountains (Cherokee*, Graham*)	Tellico Salamander	SR	-	S2	G2G3
Plethodon cheoah M: mesic forests on Cheoah Bald (endemic to this area) (Graham+, Swain+)	Cheoah Bald Salamander	SR	-	S2?	G2

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Plethodon ventralis M: moist areas of talus slopes or rock outcrops in hardwood forests (Buncombe*, Haywood, Henderson*, Madison*, Yancey)	Southern Zigzag Salamander	SC	-	S1	G4
Plethodon wehrlei P: upland forests (low mountains near Virginia border) (Alleghany, Stokes, Surry, Wilkes)	Wehrle's Salamander	T	-	S1	G5
Plethodon welleri M: high elevation forests in northern mountains, mainly in spruce-fir and to a lesser degree, northern hardwood forests (Avery, Mitchell, Watauga, Yancey)	Weller's Salamander	SC	-	S2	G3
Plethodon yonahlossee pop 1 M: Hickorynut Gorge area (endemic to this area); crevices in moist shaded rocks (Buncombe*, Henderson+, Rutherford)	Crevice Salamander	SC	-	S1	G4T1Q
Pseudacris brachyphona M: forests near temporary pools or ponds, in extreme southwestern mountains (Cherokee, Haywood*)	Mountain Chorus Frog	SC	-	S1	G5
Pseudacris ornata SC: swamps, savannas, wooded ponds and pools (Bladen*, Brunswick*, Hoke, New Hanover*, Robeson, Sampson*, Scotland)	Ornate Chorus Frog	SR	-	S3	G5
Rana capito SC: breeds in temporary fish-free pools; forages in sandy woods, especially pine-oak sandhills (Beaufort*, Bladen*, Brunswick, Carteret, Hoke, Jones*, New Hanover*, Onslow, Pender, Robeson, Sampson, Scotland)	Carolina Gopher Frog	T	FSC	S2	G3
Rana heckscheri SC: river floodplains, such as pools or borrow pit ponds (Cumberland*, Moore*, Robeson*, Sampson*, Scotland*)	River Frog	SC	-	SH	G5

FRESHWATER FISHES

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Acipenser brevirostrum TC: brackish water of large rivers and estuaries; spawns in freshwater areas (Anson, Bertie, Bladen, Brunswick, Camden*, Carteret*, Columbus, Currituck*, Dare, Hyde*, New Hanover, Onslow*, Pamlico*, Pasquotank*, Pender, Richmond)	Shortnose Sturgeon	E	E	S1	G3

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Acipenser oxyrinchus TC: coastal waters, estuaries, large rivers (records not yet entered)	Atlantic Sturgeon	SC	-	S3	G3
Ambloplites cavifrons PC: streams in Neuse and Tar systems, rarely in Cape Fear system (Durham, Edgecombe+, Franklin+, Granville, Halifax, Johnston+, Moore, Nash, Orange, Person, Pitt*, Wake+, Warren)	Roanoke Bass	SR	FSC	S3	G3
Aplodinotus grunniens M: French Broad River (Madison)	Freshwater Drum	T (PSC)	-	S1?	G5
Carpiodes carpio M: French Broad River (Madison*)	River Carpsucker	SC	-	SH	G5
Carpiodes velifer PC: Catawba, Pee Dee, and Cape Fear rivers (Anson, Bladen, Catawba, Gaston, Iredell, Mecklenburg, Richmond)	Highfin Carpsucker	SC	-	S2	G4G5
Clinostomus funduloides ssp 1 M: Little Tennessee drainage (Jackson, Macon, Swain)	Little Tennessee River Rosyside Dace	SC	FSC	S2	G5T3Q
Cottus caeruleomentum P: Dan drainage (Stokes+)	Blue Ridge Sculpin	SR (PSC)	-	S1	G4
Cottus carolinae M: French Broad and Toe drainages (Avery, Madison)	Banded Sculpin	T	-	S1	G5
Cyprinella monacha M: Little Tennessee River; formerly in French Broad drainage (Buncombe*, Macon, Madison*, Swain)	Spotfin Chub	T	T	S1	G2
Cyprinella sp 1 (formerly considered part of *C. zanema*) SC: Cape Fear, Lumber, and Pee Dee drainages (Anson, Bladen*, Cumberland+, Richmond, Robeson+, Sampson, Scotland+)	Thinlip Chub	SC	-	S2	GUQ
Cyprinella zanema P: Catawba and Broad drainages (Burke, Caldwell, Catawba+, Iredell+, Lincoln, McDowell+, Mecklenburg+, Polk, Rutherford)	Santee Chub	SR	-	S3	G4
Elassoma boehlkei C: streams and canals in Waccamaw drainage (Brunswick, Columbus)	Carolina Pygmy Sunfish	T	FSC	S1	G2
Erimystax insignis M: primarily French Broad drainage (Buncombe+, Cherokee+, Clay+, Henderson+, Madison+, Mitchell+, Yancey+)	Blotched Chub	SR	FSC	S3	G3G4
Etheostoma acuticeps M: streams in Nolichucky system (Toe and Cane rivers) (Mitchell, Yancey)	Sharphead Darter	T	FSC	S1	G3

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Etheostoma collis pop 1 P: streams in the Yadkin - Pee Dee and Catawba drainages (Anson+, Cabarrus, Davidson+, Mecklenburg, Montgomery, Richmond, Stanly, Union)	Carolina Darter - central Piedmont population	SC	FSC	S3	G3T3Q
Etheostoma collis pop 2 P: streams in the Roanoke, Tar, Neuse, and Cape Fear drainages (Chatham, Durham+, Granville, Guilford, Moore, Orange*)	Carolina Darter - eastern Piedmont population	SC	FSC	S2	G3T3Q
Etheostoma inscriptum M: streams of Savannah drainage (Jackson, Macon, Transylvania)	Turquoise Darter	SC (PT)	-	S1	G4
Etheostoma jessiae M: streams in Mills River system (Henderson*)	Blueside Darter	SC	-	SH	G4Q
Etheostoma kanawhae M: New drainage (Alleghany, Ashe, Watauga)	Kanawha Darter	SR	-	S3	G4
Etheostoma mariae SC: streams of Lumber drainage, mainly in the sandhills; perhaps in adjacent Pee Dee drainage (Hoke, Montgomery, Moore, Richmond, Robeson+, Scotland)	Pinewoods Darter	SC	FSC	S2	G3
Etheostoma perlongum C: Lake Waccamaw (endemic to North Carolina) (Columbus)	Waccamaw Darter	T	FSC	S1	G1Q
Etheostoma podostemone P: large streams in Dan River system (Caswell, Rockingham, Stokes)	Riverweed Darter	SC	-	S2	G4
Etheostoma simoterum M: streams of French Broad drainage (Madison*)	Snubnose Darter	SC	-	SH	G5
Etheostoma vulneratum M: streams of Little Tennessee system; perhaps extirpated from French Broad system (Jackson, Macon, Madison*, Swain)	Wounded Darter	SC	FSC	S2	G3
Exoglossum laurae M: New drainage (Alleghany, Ashe, Watauga)	Tonguetied Minnow	SR	-	S2	G4
Exoglossum maxillingua P: streams of Dan River system (Stokes)	Cutlips Minnow	E (PSC)	-	S1	G5
Fundulus cf diaphanus (formerly considered part of *F. waccamensis*) (taxon endemic to North Carolina, but may be a population of *F. diaphanus*) C: Lake Phelps (Washington)	Lake Phelps Killifish	SR	FSC	S1	GUQ
Fundulus confluentus T: fresh to brackish waters along coast (Carteret*, Dare*, Hyde*, Onslow+)	Marsh Killifish	SR	-	S2	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Fundulus luciae TC: ponds and pools along coast (Brunswick*, Carteret+, New Hanover*, Onslow+)	Spotfin Killifish	SR	-	S2	G4
Fundulus waccamensis C: Lake Waccamaw (endemic to North Carolina) (Columbus)	Waccamaw Killifish	SC	FSC	S1	G1
Heterandria formosa C: streams and lakes near Wilmington (Brunswick, New Hanover)	Least Killifish	SC	-	S2	G5
Hiodon tergisus M: French Broad River (Henderson*, Madison+)	Mooneye	SC	-	SH	G5
Hybopsis rubrifrons M: Savannah drainage (Transylvania)	Rosyface Chub	T	-	S1	G4
Hypentelium roanokense P: Dan drainage (Caswell, Rockingham+, Stokes)	Roanoke Hog Sucker	SR	-	S3	G4
Ichthyomyzon bdellium M: French Broad drainage (Madison)	Ohio Lamprey	SR	-	S1	G3G4
Ictiobus niger M: French Broad River (Madison)	Black Buffalo	SR	-	S1	G5
Lampetra aepyptera CP: Tar and Neuse drainages (Franklin, Halifax, Jones*, Pitt*, Wake, Warren)	Least Brook Lamprey	T	-	S2	G5
Lampetra appendix M: French Broad drainage (Madison)	American Brook Lamprey	T	-	S1	G4
Lucania goodei C: stream in Wilmington area; possibly introduced (New Hanover)	Bluefin Killifish	SC	-	S1	G5
Luxilus chrysocephalus M: Cane drainage; reported in Little Tennessee drainage (Macon, Yancey)	Striped Shiner	T (PSC)	-	S2	G5
Menidia extensa C: Lake Waccamaw (endemic to North Carolina) (Columbus)	Waccamaw Silverside	T	T	S1	G1
Micropterus coosae M: Savannah drainage (Burke*, Jackson*, Transylvania)	Redeye Bass	SR	-	S1	G5
Moxostoma robustum P: Pee Dee River (Anson, Davie*, Richmond, Rowan*, Surry*, Yadkin*)	Robust Redhorse	SR (PE)	FSC	S1	G1
Moxostoma sp 1 M: Little Tennessee and Hiwassee rivers (Cherokee, Clay, Jackson, Macon, Swain)	Sicklefin Redhorse	SR (PT)	FSC	S2	G2G3Q
Moxostoma sp 2 P: Cape Fear and Pee Dee drainages (Anson, Chatham, Harnett*, Lee, Moore, Richmond)	Carolina Redhorse	SR (PE)	FSC	S1	G1G2Q
Notropis bifrenatus C: stream near lower Neuse River (Craven)	Bridle Shiner	SC (PE)	FSC	S1	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Notropis lutipinnis MP: Savannah, Little Tennessee, and Broad drainages [only the Savannah and Little Tennessee drainages are listed as SC] (Jackson, Macon, Transylvania)	Yellowfin Shiner	SC	-	S3	G4Q
Notropis mekistocholas P: Cape Fear drainage (endemic to North Carolina) (Chatham, Harnett, Lee, Moore, Randolph)	Cape Fear Shiner	E	E	S1	G1
Noturus eleutherus M: French Broad drainage (Madison*)	Mountain Madtom	SC	-	SH	G4
Noturus flavus M: Nolichucky, French Broad, and Little Tennessee drainages (Madison, Swain, Yancey)	Stonecat	E	-	S1	G5
Noturus furiosus CP: Tar and Neuse drainages (endemic to North Carolina) (Craven*, Durham*, Edgecombe, Franklin, Greene*, Halifax, Johnston, Jones, Lenoir, Nash, Pitt*, Vance*, Wake, Wayne, Wilson*)	Carolina Madtom	SC (PT)	FSC	S2	G2
Noturus gilberti P: Dan drainage (Stokes)	Orangefin Madtom	E	FSC	S1	G2
Noturus insignis ssp 1 P: Dan River (no county data)	Spotted Madtom	SR	FSC	SR	G5T1T2Q
Noturus sp 1 C: Cape Fear, Waccamaw, and Lumber drainages (Bladen+, Brunswick*, Columbus*, Cumberland+, Duplin, Robeson, Sampson+)	Broadtail Madtom	SC	FSC	S1	G2
Percina burtoni M: South Toe River; formerly in French Broad drainage (Buncombe*, Yancey)	Blotchside Logperch	E	FSC	S1	G2
Percina caprodes M: Tennessee drainages (Alleghany, Ashe, Madison)	Logperch	T	-	S2	G5
Percina nigrofasciata M: Savannah drainage (Transylvania)	Blackbanded Darter	SR (PT)	-	S1	G5
Percina oxyrhynchus M: New River drainage (Alleghany, Ashe)	Sharpnose Darter	SC	-	S1	G4
Percina sciera M: French Broad drainage (Madison*)	Dusky Darter	E	-	SH	G5
Percina squamata M: Tennessee drainages (Cherokee, Jackson*, Macon, Madison*, Mitchell, Swain, Yancey)	Olive Darter	SC	FSC	S2	G3
Phenacobius teretulus M: New drainage (Alleghany, Ashe, Watauga)	Kanawha Minnow	SC	FSC	S2	G3G4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Polyodon spathula M: French Broad River (Buncombe*, Madison*)	Paddlefish	E	-	SH	G4
Sander canadensis M: French Broad and Hiwassee rivers (Cherokee+, Haywood+, Madison)	Sauger	SR	-	S2	G5
Scartomyzon ariommus P: Dan drainage (Forsyth, Rockingham, Stokes)	Bigeye Jumprock	T	-	S2	G4
Semotilus lumbee S: streams in the sandhills (Cumberland, Harnett, Hoke, Montgomery*, Moore, Richmond, Scotland)	Sandhills Chub	SC	FSC	S3	G3
Stizostedion (see *Sander*)					
Thoburnia hamiltoni P: Dan drainage (Stokes)	Rustyside Sucker	E	FSC	S1	G3

MOLLUSKS – FRESHWATER BIVALVES

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Alasmidonta heterodon PC: Tar and Neuse drainages, mainly near Fall Line (Franklin, Granville, Halifax, Johnston, Nash, Orange, Vance, Wake, Warren, Wilson)	Dwarf Wedgemussel	E	E	S1	G1G2
Alasmidonta raveneliana M: Tennessee drainages (Buncombe*, Graham, Haywood, Henderson, Jackson, Macon, Mitchell, Swain, Transylvania, Yancey)	Appalachian Elktoe	E	E	S1	G1
Alasmidonta robusta P: Uwharrie River drainage; formerly Long Creek in Mecklenburg County (endemic to North Carolina) (Mecklenburg*, Montgomery)	Carolina Elktoe	SR	-	S1	G1
Alasmidonta undulata PC: most river systems in Piedmont and Coastal Plain (Caswell, Chatham, Durham, Edgecombe, Franklin, Gates, Granville, Halifax, Harnett, Hertford, Johnston, Jones, Montgomery, Moore, Nash, Northampton, Orange, Person, Pitt*, Randolph, Vance, Wake, Warren, Wilson)	Triangle Floater	T	-	S2	G4
Alasmidonta varicosa PM: Piedmont systems and along Blue Ridge escarpment of Catawba River system (Anson, Burke, Caldwell, Chatham, Forsyth, Granville, Macon, Montgomery, Moore, Orange, Randolph, Surry, Yadkin)	Brook Floater	E	FSC	S1	G3

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Alasmidonta viridis M: Little Tennessee and Mills rivers (Henderson, Macon, Swain)	Slippershell Mussel	E	-	S1	G4G5
Anodonta couperiana C: Bladen County; formerly in Greenfield Lake (Bladen*, New Hanover*)	Barrel Floater	E	-	SH	G4
Anodonta implicata C: Chowan, Meherrin, lower Roanoke, and Pee Dee rivers (Anson, Bertie, Chowan, Gates, Halifax, Hertford, Northampton, Richmond, Washington)	Alewife Floater	T	-	S1	G5
Cyclonaias tuberculata M: New River (Alleghany)	Purple Wartyback	E	-	S1	G5
Elliptio dilatata M: Little Tennessee, Hiwassee, and New rivers (Alleghany, Ashe, Cherokee, Macon, Swain, Watauga)	Spike	SC	-	S1	G5
Elliptio folliculata C: Coastal Plain, mainly in Lake Waccamaw (Bladen, Brunswick, Columbus, Cumberland, Duplin, Harnett, Pender, Sampson)	Pod Lance	SC	-	S1	G2G3Q
Elliptio lanceolata PC: Tar and Neuse systems, mainly near the Fall Line (Edgecombe, Franklin, Granville, Halifax, Johnston, Nash, Vance, Wake, Warren, Wayne)	Yellow Lance	E	FSC	S1	G2G3
Elliptio marsupiobesa C: Cape Fear and Neuse basins (endemic to North Carolina) (Bladen, Craven, Cumberland, Duplin, Johnston, Pender, Robeson, Sampson)	Cape Fear Spike	SC	-	S3	G3Q
Elliptio roanokensis PC: Cape Fear north to Roanoke river systems (Anson, Bladen, Craven, Cumberland, Edgecombe, Halifax, Harnett, Johnston, Montgomery, Nash, Northampton, Pitt, Randolph, Richmond, Stanly, Wake, Wayne*)	Roanoke Slabshell	T	-	S1	G2G3
Elliptio steinstansana PC: Tar River drainage, very rare in Neuse drainage (endemic to North Carolina) (Edgecombe, Franklin, Halifax, Johnston, Nash, Pitt*, Warren)	Tar River Spinymussel	E	E	S1	G1
Elliptio waccamawensis C: Lake Waccamaw and vicinity (endemic to North Carolina; possibly in adjacent South Carolina) (Brunswick, Columbus)	Waccamaw Spike	E	FSC	S1	G2Q

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Fusconaia barnesiana M: Little Tennessee River (Macon, Swain)	Tennessee Pigtoe	E	-	S1	G2G3
Fusconaia masoni CP: most Atlantic drainages, in lower Piedmont and upper Coastal Plain; also in Black River in lower Coastal Plain (Bladen, Caswell, Chatham*, Cumberland, Durham, Edgecombe, Franklin, Granville, Halifax, Harnett, Johnston, Montgomery, Moore, Nash, Northampton*, Orange, Pender, Person, Pitt*, Randolph, Union, Wake, Warren, Wayne, Wilson)	Atlantic Pigtoe	E	FSC	S1	G2
Fusconaia subrotunda M: Hiwassee and French Broad systems (Buncombe*, Cherokee, Clay, Transylvania)	Long-solid	SR	-	S1	G3
Lampsilis cariosa PC: a number of river systems; mainly near the Fall Line (Alamance*, Anson, Bladen, Chatham, Columbus, Cumberland, Davie, Durham, Edgecombe, Franklin, Granville, Halifax, Harnett, Johnston, Montgomery, Moore, Nash, Orange, Pender, Person, Pitt*, Randolph, Richmond, Rowan, Vance)	Yellow Lampmussel	E	FSC	S1	G3G4
Lampsilis fasciola M: French Broad, Pigeon, Hiwassee, and Little Tennessee systems (Cherokee, Haywood, Jackson, Macon, Mitchell, Swain, Yancey)	Wavy-rayed Lampmussel	SC	-	S1	G4
Lampsilis fullerkati C: Lake Waccamaw and vicinity (endemic to North Carolina and adjacent South Carolina) (Columbus)	Waccamaw Fatmucket	T	FSC	S1	G1Q
Lampsilis radiata conspicua P: Neuse and Pee Dee systems (Alamance, Anson, Cabarrus, Davidson, Durham, Granville, Montgomery, Orange, Person, Randolph, Richmond, Stanly)	Carolina Fatmucket	T	-	S1?	G5T2Q
Lampsilis radiata radiata CP: a number of river systems (Bladen, Chowan, Columbus, Craven, Edgecombe, Franklin, Gates, Halifax, Hertford, Johnston, Jones, Nash, Northampton, Pender, Pitt, Sampson, Wake, Warren, Wilson)	Eastern Lampmussel	T	-	S1S2	G5T5
Lampsilis sp 2 PC: Neuse and Tar systems (endemic to North Carolina) (records not yet entered)	a bivalve	SR	-	S1	G1

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Lasmigona decorata P: Catawba and Pee Dee drainages in Union County (endemic to this area and adjacent South Carolina) (Anson*, Cabarrus*, Mecklenburg*, Richmond*, Union)	Carolina Heelsplitter	E	E	S1	G1
Lasmigona holstonia M: Mills River; formerly in Valley Creek in Cherokee County (Cherokee*, Henderson)	Tennessee Heelsplitter	E	FSC	S1	G3
Lasmigona subviridis CPM: Tar, Neuse, and Cape Fear systems downstate; New and Watauga systems in mountains (Alleghany, Ashe, Durham, Edgecombe, Granville, Halifax, Johnston, Nash, Northampton, Orange, Person, Rockingham, Stokes, Wake, Watauga)	Green Floater	E	FSC	S1	G3
Leptodea ochracea CP: a number of systems, primarily in the Coastal Plain; abundant in Lake Waccamaw (Bertie, Chowan, Columbus, Edgecombe*, Gates, Halifax, Hertford, Martin, Northampton, Pitt, Washington)	Tidewater Mucket	T	-	S1	G4
Ligumia nasuta C: Chowan, Roanoke, and Cape Fear systems (Anson, Bertie, Brunswick, Chowan, Gates, Hertford, Nash*, Pitt*, Richmond, Washington)	Eastern Pondmussel	T	-	S1	G4G5
Pegias fabula M: Little Tennessee River; formerly in Valley River in Cherokee County (Cherokee*, Macon, Swain)	Littlewing Pearlymussel	E	E	S1	G1
Pleurobema collina P: Dan and Mayo rivers (Rockingham, Stokes)	James Spinymussel	SR	E	S1	G1
Pleurobema oviforme M: Little Tennessee and Hiwassee drainages (Cherokee, Transylvania)	Tennessee Clubshell	E	FSC	S1?	G3
Sphaerium simile C: White Oak River (Jones, Onslow)	Grooved Fingernailclam	SR	-	S1?	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Strophitus undulatus PC: Tar, Neuse, Cape Fear, and Pee Dee systems, perhaps other systems in Piedmont (Alamance, Anson, Caswell, Chatham, Davidson, Durham, Edgecombe*, Forsyth, Franklin, Granville, Halifax, Harnett, Henderson, Johnston, Jones, Mecklenburg, Montgomery, Moore, Nash, Orange, Person, Pitt, Polk, Randolph, Richmond, Rockingham, Stanly, Surry, Transylvania, Union, Vance, Wake, Warren, Wilson, Yadkin)	Creeper	T	-	S2	G5
Toxolasma pullus PC: a number of Atlantic drainages (Columbus, Montgomery, Orange, Randolph, Union)	Savannah Lilliput	E	FSC	S1	G2
Villosa constricta PC: most Atlantic drainages, mainly in lower Piedmont (Alamance, Burke, Chatham, Durham, Franklin, Granville, Halifax, Harnett, Johnston, Lee*, Montgomery, Moore, Nash, Orange, Person, Randolph, Rockingham, Stanly, Union, Vance, Wake, Warren, Wilson)	Notched Rainbow	SC	-	S3	G3
Villosa delumbis PC: most Atlantic drainages (Alamance, Anson, Bladen, Brunswick, Burke, Cabarrus, Chatham, Cumberland, Duplin, Granville, Mecklenburg, Montgomery, Person, Randolph, Rockingham, Sampson, Stanly, Union)	Eastern Creekshell	SR	-	S3	G4
Villosa iris M: Hiwassee and Little Tennessee drainages; formerly in French Broad drainage (Cherokee, Clay, Jackson, Macon, Swain)	Rainbow	SC	-	S1	G5
Villosa trabalis M: Hiwassee River (Cherokee)	Cumberland Bean	SR	E	S1	G1
Villosa vanuxemensis M: Hiwassee drainage; formerly French Broad drainage (Cherokee)	Mountain Creekshell	T	-	S1	G4
Villosa vaughaniana P: Pee Dee, Catawba, and Cape Fear systems (endemic to North Carolina and adjacent South Carolina) (Alamance, Anson, Cabarrus, Chatham, Mecklenburg, Montgomery, Moore, Randolph, Richmond, Stanly, Union)	Carolina Creekshell	E	FSC	S2	G2

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global

MOLLUSKS – FRESHWATER GASTROPODS

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Amnicola sp 1 C: Lake Waccamaw and adjacent Big Creek (endemic to North Carolina) (Columbus*)	Waccamaw Snail	SC	-	S1	G? [G1Q]
Cincinnatia sp 1 C: Lake Waccamaw and adjacent Big Creek (endemic to North Carolina) (Columbus)	Waccamaw Siltsnail	SC	-	S1	G? [G1Q]
Elimia interrupta M: Hiwassee River and tributaries (Cherokee*)	Knotty Elimia	E	FSC	S1	G1
Ferrissia hendersoni CP: scattered locales in Coastal Plain and Piedmont, but mainly on margins of Carolina bay lakes (records not yet entered)	Blackwater Ancylid	SC	-	S1	G5
Helisoma eucosmium C: Greenfield Lake (formerly), creek in Brunswick County (endemic to North Carolina) (Brunswick, New Hanover*)	Greenfield Rams-horn	E	FSC	S1	G1Q
Leptoxis dilatata M: New River drainage in Ashe, Alleghany, and Watauga counties (Alexander*, Alleghany, Ashe, Watauga)	Seep Mudalia	T	-	S1	G2? [G3]
Leptoxis virgata M?: reported from Hiwassee River, possibly in error	Smooth Mudalia	SR	FSC	SU	G2
Planorbella magnifica C: Orton Pond and pond on Sand Hill Creek; formerly Greenfield Lake (endemic to North Carolina) (Brunswick, New Hanover*)	Magnificent Rams-horn	E	FSC	S1	G1
Somatogyrus virginicus P: Eno River (Durham)	Panhandle Pebblesnail	SR	FSC	S1?	G1G2
Viviparus intertextus C: swamps in Lumber and Waccamaw drainages (Columbus, Robeson)	Rotund Mysterysnail	SR	-	S2?	G3G4

MOLLUSKS – TERRESTRIAL GASTROPODS

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Appalachina chilhoweensis M: southern half of the mountains (Graham+, Haywood+, Madison+, Swain+)	Queen Crater	SC	-	S2	G2
Catinella waccamawensis C: shoreline of Lake Waccamaw (Columbus)	Waccamaw Ambersnail	T	-	S1	GUQ

Scientific Name / Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Discus bryanti M: Watauga to Madison counties (Buncombe, Madison, Mitchell)	Sawtooth Disc	SC	-	S2	G2
Fumonelix jonesiana M: Newfound Gap area of Great Smoky Mountains National Park (endemic to this area) (Swain*)	Big-tooth Covert	T	-	S1	G1
Fumonelix orestes M: Plott Balsam mountains (endemic to this area) (Haywood, Jackson)	Engraved Covert	T	-	S1	G1
Fumonelix wheatleyi clingmanicus M: Clingmans Dome region of Great Smoky Mountains National Park (endemic to this area) (Swain)	Clingman Covert	T	FSC	S1	G4T3T4
Glyphyalinia clingmani M: Black Mountains of Yancey County (endemic to North Carolina) (Yancey)	Fragile Glyph	E	FSC	S1	G1
Glyphyalinia junaluskana M: southwestern mountains (Cherokee+, Graham+, Macon+, Swain+)	Dark Glyph	SC	-	S2	G2
Glyphyalinia pentadelphia M: southwestern mountains (Cherokee+, Clay+, Graham+, Macon+, Swain+)	Pink Glyph	SC	-	S2	G2G3
Glyphyalinia vanattai M: Avery, Mitchell, and Yancey counties (Avery+, Mitchell+, Yancey+)	Honey Glyph	SC	-	S1S2	G1G2
Haplotrema kendeighi M: southwestern mountains (Macon+, Swain+)	Blue-footed Lancetooth	SC	-	S1S2	G1G2
Helicodiscus bonamicus M: Nantahala Gorge vicinity (endemic to this area) (Graham+, Macon+, Swain+)	Spiral Coil	SC	-	S1	G1
Helicodiscus fimbriatus M: extreme southwestern corner of the state, in Cherokee and Graham counties (Cherokee+, Graham+)	Fringed Coil	SC	-	S2	G2G3
Helicodiscus triodus M: Madison County (Madison)	Talus Coil	SR	-	S1?	G2
Inflectarius downieanus M: northern mountains (Watauga)	Dwarf Globelet	SR	-	S1	G3
Inflectarius ferrissi M: Great Smoky Mountains and Plott Balsams (endemic to these ranges) (Haywood+, Jackson+, Swain+)	Smoky Mountain Covert	T	-	S2	G2
Inflectarius subpalliatus M: central mountains (Avery to Haywood counties) (Avery, Haywood+, Madison, Mitchell, Watauga)	Velvet Covert	SC	-	S2	G2

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Pallifera hemphilli M: high elevation forests, mainly spruce-fir (Avery+, Jackson+, Mitchell+, Swain+, Yancey+)	Black Mantleslug	SC	-	S2	G3
Paravitrea andrewsae M: northern half of the mountains (Avery, Buncombe+, Madison, Mitchell, Watauga, Yancey+)	High Mountain Supercoil	SC	-	S2	G2
Paravitrea clappi M: high elevations in Great Smoky Mountains National Park (Swain+)	Mirey Ridge Supercoil	SC	-	S1S2	G1G2
Paravitrea lacteodens M: Graham County, possibly Cherokee County (endemic to this area) (Graham+)	Ramp Cove Supercoil	SC	-	S1	G1
Paravitrea lamellidens M: southern half of the mountains (Cherokee+, Graham+, Haywood+, Macon+, Swain+, Yancey+)	Lamellate Supercoil	SC	-	S2	G2
Paravitrea placentula M: Madison, Mitchell and Swain counties (Madison, Mitchell, Swain+)	Glossy Supercoil	SC	-	S2	G3
Paravitrea ternaria M: found under moist leaf litter on wooded hillsides and slopes (endemic to Madison County and Unicoi County, Tennessee) (Madison)	Sculpted Supercoil	T	FSC	S1	G1
Paravitrea umbilicaris M: extreme southwestern mountains (Cherokee+, Graham+, Macon+)	Open Supercoil	SC	-	S2	G2
Paravitrea varidens M: Mitchell and Yancey counties (endemic to North Carolina and adjacent Tennessee) (Mitchell*, Yancey+)	Roan Supercoil	T	FSC	S1S2	G1G2
Patera clarki M: southwestern mountains (Cherokee+, Clay+, Graham+, Jackson+, Macon+, Swain+)	Dwarf Proud Globe	SC	-	S2	G3
Patera clarki nantahala M: Nantahala Gorge (endemic to this site) (Swain)	Noonday Globe	T	T	S1	G3T1
Stenotrema depilatum M: Great Smoky Mountains National Park (essentially endemic to this area) (Graham+, Swain+)	Great Smoky Slitmouth	SC	-	S2	G2
Triodopsis fulciden P: southwestern Piedmont (endemic to North Carolina) (Burke+, Catawba+, Cleveland+, Lincoln+)	Dwarf Threetooth	SC	-	S1S2	G1G2

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Triodopsis soelneri C: swampy habitats in the extreme southeastern corner of the state (endemic to North Carolina) (Brunswick, Columbus*, New Hanover)	Cape Fear Threetooth	T	FSC	S2	G2
Triodopsis tennesseensis M: Hot Springs vicinity (Madison)	Budded Threetooth	SR	-	S1S3	G3G4
Valvata sincera P: Pee Dee drainage (Richmond)	a valvatid snail	SR	-	S1	GUQ
Ventridens coelaxis M: northern mountains (Alleghany+, Avery+, Madison, Watauga+)	Bidentate Dome	SC	-	S2	G3
Ventridens collisella M: northern mountains (Mitchell, Watauga)	Sculptured Dome	SR	-	S1	G4
Ventridens lasmodon M: Madison County (Madison)	Hollow Dome	SR	-	S1S3	G3
Zonitoides patuloides M: southwestern mountains (Macon+, Swain+)	Appalachian Gloss	SC	-	S2	G2

ARACHNIDS

This arachnid list is a selective one, concentrating on cave and other montane spiders, and is not intended to be a complete list of the rare arachnids in the state.

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Hypochilus coylei M: rock outcrops (apparently endemic to southern mountains of North Carolina) (Buncombe, Henderson, Polk, Rutherford)	a lampshade spider	SR	-	S3?	G3?
Hypochilus sheari M: rock outcrops (apparently endemic to Buncombe, McDowell, and Yancey counties, NC) (Buncombe, McDowell, Yancey)	a lampshade spider	SR	-	S2S3	G2G3
Microhexura montivaga M: in moss of spruce-fir forests (endemic to North Carolina and adjacent Tennessee) (Avery, Caldwell, Mitchell, Swain*, Yancey*)	Spruce-fir Moss Spider	SR	E	S1	G1
Nesticus brimleyi M: caves (endemic to the vicinity of Bat Cave)	a nesticid spider	SR	-	S1?	G1G2
Nesticus carolinensis M: caves (apparently endemic to Linville Caverns) (McDowell*)	Linville Caverns Spider	SR	-	S1	G1?
Nesticus cooperi M: caves and along Nantahala River (apparently endemic to Swain County, NC) (Macon, Swain+)	Lost Nantahala Cave Spider	SR	FSC	S1	G1G2

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Nesticus crosbyi M: spruce-fir forests (apparently endemic to Mount Mitchell)	a nesticid spider	SR	-	S1?	G1?
Nesticus mimus M: rocky areas; known from Grandfather Mountain and Table Rock; also in Virginia	a nesticid spider	SR	-	S2?	G2
Nesticus sheari M: on ground in moist or rich forests (apparently endemic to Graham County, NC)	a nesticid spider	SR	-	S2?	G2?
Nesticus silvanus M: habitat not indicated (apparently endemic to southern mountains of North Carolina)	a nesticid spider	SR	-	S2?	G2?
Nesticus sp 1 M: habitat not indicated (known only from Jackson and Transylvania counties, NC, and Oconee County, SC)	a nesticid spider	SR	-	S2?	G2?

CRUSTACEANS

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Ascetocythere cosmeta M: symbiotic on crayfish in sub-surface waters of burrows (Alleghany*, Avery*)	Grayson Crayfish Ostracod	SR	FSC	S2?	G?
Caecidotea carolinensis P: caves; in McDowell County (McDowell*)	Bennett's Mill Cave Water Slater	SR	FSC	S1	G1G2
Cambarus acanthura M: pools and small creeks in the Hiwassee drainage (records not yet entered)	Spinytail Crayfish	SR	-	S1	G4
Cambarus catagius P: Greensboro area to Uwharries (endemic to North Carolina) (Davidson, Guilford, Montgomery, Randolph)	Greensboro Burrowing Crayfish	SC	-	S2	G3 [G2]
Cambarus chaugaensis M: streams in Savannah drainage (endemic to northwest South Carolina and adjacent North Carolina and Georgia) (Jackson, Macon, Transylvania)	Oconee Stream Crayfish	SC	-	S2	G2 [G3]
Cambarus davidi P: Neuse and Cape Fear drainages (endemic to North Carolina) (Alamance, Caswell*, Chatham, Durham, Harnett, Orange, Rockingham, Wake)	Carolina Ladle Crayfish	SR	-	S2S3	G2G3 [G3]

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Cambarus georgiae M: streams in Little Tennessee drainage (Jackson, Macon)	Little Tennessee River Crayfish	SC	-	S2S3	G1 [G2G3]
Cambarus histricosus S: endemic to streams in the Sandhills (records not yet entered)	Sandhills Spiny Crayfish	SR	-	S2	G2
Cambarus lenati P: streams in the Broad River drainage (endemic to North Carolina) (Cleveland*, Rutherford)	Broad River Stream Crayfish	SR	-	S2	G1G2 [G2]
Cambarus nodosus M: seepages and other mucky areas in Hiwassee drainage (records not yet entered)	Knotty Burrowing Crayfish	SR	-	S2	G4
Cambarus parrishi M: streams in Hiwassee drainage (Cherokee, Clay)	Hiwassee Headwaters Crayfish	SC	FSC	S2S3	G1 [G3G4]
Cambarus reburrus M: streams in upper portions of French Broad drainage, and in one stream in Savannah drainage (endemic to North Carolina) (Buncombe, Henderson, Jackson, Madison, Transylvania)	French Broad River Crayfish	SR	FSC	S2S3	G3G4 [G2G3]
Cambarus spicatus P: streams in Broad River drainage (Cleveland, Polk)	Broad River Spiny Crayfish	SC	-	S2	G3
Cambarus tuckasegee M: streams in Tuckasegee River subdrainage of Little Tennessee River drainage (endemic to North Carolina) (Jackson, Swain)	Tuckasegee Stream Crayfish	SR	-	S1	G1
Cymocythere clavata M: symbiotic on crayfish in mountain streams and rivers (Transylvania*)	Oconee Crayfish Ostracod	SR	FSC	S2?	G?
Dactylocythere isabelae P: symbiotic on crayfish in Lyle Creek in Catawba drainage (endemic to North Carolina) (Catawba*)	Catawba Crayfish Ostracod	SR	FSC	S1?	G?
Dactylocythere prinsi M: cold streams of Savannah drainage in Jackson County (endemic to North Carolina, but possible in adjacent South Carolina and Georgia) (Jackson+)	Whitewater Crayfish Ostracod	SR	FSC	S1	G?
Diacyclops jeanneli putei P: dug well, in Orange County (endemic to North Carolina) (Orange*)	Carolina Well Diacyclops	SR	-	SH	G3G4T1T2
Lynceus gracilicornis C: temporary ponds, pools, and ditches (Craven, New Hanover)	Graceful Clam Shrimp	SR	-	S2?	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Orconectes carolinensis CP: rivers and streams in the Neuse and Tar drainages (Craven*, Edgecombe, Franklin, Granville, Greene*, Halifax*, Johnston, Jones, Lenoir*, Nash*, Pitt*, Vance, Wake*, Warren*, Wilson)	North Carolina Spiny Crayfish	SC	-	S4	G3 [G4]
Orconectes sp 1 M: Cheoah River subdrainage of the Little Tennessee River basin (probably endemic to this area) (records not yet entered)	a crayfish	SR	-	S2?	G?
Orconectes virginiensis C: streams and rivers in the Chowan and Roanoke drainages (Bertie, Granville+, Halifax, Hertford, Martin*, Northampton)	Chowanoke Crayfish	SC	FSC	S3	G3 [G3G4]
Procambarus braswelli C: Waccamaw River and tributary streams (endemic to North Carolina and adjacent South Carolina) (Brunswick, Columbus, Scotland)	Waccamaw Crayfish	SC	-	S2S3	G2G3
Procambarus plumimanus C: rivers, ponds, ditches, and borrow pits in eastern Coastal Plain (endemic to North Carolina) (Carteret*, Craven+, Duplin*, Jones+, New Hanover*, Onslow*, Pender*)	Croatan Crayfish	SR	-	S3	G4
Skistodiaptomus carolinensis M: Lake Ravenel in Macon County (endemic to North Carolina) (Macon)	Carolina Skistodiaptomus	SR	-	S1?	G?
Stygobromus carolinensis M: seeps at Mount Mitchell (endemic to North Carolina) (Yancey+)	Yancey Sideswimmer	SR	FSC	S1	G1G2
Waltoncythere acuta M: symbiotic on crayfish in high gradient rivers and streams in Transylvania County (endemic to North Carolina, but likely occurs in SC) (Transylvania*)	Transylvania Crayfish Ostracod	SR	FSC	S2?	G?

INSECTS – MAYFLIES

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Asioplax dolani P: Neuse River (Wayne, Johnston)	a mayfly	SR	-	S2	G4
Baetisca becki PC: Swift Creek (Nash), Fishing Creek (Edgecombe, Halifax)	a mayfly	SR	-	S1	G2
Baetisca laurentina PC: Lower Jacobs Fork (Catawba), Trent River (Jones)	a mayfly	SR	-	SU	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Baetisca obesa C: known in NC only from the lower Tar River (Edgecombe, Pitt)	a mayfly	SR	-	S1	G5
Baetopus trishae no locality data	a mayfly	SR	-	S1	G1
Barbaetis benfieldi M: Jacob Fork (Burke), French Broad River (Buncombe, Transylvania), Caney Fork (Jackson); may be undersampled -- narrow window of collectibility)	Benfield's Bearded Small Minnow Mayfly	SR	-	S1	G2
Cercobrachys etowah P: known in NC only from the Tar River; taxonomically difficult	a caenid mayfly	SR	-	S2	G2
Choroterpes basalis PSC: Waccamaw River (Columbus, Brunswick), Drowning Creek (Moore, Richmond), Bear Creek (Chatham), Lanes Creek (Union), UT Laurens Creek (Union), Dutchmans Creek (?)	a mayfly	SR	-	S2	G5
Dolania americana C: only known NC occurrence is from the Black River; not seen since 1974 (Sampson*)	American Sand Burrowing Mayfly	SR	FSC	SH	G4
Drunella longicornis M: recorded from nine streams and rivers in the mountains, from Watauga River (Watauga) to Williamson Creek (Transylvania) (Avery, Henderson, McDowell, Transylvania, Yancey)	a mayfly	SR	-	S3	G5
Ephemerella berneri PM: probably widespread in clean streams and rivers with <u>Podostemum</u> (Ashe, Buncombe, Burke, Durham, McDowell, Rockingham)	a mayfly	SR	-	S2	G3
Habrophlebiodes spp very small streams; no locality data	Habrophlebiodes mayflies	SR	-	S2	G?
Homoeoneuria cahabensis P: South Fork Yadkin River (Davie), South Fork Catawba River (Lincoln), Hunting Creek (Iredell), Third Creek (Rowan), Second Broad River (Rutherford)	Cahaba Sand-filtering Mayfly	SR	-	S1S2	G2
Macdunnoa brunnea MP: French Broad River (Buncombe), Mills River (Henderson), Hunting Creek (Davie, Iredell), Leepers Creek (Gaston), Yadkin River (Wilkes), Swift Creek (Nash)	a mayfly	SR	-	S2	G3
Serratella spiculosa Reported from the state, but no specimens have been confirmed (Macon)	Spiculose Serratellan Mayfly	SR	-	S1S2	G2

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Tortopus puella P: only one NC specimen known, from Tar River (Franklin*)	a mayfly	SR	-	S1	G4
INSECTS – STONEFLIES					
Attaneuria ruralis MS: Cataloochee Creek (Haywood), West Fork Pigeon River (Haywood), South Fork New River (Ashe), Naked Creek (Richmond)	a stonefly	SR	-	S2	G4
Bolotoperla rossi M: known from eight streams and rivers in the mountains, from Ashe County to Transylvania County (Alleghany, Ashe, Caldwell, McDowell, Transylvania, Watauga)	a stonefly	SR	-	S3	G4
Isoperla frisoni MP: known from six streams and rivers in the mountains, from Ashe County to Macon County; also found in the Dan River (Ashe, Macon, Transylvania)	a stonefly	SR	-	S3	G5
Isoperla lata M: recent state records from Fires Creek (Clay) and Big Creek (Haywood)	a perlid stonefly	SR	-	S3	G5
Megaleuctra williamsae M: UT Cullasaja River (Macon), Cove Creek (Haywood), Mull Creek (Jackson), Beech Flats Prong (Swain); possibly undersampled -- semi-aquatic	Williams' Rare Winter Stonefly	SR	-	S1	G2
Perlinella ephyre PSC: known from eight streams and rivers in the Sandhills and inner Coastal Plain; also occurs in Flat River (Person) and Terrible Creek (Wake)	a stonefly	SR	-	S3	G5
Zapada chila M: small streams – Beech Flats Prong (Swain), also in Ashe County; hard to identify and may be undersampled	a stonefly	SR	-	S1S2	G2
INSECTS – CADDISFLIES					
Ceraclea cancellata PSC: Naked Creek (Richmond*), Roanoke River (Bertie), Ellis and Turnbull creeks (Bladen)	a caddisfly	SR	-	S1S2	G?

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Ceraclea mentiea MP: Big Horse Creek (Ashe), North and South Forks of New River (Ashe, Alleghany), Mayo River (Rockingham)	a caddisfly	SR	-	S2	G?
Ceraclea slossonae M: North Fork New River (Ashe), Johns River (Burke); may be more numerous but difficult to identify	a caddisfly	SR	-	S2?	G?
Dibusa angata P: South Yadkin River (Davie, Rowan), Eno River (Durham), Little River (Wake), Little River (Durham), Cane Creek (Orange)	a caddisfly	SR	-	S3	G?
Diplectrona metaqui P: known in NC only from Hanging Rock State Park (Stokes), but has possibly been undersampled -- occurs in small streams	a diplectronan caddisfly	SR	-	S1	G?
Manophylax altus M: recorded only from Mt. Mitchell (Yancey), but probably occurs elsewhere	Mount Mitchell Caddisfly	SR	-	S1	G?
Matrioptila jeanae PM: known from ten streams and rivers in the Mountains and Piedmont; poorly sampled due to occurrence in small streams (Burke, Clay, Henderson, Johnston, Macon, Transylvania)	a caddisfly	SR	-	S3	G?
Micrasema burksi M: known from eleven streams in the Mountains, from Avery County to Clay County (Avery, Buncombe, Caldwell, Clay, Haywood, Jackson, Macon, Swain, Yancey)	a caddisfly	SR	-	S3	G?
Micrasema sprulesi PM: known from eight streams and rivers, primarily in the Mountains but also in the Mayo River (Burke, Henderson, Macon, McDowell, Rockingham, Surry, Yancey)	a caddisfly	SR	-	S3	G?
Palaeagapetus celsus M: Wilson Creek (Avery), Boone Fork (Watuaga); may be undersampled due to occurrence in small streams	a caddisfly	SR	-	S2	G?
Rhyacophila amicis M: Cullasaja River (Macon), Nantahala River (Macon, Clay), Whiterock Creek (Jackson), Spainhour Creek (Caldwell), North Toe River (? County), Deep Creek (? County), Oconoluftee River (Swain)	a caddisfly	SR	-	S2	G?

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Rhyacophila mainensis M: rivers and streams (Clay, Haywood, Henderson, Macon, McDowell, Swain, Transylvania, Yancey)	a caddisfly	SR	-	S2	G?
Rhyacophila vibox MP: Whiteoak Creek (Macon), Mitchell River (Surry)	a rhyacophilan caddisfly	SR	-	S1S2	G?
Triaenodes marginata PSC: Stewart Creek (Mecklenburg), Long Creek (Gaston), Whiteoak Creek (Polk); Lumber River (Robeson), UT Hitchcock Creek (Richmond), Mill Creek (Moore)	a triaenode caddisfly	SR	-	S3	G?

INSECTS – DRAGONFLIES

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Aeshna tuberculifera M: boggy or marshy ponds (Burke+, Wilkes+)	Black-tipped Darner	SR	-	S1S2	G4
Aeshna verticalis M: marshy ponds (Burke+, Henderson+)	Green-striped Darner	SR	-	S1S2	G5
Cordulia shurtleffii M: ponds, lakes, bogs (Burke+)	American Emerald	SR	-	S1?	G5
Dromogomphus spoliatus M?: rivers, creeks, ponds	Flag-tailed Spinyleg	SR	-	SR	G4G5
Gomphus abbreviatus PC: rivers (Chatham+, Cumberland+, Durham+, Lee+, Mecklenburg+, Montgomery+, Moore+, Person+, Randolph+, Union+)	Spine-crowned Clubtail	SR	-	S3?	G3G4
Gomphus adelphus M: small rivers with rapids (Avery+, Haywood+, Madison+, Yancey+)	Moustached Clubtail	SR	-	S1S2	G4
Gomphus australis C: lakes and ponds (Brunswick+, New Hanover+)	Clearlake Clubtail	SR	-	S2?	G4
Gomphus borealis M: lakes, ponds, streams (Mitchell*)	Beaverpond Clubtail	SR	-	SH	G4
Gomphus cavillaris brimleyi C: sand-bottomed lakes and streams (Bladen+, Brunswick+)	Brimley's Clubtail	SR	-	S1S2	G4T3
Gomphus consanguis MP: small spring-fed streams (Burke+, Davie+)	Cherokee Clubtail	SR	FSC	S1S2	G2G3
Gomphus descriptus M: large streams and rivers (Avery+, Haywood+)	Harpoon Clubtail	SR	-	S1?	G4
Gomphus fraternus P: rocky rivers (Anson+, Stanly+)	Midland Clubtail	SR	-	S1?	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	 U.S.	Rank N.C.	 Global
Gomphus lineatifrons MP: rivers (Alleghany+, Ashe+, Avery+, Durham, Haywood+, Orange)	Splendid Clubtail	SR	-	S2S3	G4
Gomphus quadricolor P: rocky rivers (Chatham+, Moore+)	Rapids Clubtail	SR	-	S1S2	G3G4
Gomphus septima P: rivers (Chatham, Durham*, Lee)	Septima's Clubtail	SR	FSC	S1S3	G2
Gomphus ventricosus P: rivers (Caswell+, Franklin+, Vance+)	Skillet Clubtail	SR	-	S1S2	G3
Gomphus viridifrons M: rivers (Alleghany+, Ashe+)	Green-faced Clubtail	SR	-	S1S2	G3
Lanthus parvulus M: small spring-fed streams	Northern Pygmy Clubtail	SR	-	SR	G4
Libellula julia M: bogs, marshes (Jackson)	Chalk-fronted Corporal	SR	-	S1	G5
Macromia margarita PM: rivers (Burke, Caldwell+, Macon+, Transylvania)	Mountain River Cruiser	SR	FSC	S2S3	G3
Neurocordulia molesta C: rivers (Bladen+, Cumberland+, Edgecombe+, Harnett+, Lenoir+, Richmond+, Sampson+, Wayne+)	Smoky Shadowdragon	SR	-	S2S3	G4
Neurocordulia virginiensis P: large rivers (Chatham+, Durham+, Halifax+, Harnett+, Nash+)	Cinnamon Shadowdragon	SR	-	S2S3	G4
Neurocordulia yamaskanensis M: rivers (Alleghany+, Madison+)	Stygian Shadowdragon	SR	-	S1S2	G5
Ophiogomphus aspersus M: rapids of rivers and streams (Alleghany+, Ashe, Haywood+)	Brook Snaketail	SR	-	S1S2	G3G4
Ophiogomphus edmundo M: Blue Ridge Escarpment streams (Burke, Caldwell)	Edmund's Snaketail	SR	FSC	S1?	G1G2
Ophiogomphus howei M: rivers (Alleghany, Ashe, Burke)	Pygmy Snaketail	SR	FSC	S1S2	G3
Ophiogomphus mainensis M: rapids of rivers and streams (Burke+, Caldwell+, Haywood+, Mitchell+, Watauga+, Yancey+)	Maine Snaketail	SR	-	S2?	G4
Ophiogomphus rupinsulensis M: streams	Rusty Snaketail	SR	-	SR	G5
Progomphus bellei C: sand-bottomed lakes and streams (Bladen)	Belle's Sanddragon	SR	FSC	S1	G3
Somatochlora elongata M: slow to moderate streams (Avery+, Burke+, Clay+, Jackson+, Macon+)	Ski-tailed Emerald	SR	-	S2S3	G5
Stylurus notatus P: large rivers	Elusive Clubtail	SR	FSC	SR	G3
Stylurus scudderi M: streams and rivers (Ashe+, Avery+, Jackson+, Macon+, Swain+, Wilkes+)	Zebra Clubtail	SR	-	S3?	G4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Stylurus townesi C: small rivers (Columbus+, Robeson+)	Townes' Clubtail	SR	FSC	S1?	G3
Sympetrum obtrusum M: boggy or marshy ponds and lakes (Watauga+)	White-faced Meadowhawk	SR	-	S1?	G5
INSECTS - DAMSELFLIES					
Enallagma minusculum C: lakes and ponds (Bladen+)	Little Bluet	SR	-	S1?	G3G4
Enallagma sulcatum C: ? (Columbus+)	Golden Bluet	SR	-	S1?	G4
Lestes congener M: ? (Alleghany+)	Spotted Spreadwing	SR	-	S1?	G5
INSECTS - FLIES					
Eulonchus marialiciae M: high elevation hardwood-hemlock forests (endemic to North Carolina) (Haywood, Jackson, Macon*, Swain, Transylvania)	Mary Alice's Small-headed Fly	SR	-	S1S3	G1G3
INSECTS - MOTHS					
Acronicta albarufa P: oak glades and barrens	Barrens Daggermoth	SR	-	SH	G3G4
Acronicta sinescripta C: savannas and flatwoods (Brunswick+, Pender+)	a dagger moth	SR	-	S1S3	G?
Agrotis sp 1 nr buchholzi SC: flatwoods with pyxie-moss (Bladen+, Brunswick, Craven+, Onslow+, Pender)	a dart moth	SR	FSC	S2S3	G2G3
Amphipyrinae new genus 2 sp 3 C: woodland canebrakes	a canebrake moth	SR	-	S2S3	G?
Amphipyrinae new genus 4 sp 1 C: woodland canebrakes	a canebrake moth	SR	-	S2S3	G?
Anacamptodes cypressaria C: cypress swamps (Brunswick+, Dare, Martin+)	an inchworm moth	SR	-	SU	G2G4
Apamea inebriata C: sedge meadows	a noctuid moth	SR	-	S1S2	G3G4
Apamea mixta C: savannas	an owlet moth	SR	-	S2?	GU
Apantesis sp. 1 nr. carlotta C: savannas and sandhill seeps	a tiger moth	SR	-	S2?	G4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Callosamia securifera C: pocosins and other wetlands with sweetbay (Bladen+, Brunswick+, Hoke+, Washington+)	Sweetbay Silkmoth	SR	-	S2S3	G4
Catocala amestris C: sand ridges and flatwoods with leadplant (New Hanover+)	Three-staff Underwing	SR	-	S1S2	G4
Catocala dulciola M: forests with hawthorns (Alleghany*)	Sweet Underwing	SR	-	SU	G3
Catocala grisatra C: sandhills and dry woods with hawthorns (Bladen+)	Grisatra Underwing	SR	-	S1S3	G2G3
Catocala herodias gerhardi M: oak forests, particularly with bear oak (Quercus ilicifolia) (Stokes+)	Herodias Underwing	SR	-	SU	G3T3
Catocala jair SC: xeric pine-oak sandhills (New Hanover+, Richmond+)	Jair Underwing	SR	-	S1S3	G4
Catocala lincolnana C: wooded areas with hawthorns (Brunswick+, Martin+, Pender+)	Lincoln Underwing	SR	-	S2S3	G3
Catocala louiseae C: flatwoods and other habitats with blueberries (Bladen+)	Louise's Underwing	SR	-	S1S3	G4
Catocala marmorata C: swamp forests with swamp cottonwood (Brunswick+, Martin+, New Hanover+)	Marbled Underwing	SR	-	S1S3	G3G4
Catocala messalina T: maritime forests and xeric sandhills (Dare*, New Hanover+)	Messalina Underwing	SR	-	S2?	G4
Cerma cora C: levee forests with hawthorn (Martin+, New Hanover+)	a bird-dropping moth	SR	-	S2S3	G3G4
Chaetaglaea fergusoni C: sandhills? (Brunswick+, New Hanover+)	a bird-dropping moth	SR	-	SU	G4
Cyclophora sp 1 (*culicaria* of authors) C: flatwoods with sand-myrtle (Leiophyllum) (Brunswick+)	Sand-myrtle Geometer	SR	-	S2S3	G3G4
Doryodes sp 1 C: brackish marshes (Brunswick+, Carteret+, New Hanover+, Onslow+)	a new owlet moth	SR	-	S3?	G3G4
Drasteria graphica T: maritime shrub thickets (Brunswick+, New Hanover+)	Graphic Moth	SR	-	S2S3	G4
Dysgonia similis C: pocosins and flatwoods (Brunswick+, Carteret+, Dare, Onslow+, Pender+, Washington+)	an owlet moth	SR	-	S2S3	G3G4
Eubaphe meridiana C: savannas	The Little Beggar	SR	-	S2S3	G4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Euchlaena milnei M: unknown	Milne's Euchlaena	SR	-	S1S3	G2G4
Eupithecia peckorum C: sandhills and flatwoods (Brunswick+, New Hanover+, Pender+)	an inchworm moth	SR	-	S2?	G?
Euxoa violaris C: beach dunes	Violet Dart	SR	-	S2S3	G4
Exyra semicrocea C: wetlands with pitcher-plants (Bladen+, Brunswick+, Onslow+, Pender+)	a pitcher-plant moth	SR	-	S2S3	G3G4
Gabara sp 1 C: savannas and flatwoods (Brunswick+, Onslow+, Pender+)	an owlet moth	SR	-	SU	GU
Grammia phyllira C: sandhills	Phyllira Tiger Moth	SR	-	S2S3	G4
Grammia placentia SC: sandhills	Placentia Tiger Moth	SR	-	S2S3	G4
Heliomata infulata MPC: unknown habitat	Rare Spring Moth	SR	-	S2S3	G2G4
Hemeroplanis sp 1 nr obliqualis CP: unknown habitat	an owlet moth	SR	-	S2S3	G?
Hemipachnobia monochromatea C: cranberry bogs and northern low pocosins (Dare)	Sundew Cutworm Moth	SR	-	S1?	G4
Hemipachnobia subporphyrea C: savannas with Venus flytraps (Bladen+, Brunswick+, Carteret+, Pender)	Venus Flytrap Cutworm Moth	SR	FSC	S1?	G1
Hepialus sciophanes M: spruce-fir forests	a ghost moth	SR	-	S1S3	GU
Heterocampa varia SC: xeric pine-oak sandhills	a prominent moth	SR	-	SH	G3G4
Hypagyrtis brendae C: Atlantic white cedar forests (Dare)	Brenda's Hypagyrtis	SR	-	S2S3	G4
Hypomecis buchholzaria C: fire-maintained glades and barrens	Buchholz's Gray	SR	-	SH	G3G4
Itame subcessaria M: high elevation forests with gooseberries	Barred Itame	SR	-	S1S3	G4?
Lagoa pyxidifera C: savannas, flatwoods, and sandhills (Brunswick+, Pender+)	Yellow Flannel Moth	SR	-	S2S3	G?
Lithophane georgii M: spruce-fir forests (Yancey+)	a pinion moth	SR	-	S1?	G5
Lithophane laceyi C: swamp forests (Brunswick+, New Hanover+, Pender+)	a pinion moth	SR	-	S1S3	G4?
Lithophane lemmeri CP: cedar glades and Atlantic white cedar forests (Craven, Wake+)	Lemmer's Pinion	SR	-	S1S3	G3G4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Macrochilo louisiana C: grassy wetlands (Dare, New Hanover+, Onslow+, Pender+)	Louisiana Owlet Moth	SR	-	S2S3	G4
Macrochilo sp 1 nr absorptalis C: sedge meadows	a noctuid moth	SR	-	S1S2	G3
Meropleon cinnamicolor TC: coastal marshes (Carteret)	an owlet moth	SR	-	S2S3	GU
Meropleon diversicolor sullivani T: coastal marshes (Brunswick+, Craven+)	an owlet moth	SR	-	S1S3	G4T1T3
Metarranthis lateritiaria C: flatwoods and pocosins (Brunswick, Dare+, Onslow+, Pender)	an inchworm moth	SR	-	S1S3	G2G4
Metarranthis sp 1 C: pocosins (Brunswick+, Dare, New Hanover+, Washington+)	a new inchworm moth	SR	-	S2S3	G3
Nematocampa baggetaria C: unknown habitat (Brunswick+, Onslow+, Pender+)	Baggett's Nematocampa	SR	-	SU	G2G4
Nemoria tuscarora M: unknown habitat	Tuscarora Emerald	SR	-	S1S3	GU
Papaipema appassionata C: wetlands with pitcher-plants	Pitcher-plant Borer Moth	SR	-	S2?	G4
Papaipema duplicata M: rich woods with Collinsonia canadensis	Dark Stoneroot Borer Moth	SR	-	SH	G2G4
Papaipema eryngii C: savannas (Pender+)	Rattlesnake-master Borer Moth	SR	-	S1	G1G2
Phragmatiphila interrogans C: canebrakes (Carteret+)	an owlet moth	SR	-	S2?	G3G4
Ptichodis bistrigata C: xeric sandhills (Bladen+, Brunswick+, New Hanover+, Onslow+)	Southern Ptichodis	SR	-	S2S3	G3
Pygarctia abdominalis C: flatwoods? (Brunswick+, Onslow+, Pender+)	Yellow-edged Pygarctia	SR	-	S2S3	G3G4
Pyreferra ceromatica C: flatwoods and pocosins with Fothergilla? (Craven+)	Annointed Sallow Moth	SR	FSC	S1S3	GU
Schinia carolinensis C: savannas	Carolina Schinia	SR	-	S2S3	G?
Schinia jaguarina C: savannas and sandhills	Jaguar Flower Moth	SR	-	S1S3	G4
Schizura apicalis C: unknown habitat	Plain Schizura	SR	-	S1S3	G2G4
Schizura sp 1 PC: unknown habitat (Brunswick+, Onslow+, Wake+)	a new prominent moth	SR	-	S1S3	G3G4
Semiothisa fraserata M: spruce-fir forests	Fraser Fir Geometrid Moth	SR	-	S1S2	G2Q

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Spartiniphaga carterae C: savannas and sandhills with pinebarrens sandreed (Calamovilfa brevipilis) (Bladen+, Brunswick+, Carteret*, Pender)	Carter's Noctuid Moth	SR	FSC	S2S3	G2G3
Tornos cinctarius C: unknown habitat	a gray	SR	-	S2?	G?
Trichosilia manifesta C: sandhills (Brunswick+, New Hanover+, Onslow+, Pender+)	an owlet moth	SR	-	S2S3	G4
Zale declarans T: maritime forests with live oak (Brunswick+, Carteret+, Dare+, New Hanover+)	an owlet moth	SR	-	S2S3	G5

INSECTS – BUTTERFLIES

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Amblyscirtes alternata SC: open pine woods, savannas; host plants -- unknown, but presumably grasses (Brunswick, Cumberland, Jones+, Moore, New Hanover+, Onslow, Pender, Richmond, Scotland)	Dusky Roadside-Skipper	SR	-	S2	G3G4
Amblyscirtes reversa CSP: flatwoods, savannas, pocosin borders, near cane; host plant -- cane (Arundinaria) (Beaufort, Bertie+, Brunswick, Carteret, Craven, Cumberland, Dare, Franklin, Gaston+, Hoke, Martin+, Moore, Onslow, Pender, Richmond, Robeson*, Scotland)	Reversed Roadside-Skipper	SR	-	S3	G3G4
Atrytone arogos arogos SC: savannas, open pinewoods, and other relatively undisturbed grasslands; host plants -- grasses, mainly pinebarrens sandreed (Calamovilfa brevipilis) (Brunswick+, Carteret, Moore*, New Hanover+, Richmond+)	Arogos Skipper	SR	FSC	S1	G3G4T1T2
Atrytonopsis loammi CT: grassy areas near the coast; host plants presumed to be Andopogon grasses (Brunswick, New Hanover+)	Loammi Skipper	SR	FSC	S1?	G2G3
Atrytonopsis sp 1 T: dunes and sandy flats; host plant -- seaside little bluestem (Schizachyrium littorale) (Carteret, Onslow)	an undescribed skipper	SR	FSC	S1	G1?

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Autochton cellus MPC: moist woods near streams; host plant -- hog peanut (Amphicarpa bracteata) (Alleghany, Burke+, Caswell, Gaston+, Graham, Haywood, Macon, Madison+, Mitchell, Orange*, Pitt+, Polk+, Swain)	Golden Banded-Skipper	SR	-	S1S2	G4
Calephelis virginiensis C: savannas and pine flatwoods; host plant -- vanilla-plant (Trilisa odoratissima) (Brunswick, Carteret, Craven, Cumberland+, Dare+, Moore+, New Hanover, Onslow, Pender)	Little Metalmark	SR	-	S2	G4
Callophrys hesseli SC: Atlantic white cedar swamps; host plant -- white cedar (Chamaecyparis thyoides) (Bladen, Brunswick, Camden, Columbus, Cumberland*, Dare, Gates+, Hoke*, Moore, Pender, Richmond, Scotland, Tyrrell+, Washington+)	Hessel's Hairstreak	SR	-	S3	G3G4
Callophrys irus SCPM: open woods and borders, usually in dry situations; host plants -- lupines (Lupinus) and wild indigos (Baptisia) (Brunswick, Buncombe+, Cherokee+, Craven+, Cumberland+, Franklin, Gates+, Jones, Moore, Pender, Polk+, Richmond+, Scotland)	Frosted Elfin	SR	-	S2	G3
Celastrina nigra M: rich, moist deciduous forests; host plant -- goat's-beard (Aruncus dioicus) (Buncombe+, Clay, Graham, Haywood, Macon, Mitchell, Polk, Swain*, Transylvania+)	Dusky Azure	SR	-	S2?	G4
Chlosyne gorgone M: woodland openings and borders; host plants -- sunflowers, rosinweeds, and other tall composites (Clay, Macon)	Gorgone Checkerspot	SR	-	S1?	G5
Erora laeta M: deciduous forests, especially along roads or edges at high elevations; host plants -- mainly American beech (Fagus grandifolia) (Alleghany+, Ashe, Avery, Buncombe+, Clay, Haywood, Jackson, Macon, Mitchell, Swain+, Transylvania+)	Early Hairstreak	SR	-	S2S3	G3G4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Erynnis martialis MPSC: upland woods and wooded edges; host plant -- New Jersey tea (Ceanothus americanus) (Alleghany, Brunswick+, Buncombe+, Caswell, Craven+, Cumberland, Durham, Franklin, Gaston+, Granville, Henderson, Macon+, Montgomery, Moore+, Polk, Richmond+, Rutherford, Surry, Wake+, Warren, Yadkin)	Mottled Duskywing	SR	-	S3	G3G4
Euchloe olympia M: high elevation openings and glades; host plants -- mainly cresses (Arabis) (Swain)	Olympia Marble	SR	-	S1	G4G5
Euphydryas phaeton M: bogs, marshes, wet meadows; rarely in upland woods; host plants -- turtlehead (Chelone) and false foxglove (Aureolaria) (Alleghany, Ashe, Avery, Buncombe+, Haywood, Henderson, Jackson, Macon, Mitchell, Polk+, Transylvania*, Watauga)	Baltimore Checkerspot	SR	-	S2	G4
Euphyes berryi C: wet areas near ponds, canals, or marshes; host plant -- not known, but probably sedges (Carteret, Craven, Dare, Hyde)	Berry's Skipper	SR	-	S1?	G3G4
Euphyes bimacula CSP: marshes, wet savannas, sedgy areas near wet woods; host plants -- sedges (Carex) (Brunswick, Carteret, Craven, Gates+, Harnett, Johnston, Jones+, Moore+, Pender, Vance)	Two-spotted Skipper	SR	-	S2	G4
Euphyes dukesi dukesi CT: ecotones of brackish or fresh marshes with swamps; host plants -- sedges (Carex) (Beaufort, Brunswick, Craven+, Currituck)	Dukes' Skipper	SR	-	S1S2	G3T3
Fixsenia favonius favonius T: maritime forests along southern coast; host plant -- oaks, especially live oak (Quercus virginiana) (Brunswick+)	Southern Oak Hairstreak	SR	-	S1?	G4T4
Fixsenia favonius ontario MPSCT: oak-dominated woods, usually in dry sites; host plants -- oaks (Quercus) (Alleghany, Brunswick, Camden+, Carteret+, Caswell, Cleveland, Cumberland+, Currituck+, Dare*, Hoke, Hyde+, Montgomery, Moore, New Hanover, Orange, Pender+, Richmond, Wilkes)	Northern Oak Hairstreak	SR	-	S3?	G4T4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Hesperia attalus slossonae SC: pine/oak sandhills, flatwoods, mainly in Sandhills; host plants -- grasses (Brunswick+, Craven+, Cumberland, Hoke, Moore+, Pender+, Richmond, Scotland)	Dotted Skipper	SR	-	S2S3	G3G4T3
Hesperia meskei SC: open pine woods, especially in Sandhills; host plants -- grasses (Bladen, Cumberland*, Hoke, Moore, Onslow+, Richmond, Scotland)	Meske's Skipper	SR	-	S3	G2G4
Megathymus cofaqui cofaqui P: monadnocks with yucca; host plant -- Yucca filamentosa (Alexander, Polk*)	Cofaqui Giant-Skipper	SR	-	S1?	G3G4T3
Neonympha mitchellii francisci S: boggy areas, overgrown beaver ponds, and pocosin margins with sedges in sandhills; host plants -- sedges (taxon endemic to North Carolina) (Cumberland, Hoke)	Saint Francis' Satyr (full species = Mitchell's Satyr)	SR	E	S1	G1G2T1
Papilio cresphontes TCPM: primarily coastal in maritime forests or thickets; host plants -- prickly ash (Zanthoxylum), hoptree (Ptelea) (Alexander, Ashe, Brunswick, Carteret, Cherokee+, Currituck+, Dare, Hyde, New Hanover, Onslow, Orange*, Wake+)	Giant Swallowtail	SR	-	S2	G5
Phyciodes batesii maconensis M: rocky ridges, woodland openings, at higher elevations; host plants -- asters, mainly Aster undulatus (Buncombe*, Clay, Graham, Haywood, Jackson, Macon, Swain)	Tawny Crescent	SR	FSC	S2	G4T1T3
Phyciodes cocyta M: rocky areas (in Appalachians), but habitat poorly known; host plants -- asters (Buncombe+)	Northern Crescent	SR	-	SU	G5
Phyciodes texana seminole C: river floodplains; host plants -- Acanthaceae (Brunswick, Columbus)	Seminole Texan Crescent	SR	-	S1?	G5T3T4
Poanes aaroni aaroni T: brackish marshes along northern coast and sounds; host plants -- grasses, perhaps saltgrass (Distichlis spicata) (Currituck+, Dare, Hyde)	Aaron's Skipper	SR	-	S1S2	G4T4
Polygonia faunus smythi M: spruce, fir, or hemlock forests, where mixed with hardwoods; host plants -- mainly birches (Avery*, Buncombe, Graham, Haywood, Henderson+, Macon, Swain+, Transylvania*, Watauga+, Yancey)	Smyth's Green Comma	SR	-	S2	G5T3T4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Polygonia progne M: rich deciduous forests; host plants -- mainly gooseberries (Ribes), but also on wild azalea (Rhododendron nudiflorum) (Avery, Buncombe, Clay, Madison+, Mitchell+, Swain+)	Gray Comma	SR	-	S1	G5
Problema bulenta T: fresh to brackish marshes with tall grasses in Wilmington area; host plant -- wild rice (Zizania aquatica), probably other tall grasses (Brunswick, New Hanover)	Rare Skipper	SR	FSC	S1	G2G3
Pyrgus wyandot M: openings and edges in wooded hilltops; host plants -- Rosaceae, such as cinquefoil (Potentilla) (Polk*, Transylvania*)	Appalachian Checkered-Skipper	SR	FSC	SH	G2
Satyrium caryaevorum M: mid- to high elevation deciduous forests; host plants -- hickories (Carya) (Buncombe, Macon+, McDowell, Watauga)	Hickory Hairstreak	SR	-	S1?	G4
Satyrium edwardsii SM: scrubby or xeric oak woods; host plants -- oaks (Quercus) (Cumberland, Hoke*, Macon, Moore, Polk+, Sampson, Scotland, Transylvania*, Watauga+)	Edwards' Hairstreak	SR	-	S2?	G4
Satyrium kingi SCPM: forests, often moist, usually near sweetleaf; host plant -- sweetleaf (Symplocos) (Brunswick, Carteret+, Craven, Cumberland, Dare*, Gaston, Hoke, Moore, Onslow+, Pender+, Richmond, Scotland, Transylvania+)	King's Hairstreak	SR	-	S2S3	G3G4
Speyeria aphrodite cullasaja M: forest openings and edges west of the Little Tennessee River; host plants -- violets (Viola) (Clay, Macon+)	Cullasaja Aphrodite Fritillary	SR	-	S1?	G5T1
Speyeria idalia M: wet or dry meadows, bogs, open hilltops; host plants -- violets (Viola) (Alleghany*, Ashe*, Avery, Wilkes*)	Regal Fritillary	SR	FSC	SH	G3

INSECTS – GRASSHOPPERS AND KATYDIDS

Eotettix pusillus C: sandhills (wet swales?)	Little Eastern Grasshopper	SR	-	S2?	G2G3
Melanoplus angustipennis impiger C: sandhills	Narrow-winged Melanoplus	SR	-	S1S3	G5T?
Melanoplus attenuatus C: wet swales in pinewoods	Slender-bodied Melanoplus	SR	-	S1S3	G2G3

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Melanoplus cherokee M: woodlands, 1800' - 5100'	Cherokee Melanoplus	SR	-	S1S3	G1G3
Melanoplus decorus C: savannas, flatwoods, low pocosins (Dare)	Decorated Spur-throat Grasshopper	SR	-	S2S3	G3G4
Melanoplus divergens M: glades and balds, 1800' - 4717'	Divergent Melanoplus	SR	-	S1S3	G2G3
Melanoplus mirus PC: open woodlands	a short-winged melanoplus	SR	-	S2S3	G2G3
Melanoplus nigrescens CT: pinewoods and maritime forests	Black-sided Spur-throat Grasshopper	SR	-	S1S3	GU
Melanoplus nubilus C: flatwoods, savannas, sandhills	a short-winged melanoplus	SR	-	S2S3	G2G3
Melanoplus serrulatus M: valleys and lower slopes, Nantahala Mountains	Serrulate Melanoplus	SR	-	S1S3	G1G3
Melanoplus viridipes eurycerus M: woodlands and forest edges	Green-legged Melanoplus	SR	-	S1S3	G4T4
Montezumina modesta C: pinewoods and other habitats	Montezuma Katydid	SR	-	SU	GU
Scudderia septentrionalis M: forests	Northern Bush Katydid	SR	-	SH	G3?
Stethophyma celatum C: bogs, wet tallgrass prairies (Pender)	Broad-winged Sedge Grasshopper	SR	-	S1S2	G4
Trimerotropis saxatilis M: lichen-covered rock outcrops (Transylvania)	Rock-loving Grasshopper	SR	-	S1S2	G3?

INSECTS – BEETLES

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Cicindela lepida T: sand dunes along northern coast	Little White Tiger Beetle	SR	-	S1?	G4
Cicindela patruela no location data; sandy soil in open pine or pine oak woods	a tiger beetle	SR	-	S2?	G3
Lordithon niger no location data	Black Lordithon Rove Beetle	SR	-	SH	GU
Nicrophorus americanus M: sites with abundance of small vertebrate carrion	American Burying Beetle	SR	E	SH	G2G3
Stenelmis gammoni M: South Fork New River (Ashe*)	Gammon's Stenelmis Riffle Beetle	SR	FSC	S1	G1G3

INSECTS – TRUE BUGS

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Chlorochroa dismalia C: swamps, bottomlands, flatwoods (Craven, Harnett*, Hyde*, Onslow*)	Dismal Swamp Green Stink Bug	SR	-	S1?	GU

NORTH CAROLINA ANIMAL WATCH LIST

The *North Carolina Animal Watch List* includes animals that are rare or uncommon, are not well-studied, or are otherwise threatened with serious decline, but that are not placed on the List of Rare Animals of North Carolina by the NC NHP. Watch List species are additional indicators of significant habitats, and their presence should be considered in planning natural area protection efforts, though obviously with less weight than higher priority rare species and natural communities. The NC NHP maintains paper files on these species, but does not include them in its map and computer files. Animals placed on this list fall into a number of categories, as discussed below. The NC NHP requests additional information about these species in order to clarify their status and reclassify them into other appropriate and more specific categories.

Reasons for the current placement of species on the Watch List rather than at a higher rarity status (Endangered, Threatened, Special Concern, Significantly Rare) are varied. For many of them, the Natural Heritage Program lacks adequate documentation of their historic or present occurrence in North Carolina; this is especially true for invertebrates. Others are known to be rare or uncommon in North Carolina, but may or may not be declining. Some others may not be necessarily rare as yet, but they are undergoing significant losses of their habitat, such as animals of the spruce-fir forest, or are undergoing significant disturbances to their habitat, such as human disturbances to beach-nesting birds.

The following five Watch Categories have been devised to indicate the reasons for each species' current placement(s). These categories and the descriptions of them have been developed by the NC NHP.

A number of species have been placed in two Watch Categories, because it is believed they may be "in trouble" for at least two reasons. For example, the Red-breasted Nuthatch has a rather small breeding population in the state, in the higher elevations of the mountains, giving it a W2 status. However, as a portion of the breeding population occurs in the spruce-fir zone, which is undergoing degradation of the canopy, it is also given a W5 status, as well.

<u>Watch Category 1 (W1)</u> includes species that are known to be declining in North Carolina, for one reason or another. The distribution or population sizes of such species in the state are fairly well known; loss of habitat is not necessarily a factor. A large number of species are known to be declining in the state, such as Neotropical migrant birds, but the species in this category must have an N.C. Rank of S3S4 or higher (S3, S2, S1, etc.). Examples: American Black Duck, Slender Glass Lizard.

<u>Watch Category 2 (W2)</u> includes species that are rare to uncommon in North Carolina, but are not necessarily considered to be declining or otherwise in trouble. Generally speaking, the distribution or population sizes of such species in the state are fairly well known. Examples: Baltimore Oriole, Coal Skink, Spotted Sunfish.

Watch Category 3 (W3) includes species that are poorly known in North Carolina, but are not necessarily considered to be declining or otherwise in trouble. The distribution and population sizes of such species are not well known; this is especially true for a large number of invertebrates, as well as secretive or nocturnal vertebrates. Examples: Striped Mud Turtle, Sandhills Salamander, Regal Darner.

Watch Category 4 (W4) includes species reported from North Carolina without adequate documentation. These species should be listed at a higher level, if their reported occurrence in North Carolina is true. This category includes sight records of uncertain validity, old and vague reports for which no documentation has appeared, and, in a few cases, more recent reports for which we have not yet received documentation. Example: Cumberland Crayfish Ostracod.

Watch Category 5 (W5) includes species with increasing amounts of threats to its habitat, whether or not populations are known to be declining. These threats can include loss of habitat (e.g., the dramatic loss of maritime forests), degradation of habitat (e.g., pollution and sedimentation of rivers and streams), and disturbance to the habitat (e.g., humans and their vehicles on beaches), among other types of threats. Threats can also include use of pesticides, acid rain, fire suppression, over-collection by zoologists, and varied other factors. Examples: American Kestrel, Georgia Satyr.

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global

WATCH LIST CODES

W1 = species known to be declining in the state; may need listing in upcoming years
W2 = species rare to uncommon, but probably not in trouble
W3 = species that is poorly known; perhaps needs listing in upcoming years
W4 = species reported from the state without adequate documentation
W5 = species with increasing amount of threats to its habitat, whether populations are known to be declining or not
SC = Special Concern (see Page 3). Though still on the State Protected List, biologists consider the species to no longer need tracking by the N.C. Natural Heritage Program.

MAMMALS

Scientific Name / Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Cervus canadensis M: high elevation meadows, grass balds (released in Great Smoky Mountains NP)	Elk	SC	-	S1	G5
Lasiurus seminolus CP: forages over open areas, often over water (summer)	Seminole Bat	W2	-	S3S4B,SZN	G5
Mustela frenata MPC: forests, brushy areas	Long-tailed Weasel	W3	-	S3S4	G5
Sorex hoyi winnemana MC: montane deciduous forests; old fields and forests in northeastern Coastal Plain	Southern Pygmy Shrew	W2	-	S3	G5T4
Spilogale putorius M: open forests with rocks, cliffs, and other den sites	Eastern Spotted Skunk	W2	-	S3	G5
Synaptomys cooperi stonei M: bogs and wet meadows	Southern Bog Lemming	W2	-	S3	G5T?
Zapus hudsonius MP: open moist fields and brushy places, usually near water	Meadow Jumping Mouse	W2	-	S3	G5

BIRDS

Only the breeding season populations are of concern; provinces and habitats are for these populations only.

Scientific Name / Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Accipiter cooperii MPSC: forests and woodlands	Cooper's Hawk	SC	-	S3S4B,S4N	G5
Accipiter gentilis M: extensive, remote forests, mainly at high elevations	Northern Goshawk	W3	-	SUB,SZN	G5
Ammodramus caudacutus T: tidal marshes	Saltmarsh Sharp-tailed Sparrow	W3	-	SUB,S4N	G4
Ammodramus savannarum PSCM: pastures and other grasslands	Grasshopper Sparrow	W1,W5	-	S3B,S1N	G5
Anas discors TC: fresh to slightly brackish marshes, usually at impoundments	Blue-winged Teal	W2	-	SHB,S2N	G5

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Anas rubripes TC: fresh or brackish marshes, often at impoundments	American Black Duck	W1	-	S3B,S4N	G5
Asio flammeus TC: coastal marshes	Short-eared Owl	W3	-	SUB,S3N	G5
Asio otus M: high elevation forests in northern mountains	Long-eared Owl	W3	-	SUB,SZN	G5
Carduelis pinus M: spruce-fir forests	Pine Siskin	W3	-	SUB,S4N	G5
Coragyps atratus MPSC: forested areas for nesting; forests or open country for foraging	Black Vulture	SC	-	S3S4	G5
Corvus corax MP: cliffs for nesting; forests or fields (mainly at high elevations) for foraging	Common Raven	W2	-	S3	G5
Dendroica coronata M: spruce-fir forests, especially in immature stands	Yellow-rumped Warbler	W3	-	SUB,S5N	G5
Dolichonyx oryzivorus M: meadows and other grasslands	Bobolink	W3,W5	-	SUB,SZN	G5
Elanoides forficatus C: extensive swamps and bottomlands, often forages over nearby fields or marshes	Swallow-tailed Kite [the subspecies *E. f. forficatus* (American Swallow-tailed Kite) is FSC, not the entire species]	W3	FSC	SUB,SZN	G5
Empidonax minimus M: open hardwood forests, groves, streamside trees	Least Flycatcher	W2	-	S3B,SZN	G5
Empidonax traillii MP: wet thickets in open country, often along streams in broad valleys	Willow Flycatcher	W2	-	S3B,SZN	G5
Eudocimus albus T: forests or thickets on maritime islands	White Ibis	W2	-	S3B,S3N	G5
Falco sparverius MPSC: open country; nests in cavities, even in buildings or poles in cities	American Kestrel	W1,W5	-	S3B,S5N	G5
Helmitheros vermivorus pop 1 C: nonriverine wet hardwoods, pocosins	Worm-eating Warbler - Coastal Plain population	W5	-	S3B,SZN	G5T?
Icterus galbula MP: hardwood groves or streamside trees, in open country	Baltimore Oriole	W2	-	S3B,S3N	G5
Ixobrychus exilis TCSP: fresh or brackish marshes	Least Bittern	W3	-	S3B,SZN	G5
Limnothlypis swainsonii CSMP: forests with dense understory, often with cane in Coastal Plain and rhododendron in mountains	Swainson's Warbler	W2,W5	-	S3B,SZN	G4
Lophodytes cucullatus PMC: lakes and ponds, with dead trees for nesting	Hooded Merganser	W3	-	S1B,S4N	G5

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Nyctanassa violacea TCP: swamps; woods or thickets on maritime islands	Yellow-crowned Night-Heron	W2,W3	-	S3B,SZN	G5
Pheucticus ludovicianus M: hardwood forests at mid- to high elevations	Rose-breasted Grosbeak	W1	-	S3B,SZN	G5
Rallus elegans TCPS: fresh to slightly brackish marshes	King Rail	W1,W3	-	S3B,S3N	G4G5
Regulus satrapa M: spruce-fir forests; hardwood forests mixed with spruce or hemlock	Golden-crowned Kinglet	W2	-	S3S4B,S5N	G5
Sitta canadensis M: high-elevation coniferous forests, preferably spruce-fir	Red-breasted Nuthatch	W2,W5	-	S3B,S4N	G5
Spiza americana PC: fallow fields and pastures with tall forbs	Dickcissel	W3,W5	-	S2B,SZN	G5
Sterna forsteri T: salt or brackish marshes, nesting on wrack material or matted grasses	Forster's Tern	W2	-	S3B,S5N	G5
Sterna fuscata T: sand flats on maritime islands; forages over open ocean	Sooty Tern	W2	-	SUB,S3N	G5
Sterna sandvicensis T: sand flats on maritime islands	Sandwich Tern	W2,W5	-	S3B,SZN	G5
Tachycineta bicolor MPC: cavities near ponds or other open water	Tree Swallow	W2	-	S2S3B,S4N	G5
Troglodytes troglodytes M: cool, moist forests at mid- to high elevations	Winter Wren	W2,W5	-	S3B,S5N	G5
Tyto alba MPSCT: extensive open country, nesting in old buildings, silos, large tree cavities	Barn Owl	W2,W3	-	S3B,S3N	G5

REPTILES

Apalone spinifera aspera PC: large streams, ponds, and lakes with sandy bottoms	Gulf Coast Spiny Softshell	W2	-	S3	G5T5
Cemophora coccinea CSPM: sandhills, sandy woods, and other dry woods	Scarlet Snake	W1,W5	-	S3	G5
Clemmys guttata CTSP: shallow water of pools, marshes, wet pastures and other smaller wetlands	Spotted Turtle	W1	-	S3	G5
Eumeces anthracinus M: rocky slopes, wooded hillsides, roadbanks	Coal Skink	W2	-	S3	G5

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Farancia erytrogramma CS: swamps, lakes, rivers, and other sluggish water	Rainbow Snake	W1	-	S3	G5
Kinosternon baurii C: various shallow wet places; ponds, pools, ditches	Striped Mud Turtle	W3	-	S3?	G5
Lampropeltis triangulum elapsoides CSPM: pine flatwoods, mesic pine-hardwood forests	Scarlet Kingsnake	W1,W5	-	S3	G5T5
Lampropeltis triangulum triangulum MP: wooded slopes, pastures, meadows, especially in rocky areas	Eastern Milk Snake	W3	-	S2S3	G5T5
Ophisaurus attenuatus CPSM: old fields, wooded edges, open woods	Slender Glass Lizard	W1	-	S3	G5
Rhadinaea flavilata C: pine flatwoods and other damp woodlands	Pine Woods Snake	W2	-	S3	G4
Virginia valeriae CSPM: deciduous or mixed woods, usually in mesic soils	Smooth Earth Snake	W2	-	S3	G5

AMPHIBIANS

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Desmognathus imitator M: cool, moist high elevation hardwood or spruce-fir forests; nearly confined to Great Smoky Mountains National Park	Imitator Salamander	W2	-	S3	G3
Eurycea sp 1 C: small streams in the Sandhills	Sandhills Salamander	W3	-	S3?	G3?Q
Hyla andersonii SC: pocosins, bay forests, boggy areas	Pine Barrens Treefrog	W2	-	S3S4	G4
Plethodon meridianus P: mesic forests of the South Mountains (endemic to this area)	South Mountain Gray-cheeked Salamander	W2	-	S3S4	G1G2 [G3G4]
Plethodon richmondi M: moist, high-elevation forests, usually on slopes; northern mountains	Southern Ravine Salamander	W2	-	S3	G5
Pseudacris brimleyi C: swamps, marshes, and other wetlands	Brimley's Chorus Frog	W1	-	S3S4	G5
Siren lacertina CS: lakes, ponds, and streams, especially where muddy or with weedy vegetation	Greater Siren	W3	-	S3?	G5
Stereochilus marginatus CS: swamps, shallow wooded ponds in savannas	Many-lined Salamander	W3	-	S3?	G5

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
FRESHWATER FISHES					
Ameiurus brunneus PCMS: many drainages	Snail Bullhead	W1	-	S3	G4
Ameiurus platycephalus PCMS: many drainages	Flat Bullhead	W1	-	S4	G5
Cyprinella labrosa P: Yadkin, Catawba, and Broad drainages	Thicklip Chub	W2	-	S3	G4
Cyprinella spiloptera M: primarily New and French Broad drainages	Spotfin Shiner	W2	-	S2S3	G5
Enneacanthus chaetodon CS: many drainages, particularly Lumber and Waccamaw	Blackbanded Sunfish	W1	-	S3	G4
Etheostoma thalassinum MP: Santee River drainage	Seagreen Darter	W5	-	S3	G4
Etheostoma zonale M: small to medium mountain streams	Banded Darter	W5	-	S3	G5
Lepomis punctatus C: most drainages in southern Coastal Plain	Spotted Sunfish	W2	-	S3	G5
Lythrurus matutinus CP: Tar and Neuse drainages (endemic to North Carolina)	Pinewoods Shiner	W2	FSC	S3S4	G3 [G3G4]
Moxostoma carinatum M: French Broad, Little Tennessee, and Hiwassee drainages	River Redhorse	W2	-	S2	G4
Nocomis platyrhynchus M: New drainage	Bigmouth Chub	W2	-	S2	G4Q
Nocomis raneyi PC: Atlantic slope drainages	Bull Chub	W1	-	S3	G4
Notropis chalybaeus C: Coastal Plain rivers and creeks	Ironcolor Shiner	W5	-	S3?	G4
Notropis maculatus C: southern Coastal Plain drainages	Taillight Shiner	W2	-	S2	G5
Notropis scabriceps M: New drainage	New River Shiner	W2	-	S3	G4
Notropis volucellus MPC: scattered drainages in mountains and near Fall Line	Mimic Shiner	W2,W3	-	S3	G5
Percina aurantiaca M: Tennessee drainages	Tangerine Darter	W2	-	S3	G4
Percina gymnocephala M: New drainage	Appalachia Darter	W2	-	S3	G4
Phenacobius crassilabrum M: Little Tennessee, French Broad, and Toe drainages	Fatlips Minnow	W2	-	S3	G3G4

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
MOLLUSKS – FRESHWATER BIVALVES					
Elliptio cistellaeformis C: Neuse, Lumber, Pee Dee drainages; Lake Waccamaw	Box Spike	W3,W5	-	SU	G4Q
Elliptio congaraea C: drainages north to the White Oak drainage	Carolina Slabshell	W2,W5	-	S3	G4
Elliptio producta C: Lake Waccamaw, and perhaps elsewhere; very difficult to identify	Atlantic Spike	W3,W5	-	SU	G4Q
Elliptio raveneli PC: most rivers in southern part of state; taxonomic problems	Carolina Spike	W3,W5	-	SU	GU
Elliptio sp 2 C: lakes and rivers in southeastern part of state	File Spike	W3	-	SU	GUQ
Lampsilis sp 3 no locality data	a bivalve	W3	-	S1?	GU
MOLLUSKS – FRESHWATER GASTROPODS					
Gyraulus deflectus C: eastern Coastal Plain	Flexed Gyro	W3	-	S2?	G5
Promenetus exacuous C: mainly Chowan and Pasquotank basins	Sharp Sprite	W3	-	S2?	G5
MOLLUSKS – TERRESTRIAL GASTROPODS					
Stenotrema pilula no locality data	Pygmy Slitmouth	W3	-	SU	G3G4
ARACHNIDS					
Nesticus bishopi M: on ground in forests (endemic to North Carolina)	a nesticid spider	W3	-	S3?	G3?
Nesticus gertschi M: caves; Bat Cave, NC, and in Tennessee	a nesticid spider	W4	-	S1?	G1?
Nesticus nasicus M: boulderfields and cove forests (apparently endemic to Jackson County, NC)	a nesticid spider	W3	-	S3?	G3?
Nesticus reclusus M: on ground in forests (apparently in Buncombe, McDowell, and Swain counties, NC, and in Tennessee)	a nesticid spider	W3	-	S3?	G3?

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Nesticus sp 2 M: on ground in forests (only known from Clay County, NC)	a nesticid spider	W3	-	S1S3	G1G3
Vaejovis carolinianus MP: under shelter of rocks, leaves, and buildings, along southern border of state	Carolina Scorpion	W2,W3	-	S2?	G5

CRUSTACEANS

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Cambarus carolinus M: Little Tennessee and Hiwassee drainage	Red Burrowing Crayfish	W3	-	S2	G4 [G3G4]
Cambarus chasmodactylus M: rivers and large streams in New River drainage	New River Crayfish	W5	-	S3	G4 [G4G5]
Cambarus hiwasseensis M: streams in Hiwassee drainage	Hiwassee Crayfish	W2	-	S3S4	G3G4 [G4]
Cambarus sp A (cf C. howardi) MP: many drainages in mountains and upper Piedmont	a crayfish from western NC	W3	-	S2S3	GU [G4]
Canthocamptus vagus CP: in benthos of lakes and ponds within swampy environments	Swamp Canthocamptus	W2,W3	-	S3?	G?
Cytheridella ilosvayi C: quiet backwaters associated with large coastal rivers	Backwater Ostracod	W3	-	S2?	G?
Dactylocythere chelomata M: symbiotic on crayfish in streams and rivers in southwestern mountains	Cherokee Crayfish Ostracod	W2,W3	-	S2?	G?
Dactylocythere peedeensis P: symbiotic on crayfish in Pee Dee drainage (endemic to North Carolina, but likely occurs in South Carolina)	Pee Dee Crayfish Ostracod	W3	-	S2?	G?
Dactylocythere susanae M: symbiotic on crayfish in Hiwassee and Nolichucky drainages	Hiwassee Crayfish Ostracod	W2,W3	-	S2?	G3G4
Harpagocythere baileyi M: symbiotic on crayfish in Little Tennessee and Savannah drainages (endemic to North Carolina, but likely occurs in SC and GA)	Highlands Crayfish Ostracod	W3	-	S2?	G?
Hesperodiaptomus augustaensis P: ephemeral ponds, such as floodplain pools; near Chapel Hill	Augusta Hesperodiaptomus	W3	-	SH	G?
Lordocythere petersi M: symbiotic on crayfish in the Hiwassee drainage (record based on a sketch only)	Cumberland Crayfish Ostracod	W4	-	SR	G?
Orconectes cristavarius M: New drainage	a crayfish	W3	-	S3	G5
Procambarus ancylus C: ditches, streams, and lakes in southeastern corner of the state	Edisto Crayfish	W2	-	S3	G4G5 [G4]

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Procambarus blandingii C: Lumber and Waccamaw drainages	Santee Crayfish	W3	-	S3S4	G4 [G4G5]
Procambarus medialis C: sluggish streams and ditches in Tar and Neuse drainages (endemic to North Carolina)	Tar River Crayfish	W3	-	S2	G3 [G2]
Procambarus pearsei C: still-water habitats and burrows in Cape Fear and Pee Dee drainages	Sandhills Crayfish	W2	-	S4	G4
Stygobromus sp 1 M: seep below Jones Knob (endemic to North Carolina)	Plott Balsam Sideswimmer	W3	-	S1?	G?

INSECTS – MAYFLIES

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Ameletus cryptostimulus M: small mountain streams	a mayfly	W5	-	S2	G4
Anthopotamus myops M: First Broad River (Cleveland)	a mayfly	W3	-	S3	G5
Anthopotamus verticis P: recorded in Yadkin River (Caldwell) and Flat River (Person) but probably is more widespread	Walker's Tusked Sprawler	W3	-	S3	G5
Baetisca lacustris M: Wilson Creek (Caldwell)	a mayfly	W4	-	S3?	G5
Centroptilum sp nov M: Little Ivy Creek (Madison)	a mayfly	W4	-	S1?	G?
Drunella walkeri pop 1 P: disjunct population in Sandy/Swift Creek (Nash)	a mayfly	W5	-	S1?	G5
Ephemerella argo SC: Lower Little River (Hoke), Naked Creek (Richmond), Drowning Creek (Richmond), Lumber River (Robeson, Scotland); needs more sampling in the spring (Bertie, Halifax, Martin, Moore, Northampton, Richmond, Robeson, Scotland)	Argo Ephemerellan Mayfly	W3	-	S2S3	G4
Ephemerella crenula no locality data	Smoky Mountains Ephemerellan Mayfly	W3	-	SR	G3
Ephemerella hispida M: recorded from four streams in Alleghany and Haywood counties	a mayfly	W5	-	S1S2	G5
Eurylophella enoensis CMP: wide-ranging but infrequently collected	a mayfly	W5	-	S3	G4
Eurylophella minimella CMP: a widespread species, but rare in North Carolina	a mayfly	W2	-	S3	G4
Heterocloeon sp nov no locality data	a mayfly	W4	-	S2	G?
Leptophlebia bradleyi no locality data	a mayfly	W5	-	S2	G5

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Leptophlebia johnsoni no locality data	Johnson's Pronggill Mayfly	W2	-	S2	G4
Nixe sp nr inconspicua M: very rare, collected from upper Johns River, upper Wilson Creek, and Harper Creek	a mayfly	W5	-	S1	G5
Paracloeodes fleeki no locality data	a mayfly	W3	-	S3	G?
Plauditus gloveri no locality data	a mayfly	W3	-	S2	G2
Pseudiron centralis P: no locality data (Iredell)	White Sand-river Mayfly	W2	-	S2S3	G5
Pseudocentroptiloides usa no locality data	a mayfly	W3	-	S2	G2
Rhithrogena uhari no locality data	a mayfly	W5	-	S3	G3
Siphloplecton speciosum PS: Lumber River	a mayfly	W5	-	S2	G3
Stenonema lenati often in vulnerable habitats; no locality data	a mayfly	W5	-	S3	G3
Stenonema sp nov M: upper Wilson Creek and lower Linville River (Caldwell, Burke)	a mayfly	W2	-	S1	G?
Tricorythodes robacki P: Uwharrie River and other sites (Chatham, Johnston*, Montgomery)	a mayfly	W3	-	S3	G3

INSECTS – STONEFLIES

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Acroneuria evoluta P: central slate belt streams (Randolph, Chatham, Stanly, Montgomery, Moore)	a stonefly	W5	-	S2	G5
Acroneuria lycorias C: Barbecue Swamp (Harnett)	a stonefly	W3	-	SU	G5
Acroneuria mela C: Cape Fear, Neuse, Lumber, Black, South, and Waccamaw rivers	a stonefly	W5	-	S3	G?
Acroneuria perplexa M: Panthertown Creek, Left Prong Stony Fork (Jackson, Wilkes)	a perlid stonefly	W4	-	S2	G4
Agnetina annulipes CMP: recorded from nine streams and rivers from the mountains to the Coastal Plain	a stonefly	W3	-	S3S4	G5
Agnetina flavescens PM: recorded from nine streams and rivers, primarily in the mountains but also from Mayo River	a stonefly	W3	-	S3S4	G5
Alloperla lenati SC: Lumber River at Wagram and Upper Rockfish Creek	a stonefly	W5	-	S1	G?

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Diploperla morgani PM: Ashe, Burke, Caldwell, Clay, Jackson, Macon, McDowell, Surry, Swain	a stonefly	W3	-	S3	G2
Helopicus bogaloosa PC: known from eleven streams and rivers in Piedmont, Sandhills, and Inner Coastal Plain	a stonefly	W3	-	S3	G3
Hydroperla phormidia PSC: Lumber River and Pee Dee River	a stonefly	W4	-	S2	G3
Isogenoides varians P: Yadkin River (Davie)	a stonefly	W2	-	S2	G3
Isoperla burksi P: slate belt streams (Orange, Durham, Chatham)	a spring stonefly	W4	-	S2	G4
Isoperla sp nov 1 S: Little Crane Creek (Moore)	a stonefly	W4	-	S2?	G?
Isoperla sp nov 2 S: upper Lumber River, Naked Creek (Hoke, Moore, Richmond)	a stonefly	W5	-	S2	G?
Oemopteryx contorta C: Recent record from Suck Creek (Moore)	a stonefly	W3	-	SU	G4
Paragnetina sp nov? M: Wilson Creek (Caldwell)	a stonefly	W4	-	S1?	G?
Perlesta puttnami no locality data	a stonefly	W4	-	S2?	G?
Pteronarcys biloba M: streams in Cherokee and Madison counties	a stonefly	W3	-	S3	G5
Shipsa rotunda CPM: known from twelve streams in mountains, Piedmont, and Coastal Plain	a stonefly	W3	-	S2S3	G5
Viehoperla ada no locality data	a stonefly	W3	-	S1?	G3
Yugus arinus no locality data	a stonefly	W3	-	S3	G3

INSECTS – CADDISFLIES

Agapetus hessi P: Swift Creek (Nash)	a glossosomatid caddisfly	W5	-	S2	G?
Agapetus pinatus M: mountain streams (Transylvania, Haywood, Graham, Cherokee)	a caddisfly	W3	-	S3	G?
Agapetus tomus M: mountain streams (Cherokee)	a caddisfly	W5	-	S2	G?
Ceraclea cama C: Lake Waccamaw	a caddisfly	W5	-	S1	G?
Ceraclea sp nov 3 M: Panthertown Creek (Jackson)	Morman's Ceraclea Caddisfly	W5	-	S1	G?

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Ceraclea sp nov 4 C: streams in Columbus County	a caddisfly	W5	-	S2	G?
Ceraclea tarsipunctata P: Cane Creek, Yadkin River, Long Creek	a caddisfly	W3	-	S3	G?
Ceratopsyche ventura no locality data	a caddisfly	W5	-	S3	G?
Ceratopsyche walkeri M: Beech Creek (Watauga)	a caddisfly	W4	-	S1?	G?
Culoptila thoracica no locality data	a caddisfly	W2	-	S4?	G?
Goerita betteni M: cold spring runs in mountainous areas	a caddisfly	W4	-	S?	G?
Goerita semata M: cold spring runs in mountainous areas	a caddisfly	W4	-	S?	G?
Helicopsyche paralimnella M: Fires Creek (Clay), Bearwallow Creek (Transylvania) (confined to southwestern mountains in NC)	a caddisfly	W3	-	S2	G?
Homoplectra flinti M: streams in Haywood and Macon counties	a caddisfly	W4	-	S2	G?
Hydroptila coweetensis M: Coweeta Creek (Macon)	a caddisfly	W4	-	S1	G?
Hydroptila lloganae S: Lumber River	Llogan's Vari-colored Microcaddisfly	W4	-	S2	G1G3
Mayatrichia ayama no locality data	a caddisfly	W5	-	S2	G?
Molanna uniophila C: found in larger rivers and lakes from Chowan River (Hertford) to Drowning Creek (Richmond) and Lake Waccamaw (Columbus)	a caddisfly	W3	-	S3	G?
Nectopsyche sp nov C: Lake Waccamaw	a caddisfly	W5	-	S1	G?
Neophylax fuscus MP: Johns River (Caldwell), South Fork New River (Ashe), North Fork New River (Ashe), New River (Alleghany), Alleghany Creek (Alleghany), Swift Creek (Nash), Little Fishing Creek (Halifax)	a caddisfly	W3	-	S3	G?
Neotrichia sp no locality data	a caddisfly	W5	-	S2	G?
Oecetis morsei S: uknown locality	Morse's Long-horn Sedge	W3	-	S3	G2
Oecetis porteri C: White Lake and Lake Waccamaw	Porter's Long-horn Sedge	W5	-	S3	GH
Oecetis sp B C: Lake Mattamuskeet and Perquimans River	a caddisfly	W5	-	S1	G?
Oecetis sp D C: Lake Waccamaw	a caddisfly	W5	-	S1	G?

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Oecetis sp E SC: bay lakes and swamp streams	a caddisfly	W5	-	S2	G?
Oecetis sp F C: unknown locality	a caddisfly	W5	-	S3	G?
Oropsyche howellae M: streams in Haywood, Jackson, and Macon counties	a caddisfly	W4	-	S2	G?
Pseudogoera singularis M: Coweeta Creek, and seep near upper Wilson Creek (Caldwell)	a caddisfly	W5	-	S1	G?
Psilotreta amera M: mountain streams (Haywood, Macon, Swain)	a caddisfly	W5	-	S2	G?
Psilotreta rossi M: seeps and springs (Macon, Transylvania)	a caddisfly	W5	-	S2	G?
Psilotreta rufa M: mountain streams (Macon, Transylvania)	a caddisfly	W2	-	S3?	G?
Rhyacophila accola M: mountain streams	a caddisfly	W5	-	S1	G?
Rhyacophila appalachia M: mountain streams	a rhyacophilan caddisfly	W5	-	S2	G3
Rhyacophila montana M: high elevation seeps (Swain)	a caddisfly	W5	-	S2?	G?
Setodes arenatus C: Lumber River	a caddisfly	W5	-	S2	G?
Setodes stehri M: unknown locality	a caddisfly	W5	-	S3	G?
Triaenodes melacus no locality data	a caddisfly	W3	-	S3?	G?
Triaenodes sp nov C S: bays in Scotland County	a caddisfly	W5	-	S1	G?
Triaenodes sp nov D C: Lake Waccamaw	a caddisfly	W5	-	S1?	G?
Wormaldia thyria ?: Reported from NC, but without occurrence data	a caddisfly	W3	-	S3	G3?

INSECTS – DRAGONFLIES

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Aphylla williamsoni C: lakes and rivers	Two-striped Forceptail	W3	-	S3?	G5
Arigomphus pallidus C: ponds, lakes, and streams	Gray-green Clubtail	W3	-	S1?	G5
Arigomphus villosipes MPC: ponds, lakes, slow-flowing streams	Unicorn Clubtail	W3	-	S3?	G5
Boyeria grafiana M: rocky forest streams	Ocellated Darner	W3	-	S3?	G5
Cordulegaster erronea MP: small forested streams	Tiger Spiketail	W2	-	S3?	G4
Coryphaeschna ingens C: lakes and ponds	Regal Darner	W3	-	S3?	G5

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Dromogomphus armatus C: pools in slow-flowing rivers	Southeastern Spinyleg	W3	-	S3?	G4
Epitheca spinosa PC: ponds and lakes	Robust Baskettail	W3	-	S3S4	G4
Erpetogomphus designatus PC: streams and rivers	Eastern Ringtail	W3	-	S3?	G5
Gomphus apomyius PC: spring-fed streams	Banner Clubtail	W3	-	S3?	G4
Gomphus diminutus S: sand-bottomed streams	Diminutive Clubtail	W2	-	S3S4	G3
Gomphus dilatatus PC: rivers	Blackwater Clubtail	W3	-	S3?	G5
Gomphus rogersi M: small spring-fed streams	Sable Clubtail	W2	-	S2S3	G4
Libellula quadrimaculata M: marshy ponds	Four-spotted Skimmer	W3	-	SR	G5
Macrodiplax balteata C: ponds and lakes, usually brackish or near marl	Marl Pennant	W3	-	S2S3	G5
Nannothemis bella S: boggy swales	Elfin Skimmer	W3	-	S3S4	G4
Orthemis ferruginea C: ponds and slow-flowing streams	Roseate Skimmer	W2	-	S2S4	G5
Stylurus amnicola MPC: rivers	Riverine Clubtail	W3	-	S3?	G4
Triacanthagyna trifida C: slow-flowing streams	Phantom Darner	W3	-	S2?	G5

INSECTS – DAMSELFLIES

Calopteryx amata M: cold, shallow, rocky rivers	Superb Jewelwing	W3	-	S3?	G4
Lestes forcipatus P: vegetated ponds	Sweetflag Spreadwing	W3	-	S2S3	G5
Lestes vidua C: ponds and pools	Carolina Spreadwing	W3	-	S2?	G5

INSECTS – MOTHS

Abrostola ovalis M: high elevation forests with nettles	a looper moth	W3	-	SU	G4
Acrapex relicta C: canebrakes	a cane borer	W3	-	S2S3	G4
Acronicta hamamelis MP: unknown	Puzzling Dagger Moth	W3	-	SU	G4?
Acronicta lanceolaria C: flatwoods	Lanceolate Daggermoth	W3	-	S3?	G4
Acronicta perblanda C: cypress swamps	Cypress Daggermoth	W3	-	S1S2	G?
Amphipyrinae, new genus 1 sp 1 MC: woodland canebrakes	a canebrake moth	W3	-	S1S2	G?
Amphipyrinae, new genus 2 sp 1 C: woodland canebrakes	a canebrake moth	W3	-	S1S2	G?

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Amphipyrinae, new genus 2 sp 2 C: woodland canebrakes	a canebrake moth	W3	-	S3S4	G?
Anticlea multiferata MPC: unknown	Many-lined Carpet	W3	-	SU	G5
Apantesis carlotta M: unknown	Carlotta's Tiger Moth	W3	-	S3?	G4
Argillophora furcilla C: canebrakes	a cane moth	W3	-	S2S3	G2G4
Argyrostrotis carolina no locality data	an owlet moth	W3	-	SH	G?
Argyrostrotis quadrifilaris C: pocosins and flatwoods	Four-lined Chocolate	W3	-	S3?	G4
Arugisa watsoni PC: sedgy glades	Watson's Arugisa	W3	-	S3?	G4
Bleptina sangamonia C: sandhills	an owlet moth	W3	-	S2?	G4
Bomolocha appalachiensis M: unknown	Appalachian Bomolocha	W3	-	SU	G3G4
Cabera quadrifasciaria C: unknown	Four-lined Cabera	W3	-	SU	G?
Caripeta aretaria MPC: pine forests	Southern Pine Looper	W3	-	S3?	G4
Catocala blandula ssp 1 C: riparian hawthorns	Southern Charming Underwing	W3	-	S1S3	G5T3
Catocala orba C: levee forests with hawthorn	Orba Underwing	W3	-	SU	G4
Catocala pretiosa texarkana MPC: unknown	Texarkana Underwing	W3	-	SU	G4T4
Catocala sappho P: bottomland hardwoods with hickories	Sappho Underwing	W3	-	SU	G4
Cepphis sp 1 nr decoloraria C: unknown	a new inchworm moth	W3	-	S3?	GUQ
Ceratonyx satanaria C: swamps and bottomlands	an inchworm moth	W3	-	S2?	G4
Chrysanympha formosa MP: heath thickets	Formosa Looper Moth	W3	-	S3S4	G5
Chytonix sensilis C: sandhills and flatwoods	an owlet moth	W3	-	S3?	G4
Cisthene kentuckiensis C: bottomlands?	Kentucky Lichen Moth	W3	-	SU	G4
Cleora projecta C: peatlands and flatwoods	Projecta Gray	W3	-	S3?	G4
Cosmosoma myrodora C: on climbing hempweed	an owlet moth	W3	-	SU	G?
Cryphia cyanympha C: sandhills	an owlet moth	W3	-	SU	G?
Cycnia inopinatus MPC: on milkweeds	Unexpected Cycnia	W3	-	SU	G4
Dasychira atrivenosa C: hardwood forests	a tussock moth	W3	-	S3?	G4
Dasychira leucophaea C: unknown	a tussock moth	W3	-	SU	G4
Datana robusta C: savannas, flatwoods, and sandhills	a prominent moth	W3	-	S2?	G?

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Doryodes bistrialis C: savannas and flatwoods	an owlet moth	W3	-	S3S4	G4
Dysgonia smithii C: flatwoods	Smith's Darkwing	W3	-	S3?	G4
Erastria coloraria no locality data	Broad-lined Catopyrrha	W3	-	SU	G4
Euagrotis lubricans SC: savannas and flatwoods	Slippery Dart Moth	W3	-	S3?	G4
Euagrotis simplicia C: unknown	a noctuid moth	W3	-	SU	G?
Eucoptocnemis dapsilis C: unknown	an owlet moth	W3	-	S2S3	G4
Euxoa declarata M: unknown	a dart moth	W3	-	SU	G4G5
Exyra fax PC: wetlands with purple pitcher-plants	Purple Pitcher-plant Moth	W3	-	S3?	G4
Exyra ridingsii PC: wetlands with yellow pitcher-plants	a pitcher-plant moth	W3	-	S3?	G3G4
Faronta aleada C: unknown	an owlet moth	W3	-	SU	G?
Faronta rubripennis C: beach grasslands	Pink Streak	W3	-	S2S3	G3G4
Gabara distema humeralis C: savannas	an owlet moth	W3	-	S3?	G4T?
Gabara pulverosalis C: savannas	an owlet moth	W3	-	S3?	G4
Hypocoena enervata C: tidal marshes	an owlet moth	W3	-	SU	G4
Hypomecis longipectinaria C: hardwood stands	a wave	W3	-	SU	G?
Idaea eremiata C: sandhills	a wave	W3	-	SU	G4
Idaea micropterata C: unknown	a wave	W3	-	S3?	G?
Idaea ostentaria C: sandhills	a wave	W3	-	S3?	G?
Idaea productata C: sandhills	a wave	W3	-	S2S3	G4
Idaea scintillularia C: unknown	a wave	W3	-	SU	G?
Idaea violacearia C: sandhills and dunes	Violaceous Wave	W3	-	S3?	G4
Lepipolys perscripta C: on toadflax	an owlet moth	W3	-	SU	G4
Leptostales laevitaria C: unknown	a wave	W3	-	SU	G?
Leucania callidior C: canebrakes	Cane Wainscot	W3	-	SU	GU
Leucania incognita C: savannas	an owlet moth	W3	-	SU	G?
Lithacodia sp 1 C: pocosins and other wetlands	a bird-dropping moth	W3	-	S1S3	G4

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Lithophane lepida adipel C: unknown	a pinion moth	W3	-	SU	G4T4
Litoprosopus futilis C: palmettos	Palmetto Borer	W3	-	SU	G4
Lobocleta peralbata C: unknown	an inchworm moth	W3	-	SU	G?
Macrochilo santerivalis C: brackish marshes	an owlet moth	W3	-	SU	G3G4
Meropleon diversicolor MC: sedge meadows	a noctuid moth	W3	-	SU	G4
Metalectra albilinea C: unknown	White-lined Fungus Moth	W3	-	S3?	G?
Metalepsis fishii C: heath thickets	an owlet moth	W3	-	SU	G4G5
Morrisonia sp 1 C: unknown	a new woodgrain moth	W3	-	S3?	G3G4
Nemoria bifilata C: sandhills	an emerald moth	W3	-	S3?	G4
Nemoria bifilata bifilata C: sandhills	an emerald moth	W3	-	S3?	G?T?
Neoplynes eudora C: unknown	a wasp moth	W3	-	SU	G?
New noctuid genus 1 C: canebrakes	a new reddish cane borer moth	W3	-	S3	GU
Notondontidae, new genus 1 species 1 C: hardwoods?	a new prominent moth	W3	-	S2S3	G3G4
Oligia chlorostigma C: unknown	a brocade moth	W3	-	SU	G4
Orgyia detrita C: maritime forests	a tussock moth	W3	-	S3?	G4
Paonias astylus C: heath thickets	Huckleberry Sphinx	W3	-	S3S4	G4G5
Papaipema baptisiae P: on <u>Baptisia</u> or <u>Apocynum</u>	Wild Indigo Borer Moth	W3	-	SU	G4
Papaipema lysimachiae M: on loosestrife	Loosestrife Borer Moth	W3	-	SU	G4
Papaipema sp 3 C: canebrakes	Southeastern Cane Borer Moth	W3	-	S3?	G4
Parahypenodes quadralis C: unknown	an owlet moth	W3	-	S1S2	G4
Pimaphera percata C: unknown	an inchworm moth	W3	-	S1S2	G?
Properigea tapeta C: bottomlands?	an owlet moth	W3	-	S2S3	G?
Pyreferra pettiti PC: on <u>Ostrya</u>	a sallow moth	W3	-	SU	G?
Schinia inclara C: marshes and sandhills with <u>Heterotheca</u>	a flower moth	W3	-	SU	G?
Schinia nubila C: unknown	a flower moth	W3	-	SU	G?
Schinia obscurata C: sandhills	Obscure Schinia	W3	-	S2S3	G4
Schinia scissoides C: open areas	a flower moth	W3	-	SU	G?

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Schinia siren C: open maritime forests	a flower moth	W3	-	SU	G?
Schinia sordida C: savannas	a flower moth	W3	-	SU	G4?
Scopula aemulata MC: on Trillium	a wave moth	W3	-	SU	G?
Scopula cacuminaria C: sandhills	Frosted Tan Wave	W3	-	S3?	G4
Scopula ordinata CM: mesic hardwoods	a wave	W3	-	S2S3	G5
Scopula purata C: acidic wetlands	Chalky Wave	W3	-	S3?	G4
Semiothisa eremiata C: on Tephrosia	Three-lined Angle	W3	-	S3?	G4
Semiothisa ordinata C: sandhills	Amorpha Angle	W3	-	S2S3	G?
Semiothisa punctolineata C: unknown	an angle	W3	-	SU	G?
Sphingicampa bicolor C?: on honey locust	Honey Locust Moth	W3	-	S3S4	G5
Sphinx franckii P: on Fraxinus	Franck's Sphinx	W3	-	SU	G4
Spilosoma dubia C: acidic wetlands	Dubious Tiger Moth	W3	-	S3S4	G?
Stiria rugifrons C?: sandhills	an owlet moth	W3	-	SU	G4
Syngrapha alias M: spruce-fir forests	a looper moth	W3	-	SU	G5
Tarachidia parvula C: cypress swamps?	a bird-dropping moth	W3	-	SU	G?
Tolype minta C: longleaf pine stands	Southern Tolype	W3	-	S2S3	G5
Tornos abjectarius C: unknown	a gray	W3	-	S2S3	G?
Tripudia flavofasciata C: bottomlands	an owlet moth	W3	-	SU	G?
Tripudia quadrifera P: unknown	an owlet moth	W3	-	SU	G?
Ulolonche modesta C: unknown	Modest Quaker Moth	W3	-	SU	G5
Xestia youngii C: peatlands	Young's Xestia	W3	-	S3S4	G?
Zale calycanthata C: oak forests	Double-banded Zale	W3	-	S3?	G4
Zale fictilis C: unknown	a zale	W3	-	SA?	G5
Zale sp 2 nr squamularis C: unknown	a new zale	W3	-	SU	G4Q
Zale sp 3 nr buchholzi C: pine forests	an owlet moth	W3	-	S2S3	G3?
Zanclognatha atrilineella C: unknown	an owlet moth	W3	-	S1?	G4?
Zanclognatha sp 1 M: dry pitch pine stands	an owlet moth	W3	-	SU	G3G4

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
INSECTS – BUTTERFLIES					
Amblyscirtes carolina CSP: wet woods (mainly hardwoods) near cane; host plant -- cane (Arundinaria)	Carolina Roadside-Skipper	W2	-	S3S4	G3G4
Callophrys augustinus MPSC: dry acidic areas with an abundance of ericads, such as pine/oak heaths; host plants -- ericaceous shrubs	Brown Elfin	W2	-	S3S4	G5
Celastrina neglectamajor M: rich deciduous forests; host plant -- black cohosh (Cimicifuga)	Appalachian Azure	W2	-	S3S4	G4
Glaucopsyche lygdamus M: open upland woods, roadbanks, and borders; host plants -- legumes, especially Carolina vetch (Vicia caroliniana)	Silvery Blue	W2	-	S2S3	G5
Hesperia leonardus PM: wooded borders and openings, brushy fields; host plants -- grasses	Leonard's Skipper	W2	-	S3S4	G4
Hesperia metea PSM: dry barren sites, such as pine/oak sandhills and upland wood margins; host plants -- mainly broomsedge (Andropogon)	Cobweb Skipper	W2	-	S3	G4G5
Hesperia sassacus M: old fields, clearings, wood margins, mainly at high elevations; host plants -- grasses	Indian Skipper	W2	-	S3	G5
Megathymus yuccae C: dunes, flatwoods, sandhills, and other places near yuccas; host plants -- Yucca species	Yucca Giant-Skipper	W2	-	S3S4	G5
Neonympha areolata CSP: savannas, wet powerline clearings, other damp grassy areas; host plants -- sedges, perhaps grasses	Georgia Satyr	W5	-	S3	G4
Phyciodes phaon T: open, often dry areas, mainly on barrier islands; host plants -- fogfruit (Lippia)	Phaon Crescent	W5	-	S3	G5
Pontia protodice PCSM: fields, croplands, brushy areas; host plants -- mustard species (Family Brassicaceae)	Checkered White	W1,W5	-	S3	G4
Problema byssus C: wetland ecotones, swamp margins, ditches; host plant -- gamma grass (Tripsacum dactyloides)	Byssus Skipper	W2	-	S3	G3G4

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Speyeria diana MP: rich woods and adjacent edges and openings; believed extirpated from the lower Piedmont; host plants -- violets (Viola)	Diana Fritillary	W2	FSC	S3S4	G3 [G3G4]
Thorybes confusis SCP: dry woodland borders and openings, brushy fields; host plants -- legumes	Confused Cloudywing	W3	-	S3S4	G4

INSECTS – GRASSHOPPERS AND KATYDIDS

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Arphia granulata C: flatwoods, sandhills	Southern Yellow-winged Grasshopper	W3	-	S2S4	G5
Atlanticus gibbosus C: oak and pine forests	Gibbous Shield-back Katydid	W3	-	SU	G?
Belocephalus subapterus C: flatwoods and other shrubby areas	Half-winged Cone Head Katydid	W3	-	SU	G?
Dendrotettix australis M: forests	Southern Dendrotettix	W3	-	SU	GU
Dendrotettix zimmermanni M: forests	Zimmermann's Dendrotettix	W3	-	SU	GU
Hesperotettix viridis brevipennis C: grasslands, forest edges	Green-striped Grasshopper	W3	-	SU	G5T5
Hubbellia marginifera C: pinewoods	Hubbell's Shield-back Katydid	W3	-	SU	G?
Inscudderia walkeri C: cypress stands	Walker's Cypress Katydid	W3	-	SU	G?
Melanoplus acrophilus acrophilus M: shrubby areas, 3600'- >5000'	a short-winged melanoplus	W3	-	SU	G2G3T2T3
Melanoplus carnegiei M: open pine and oak forests	Carnegie's Melanoplus	W3	-	SU	GU
Melanoplus celatus M: undescribed, 1200' - 4000'	a short-winged melanoplus	W3	-	SU	GU
Melanoplus deceptus M: balds?, 4000' - 5700'	Deceptive Melanoplus	W3	-	SU	G2G4
Melanoplus decoratus M: dry woodlands	Decorated Melanoplus	W3	-	SU	GU
Melanoplus hubbelli M: dry woodlands, including second growth	Hubbell's Melanoplus	W3	-	SU	G4
Melanoplus impudicus M: barrens and glades	Immodest Spur-throat Grasshopper	W3	-	SU	G4G5
Melanoplus propinquus C: savannas and other wooded grasslands	Southern Red-legged Melanoplus	W3	-	SU	G5
Melanoplus similis M: open woodlands	a short-winged melanoplus	W3	-	SU	G5
Melanoplus strumosus C: sandhills	Swollen Spur-throat Grasshopper	W3	-	SU	G4G5
Melanoplus tribulus M: glades and open woodlands	Tribulus Spur-throat Grasshopper	W3	-	SU	G4G5
Mermiria bivittata T: sandhills, wooded grasslands	Two-striped Mermiria	W3	-	SU	G5

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Mermiria intertexta T: marshes	Intertexta Mermiria	W3	-	SU	G4?
Neoconocephalus velox C: shrubby undergrowth in pinewoods	Swift-flying Cone Head Katydid	W3	-	SU	G?
Opshomala vitreipennis C: marshes	Glassy-winged Toothpick Grasshopper	W3	-	SU	G5
Orchelimum superbum C: bogs and tidal marshes	Superb Meadow Katydid	W3	-	SU	G?
Romalea guttatus P: open woods and roadsides	Eastern Lubber Grasshopper	W3	-	SU	G5
Scudderia curvicauda laticauda C: savannas, flatwoods, open pinewoods	Broad-tailed Bush Katydid	W3	-	SU	G?T?

INSECTS – BEETLES

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Gonielmis dietrichi S: ten sites in and around Fort Bragg (Hoke, Richmond, Scotland)	a beetle	W4	-	S2	G?
Stenelmis morsei S: Lumber River (Robeson)	a riffle beetle	W5	-	S2	G?
Stenelmis sp nov 1 S: Lumber River (Scotland, Hoke)	Harley's Stenelmis Riffle Beetle	W5	-	S1	G?
Stenelmis sp nov 2 PS: James Creek, Upper Little River, Deep River (Moore, Harnett, Lee)	William's Stenelmis Riffle Beetle	W2	-	S2	G?
Stenelmis sp nov 3 PSC: Little River (Harnett, Cumberland, Moore)	a riffle beetle	W4	-	S2	G?
Trechus balsamensis M: Plott Balsam mountains (endemic to North Carolina) (Jackson*)	a ground beetle	W3	-	S1?	G1?
Trechus carolinae M: Black Mountains (endemic to North Carolina) (Yancey*)	a ground beetle	W3	-	S1?	G1?
Trechus luculentus luculentus M: mountains of southwestern North Carolina (Clay*, Graham*, Macon*, Swain+)	a ground beetle	W3	-	S2?	G2T2?
Trechus luculentus unicoi M: apparently the mountains of Graham County (Graham*)	a ground beetle	W3	-	S2?	G2T2?
Trechus mitchellensis M: Black Mountains (endemic to North Carolina) (Buncombe*, McDowell*, Yancey*)	a ground beetle	W3	-	S1?	G1?
Trechus novaculosus M: Great Smoky Mountains National Park (endemic to the park) (Swain*)	a ground beetle	W3	-	S2?	G2?
Trechus roanicus M: Roan Mountain (endemic to the mountain) (Mitchell*)	a ground beetle	W3	-	S1?	G1?

Scientific Name Province: Habitat/Locations	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Trechus rosenbergi M: Plott Balsam and Great Balsam mountains (endemic to North Carolina) (Haywood*, Jackson*)	a ground beetle	W3	-	S1?	G1?
Trechus satanicus M: vicinity of Devils Courthouse and Graveyard Fields (endemic to North Carolina) (Haywood*, Transylvania*)	a ground beetle	W3	-	S1?	G1?
Trechus subtilis M: mountains of Haywood County (endemic to North Carolina) (Haywood*, Jackson*)	a ground beetle	W3	-	S1?	G1?

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global

EXTIRPATED ANIMALS IN NORTH CAROLINA

This is a list of all taxa considered by state biologists and NC NHP to be extirpated (N.C. Rank of SX) in North Carolina. On past NC NHP rare animal lists, some such taxa were included in the Rare List, some were included in the Watch List, and others were not mentioned at all. Some of these taxa are Federally Listed, and some also have a state protected status (SC). However, as none are believed to presently occur in the state, with little or no hope of being re-discovered, we feel that they should be placed in a common section of this publication. For those species that have been tracked in the past, NC NHP will still keep records of their locations and keep other materials on file. (See pages 3-8 for status codes and definitions.)

NOTE: Quite a few species that might be gone from NC are included in the Rare and Watch lists with an SH (= historic) rank, generally indicating that they have not been seen for over 20 years, but because of inadequate survey or other factors may well still exist in the state, or may be absent but expected to be found again in upcoming years.

MAMMALS

Scientific Name / Province: Habitat	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Bos bison MP: open woodlands	American Bison	-	-	SX	G4
Canis lupus MPS?C?: extensive forests and other remote areas	Gray Wolf	-	-	SX	G4
Erethizon dorsatum M: high elevation hardwood forests; no positively documented records	North American Porcupine	-	-	SX	G5
Eschrichtius robustus T: offshore waters	Gray Whale	-	-	SX	G3G4
Lepus americanus M: spruce-fir and other high elevation forests; no positively documented records	Snowshoe Hare	-	-	SX	G5
Martes pennanti M: spruce-fir forests; no positively documented records	Fisher	-	-	SX	G5

BIRDS

Scientific Name / Province: Habitat	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Campephilus principalis C: extensive swamps and bottomlands with old-growth trees (one NC record)	Ivory-billed Woodpecker	-	E	SX	GH
Conuropsis carolinensis CSPM?: forests, especially swamps and bottomlands	Carolina Parakeet	-	-	SX	GX
Ectopistes migratorius MPSC: forests (winter only)	Passenger Pigeon	-	-	SX	GX

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global

FRESHWATER FISHES

Acipenser fulvescens M: large rivers of Tennessee drainages (Madison*)	Lake Sturgeon	SC	FSC	SX	G3G4
Lepomis megalotis M: French Broad drainage (Buncombe*, Haywood*)	Longear Sunfish	EX	-	SX	G5
Percina macrocephala M: French Broad River (Buncombe*)	Longhead Darter	SC	FSC	SX	G3

MOLLUSKS – FRESHWATER BIVALVES

Epioblasma capsaeformis M: French Broad River (Buncombe*, Madison*)	Oyster Mussel	EX	E	SX	G1
Medionidus conradicus M: French Broad River (Buncombe*)	Cumberland Moccasinshell	EX	-	SX	G3G4
Ptychobranchus fasciolaris M: Tennessee drainages	Kidneyshell	EX	-	SX	G4G5
Quadrula pustulosa M: Tennessee drainages	Pimpleback	EX	-	SX	G5
Toxolasma lividus M: French Broad River	Purple Lilliput	EX	-	SX	G2
Tritogonia verrucosa M: New River near the Virginia border (Alleghany+, Ashe+)	Pistolgrip	EX	-	SX	G4

POTENTIAL NEW TO NORTH CAROLINA ANIMALS

The following list contains species of well-known animal groups that are not currently known to occur in North Carolina, or those species not currently known to breed in North Carolina, but which are considered to have some possibility of being found to occur on a regular basis or to breed in the state. The list is based on the species' currently known range and habitat preferences. Nearly all are species that occur in the adjacent states of South Carolina, Georgia, Tennessee, or Virginia, in habitats (or drainages) at least relatively similar to habitats known to exist in North Carolina. The purpose of this list is to encourage and challenge field workers to find new state occurrences and new breeding records. This list should give field investigators an idea of some of the species that may be regular components of North Carolina's fauna. (Species that might occur as single record accidentals, such as Western species of birds or Gulf Coast butterflies, are generally not included.) While some of these species may have relatively remote chances of being found in North Carolina, the likelihood of finding new state records is greatly increased by being aware of the possibilities and by species-directed searching. Our knowledge of many of our animal groups is still quite imperfect, especially invertebrate groups. Many natural areas are being destroyed before they can be investigated, and it can be assumed that a number of native species have been extirpated from North Carolina before they were ever documented as occurring in the state.

Following each species is the North Carolina province in which the species is considered most likely to be found occurring or found breeding. Where possible, a description of the typical habitat of the species in the vicinity of North Carolina is also given. Sometimes, the nearest known occurrence(s) to North Carolina are also listed, with the distance from North Carolina in number of counties in brackets. For instance, [1] indicates that the species has been reported from a county immediately adjacent to North Carolina; [5] indicates that the species has been reported from a county five counties away from the North Carolina border. An average county width in and around North Carolina is about 25 miles, so [5] indicates an approximate distance from North Carolina of 100-125 miles. It should be obvious that a species known to occur south only to the Virginia mountains would be best searched for in North Carolina counties near the Virginia line, such as Ashe, Alleghany, and Watauga. Likewise, Coastal Plain species occurring north to South Carolina are most likely searched for in counties along the southern border, such as Brunswick and Columbus.

The following additional symbols are used:

* May have occurred in North Carolina (no conclusive records) with the remote possibility of being conclusively found in the state

\+ Known to occur in the state on a regular basis (as an Element Occurrence) but not known conclusively to breed, though suspected or assumed to breed; conclusive breeding records lacking

NOTE: Since the last version of this publication in 2001, the following species have been found or reported in North Carolina and have been removed from the lists: Olympia Marble (Euchloe olympia) and Texan Crescent (Phyciodes texana seminole); plus, breeding evidence has been documented for Hermit Thrush (Catharus guttatus).

MAMMALS

There are very few terrestrial mammals that could be discovered for the first time in North Carolina; three of them -- North American Porcupine, Shoeshoe Hare, and Fisher -- <u>may</u> have occurred in the mountains many decades or centuries ago, but reports are fuzzy or second-hand; they are included on the Extirpated List. Nearly all of the potential new-to-North Carolina mammals are cetaceans. A few cetaceans probably occur regularly in the Atlantic off North Carolina, but far offshore; however, most of them are primarily either subtropical or Arctic inhabitants and would be considered accidental in the state.

Balaenoptera edeni -- Bryde's Whale
T: ocean, primarily in subtropical waters; VA (one record), GA
Balaenoptera musculus -- Blue Whale
T: ocean, entire north Atlantic, far offshore; MD (one record)
Peponocephala electra -- Melon-headed Whale
T: ocean, in subtropical waters; MD (one record)
Phoca groenlandica -- Harp Seal
T: ocean, in cold waters north of NC; VA (one record)

BIRDS

The species below are all considered to be potential breeders in North Carolina; some may possibly be breeding already. All have been recorded from the state on numerous occasions; those marked by (+) are known to occur in summer in the state to an extent and probably are nesting, but conclusive evidence is lacking.

Accipiter gentilis -- Northern Goshawk
M: extensive forests, mainly at high elevations; MD, WV, VA ?; a few summer records for the NC mountains [see Watch List]
Ammospiza caudacuta -- Saltmarsh Sharp-tailed Sparrow
T: salt or brackish marshes; VA [3]; some references list NC in the breeding range -- this is erroneous; there have been a few summer reports, but some may be erroneous or of late migrating individuals [see Watch List]
Asio flammeus -- Short-eared Owl
T: extensive brackish marshes; MD ?, VA formerly, and might still nest there; several summer records for the NC coastal marshes [see Watch List]
Asio otus -- Long-eared Owl
M: conifers or mixed woods at high elevations in northern mountains; VA [2]; one or two summer reports from the NC mountains, but without visual confirmation [see Watch List]
Carpodacus purpureus -- Purple Finch
M: spruce-fir forests; VA [1] (Mt. Rogers); one or two summer records for the NC mountains
Catharus ustulatus -- Swainson's Thrush
M: spruce-fir forests, mainly in northern mountains; VA [1] (Mt. Rogers); possibly nested in NC mountains in 19th Century, but no summer records in many decades
Cistothorus platensis -- Sedge Wren
T: brackish marshes; VA [3] (northern portion of Chesapeake Bay); several summer records from NC, mainly in brackish marshes, but these might be of wandering birds or migrants
Contopus cooperi -- Olive-sided Flycatcher +
[breeding records for TN side of Great Smoky Mountains NP]; no active nest has been found in NC [see Rare List]
Dendroica magnolia -- Magnolia Warbler +
[breeding evidence needed]; no active nest yet found, but probably nests [see Rare List]
Elanoides forficatus -- Swallow-tailed Kite
C: swamps, river bottoms; SC [2] (Santee River); numerous summer records, but nearly all believed to be of visitors/postbreeders; up to one-half-dozen birds, possibly including a family group, spent much of the summer 2003 along the Cape Fear River
Empidonax flaviventris -- Yellow-bellied Flycatcher
M: high elevation spruce-fir, usually where stunted or young; VA [1] (Mt. Rogers); two summer reports from NC mountains
Melospiza georgiana -- Swamp Sparrow
M: bogs at high elevation; VA [5-6]; no summer reports for NC

Mycteria americana -- Wood Stork
C: swamps, with open water somewhat nearby; SC [4]; no reports from NC suggestive of breeding in the state [see Rare List]
Oporornis philadelphia -- Mourning Warbler
M: thickets, brushy places, clearings; VA [5]; a pair believed to have nested in mid-1980s near Great Smoky Mountains N.P. in NC, and another territorial male was present at Roan Mountain in the early 2000s
Passerculus sandwichensis -- Savannah Sparrow +
[breeding evidence needed]; VA [1]; believed to be nesting in Alleghany and Ashe counties, but no active nest has yet to be found [see Rare List]
Seiurus noveboracensis -- Northern Waterthrush
M: bogs where spruce-fir is present; VA [5-6], plus two reports from Mt. Rogers; no summer reports for NC
Vermivora pinus -- Blue-winged Warbler +
[breeding evidence needed]; no active nest yet found, but presumed to breed in southwestern counties [see Rare List]
Vermivora ruficapilla -- Nashville Warbler
M: spruce-fir forests, mainly along margins or in young or stunted trees; VA [6], but also a report from Mt. Rogers; no summer reports for NC

REPTILES

Graptemys geographica -- Map Turtle
M: large rivers in the Tennessee drainage; VA [2], TN [1]
Graptemys pseudogeographica -- False Map Turtle
M: large rivers in the Tennessee drainage; TN [1-2]
Nerodia cyclopion -- Green Water Snake
C: streams, lakes, ponds, marshes; SC [2]
Ophisaurus compressus -- Island Glass Lizard
TC: maritime or other coastal forests, in dry habitats; SC [2]
Trionyx ferox -- Florida Softshell
C: lakes, ponds, rivers; SC [3]
Trionyx muticus -- Smooth Softshell
M: large rivers in the Tennessee drainage; TN [2?]

AMPHIBIANS

Ambystoma cingulatum -- Flatwoods Salamander
C: flatwoods, bottomlands, swamps; SC [2-3]
Ambystoma jeffersonianum -- Jefferson Salamander
M: low woods, bottomlands; VA [2]
Ambystoma texanum -- Smallmouth Salamander
M: moist forests; TN [6]; ranges east to central TN
Desmognathus welteri -- Black Mountain Salamander
M: along streams in mesic forests; TN [3]
Eurycea lucifuga -- Cave Salamander
M: limestone caves and ledges; TN [1], VA [2]
Gyrinophilus palleucus -- Tennessee Cave Salamander
M: caves, in limestone areas; TN [2]
Plethodon hoffmani -- Valley and Ridge Salamander
M: montane forests; VA [3-4]

Plethodon hubrichti -- Peaks of Otter Salamander
M: cool moist woods; VA [2]; endemic to Peaks of Otter Mountain
Plethodon websteri -- Webster's Salamander
P: moist forests with steep north-facing slopes; SC [4]
Pseudobranchus striatus -- Dwarf Siren
C: swamps, ponds, other sluggish freshwater habitats; SC [2-3]
Rana grylio -- Pig Frog
C: lakes, ponds, marshes; SC [2]

FISHES

The absence in North Carolina of the very large number of Tennessee fishes occurring just over the state line is not an artifact of collecting intensity. Much sampling has occurred in the state near the Tennessee border for such species. The streams where they occur do extend into North Carolina; however, most of the streams where the fishes occur in Tennessee become high gradient near the border, with riffles and rapids preventing the fishes from occurring in North Carolina. A few reservoirs along the state line also block some species from entering the state. On the other hand, there are a number of species that occur within one or two counties of North Carolina that are not listed here; these are fishes in drainages that do not reach North Carolina, particularly the Chattahoochee and the Coosa in Georgia, the Clinch in Tennessee and Virginia, and the James in Virginia.

Alosa chrysochloris -- Skipjack Herring Reported from NC in the past few years, but not confirmed
M: Tennessee drainages; TN [1]
Cottus baileyi -- Black Sculpin
M: Tennessee drainages; TN [1], VA [1-2]
Etheostoma caeruleum -- Rainbow Darter
M: Tennessee drainages; TN [1]
Etheostoma camurum -- Bluebreast Darter Reported from NC in the past few years, but not confirmed
M: Tennessee drainages; TN [1]
Etheostoma cinereum -- Ashy Darter
M: Tennessee drainages; TN [1-2]
Etheostoma hopkinsi -- Christmas Darter
M: Savannah drainage; SC [1-2]
Etheostoma kennicotti -- Stripetail Darter
M: Tennessee drainages; TN [1]
Etheostoma osburni -- Finescale Saddled Darter
M: New drainage; VA [2]
Fundulus catenatus -- Northern Studfish
M: Tennessee drainages; TN [1]
Fundulus notatus -- Blackstripe Topminnow
M: Tennessee drainages; TN [1]
Fundulus olivaceous -- Blackspotted Topminnow
M: Tennessee drainages; TN [1]
Gasterosteus aculeatus -- Threespine Stickleback
T: tidal waters; VA [2?]
Hemitremia flammea -- Flame Chub
M: Tennessee drainages; TN [1]
Hybognathus nuchalis -- Central Silvery Minnow
M: Tennessee drainages; TN [2-3]
Hybopsis aestivalis -- Speckled Chub
M: Tennessee drainages; TN [1-2]

Hybopsis dissimilis -- Streamline Chub
M: Tennessee drainages; TN [1-2]
Hybopsis storeriana -- Silver Chub
M: Tennessee drainages; TN [2-3]
Hypentelium etowanum -- Alabama Hog Sucker
M: Tennessee drainages; TN [1], GA [1]
Ichthyomyzon castaneus -- Chestnut Lamprey
M: Tennessee drainages; TN [1]
Ichthyomyzon gagei -- Southern Brook Lamprey
M: Tennessee drainages; TN [1-2]
Ictalurus furcatus -- Blue Catfish
M: Tennessee drainages; TN [1]
Lepisosteus oculatus -- Spotted Gar
M: Tennessee drainages; TN [1-2]
Notropis ariommus -- Popeye Shiner
M: Tennessee drainages; TN [1-2]
Notropis atherinoides -- Emerald Shiner
M: Tennessee drainages; TN [1]
Notropis lirus -- Mountain Shiner
M: Tennessee drainages; TN [1]
Notropis stramineus -- Sand Shiner
M: Tennessee drainages; TN [1]
Noturus baileyi -- Smoky Madtom
M: Tennessee drainages; TN [1]
Noturus leptacanthus -- Speckled Madtom
M: Savannah drainage; SC [1]
Percina rex -- Roanoke Logperch
P: Roanoke and Chowan drainages; VA [1-2]
Percina shumardi -- River Darter
M: Tennessee drainages; TN [1-2]
Phenacobius uranops -- Stargazing Minnow
M: Tennessee drainages; TN [1]
Pimephales promelas -- Fathead Minnow
M: Tennessee drainages; TN [1], VA [1]
Pimephales vigilax -- Bullhead Minnow
M: Tennessee drainages; TN [1-2]
Scaphirhynchus platyrynchus -- Shovelnose Sturgeon
M: Tennessee drainages; TN [1-2]

INSECTS -- BUTTERFLIES

A species marked with the @ symbol is considered to be a Visitor, with breeding occurring elsewhere. Most of these breed to the south of North Carolina and would be expected to occur as a visitor in the warmer months. Otherwise, all other species on this list are presumed to breed in adjacent states.

There are numerous butterfly species whose presently known range extends south in the mountains only to Virginia. Some of these certainly must occur in the northern mountain counties of North Carolina, particularly those not restricted to habitats rare or absent in the state (e.g., shale barrens or limestone outcrops). North Carolina has apparently not had thorough statewide coverage of its Lepidopteran fauna, nor has a book or treatise been published on that fauna of the state. In summary, there is much to be learned about butterfly distribution in the state, including new species to be added to the state list.

Amblyscirtes belli -- Bell's Roadside-Skipper

MP: wooded edges and openings, wooded creeks; host plant -- wild oats (Uniola latifolia); SC [1] (Oconee and Pickens counties)

Boloria selene -- Silver-bordered Fritillary

M: wet meadows, bogs, marshes; host plant -- violets (Viola) and other species; VA [3]

Brephidium isophthalma -- Eastern Pygmy-Blue

T: tidal flats and marshes; host plant -- glassworts (Salicornia), possibly saltwort (Batis maritima); SC [2]

Calephelis borealis -- Northern Metalmark

M: rocky areas near shale, serpentine, or limestone, usually near streams; host plant -- ragworts (Senecio), possibly fleabanes (Erigeron); VA [2]

Callophrys polios -- Hoary Elfin

M: sunny, dry slopes and other barren or rocky habitats; host plant -- heaths, possibly trailing arbutus (Epigaea repens) in the Appalachians; VA [3]

Chlosyne harrisii -- Harris' Checkerspot

M: marshes, damp meadows, and other wet brushy places; host plant -- flat-topped white aster (Aster umbellatus); WV [6-7].

Colias interior -- Pink-edged Sulphur

M: high elevation areas with acidic soils, such as wood margins, openings, and heath balds; host plant -- blueberries (Vaccinium); VA [5-6]

Erynnis lucilius -- Columbine Duskywing

M: rocky woods, ravines, and wooded edges; host plant – wild columbine (Aquilegia canadensis); VA (2); reported from NC in early 2000s, but report retracted, likely an identification error

Erynnis persius -- Persius Duskywing

M: openings in cool forests, fields or bogs near woods; host plant -- lupine (Lupinus perennis); VA [3]

Euphyes conspicuus -- Black Dash

CM: marshes, wet meadows, but rarely in bogs; host plant -- sedges, mainly Carex stricta; VA [1]

Leptotes cassius -- Cassius Blue @

TC: mainly coastal towns, gardens, and residential areas; SC [3]

Speyeria atlantis -- Atlantis Fritillary

M: cool, open woods, wooded streams, clearings; host plant -- violets (Viola); VA [5]

SIGNIFICANT 2004 REVISIONS TO THE ANIMAL LIST

NOTE: Large numbers of mayflies, stoneflies, caddisflies, and moths have been added to, and in some cases deleted from, the Rare List and the Watch List. Because of the numbers of such taxa, they are not listed below.

New Taxa Added to the Rare Animal List

Cambarus histricosus [Sandhills Spiny Crayfish]	[newly described species, endemic to North Carolina?]
Cambarus tuckasegee [Tuckasegee Stream Crayfish]	[newly described species, endemic to North Carolina]
Corynorhinus rafinesquii macrotis [Rafinesque's Big-eared Bat – Coastal Plain subspecies]	[desire to track records by subspecies]
Corynorhinus rafinesquii rafinesquii [Rafinesque's Big-eared Bat – Mountain subspecies]	[desire to track records by subspecies]
Euchloe olympia [Olympia Marble]	[newly discovered in North Carolina]
Ictiobus niger [Black Buffalo]	[newly discovered in North Carolina]
Inflectarius downieanus [Dwarf Globelet]	[newly discovered in North Carolina]
Lasionycteris noctivagans [Silver-haired Bat]	[breeding season records are scarce]
Lasiurus cinereus [Hoary Bat]	[breeding season records are very scarce]
Libellula julia [Chalk-fronted Corporal]	[newly discovered in North Carolina]
Phyciodes texana seminole [Seminole Texan Crescent]	[newly discovered in North Carolina]
Plethodon amplus [Blue Ridge Gray-cheeked Salamander]	[new split; endemic to North Carolina]
Plethodon cheoah [Cheoah Bald Salamander]	[new split; endemic to North Carolina]
Sphaerium simile [Grooved Fingernailclam]	[apparently newly discovered in North Carolina]
Viviparus intertextus [Rotund Mysterysnail]	[apparently newly discovered in North Carolina]

Taxa Added to the Rare Animal List from the Watch List

Bufo quercicus [Oak Toad]	[populations threatened by habitat loss]
Cambarus acanthura [Spinytail Crayfish]	[considered by biologists to be rare enough to track]
Cambarus davidi [Carolina Ladle Crayfish]	*[endemic to North Carolina, considered rare enough to track]*
Cambarus nodosus [Knotty Burrowing Crayfish]	[considered by biologists to be rare enough to track]
Cambarus reburrus [French Broad River Crayfish]	[endemic to North Carolina, considered rare enough to track]
Desmognathus wrighti [Pigmy Salamander]	[concern over further impacts to spruce-fir habitat]
Haematopus palliatus [American Oystercatcher]	[populations threatened by habitat loss and human impacts]
Hyla versicolor [Northern Gray Treefrog]	[conclusive documentation, and populations believed to be resident]
Lasiurus intermedius [Northern Yellow Bat]	[might well be a resident and not a vagrant]
Orconectes sp 1 [a crayfish] (listed as Orconectes cf spinosus on previous list)	[considered by biologists to be rare enough to track]
Procambarus plumimanus [Croatan Crayfish]	[endemic to North Carolina, considered rare enough to track]

New Taxa Added to the Watch List

Cemophora coccinea [Scarlet Snake]	[declining numbers and habitat loss, though not yet rare]
Elanoides forficatus [Swallow-tailed Kite]	[possibly breeding in North Carolina (in 2003)]
Etheostoma thalassinum [Seagreen Darter]	[apparently declining numbers]
Etheostoma zonale [Banded Darter]	[apparently declining numbers]

Farancia erytrogramma [Rainbow Snake]	[declining numbers, though not yet rare]
Gonielmis dietrichi [a beetle]	[apparently present only in a small area of North Carolina]
Gyraulus deflectus [Flexed Gyro]	[status poorly known in North Carolina]
Lampropeltis triangulum triangulum [Eastern Milk Snake]	[poorly known, seemingly more difficult to find]
Lampsilis sp 3 [a bivalve]	[potential new species; needs study]
Lophodytes cucullatus [Hooded Merganser]	[small but erratic breeding population in North Carolina]
Nocomis raneyi [Bull Chub]	[apparently declining numbers and deteriorating habitat]
Notropis chalybaeus [Ironcolor Shiner]	[steep declines south of North Carolina; thus, needs monitoring in the state]
Plethodon meridianus [South Mountain Gray-cheeked Salamander]	[newly split species; endemic to North Carolina, though common within its small range]
Promenetus exacuous [Sharp Sprite]	[status poorly known in North Carolina]
Siren lacertina [Greater Siren]	[seemingly declining numbers, though not yet rare]
Stenelmis morsei [a riffle beetle]	[apparently small range in North Carolina]
Stenelmis sp nov 1 [Harley's Stenelmis Riffle Beetle]	[apparently small range in North Carolina]
Stenelmis sp nov 2 [William's Stenelmis Riffle Beetle]	[apparently small range in North Carolina]
Stenelmis sp nov 3 [a riffle beetle]	[apparently small range in North Carolina]
Stenotrema pilula [Pygmy Slitmouth]	[status poorly known in North Carolina]
Stereochilus marginatus [Many-lined Salamander]	[scarce or difficult to find, despite much seemingly suitable habitat]
Tachycineta bicolor [Tree Swallow]	[small breeding population in North Carolina]
Virginia valeriae [Smooth Earth Snake]	[relatively few recent records, despite seemingly abundant habitat]

Taxa Removed from the Rare Animal List

Apeltes quadracus [Fourspine Stickleback]	[NC NHP no longer tracking marine and estuarine fishes]
Eleotris pisonis [Spinycheek Sleeper]	[NC NHP no longer tracking marine and estuarine fishes]
Epioblasma capsaeformis [Oyster Mussel]	[considered to be extirpated from North Carolina]
Erynnis lucilius [Columbine Duskywing]	[reported occurrence believed to be a mis-identification]
Evorthodus lyricus [Lyre Goby]	[NC NHP no longer tracking marine and estuarine fishes]
Gobionellus stigmaticus [Marked Goby]	[NC NHP no longer tracking marine and estuarine fishes]
Hypsoblennius ionthas [Freckled Blenny]	[NC NHP no longer tracking marine and estuarine fishes]
Leucorrhinia frigida [Frosted Whiteface]	[questionable identification; species far out of range]
Medionidus conradicus [Cumberland Moccasinshell]	[considered to be extirpated from North Carolina]
Microphis brachyurus [Opossum Pipefish]	[NC NHP no longer tracking marine and estuarine fishes]
Percina macrocephala [Longhead Darter]	[considered to be extirpated from North Carolina]
Poecilia latipinna [Sailfin Molly]	[NC NHP no longer tracking marine and estuarine fishes]
Ptychobranchus fasciolaris [Kidneyshell]	[considered to be extirpated from North Carolina]
Quadrula pustulosa [Pimpleback]	[considered to be extirpated from North Carolina]
Toxolasma lividus [Purple Lilliput]	[considered to be extirpated from North Carolina]
Tritogonia verrucosa [Pistolgrip]	[considered to be extirpated from North Carolina]

Taxa Moved from the Rare Animal List to the Watch List

Celastrina neglectamajor [Appalachian Azure]	[more numerous than formerly believed]
Gomphus diminutus [Diminutive Clubtail]	[more numerous than formerly believed]
Hyla andersonii [Pine Barrens Treefrog]	[more widespread than formerly believed, and habitat not overly threatened]
Lythrurus matutinus [Pinewoods Shiner]	[quite common within its rather small range]
Speyeria diana [Diana Fritillary]	[more widespread than formerly believed, and habitat not overly threatened]
Trechus (all species) [ground beetles]	[lack of new data and scarcity or absence of biologists working with this group of animals; however, because most have very small ranges and are endemic to North Carolina, they are retained on the Watch List]

Taxa Removed from the Watch List

Lepus americanus [Snowshoe Hare]	[considered to be extirpated from North Carolina]
Myotis lucifugus [Little Brown Myotis]	[considered to be reasonably common in North Carolina]
Sorex longirostris fisheri [Dismal Swamp Southeastern Shrew]	[considered to be common in North Carolina]
Tadarida brasiliensis [Brazilian Free-tailed Bat]	[considered to be reasonably common in North Carolina]

NOTE: The following animal groups have also been removed from the Watch List: marine bivalves, marine gastropods, millipedes, scorpionflies, most beetles, ants, and annelids. NC NHP has received essentially no data on these groups in over a decade, and there are few if any biologists working with these groups.

Scientific Name Changes to the Rare Animal List

NOTE: Slight spelling changes, whether officially recognized changes or spelling errors from the 2001 edition of this list, are not included below. Only completely new genus or species names are given below.

<u>Changed from:</u>	<u>Changed to:</u>
Catinella vermeta [Suboval Ambersnail]	Catinella waccamawensis [Waccamaw Ambersnail]
Cervus elaphus [Elk]	Cervus canadensis
Clemmys muhlenbergii [Bog Turtle]	Glyptemys muhlenbergii
Cyprinella zanema pop 1 [Santee Chub – Piedmont population]	Cyprinella zanema [Santee Chub]
Cyprinella zanema pop 2 [Santee Chub – Coastal Plain population]	Cyprinella sp 1 [Thinlip Chub] (formerly thought to be part of C. zanema, but might be a separate species)
Desmognathus sp 1 [Waterrock Knob Salamander]	Desmognathus imitator pop 1 [Imitator Salamander - Waterrock Knob population]
Eurycea longicauda longicauda [Long-tailed Salamander]	Eurycea longicauda [Longtail Salamander] (now a full species)
Fundulus waccamensis pop 1 [Waccamaw Killifish – Lake Waccamaw population]	Fundulus waccamensis [Waccamaw Killifish]
Fundulus waccamensis pop 2 [Waccamaw Killifish – Lake Phelps population]	Fundulus cf diaphanus [Lake Phelps Killifish] (population is closer in characters to F. diaphanus than to F. waccamensis in Lake Waccamaw)
Hybopsis monacha [Spotfin Chub]	Cyprinella monacha

Ivesia carolinensis [Linville Caverns Spider]	Nesticus carolinensis
Noturus furiosus pop 1 [Carolina Madtom – Neuse drainage population]	Noturus furiosus [Carolina Madtom]
Noturus furiosus pop 2 [Carolina Madtom – Tar drainage population]	Noturus furiosus [Carolina Madtom] (entire species proposed for State Threatened status, thus no need to track separate populations)
Opheodrys vernalis [Smooth Green Snake]	Liochlorophis vernalis
Orconectes cf spinosus [a crayfish]	Orconectes sp 1
Rana capito capito [Carolina Gopher Frog]	Rana capito (now a full species)
Stizostedion canadensis [Sauger]	Sander canadensis
Sylvilagus transitionalis [New England Cottontail]	Sylvilagus obscurus [Appalachian Cottontail]
Valvata cf sincera [a valvatid snail]	Valvata sincera

N.C. Status Changes on the Rare Animal List

All state status (E, T, and SC) changes must be approved by the N.C. Wildlife Resources Commission and published in the State Register for public comment. The changes below became official on July 1, 2002. These taxa are given state protection under the State Endangered Species Act (G.S. 113-331 to 113-337). [SR and W are NC NHP designations only, not affording official state protection.]

	From:	To:
Aegolius acadicus [Northern Saw-whet Owl]	SC	T
Alasmidonta varicosa [Brook Floater]	T	E
Anodonta implicata [Alewife Floater]	SC	T
Cambarus catagius [Greensboro Burrowing Crayfish]	SR	SC
Cambarus chaugaensis [Oconee Stream Crayfish]	SR	SC
Cambarus georgiae [Little Tennessee River Crayfish]	SR	SC
Cambarus parrishi [Hiwassee Headwaters Crayfish]	SR	SC
Cambarus spicatus [Broad River Spiny Crayfish]	SR	SC
Certhia americana [Brown Creeper]	SR	SC
Cervus canadensis [Elk]	W	SC (because this is an experimental release population, NC NHP is not tracking the species, and retains it on its Watch List)
Corynorhinus rafinesquii [Rafinesque's Big-eared Bat]	SC	T
Crotalus adamanteus [Eastern Diamondback Rattlesnake]	SR	E
Crotalus horridus [Timber Rattlesnake]	SR	SC
Cyclonaias tuberculata [Purple Wartyback]	SR	E
Elliptio lanceolata [Yellow Lance]	T	E
Elliptio marsupiobesa [Cape Fear Spike]	T	SC
Eurycea junaluska [Junaluska Salamander]	SC	T
Fusconaia masoni [Atlantic Pigtoe]	T	E
Haliaeetus leucocephalus [Bald Eagle]	E	T
Helisoma eucosmium [Greenfield Rams-horn]	SR	E
Heterodon simus [Southern Hognose Snake]	SR	SC
Lampetra aepyptera [Least Brook Lamprey]	SC	T
Lampsilis cariosa [Yellow Lampmussel]	T	E
Lampsilis radiata conspicua [Carolina Fatmucket]	SR	T
Lampsilis radiata radiata [Eastern Lampmussel]	SC	T
Leptodea ochracea [Tidewater Mucket]	SC	T

	From:	To:
Ligumia nasuta [Eastern Pondmussel]	SC	T
Loxia curvirostris [Red Crossbill]	SR	SC
Micrurus fulvius [Eastern Coral Snake]	SR	E
Moxostoma robustum [Robust Redhorse]	SC	SR (since the downlisting, has been re-discovered and will be proposed for E status)
Orconectes carolinensis [North Carolina Spiny Crayfish]	SR	SC
Orconectes virginiensis [Chowanoke Crayfish]	SR	SC
Pelecanus occidentalis [Brown Pelican]	SC	SR
Peromyscus leucopus easti [Pungo White-footed Mouse]	SR	SC
Pleurobema oviforme [Tennessee Clubshell]	SR	E
Procambarus braswelli [Waccamaw Crayfish]	SR	SC
Rana capito [Carolina Gopher Frog]	SC	T
Regulus satrapa [Golden-crowned Kinglet]	SC	W
Scartomyzon ariommus [Bigeye Jumprock]	SC	T
Sistrurus miliarius [Pigmy Rattlesnake]	SR	SC
Sorex hoyi winnemana [Southern Pygmy Shrew]	SC	W
Sorex longirostris fisheri [Dismal Swamp Southeastern Shrew]	T	—
Sphyrapicus varius [Yellow-bellied Sapsucker]	SR	SC
Sterna antillarum [Least Tern]	SR	SC
Sterna hirundo [Common Tern]	SR	SC
Tadarida brasiliensis [Brazilian Free-tailed Bat]	SC	—
Toxolasma pullus [Savannah Lilliput]	T	E
Tritogonia verrucosa [Pistolgrip]	E	EX (extirpated)
Villosa constricta [Notched Rainbow]	SR	SC
Villosa vaughaniana [Carolina Creekshell]	SC	E

U.S. Status Changes on the Rare Animal List

There have been **no** changes to the U.S. Status, in terms of listed taxa (E or T), since the 2001 NC NHP animal list. There have been some changes in the FSC (Federal Species of Concern) status, indicating a species that may or may not be listed in the future, but for which there is insufficient information to support listing at the present time. NC NHP has been working with U.S. Fish and Wildlife Service staff at the Raleigh and Asheville offices to make sure that we have the most up-to-date statuses, and working to suggest future additions to and deletions from the FSC list. Currently, we are working from the FWS list revised on March 16, 2004.

	From:	To:
Acronicta albarufa [Barrens Daggermoth]	FSC	—
Agrotis sp 1 nr buchholzi [a dart moth]	—	FSC (listed by FWS as Agrotis buchholzi [Buchholz's Dart Moth]
Ambloplites cavifrons [Roanoke Bass]	—	FSC
Atrytonopsis loammi [Loammi Skipper]	—	FSC
Clinostomus funduloides ssp 1 [Little Tennessee River Rosyside Dace]	—	FSC
Contopus cooperi [Olive-sided Flycatcher]	—	FSC
Desmognathus wrighti [Pigmy Salamander]	FSC	—

	From:	To:
Elimia interrupta [Knotty Elimia]	—	FSC
Ephemerella argo [Argo Ephemerellan Mayfly]	FSC	—
Etheostoma acuticeps [Sharphead Darter]	—	FSC
Etheostoma perlongum [Waccamaw Darter]	—	FSC
Etheostoma vulneratum [Wounded Darter]	—	FSC
Euchlaena milnei [Milne's Euchlaena]	FSC	—
Lanius ludovicianus migrans [Migrant Loggerhead Shrike]	FSC	—
Lordithon niger [Black Lordithon Rove Beetle]	FSC	—
Notropis bifrenatus [Bridle Shiner]	—	FSC
Noturus furiosus [Carolina Madtom]	—	FSC
Percina burtoni [Blotchside Logperch]	—	FSC
Polyodon spathula [Paddlefish]	FSC	—
Semotilus lumbee [Sandhills Chub]	—	FSC
Skistodiaptomus carolinensis [Carolina Skistodiaptomus]	FSC	—
Thoburnia hamiltoni [Rustyside Sucker]	—	FSC
Toxolasma lividus [Purple Lilliput]	FSC	— (considered extirpated in North Carolina)
Vermivora chrysoptera [Golden-winged Warbler]	—	FSC

NOTE: There are some additional changes to the FWS list of FSC taxa, but only those appearing on the NHP's Rare List and Watch List (and list of extirpated species) are indicated above. A few taxa on the FWS list -- E, T, and FSC – are not found in this NHP publication; these are primarily taxa that occur only in offshore waters (such as whales or seabirds), are of uncertain occurrence in the state, or are of uncertain taxonomic status.

Rank Changes on the Rare Animal List

Between 2001 and 2004, the N.C. Natural Heritage Program has made numerous changes to the N.C. Ranks, as has NatureServe (formerly the science branch of The Nature Conservancy) to the Global Ranks. <u>Only those changes involving taxa formerly or presently considered extinct, extirpated, or of historical occurrence are listed below.</u> However, taxa changing from SH to SX are not listed.

	From:	To:	
Alasmidonta robusta [Carolina Elktoe]	SX	S1	[recently re-discovered]
Dolania americana [American Sand Burrowing Mayfly]	S1	SH	[no records in 1974]
Hiodon tergisus [Mooneye]	S1	SH	[no records in over 20 years]

INDEX OF GENERA

Abrostola 73
Accipiter 15, 61, 85
Acipenser 27, 28, 83
Acrapex 73
Acroneuria 69
Acronicta 49, 73, 94
Aegolius 15, 93
Aeshna 47
Agapetus 70
Agnetina 69
Agrotis 49, 94
Aimophila 15
Alasmidonta 32, 33, 93, 95
Alligator 6, 21
Alloperla 69
Ambloplites 28, 94
Amblyscirtes 53, 78, 89
Ambystoma 25, 86
Ameiurus 65
Ameletus 68
Ammodramus 15, 61
Amnicola 37, 73
Amphipyrinae 49, 73, 74
Anacamptodes 49
Anas 61, 62
Aneides 25
Anhinga 16
Anodonta 33, 93
Anthopotamus 68
Anticlea 74
Apalone 21, 63
Apamea 49
Apantesis 49, 74
Aphylla 72
Aplodinotus 28
Appalachina 37
Argillophora 74
Argyrostrotis 74
Arigomphus 72
Arphia 79
Arugisa 74
Ascetocythere 41
Asio 62, 85
Asioplax 43
Atlanticus 79
Atrytone 53
Atrytonopsis 53, 94
Attaneuria 45
Autochton 54
Baetisca 43, 44, 68
Baetopus 44
Barbaetis 44
Belocephalus 79
Bleptina 74
Bolotoperla 45
Bomolocha 74
Bos 82
Botaurus 16
Boyeria 72
Bufo 25, 90
Cabera 74
Caecidotea 41
Calephelis 54, 89
Callophrys 54, 78, 89
Callosamia 50
Calopteryx 73
Cambarus 41, 42, 67, 90, 93
Campephilus 82
Canis 12, 82
Canthocamptus 67
Carduelis 62
Caretta 22
Caripeta 74
Carpiodes 28
Catharus 16, 84, 85
Catinella 37, 92
Catocala 50, 74
Celastrina 54, 78, 92
Cemophora 63, 90
Centroptilum 68
Cepphis 74
Ceraclea 45, 46, 70, 71
Ceratonyx 74
Ceratopsyche 71
Cercobrachys 44
Cerma 50
Certhia 16, 93
Cervus 61, 92, 93
Chaetaglaea 50
Charadrius 16
Chelonia 22
Chlorochroa 58
Chlosyne 54, 89
Chondestes 16
Choroterpes 44
Chrysanympha 74
Chytonix 74
Cicindela 58
Cincinnatia 37
Circus 16
Cisthene 74
Clemmys 22, 63, 92
Cleora 74
Clinostomus 28, 94
Coccyzus 16
Columbina 16
Condylura 12
Contopus 17, 85, 94
Conuropsis 82
Cordulegaster 72
Cordulia 47
Corvus 62
Corynorhinus 12, 90, 93
Coryphaeschna 72
Cosmosoma 74
Cottus 28, 87
Coturnicops 17
Crotalus 22, 93
Cryphia 74
Cryptobranchus 25
Culoptila 71
Cyclonaias 33, 93
Cyclophora 50
Cycnia 74
Cymocythere 42
Cyprinella 28, 65, 92
Cytheridella 67
Dactylocythere 42, 67
Dasychira 74
Datana 74
Deirochelys 22
Dendroica 17, 62, 85
Dendrotettix 79
Dermochelys 23
Desmognathus 25, 64, 86, 90, 92, 94
Diacyclops 42
Dibusa 46
Diplectrona 46
Diploperla 70
Discus 38
Dolania 44, 95
Dolichonyx 62
Doryodes 50, 75
Drasteria 50
Dromogomphus 47, 73
Drunella 44, 68
Dysgonia 50, 75
Ectopistes 82
Egretta 17
Elanoides 62, 85, 90
Elassoma 28
Elimia 37, 95
Elliptio 1, 33, 66, 93
Empidonax 18, 62, 85
Enallagma 49
Enneacanthus 65
Eotettix 57
Ephemerella 44, 68, 95
Epioblasma 83, 91
Epitheca 73
Erastria 75
Erethizon 82
Eretmochelys 23
Erimystax 28
Erora 54
Erpetogomphus 73
Erynnis 55, 89, 91
Eschrichtius 82

Etheostoma . 28, 29, 65, 87, 90, 95
Euagrotis 75
Eubaphe 50
Euchlaena 51, 95
Euchloe 55, 84, 90
Eucoptocnemis 75
Eudocimus 62
Eulonchus 49
Eumeces 63
Euphydryas 55
Euphyes 55, 89
Eupithecia 51
Eurycea 26, 64, 86, 92, 93
Eurylophella 68
Euxoa 51, 75
Exoglossum 29
Exyra 51, 75
Falco 18, 62
Farancia 64, 91
Faronta 75
Ferrissia 37
Fixsenia 55
Fumonelix 38
Fundulus 29, 30, 87, 92
Fusconaia 34, 93
Gabara 51, 75
Glaucomys 12
Glaucopsyche 78
Glyphyalinia 38
Glyptemys 22, 23, 92
Goerita 71
Gomphus 47, 48, 73, 92
Gonielmis 80, 91
Grammia 51
Gyraulus 66, 91
Habrophlebiodes 44
Haematopus 18, 90
Haliaeetus 18, 93
Haplotrema 38
Harpagocythere 67
Helicodiscus 38
Helicopsyche 71
Heliomata 51
Helisoma 37, 93
Helmitheros 62
Helopicus 70
Hemeroplanis 51
Hemidactylium 26
Hemipachnobia 51
Hepialus 51
Hesperia 56, 78
Hesperodiaptomus 67
Hesperotettix 79
Heterandria 30
Heterocampa 51
Heterocloeon 68
Heterodon 23, 32, 93
Himantopus 18
Hiodon 30, 95
Homoeoneuria 44
Homoplectra 71
Hubbellia 79
Hybopsis 30, 87, 88, 92
Hydroperla 70
Hydroptila 71
Hyla 26, 64, 90, 92
Hypagyrtis 51
Hypentelium 30, 88
Hypochilus 40
Hypocoena 75
Hypomecis 51, 75
Ichthyomyzon 30, 88
Icterus 62
Ictinia 18
Ictiobus 30, 90
Idaea 75
Inflectarius 38, 90
Inscudderia 79
Isogenoides 70
Isoperla 45, 70
Itame 51
Ixobrychus 62
Kinosternon 64
Lagoa 51
Lampetra 30, 93
Lampropeltis 23, 64, 91
Lampsilis 34, 66, 91, 93
Lanius 19, 95
Lanthus 48
Lasionycteris 12, 90
Lasiurus 12, 61, 90
Lasmigona 35
Laterallus 19
Lepidochelys 23
Lepipolys 75
Lepomis 65, 83
Leptodea 35, 93
Leptophlebia 68, 69
Leptostales 75
Leptoxis 37
Lepus 82, 92
Lestes 49, 73
Leucania 75
Libellula 48, 73, 90
Ligumia 35, 94
Limnothlypis 62
Liochlorophis 23, 24, 93
Lithacodia 75
Lithophane 51, 76
Litoprosopus 76
Lobocleta 76
Lophodytes 62, 91
Lordithon 58, 95
Lordocythere 67
Loxia 19, 94
Lucania 30
Luxilus 30
Lynceus 42
Lythrurus 65, 92
Macdunnoa 44
Macrochilo 52, 76
Macrodiplax 73
Macromia 48
Malaclemys 23
Manophylax 46
Martes 82
Masticophis 23
Matrioptila 46
Mayatrichia 71
Medionidus 83, 91
Megaleuctra 45
Megathymus 56, 78
Melanoplus 57, 58, 79
Menidia 30
Mermiria 79, 80
Meropleon 52, 76
Metalectra 76
Metalepsis 76
Metarranthis 52
Micrasema 46
Microhexura 40
Micropterus 30
Microtus 13
Micrurus 24, 94
Molanna 71
Montezumina 58
Morrisonia 76
Moxostoma 30, 65, 94
Mustela 13, 61
Mycteria 19, 86
Myotis 13, 92
Nannothemis 73
Nectopsyche 71
Necturus 26
Nematocampa 52
Nemoria 52, 76
Neoconocephalus 80
Neonympha 56, 78
Neophylax 71
Neoplynes 76
Neotoma 13, 14
Neotrichia 71
Nerodia 24, 86
Nesticus 40, 41, 66, 67, 93
Neurocordulia 48
Nicrophorus 58
Nixe 69
Nocomis 65, 91
Notondontidae, ... 76
Notropis ... 30, 31, 65, 88, 91, 95
Noturus 31, 88, 93, 95
Nyctanassa 63
Oecetis 71, 72
Oemopteryx 70
Oligia 76
Ophiogomphus 48
Ophisaurus 24, 64, 86

Opshomala 80
Orchelimum 80
Orconectes 43, 67, 90, 93, 94
Orgyia 76
Oropsyche 72
Orthemis 73
Palaeagapetus 46
Pallifera 39
Paonias 76
Papaipema 52, 76
Papilio 56
Paracloeodes 69
Paragnetina 70
Parahypenodes 76
Paravitrea 39
Passerculus 19, 86
Passerina 16, 19
Patera 39
Pegias 35
Pelecanus 19, 94
Percina 31, 65, 83, 88, 91, 95
Perlesta 70
Perlinella 45
Peromyscus 14, 94
Phalacrocorax 19
Phenacobius 31, 65, 88
Pheucticus 63
Phragmatiphila 52
Phyciodes 56, 78, 84, 90
Picoides 20
Pimaphera 76
Pituophis 24
Planorbella 37
Plauditus 69
Plegadis 20
Plethodon 26, 27, 64, 86, 87, 90, 91
Pleurobema 35, 94
Poanes 56
Poecile 20
Polygonia 56, 57
Polyodon 32, 95
Pontia 78
Pooecetes 20
Porphyrula 20
Problema 57, 78
Procambarus ... 43, 67, 68, 90, 94
Progomphus 48
Promenetus 66, 91
Properigea 76
Pseudacris 27, 64
Pseudiron 69
Pseudogoera 72
Psilotreta 72
Pteronarcys 70
Ptichodis 52
Ptychobranchus 83, 91
Puma 14
Pygarctia 52
Pyreferra 52, 76
Pyrgus 57
Quadrula 83, 91
Rallus 63
Rana 27, 87, 93, 94
Regina 24
Regulus 63, 94
Rhadinaea 64
Rhithrogena 69
Rhyacophila 46, 47, 72
Riparia 20
Romalea 80
Rynchops 20
Sander 32, 93
Satyrium 57
Scartomyzon 32, 94
Schinia 52, 76, 77
Schizura 52
Sciurus 14
Scopula 77
Scudderia 58, 80
Seminatrix 24
Semiothisa 52, 77
Semotilus 32, 95
Serratella 44
Setodes 72
Shipsa 70
Siphloplecton 69
Siren 64, 77, 87, 91
Sistrurus 24, 94
Sitta 63
Skistodiaptomus 43, 95
Somatochlora 48
Somatogyrus 37
Sorex 14, 61, 92, 94
Spartiniphaga 53
Speyeria 57, 79, 89, 92
Sphaerium 35, 90
Sphingicampa 77
Sphinx 76, 77
Sphyrapicus 20, 94
Spilogale 61
Spilosoma 77
Spiza 63
Stenelmis 58, 80, 91
Stenonema 69
Stenotrema 39, 66, 91
Stereochilus 64, 91
Sterna 20, 21, 63, 94
Sternotherus 24
Stethophyma 58
Stiria 77
Strophitus 36
Stygobromus 43, 68
Stylurus 48, 49, 73
Sylvilagus 15, 93
Sympetrum 49
Synaptomys 15, 61
Syngrapha 77
Tachycineta 63, 91
Tarachidia 77
Thoburnia 32, 95
Thorybes 79
Thryomanes 21
Tolype 77
Tornos 53, 77
Tortopus 45
Toxolasma 36, 83, 91, 94, 95
Trechus 80, 81, 92
Triacanthagyna 73
Triaenodes 47, 72
Trichechus 15
Trichosilia 53
Tricorythodes 69
Trimerotropis 58
Triodopsis 39, 40
Tripudia 77
Tritogonia 83, 91, 94
Troglodytes 63
Tyto 63
Ulolonche 77
Vaejovis 67
Valvata 40, 93
Ventridens 40
Vermivora 21, 86, 95
Viehoperla 70
Villosa 36, 94
Vireo 21
Virginia 64, 91
Viviparus 37, 90
Waltoncythere 43
Wormaldia 72
Xestia 77
Yugus 70
Zale 53, 77
Zanclognatha 77
Zapada 45
Zapus 61
Zonitoides 40

NORTH CAROLINA NATURAL HERITAGE PROGRAM
SPECIAL ANIMAL SURVEY FORM

Scientific Name:

Common Name:

Observer(s):

Date(s) of Observation:

County: 7.5' Quad Map:

Exact Location **(be specific! - attach copy of map with site marked):**

Number of Animals **(include age and sex, if known):**

Type of Observation **(sight record, vocal record, specimen, photograph, etc.):**

Behavior of Animals **(singing, foraging, at nest, etc.):**

Habitat **(use NC NHP natural community name if known; describe dominant vegetation, maturity of vegetation, slope, aspect, etc.):**

Owner(s) of Land, if known:

Other Comments **(significance of record, disturbance to habitat, etc.):**

Person making this report: Date:
Address: Phone:

Return form to: N.C. Natural Heritage Program
1601 MSC; Raleigh, NC 27699-1601

(NCNHP 2004b) ial input

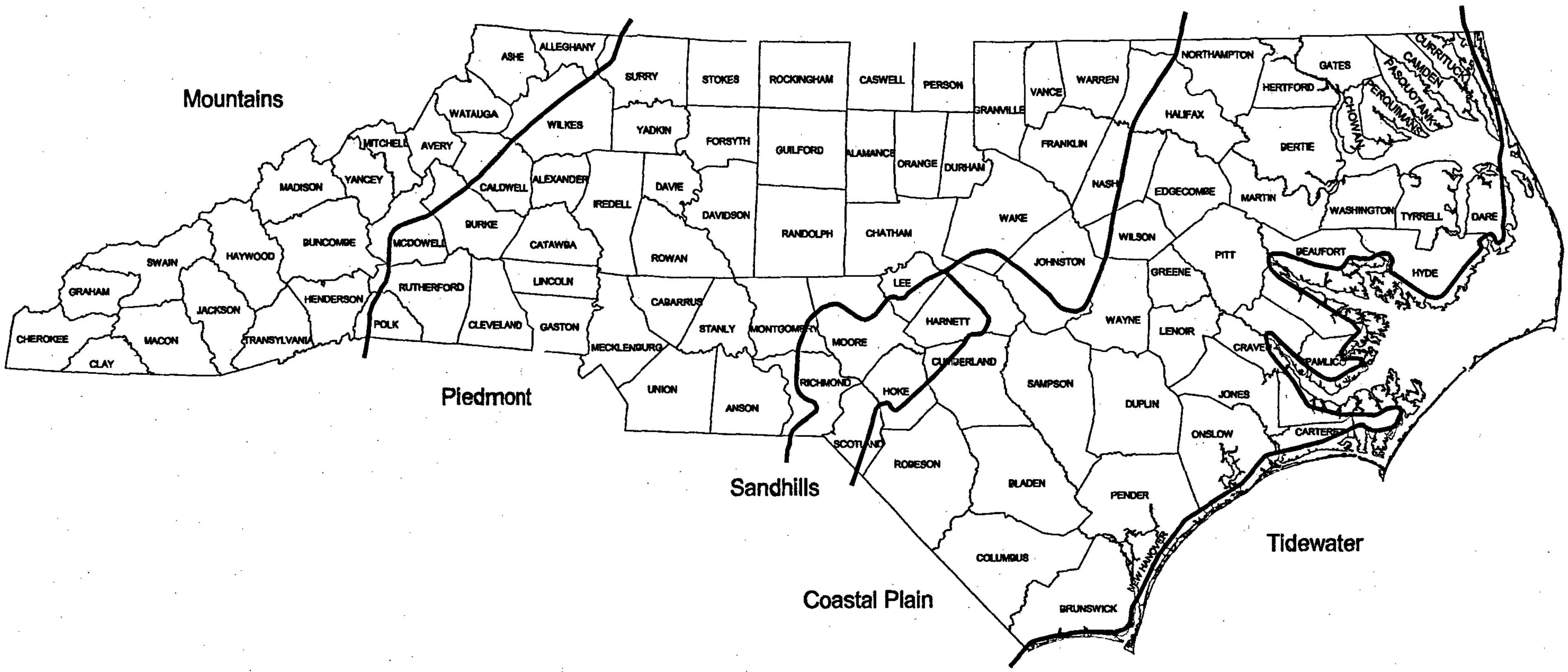
Natural Heritage Program
List of Rare Plant Species of North Carolina
2004

Harperella
Ptilimnium nodosum (Rose) Mathias

Edited by Misty A. Franklin, Botanist
John T. Finnegan, Information Systems Manager

North Carolina Natural Heritage Program
Office of Conservation and Community Affairs
N.C. Department of Environment and Natural Resources
1601 MSC, Raleigh, NC 27699-1601

THE COUNTIES AND PHYSIOGRAPHIC PROVINCES OF NORTH CAROLINA



THE COUNTIES AND PHYSIOGRAPHIC PROVINCES OF NORTH CAROLINA

NATURAL HERITAGE PROGRAM LIST OF THE RARE PLANTS OF NORTH CAROLINA
2004 Edition

edited by Misty A. Franklin, Botanist
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Office of Conservation and Community Affairs
Department of Environment and Natural Resources
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THE COUNTIES AND PHYSIOGRAPHIC PROVINCES OF NORTH CAROLINA i

ACKNOWLEDGMENTS iii

NATURAL HERITAGE PROGRAM LIST OF THE RARE PLANTS OF NORTH CAROLINA 1
- Vascular Plants 7
- Mosses 46
- Liverworts 50
- Hornworts 53
- Lichens 53

NORTH CAROLINA PLANT WATCH LIST 55

Vascular Watch List Plants 57
- Mosses 90
- Hornwort and Liverworts 90
- Lichens 92
- Watch Category 6 (W6 - regionally rare) 93
  - MOUNTAINS 93
  - PIEDMONT 94
  - SANDHILLS 94
  - COASTAL PLAIN 94

PLANT TAXA ENDEMIC TO NORTH CAROLINA 95

POTENTIAL NEW TO NORTH CAROLINA PLANTS 96

2004 SIGNIFICANT PLANT LIST REVISIONS 100
- Name Changes/Synonymy Edits to the Rare Plant List 100
- NC Endangered and Threatened Changes 100
- Federal Status Changes 101
- Taxa No Longer Tracked in NC 101
- Watch List Additions and Changes 102
- Additions to the Rare List 103

ENDANGERED AND RARE PLANT FIELD SURVEY FORM 104

WATCH LIST PLANT SURVEY FORM 105

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NATURAL HERITAGE PROGRAM LIST OF THE RARE PLANTS OF NORTH CAROLINA

North Carolina has an exceptionally rich and diverse flora, consisting of about 5600 species of gymnosperms, dicots, monocots, ferns, fern allies, mosses, liverworts, hornworts, and lichens. North Carolina's flora includes boreal plants Ÿ more typical of Canada Ÿ on the high peaks of the Southern Appalachians, subtropical plants (including palms) in the maritime climate of the barrier islands, tropical ferns, mosses, and liverworts around waterfalls in humid mountain gorges, as well as more typical and characteristic species of the Southeastern North American coastal plain, piedmont, and Southern Appalachian Mountains. Fourteen (14) plant taxa are endemic to NC. In addition to those mentioned above, some of the more notable habitats of rare or endemic plants in North Carolina include longleaf pine savannas, mountain bogs and fens, sandhills, piedmont glades and prairie-like savannas, mountain cove forests, coastal plain limesinks, granite flatrocks, and pocosins. The diverse native flora of North Carolina is a rich part of our natural heritage, worthy of protection for environmental, scientific, economic, aesthetic, and moral reasons.

The North Carolina Natural Heritage Program (NC NHP), as part of its mission to preserve the biological diversity of North Carolina, maintains a systematic inventory of all known locations of rare taxa. The following list of rare plant taxa monitored by NC NHP includes767 taxa. All plant taxa native to North Carolina which are officially recognized by federal or state agencies as protected or otherwise rare are included on this list. This list incorporates the most recent federal status of rare plants, as determined by the U.S. Fish and Wildlife Service (USFWS) with amendments current to March 17, 2004. *Natural Heritage Program List of the Rare Plants of North Carolina* also includes North Carolina legal status information from the most recent version of the *List of North Carolina's Endangered, Threatened and Candidate Plant Species*, which can be found on the North Carolina Plant Conservation Program (NC PCP) web site: http://www.ncagr.com/plantind/plant/conserv/cons.htm. This web site includes discussion of and information on the legal status of Endangered (E), Threatened (T), and Special Concern (SC) species. The *North Carolina Plant Watch List* includes an additional 487 species, which appear to be rare enough to be of conservation concern in North Carolina, but which are not currently inventoried by NC NHP at the same level that Rare plant taxa are tracked, and are not legally protected or active candidates for legal protection by the USFWS or NC PCP.

NC NHP takes the lead role in North Carolina in the inventory of the state's natural diversity, the identification of important natural areas and rare species habitats, and the protection and management of natural areas. It serves as the state's data bank of locality information of natural areas and rare and endangered plant and animal species. It conducts environmental reviews of projects involving state or federal permits or monies, to minimize negative impacts on North Carolina's natural areas and rare species. Many species which lack formal, legal protection are nonetheless imperiled in North Carolina. Therefore, NC NHP collects data on species in addition to the three categories of protected plants (Endangered, Threatened, and Special Concern). These additional rare species are placed in two other categories of rare plants: Significantly Rare (SR) and Watch List (W). Definitions of all status categories are listed below, under "North Carolina Status." NC NHP requests locality and population data on the species listed in this publication. Plant survey forms have been provided for this purpose.

NC PCP, a unit of the Department of Agriculture and Consumer Services, is the agency responsible for the listing and protection of North Carolina's endangered and threatened plants, under provisions of the North Carolina Plant Protection and Conservation Act of 1979 (General Statutes, Article 19B, 106: 202.12-22), as amended. NC PCP acts under the direction of a Plant Conservation Board and with the advice of a Scientific Committee to maintain and revise the state lists of protected (Endangered, Threatened, and Special Concern) plant species, to investigate protection needs and survival requirements of native plants, to carry out conservation programs, to make and enforce regulations, and to issue permits concerning protected plants. The 123 plant species currently listed as Endangered and Threatened in North Carolina are published in the *List of North Carolina's Endangered, Threatened and Candidate Plant Species: January 1994*, with amendments, available from NC PCP. That publication also lists North Carolina's Special Concern species and explains regulations and permits regarding protected plants. In general, removal of Endangered or Threatened plants from the wild and their sale or distribution is illegal. Particular regulations concerning collection, propagation, and sale apply to those species (Endangered, Threatened, or otherwise) listed as Special Concern.

Federally listed species are protected by the Endangered Species Act of 1973, as amended. The USFWS is the federal agency responsible for listing and protecting nationally endangered and threatened species. As of March 2004, there are 27 plant species federally listed as Endangered or Threatened which occur in North Carolina. These species are distributed throughout the state, in about half of North Carolina's hundred counties. In addition, about 118 species are Federal Species of Concern.

NC NHP, NC PCP, and USFWS work cooperatively to ensure the continued survival of all of North Carolina's rich flora.

NUMBER OF PLANT TAXA WITH THE INDICATED STATUS[1]
(as of MARCH 2004)

GROUP	APPROXIMATE NUMBER IN THE STATE	N.C. STATUS				U.S. STATUS			
		E	T	SC	SR	E	T	C	FSC
Flowering Plants	4232	73	33	17	461	17	9	4	96
Ferns and Other Vascular Cryptogams	114	6	3	2	12	-	-	-	3
Gymnospems	30	-	-	-	3	-	-	-	1
Mosses	440	4	1	-	68	-	-		3
Liverworts	225	2	-	-	59	-	-		8
Hornworts	9	-	-	-	2	-	-	-	1
Lichens	651	-	1	-	20	1	-	-	2
Total	5701	85	38	19	625	18	9	4	114

LIST FORMAT. Species are grouped into five groups: Vascular Plants, Mosses, Liverworts, Hornworts, and Lichens. They are listed alphabetically by scientific name within each group. The following information is presented for each species on the list.

Scientific Name. Taxonomy and nomenclature of vascular plants (dicots, monocots, gymnosperms, ferns, and fern allies) generally follow A.S. Weakley, L.E. Anderson, M.L. Hicks, and J.A. Kartesz's *A Checklist of the Vascular Flora and Bryophytes of North Carolina* (in prep.) and J.T. Kartesz's *A Synonymized Checklist and Atlas with Biological Attributes for the Vascular Flora of the United States, Canada, and Greenland. First Edition.* (In: Kartesz, J.T., and C.A. Meacham. *Synthesis of the North American Flora, Version 1.0.* North Carolina Botanical Garden, Chapel Hill, NC. Copyright c 1999). Scientific authorities for names have been omitted to save space, but follow Weakley et al. (in prep.) and Kartesz (1999). Where these differ from the treatment in A.E. Radford, H.E. Ahles, and C.R. Bell's *Manual of the Vascular Flora of the Carolinas* (1968), the name used in that work is indicated in brackets. In a small number of cases, other commonly used synonymy is also indicated. If the species was not treated in Radford, Ahles, and Bell and cannot be identified using that manual, the notation "[not in RAB]" follows the scientific name. If the species is treated in Radford, Ahles, and Bell, but was not indicated as occurring in North Carolina, the notation "[not in NC in RAB]" follows the scientific name. Taxonomy and nomenclature of nonvascular plants (mosses, liverworts, hornworts, and lichens) generally follow L.E. Anderson, H.A. Crum, and W.R. Buck's *List of the Mosses of North America North of Mexico* (Bryologist 93: 448-499 [1990]), L.E. Anderson's *A Checklist of Sphagnum in North America North of Mexico* (Bryologist 93: 500-501 [1990]), H.A. Crum and L.E. Anderson's *Mosses of Eastern North America* (1981), R. Schuster's *The Hepaticae and Anthocerotae of North*

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[1] includes species, as well as valid unique varieties and subspecies

America east of the Hundredth Meridian (1966, 1969, 1974, 1980, and 1992), M.L. Hicks's *Liverworts of the Mountains of North Carolina* (1982), M.L. Hicks's *Guide to the Liverworts of North Carolina* (1992), M.L. Hicks and P.G. Davison's *Some Rare, Endemic, and Disjunct Liverworts in North Carolina* (Castanea 54: 255-261 [1989]), R.S. Egan's *A Fifth Checklist of the Lichen-forming, Lichenicolous and Allied Fungi of the Continental United States and Canada* (Bryologist 90: 77-173 [1987]), M.E. Hale's *How to Know the Lichens, Second Edition* (1979) and Brodo, Sharnoff and Sharnoff *Lichens of North America* (2001).

Common Name. A common name is provided for the convenience of the user. Common names for plants are not standardized, and many plants have no entirely satisfactory common name.

North Carolina Status. Endangered, Threatened, and Special Concern species have legally protected status in North Carolina through NC PCP. NC NHP maintains computer and map files on Endangered, Threatened, Candidate, and Significantly Rare species; paper files are maintained on Watch List species.

STATUS CODE	STATUS	DEFINITION
E	Endangered	"Any species or higher taxon of plant whose continued existence as a viable component of the State's flora is determined to be in jeopardy" (GS 19B 106: 202.12). (Endangered species may not be removed from the wild except when a permit is obtained for research, propagation, or rescue which will enhance the survival of the species.)
T	Threatened	"Any resident species of plant which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range" (GS 19B 106:202.12). (Regulations are the same as for Endangered species.)
SC	Special Concern	"Any species of plant in North Carolina which requires monitoring but which may be collected and sold under regulations adopted under the provisions of [the Plant Protection and Conservation Act]" (GS 19B 106:202.12). (Special Concern species which are not also listed as Endangered or Threatened may be collected from the wild and sold under specific regulations. Propagated material only of Special Concern species which are also listed as Endangered or Threatened may be traded or sold under specific regulations.)
SR	Significantly Rare	Species which are rare in North Carolina, generally with 1-100 populations in the state, generally substantially reduced in numbers by habitat destruction (and sometimes also by direct exploitation or disease).
-L	Limited	The range of the species is **limited** to North Carolina and adjacent states (endemic or near endemic). These are species which may have 20-50 populations in North Carolina, but fewer than 50 populations rangewide. The preponderance of their distribution is in North Carolina and their fate depends largely on conservation here. Also included are some species with 20-100 populations in North Carolina, if they also have only 50-100 populations rangewide and declining.
-T	Throughout	These species are rare **throughout** their ranges (fewer than 100 populations total)
-D	Disjunct	The species is **disjunct** to NC from a main range in a different part of the country or world.
-P	Peripheral	The species is at the **periphery** of its range in NC. These species are generally more common somewhere else in their ranges, occurring in North Carolina peripherally to their main ranges, mostly in habitats which are unusual in North Carolina.

-O	Other	The range of the species is sporadic or cannot be described by the other Significantly Rare categories
W	Watch List	Any other species believed to be rare and of conservation concern in the state but not warranting active monitoring at this time (see the Watch List section for a more complete discussion).
P_	Proposed	A species which has been formally proposed for listing as Endangered, Threatened, or Special Concern, but has not yet completed the legally mandated listing process.

United States Status is designated by the U.S. Fish and Wildlife Service (U.S. FWS) and the U.S. National Marine Fisheries Service in accordance with the U.S. Endangered Species Act of 1973, as amended (U.S. ESA). Plants and plant varieties, (including fungi and lichens), animal species and subspecies, and vertebrate populations are considered for Endangered or Threatened status according to the criteria established under the U.S. ESA. Proposals and determinations to add taxa or populations to the Lists of Endangered and Threatened Wildlife and Plants are published in the Federal Register. Additionally, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service periodically publish a Notice of Review or Notice of Reclassification in the Federal Register that present an updated list of plant and animal taxa which are regarded as candidates or proposed for possible addition to the Lists of Endangered and Threatened Wildlife and Plants.

STATUS CODE	STATUS	DEFINITION
E	Endangered	A taxon "in danger of extinction throughout all or a significant portion of its range" (Endangered Species Act, Section 3).
T	Threatened	A taxon "likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range (Endangered Species Act, Section 3).
C	Candidate	"Taxa for which the [Fish and Wildlife] Service has on file enough substantial information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened. Proposed rules have not yet been issued because this action is precluded at present by other listing activity. Development and publication of proposed rules on these taxa are anticipated. The Service encourages State and other Federal agencies as well as other affected parties to give consideration to these taxa in environmental planning.Š (*Federal Register*, February 28, 1996). Taxa formerly considered as -Category 1' are now considered as -Candidate˜.
FSC	(Federal) Species of Concern	™. the Service is discontinuing the designation of Category 2 species as candidates in this notice. The Service remains concerned about these species but further biological research and field study are needed to resolve the conservation status of these taxa. Many species of concern will be found not to warrant listing, either because they are not threatened or endangered or because they do not qualify as species under the definition in the [Endangered Species] Act. Others may be found to be in greater danger of extinction than some present candidate taxa. The Service is working with the States and other private and public interests to assess their need for protection under the Act. Such species are the pool from which future candidates for listing will be drawn.Š (*Federal Register*, February 28, 1996).

P_	Proposed	"Taxa already proposed to be listed as "endangered or threatened. Taxa formally proposed as endangered or threatened receive some legal protection. Species listed as proposed candidates are species which are in the process of being added to the federal candidate list.

North Carolina Rank. North Carolina ranks are based on NatureServe and The Nature Conservancy's (TNC) system of measuring rarity and threat status. This system is now widely used by other agencies and organizations, as the best available scientific and objective assessment of a species' rarity at the state level.

RANK	NUMBER OF EXTANT POPULATIONS	DESCRIPTION
S1	1-5	Critically imperiled in North Carolina because of extreme rarity or because of some factor(s) making it especially vulnerable to extirpation (local extinction) from the state.
S2	6-20	Imperiled in North Carolina because of rarity or because of some factor(s) making it very vulnerable to extirpation from the state.
S3	21-100	Rare or uncommon in North Carolina.
S4	100-1000	Apparently secure in North Carolina, with many occurrences.
S5	1000+	Demonstrably secure in North Carolina.
SA	--	Accidental in state.
SH	0?	Of historical occurrence in North Carolina, perhaps not having been verified in the past 20 years, and suspected to be still extant.
SR	--	Reported from North Carolina, but without persuasive documentation which would provide a basis for either accepting or rejecting the report.
SX	0	Apparently extirpated from North Carolina.
SU	--	Possibly in peril in North Carolina but status uncertain; need more information.
S?	--	Unranked, or rank uncertain.
SE	--	Believed to be introduced in the state.

A rank involving two numbers indicates uncertainty of rank. For instance, a S2S3 rank indicates that the species may be a S2 or a S3, but that existing data do not allow that determination to be made.

Global Rank. Similar to North Carolina ranks, global ranks are assigned by a consensus of scientific experts, the various natural heritage programs, NatureServe, and TNC. They apply to the status of a species throughout its range, and are based on data on the species' status rangewide. This system is now widely used by other agencies and organizations, as the best available scientific and objective assessment of a species' rarity throughout its range.

RANK	NUMBER OF EXTANT POPULATIONS	DESCRIPTION
G1	1-5	Critically imperiled globally because of extreme rarity or because of some factor(s) making it especially vulnerable to extinction.
G2	6-20	Imperiled globally because of rarity or because of some factor(s) making it very vulnerable to extinction throughout its range.

G3	21-100	Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g., a single physiographic region) or because of other factors making it vulnerable to extinction throughout its range.
G4	100-1000	Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.
G5	1000+	Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
GH	0?	Of historical occurrence throughout its range, i.e., formerly part of the established biota, with the expectation that it might be rediscovered.
GX	0	Believed to be extinct throughout its range (e.g., passenger pigeon) with virtually no likelihood that it will be rediscovered.
GU	--	Possibly in peril range-wide, but status uncertain; need more information.
G?	--	Unranked, or rank uncertain.
G_Q	œ	Questionable taxonomic assignment.
T_	--	The rank of a subspecies or variety. As an example, G4T1 would apply to a subspecies of a species with an overall rank of G4, but the subspecies warranting a rank of G1.

A rank involving two numbers indicates uncertainty of rank. For instance, a G2G3 rank indicates that the species may be a G2 or a G3, but that existing data do not allow that determination to be made.

Physiographic Province. The provinces in which the species is known to occur are indicated. This should not be regarded as the only province(s) of the state in which the species could occur; our knowledge of the flora of North Carolina is still very imperfect. The provinces are abbreviated as follows:

M	Mountains (Blue Ridge)	All parts of North Carolina west of the foot of the Blue Ridge Escarpment.
P	Piedmont	All parts of North Carolina east of the foot of the Blue Ridge Escarpment and west of the Fall Line, including outlying "foothill" ranges, such as the Brushy, Uwharrie, and Sauratown Mountains. This province is shallowly underlain by crystalline metamorphic, igneous, or (rarely) consolidated sedimentary rocks.
S	Sandhills	Portions of Cumberland, Harnett, Hoke, Lee, Moore, Richmond, Scotland, and Montgomery counties consisting mostly of deep aeolian sands of the Middendorf and Pinehurst formations (Cretaceous to Tertiary age). The Sandhills are really part of the coastal plain but are here distinguished because of their distinctive geomorphology and vegetation. Areas somewhat resembling the Sandhills region but occurring in other parts of the state (such as Carolina bay rims and aeolian or beach ridge deposits in the outer Coastal Plain) are considered part of the Coastal Plain Province.
C	Coastal Plain	All parts of North Carolina east of the fall line, excluding the Sandhills, generally consisting of unconsolidated sands, silts, clays, and peats, though rarely shallowly underlain by consolidated coquina limestone ("marl").
T	Tidewater	That part of the state associated with tidal water such as the ocean and barrier islands, sounds, estuaries and mainland brackish or salt marshes.

Habitat. The known habitats are described; as with provinces, these should not be regarded as the only possible habitats of the species in the state.

Counties of known occurrence. Following the description of habitats is a listing of the known counties of occurrence. Counties with historic populations (not seen since 1979) are marked with an asterisk (*) and counties with obscure or undatable records are marked with a cross (+). If there is some question as to the validity of the county report, it is marked with a question mark (?). The botanical exploration of North Carolina is far from complete, and many additional county records will be found, generally (but not always) in proximity to counties listed. Most species which do not have county of occurrence information listed are new to the rare list and county status information had not been compiled at the time of publication. Visit the Natural Heritage Program website for the most up-to-date county occurrence information.

Vascular Plants

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Abies fraseri M: spruce-fir forests	Fraser Fir	SR-L	FSC	S2	G2
Aconitum reclinatum M: rich coves, seepage slopes, boulderfields, rocky stream banks, mainly associated with mafic rocks (Ashe, Avery, Buncombe, Caldwell+, Graham, Haywood, Macon*, Mitchell, Transylvania*, Watauga, Yancey)	Trailing Wolfsbane	SR	-	S3	G3
Adiantum capillus-veneris C: coquina limestone (marl) outcrops, also adventitious on mortar of old stone walls in Wilmington, New Hanover County (Columbus)	Venus Hair Fern	E	-	S1	G5
Adlumia fungosa M: coves and cliffs (Alleghany*, Buncombe, Haywood, Henderson, Jackson*, Macon*, Madison, Yancey)	Climbing Fumitory	SR-P	-	S2	G4
Aeschynomene virginica TC: freshwater to slightly brackish tidal marshes and wet ditches (Beaufort, Craven*, Hyde, Lenoir*)	Sensitive Jointvetch	E	T	S1	G2
Agalinis aphylla CS: wet savannas and sandhill/pocosin ecotones (Brunswick, Carteret, Columbus, Craven, Cumberland, Duplin+, Harnett, Hoke, Jones+, New Hanover+, Onslow, Pender, Richmond)	Scale-leaf Gerardia	SR-P	-	S3	G3G4
Agalinis virgata CS: savannas (Brunswick, Carteret, Craven, Duplin+, Marlboro, SC, New Hanover, Onslow, Pender, Scotland)	Branched Gerardia	SR-P	-	S2	G3G4Q
Agastache nepetoides P: oak--hickory forests, especially over mafic rocks	Yellow Giant-hyssop	SR-T	-	S1	G5
Agrostis mertensii M: high elevation rocky summits and balds (Avery, Mitchell*, Yancey*)	Arctic Bentgrass	E	-	S1	G5
Allium cuthbertii PM: low elevation granitic domes and other rocky sites with circumneutral soils (Alexander, Chatham+, Madison*, Wilkes)	Striped Garlic	SR-T	-	S1	G3
Allium sp 1	Savanna Onion	SR-L	FSC	S1	G1

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
C: wet savannas (Brunswick, Onslow, Pender)					
Alnus viridis ssp crispa M: balds (Avery, Mitchell)	Green Alder	SR-D	-	S1	G5T5
Amaranthus pumilus T: ocean beaches and island-end flats (Brunswick, Carteret, Currituck, Dare, Hyde, New Hanover, Onslow, Pender)	Seabeach Amaranth	T	T	S2	G2
Amelanchier sanguinea M: thin soils around mafic rock outcrops at lower and middle elevations (Buncombe, Burke, Haywood, Henderson, Jackson, McDowell, Rutherford)	Roundleaf Serviceberry	SR-P	-	S2	G5
Amorpha georgiana var *confusa* C: wet savannas (Bladen*, Brunswick, Columbus, New Hanover*)	Savanna Indigo-bush	T	FSC	S2	G3T2
Amorpha georgiana var *georgiana* CS: moist sandhill areas and sandy terraces (Cumberland, Harnett, Hoke, Lee, Lenoir*, Moore, Pender, Richmond*, Robeson*, Scotland)	Georgia Indigo-bush	E	FSC	S2	G3T2
Amorpha schwerinii P: dry forests (Anson, Burke, Catawba, Cleveland*, Davidson, Gaston, Iredell*, Montgomery, Randolph, Rowan, Rutherford, Stanly)	Piedmont Indigo-bush	SR-T	-	S3	G3
Ampelaster carolinianus C: wet sites (Bladen*)	Climbing Aster	SR-P	-	SH	G5
Amphicarpum muehlenbergianum C: clay-based Carolina bays (Hoke, Robeson, Scotland)	Florida Goober Grass	SR-P	-	S1	G4
Andropogon mohrii C: wet savannas (Brunswick, Columbus, Craven, Onslow, Pender, Robeson*, Washington*)	Bog Bluestem	SR-P	-	S1	G4?
Anemone berlandieri P: thin soils around rock outcrops (Alexander, Anson*, Mecklenburg*, Montgomery, Orange, Polk*, Rowan, Stanly)	Southern Anemone	SR-P	-	S1	G4?
Anemone caroliniana P: clayey woodlands over mafic rocks (Mecklenburg)	Prairie Anemone	SR-P	-	S1	G5
Arabis glabra M: mountain forests (Avery, Madison*, Watauga*)	Tower-mustard	SR-P	-	S1	G5
Arabis hirsuta var *adpressipilis* PM: thin soils around basic rock outcrops (Alexander, Buncombe)	Hairy Rockcress	SR-P	-	S1	G5T4Q
Arabis missouriensis P: thin soils around basic rock outcrops (Anson, Stanly)	Missouri Rockcress	SR-P	-	S1	G4G5Q
Arabis patens M: thin soils around limestone and nutrient-rich seepage from amphibolite (Madison, Rutherford, Swain)	Spreading Rockcress	SR-T	-	S1	G3

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Arenaria lanuginosa ssp lanuginosa TC: maritime grasslands and forests, other sandy sites, shell middens, coquina limestone (marl) outcrops	Spreading Sandwort	SR-P	-	S2	G5T5
Arethusa bulbosa M: bogs (Alleghany, Ashe*, Avery, Forsyth+, Henderson*, Transylvania)	Bog Rose	E	-	S1	G4
Arisaema triphyllum ssp stewardsonii M: bogs (Alleghany, Avery, Henderson*, Jackson, Macon, McDowell, Transylvania, Watauga*)	Bog Jack-in-the-pulpit	SR-P	-	S1	G5T4
Aristida condensata C: sandy woods and fields	Piedmont Three-awn Grass	W3	-	S1	G4?
Aristida simpliciflora C: wet savannas (Brunswick, Columbus, Pender)	Chapman's Three-awn	SR-T	-	S1	G3G4
Arnoglossum ovatum C: wet savannas (Bladen*, Brunswick, Columbus, Jones, Onslow, Pender)	Savanna Indian-plantain	SR-P	-	S2	G4G5
Asclepias pedicellata C: dry savannas and moist flatwoods (Bladen*, Brunswick, Carteret, Columbus, New Hanover, Onslow, Pender, Sampson)	Savanna Milkweed	SR-P	-	S2	G4
Asclepias purpurascens PMC: swamps, bottomlands, edges of moist woods	Purple Milkweed	SR-T	-	S1?	G4G5
Asplenium bradleyi PM: acidic rock outcrops and cliffs (Burke, Cleveland*, Gaston, McDowell, Orange, Polk, Stokes*)	Bradley's Spleenwort	SR-P	-	S1	G4
Asplenium heteroresiliens C: coquina limestone outcrops (Bladen*, Craven, Jones, Onslow*)	Carolina Spleenwort	E	FSC	S1	G2Q
Asplenium monanthes M: outcrops near waterfalls in escarpment gorges (Transylvania)	Single-sorus Spleenwort	E	-	S1	G4
Asplenium pinnatifidum PM: acidic rock outcrops and cliffs (Madison*, Rutherford, Wilkes)	Lobed Spleenwort	SR-P	-	S1	G4
Asplenium ruta-muraria M: limestone outcrops (Burke, Madison, McDowell)	Wall-rue Spleenwort	SR-P	-	S1	G5
Astilbe crenatiloba M: cove forests (Avery*, Mitchell*)	Roan False Goat's-beard	SR-T	FSC	SH	GHQ
Astragalus michauxii SC: sandhills (Bladen*, Cumberland, Harnett, Hoke, Moore, New Hanover*, Pender, Richmond, Robeson*, Sampson, Scotland)	Sandhills Milk-vetch	T	FSC	S3	G3
Baccharis glomeruliflora T: shrubby areas on margins of brackish marshes (Brunswick*)	Silverling	SR-P	-	SH	G4
Bacopa caroliniana C: Shallow ponds, marshes, natural lakes, and tidal creeks (Brunswick, Columbus, New Hanover*, Pender*)	Blue Water-hyssop	SR-P	-	S1	G4G5
Bacopa innominata C: tidal freshwater marshes (Chowan*, New Hanover+, Pender+)	Tropical Water-hyssop	SR-P	-	SH	G3G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Balduina atropurpurea C: savannas (Brunswick*)	Purple-disk Honeycomb-head	SR-T	FSC	SH	G2G3
Baptisia alba PCS: open woodlands, clearings (Anson, Cabarrus, Davidson, Johnston, Montgomery, Stanly)	Thick-pod White Wild Indigo	SR-P	-	S2	G5
Baptisia albescens PS: open woodlands, clearings (Anson*, Burke, Chatham*, Cleveland, Iredell*, McDowell*, Mecklenburg*, Montgomery, Moore*, Person*, Polk*, Richmond, Rockingham*, Rowan*, Rutherford*, Stanly*, Stokes, Surry*, Transylvania*, Union)	Thin-pod White Wild Indigo	SR-P	-	S2	G4
Baptisia bracteata var *bracteata* P: open woodlands (McDowell*)	Creamy Wild Indigo	SR-P	-	SH	G4G5T4?
Baptisia minor var *aberrans* P: glades and open forests on basic soils (Cabarrus*, Caswell*, Durham, Granville, Orange+, Person*, Stanly)	Prairie Blue Wild Indigo	T	-	S2	G5T4
Berberis canadensis PM: open forests and glades on basic soils (Alamance*, Alexander*, Buncombe*, Durham, Granville, Guilford*, Haywood*, Iredell*, Madison, McDowell, Orange*, Person*, Randolph*, Rockingham, Rutherford, Swain*, Transylvania*)	American Barberry	SR-T	-	S2	G3
Betula cordifolia M: high elevation forests and landslide scars (Yancey)	Mountain Paper Birch	SR-D	-	S2	G5
Bidens coronata CT: brackish marshes (Beaufort*, Chowan*, Craven*)	Crowned Beggar-ticks	SR-P	-	SH	G5
Botrychium jenmanii MP: moist woods (Buncombe*, Burke, Cherokee*, Clay*, Iredell*, Jackson*, McDowell, Mecklenburg*, Rockingham+, Rutherford, Stokes*, Transylvania*)	Alabama Grape-fern	SR-P	-	S1	G3G4
Botrychium lanceolatum var *angustisegmentum* MP: cove forests (Burke, Macon*)	Lance-leaf Moonwort	SR-P	-	S1	G5T4
Botrychium matricariifolium MP: cove forests (Avery, Burke, Jackson, Swain*, Yancey)	Daisy-leaf Moonwort	SR-P	-	S1	G5
Botrychium multifidum M: grassy balds ()	Leathery Grape-fern	SR-P	-	SH	G5
Botrychium oneidense MP: cove forests, bogs (Avery*, Buncombe*, Burke, Forsyth+, Haywood*, Jackson, McDowell, Mitchell*, Yancey*)	Blunt-lobed Grape-fern	SR-P	-	S1	G4Q
Botrychium simplex var *simplex* M: open, grassy sites (Haywood, Jackson, Transylvania*)	Least Moonwort	SR-P	-	S1	G5T5
Brachyelytrum septentrionale M: northern hardwood forests (Ashe*, Avery*, Clay, Graham, Haywood*, Jackson, Macon, Swain, Transylvania)	Northern Shorthusk	SR-P	-	S3	G4G5

Scientific Name / Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Bromus ciliatus M: high elevation moist woods and seeps (Ashe, Mitchell+, Watauga)	Fringed Brome	SR-P	-	S1	G5
Buchnera americana MPS: glades, open forests, streambanks, probably primarily over mafic or calcareous rocks (Cumberland*, Orange*, Polk*, Sampson*, Wake*)	American Bluehearts	SR-P	-	SH	G5?
Buckleya distichophylla M: bluffs, dry slopes, forests on lower slopes (Buncombe, Haywood, Macon, Madison, Mitchell, Swain+)	Piratebush	E	FSC	S2	G2
Bulbostylis warei T: open sites (Brunswick*)	Ware's Hair Sedge	SR-P	-	SH	G3G4
Calamagrostis cainii M: high elevation rocky summits (Buncombe, Yancey)	Cain's Reed Grass	E	FSC	S1	G1
Calamagrostis canadensis M: high elevation openings (Alleghany*, Ashe, Avery, Haywood*, Jackson*, Mitchell*, Watauga*)	Canada Reed Grass	SR-P	-	S1	G5
Calamagrostis porteri M: middle elevation ridgetop forests (Clay, Jackson, Rutherford, Surry, Transylvania*)	Porter's Reed Grass	SR-P	-	S1	G4
Calopogon multiflorus C: savannas (Onslow)	Many-flower Grass-pink	E	FSC	S1	G2G3
Caltha palustris M: boggy sites (Alleghany, Ashe*, Avery*, Buncombe*, Madison*, Watauga, Yancey*)	Marsh-marigold	SR-P	-	S1	G5
Calystegia catesbeiana ssp sericata MP: open, sunny sites (Burke, Clay, Cleveland, Henderson, Jackson, Macon, Polk, Rutherford, Transylvania)	Blue Ridge Bindweed	SR-T	-	S3	G3T2T3Q
Camassia scilloides CP: rich levees, slopes, and bottomlands (Northampton*, Vance)	Wild Hyacinth	T	-	S1	G4G5
Campanula aparinoides M: bogs and other wet, open sites (Alleghany, Ashe, Avery, Burke, Clay+, Haywood+, Henderson, Jackson, Mitchell+, Transylvania*, Wilkes+, Yancey)	Marsh Bellflower	SR-P	-	S2	G5
Campanula rotundifolia M: high elevation rocky summits (Ashe)	Bluebells	SR-P	-	S1	G5
Cardamine clematitis M: high elevation seeps, shaded outcrops, and streambanks (Avery, Caldwell, Graham, Haywood, Jackson, Mitchell, Swain*, Watauga, Yancey*)	Mountain Bittercress	SR-T	FSC	S2	G2G3
Cardamine dissecta PM: rich woods, cove forests, bottomlands (Anson, Davidson, Durham, Guilford*, Mecklenburg*, Montgomery, Randolph, Rowan+, Rutherford*)	Dissected Toothwort	SR-P	-	S2	G4?

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Cardamine douglassii P: bottomlands, rich lower slopes (Cumberland, Durham, Granville, Harnett, Northampton, Orange+, Wake)	Douglass's Bittercress	SR-P	-	S2	G5
Cardamine longii C: tidal marshes and tidal cypress-gum forests (Craven*, New Hanover, Pender)	Long's Bittercress	SR-T	-	S1	G3
Cardamine micranthera P: seeps, streamside sandbars, and floodplain depressions (Forsyth*, Stokes)	Small-anthered Bittercress	E	E	S1	G1
Cardamine rotundifolia MP: seeps, banks of mountain brooks (Ashe, Mitchell, Stokes, Watauga)	Mountain Watercress	SR-P	-	S1	G4
Carex aenea M: grassy balds (Avery, Mitchell)	Bronze Sedge	E	-	S1	G5
Carex argyrantha M: wet meadows (Ashe*)	Hay Sedge	SR-P	-	SH	G5
Carex barrattii MS: bogs, open wet areas (Harnett*, Henderson*)	Barratt's Sedge	E	-	SH	G4
Carex biltmoreana M: granitic domes and other cliffs and outcrops (Buncombe, Haywood, Henderson, Jackson, Macon, Polk, Rutherford, Transylvania)	Biltmore Sedge	SR-L	-	S3	G3
Carex bushii PM: open wet areas (Ashe*, Durham*, Granville*, Johnston*, Nash*, Orange, Rowan*)	Bush's Sedge	SR-P	-	S1	G4
Carex buxbaumii MP: bogs and fens (Alleghany, Ashe, Forsyth*, Henderson, Watauga, Yancey*)	Brown Bog Sedge	SR-P	-	S1	G5
Carex calcifugens C: mesic deciduous forests and maritime woodlands	Calcium-fleeing Sedge	SR-T	-	S2?	G2G4
Carex canescens ssp disjuncta CS: open wet areas (Hoke, Richmond, Scotland, Tyrrell)	Silvery Sedge	SR-P	-	S1	G5T4?
Carex careyana M: rich cove forests (Jackson)	Carey's Sedge	SR-P	-	S1	G5
Carex cherokeensis MP: floodplains (Cherokee*, Pender, Polk)	Cherokee Sedge	SR-P	-	S1	G4G5
Carex communis var *amplisquama* M: rich woods (Henderson)	Fort Mountain Sedge	SR-T	FSC	S1	G3
Carex conoidea M: bogs (Ashe*, Iredell+)	Cone-shaped Sedge	T	-	S1	G5
Carex cristatella M: grassy balds, bogs (Jackson*, Swain*)	Small-crested Sedge	SR-P	-	SH	G5
Carex crus-corvi C: swamp forests (Columbus, Edgecombe*, Martin*, Pitt*)	Crowfoot Sedge	SR-P	-	S1	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Carex decomposita C: blackwater swamp forests (Brunswick, Cumberland, New Hanover*, Richmond, Warren*)	Cypress Knee Sedge	SR-T	-	S1	G3
Carex deflexa M: high elevation seepy forests	Short-stemmed Sedge	SR-D	-	S1	G5
Carex eburnea M: calcareous outcrops (Madison*)	Bristle-leaf Sedge	SR-P	-	S1	G5
Carex exilis S: seepage bogs (Cumberland, Harnett, Hoke, Moore*)	Coastal Sedge	T	-	S1	G5
Carex hitchcockiana M: moist to dryish forests over calcareous or mafic rocks (Buncombe, Jackson, Macon)	Hitchcock's Sedge	SR-P	-	S1	G5
Carex hormathodes C: marshes (Currituck)	Marsh Straw Sedge	SR-P	-	S1	G4G5
Carex impressinervia P: wet forests (Montgomery)	Ravine Sedge	SR-T	FSC	S1	G1G2
Carex jamesii PC: rich woods, especially over mafic rocks (Caswell*, Durham, Halifax*, Lee*, Northampton*)	James's Sedge	SR-P	-	S1	G5
Carex leptonervia M: rich cove forests and seepage slopes (Alleghany, Avery*, Buncombe, Clay*, Graham, Haywood*, Henderson, Jackson, Macon, Madison*, Swain*)	Finely-nerved Sedge	SR-P	-	S2	G4
Carex lupuliformis CP: moist bottomlands, especially in calcareous or mafic areas (Brunswick, Craven*, Forsyth*, Jones)	Hop-like Sedge	SR-P	-	S1	G4
Carex lutea C: savanna-swamp forest ecotones, over coquina limestone (Onslow, Pender)	Golden Sedge	E	E	S1	G1
Carex meadii PM: low wet places over diabase (Durham*, Granville)	Mead's Sedge	SR-P	-	S1	G4G5
Carex misera M: high elevation rock outcrops (Ashe, Avery, Buncombe, Clay, Cocke, TN*, Haywood, Henderson, Jackson, Macon, Mitchell, Sevier, TN*, Swain*, Transylvania, Unicoi, TN, Watauga, Yancey)	Wretched Sedge	SR-L	-	S3	G3
Carex oligocarpa M: rich woods, mostly over calcareous or mafic rocks	Rich-woods Sedge	SR-P	-	S2?	G4
Carex oligosperma M: seeps and bogs (Avery, Mitchell, Watauga)	Few-seeded Sedge	E	-	S1	G4
Carex pedunculata M: rich cove forests (Henderson, Polk, Transylvania)	Longstalk Sedge	SR-P	-	S1	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	 U.S.	Rank N.C.	 Global
Carex projecta CMP: bogs, marshes, swamps (Avery*, Cherokee*, Cumberland*, Iredell*, Madison, Mecklenburg*, Mitchell, Sevier, TN*, Swain*, Transylvania)	Necklace Sedge	SR-P	-	S1	G5
Carex purpurifera M: low elevation, rich forests over limestone or marble (Cherokee, Graham, Macon)	Purple Sedge	SR-P	-	S2	G4?
Carex radfordii M: rich cove forests in the Blue Ridge escarpment region (Jackson)	Radford's Sedge	E	FSC	S1	G2
Carex reniformis CP: swamps, open wet areas (Johnston*, Wake*)	Kidney Sedge	SR-P	-	SH	G4?
Carex roanensis M: forests (McDowell, Mitchell)	Roan Sedge		SR-T	-	S2 G2
Carex schweinitzii M: bogs and swamp forests (Henderson)	Schweinitz's Sedge	E	FSC	S1	G3
Carex socialis C: streambeds and riverbanks (Columbus, Cumberland, Pender)	Social Sedge	SR-P	-	S1	G4
Carex sp 2 M: seepage over mafic or ultramafic rocks (Alleghany)	Fen Sedge	SR-T	-	S1	G1
Carex sp 4 CS: pocosins, seepage slopes and bogs, and floodplains of blackwater streams	-	SR-L	-	S2	G2G3
Carex tenax S: xeric sandhills (Moore, Wayne*)	Wire Sedge	SR-P	-	S1	G5?
Carex tetanica C: bogs and swamps (Macon, Wake*, Warren*, Wilson+)	Rigid Sedge	SR-P	-	S1	G4G5
Carex trichocarpa M: marshy bogs (Ashe*, Haywood*)	Hairy-fruit Sedge	SR-P	-	SH	G4
Carex trisperma M: bogs, wet forests at high elevations (Avery, Buncombe+, Mitchell*, Swain*, Watauga)	Three-seeded Sedge	SR-P	-	S1	G5
Carex verrucosa CS: savannas and pinelands (Beaufort*, Brunswick, Columbus*, Cumberland*, Harnett*, Henderson, New Hanover*, Onslow)	Warty Sedge	SR-P	-	S1	G3G4
Carex vestita P: low woods (Durham*)	Velvet Sedge	SR-P	-	SH	G5
Carex willdenowii var *megarrhyncha* C: moist to wet forests over coquina limestone (marl) (Jones, Pender)	Southern Willdenow's Sedge	SR-T	-	S1	G5T3?
Carex woodii MPC: forested slopes, cove forests, and northern hardwoods (Alleghany*, Ashe, Avery, Clay, Henderson, Jackson, Jones+, Macon, Mitchell*, Orange*, Transylvania, Watauga*)	Wood's Sedge	SR-P	-	S2	G4

Scientific Name / Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Carya laciniosa C: brownwater river levees (Durham, Halifax)	Big Shellbark Hickory	SR-P	-	S1	G5
Carya myristiciformis C: wet marl forests (Pender)	Nutmeg Hickory	E	-	S1	G4
Caulophyllum giganteum M: cove forests (Alleghany*)	Northern Blue Cohosh	SR-P	-	S1	G4G5Q
Celastrus scandens MP: cove forests and rich woods	American Bittersweet	SR-P	-	S2?	G5
Ceratophyllum muricatum ssp australe CT: pools in maritime forests, possibly other natural depression wetlands (Carteret*, Chowan)	Southern Hornwort	SR-P	-	S1	G5T?
Chamaesyce cordifolia C: sandhills (Richmond*, Wayne*)	Heartleaf Sandmat	SR-P	-	SH	G5
Chamerion platyphyllum (Avery, Caldwell, Haywood, Mitchell, Yancey*)	Fireweed	SR-P	-	S1	G5T5
Chasmanthium nitidum C: blackwater bottomlands (Pender)	a spanglegrass	SR-T	-	S1	G3
Cheilanthes alabamensis M: calcareous outcrops (Madison)	Alabama Lip-fern	SR-P	-	S1	G4G5
Chelone cuthbertii MPC: bogs (Alleghany, Ashe, Avery*, Burke, Jackson, Macon*, McDowell, Transylvania, Yancey)	Cuthbert's Turtlehead	SR-L	FSC	S3?	G3
Chenopodium simplex M: shaded soil at bases of cliffs (Ashe*, Jackson*)	Giant-seed Goosefoot	SR-P	-	S1	G5
Chrysoma pauciflosculosa C: sandhills (Columbus, Cumberland, Robeson)	Woody Goldenrod	E	-	S1	G4G5
Cirsium carolinianum P: forests and disturbed areas, mostly on basic soils (Burke, Cabarrus*, Granville, Mecklenburg, Montgomery, Rowan*, Rutherford, Wake*, Wilkes+)	Carolina Thistle	SR-P	-	S1	G5
Cirsium lecontei C: savannas (Bladen*, Brunswick, Carteret, Columbus, Craven, Onslow, Pender)	Leconte's Thistle	SR-P	-	S2	G4G5
Cladium mariscoides CSMT: bogs, fens, brackish marshes, sandhill seepage bogs (Alleghany*, Ashe, Camden, Carteret, Columbus, Craven*, Cumberland, Currituck, Dare, Harnett, Hoke, Moore, Onslow, Pender, Watauga, Yancey*)	Twig-rush	SR-O	-	S2	G5
Clematis glaucophylla MP: habitat not known (Buncombe+, Stokes+, Surry+)	White-leaved Leatherflower	SR-P	-	SH	G4?
Clematis occidentalis M: rocky forests (Ashe, Buncombe)	Mountain Clematis	SR-P	-	S1	G5
Clinopodium georgianum SC: sandhills (Anson*, Brunswick, Pender, Richmond, Robeson*)	Georgia Calamint	SR-P	-	S1	G5
Coeloglossum viride var *virescens*	Long-bracted Frog Orchid	SR-P	-	S1	G5T5

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MP: seeps in cove forests (Ashe, Avery*, Buncombe*, Forsyth*, Haywood*, Jackson*)					
Coelorachis cylindrica	Carolina Jointgrass	SR-P	-	SH	G4G5
P: open woodlands and roadsides (Anson*, Union*)					
Collinsonia tuberosa	Piedmont Horsebalm	SR-P	-	S1	G3G4
PM: rich hardwood forests (Alamance*, Chatham, Guilford*, Henderson*, Montgomery, Orange*, Rutherford)					
Collinsonia verticillata	Whorled Horsebalm	SR-T	-	S2	G3
PM: cove forests (Polk)					
Conioselinum chinense	Hemlock-parsley	E	-	S1	G5
M: high elevation seepage slopes (Avery)					
Coptis trifolia ssp groenlandica	Goldthread	SR-P	-	S1	G5T5
M: bogs and moist, mossy forests (Alleghany)					
Coreopsis latifolia	Broadleaf Coreopsis	SR-T	-	S3	G3
M: cove forests and other rich woods (Avery, Buncombe, Carter, TN, Haywood, Henderson, McDowell, Mitchell, Polk, Rutherford, Yancey)					
Cornus asperifolia	Roughleaf Dogwood	SR-P	-	S1	G4
C: wet marl forests (Onslow, Pender)					
Corydalis micrantha ssp micrantha	Slender Corydalis	SR-P	-	S1	G5T4
PM: thin, circumneutral soils on rock outcrops or cliffs (Alexander, Jackson*, Madison)					
Crinum americanum	Swamp-lily	SR-P	-	SH	G5
C: tidal swamp forests, tidal marshes (New Hanover*)					
Croton monanthogynus	Prairie-tea Croton	SR-P	-	SH	G5
M: calcareous rock outcrops (Madison*)					
Cyperus dentatus	Toothed Flatsedge	SR-P	-	SH	G4
C: marshes (Brunswick*, Currituck*, Dare*)					
Cyperus granitophilus	Granite Flatsedge	SR-T	-	S1	G3Q
P: granite flatrocks, other rock outcrops (Alexander*, Forsyth*, Franklin, Granville, Wake, Yadkin*)					
Cyperus houghtonii	Houghton's Flatsedge	SR-P	-	SH	G4?
P: dry soil					
Cyperus lecontei	Leconte's Flatsedge	SR-P	-	S1	G4?
C: limesink ponds (Brunswick, New Hanover*, Onslow)					
Cyperus tetragonus	Four-angled Flatsedge	SR-P	-	S1	G4?
T: maritime forests and barrier island grasslands (Brunswick, Carteret*, Dare, New Hanover+, Onslow*, Pender)					
Cystopteris fragilis	Fragile Fern	SR-P	-	S1	G5
M: high elevation cliffs (Mitchell, Watauga)					
Cystopteris tennesseensis	Tennessee Bladder-fern	E-SC	-	S1	G5
CM: calcareous rock outcrops (Craven*, Graham*, Jones, Onslow*)					

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Cystopteris tenuis M: high elevation rocky summits, cliffs	Upland Bladder-fern	SR-P	-	S1	G4G5
Dalibarda repens M: bogs and moist woods under rhododendrons (Alleghany, Ashe, Transylvania)	Robin Runaway	E	-	S1	G5
Danthonia epilis S: seepage bogs (Cumberland, Harnett, Moore, Richmond, Scotland)	Bog Oatgrass	SR-T	FSC	S2?	G3?
Delphinium exaltatum MP: grassy balds, glades, woodlands, mostly over mafic rock (Alleghany*, Ashe, Avery*, Durham, Granville, Haywood, Jackson, McDowell+, Mecklenburg*, Mitchell*, Watauga)	Tall Larkspur	E-SC	FSC	S1	G3
Deschampsia cespitosa ssp glauca M: olivine barrens, high elevation outcrops of mafic rock (Clay)	Tufted Hairgrass	SR-P	-	S1	G5T5
Desmodium fernaldii SC: fields and open woods	Fernald's Tick-trefoil	SR-P	-	S1	G4
Desmodium ochroleucum P: sandy or rocky woodland openings (Davie*, Orange*, Swain*)	Creamy Tick-trefoil	SR-T	FSC	S1?	G2?
Desmodium sessilifolium P: open woodlands (Cabarrus*, Mecklenburg*)	Sessile Tick-trefoil	SR-P	-	SH	G5
Diarrhena americana M: rich cove forest (Jackson)	Eastern Beakgrass	SR-P	-	S1	G4?
Dicentra eximia MP: rock outcrops (Buncombe, Burke, Haywood, Macon*, Madison, Rutherford, Swain, Watauga*, Yancey)	Bleeding Heart	SR-P	-	S2	G4
Dichanthelium annulum CP: dry sandy or rocky open woods and borders of thickets (Chatham*, Davie*, Durham*, Mecklenburg+, Montgomery*, Orange*, Person*, Rowan*, Stokes*, Wake*)	a witch grass	SR-P	-	SH	G2G3
Dichanthelium caerulescens C: wet savannas with a calcareous influence (Brunswick*, Carteret, Dare*, Pender)	Blue Witchgrass	SR-T	-	S1	G2G3
Dichanthelium fusiforme CS: dry sandy pinelands and other clearings (Beaufort, Bladen+, Brunswick, Columbus+, Jones, Moore*, Onslow, Richmond*)	Spindle-fruited Witch Grass	SR-P	-	S1	G4G5T5?
Dichanthelium hirstii C: cypress savannas (Onslow)	Hirsts' Panic Grass	E	C	S1	G1
Dichanthelium sp 5 T: maritime wet grasslands (Brunswick, Carteret*, New Hanover*)	Nerve-flowered Witch Grass	SR-D	-	S1	G5?
Dichanthelium sp 9 C: wet meadows and ditches, streamside openings	-	SR-L	-	S2	G2G3
Didiplis diandra	Water Purslane	SR-P	-	S1	G5

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CS: sluggish streams and ponds (Edgecombe*, Harnett+, Hertford*, Johnston, Moore+, Nash, Perquimans*, Richmond, Wake*, Warren*)					
Diervilla rivularis M: forests (Yancey)	Riverbank Bush-honeysuckle	SR-T	-	S1	G3
Dionaea muscipula CST: savannas, seepage bogs, pocosin edges (Beaufort, Bladen, Brunswick, Carteret, Columbus, Craven, Cumberland, Duplin, Hoke, Jones*, Lenoir*, Moore*, New Hanover, Onslow, Pamlico*, Pender, Robeson*, Sampson)	Venus Flytrap	SR-L, SC	FSC	S3	G3
Dodecatheon meadia var *meadia* PM: rich, rocky woods, over mafic or calcareous rocks (Anson*, Buncombe, Davidson*, Haywood, Henderson, Iredell*, Jackson, Macon, Mecklenburg*, Orange*, Rutherford, Stanly, Watauga*)	Eastern Shooting Star	SR-P	-	S2	G5T5
Draba ramosissima MP: calcareous and mafic rock outcrops (Buncombe, Haywood, Jackson, Madison, Rutherford)	Branching Draba	SR-P	-	S2	G4
Draba reptans P: habitat not known (Lincoln*)	Creeping Draba	SR-P	-	SH	G5
Drosera filiformis C: clay-based Carolina bays, wet savannas, ditches (Bladen, Brunswick*, Columbus, Duplin*, Sampson)	Threadleaf Sundew	SR-P	-	S1	G4G5
Echinacea laevigata P: glades, woodlands, and open areas over mafic rocks (Durham, Granville, Mecklenburg, Montgomery*, Orange*, Rockingham)	Smooth Coneflower	E-SC	E	S1	G2
Echinacea purpurea M: open woods and clearings (Burke+, Jackson*, Madison, Polk*, Rutherford*, Yadkin)	Purple Coneflower	SR-P	-	S1	G4
Echinodorus tenellus C: drawdown zones of clay-based Carolina bays and blackwater rivers (Brunswick, Robeson)	Dwarf Burhead	SR-T	-	S1	G5?
Eleocharis atropurpurea C: clay-based Carolina bays	Purple Spikerush	SR-D	-	S1	G4G5
Eleocharis cellulosa CT: interdune ponds, brackish marshes & tidal freshwater marshes (Beaufort, Carteret, Dare*, Hyde, Onslow*, Washington)	Gulfcoast Spikerush	SR-P	-	S1	G4G5
Eleocharis elongata C: limesink ponds (Brunswick, Onslow)	Florida Spikerush	SR-P	-	S1	G5?
Eleocharis halophila CT: brackish and freshwater marshes (Dare, Hyde*)	Saltmarsh Spikerush	T	-	S1	G4

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Eleocharis montevidensis CT: maritime wet grassland (Currituck*, Onslow)	Sand Spikerush	SR-P	-	S1	G5
Eleocharis robbinsii C: limesink ponds, clay-based Carolina bays, peat-burn lakes, millponds, beaver ponds, artificial lakes (Bladen*, Brunswick*, Carteret, Craven*, Cumberland, Harnett, Hoke, Moore, New Hanover*, Onslow, Sampson, Scotland)	Robbins's Spikerush	SR-P	-	S2	G4G5
Eleocharis rostellata CT: brackish marshes, limesink ponds? (Beaufort*, Brunswick*, Camden, Carteret, Currituck, Dare, Hyde)	Beaked Spikerush	SR-O	-	S2	G5
Eleocharis vivipara C: bogs and pools	Viviparous Spikerush	SR-O	-	S1	G5
Elymus trachycaulus ssp trachycaulus M: olivine barrens (Clay)	Slender Wheatgrass	SR-P	-	S1	G5T5
Enemion biternatum PC: rich bottomlands, levees, and lower slopes (Cumberland, Durham, Franklin, Granville, Halifax*, Harnett, Lee, Northampton*, Orange*, Person*, Vance)	Eastern Isopyrum	SR-P	-	S2	G5
Epidendrum conopseum C: epiphytic on trees in blackwater river swamps (Columbus, New Hanover*, Pender*)	Green Fly Orchid	SR-P	-	S2	G4
Epilobium ciliatum M: seeps and bogs (Avery, Buncombe, Henderson, Jackson*, Macon*, Madison, Mitchell+, Swain*, Watauga, Yancey+)	Purpleleaf Willowherb	SR-P	-	S2	G5
Eriocaulon aquaticum CS: blackwater creeks, natural lakes, tidal freshwater marshes (Bladen+, Brunswick*, Columbus, Craven*, Cumberland, Hoke, Moore, Perquimans*, Tyrrell, Washington)	Seven-angled Pipewort	SR-P	-	S2	G5
Eriocaulon parkeri C: natural lakes (Hyde, Tyrrell*)	Estuary Pipewort	SR-T	-	S1	G3
Eriocaulon texense S: sphagnous bog (Cumberland, Richmond)	Texas Hatpins	SR-P	-	S1	G4
Eriogonum tomentosum C: sandhills	Southern Wild-buckwheat	SR-P	-	SH	G4G5
Erythrina herbacea TC: maritime forests (Brunswick, Carteret*, New Hanover)	Coralbean	SR-P	-	S1	G5
Eupatorium godfreyanum PM: woodlands, especially over mafic rocks (Caswell*, Durham, Granville*, Henderson*, McDowell, Orange*, Rutherford, Swain*, Vance*, Wake*)	Godfrey's Thoroughwort	SR-P	-	S1	G4
Eupatorium incarnatum PMC: rich woods and thin woodlands over diabase, calcareous rocks, other basic rocks, or rich alluvium	Pink Thoroughwort	SR-P	-	S2	G5

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(Alexander, Durham*, Madison, Martin*, Polk, Richmond, Warren*, Wilkes)					
Eupatorium leptophyllum C: limesink ponds and clay-based Carolina bays (Brunswick, Marlboro, SC, New Hanover, Scotland)	Limesink Dog-fennel	SR-P	-	S1	G4G5
Eupatorium resinosum SC: seepage bogs, beaver ponds, pondshores, shrub swamps (Bladen*, Cumberland, Harnett, Hoke, Moore, Sampson, Scotland)	Pine Barren Boneset	T-SC	-	S3	G3
Euphorbia commutata MP: thin soil around mafic or calcareous outcrops (Buncombe, Caswell*, Haywood)	Cliff Spurge	SR-P	-	S1	G5
Euphorbia mercurialina P: rich slopes over gabbro (Anson, Richmond)	Cumberland Spurge	SR-P	-	S1	G4
Euphorbia purpurea M: forests, especially over mafic rock (Ashe*, Buncombe, Clay, Graham, Haywood, Jackson, Macon, Madison, Mitchell, Swain*, Watauga+, Yancey)	Glade Spurge	SR-T	FSC	S2	G3
Eurybia avita M: thin soil around granitic outcrops (Transylvania*)	Alexander's Rock Aster	SR-T	FSC	SX	G3
Eurybia mirabilis P: rich slopes and bottomlands (Anson, Macon*, Mecklenburg, Richmond, Stanly, Union)	Piedmont Aster	SR-T	FSC	S2	G2G3
Eustachys glauca T: salt marshes	Saltmarsh Fingergrass	SR-P	-	SH	G4
Filipendula rubra M: bogs, wet meadows (Buncombe*, Haywood*, Macon, Watauga*, Yancey)	Queen-of-the-prairie	E	-	S1	G4G5
Fimbristylis perpusilla C: drawdown zones of blackwater rivers (Brunswick, Columbus)	Harper's Fimbry	T	FSC	S1	G2
Fothergilla major MP: dry ridgetop or bluff forests (Burke, Chatham, Gaston*, Montgomery, Orange, Polk*, Rutherford, Stanly, Stokes, Surry*, Transylvania)	Large Witch-alder	SR-T	-	S2	G3
Frasera caroliniensis M: deciduous forests (Cherokee*, Clay, Macon)	Columbo	SR-P	-	S2S3	G5
Gaillardia aestivalis S: sandhills (Cumberland*, Hoke, Moore*, Richmond, Scotland)	Sandhills Gaillardia	SR-P	-	S1	G5
Galactia mollis ST: sandhills (Brunswick*, Cumberland, Hoke, Richmond, Scotland, Wayne*)	Soft Milk-pea	SR-P	-	S2	G4G5
Gaylussacia brachycera P:dry ridges and slopes	Box Huckleberry	SR-D	-	S1	G3

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Gaylussacia nana C: coastal fringe sandhill (New Hanover)	Confederate Huckleberry	SR-P	-	S1	G4
Gelsemium rankinii C: floodplains of blackwater rivers and streams (Brunswick, Columbus, Cumberland*, New Hanover, Pender)	Swamp Jessamine	SR-P	-	S2	G5
Gentiana flavida M: habitat not known (Watauga*)	Yellow Gentian	SR-D	-	SH	G4
Gentianopsis crinita M: glades, serpentine barrens, open sites over basic rocks (Ashe, Clay, Macon+, Watauga)	Fringed Gentian	E-SC	-	S1	G5
Geum aleppicum M: bogs (Avery*, Swain*)	Yellow Avens	SR-P	-	S1	G5
Geum geniculatum M: high elevation forests, streambanks, seepage slopes (Avery, Caldwell, Mitchell, Watauga)	Bent Avens	T	FSC	S2	G2
Geum laciniatum var *trichocarpum* M: bogs (Avery, Wilkes*)	Rough Avens	SR-P	-	S1	G5T?
Geum radiatum M: high elevation rocky summits (Ashe, Avery, Buncombe, Burke*, Mitchell, Transylvania, Watauga, Yancey)	Spreading Avens	E-SC	E	S1	G1
Glyceria laxa M: seeps (Alleghany*, Henderson*, Macon*, Transylvania*)	Lax Mannagrass	SR-P	-	S1	G5
Glyceria nubigena M: high elevation seeps (Graham, Haywood, Swain*, Transylvania)	Smoky Mountain Mannagrass	T	FSC	S2	G2
Gnaphalium helleri var *helleri* PS: dry woodlands, openings, and glades, especially over mafic rocks (Anson*, Cabarrus, Davidson, Forsyth*, Franklin*, Granville, Guilford*, Halifax*, Hoke, Mecklenburg, Montgomery, Orange*, Person*, Rowan*, Scotland*, Union, Wake)	Heller's Rabbit Tobacco	SR-P	-	S2?	G4G5T3?
Gnaphalium helleri var *micradenium* P: dry woodlands (Caswell, Granville*, Person, Stokes*, Vance)	Small Rabbit Tobacco	SR-T	-	S1	G4G5T3?
Grammitis nimbata M: spray zone behind waterfalls (Macon)	West Indian Dwarf Polypody	E	FSC	S1	G4?
Gratiola aurea C: drawdown zones of blackwater rivers	Golden Hedge-hyssop	SR-O	-	S1	G5
Gratiola ramosa CS: savannas, boggy places, clay-based Carolina bays, other open, wet sites	Branched Hedge-hyssop	SR-P	-	S1	G4G5
Gymnocarpium appalachianum M: shaded and sheltered crevices on high elevation rocky summits (Ashe)	Appalachian Oak Fern	E	FSC	S1	G3
Hasteola suaveolens M: bottomlands (Buncombe+, Henderson*, Transylvania*)	Sweet Indian-plantain	SR-T	-	SH	G3

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Helenium brevifolium PMC: bogs, seeps, riverbanks, other wet sites (Brunswick*, Clay*, Henderson*, Iredell, Lenoir*, Montgomery, Rowan*, Wake*)	Littleleaf Sneezeweed	E	-	S1	G3G4
Helenium pinnatifidum C: savannas and open, wet, mucky sites (Bladen, Brunswick, Columbus, Lincoln*, New Hanover*, Pender, Robeson*)	Dissected Sneezeweed	SR-P	-	S2	G4
Helenium vernale C: savannas and adjacent ditches (Brunswick, Columbus)	Spring Sneezeweed	E	-	S1	G4?
Helianthemum bicknellii M: rock outcrops, glades, fens (Ashe*, Buncombe, Haywood, Jackson*, Macon*, Transylvania*)	Plains Sunrose	SR-P	-	SH	G5
Helianthemum carolinianum CS: sandhills, pinelands, dry savannas (Brunswick, Carteret*, Craven*, Cumberland*, Hoke, New Hanover, Pender, Robeson*, Wilson*)	Carolina Sunrose	SR-P	-	S1	G4
Helianthemum corymbosum TC: maritime forests (Brunswick, Carteret, Dare*)	Pinebarren Sunrose	SR-P	-	S1	G4G5
Helianthemum georgianum TC: maritime forests (Brunswick, Carteret*, Dare*, Hyde*, New Hanover)	Georgia Sunrose	SR-P	-	S1	G4
Helianthemum nashii C: coastal fringe sandhill (New Hanover)	Florida Scrub Frostweed	SR-D	-	S1	G3?
Helianthemum propinquum M: rock outcrops, glades (Alleghany, Ashe, Avery*, Buncombe, Clay, Forsyth*, Haywood, Henderson*, Rockingham*, Stokes*, Transylvania*, Watauga, Yancey)	Creeping Sunrose	SR-P	-	S1	G4
Helianthemum rosmarinifolium SC: disturbed habitats and roadsides	Rosemary Sunrose	SR-P	-	S2	G4
Helianthus floridanus C: savannas and pocosins	Florida Sunflower	SR-P	-	S1	G3G4
Helianthus laevigatus PM: shaly open woods and roadsides (Anson, Burke, Cleveland*, Davidson, Montgomery, Rowan, Rutherford, Stanly, Union)	Smooth Sunflower	SR-P	-	S2	G4
Helianthus occidentalis M: sandy bottomlands (Buncombe*)	Few-leaf Sunflower	SR-P	-	SX	G5
Helianthus schweinitzii P: open woods and roadsides (Anson, Cabarrus, Davidson, Gaston, Mecklenburg, Montgomery, Randolph, Rowan, Stanly, Stokes*, Surry, Union)	Schweinitz's Sunflower	E	E	S3	G3
Heliotropium curassavicum var *curassavicum* T: salt flats and salt marshes (Hyde*)	Seaside Heliotrope	SR-P	-	SH	G5T5
Helonias bullata M: bogs (Ashe, Henderson, Jackson, Transylvania)	Swamp Pink	T-SC	T	S2	G3

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Heteranthera multiflora C: open pools in brownwater or blackwater river floodplains (Bertie*, Martin*, Pasquotank*, Perquimans*, Washington)	Multiflowered Mud-plantain	SR-P	-	S1	G4
Hexalectris spicata PMC: dry or mesic woods on basic soils (Alleghany, Burke*, Cabarrus, Clay, Cumberland, Davidson*, Davie*, Durham*, Franklin*, Granville*, Hoke, Jackson*, Johnston*, Jones*, Macon, Madison*, Mecklenburg*, Orange, Polk*, Randolph, Rutherford, Stanly, Surry*)	Crested Coralroot	SR-P	-	S2	G5
Hexastylis contracta M: acidic forests under rhododendron (Buncombe, Henderson)	Mountain Heartleaf	E	FSC	S1	G3
Hexastylis lewisii PSC: forests, pocosin edges (Bladen, Burke*, Chatham, Cumberland*, Duplin*, Durham, Granville, Halifax, Harnett, Johnston, Lenoir*, Nash, Orange, Pender, Person, Sampson, Vance, Wake)	Lewis's Heartleaf	SR-L	-	S3	G4
Hexastylis naniflora P: rich deciduous forests, bluffs, and ravines (Alexander, Burke, Caldwell, Catawba, Cleveland, Lincoln, Polk, Rutherford)	Dwarf-flowered Heartleaf	T	T	S3	G3
Hexastylis rhombiformis MP: cove forests (Buncombe, Henderson, Polk, Transylvania)	French Broad Heartleaf	SR-L	FSC	S2	G2
Hibiscus aculeatus C: savannas (Carteret*, New Hanover*, Robeson*)	Comfortroot	SR-P	-	S1	G4G5
Hierochloe odorata M: bogs (Ashe, Macon)	Holy Grass	E	-	S1	G4G5
Hottonia inflata CPT: pools in black- or brown-water swamps, interdune ponds (Gates, Johnston, Martin*)	Water Violet	SR-O	-	S2	G4
Houstonia longifolia var *glabra* M: high elevation granitic domes, rarely other outcrops (Haywood, Henderson, Jackson, Macon, Madison, Transylvania)	Granite Dome Bluet	SR-L	-	S2	G4G5T2Q
Houstonia montana M: high elevation rocky summits, grassy balds (Ashe, Avery, Mitchell, Watauga, Yancey)	Roan Mountain Bluet	E	E	S2	G2
Hudsonia montana M: gorge rim outcrops, rocky summits, pine-oak/heath ridges (Burke, McDowell)	Mountain Golden-heather	E	T	S1	G1
Hudsonia tomentosa T: openings in maritime forest, blowouts, dunes and medaúos (Currituck, Dare)	Woolly Beach Heather	SR-P	-	S2	G5
Huperzia appalachiana	Appalachian Fir-clubmoss	SR-P	-	S2	G4G5

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M: high elevation rocky summits, seeps, fens (Ashe, Avery, Buncombe, Haywood, Jackson, Macon, McDowell, Mitchell, Rutherford, Transylvania, Watauga, Yancey)					
Huperzia porophila M: in spray zone of waterfalls (Jackson, Macon, Polk*, Rutherford, Transylvania)	Rock Fir-clubmoss	SR-P	-	S2	G4
Hydrastis canadensis MP: cove forests, other rich deciduous forests (Alleghany, Buncombe, Jackson, Macon, Madison*, Polk, Rockingham, Stokes, Swain, Watauga*)	Goldenseal	E-SC	-	S2	G4
Hydrophyllum macrophyllum M: rich woods, especially rocky calcareous forests and cliffs (Buncombe, Haywood, Jackson, Madison, Yancey)	Largeleaf Waterleaf	SR-P	-	S2	G5
Hymenocallis occidentalis M: wooded hillsides	Hillside Spider-lily	SR-P	-	SH	G4?
Hymenocallis pygmaea C: banks of blackwater rivers	Waccamaw River Spiderlily	SR-L	FSC	S2?	G2G3
Hymenophyllum tayloriae M: moist grottoes and spray cliffs in escarpment gorges with high rainfall (Jackson, Macon)	Gorge Filmy Fern	E	-	S1S2	G1G2
Hypericum adpressum C: boggy places (Halifax*, New Hanover*, Northampton*)	Bog St. John's-wort	SR-T	FSC	SH	G2G3
Hypericum fasciculatum C: beaver ponds, low pinelands, pools (Cumberland*, Hoke, Moore, New Hanover*)	Peelbark St. John's-wort	SR-D	-	S1	G5
Hypericum sp 1 P: thin soils around rock outcrops in the Brushy Mountains	Radford's St. John's-wort	SR-L	FSC	S2	G2
Hypericum sp 2 C: pine savannas over coquina limestone	a St. John's-wort	SR-L	FSC	S2	G2
Hypericum suffruticosum C: pine savannas (Bladen*, Sampson*)	Pineland St. John's-wort	SR-P	-	SH	G4G5
Hypoxis juncea C: savannas	Fringed Yellow Stargrass	SR-P	-	S1	G4?
Hypoxis rigida C: savannas	Stiff-leaved Yellow Stargrass	SR-P	-	S2	G4
Hypoxis sessilis CS: savannas, pinelands (Pender*)	Sessile Yellow Stargrass	SR-P	-	S1	G4
Ilex amelanchier CS: blackwater swamps and riverbanks, clay-based Carolina bays (Bladen, Brunswick, Columbus, Cumberland, Harnett+, Hoke, Montgomery, Pender, Richmond, Robeson, Sampson, Scotland)	Sarvis Holly	SR-P	-	S3	G4
Ilex collina M: bogs, wet streamsides, or high elevation forests (Swain, Watauga)	Long-stalked Holly	T	-	S1	G3

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Ilex longipes P: upland forests and woodlands (Anson*, Nash*, Wilson*)	Georgia Holly	SR-P	-	SH	G5
Ipomoea imperati T: sea beaches and foredunes (Brunswick, Carteret)	Beach Morning-glory	SR-P	-	S1	G5
Iris prismatica CM: bogs and marshes	Slender Blue Iris	SR-T	-	S1S2	G4G5
Isoetes microvela C: emergent riverbanks, calcareous influenced riverbanks (Brunswick, Jones, Onslow)	Quillwort	SR-L	FSC	S1	G1
Isoetes piedmontana P: granite flatrocks and diabase glades (Anson, Franklin, Granville, Rowan*, Rutherford, Wake*)	Piedmont Quillwort	T	-	S1	G3
Isoetes riparia C: tidal freshwater marshes and swamp forests (Craven*, Currituck*, Pender, Pitt*, Tyrrell*)	Riverbank Quillwort	SR-P	-	S1	G5?
Isoetes virginica P: upland depression swamp forests, clayey soils (Caswell*, Chatham*, Mecklenburg*, Person, Rowan*, Union*)	Virginia Quillwort	SR-L	FSC	S1	G1
Isotria medeoloides MPS: forests, especially with white pine (Burke, Cherokee, Haywood, Henderson, Jackson, Macon, McDowell, Rutherford, Surry*, Transylvania)	Small Whorled Pogonia	E	T	S1	G2
Iva microcephala C: clay-based Carolina bays (Marlboro, SC, Robeson, Scotland)	Small-headed Marsh Elder	SR-P	-	S1	G5
Jeffersonia diphylla M: rich cove forests, especially over calcareous rocks (Jackson)	Twin Leaf	SR-P	-	S1	G5
Juncus caesariensis M: seepage bog (Clay, Henderson)	Rough Rush (=New Jersey Rush)	E	FSC	S1	G2
Juncus trifidus M: high elevation rocky summits (Ashe, Buncombe, Mitchell)	Highland Rush	E	-	S1	G5
Juniperus communis var *depressa* MP: high elevation granitic domes, low elevation rocky summits (Buncombe*, Cleveland, Gaston, Macon)	Dwarf Juniper	SR-D	-	S1	G5T5
Kalmia cuneata CS: pocosins (Bladen, Craven*, Cumberland, Hoke, Moore, Pender, Richmond, Sampson, Scotland)	White Wicky	SR-L	-	S3	G3
Lachnocaulon minus CS: savannas, seeps (Brunswick, New Hanover, Onslow, Pender)	Brown Bogbutton	SR-P	-	S2	G3G4
Lechea maritima var *virginica* T: barren dunefields with Hudsonia tomentosa (Dare)	Maritime Pinweed	SR-T	-	S1	G5T3Q
Lechea torreyi CS: sandhills, savannas (Brunswick, Moore*, Pender)	Torrey's Pinweed	SR-P	-	S1	G4G5

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Leptochloa fascicularis var *maritima* CT: fresh to brackish tidal marshes (Brunswick, Currituck, Dare*, Hyde, Tyrrell)	Long-awned Spangletop	SR-O	-	S1	G5T3T4Q
Liatris aspera M: glades, open woods, fens (Ashe, Burke*, Cleveland, Henderson*, Jackson*, Macon*, McDowell*, Polk*, Rutherford, Transylvania*)	Rough Blazing Star	SR-P	-	S1	G4G5
Liatris helleri M: high elevation rocky summits, cliffs (Ashe, Avery, Burke, Caldwell, Mitchell*, Watauga)	Heller's Blazing Star	T-SC	T	S2	G2
Liatris microcephala M: rock outcrops, glades, dry woodlands (Macon*, Polk*, Rutherford)	Small-head Blazing Star	SR-P	-	S1	G3G4
Liatris squarrulosa PSM: diabase glades, open woods especially over mafic rocks; also sandhills (Cumberland, Durham, Graham, Granville, Harnett+, Hoke, Orange*, Richmond, Robeson, Rutherford, Scotland, Stokes+, Swain*)	Earle's Blazing Star	SR-P	-	S2	G4G5
Liatris turgida M: dry rocky woods (Buncombe*, Burke, Cleveland, Macon*, Polk*, Rutherford)	Shale-barren Blazing Star	SR-T	-	S2	G3
Lilaeopsis carolinensis TC: freshwater marshes, pools, tidal marshes (Brunswick, Camden, Currituck, Dare, Hyde, New Hanover, Pasquotank, Perquimans, Washington)	Carolina Grasswort	T	-	S3	G3G5
Lilium canadense ssp canadense M: bogs, wet meadows (Cabarrus, Watauga)	Yellow Canada Lily	SR-P	-	S1	G5T4?
Lilium canadense ssp editorum MP: bogs, wet meadows (Alleghany*, Avery*, Cabarrus, Graham, Henderson+, Rutherford+, Stanly*, Watauga*)	Red Canada Lily	SR-P	-	S1	G5T4
Lilium grayi M: bogs, wet meadows, seeps, grassy balds, high elevation forests (Alleghany, Ashe, Avery, Buncombe, Caldwell, Carter, TN, Henderson*, McDowell, Mitchell, Watauga, Yancey)	Gray's Lily	T-SC	FSC	S3	G3
Lilium philadelphicum var *philadelphicum* M: grassy balds, glades (Ashe, Avery, Haywood, Mitchell, Polk+, Swain*, Watauga, Yancey)	Wood Lily	SR-P	-	S1	G5T4T5
Lilium pyrophilum S: peaty seepage bogs (Cumberland, Harnett, Hoke, Lee, Moore, Nash*, Northampton*, Richmond, Scotland)	Sandhills Lily	E-SC	FSC	S2	G2
Limosella australis T: tidal marshes (Currituck)	Awl-leaf Mudwort	SR-P	-	S1	G4G5

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Lindera melissifolia C: Carolina bays, upland depressions, and other wet areas (Bladen*, Cumberland, Sampson)	Southern Spicebush	E	E	S1	G2
Lindera subcoriacea SP: streamhead pocosins, white cedar swamps, bogs (Anson*, Cumberland, Hoke, Johnston, Lee, Montgomery, Moore, Richmond, Robeson, Scotland, Wake)	Bog Spicebush	T	FSC	S2	G2
Linum floridanum var *chrysocarpum* C: pine savannas (Brunswick, Columbus, Pender)	Yellow-fruited Flax	SR-T	-	S1	G5?T3?
Linum sulcatum var *sulcatum* P: diabase glades (Granville*)	Glade Flax	SR-P	-	SH	G5T5
Liparis loeselii MT: seeps, bay swamps (Alleghany, Ashe+, Avery*, Dare, Jackson*, Rutherford*, Swain, Watauga*)	Fen Orchid	SR-P	-	S1	G5
Lipocarpha micrantha CT: drawdown zones of blackwater rivers, salt marshes (Columbus*, Dare*)	Small-flowered Hemicarpha	SR-O	-	S1	G4
Lithospermum canescens P: diabase glades, open woods over diabase (Durham, Granville)	Hoary Puccoon	SR-P	-	S1	G5
Litsea aestivalis C: limesink ponds, other pools (Bladen, Brunswick, Carteret, Craven, Cumberland, Gates, Hoke*, New Hanover, Onslow, Sampson, Wayne)	Pondspice	SR-T	FSC	S2	G3
Lobelia boykinii C: clay-based Carolina bays, wet pine savannas (Bladen*, Cumberland, Hoke, Marlboro, SC, Onslow, Scotland)	Boykin's Lobelia	T	FSC	S1	G2G3
Lonicera canadensis M: bogs, moist woods (Buncombe, Haywood, Jackson, Macon, Mitchell*, Watauga, Yancey*)	American Fly-honeysuckle	SR-P	-	S2	G5
Lonicera flava MP: thin soils around rock outcrops, mainly mafic (Buncombe, Burke, Haywood, Henderson, Jackson, McDowell, Polk, Rutherford)	Yellow Honeysuckle	SR-P	-	S2	G5?
Lophiola aurea C: very wet, mucky habitats in pine savannas (Brunswick, Columbus, New Hanover, Onslow)	Golden Crest	E	-	S1	G4
Lotus helleri P: open woods over clay soils, roadsides (Cabarrus, Caswell*, Davidson, Davie*, Granville, Iredell*, Mecklenburg, Moore, Person*, Rockingham, Rowan, Stanly, Union, Warren*)	Carolina Birdfoot-trefoil	SR-T	FSC	S3	G5T3
Ludwigia alata TC: interdune ponds, marshes (Brunswick*, Camden, Carteret, Craven, Currituck, Dare, Hyde, New	Winged Seedbox	SR-P	-	S2	G4

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Hanover*, Onslow*, Pasquotank, Tyrrell*)					
Ludwigia brevipes CS: low, wet places and ditches (Brunswick, Columbus, Craven*, Cumberland, Currituck*, Dare*, Gates*, Harnett*, Hyde*, Johnston*, Robeson*, Sampson*, Wayne*)	Long Beach Seedbox	SR-T	-	S2	G2G3
Ludwigia lanceolata TC: interdune ponds, open wet areas (Brunswick*, Carteret, Dare*, New Hanover)	Lanceleaf Seedbox	SR-P	-	S1	G3
Ludwigia linifolia CT: limesink ponds (Brunswick, Carteret, Columbus, New Hanover, Onslow)	Flaxleaf Seedbox	SR-P	-	S2	G4
Ludwigia ravenii C: savannas, swamps, marshes, wet open places (Brunswick*, Carteret, Chowan*, Columbus, Craven*, Duplin*, Gates*, New Hanover*, Pamlico*, Perquimans*, Sampson*)	Raven's Seedbox	SR-T	FSC	S2?	G2?
Ludwigia sphaerocarpa CS: bogs and pools (Bladen*, Columbus, Craven, Dare*, Hoke*, Johnston*, New Hanover, Richmond, Washington*)	Globe-fruit Seedbox	SR	-	S1	G5
Ludwigia suffruticosa CS: limesink ponds, clay-based Carolina bays (Bladen*, Brunswick, New Hanover, Onslow, Scotland)	Shrubby Seedbox	SR-P	-	S2	G5
Luziola fluitans C: pools, lakes, streams (Bladen, Columbus, Moore, Pender, Richmond, Scotland)	Southern Water Grass	SR-P	-	S1S2	G4G5
Lycopodiella inundata M: bogs and seeps (Avery, Watauga)	Bog Clubmoss	SR-P	-	S1	G5
Lycopus angustifolius C: bogs and marshes	Southern Bog Water-horehound	SR-P	-	S1	G4?
Lysimachia asperulifolia CS: pocosin/savanna ecotones, pocosins (Beaufort, Bladen, Brunswick, Carteret, Columbus*, Cumberland, Harnett, Hoke, New Hanover, Onslow, Pamlico, Pender, Richmond, Scotland)	Rough-leaf Loosestrife	E	E	S3	G3
Lysimachia fraseri M: forests, roadsides (Buncombe*, Haywood+, Henderson+, Jackson, Macon, Transylvania)	Fraser's Loosestrife	E	FSC	S2	G2
Lysimachia hybrida MPC: bottomlands	Lowland Loosestrife	SR-P	-	S1	G5
Lythrum lanceolatum C: marshes and low, wet places	Southern Winged-loosestrife	SR-T	-	S1	G5
Macbridea caroliniana C: blackwater swamps, savanna/pocosin ecotones, ditches (Bladen, Brunswick, Columbus, Harnett, Johnston, Jones+, Pender, Robeson, Sampson)	Carolina Bogmint	T	FSC	S2	G2G3

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Magnolia macrophylla P: rich deciduous forests (Gaston, Henderson, Iredell, Wake)	Bigleaf Magnolia	SR-P	-	S2	G5
Malaxis bayardii MP: upland forests (McDowell)	Appalachian Adder's-mouth	SR-T	-	S1	G2
Malaxis spicata CT: maritime swamp forests, calcareous but mucky outer coastal plain swamps (Brunswick*, Carteret, Chowan, Craven, Dare*, Jones*)	Florida Adder's Mouth	SR-P	-	S1	G4?
Marshallia grandiflora MP: bogs, dry basic soils (Henderson*, Polk*)	Large-flowered Barbara's Buttons	SR-T	FSC	SH	G2
Marshallia sp 1 P: clayey upland soils over diabase (Granville)	Butner Barbara's Buttons	SR-L	FSC	S1	G1
Marshallia trinervia M: habitat not known (Macon+)	Broadleaf Barbara's Buttons	SR-P	-	SH	G3
Matelea decipiens PC: thin woodlands over mafic or calcareous rocks (Burke, Davidson*, Durham, Franklin, Granville, Hertford*, Orange*, Richmond, Rutherford*, Stanly, Wake)	Glade Milkvine	SR-P	-	S2	G5
Meehania cordata M: cove forests, boulderfields (Alleghany+, Ashe, Avery*, Haywood, Madison*, Watauga, Yancey*)	Meehania	SR-P	-	S2	G5
Melanthium woodii M: habitat not known	Ozark Bunchflower	SR-P	-	SH	G5
Melica nitens M: open calcareous woods (Madison)	Three-flowered Melic	SR-P	-	S1	G5
Menyanthes trifoliata M: bogs (Watauga)	Buckbean	T	-	S1	G5
Milium effusum M: high elevation forests or openings (Swain*)	Millet-grass	SR-P	-	SH	G5
Minuartia godfreyi C: tidal freshwater marshes (Craven, Jones*)	Godfrey's Sandwort	E	FSC	S1	G1
Minuartia groenlandica MP: high elevation and low elevation rocky summits (Alleghany, Ashe, Avery, Burke, Mitchell, Stokes, Surry)	Greenland Sandwort	SR-D	-	S2	G5
Minuartia uniflora P: granite flatrocks (Anson, Rowan*, Rutherford)	Single-flowered Sandwort	E	-	S1	G4
Monotropsis odorata PM: dry forests and bluffs (Alamance+, Alleghany+, Buncombe, Burke, Caldwell*, Catawba, Chatham, Cleveland, Durham, Henderson+, Jackson, Macon+, McDowell, Orange, Person*, Polk*, Rutherford, Stokes, Swain*, Transylvania, Wake*)	Sweet Pinesap	SR-T	FSC	S3	G3
Muhlenbergia glabriflora P: clay soils	Clay-pan Muhly	SR-P	-	SH	G4?
Muhlenbergia glomerata	Bristly Muhly	SR-P	-	S1	G5

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M: olivine barrens, fens, mafic cliffs (Ashe, Clay)					
Muhlenbergia sobolifera M: dripping cliffs and rocky slopes (McDowell*, Mitchell*)	Rock Muhly	SR-P	-	SH	G5
Muhlenbergia torreyana CS: cypress savannas (Brunswick, Cumberland, Hoke, Onslow, Pender, Richmond, Robeson)	Pinebarren Smokegrass	E	-	S1	G3
Myrica gale M: bogs (Henderson)	Sweet Gale	E	-	S1	G5
Myriophyllum laxum CS: limesink ponds, waters of natural lakes (Brunswick, Carteret, Craven*, Cumberland, Hoke, Onslow)	Loose Watermilfoil	T	FSC	S1	G3
Myriophyllum tenellum C: waters of natural lakes, Washington) (Bladen, Tyrrell, Washington)	Leafless Watermilfoil	SR-P	-	S1	G5
Narthecium americanum M: bogs (Henderson*)	Bog Asphodel	E	C	SX	G2
Oenothera perennis MPC: bogs (Avery+, Burke, Clay, Hertford*, Iredell+, Jackson, Macon, McDowell, Transylvania, Tyrrell*)	Perennial Sundrops	SR-P	-	S2	G5
Oldenlandia boscii C: clay-based Carolina bays (Brunswick, Columbus, Cumberland, Hoke, Scotland)	Bosc's Bluet	SR-P	-	S1	G5
Orbexilum macrophyllum M: low mountain forests or outcrops? (Polk*)	Bigleaf Scurfpea	E	FSC	SH	GH
Oxypolis canbyi C: clay-based Carolina bays (Scotland)	Canby's Dropwort	E	E	S1	G2
Pachysandra procumbens P: cove forests (Polk)	Allegheny Spurge	SR-P	-	S1	G4G5
Packera millefolium M: granitic domes, other outcrops (Buncombe, Henderson*, Jackson, Macon, McDowell, Polk, Rutherford)	Divided-leaf Ragwort	T	FSC	S2	G2
Packera paupercula PMC: fens, bogs, and diabase glades (Alleghany*, Avery*, Nash*, Onslow, Transylvania*, Yancey*)	Balsam Ragwort	SR-P	-	S1?	G5
Panicum flexile PM: glades and openings over mafic rocks (Ashe*, Durham*, Granville, Orange*)	Wiry Panic Grass	SR-P	-	S1	G5
Panicum lithophilum MP: soil islands on granite domes	Flatrock Panic Grass	SR-T	FSC	S1	G2G3Q
Panicum tenerum CST: wet savannas, sandhill seeps, limesink ponds (Bladen, Brunswick, Carteret, Columbus, Cumberland, Marlboro, SC, Moore*, New Hanover, Onslow, Sampson, Scotland)	Southeastern Panic Grass	SR-P	-	S3	G4

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Parietaria praetermissa TC: shell middens, disturbed sites, maritime forests (Brunswick*, Carteret, Hyde*, Onslow)	Large-seed Pellitory	SR-P	-	S1	G3G4
Parnassia caroliniana CS: wet savannas (Bladen, Brunswick, Columbus, Cumberland, Harnett, Hoke, Lee*, Onslow, Pender, Scotland)	Carolina Grass-of-parnassus	E	-	S2	G3
Parnassia grandifolia MCP: fens and seeps over calcareous or mafic rocks (Alleghany, Ashe, Avery*, Brunswick, Buncombe*, Clay, Columbus, Haywood, McDowell, Transylvania, Watauga*)	Large-leaved Grass-of-parnassus	T	FSC	S2	G3
Paronychia herniarioides S: sandhills	Michaux's Whitlow-wort	SR-P	-	S1	G3G4
Parthenium auriculatum PM: glades and openings over mafic rocks (Burke, Durham, Franklin, Granville, Guilford*, Macon*, Montgomery, Orange*, Person, Rockingham*, Warren*)	Glade Wild Quinine	SR-T	-	S1	G3?Q
Paspalum dissectum CTP: mudflats, other open wet areas (Brunswick, Moore, Pender, Scotland)	Mudbank Crown Grass	SR-P	-	S1	G4?
Pedicularis lanceolata M: bottomlands, swampy woods (Buncombe+, Cherokee+, Clay, Haywood, Jackson*, Macon*, Watauga*)	Swamp Lousewort	SR-P	-	S1	G5
Pellaea wrightiana P: rock outcrops, mafic or with nutrient-rich seepage (Alexander, Stanly)	Wright's Cliff-brake	E-SC	-	S1	G5
Peltandra sagittifolia C: pocosins, other wet, peaty sites (Brunswick, Carteret, Columbus*, Craven*, Dare, Jones*, New Hanover, Onslow, Pender)	Spoonflower	SR-P	-	S2S3	G3G4
Phacelia covillei PC: bottomlands, rich lower slopes (Alamance, Chatham, Harnett, Lee, Moore, Vance)	Buttercup Phacelia	SR-T	FSC	S2	G2
Phegopteris connectilis M: spray zone of waterfalls, spruce-fir forests, high elevation seepage bogs (Haywood, Jackson, Macon, Swain*, Transylvania*)	Northern Beech Fern	SR-P	-	S1	G5
Phlox subulata M: outcrops and glades, especially over mafic rocks (Ashe, Buncombe, Jackson*, Madison+, Yancey)	Moss Pink	SR-P	-	S1	G5
Pinguicula lutea C: savannas	Yellow Butterwort	SR-P	-	S2	G4G5
Pinguicula pumila C: savannas (Carteret, Pender)	Small Butterwort	SR-P	-	S2	G4
Pityopsis graminifolia var *graminifolia* C: savannas, pine flatwoods, sandy roadsides (Brunswick, Columbus)	a silkgrass	SR-P	-	S1?	G5T4

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Plantago cordata P: beds of small, slate-bottomed, perennial streams (Davidson)	Heart-leaf Plantain	E	-	S1	G4
Plantago sparsiflora C: wet savannas (Bladen*, Brunswick, Columbus, Onslow, Pender)	Pineland Plantain	E	FSC	S1	G3
Platanthera flava var *herbiola* M: bogs and moist forests (Buncombe*, Clay*, Forsyth*, Graham*, Haywood, Jackson*, Macon*, Transylvania)	Northern Green Orchid	SR-P	-	S1?	G4T4Q
Platanthera grandiflora M: bogs, seeps, grassy balds, high elevation moist forests and banks (Alleghany, Ashe, Avery, Buncombe, Clay, Haywood*, Macon, McDowell*, Transylvania*, Watauga, Yancey)	Large Purple-fringed Orchid	SR-P	-	S2	G5
Platanthera integra CMP: savannas (Brunswick, Carteret, Cherokee*, Columbus, Craven, Forsyth+, Henderson+, Onslow*, Pamlico+, Pender, Robeson+, Rowan*)	Yellow Fringeless Orchid	T	-	S1	G3G4
Platanthera integrilabia M: bogs (Cherokee*, Henderson*)	White Fringeless Orchid	E	C	SX	G2G3
Platanthera nivea C: wet savannas (Beaufort*, Bladen*, Brunswick, Columbus*, Craven, Dare*, Hoke*, New Hanover*, Pender, Robeson*)	Snowy Orchid	T	-	S1	G5
Platanthera peramoena MP: bogs, forests (Buncombe+, Burke*, Caldwell*, Clay*, Durham, Forsyth+, Guilford, Haywood*, Henderson+, Jackson*, Macon*, Mitchell*, Orange, Swain*, Transylvania, Warren*, Watauga, Yancey*)	Purple Fringeless Orchid	SR-P	-	S1	G5
Poa paludigena M: bogs (Ashe, Avery, Watauga*)	Bog Bluegrass	E	FSC	S1	G3
Poa palustris M: spruce-fir forests, grassy balds (Avery, Haywood*, Henderson*, Macon*, Mitchell, Polk*, Swain*, Yancey*)	Swamp Bluegrass	SR-P	-	S1	G5
Poa saltuensis M: olivine barrens (Clay, Haywood*)	a bluegrass	SR-P	-	S1	G5
Polemonium reptans PM: rich woods (Stokes*)	Jacob's-ladder	SR-P	-	S1	G5
Polygala grandiflora SC: sandhills (Richmond, Scotland)	Showy Milkwort	SR-P	-	S2	G5?
Polygala hookeri C: savannas (Brunswick, Carteret, Columbus*, Craven, New Hanover, Onslow, Pender)	Hooker's Milkwort	SR-T	-	S2	G3
Polygala nana M: habitat in North Carolina not known	Dwarf Milkwort	SR-D	-	S1?	G5
Polygonella articulata C: sandhills (Gates*)	Coast Jointweed	SR-P	-	SX	G5

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Polygonum amphibium MPC: marshes	Water Smartweed	SR-P	-	S1	G5
Polygonum glaucum T: ocean and sound beaches (Beaufort+, Brunswick, Carteret, Dare*, Hyde*, New Hanover+)	Seabeach Knotweed	SR-T	-	S1	G3
Polygonum hirsutum CS: limesink ponds, clay-based Carolina bays, drawdown zones of blackwater riverbanks (Brunswick*, Carteret*, Onslow*, Richmond, Scotland*)	Hairy Smartweed	SR-P	-	S1	G4G5
Ponthieva racemosa C: blackwater forests and swamps, especially over marl (Beaufort*, Brunswick, Carteret, Craven, Jones, Onslow, Pender)	Shadow-witch	SR-P	-	S2	G4G5
Porteranthus stipulatus P: forests and open woods, mainly over mafic rocks (Cabarrus*, Chatham+, Davidson, Durham, Granville, Lee*, Montgomery*, Moore*, Orange*, Person, Union, Wake)	Indian Physic	SR-P	-	S2	G5
Portulaca smallii P: granite flatrocks and diabase glades (Cabarrus, Forsyth*, Franklin, Granville, Rowan, Wake)	Small's Portulaca	T	-	S2	G3
Potamogeton confervoides SC: beaverponds and old millponds on blackwater creeks (Cumberland, Gates*, Harnett, Hoke, Moore, Richmond, Scotland)	Conferva Pondweed	SR-D	FSC	S2	G4
Prenanthes alba M: hardwood forests	White Rattlesnakeroot	SR-P	-	S2	G5
Prenanthes roanensis M: grassy balds, high elevation forests and outcrops (Alleghany, Ashe, Avery, Buncombe, Carter, TN, Clay, Graham, Haywood, Jackson, Macon, Madison, McDowell, Mitchell, Surry*, Swain, Transylvania, Watauga, Yancey)	Roan Rattlesnakeroot	SR-L	-	S3	G3
Prunus pumila var *susquehanae* MP: rocky forests (Durham*)	Susquehanna Cherry	SR-P	-	SH	G5T4
Psilotum nudum C: acid swamp (Chowan)	Whiskfern SR-D	-	S1	G5	
Pteroglossaspis ecristata C: pinelands (Bladen+, Cumberland*, Hoke, New Hanover*)	Spiked Medusa (=Eulophia)	E	FSC	S1	G2
Ptilimnium costatum CT: tidal swamps or marshes (Brunswick*, New Hanover)	Ribbed Bishop-weed	SR-P	-	S1	G3G4
Ptilimnium nodosum P: rocky riverbeds (Chatham, Granville, Lee*)	Harperella E	E	S1	G2	
Ptilimnium sp 1 C: tidal freshwater marshes (Brunswick, New Hanover)	Carolina Bishopweed	SR-L	FSC	S1	G1

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Pycnanthemum torrei PM: dry upland forests and woodlands, over mafic rocks (Alexander*, Ashe*, Cleveland*, Granville*, Haywood*, Jackson*, Macon*, Orange, Wilkes*)	Torrey's Mountain-mint	SR-T	FSC	SH	G2
Pycnanthemum virginianum MP: forests, woodland borders	Virginia Mountain-mint	SR-P	-	S1	G5
Pyrola elliptica M: moist forests (Ashe)	Elliptic Shinleaf	SR-P	-	S1	G5
Pyxidanthera barbulata var *brevifolia* S: sandhills (Cumberland, Harnett, Hoke, Moore)	Sandhills Pyxie-moss	E	FSC	S3	G4T3
Quercus austrina CP: bluff and bottomland forests (Anson, Craven*, Johnston*, Jones*, Montgomery, Richmond, Sampson*)	Bluff Oak	SR-P	-	S1	G5
Quercus ilicifolia P: dry summits and rocky woods on Piedmont monadnocks (Burke, Gaston, Stokes, Surry)	Bear Oak	T	-	S1	G5
Quercus prinoides PM: dry, rocky slopes (Caldwell*, Cleveland*, Gaston*, Guilford*, Iredell*, Jackson*, Polk*, Rutherford*, Stanly*)	Dwarf Chinquapin Oak	SR-P	-	SH	G5
Ranunculus ambigens CP: open wet areas (Bertie*, Orange*, Perquimans*)	Water-plantain Spearwort	SR-P	-	SH	G4
Ranunculus fascicularis MP: serpentine and diabase barrens	Thick-root Buttercup	SR-P	-	S1	G5
Ranunculus flabellaris C: pools in blackwater swamps (Edgecombe*, Gates*)	Yellow Water-crowfoot	SR-P	-	S1	G5
Ranunculus hederaceus C: marshes (Currituck*)	Ivy Buttercup	SR-D	-	SH	G5
Ranunculus micranthus P: rich woods	Rock Buttercup	SR-P	-	SH	G5
Rhexia aristosa C: clay-based Carolina bays and limesink ponds (Bladen, Brunswick*, Cumberland*, Hoke, Marlboro, SC, Onslow, Robeson, Sampson, Scotland)	Awned Meadow-beauty	T	FSC	S3	G3
Rhexia cubensis C: limesink ponds (Bladen, Brunswick, Carteret, Columbus, New Hanover, Onslow, Pender, Sampson)	West Indies Meadow-beauty	SR-P	-	S3	G4G5
Rhododendron cumberlandense M: grassy or shrub balds (Graham*, Macon, Swain*, Transylvania*)	Cumberland Azalea	SR-P	-	S1	G4?
Rhododendron prinophyllum M: high elevation forests (Ashe)	Election Pink	SR-P	-	S1	G5
Rhododendron vaseyi M: wet swampy places, high elevation rocky areas, openings, or forests (Avery, Buncombe, Caldwell, Haywood, Jackson, Macon, McDowell, Mitchell+, Transylvania, Watauga, Yancey)	Pink-shell Azalea	SR-L	-	S3	G3

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Rhus michauxii SCP: sandhills, sandy forests, woodland, woodland edges (Cumberland, Davie, Durham*, Franklin, Hoke, Johnston*, Lincoln*, Mecklenburg*, Moore, Orange*, Richmond, Robeson, Scotland, Wake, Wilson*)	Michaux's Sumac	E-SC	E	S2	G2
Rhynchospora alba MCS: fens, bogs, pocosin openings, limesink ponds (Alleghany, Ashe, Bladen, Brunswick, Craven*, Cumberland*, Dare, Mitchell, Pender*, Rutherford, Tyrrell*, Watauga)	Northern White Beaksedge	SR-P	-	S2	G5
Rhynchospora breviseta S: savannas (Brunswick, Carteret, Columbus, Craven*, Onslow, Pender)	Short-bristled Beaksedge	SR-P	-	S2	G3G4
Rhynchospora crinipes S: seepy banks of blackwater rivers (Hoke, Moore)	Alabama Beaksedge	E	FSC	S1	G1
Rhynchospora decurrens C: swamp forests (Brunswick, Columbus, Onslow)	Swamp Forest Beaksedge	SR-P	FSC	S1	G3G4
Rhynchospora divergens C: wet savannas (Brunswick, Columbus, Onslow, Pender)	White-seeded Beaksedge	SR-P	-	S1	G4
Rhynchospora globularis var *pinetorum* C: wet savannas (Brunswick, Carteret, Columbus, Onslow, Pender)	Small's Beaksedge	SR-T	-	S1	G5?T3?
Rhynchospora harperi C: limesink ponds and cypress savannas (Brunswick, Carteret, Onslow)	Harper's Beaksedge	SR-P	-	S1	G4?
Rhynchospora macra S: seepage bogs (Carteret, Cumberland, Harnett, Hoke, Moore, Richmond, Scotland)	Southern White Beaksedge	E	-	S1	G3
Rhynchospora odorata T: maritime wet grasslands (Brunswick*, Carteret, Hyde, Pender*)	Fragrant Beaksedge	SR-P	-	S1	G4
Rhynchospora oligantha CSP: savannas, seepage bogs (Brunswick, Carteret, Columbus, Craven, Cumberland, Harnett, Hoke, Moore, Onslow, Pender, Richmond)	Feather-bristle Beaksedge	SR-P	-	S2S3	G4
Rhynchospora pleiantha C: limesink ponds (Brunswick, Carteret, New Hanover, Onslow)	Coastal Beaksedge	SR-T	FSC	S2	G2
Rhynchospora scirpoides C: beaver ponds, limesink ponds, wet savannas (Bladen, Brunswick, Carteret, Columbus*, Craven, Cumberland, Harnett, Hoke, Moore, New Hanover, Onslow, Richmond, Tyrrell*)	Long-beak Baldsedge	SR-O	-	S2	G4
Rhynchospora thornei C: wet savannas (Brunswick, Onslow, Pender)	Thorne's Beaksedge	E	FSC	S2	G3
Rhynchospora tracyi	Tracy's Beaksedge	SR-P	-	S2	G4

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C: clay-based Carolina bays, limesink ponds (Brunswick, New Hanover, Onslow, Scotland)					
Robinia hartwegii M: high elevation granitic domes (Jackson, Macon, Mitchell*)	Hartwig's Locust	SR-L	-	S1	G3T1
Robinia hispida var *fertilis* M: acidic cove forests, northern hardwoods forests, high elevation granitic domes (Alleghany*, Avery, Burke*, Graham*, Jackson*, McDowell*)	Fruitful Locust	SR-O	-	S1	G4T1Q
Robinia hispida var *kelseyi* M: high elevation red oak forests, dry rocky woods (Buncombe*, Burke*, Haywood*, Henderson*, Madison*, Transylvania*)	Kelsey's Locust	SR-O	-	S1	G4T1
Rubus idaeus ssp strigosus M: high elevation spruce-fir forests and openings (Buncombe, Haywood, Jackson, Swain*, Yancey)	Red Raspberry	SR-P	-	S2?	G5T5
Rudbeckia heliopsidis C: moist pine flatwoods and woodland borders (Harnett*, Moore*)	Sun-facing Coneflower	E	FSC	SH	G2
Rudbeckia triloba var *pinnatiloba* M: mafic cliffs (Buncombe)	Pinnate-lobed Black-eyed Susan	SR-T	FSC	S1	G4G5T2?
Ruellia ciliosa S: sandhills, especially in loamy, submesic swales (Cumberland, Hoke, Richmond, Scotland)	Sandhills Wild-petunia	SR-P	-	S1	G3G4Q
Ruellia humilis P: diabase glades (Durham, Granville, Wake)	Low Wild-petunia	T	-	S1	G5
Ruellia purshiana PM: glades and woodlands, mostly over mafic or calcareous rocks (Durham*, Forsyth*, Granville, Madison, Montgomery, Orange*, Randolph*, Rutherford*, Wake)	Pursh's Wild-petunia	SR-O	-	S2	G3?
Ruellia strepens C: low woods over marl (Pender)	Limestone Wild-petunia	SR-P	-	S1	G4G5
Rugelia nudicaulis M: spruce-fir forests (Haywood, Sevier, TN, Swain)	Rugel's Ragwort	T	FSC	S3	G3
Sabal palmetto TC: maritime forests on the southeastern coast (Brunswick, Carteret*)	Cabbage Palm	SR-P	-	S1	G5
Sabatia kennedyana C: drawdown zones on banks of blackwater rivers (Brunswick, Columbus)	Plymouth Gentian	T-SC	-	S1	G3
Sageretia minutiflora C: shell middens (Carteret, Onslow, Pender)	Small-flowered Buckthorn	SR-P	-	S1	G4
Sagittaria fasciculata M: bogs and mountain swamp forests (Buncombe*, Henderson)	Bunched Arrowhead	E	E	S1	G1

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Sagittaria graminea var *chapmanii* C: limesink ponds (Bladen, Carteret, Onslow)	Chapman's Arrowhead	SR-P	-	S1	G5T3?
Sagittaria graminea var *weatherbiana* C: fresh to slightly brackish marshes, streams, swamps, and pond margins (Beaufort*, Brunswick*, Columbus, Craven, Currituck*, Duplin, Gates*, Hyde*, New Hanover, Onslow, Pasquotank*, Pender, Pitt*, Sampson*, Wake*)	Grassleaf Arrowhead	SR-T	FSC	S2	G5T2
Sagittaria isoetiformis CS: limesink ponds, clay-based Carolina bays, beaver ponds, natural lakes (Brunswick*, Cumberland, Hoke, Moore, New Hanover, Sampson, Scotland)	Quillwort Arrowhead	SR-P	-	S1	G4?
Sagittaria stagnorum C: blackwater streams, rivers, and lakes (Columbus*, Craven*, Pender*, Wilson*)	Water Arrowhead	SR-P	-	S1	G4G5
Salvia azurea SC: sandhills (Hoke*, New Hanover*, Richmond, Scotland*)	Azure Sage	SR-P	-	S1	G4G5
Sarracenia jonesii M: bogs (Buncombe*, Henderson, Transylvania)	Mountain Sweet Pitcher Plant	E-SC	E	S1	G3T1
Sarracenia minor C: savannas (Brunswick, Columbus)	Hooded Pitcher Plant	SR-P	-	S1	G4
Sarracenia oreophila M: seepage bogs (Clay)	Green Pitcher Plant	E-SC	E	S1	G2
Saxifraga caroliniana M: high to middle elevation moist cliffs and rock outcrops (Alleghany*, Ashe, Avery, Buncombe, Burke, Cleveland, Graham, Haywood, Jackson*, Macon, Madison, Mitchell, Rutherford, Watauga, Yancey*)	Carolina Saxifrage	SR-T	FSC	S2	G2
Saxifraga pensylvanica MP: bogs, seeps (Wake, Watauga)	Swamp Saxifrage	SR-P	-	S1	G5
Schisandra glabra C: rich slopes and floodplain islands (Gaston, Martin)	Magnolia Vine	T-SC	-	S1	G3
Schoenoplectus acutus C: natural lakes (Carteret+, Craven*, Dare*, Hyde*)	Hardstem Bulrush	SR-P	-	SH	G5
Schoenoplectus etuberculatus CS: blackwater creeks (Bladen, Brunswick, Columbus, Craven*, Cumberland, Harnett*, Hoke, Hyde*, Johnston*, Moore, Onslow, Pender*, Randolph*, Richmond, Scotland, Wayne*)	Canby's Bulrush	SR-P	-	S3	G3G4
Schoenoplectus subterminalis S: blackwater creeks (Cumberland, Harnett, Hoke, Moore, Richmond, Scotland)	Swaying Bulrush	SR-P	-	S3	G4G5
Schwalbea americana SC: savannas and moist to dryish pinelands with frequent fire (Bladen*,	Chaffseed	E	E	S1	G2

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Cumberland, Hoke, Moore, Pender*, Scotland)					
Scirpus flaccidifolius C: swamp forests (Northampton)	Reclining Bulrush	SR-L	FSC	S1	G2
Scirpus lineatus C: low rich woods over marl (Brunswick, Craven, Jones, New Hanover, Onslow, Pender)	Drooping Bulrush	SR-P	-	S2	G4
Scirpus pendulus P: wet places over mafic rocks (Carteret, Durham*, Granville, Onslow)	Rufous Bulrush	SR-O	-	S1	G5
Scleria baldwinii C: wet savannas (Brunswick, Carteret, Columbus, Pender)	Baldwin's Nutrush	SR-P	-	S1	G4
Scleria georgiana CS: savannas (Brunswick, Carteret, Columbus, Craven, Hoke, Marlboro, SC, New Hanover, Onslow, Pender, Robeson, Sampson, Scotland)	Georgia Nutrush	SR-P	-	S2	G4
Scleria reticularis CS: clay-based Carolina bays, limesink ponds (Brunswick, Cumberland, Hoke, Marlboro, SC, New Hanover, Onslow, Sampson, Scotland)	Netted Nutrush	SR-O	-	S2	G4
Scleria sp 1 C: pine savannas over limestone, diabase glades	Smooth-seeded Hairy Nutrush	SR-L	FSC	S1	G1
Scleria verticillata TC: savannas over coquina limestone, intermediate swales (Brunswick*, Carteret, Columbus, Dare*, Onslow, Pender)	Savanna Nutrush	SR-P	-	S1	G5
Scutellaria arguta M: rocky forests, boulderfields	Appalachian Skullcap	SR-T	-	SH	G2?Q
Scutellaria australis PS: alluvial forests (Granville, Johnston*, Lee*, Orange*, Richmond*)	Southern Skullcap	SR-P	-	S1	G?Q
Scutellaria galericulata M: habitat not known	Hooded Skullcap	SR-P	-	SH	G5
Scutellaria leonardii P: diabase glades (Durham, Granville, Moore, Orange)	Shale-barren Skullcap	SR-P	-	S1	G4Q
Scutellaria nervosa P: alluvial forests (Chatham*, Durham*, Granville, Jackson*, Northampton*, Wake*, Warren*)	Veined Skullcap	SR-P	-	S1	G5
Scutellaria saxatilis MP: northern hardwoods forests, rocky woodlands (Ashe, Burke, McDowell, Mitchell, Rutherford, Watauga*)	Rock Skullcap	SR-T	-	S1	G3
Sebastiania fruticosa C: swamp forests	Sebastian-bush	SR-T	-	S1	G5
Sedum glaucophyllum PM: rock outcrops, mainly calcareous or mafic (Jackson, Macon, Rockingham, Stokes)	Cliff Stonecrop	SR-P	-	S2	G4

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Sedum pusillum P: granite flatrocks (Anson)	Puck's Orpine	E	-	S1	G3
Sedum rosea M: high elevation rocky summits (Ashe*, Avery*, Mitchell)	Roseroot	E	-	S1	G5
Senecio plattensis M: mafic and calcareous rock outcrops and cliffs (Ashe, Clay, Madison)	Prairie Ragwort	SR-P	-	S1	G5
Senecio schweinitzianus M: grassy balds (Avery, Buncombe, Mitchell, Watauga, Yancey)	Schweinitz's Ragwort	E	-	S2	G5?
Sesuvium maritimum T: seabeaches, marshes.	Slender Sea-purslane	SR-O	-	S1	G5
Sesuvium portulacastrum T: seabeaches	Shoreline Sea-purslane	SR-P	-	S1	G5
Seymeria pectinata C: disturbed habitats (Brunswick*)	Sticky Afzelia	SR-P	-	SH	G4G5
Shortia galacifolia var *brevistyla* M: streambanks, slopes, and outcrops in humid gorges (McDowell)	Northern Oconee Bells	E-SC	FSC	S1	G2T1Q
Shortia galacifolia var *galacifolia* M: streambanks, slopes, and outcrops in humid gorges (Jackson*, Swain*, Transylvania)	Southern Oconee Bells	E-SC	FSC	S2	G2T2
Sida elliottii C: stream banks, sandy woodlands (Iredell)	Elliott's Fan-petal	SR-P	-	S1	G4G5
Sideroxylon tenax T: maritime forests and scrub (Brunswick, New Hanover*)	Tough Bumelia	SR-P	-	S1	G3?
Silene ovata M: rich slopes, cove forests, montane oak-hickory forests (Buncombe, Cherokee, Graham, Haywood, Henderson, Jackson, Macon*, Madison, Rutherford*, Swain*, Yancey)	Mountain Catchfly	SR-T	FSC	S3	G2G3
Silphium connatum P: floodplains, rich alluvial woods (Alleghany*, Iredell, Rockingham, Stokes)	Virginia Cup-plant	SR-T	-	S1	G3?Q
Silphium perfoliatum PM: floodplains (Alleghany*, Ashe, Cabarrus, Forsyth, Iredell*, Mecklenburg, Stokes*, Surry)	Northern Cup-plant	SR-P	-	S1	G5
Silphium terebinthinaceum P: diabase glades, other open or semi-open sites over mafic rock (Cabarrus, Davie, Durham, Granville, Mecklenburg, Wake*)	Prairie Dock	SR-P	-	S2	G4G5
Sisyrinchium dichotomum M: thin woods, especially over amphibolite, in the escarpment region (Greenville, SC, Henderson, Polk, Rutherford)	White Irisette	E	E	S2	G2
Smilax hugeri MP: deciduous forests (Cumberland, Richmond)	Huger's Carrion-flower	SR-P	-	S2	G4
Smilax lasioneura	a carrion-flower	SR-P	-	SH	G5

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M: oak-hickory forests over mafic rocks (Guilford*, Polk*)					
Solanum pseudogracile T: dunes	Graceful Nightshade	SR-T	-	S1	G?
Solidago leavenworthii C: savannas, pocosin borders, clay-based Carolina bays, peaty seeps (Carteret*, Columbus, Robeson, Scotland*)	Leavenworth's Goldenrod	SR-P	-	S1	G3G4
Solidago plumosa P: riverside rocks (Montgomery, Stanly)	Yadkin River Goldenrod	E	FSC	S1	G1
Solidago ptarmicoides P: diabase glades (Granville, Rowan*)	Prairie Goldenrod	E	-	S1	G5
Solidago pulchra C: savannas (Brunswick, Carteret, Craven, Cumberland, Jones, Onslow, Pender)	Carolina Goldenrod	SR-L	-	S3	G3
Solidago radula P: dry woodlands over mafic rocks (Stanly, Wake*)	Western Rough Goldenrod	SR-P	-	S1	G5?
Solidago rigida ssp glabrata P: diabase glades, other open sites over mafic rock (Cabarrus, Durham, Granville, Mecklenburg*, Person*, Rockingham)	Southeastern Bold Goldenrod	SR-P	-	S2	G5T4
Solidago rigida ssp rigida M: forest openings, presumably on mafic or calcareous rocks (Haywood*, Macon, Madison*)	Prairie Bold Goldenrod	SR-P	-	S1	G5T5
Solidago simulans M: High and low elevation granitic domes south of the Asheville Basin (Jackson, Macon, Rutherford)	Granite Dome Goldenrod	SR-L	FSC	S1	G1
Solidago spithamaea M: high elevation rocky summits (Avery, Mitchell)	Blue Ridge Goldenrod	SR-P	T	S1	G1
Solidago squarrosa M: moist forests at high elevations	Squarrose Goldenrod	SR-P	-	S1	G4?
Solidago tortifolia CS: dry savannas and sandhills (Bladen*, Brunswick*, Hoke, Jones*, New Hanover*, Robeson*, Scotland*)	Twisted-leaf Goldenrod	SR-P	-	S1	G4G5
Solidago uliginosa MSP: bogs, seeps (Ashe, Clay*, Haywood, Macon, Madison*, Moore*, Transylvania*, Watauga, Yancey*)	Bog Goldenrod	SR	-	S1S2	G4G5
Solidago verna CS: mesic to moist pinelands, pocosin ecotones (Bladen, Brunswick, Carteret, Columbus, Craven, Cumberland, Harnett, Hoke, Johnston, Jones, Moore, New Hanover, Onslow, Pamlico, Pender, Richmond, Sampson, Scotland)	Spring-flowering Goldenrod	T	FSC	S3	G3
Solidago villosicarpa C: edge of coastal fringe evergreen forest (Brunswick*, New Hanover*, Onslow, Pender)	Coastal Goldenrod	E	FSC	S1	G1

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Sparganium chlorocarpum M: pondshores (Avery*, Watauga)	Greenfruit Bur-reed	SR-P	-	S1	G5
Spartina pectinata MCS: freshwater marshes, spray zones of waterfalls, other moist sites (Alleghany, Ashe*, Chowan+, Mitchell+, Montgomery*, Transylvania)	Freshwater Cordgrass	SR-P	-	S1	G5
Spigelia marilandica M: open woods	Pink Root	SR-P	-	S1	G4
Spiraea betulifolia ssp corymbosa P: open woods, thin soil over rock (Alexander, Catawba, Stokes)	Shinyleaf Meadowsweet	SR-O	-	S1	G4G5T4?
Spiraea virginiana M: riverbanks (Ashe, Buncombe*, Graham, Macon, Mitchell, Swain, Unicoi, TN, Yancey)	Virginia Spiraea	E	T	S1	G2
Spiranthes brevilabris var *floridana* C: moist sites (Pender*)	Florida Ladies'-tresses	SR-P	-	SX	G3G4T?
Spiranthes lacera var *lacera* M: mountain balds (Clay*)	Northern Slender Ladies'-tresses	SR-D	-	SH	G5T5
Spiranthes laciniata C: moist wet habitats (Beaufort*, Bladen, Brunswick, Carteret, Columbus, New Hanover, Onslow)	Lace-lip Ladies'-tresses	SR-P	-	S1	G4G5
Spiranthes longilabris C: savannas (Bladen*, Brunswick, Carteret, Onslow, Pender)	Giant Spiral Orchid	SR-T	-	S1	G3
Spiranthes lucida M: seepage over amphibolite (Alleghany)	Shining Ladies-tresses	SR-O	-	S1	G5
Spiranthes ochroleuca M: grassy balds, meadows, wooded slopes (Ashe*, Avery*, Buncombe*, Haywood*, Watauga*, Yancey*)	Yellow Ladies'-tresses	SR-P	-	SH	G4
Sporobolus heterolepis M: olivine barrens (Clay, Jackson)	Prairie Dropseed	E	-	S1	G5
Sporobolus teretifolius sensu stricto C: wet savannas (Brunswick, Columbus)	Wireleaf Dropseed	T	FSC	S1	G2?
Sporobolus virginicus T: brackish marshes (Brunswick)	Saltmarsh Dropseed	SR-P	-	SH	G5
Stachys clingmanii M: spruce-fir forests, northern hardwoods forests (Haywood*, Jackson*, Swain*, Transylvania*)	Clingman's Hedge-nettle	SR-T	-	SH	G2Q
Stachys eplingii M: bogs (Burke+, Henderson*, Jackson*)	Epling's Hedge-nettle	SR-T	-	SH	G5
Stachys nuttallii MS: bogs (Madison)	Heartleaf Hedge-nettle	SR-P	-	S1	G5?
Stachys sp 1 P: sandy edges of forested floodplains (Montgomery)	A Hedge-nettle	SR-T	-	S1	G?
Stellaria alsine M: seeps (Madison*, Polk*)	Longstalk Starwort	SR-P	-	SH	G5
Stenanthium robustum M: bogs and wet meadows (Alleghany, Ashe)	Bog Featherbells	SR-P	-	S1	G?Q
Stewartia ovata	Mountain Camellia	SR-P	-	S2	G4

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MP: bluffs and forests, usually with rhododendrons					
Streptopus amplexifolius M: spruce-fir forests, northern hardwoods forests (Buncombe, Haywood, Jackson, Macon*, Mitchell*, Swain*, Yancey)	White Mandarin	SR-P	-	S1	G5
Stylisma aquatica C: clay-based Carolina bays, moist sandy pinelands (Brunswick, Marlboro, SC, Moore, Robeson, Scotland)	Water Dawnflower	SR-P	-	S1	G4
Stylisma pickeringii var *pickeringii* SC: sandhills (Bladen, Cumberland, Harnett, Hoke, Moore, New Hanover, Richmond, Scotland)	Pickering's Dawnflower	E	FSC	S3	G4T3
Symphotrichum oblongifolius M: thin soils around limestone outcrops (Madison)	Aromatic Aster	SR-P	-	S1	G5
Symphyotrichum georgianum P: open woods and roadsides (Davidson, Gaston, Lincoln, Mecklenburg, Montgomery, Randolph, Rowan, Stanly*, Union)	Georgia Aster	T	C	S2	G2G3
Symphyotrichum laeve var *concinnum* P: forests, woodland borders especially over mafic rocks (Alamance*, Durham, Granville, Stanly, Union, Wake*)	Narrow-leaf Aster	SR-P	-	S2	G5T4
Symphyotrichum laeve var *laeve* P: forests, woodland borders especially over mafic rocks (Polk*)	Smooth Blue Aster	SR-P	-	SH	G5T5
Symphyotrichum parviceps P: diabase glades (Granville)	Glade Aster	E	-	S1	G4?
Symphyotrichum shortii M: bluffs and rocky banks (Burke*, Transylvania*)	Short's Aster	SR-P	-	SH	G4G5
Symphyotrichum sp 1	Buck Creek Aster	SR-L	FSC	S1	G1
Synandra hispidula M: rich cove forests (Swain*)	Synandra	SR-T	-	SH	G4
Talinum mengesii P: shallow soil over felsic rock, where periodically wet by seepage (Granville)	Large-flowered Fameflower	E	-	S1	G3
Taxus canadensis M: bogs, swamp forests under spruce (Ashe*, Watauga)	Canada Yew	SR-P	-	S1	G5
Thalictrum cooleyi C: wet savannas (Brunswick, Columbus, New Hanover+, Onslow, Pender)	Cooley's Meadowrue	E	E	S2	G2
Thalictrum macrostylum CSPM: bogs and wet woods	Small-leaved Meadowrue	SR-L	-	S2	G3G4
Thaspium pinnatifidum M: calcareous slopes (Jackson*, Madison, Swain*)	Mountain Thaspium	SR-T	FSC	S1	G2G3
Thelypteris simulata M: bogs (Alleghany, Avery)	Bog Fern	T	-	S1	G4G5

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Thermopsis fraxinifolia MP: dry ridges (Buncombe, Burke, Henderson, Jackson*, Macon, McDowell*, Polk, Stokes*, Surry*, Transylvania, Yancey*)	Ash-leaved Golden-banner	SR-T	-	S2?	G4?T3?
Thermopsis mollis sensu stricto PM: dry ridges and open woodlands (Buncombe, Burke, Caldwell, Catawba, Chatham*, Columbus*, Durham*, Forsyth*, Franklin*, Gaston, Granville, Guilford*, Henderson*, Iredell*, Lincoln*, McDowell, Mecklenburg*, Orange*, Polk, Rutherford, Stokes*, Surry, Transylvania*, Vance*, Wake, Warren)	Appalachian Golden-banner	SR-P	-	S2	G3G4Q
Tofieldia glutinosa MP: bogs, seepages (Ashe, Caldwell*, Haywood, Henderson+, Jackson, Transylvania)	Sticky Bog Asphodel	SR-P	-	S1	G5
Torreyochloa pallida CM: blackwater pools, old millponds, and small stream swamps (Avery+, Columbus*, Currituck, Duplin*, Gates*)	Pale Mannagrass	SR-P	-	S1	G5?
Tradescantia virginiana P: rich woods on circumneutral soils (Harnett, Montgomery, Moore, Rockingham, Surry, Wake)	Virginia Spiderwort	SR-P	-	S1	G5
Trichomanes boschianum M: spray zone of waterfalls, seeps over rock (Jackson, Macon, Polk*)	Appalachian Filmy-fern	T	-	S1	G4
Trichomanes petersii M: moist rocks in humid gorges (Graham*, Jackson, Macon, Transylvania)	Dwarf Filmy-fern	T	-	S1	G4G5
Trichophorum cespitosum M: high elevation rocky summits, moist cliffs (Ashe, Avery, Buncombe, Burke, Caldwell+, Haywood, Henderson, Jackson, Mitchell, Rutherford, Transylvania, Yancey+)	Deerhair Bulrush	SR-D	-	S2S3	G5
Trichostema brachiatum PM: diabase glades, other dry calcareous or mafic outcrops (Granville, Madison, Orange*, Rockingham, Yancey*)	Glade Bluecurls	SR-P	-	S1	G4G5
Trichostema sp 1 T: dunes, openings in maritime forest and scrub (Brunswick, Carteret, Dare, Hyde, New Hanover)	Dune Bluecurls	SR-L	FSC	S2	G2
Tridens ambiguus C: clay-based Carolina bays (Marlboro, SC, Scotland)	Pineland Triodia	SR-P	-	S1	G4
Tridens carolinianus S: sandhills and pine flatwoods (Brunswick*, Cumberland, Harnett, Hoke, Moore, Richmond, Scotland)	Carolina Triodia	SR-T	-	S3	G3
Tridens chapmanii	Chapman's Redtop	SR-P	-	S1?	G3

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
C: dry pine and oak woods, sandy roadsides					
Tridens strictus C: pine flatwoods (Duplin*, Hoke+, Pender*, Robeson*)	Spike Triodia	SR-P	-	SH	G5
Trientalis borealis M: coves, northern hardwood forest (Cherokee, Graham, Haywood)	Starflower	SR-P	-	S1	G5
Trifolium carolinianum C: savannas, sandy open areas (Duplin*, New Hanover*, Onslow*)	Carolina Clover	SR-O	-	SH	G5
Trillium discolor M: rich coves in the Savannah River drainage (Jackson, Transylvania)	Mottled Trillium	T	-	S1	G3
Trillium flexipes M: rich coves (Henderson*, Swain*)	Bent White Trillium	SR-P	-	SH	G5
Trillium pusillum var *1* M: rich cove forests (Clay, Haywood*)	Alabama Least Trillium	E	FSC	S1	G3T2Q
Trillium pusillum var *pusillum* CP: ecotones between savannas and nonriverine wet hardwood forests, over marl (Halifax, Johnston, Nash, Pender, Wake)	Carolina Least Trillium	E	FSC	S1	G3T2
Trillium pusillum var *virginianum* C: mesic to swampy hardwood forests (Camden, Currituck, Gates)	Virginia Least Trillium	E	FSC	S1	G3T2
Trillium recurvatum M: rich coves	Prairie Trillium	SR-P	-	S1	G5
Trillium sessile C: rich alluvial levees and slopes (Halifax, Northampton)	Sessile-flowered Trillium	SR-P	-	S1	G4G5
Trillium simile MP: rich coves (Burke, Cherokee, Haywood*, Henderson, Macon, Madison, McDowell, Polk, Rutherford, Swain*)	Sweet White Trillium	SR-L	-	S2	G3
Trisetum spicatum M: grassy balds and/or high elevation rocky summits (Mitchell*)	Soft Trisetum	E	-	SX	G5
Urtica chamaedryoides C: rich alluvial levees (Bertie, Halifax, Northampton)	Dwarf Stinging Nettle	SR-P	-	S1	G4G5
Utricularia cornuta CM: bogs, limesink ponds	Horned Bladderwort	SR-P	-	S1	G5
Utricularia floridana C: natural lakes (Wayne*)	Florida Bladderwort	SR-T	-	SH	G3G5
Utricularia geminiscapa SC: seepage areas on Suffolk Scarp, beaver ponds (Beaufort*, Cumberland, Hoke, Moore, Pender)	Two-flowered Bladderwort	SR-P	-	S1	G4G5
Utricularia macrorhiza C: pools and ponds	Greater Bladderwort	SR-O	-	S1	G5
Utricularia minor M: bogs (Watauga*)	Small Bladderwort	SR-D	-	SH	G5
Utricularia olivacea C: limesink ponds, beaver ponds (Brunswick*, Carteret, Craven*, Cumberland, Hoke, New Hanover, Onslow, Pender)	Dwarf Bladderwort	T	-	S2	G4

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Utricularia resupinata C: natural lakes (Columbus, Washington*)	Northeastern Bladderwort	SR-O	-	S1	G4
Vaccinium macrocarpon MC: bogs, seeps, pocosins (Alleghany, Ashe*, Avery, Bladen+, Brunswick, Burke, Cumberland, Currituck*, Dare, Haywood, Hyde, Tyrrell, Watauga)	Cranberry	SR-P	-	S2	G4
Vaccinium virgatum S: pocosins, blackwater swamps, mesic pine flatwoods, sandhill seeps	Small-flower Blueberry	SR-P	-	S1	G4
Verbena riparia P: habitat not known (Caldwell*, Stanly+)	Riverbank Vervain	SR-T	FSC	SU	GUGHQ
Verbesina walteri M: rich cove forests (Polk*)	Walter's Crownbeard	SR-T	-	SH	G3?
Veronica americana MC: seeps, bogs (Alleghany, Ashe*, Avery, Craven*, Madison, Mitchell*, Watauga, Yancey*)	American Speedwell	SR-P	-	S2	G5
Viola appalachiensis M: olivine barrens and alluvial forests (Clay, Macon)	Appalachian Violet	SR-T	-	S2	G3
Viola walteri MP: rich cove forests and other rich forests	Prostrate Blue Violet	SR-T	-	S1S2	G4G5
Waldsteinia lobata M: streambanks and ravines (Jackson*, Transylvania)	Lobed Barren-strawberry	SR-T	FSC	S1	G2
Warea cuneifolia S: sandhills (Harnett*, Hoke)	Carolina Pineland-cress	SR-P	-	S1	G4
Woodsia appalachiana M: cliffs, rock outcrops (Alleghany, Ashe*, Buncombe*, Burke, McDowell, Polk, Surry, Wilkes+)	Appalachian Cliff Fern	SR-P	-	S1	G4
Woodsia ilvensis M: cliffs, rock outcrops (Alleghany, Ashe, Surry)	Rusty Cliff Fern	SR-P	-	S1	G5
Xyris brevifolia C: savannas, other low wet areas (Bladen, Brunswick, Carteret, Columbus+, Onslow, Pender)	Shortleaf Yellow-eyed-grass	SR-P	-	S2	G4G5
Xyris chapmanii S: mucky sandhill seeps (Cumberland, Harnett, Hoke, Moore, Richmond, Scotland)	Chapman's Yellow-eyed-grass	SR-T	-	S2	G3
Xyris difformis var *floridana* C: savannas (Onslow, Robeson*)	Florida Yellow-eyed-grass	SR-P	-	S1	G5T4T5
Xyris scabrifolia S: sandhill seeps and bogs (Cumberland, Harnett, Hoke, Moore, Richmond, Scotland)	Roughleaf Yellow-eyed-grass	SR-T	FSC	S2	G3
Xyris serotina C: savannas (Pender)	Acid-swamp Yellow-eyed-grass	SR-P	-	S1	G3G4
Xyris stricta C: savannas (Brunswick, Carteret)	a yellow-eyed grass	SR-P	-	S1	G3G4
Yucca gloriosa T: dunes (Brunswick, Carteret, Dare, Hyde, New Hanover, Onslow, Pender)	Moundlily Yucca	SR-P	-	S2?	G4?

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Zephyranthes simpsonii C: roadsides, calcareous coastal fringe forest (Brunswick)	Rain Lily	SR-L	FSC	S1	G2G3
Zigadenus elegans ssp glaucus M: calcareous rock outcrops (Buncombe*, McDowell, Yancey*)	White Camas	SR-P	-	S1	G5T4T5
Zigadenus leimanthoides M: high elevation rocky summits, thin soil at high elevations (Ashe*, Avery, Burke, Yancey*)	Pinebarren Death-camus	SR-O	-	S1	G4Q
	Mosses				
Bartramidula wilsonii M: in spray zones of waterfalls, moist rocks in humid gorges (Jackson, Macon*, Rutherford*, Transylvania)	Dwarf Apple Moss	SR-D	-	S1	G4?
Brachydontium trichodes M: on moist rocks in spruce-fir forests (Mitchell, Swain*)	Peak Moss	SR-D	-	S1	G2G4
Brachymenium andersonii M: on humus in acidic cove forests - mixed hardwood-hemlock (Macon*)	Anderson's Melon-moss	SR-L	FSC	SH	GH
Brachymenium systylium M: on humus in acidic cove forests mixed hardwood-hemlock (Macon*)	Mexican Melon-moss	SR-D	-	S1	G5
Brachythecium populeum M: mountain forests (Avery*)	Matted Feather Moss	SR-P	-	SH	G5
Brachythecium rotaeanum M: on bark or rock in cove forests (Jackson*, Martin*, McDowell*)	Rota's Feather Moss	SR-D	-	S1	G3G4
Bryocrumia vivicolor M: rocks and streambanks in humid gorges, spray zones of waterfalls (Jackson*, Transylvania*)	Gorge Moss	E	FSC	SH	G1G2
Bryoerythrophyllum ferruginascens M: on moist rocks or soil at high elevations (Jackson)	a moss	SR-D	-	S1	G3G4
Bryoerythrophyllum inaequalifolium M: on thin soil over shale (McDowell*)	a moss	SR-D	-	S1	G4?
Bryoxiphium norvegicum M: rocks in humid gorges, spray zones of waterfalls (Jackson, Macon, McDowell*)	Sword Moss	SR-O	-	S1	G5?
Bryum riparium M: spray zones of waterfalls (Transylvania*)	Riverside Bryum	SR-D	-	SH	G2G4
Buxbaumia aphylla M: forests, roadside banks (Haywood*)	Bug-on-a-stick	SR-O	-	SH	G4G5
Buxbaumia minakatae M: on rotten logs and stumps in mountain forests	Hump-backed Elves	SR-T	-	SH	G2G3
Campylium stellatum M: fens (Ashe)	Yellow Starry Fen Moss	SR-D	-	S1	G5
Campylopus atrovirens var *cucullatifolius* M: cliffs, high elevation rocky summits (Ashe*, Haywood*, Jackson*, Macon*, Transylvania*)	Cliff Campylopus	SR-D	-	S1	G4?T4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Campylopus carolinae C: savannas, sandhills (Brunswick, Carteret, Scotland)	Savanna Campylopus	SR-T	FSC	S1	G1G2
Campylopus oerstedianus P: granite flatrocks (Wake*)	Oersted's Campylopus	SR-D	-	S1	G1G3
Campylopus paradoxus M: high elevation rock outcrops (Avery*)	Paradoxical Campylopus	SR-D	-	S1	G5
Cirriphyllum piliferum M: moist rocks, wet by seepage or waterfall spray (Alleghany*, Jackson*, McDowell*, Swain*, Transylvania)	a moss	SR-P	-	S1	G5
Coscinodon cribrosus M: high elevation rocky summits (Alleghany*)	Copper Grimmia	SR-T	-	S1	G3G4
Dichodontium pellucidum M: seepage or spray zones of waterfalls on mafic or calcareous rocks (Ashe*, Buncombe*, Haywood*, Jackson*, Macon*, McDowell*, Mitchell*, Swain*, Transylvania*)	a moss	SR-P	-	S2	G4G5
Dicranum undulatum M: bogs, seeps (Avery*, Buncombe*, Burke*, Haywood*, Yancey*)	Bog Broom-moss	SR-D	-	S1	G5
Ditrichum ambiguum M: acidic cove forests (Macon)	Ambiguous Ditrichum	SR-P	-	S1	G4?
Encalypta procera M: on moist calcareous rocks (Macon*, McDowell*)	Extinguisher Moss	SR-D	-	S1	G4G5
Entodon compressus MP: on moist calcareous rocks (Macon*, McDowell*, Person*, Rockingham*)	Flattened Entodon	SR-P	-	S1	G4
Entodon concinnus M: on moist calcareous rocks (McDowell*)	Lime Entodon	SR-P	-	S1	G4G5
Entodon sullivantii M: on rocks or bark in humid gorges and cove forests (Buncombe+, Caldwell*, Graham*, Macon*, McDowell*, Polk*, Transylvania)	Sullivant's Entodon	SR-O	-	S2	G3G4
Eucladium verticillatum M: on moist calcareous rocks (McDowell*)	Lime-seep Eucladium	SR-O	-	S1	G4
Fissidens hallii C: on bark in cypress-gum swamps (Jones*)	Hall's Pocket Moss	SR-T	-	S1	G2
Homalia trichomanoides M: in spray zones of waterfalls, on rocks in humid gorges (Avery, Jackson*, Macon*, McDowell*, Transylvania)	Lime Homalia	SR-P	-	S1	G5
Homaliadelphus sharpii M: on dry mafic or calcareous rocks in gorges (Jackson*)	Sharp's Homaliadelphus	SR-P	-	S1	G3?
Hygrohypnum closteri MP: on rocks submersed in streams (McDowell*, Orange*, Polk*, Swain*)	Closter's Brook-hypnum	SR-T	-	S1	G3
Leptodontium excelsum	Grandfather Mountain Leptodontium	SR-L	-	S1	G2

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
M: on bark of Fraser Firs and Red Spruces in spruce-fir forests (Avery*, Haywood*, Jackson*, Swain*, Transylvania*)					
Leptodontium flexifolium M: high elevation rocky summits and moist calcareous rocks (Ashe*, Avery*, Haywood*, Swain*, Transylvania*, Yancey*)	Pale-margined Leptodontium	SR-D	-	S1	G5
Leptohymenium sharpii M: moist rocks in spruce-fir forests (Haywood*, Yancey*)	Mount Leconte Moss	SR-L	-	S1	G1
Lindbergia brachyptera M: bark of hardwoods (Ashe*, Cherokee*)	Lindberg's Maple-moss	SR-P	-	S1	G5
Macrocoma sullivantii MP: bark of cedar or hardwoods (Clay*, Jackson, Macon, Swain, Transylvania, Wilkes*)	Sullivant's Maned-moss	SR-D	-	S2	G3G5
Orthodontium pellucens MP: moist felsic or calcareous rocks (Stokes*, Swain*)	Translucent Orthodontium	SR-O	-	S1	G4
Orthotrichum keeverae P: on trees around low elevation granitic domes (Alexander, Alleghany, Wilkes)	Keever's Bristle-moss	E	-	S2	G2
Orthotrichum obtusifolium M: bark of hardwoods (Ashe*)	Blunt Bristle-moss	SR-P	-	S1	G5
Palamocladium leskeoides M: calcareous rocks in humid gorges (Jackson*)	Palamocladium	SR-D	-	S1	G3G5
Plagiomnium carolinianum M: rocks and streambanks in humid gorges (Jackson*, Macon*, Swain*, Transylvania)	Carolina Star-moss (=Carolina Mnium)	SR-L	-	S2	G3
Platydictya confervoides M: calcareous rocks (Madison*, McDowell*)	Alga-like Matted-moss	SR-P	-	S1	G4G5
Platyhypnidium pringlei M: rocks and streambanks in humid gorges, spray zones of waterfalls (Polk*, Transylvania)	Pringle's Eurhynchium	SR-D	-	S1	G2G3
Rhabdoweisia crenulata M: moist rocks in cove forests in humid gorges (Jackson, McDowell)	Himalayan Ribbed-weissia	SR-D	-	S1	G3G4
Rhachithecium perpusillum PM: bark of hardwoods (Cleveland*, Iredell*, McDowell*, Mecklenburg*, Surry*, Wilkes*)	Budding Tortula	SR-D	-	S1S2	G4G5
Rhytidium rugosum M: high elevation rocky summits, grassy balds, glades, over mafic rocks (Ashe, Avery, Buncombe*, Caldwell, Johnson, TN, Mitchell, Watauga, Yancey*)	Golden Tundra-moss	SR-P	-	S2	G5
Schlotheimia lancifolia M: on bark of hardwoods in cove forests (Graham*, Jackson*, Macon, Transylvania*)	Highlands Moss	T	-	S1	G2

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Scopelophila cataractae MP: copper-rich soils (Jackson, McDowell*, Rowan)	Agoyan Cataract Moss	SR-D	-	S1	G3
Scopelophila ligulata M: copper-rich soils and rock-faces (Clay*, Jackson*, McDowell*, Swain*, Transylvania*)	Copper Moss	SR-O	-	S1	G5?
Sphagnum angustifolium M: bogs (Jackson, Transylvania, Watauga)	Narrowleaf Peatmoss	SR-D	-	S1	G5
Sphagnum capillifolium M: bogs, heath bald (Ashe+, Avery*, Jackson*, Watauga+)	Northern Peatmoss	SR-P	-	S1	G5
Sphagnum contortum M: bogs (Ashe)	a peatmoss	SR-D	-	S1	G5
Sphagnum fallax M: bogs (Avery, Burke, Jackson)	Pretty Peatmoss	SR-P	-	S2	G5
Sphagnum fitzgeraldii C: pocosins and savannas (Bladen*, Brunswick, Carteret, Craven*, Onslow)	Fitzgerald's Peatmoss	SR-T	-	S2S3	G2G3
Sphagnum flavicomans M: spray cliff, spruce-fir forest, or high elevation rocky summit (Macon*, Mitchell*)	Peatmoss	SR-T	-	SH	G3
Sphagnum flexuosum M: bogs (Watauga)	Flexuous Peatmoss	SR-P	-	S1	G5
Sphagnum fuscum M: bogs	Brown Peatmoss	E	-	S1	G5
Sphagnum henryense M: bogs (Alleghany+, Jackson)	Peatmoss	SR-D	-	S2	G4?
Sphagnum pylaesii M: seepage cliffs, natural pools (Burke*, Jackson*)	Simple Peatmoss	SR-D	-	S1	G4
Sphagnum russowii M: bogs (Bertie)	Russow's Peatmoss	SR-D	-	S1	G5
Sphagnum squarrosum M: spray zones of waterfalls, seepage in spruce-fir forests (Macon*, Watauga*, Yancey*)	Squarrose Peatmoss	SR-P	-	S1	G5
Sphagnum subsecundum M: bogs and rock ledges (Ashe, Burke+, Haywood, Swain+, Watauga)	Orange Peatmoss	SR-P	-	S1	G5
Sphagnum tenellum M: high elevation granitic domes (Jackson*)	Delicate Peatmoss	SR-D	-	S1	G5
Sphagnum torreyanum C: beaver ponds and old mill ponds on blackwater creeks (Harnett*, Richmond*)	Giant Peatmoss	SR-P	-	S1	G3G4
Sphagnum warnstorfii M: bogs and fens (Watauga)	Fen Peatmoss	SR-D	-	S1	G5
Splachnum pennsylvanicum M: bogs (Avery*, Macon*)	Southern Dung Moss	SR-O	-	SH	G4?
Syrrhopodon incompletus T: on treetrunks in maritime forests (Brunswick*)	Cuban Schliessmund	SR-P	-	S1	G5
Taxiphyllum alternans M: on limestone in spray zones of waterfalls (Macon*)	Japanese Yew-moss	SR-O	-	S1	G3?

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Tortula ammonsiana M: shaded rock faces, probably with nutrient-rich seepage (Jackson)	Ammons's Tortula	E	-	S1	G1
Tortula fragilis M: shaded rock faces, probably with nutrient-rich seepage (Jackson*)	Fragile Tortula	SR-D	-	S1	G5
Tortula papillosa PM: bark of hardwoods (Davie*, Madison*, Surry*)	Papillose Tortula	SR-P	-	S1	G5
Warnstorfia fluitans M: in spray zones of waterfalls (Jackson*)	Floating Sickle-moss	SR-D	-	S1	G5

Liverworts

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Acrobolbus ciliatus M: on moist rocks, in spray zones of waterfalls in humid gorges or in high elevation spruce-fir forests (Haywood*, Jackson*, Macon*, Yancey*)	a liverwort	SR-D	-	S1	G3?
Anastrophyllum saxicola M: high elevation rocky summits (Mitchell*)	a liverwort	SR-D	-	S1	G3G4
Aneura sharpii MP: in spray zones of waterfalls (Durham*, Jackson*, Macon*, Swain)	a liverwort	SR-T	-	S1	G1G2
Anomylia cuneifolia M: on bark of Fraser Firs or on moist rock, in spruce-fir forests (Haywood*, Mitchell*, Swain*, Yancey*)	a liverwort	SR-D	-	S2	G4G5
Barbilophozia barbata M: on high elevation rocky summits (Ashe*, Wilkes*)	a liverwort	SR-D	-	S1	G4?
Barbilophozia hatcheri M: on high elevation rocky summits (Watauga*)	a liverwort	SR-D	-	S1	G5
Bazzania nudicaulis M: on bark of Fraser Fir or on shaded rock in spruce-fir forests (Avery*, Caldwell*, Mitchell*, Swain*, Watauga*, Yancey*)	a liverwort	SR-T	-	S2	G2G3
Cephalozia connivens var *bifida* C: moist riverbank	a liverwort	SR-T	-	S1	G5T1Q
Cephalozia macrostachya ssp *australis* M: on moist rocks in humid gorges (Burke*, Macon*)	a liverwort	SR-T	-	S1	G4T1
Cephalozia pleniceps var *caroliniana* M: edge of stream	a liverwort	SR-L	-	S1	G5T1
Cephalozia pleniceps var *pleniceps* M: moist soil near a spring	a liverwort	SR-D	-	SH	G5T5
Cephaloziella hampeana M: fens (Ashe*)	a liverwort	SR-D	-	S1	G5
Cephaloziella spinicaulis M: in crevices of high elevation rocky summits (Alleghany*, Ashe*, Macon)	a liverwort	SR-P	-	S1	G3G4
Cheilolejeunea evansii M: on bark of hardwoods in humid gorges (Jackson, Transylvania*)	a liverwort	E	-	S1	G1

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Cheilolejeunea myriantha MC: on tree bark in sandhills or mountain forests (Sampson*, Transylvania*)	a liverwort	SR-P	-	SH	G3G4
Cheilolejeunea rigidula CT: on bark in maritime forests, and in blackwater swamp forests (Brunswick*, Columbus*, Hyde*)	a liverwort	SR-P	-	S2	G5
Chiloscyphus appalachianus M: on rock faces in spray zone of waterfalls (Burke, Jackson*, Macon*)	a liverwort	SR-T	-	S1	G1G2Q
Chiloscyphus muricatus M: on rocks or bark in humid gorges (Burke, Jackson*, Macon*)	a liverwort	SR-D	-	S1	G5
Cylindrocolea rhizantha C: on marl outcrops (Columbus*)	a liverwort	SR-P	-	SH	G3?
Diplophyllum apiculatum var *taxifolioides* M: moist soil or rocks	a liverwort	SR-L	-	S1	G5T1Q
Diplophyllum obtusatum M: on rock outcrops	a liverwort	SR-D	-	S1	G2?
Diplophyllum taxifolium var *mucronatum* M: high elevation rocky summits	a liverwort	SR-L	-	S1	G5T1
Drepanolejeunea appalachiana M: on moist rock, rhododendron bark, and rhododendron leaves in humid gorges (Burke*, Clay*, Jackson, Macon, Transylvania*)	a liverwort	SR-L	-	S1	G2?
Frullania appalachiana M: on bark of hardwoods in spruce-fir forests	a liverwort	SR-L	-	S1?	G1?
Frullania donnellii C: on bark of Ilex in marsh	a liverwort	SR-T	-	SH	G3?
Lejeunea bermudiana C: on marl outcrops or on decaying logs in blackwater swamps, or tree bases in swamps (Brunswick*, Carteret*, Columbus*)	a liverwort	SR-P	-	SH	G3G4
Lejeunea blomquistii M: on dead tree bark or vertical rock faces in spray zone of waterfalls (Macon*)	a liverwort	SR-L	-	S1	G1G2
Lejeunea cavifolia M: on shaded mafic rocks (Ashe*, Polk*)	a liverwort	SR-P	-	S1	G5
Lejeunea dimorphophylla TC: on bark in maritime forests (Carteret*)	a liverwort	SR-L	-	S1	G2G3
Lejeunea glaucescens var *acrogyna* C: on shaded rock at the piedmont/coastal plain fall line (Harnett*)	a liverwort	SR-L	-	SH	G5TH
Lopholejeunea muelleriana C: on bark of gums and cypresses in blackwater swamp forests (Columbus*)	a liverwort	SR-D	-	SH	G4G5
Lophozia excisa M: on high elevation rocky summits (Ashe*)	a liverwort	SR-D	-	S1	G5
Lophozia heterocolpos M: on high elevation rocky summits	a liverwort	SR-D	-	S1	G5

Scientific Name / Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Mannia californica M: on mineral-rich, dry rock outcrops	a liverwort	SR-T	-	S1	G3?
Marsupella emarginata var *latiloba* M: on moist rocks in humid gorges, spray zones of waterfalls, or high elevations	a liverwort	SR-L	-	S1	G5T1T2
Marsupella funckii M: on high elevation, sulphur-bearing rock	a liverwort	SR-D	-	S1	G4G5
Metzgeria fruticulosa M: on bark at high elevations	a liverwort	SR-T	-	S1S2	G2Q
Mylia taylorii M: moist rock outcrops at high elevations, spray zone of waterfalls (Avery, Jackson)	a liverwort	SR-D	-	S1	G5
Nardia scalaris ssp scalaris M: on high elevation rocky summits and on moist rocks in spruce-fir forests (Buncombe*, Haywood*)	a liverwort	SR-D	-	S1	G5T5
Plagiochasma intermedium M: on moist limestone	a liverwort	SR-O	-	S1	G3G5
Plagiochasma wrightii M: on moist calcareous rocks	a liverwort	SR-D	-	S1	G3?
Plagiochila austinii M: moist rocks (Avery, Jackson, Macon*, Watauga*)	a liverwort	SR-T	-	S1S2	G3
Plagiochila caduciloba M: rocks and streambanks in humid gorges, spray zone of waterfalls (Burke*, Clay*, Haywood*, Jackson, Macon*, Transylvania, Yancey*)	a liverwort	SR-T	-	S1	G2
Plagiochila corniculata M: on bark of Fraser Firs in spruce-fir forests, rarely on hardwoods (Avery, Buncombe*, Haywood*, Jackson*, Mitchell*, Swain*, Transylvania*, Yancey*)	a liverwort	SR-D	-	S2	G4?
Plagiochila dubia CP: on bark at bases of trees in swamps	a liverwort	SR-P	-	S1	G4G5
Plagiochila echinata M: rocks and streambanks in humid gorges, spray zone of waterfalls (Jackson*, Macon*, Transylvania*)	a liverwort	SR-L	-	S1	G2Q
Plagiochila ludoviciana CM: on bark in coastal plain swamps, on bark or moist rock in mountain gorges (Brunswick*, Cherokee*, Transylvania*, Washington*)	a liverwort	SR-P	-	S1	G5
Plagiochila miradorensis var *miradorensis* T: on bark in maritime forests and swamps (Carteret*)	a liverwort	SR-P	-	SH	G4?T4
Plagiochila sharpii M: damp rockfaces in humid gorges, high elevation rocky summits (Haywood*, Jackson*, Macon*, Transylvania*, Yancey*)	a liverwort	SR-L	FSC	S2	G2G3
Plagiochila sullivantii var *spinigera* M: on moist rocks in spray zones of waterfalls (Burke*, Jackson*)	a liverwort	SR-L	FSC	S1	G2T1

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Plagiochila sullivantii var *sullivantii* M: on moist rocks, in spray zones of waterfalls and in spruce-fir forests (Avery, Burke*, Caldwell*, Clay*, Haywood*, Jackson*, Macon*, Mitchell*, Swain*, Transylvania*, Yancey*)	a liverwort	SR-T	FSC	S2	G2T2
Plagiochila virginica var *caroliniana* M: rockfaces in spray zone of waterfalls, other moist rockfaces (Avery*, Jackson*, Macon*, Transylvania*)	a liverwort	SR-T	FSC	S1	G3T2
Plagiochila virginica var *virginica* M: on limestone (McDowell*)	a liverwort	SR-L	-	S1	G3T3
Porella wataugensis M: on rocks in humid gorges (Burke*, Graham*, Macon*, Watauga*)	a liverwort	SR-L	FSC	S1	G1G2Q
Ptilidium ciliare M: on soil in high elevation forests	a liverwort	SR-D	-	S1	G5
Radula sullivantii M: on moist rocks, mostly in spray zones of waterfalls	a liverwort	SR-L	-	S2	G3
Radula voluta M: on moist rocks in spray zones of waterfalls (Macon*)	a liverwort	SR-D	-	S1	G3
Riccardia jugata M: on fallen logs in humid areas, especially gorges	a liverwort	SR-L	-	S1?	G1G2
Scapania mucronata M: high elevation rocky summits	a liverwort	SR-D	-	S1	G5
Sphenolobopsis pearsonii M: on bark of Fraser Firs in spruce-fir forests (Avery, Haywood*, Jackson*, Mitchell*, Swain*, Yancey*)	a liverwort	E	FSC	S2	G2?
Tritomaria exsectiformis ssp exsectiformis M: on high elevation rocky summits (Ashe*)	a liverwort	SR-D	-	SH	G5T5

Hornworts

Aspiromitus appalachianus M: on rocks on streambeds (Transylvania*)	a hornwort	SR-L	FSC	S1	G1
Megaceros aenigmaticus M: on rocks in streams	a hornwort	SR-L	-	S2S3	G2G3

Lichens

Anaptychia setifera M: high elevation rocky summits and exposed tree twigs on dry ridges (Mitchell)	Hanging Fringe Lichen	SR-D	-	S1	G3G4
Anzia americana M: on bark of trees in humid gorges (Transylvania*)	a black-foam lichen	SR-T	-	S1	G2?
Anzia ornata C: on bark of deciduous trees where humidity is fairly high (Duplin*)	a black-foam lichen	SR-T	-	SH	G1G3
Canoparmelia amabilis M: on bark of trees in open woods or on sandstone in river gorges (Polk*)	Worthy Shield Lichen	SR-T	FSC	S1	G1
Cetraria arenaria	Sand-loving Iceland Lichen	SR-P	-	S2	G4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
M: high elevation rocky summits, sandy soil, or thin soil over bedrock (Ashe, Avery, Watauga)					
Cetrelia cetrarioides M: on trees and mossy rocks in forests with an open understory; may prefer old growth or very mature forests (Buncombe*, Haywood*, Jackson*, Mitchell*, Sevier, TN*, Swain*, Yancey*)	Sea Storm Lichen	SR-D	-	S2	G3
Cladonia psoromica M: rock outcrops and fens and glades over amphibolite rock (Ashe)	Bluff Mountain Reindeer Lichen	SR-L	FSC	S1	G1
Ephebe americana M: high elevation rocky summits (Caldwell*, Haywood*, Jackson*)	a rockshag lichen	SR-T	-	S1	G2G3
Ephebe lanata MP: on rocks in rapidly flowing water and grottoes around mountain spray cliffs	Rockshag Lichen	SR-D	-	S1	G5
Ephebe solida M: on rocks in rapidly flowing water and possibly moist grottoes around mountain spray cliffs	a rockshag lichen	SR-P	-	S1	G3G4
Gymnoderma lineare M: high elevation rock outcrops, outcrops in humid gorges (Ashe, Avery, Buncombe, Graham, Haywood, Jackson, Macon, Mitchell, Rutherford, Swain*, Transylvania, Yancey)	Rock Gnome Lichen	T	E	S2	G2
Heterodermia appalachensis MP: hardwood bark or rock faces, possibly associated with old growth forests	Appalachian Fringe Lichen	SR-O	-	S1S2	G2?
Hydrothyria venosa MP: rocks and boulders in small streams (Avery, Buncombe, Cherokee, Clay, Graham, Haywood, Jackson, Macon, Madison, Swain, Transylvania)	Waterfan Lichen	SR-P	-	S3	G3
Hypotrachyna sinuosa M: on twigs or small branches in humid but open forests	Green Loop Lichen	SR-D	-	S1	G5
Hypotrachyna virginica M: on twigs or rocks in open forests at high elevations	Virginia Loop Lichen	SR-T	-	S1S2	G1G2
Lobaria scrobiculata M: on bark of hardwoods at high elevations (primarily spruce-fir zone)	Textured Lungwort	SR-P	-	S2?	G3G4
Melanelia stygia M: high elevation rocky summits (Avery, Buncombe, Macon, McDowell, Mitchell, Yancey)	Alpine Camouflage Lichen	SR-D	-	S1S2	G4G5
Pannaria conoplea M: on bark at high elevations	Mealy-rimmed Shingle Lichen	SR-D	-	S1	G3G4
Physcia pseudospeciosa M: mossy rocks in open woods and high elevation granitic and sandstone rock outcrops (Jackson)	a rosette lichen	SR-T	-	S1	G1G2

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Porpidia diversa M: high elevation rocky summits	Boulder Lichen	SR-T	-	S1	G2G3
Porpidia herteliana M: high elevation rocky summits	Boulder Lichen	SR-T	-	S1?	G2G3
Sticta limbata M: on bark and over mosses on trees and rocks	Powdered Moon Lichen	SR-D	-	S1	G3G4
Teloschistes flavicans C: on branches of trees and shrubs or on the ground in open areas, especially near the coast (Brunswick, Carteret, Onslow)	Sunrise Lichen	SR-P	-	S1	G3G4
Usnea angulata M: on branches of Juniper on High Elevation Granitic Domes (Jackson, Macon, Swain*)	Old Man's Beard	SR-P	-	S1	G4?
Xanthoparmelia monticola M: high elevation rocky summits (Buncombe*, Haywood*, Jackson*, Mitchell*, Transylvania*)	a rock-shield lichen	SR-L	-	S2?	G2?

NORTH CAROLINA PLANT WATCH LIST

The *North Carolina Plant Watch List* includes plant species which are rare or otherwise threatened with serious decline, but for which current information does not justify placement on the main list (E, T, or SR). Watch List species are additional indicators of significant habitats, and their presence should be considered in planning natural area protection efforts, though with less weight than higher priority rare species and natural communities. The NC NHP maintains paper files on these species, but does not include them in its map and computer files. Plants placed on this list fall into a number of categories, discussed below. NC NHP requests additional information about these species, in order to clarify their status and reclassify them into other appropriate categories.

Reasons for the current placement of rare species on the Watch List rather than at a higher rarity status (Endangered, Threatened, Candidate, or Significantly Rare) are variable . The taxonomic validity of some of these species is currently in doubt. For others, NC NHP lacks adequate documentation of their historic or present occurrence in North Carolina. Others are known to be rare in North Carolina, but it appears that they are not native to the state. For most species, however, their actual rarity is poorly known and we are requesting more data before such species receive a higher, and more formal, rarity status. A field survey form is provided in the back of this document. We request that people fill out this survey form and mail it to NC NHP after visiting occurrences of these species.

The Watch List has been divided into seven categories as follows. A list of Potential "New-to-North Carolina" species is located after the Watch List.

Watch Category 1 (W1 - rare, but relatively secure) includes rare species whose status in North Carolina is relatively well known and which appear to be relatively secure at this time. While still notably rare, these species do not currently require site-specific monitoring and so are not on the main list (E, T, C, or SR). Many of these species were formerly on the main list; they are retained in this category because they require a lower level of continued monitoring to ensure their long-term security.

Watch Category 2 (W2 - rare, but taxonomically questionable) includes species with questionable taxonomy, including taxa of dubious validity and taxa under study and potentially to be named. If further study reveals that these are valid taxa, they would warrant addition to the Rare Plant List as Endangered, Threatened, Candidate, or Significantly Rare. This category has been used for named and unnamed taxa which currently appear to have some significant chance of being proven valid. We request data on taxonomic validity, as well as data on localities and populations.

Watch Category 3 (W3 - rare, but uncertain documentation) includes species which have been reported from North Carolina without adequate documentation. These species should be listed at a higher level when their reported occurrence in North Carolina is verified. This category includes sight records, old and vague reports for which no documentation has appeared, and, in a few cases, more recent literature reports for which we have not yet received documentation. We request data documenting native occurrence in North Carolina, as well as locality and population data.

Watch Category 4 (W4 - rare, but believed not native) includes species known to occur in North Carolina which current data suggest are not native to North Carolina, but whose native occurrence is plausible. Some of these species were previously listed at a higher level, but field investigations suggest that all known North Carolina occurrences are introductions. We request data documenting the native occurrences of the species in North Carolina.

Watch Category 5a (W5a - rare because of severe decline) includes species which have declined sharply in North Carolina, but which do not appear yet to warrant site-specific monitoring. Most species in this category haveundergone declines of more than 50% (in many cases more than 90%) from their pre-Columbian status. Reasons for decline include exotic pests or pathogens, massive modification of the landscape, suppression of natural fires, and failure of reproduction. Because many of these species were once abundant or even dominant in parts of North Carolina, they may still be fairly common or frequently encountered, despite the strong decline. If current trends continue, however, many of these species will be threatened with extirpation in all or a major part of their ranges in North Carolina.

Watch Category 5b (Exploited Plants) These are generally widespread species, at least within their physiographic province, that are in commercial demand and are often collected and sold in high volume. Such high volume collection can cause local extirpation and is not sustainable in the long run . This category has been created to bring attention to the issue before commercial collection of these species gets to the point where these species become rare. *Allium tricoccum*, *Galax urceolata*, *Hypnum curvifolium*, *Hypnum impoens*, and *Thuidium delicatulum* are being monitored on federal lands in order to document the long term effects of commercial levels of collection. Monitoring of the other species would also be beneficial. The NHP requests information on locations of monitored populations, illegal collection incidents and amounts collected legally. Not included in this category are species that are already listed in other sections of this rare plant list.

Watch Category 6 (W6 - regionally rare) includes species which are rare in one region of North Carolina, while being uncommon to abundant within another region. These regional rarities, generally within-state disjuncts, are significant for protection of genetic variation and long-term viability of species. The W6 list follows the main Watch list. See the W6 section for additional discussion.

Watch Category 7 (W 7 - rare and poorly known) includes species with inadequate information about their distribution and rarity in North Carolina. These are generally species which have not been previously listed as rare in North Carolina, but which appear to be so, based on herbarium records and field experience of NC NHP staff, contractees, and cooperating scientists. Further information is needed in order to determine the true status of these species in North Carolina. We request locality and population data on these species.

References:

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Robbins, C. 1999. Medicine from U.S. Wildlands: An Assesment of Native Plant Species Harvested in the United States for Medicinal Use and Trade and Evaluation of the Conservation and Management Implications. Traffic USA for the Nature Conservancy.

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global

Vascular Watch List Plants

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Acer nigrum M: rich cove forests (Ashe*, Madison*, Swain*, Yancey*)	Black Maple	W7	-	S1?	G5
Acmella repens CP: low wet areas in alluvial forests (New Hanover*, Robeson*, Stanly*)	Creeping Spotflower	W1	-	S1	G5
Actaea racemosa MPC:rich cove forests, other mesic and moderately to very fertile forests	Common Black-cohosh	W5B	-	S4	G4
Agalinis decemloba PMS: dry, open sites (Buncombe*, Burke*, Durham, Forsyth*, Granville, Guilford*, Harnett, Henderson*, Hoke, Orange, Randolph, Richmond, Rutherford*, Scotland, Swain*, Transylvania*, Wake, Warren, Wilkes*)	Piedmont Gerardia	W1	-	S3	G4Q
Agalinis linifolia C: savannas, clay-based Carolina bays, depression ponds, and other wet, open habitats (Bladen, Brunswick, Carteret*, Columbus, Craven, Cumberland*, Dare*, Hoke, New Hanover, Onslow,Pender, Robeson, Sampson, Scotland*)	Flaxleaf Gerardia	W1	-	S3	G4?
Agalinis tenella C: savannas, flatwoods (Brunswick, Carteret, Columbus*, Jones, New Hanover*, Onslow, Scotland*, Wake*?)	a gerardia	W7	-	S1	G4Q
Agarista populifolia C: blackwater swamps (Columbus*)	Agarista	W3	-	SR	G4G5
Agastache nepetoides P: oak--hickory forests, especially over mafic rocks (Durham*, Granville, Moore*, Rockingham*, Stokes*, Transylvania*, Wake*, Warren*)	Yellow Giant-hyssop	W7	-	S1	G5
Agrimonia incisa CS: sandhill/pocosin ecotones	Cutleaf Agrimony	W3	FSC	SR	G3
Agrostis altissima C: wet savannas (Beaufort*, Brunswick, Carteret, Edgecombe, Harnett*, Hyde*, New Hanover*, Onslow, Pender, Tyrrell*)	Tall Bentgrass	W7	-	S2?	G4
Aletris farinosa CPM: pine savannas, pine flatwoods, seepage bogs, upland woodlands, roadbanks	White-tubed Colicroot	W5B	-	S5	G5
Allium allegheniense M: rock outcrops and woodlands over mafic rock at moderate to high elevations (Ashe, Watauga)	Allegheny Onion	W7	-	S2	G3?
Allium tricoccum M: cove forests and mesic slope forests	Red Ramps	W5B	-	S4	G5
Ampelopsis cordata PM: floodplain forests (Anson*, Buncombe*, Cabarrus*, Edgecombe*,	Heartleaf Peppervine	W7	-	S2	G5

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
Madison*, Martin*, Nash*, Richmond, Rowan*, Union*)					
Amphicarpum purshii C: pine savannas, pocosins, shallow peat burns in pocosin/savanna ecotones (Beaufort*, Brunswick, Carteret, Columbus, Craven, Cumberland, Duplin*, Martin*, Onslow, Pender, Pitt*, Robeson*, Sampson, Wilson*)	Pinebarrens Goober Grass	W1	-	S3	G4
Amsonia ciliata SC: sandhills (Anson*, Bladen, Cumberland, Moore, Richmond, Robeson, Scotland, Wake*)	Fringed Bluestar	W1	-	S3	G5?
Andropogon arctatus C: marsh (Pamlico*)	Pinewoods Bluestem	W3	-	SH	G3
Andropogon brachystachyus habitat in North Carolina not known	Short-spike Bluestem	W3	-	SR	G4
Andropogon longiberbis C: sandhills (New Hanover, Pender)	a bluestem	W7	-	S1	G5
Andropogon perangustatus CS: clay-based Carolina bays, upland depressions (Brunswick, Carteret, Columbus, Cumberland, Hoke, Moore, Onslow, Richmond, Sampson, Scotland)	Narrowleaf Bluestem	W7	-	S2?	G3G4Q
Andropogon tracyi SCP: sandhills, other dry soils (Gates*, Granville*, Harnett*, Hoke, Johnston*, Moore, Richmond, Scotland*)	Tracy's Bluestem	W7	-	S2	G4?
Andropogon virginicus var *decipiens* C: pinelands and disturbed areas (Bertie*, Bladen*, Dare*, Duplin*, Martin*, Nash*, Onslow, Pender)	Deceptive Bluestem	W7	-	S2?	G5T4
Anemone minima M: forests, openings	Dwarf Thimble-weed	W3	-	S2?	G5T3
Angelica atropurpurea M: roadsides (Haywood*)	Purple-stem Angelica	W4	-	SE?	G5
Antennaria howellii ssp petaloidea M: habitat in North Carolina not known	a pussytoes	W7	-	S1?	G5T3T5
Anthaenantia rufa CS: savannas (Bladen*, Brunswick, Carteret, Columbus, Cumberland, Duplin*, Jones, New Hanover*, Onslow, Pender)	Purple Silkyscale	W1	-	S2	G5
Aristida condensata CS: sandy woods and fields (Bladen*, Richmond*)	a Three-awn grass	W3	-	SR	G4
Aristida spiciformis C: habitat in North Carolina not known	Spike Three-awn	W3	-	SR	G4
Aristida tenuispica C: xeric sandhill scrub (Bladen*, Moore*, New Hanover, Pender)	Hillsborough Three-Awn Grass	W7	-	S1	G5T?
Aristolochia serpentaria PMC: dry to mesic forests	Virginia Snakeroot	W5B	-	S4	G4

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Asclepias longifolia CS: savannas and sandhill seeps (Brunswick*, Carteret*, Columbus, Cumberland*, Dare*, Johnston, Onslow, Pender, Pitt)	Longleaf Milkweed	W1	-	S2?	G4G5
Asclepias tomentosa SC: sandhills (Bladen, Cumberland, Harnett, Hoke, Lee, Moore, Richmond, Scotland*)	Sandhills Milkweed	W7	-	S3	G4
Asplenium resiliens MP: calcareous rock outcrops (Avery, Haywood, Jackson*, Macon*, Madison, McDowell, Rutherford*, Stanly*, Swain*, Transylvania, Yadkin)	Blackstem Spleenwort	W1	-	S2	G5
Aster firmus M: moist places (Buncombe*)	Purple-stem Aster	W7	-	S1	G5
Aster lanceolatus CP: bottomlands, moist woodland borders (Currituck, Gates, Jones)	White Panicle Aster	W7	-	S2?	G5
Aster spectabilis CP: pine barrens and woodland borders (Bertie*, Cabarrus*, Chatham, Craven*, Chowan*, Durham, Gates*, Hertford*, Jones, Lee*, Montgomery, Onslow, Pitt, Rowan*)	Western Showy Aster	W7	-	S2?	G5
Athyrium angustum M: rock outcrops and forests at high elevations (Avery*?)	Northern Lady Fern	W3	-	SR	G5T5
Baccharis angustifolia CT: brackish marshes, shrubby marsh edges (Beaufort*, Brunswick, Dare*, New Hanover, Onslow, Pamlico*, Pender)	Saltwater False-willow	W7	-	S2?	G4
Bacopa rotundifolia C: natural lakes (Hyde)	Round-leaf Water-hyssop	W7	-	SH	G5
Bartonia paniculata SCP: wet savannas, sandhill seeps, other open wet areas (Brunswick*, Cumberland, Duplin*, Gates*, Hoke, Moore, Onslow, Scotland, Wake*)	Twining Screwstem	W7	-	S2	G5
Bartonia verna C: savannas, limesink ponds (Bladen*, Brunswick, Carteret, New Hanover*, Onslow, Pender)	White Screwstem	W1	-	S2	G5?
Boltonia asteroides CM: clay-based Carolina bays, marshes, savannas, bogs (Brunswick, Columbus, Currituck*, Henderson*, Hoke, New Hanover, Robeson, Scotland)	White Doll's-daisy	W7	-	S2?	G5
Boltonia diffusa C: moist areas	Diffuse Doll's-daisy	W7	-	S1?	G4
Boykinia aconitifolia M: stream banks, meadows, and seepage slopes (Alleghany*, Avery*, Burke*, Jackson*, Macon*, Mitchell*, Transylvania*)	Alleghany Brookfoam	W7	-	S3	G4
Bromus latiglumis M: river floodplains (Alleghany*, Jackson)	Riverbank Brome	W7	-	S1	G5

Scientific Name / Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Bromus nottowayanus P: rich woods (Rockingham*, Surry*)	Nottoway Valley Brome	W7	-	S1?	G3G4
Burmannia biflora CS: limesinks, cypress savannas, and sandhill seeps (Beaufort*, Bladen*, Brunswick, Carteret, Cumberland, Dare*, Harnett*, Hoke, Moore, New Hanover*, Onslow, Scotland)	Northern Bluethreads	W1	-	S2S3	G4G5
Calamovilfa brevipilis CS: savannas, sandhill seeps (Brunswick, Carteret, Columbus*, Craven, Cumberland, Duplin*, Harnett, Hoke, Johnston*, Montgomery, Moore, Nash, New Hanover, Onslow, Pender, Pitt*, Richmond, Sampson*, Scotland)	Pinebarren Sandreed	W1	-	S3	G4
Callitriche terrestris CP: low, wet places (Anson*, Bladen*, Catawba*, Chatham*, Durham*, Forsyth*, Johnston*, Richmond, Union*, Washington*)	Terrestrial Water-starwort	W7	-	S2?	G5
Calycanthus floridus var *floridus* PM: mesic to dry forests (Alexander*, Avery*, Cherokee,* Durham*, Jackson*, Randolph, Stanly*, Stokes*, Transylvania*)	Eastern Sweetshrub	W7	-	S2?	G5T4
Calystegia soldanella T: dunes (Dare)	Seashore False Bindweed	W4	-	SE?	G5
Carex albicans var *australis* CP: dry woods, perhaps associated wiht calcareous or mafic rock (Alexander*, Cabarrus*, Camden*, Catawba*, Chatham*, Columbus, Cumberland*, Durham*, Jones, Mecklenburg*, Montgomery*, Northampton*, Wake*, Warren*, Washington)	Bellow's-beak Sedge	W1	-	S2?	G5T5
Carex albicans var emmonsii CSP: moist woods (Cumberland, Durham*, Hoke, Jones*, Moore, Richmond*, Stokes*, Wayne*)	Emmons's Sedge	W7	-	S2	G5T5
Carex albursina M: rich cove forests, over mafic or calcareous rocks (Ashe*, Haywood*, Macon, Madison*, Mitchell*, Transylvania*)	White Bear Sedge	W7	-	S2	G5
Carex baileyi M: bogs and seeps (Ashe, Avery, Mecklenburg*, Transylvania*, Watauga)	Bailey's Sedge	W7	-	S2	G4
Carex bromoides ssp montana M: bogs, moist areas along streams, seepages in coves (Ashe*, Avery*, Buncombe*, Haywood*, Rutherford*, Watauga)	Blue Ridge Brome Sedge	W7	-	S3?	G5T3?
Carex chapmanii C: moist bottomlands and slopes, perhaps associated with marl (Bladen*, Brunswick*, Carteret, Columbus, Craven, Gates, Jones, New Hanover*, Onslow, Pender)	Chapman's Sedge	W1	FSC	S3	G3

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Carex collinsii SM: white cedar swamps, bogs (Cumberland, Harnett, Henderson, Hoke, Lee, Moore, Richmond, Scotland)	Collins's Sedge	W1	-	S3	G4
Carex corrugata C: calcareous forests (Bertie*, Bladen*, Chowan*, Cumberland*, Durham*, Halifax*, Johnston*, Jones, Lenoir*, New Hanover*, Orange*, Pender, Richmond, Rockingham*, Sampson*, Wake*)	Corrugated Sedge	W7	-	S1	G5?
Carex echinata ssp echinata M: bogs and seeps (Alleghany*, Ashe*, Avery*, Clay*, Macon*, Wilkes*)	Star Sedge	W7	-	S1S2	G5T5
Carex elliottii CS: boggy sites (Bladen*, Brunswick, Carteret, Columbus, Cumberland*, Hoke, Lee*, New Hanover, Onslow, Pamlico, Pender, Richmond, Robeson*, Scotland)	Elliott's Sedge	W7	-	S3	G4?
Carex festucacea P: piedmont swamp forestm bogs, upland depression swamps (Alamance*, Caswell*, Montgomery*, Orange*, Rockingham*, Stokes*)	Fescue Sedge	W7	-	S2?	G5
Carex floridana CSP: dry sandy woods (Brunswick, Columbus, Craven, Cumberland, Dare*, Gates*, Hoke, Jones, Mecklenburg*, Montgomery*, Randolph*, Richmond, Scotland*)	Florida Sedge	W7	-	S1S2	G5?
Carex granularis PC: piedmont bottomlands, coastal plain marl forests (Bladen*, Caswell*, Craven, Durham*, Granville*, Guilford*, Jones, Mecklenburg*, Orange*, Pender, Person*, Rowan*, Stokes*, Wilson*)	Limestone Meadow Sedge	W7	-	S1?	G5
Carex hyalinolepis C: marshes (Beaufort*, Brunswick, Carteret, Craven, Hyde*, New Hanover, Perquimans*, Richmond, Warren*)	Shoreline Sedge	W7	-	S1?	G4G5
Carex leavenworthii PM: dry woods (Durham*, Madison*, Randolph*, Richmond, Warren*)	Leavenworth's Sedge	W7	-	S1	G5
Carex lucorum var austrolucorum M: medium to high elevation forests, especially over calcareous or mafic rocks (Buncombe*, Clay*, Macon*, Swain*, Transylvania*, Watauga*)	Appalachian Woodland Sedge	W7	-	S2?	G4T3?
Carex manhartii M: rich cove forests (Ashe, Avery, Cherokee, Clay, Haywood, Jackson, Macon, Transylvania, Yancey)	Manhart's Sedge	W1	FSC	S3	G3
Carex oklahomensis M: seeps (Graham)	Oklahoma Sedge	W7	-	S1	G4
Carex ruthii	Ruth's Sedge	W1	-	S3	G3

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	U.S.	Rank N.C.	Global
M: seeps and bogs (Ashe, Avery, Buncombe*, Clay*, Graham*, Haywood, Jackson*, Macon*, Mitchell,* Swain*, Transylvania*, Yancey*)					
Carex sp 8 C: along creeks and springs	a sedge	W7	-	S1S2	G4G5Q
Carex sparganioides MP: rich cove forests (Alleghany*, Ashe*, Jackson*, Macon, Madison*, Mitchell*, Randolph*)	Bur-reed Sedge	W7	-	S2?	G5
Carex tenera P: low woods (Anson*, Caswell,* Davie*, Durham*, Moore, Richmond, Warren*)	Quill Sedge	W7	-	S1?	G5
Carex turgescens S: seepage bogs (Cumberland, Harnett, Hoke, Scotland)	Pinebarren Sedge	W1	-	S3	G4G5
Celtis occidentalis M: rocky places (Buncombe*, Haywood, Jackson*, Macon*, Madison*, Swain*, Warren*, Yancey*)	Mountain Hackberry	W7	-	S2	G5
Ceratophyllum echinatum CT: pools, lakes, and estuaries (Beaufort*, Brunswick*, Dare*, Perquimans*, Richmond, Wayne*)	Prickly Hornwort	W7	-	S2	G4?
Chamaelirium luteum MPSC: rich, mesic, wooded coves and slopes; and moist slopes, bottomlands, wet savannas	Devil's-bit	W5B	-	S5	G5
Chamaesyce bombensis T: seabeaches (Carteret*, Dare*, Hyde*, New Hanover*, Onslow*, Pender*)	Southern Seabeach Sandmat	W7	-	S2?	G4G5
Chasmanthium sessiliflorum CP: hardwood forests (Anson, Bertie*, Bladen*, Brunswick*, Craven*, Davidson, Gates*, Graham, Jones, Martin, Montgomery, Onslow, Pender, Richmond, Rowan)	Longleaf Spikegrass	W7	-	S2	G5T5
Chelone obliqua CM: swamp forests, bogs, wet places (Ashe*, Gates, Haywood*, Henderson*, Hertford*, Martin*, Nash*, New Hanover*, Northampton*, Pender*, Swain*, Transylvania*)	Red Turtlehead	W7	-	S2?	G4
Chrysopogon pauciflorus C: sandhills (New Hanover*)	Goldenbeard	W4	-	S1	G4G5
Chrysopsis scabrella S: sandhills (Moore*)	Rough Golden-aster	W3	-	SR	G4
Chrysopsis trichophylla C: sandy ridges (Bladen*, New Hanover, Pender, Sampson)	Naked Golden-aster	W7	-	S1	G4
Chrysosplenium americanum M: seeps (Ashe, Avery, Haywood, Jackson, Macon, Madison*, Mitchell, Polk*, Swain, Watauga*, Wilkes*, Yancey*)	Golden Saxifrage	W1	-	S3	G5

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Cimicifuga americana M:rich cove forests and slopes, at moderate to high elevations	Mountain Black-cohosh	W5B	-	S4	G4
Cinna latifolia M: high elevation forests and openings (Buncombe*, Haywood*, Macon*, Mitchell*, Swain*, Watauga*, Yancey*)	Slender Wood-reed	W7	-	S1S2	G5
Cirsium lecontei C: savannas (Beaufort*, Bladen*, Brunswick, Carteret, Columbus, Craven, Onslow, Pender)	Leconte's Thistle	W7	-	S2	G4G5
Cladrastis kentukea M: forests (Cherokee*, Clay, Graham*, Haywood, Macon, Madison, Swain*)	Yellowwood	W7	-	S2S3	G4
Cleistes bifaria MPC: savannas, dry meadows (Brunswick, Buncombe*, Burke*, Carteret, Catawba, Cherokee*, Cleveland, Craven*, Harnett*, Henderson*, Madison*, McDowell, New Hanover, Onslow, Robeson*, Rutherford, Scotland*, Transylvania*)	Small Spreading Pogonia	W1	-	S2	G3G4
Cleistes divaricata C: pine savannas (Brunswick, Carteret, Columbus, Onslow, Pender)	Spreading Pogonia	W1	-	S3	G4
Clematis catesbyana TCM: dunes, edges of maritime forests, or over dolomite (Brunswick, Carteret*, Currituck*, Dare, New Hanover, Onslow*)	Coastal Virgin's-bower	W7	-	S2	G4G5
Coelorachis rugosa CS: limesink ponds, clay-based Carolina bays, wet savannas (Brunswick, Craven, Cumberland*, Dare*, Harnett*, Hoke*, Moore*, New Hanover, Onslow, Pender, Richmond, Robeson, Sampson, Scotland)	Wrinkled Jointgrass	W1	-	S2	G5
Collinsonia serotina P: mixed deciduous forests (Iredell*?, Richmond*, Rockingham*, Stanly)	Fall-line Horsebalm	W7	-	S1?	G3G4
Corallorhiza wisteriana MPCT: moist to dry, nutrient-rich forests, including maritime forests, cove forests, mesic slope forests, upland forests; especially over limestone, mafic rocks or shell rich sands (Durham*)	Spring Coral-root	W7	-	S2	G5
Corallorrhiza odontorhiza var. *pringlei* P: forests (Buncombe*, Carteret*, Catawba*, Davie*, Durham*, Harnett, Jackson*, Madison*, Mecklenburg*, New Hanove*r, Orange*, Polk*, Surry*, Swain*)	Pringle's Autumn Coralroot	W7	-	S1	G5T?
Coreopsis delphiniifolia P: dry woodlands	Larkspur Coreopsis	W3	-	SR	G3?Q
Coreopsis helianthoides C: swamp, peaty wetlands (Beaufort*, Brunswick, Carteret, Columbus,	Beadle's Coreopsis	W7	-	S2?	G3G4Q

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Craven*, Duplin*, Jones*, Onslow, Pender)					
Coreopsis pubescens var robusta MP: rich woodlands, glades, outcrops (Alleghany*, Ashe*, Avery*, Buncombe*, Cherokee*, Haywood*, Iredell*, Jackson*, Macon*, Mitchell*, Polk*, Watauga*)	Blue Ridge Coreopsis	W7	-	S2?	G5?T3?
Crataegus aestivalis C: swamp forests (Brunswick*, Columbus*, Craven*, Onslow*, Pender*, Wayne*,)	May Hawthorn	W1	-	S2	G5
Crataegus spathulata CPM: bottomlands (Bladen*, Columbus, Davidson*, Macon*)	Little-lip Hawthorn	W7	-	S1	G5
Cuscuta cephalanthi MP: on woody hosts (Buncombe*, Orange*)	Buttonbush Dodder	W7	-	S1	G5
Cuscuta coryli CP: on woody or herbaceous hosts (Bladen*, Brunswick*, Dare*, New Hanover*, Onslow*, Polk*)	Hazel Dodder	W7	-	S1?	G5
Cymophyllus fraserianus M: forests (Alleghany*, Ashe, Avery, Caldwell*, Clay, Graham, Haywood*, Jackson, Macon, McDowell*, Mitchell*, Swain, Watauga, Wilkes, Yancey*)	Fraser's Sedge	W1	-	S3	G4
Cyperus distans C: marshes (New Hanover*)	a flatsedge	W7	-	S1	G5
Cyperus squarrosus P: granite flatrocks, other rock outcrops (Durham*, Franklin*, Rowan*)	Awned Flatsedge	W7	-	S2	G5
Cyperus virens C: marshes and ditches (Carteret*, New Hanover, Richmond)	Green Flatsedge	W7	-	SU	G5
Cypripedium parviflorum var. *parviflorum* M: bogs? (Ashe*, Avery*, Watauga*)	Small Yellow Lady's-slipper	W5B	-	S3	G5
Cypripedium parviflorum var. pubescens PM: rich, mesic forests (Ashe, Avery*, Buncombe, Burke, Clay*, Durham, Gaston*, Graham*, Guilford*, Haywood*, Henderson, Jackson*, Macon*, Madison*, Mecklenburg*, Mitchell*, Orange, Polk*, Randolph*, Richmond, Rockingham*, Rowan, Stokes*, Swain*, Transylvania*, Wake, Watauga)	Large Yellow Lady's-slipper	W5B	-	S3	G5
Cypripedium reginae M: habitat not known (Jackson*, Macon*)	Showy Ladyslipper	W3	-	SH	G4
Cystopteris bulbifera M: calcareous rocks (Avery, Buncombe, Madison, McDowell, Swain*, Transylvania)	Bulblet Bladder Fern	W7	-	S1S2	G5

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Dalea pinnata SC: sandhills and dryish pinelands (Bladen, Cumberland, Harnett*, Hoke, Lenoir*, Moore*, Pender*, Richmond, Robeson*, Sampson*, Scotland, Wayne*)	Eastern Prairie-clover	W1	-	S2	G5
Desmodium pauciflorum PC: rich forests and bottomlands (Anson, Cabarrus*, Caswell*, Chowan*, Craven*, Hertford*, Iredell*, Johnston, Jones, Mecklenburg*, Northampton*, Pitt*, Richmond, Rockingham*, Wake, Warren*)	Few-flower Tick-trefoil	W7	-	S2?	G5
Diamorpha smallii PM: granite flatrocks (Alexander, Anson, Forsyth*, Franklin, Gaston, Granville, Henderson*, Iredell*, Nash*, Rowan*, Rutherford*, Wake, Yadkin*)	Elf Orpine	W1	-	S3	G4
Dichanthelium boreale P: open woods (Chatham*, Durham*, Franklin*, Person*, Rowan, Wake*, Wilkes*)	Northern Witch Grass	W7	-	S1S2	G5
Dichanthelium dichotomum var 2 (= roanokense) CS: savannas, open swampy woods, wet peaty meadows (Bladen, Brunswick, Columbus, Dare*, Hyde*, Moore, Pender)	Roanoke Witch Grass	W7	-	S1?	G5T4?
Dichanthelium dichotomum var. 7 C: wet ultisol soil (Pender)	a Witch Grass	W7	-	S1	G5T?Q
Dichanthelium ensifolium var. 1 CSM: savannas, bogs, wet woodlands (Brunswick, Clay*, Columbus, Cumberland, Harnett, Hoke)	Short-leaved Witch Grass	W7	-	S2?	G5T5?
Dichanthelium erectifolium C: pondshores (Brunswick, Columbus, Hoke, New Hanover, Onslow, Robeson, Sampson, Scotland)	Erectleaf Witchgrass	W1	-	S2	G4
Dichanthelium latifolium M: forests (Ashe, Avery*, Caldwell*, Haywood*, Henderson*, Jackson*, Macon,* Swain*, Watauga*)	Broadleaf Witch Grass	W7	-	S2	G5
Dichanthelium linearifolium PM: dry open woods and rock outcrops (Durham*, Gaston*, Macon*, Rockingham)	Low White-haired Witch Grass	W7	-	S1?	G5
Dichanthelium oligosanthes var *scribnerianum* C: calcareous, coastal-fringe forests (Beaufort, Brunswick, Carteret, Craven, Onslow)	Scribner's Witchgrass	W7	-	S1?	G5T5
Dichanthelium ovale var *ovale* C: dry to damp, sandy pinelands (Brunswick*, Carteret, Gates*, Pender)	Elliott's Witch Grass	W7	-	S1?	G5T5
Dichanthelium spretum CPM: wet sites (Alleghany*, Burke*, Craven, Dare*, Durham*, Forsyth*, Onslow, Randolph*, Robeson*, Stanly*)	Eaton's Witch Grass	W7	-	S1S2	G5
Dichanthelium aciculare var. 2	Spindle-fruited Witch Grass	W7	-	S1?	G4G5T5?

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CS: dry sandy pinelands and clearings (Bladen*, Brunswick, Columbus*, Craven, Moore*, Onslow, Richmond*)					
Dioscorea villosa var *hirticaulis* SC: moist forests (Gates*, Halifax*, Hoke*, Martin*, Nash*, New Hanover*, Pender*, Richmond*, Scotland*, Wake*, Washington*)	Hairy Yam	W2	-	S2?	G4G5T3Q
Diplazium pycnocarpon MPC: rich woods, usually over seepage (Avery*, Buncombe, Burke*, Clay, Durham*, Graham, Haywood, Hertford*, Jackson, Macon, Madison*, McDowell, Polk*, Swain, Vance*)	Glade Fern	W1	-	S2	G5
Dirca palustris PM: rich woods, either alluvial or over mafic or calcareous rocks (Anson*, Ashe, Burke, Chatham*, Clay*, Cleveland*, Durham, Haywood, Jackson, Lee, Madison*, Mecklenburg*, Moore, Polk, Randolph*, Rockingham, Rutherford, Stanly, Swain*, Wake)	Leatherwood	W1	-	S2	G4
Dryopteris carthusiana MCP: swampy woods (Cabarrus*, Camden*, Chowan*, Gates, Haywood*, Jackson*, Macon*, Mecklenburg*, Mitchell*?, Perquimans, Yancey*?)	Spinulose Woodfern	W7	-	S2	G5
Dryopteris cristata MCP: bogs, wet woods (Alamance*, Alleghany, Ashe, Avery, Camden*, Durham*, Gates*, Guilford, Haywood, Henderson*, Madison*, Mecklenburg*, Mitchell*, Orange*, Wake*, Watauga, Yancey)	Crested Woodfern	W1	-	S3	G5
Dryopteris goldiana MP: rich, moist woods (Ashe*, Buncombe, Burke, Cherokee, Clay, Graham, Haywood, Jackson, Macon, Madison, Mitchell*, Orange*, Swain, Watauga*)	Goldie's Woodfern	W1	-	S3	G4
Dryopteris ludoviciana C: acid swamps (Brunswick*, Carteret, Chowan, Columbus*, Craven, Jones, New Hanover*, Onslow, Pender, Washington)	Southern Woodfern	W1	-	S2	G4
Echinacea pallida MP: alluvial forests (Gaston*, Granville, Madison, McDowell*, Mecklenburg*, Richmond*)	Pale Coneflower	W4	-	SE	G4
Echinocystis lobata M: alluvial forests (Alleghany*, Ashe, Watauga*)	Wild Mock Cucumber	W7	-	S1	G5
Elatine americana M: lakes (Jackson*)	American Waterwort	W4	-	SA	G4
Elatine minima P: lakes (Granville)	Tiny Waterwort	W4	-	SA	G5

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Eleocharis engelmannii PCM: marshes (Alexander*, Henderson*, Hoke, Northampton*, Rowan*, Stanly*)	Englemann's Spikerush	W7	-	S1	G4?
Eleocharis equisetoides C: limesink ponds (Bladen, Brunswick, Carteret, Columbus, Craven*, Cumberland, Harnett, Hoke, Moore, New Hanover*, Onslow, Randolph, Richmond, Scotland)	Horsetail Spikerush	W1	-	S3	G4
Eleocharis erythropoda MC: stream banks and marshes (Ashe*, Carteret*, Madison*)	Bald Spikerush	W7	-	S1	G5
Eleocharis melanocarpa C: clay-based Carolina bays, limesink ponds (Brunswick, Carteret, Cumberland, Johnston*, New Hanover, Onslow, Richmond, Sampson, Scotland, Wayne*)	Blackfruit Spikerush	W1	-	S3	G4
Eleocharis parvula CT: brackish and fresh marshes (Brunswick*, Carteret, Craven*, Dare*, Hyde, Mecklenburg*, New Hanover*, Onslow, Tyrrell*)	Little-spike Spikerush	W7	-	S1?	G5
Eleocharis smallii M: open, wet places (Macon*)	Small's Spikerush	W3	-	S1	G5?
Eleocharis tricostata CP: bogs and savannas (Bladen, Brunswick, Carteret*, Cumberland, Dare*, Hoke, Northampton*, Onslow, Richmond, Robeson, Scotland, Stanly*)	Three-angle Spikerush	W7	-	S2	G4
Elodea canadensis CPM: streams (Craven*, McDowell*, Orange*, Perquimans*, Wake*, Watauga*)	Canada Elodea	W7	-	S1?	G5
Elodea nuttallii CPM: lakes, ponds, and streams (Avery*, Currituck*, Dare*, Franklin*, Haywood*, Jones*, McDowell*, Perquimans*, Tyrrell*, Wake*, Wilson*, Yancey*)	Nuttall's Elodea	W7	-	S2?	G5
Elymus canadensis M: rich woods (Buncombe*, Swain*)	Nodding Wild Rye	W7	-	S1	G5
Elymus riparius MP: riverbanks and low, rich woods (Ashe*, Avery*, Caldwell*, Macon*, Madison*, Orange*?, Watauga*)	Riverbank Wild Rye	W7	-	S1S2	G5
Elymus virginicus var. *halophilus* C: marsh edges, hammocks (Beaufort, Craven, Washington)	A Wild Rye	W7	-	S2?	G5TU
Epilobium leptophyllum MP: bogs and seeps (Alleghany, Ashe, Avery, Burke, Guilford*, Jackson, Macon, Madison, Mitchell, Watauga)	Narrowleaf Willowherb	W1	-	S3	G5
Equisetum x ferrissii C: moist lakeshores, riverbanks, roadsides	Ferriss's Scouring Rush	W3	-	SR	HYB
Eragrostis frankii P: open, disturbed sites (Granville*)	Frank's Lovegrass	W7	-	S1	G5
Eragrostis lugens	Mourning Lovegrass	W7	-	S1	G5

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P: open, wet areas (Mecklenburg*)					
Erigenia bulbosa MP?: rich woods	Harbinger-of-spring	W3	-	SR	G5
Eriophorum virginicum MSCP: peaty sites - bogs, fens, pocosins, seeps (Alleghany, Ashe*, Bladen, Brunswick, Burke*, Cumberland, Currituck*, Edgecombe*, Forsyth*, Henderson *, Jackson, Macon*, Moore*, Richmond, Scotland*, Transylvannia*, Tyrell*, Watauga*, Yancey*)	Tawny Cottongrass	W1	-	S3	G5
Eryngium yuccifolium var *synchaetum* C: wet savannas (Bladen*, Brunswick, Columbus, Onslow, Pender)	Southern Rattlesnake-master	W2	-	S1	G5T5
Erythronium americanum ssp americanum P: rich slopes (Durham)	American Trout Lily	W7	-	S2?	G5T5
Euonymus atropurpureus PMC: rich forests with circumneutral soils (Caswell, Cherokee*, Franklin, Guilford*, Halifax, Lee, Moore, Northampton, Orange*, Polk, Rockingham*, Rutherford*, Stokes*, Swain*)	Eastern Wahoo	W7	-	S2	G5
Eupatorium altissimum P: woodlands, openings, and old fields over mafic rocks (Burke, Cabarrus, Chatham, Davidson*, Durham, Forsyth*, Gaston, Granville, Mecklenburg, Moore, Orange*, Randolph, Rowan*, Stanly*, Union*, Wake*)	Tall Boneset	W7	-	S2	G5
Eupatorium anomalum C: wet savannas	Anomalous Eupatorium	W7	-	S1?	G2G3
Eupatorium maculatum M: marshes, meadows, and woodlands (Ashe*, Avery*, Buncombe*, Haywood*, Jackson*, Macon*, Mitchell*, Polk*, Watauga* Yancey*)	Spotted Joe-Pye Weed	W7	-	S3?	G5
Eupatorium recurvans C: wet savannas	Recurved Eupatorium	W7	-	S1?	G3G4Q
Eupatorium saltuense P: marshes, upland forests and woodland borders (Caswell*, Granville, Halifax, Warren*)	Pasture Eupatorium	W7	-	S1?	G3?
Eupatorium sessilifolium var *brittonianum* M: rocky woodlands over mafic rocks (Buncombe*)	Britton's Eupatorium	W7	-	SH	G5T?
Eupatorium steelei M: cove hardwood and northern hardwood forests (Ashe, Avery*, Haywood*, Macon*, Watauga)	Appalachian Joe-pye-weed	W7	-	S2?	G4
Euthamia graminifolia var *nuttallii* M: sandy bottomlands (Buncombe*, Henderson)	Flattop Goldenrod	W7	-	S1	G5
Fimbristylis littoralis PMSC: open wet places	Grass-like Fimbry	W7	-	S1	G3G5
Fimbristylis miliacea PMSC: open wet places (Cabarrus*, Cumberland, Harnett*, Hoke, Mecklenburg*, Polk*)	Grass-like Fimbry	W7	-	S1	G5

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Fragaria vesca M: rich forests (Watauga*)	Woodland Strawberry	W4	-	S1	G5
Frangula caroliniana PMC: rich bottomlands and slopes (Beaufort*, Buncombe*, Burke*, Cabarrus, Cleveland*, Iredell*, Lincoln*, Madison*, Mecklenburg, Polk, Rutherford, Union)	Carolina Buckthorn	W7	-	S3	G5
Fuirena scirpoidea C: shallow water (Tyrrell*)	Southern Umbrella-sedge	W3	-	SR	G5
Galax urceolata MPC: rocky woodlands, mountain forests, and rock outcrops	Galax	W5B	-	S5	G5
Galium asprellum M: bogs (Alleghany*, Ashe, Avery*, Haywood*, Watauga)	Rough Bedstraw	W7	-	S2	G5
Galium lanceolatum M: rich cove forests (Buncombe, Clay*, Madison*, Mitchell*, Watauga*)	Lanceleaf Wild Licorice	W7	-	S2	G5
Gaultheria hispidula M: habitat in North Carolina not known	Creeping Snowberry	W3	-	SH	G5
Gaylussacia dumosa var *1* MP: mountain bogs, high elevation peaks, peat dome pocosins; generally growing in peat	Blue Ridge Dwarf Huckleberry	W7	-	S1?	G5T1?Q
Gaylussacia dumosa var *bigeloviana* MC: mountain bogs, moist mountain slopes at high elevations, in peat of large pocosins (Dare, Henderson, Jackson*, Macon*)	Northern Dwarf Huckleberry	W7	-	S1	G5T4T5
Gentiana austromontana M: high elevation forests and balds (Ashe*, Avery, Mitchell, Stokes*, Surry*, Yancey*)	Appalachian Gentian	W7	-	S2?	G3
Glandularia canadensis CPS: sandhills and other dry woods (Alamance*, Beaufort*, Brunswick*, Randolph*, Richmond*, Washington*)	Rose Mock-vervain	W7	-	S1?	G5
Goodyera repens MP: moist, acid forests, especially under rhododendrons and conifers (Ashe*, Avery*, Buncombe, Burke, Graham, Haywood, Macon*, Madison*, Rutherford, Swain*, Watauga*, Yancey)	Lesser Rattlesnake-orchid	W1	-	S2S3	G5
Habenaria repens CS: in stagnant, blackwater pools (Bladen*, Brunswick, Carteret, Columbus, Dare, Duplin*, Hoke, Moore, New Hanover*, Pender*, Richmond, Scotland)	Water-spider Orchid	W1	-	S2	G5
Hackelia virginiana MP: woods and thickets with circumneutral soil (Alleghany*, Ashe*, Burke*, Caldwell*, Gaston*, Haywood*, Clay*, Macon*, Polk*)	Virginia stickseed	W7	-	S1S2	G5
Helianthemum carolinianum CS: sandhills, pinelands, dry savannas (Brunswick*, Carteret, Craven*,	Carolina Sunrose	W7	-	S2?	G4

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Cumberland*, Greene*, New Hanover*, Robeson*, Wilson*)					
Helianthus glaucophyllus M: cove forests and other middle-elevation forests and openings (Avery, Buncombe, Caldwell*, Haywood, Henderson, Jackson, McDowell, Mitchell*, Polk, Swain*, Watauga, Yancey)	Whiteleaf Sunflower	W1	-	S3	G3
Helianthus longifolius M: habitat not known	Longleaf Sunflower	W7	-	S1?	G3
Heliotropium curassavicum C: shores and edges of marshes (Carteret*, Hyde*)	Seaside Heliotrope	W4	-	SE?	G5
Heteranthera reniformis CP: muddy shores, bars, pools (Bertie, Davidson*, other counties uncertain because of taxonomic confusion)	Kidneyleaf Mud-plantain	W7	-	S2?	G5
Heteropogon melanocarpus C: pinelands (New Hanover*)	Tanglehead	W4	-	SE?	G4?
Heuchera caroliniana P: rich, rocky woods (Alexander*, Anson*, Burke, Cabarrus*, Cleveland, Davidson*, Forsyth*, Gaston*, Iredell*, Lincoln*, Mecklenburg*, Randolph*, Rowan*, Stanly*, Stokes*, Surry*, Union*)	Carolina Alumroot	W7	-	S3	G3
Heuchera hispida P: rich, rocky woods (Burke*?, Surry*)	Hispid Alumroot	W7	-	S1	G5T3?
Heuchera longiflora M: rich and rocky cove forests, especially over calcareous or mafic rocks (Buncombe*, Haywood*, Madison*)	Long-flower Alumroot	W7	-	S3	G4
Heuchera parviflora var *parviflora* MP: in deep shade under overhanging cliffs (Buncombe, Burke, Haywood, Henderson*, Jackson, Macon*, Polk*, Rutherford, Stokes, Surry*, Transylvania)	Grotto Alumroot	W1	-	S2S3	G4T4
Heuchera pubescens P: rock outcrops (Stokes*, Surry*)	Downy Alumroot	W7	-	S1	G4?
Hibiscus coccineus CP: blackwater swamps and open, wet ground (Columbus, Hyde*, Union)	Scarlet Hibiscus	W4	-	SE?	G4?
Houstonia purpurea var *calycosa* M: rocky forests, often dry (Buncombe*, Burke, Haywood*, Henderson*, McDowell*)	Summer Bluet	W7	-	S1	G5T5
Humulus lupulus var *lupuloides* C: habitat in North Carolina not known	Hops	W4	-	S1	G5T5
Humulus lupulus var *pubescens* P: bottomlands (Randolph*, Rockingham*, Stokes*)	Hops	W4	-	S1	G5T4?
Hydrangea cinerea M: shady ledges and cliffs, secondary forests (Cherokee*, Clay*, Cleveland*, Henderson*, Jackson*, Macon*, Rutherford*, Swain*)	Ashy Hydrangea	W7	-	S2	G4

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Hydrocotyle americana MP: on cliffs in spray of waterfalls, also in bogs (Ashe*, Burke, Henderson*, Jackson*, Macon, Swain, Transylvania, Watauga*, Yancey*)	American Pennywort	W7	-	S2	G5
Hypericum buckleii M: high elevation rocky summits, granitic domes, grassy balds (Haywood, Jackson, Macon, Transylvania)	Blue Ridge St. John's-wort	W1	-	S3	G3
Hypericum ellipticum M: habitat in North Carolina not known	Pale St. John's-wort	W3	-	SR	G5
Hypericum fasciculatum C: beaver ponds, low pinelands, pools (Columbus*, Cumberland, Hoke, Moore, Onslow, Pender*, Robeson*)	Peelbark St. John's-wort	W7	-	S1?	G5
Hypericum graveolens M: high elevation balds, outcrops, seeps (Buncombe*, Haywood, Jackson*, McDowell*, Mitchell*, Swain*, Transylvania*, Yancey*)	Mountain St. John's-wort	W1	-	S2S3	G3
Hypericum mitchellianum M: high elevation balds, outcrops, seeps (Ashe*, Avery*, Buncombe*, Haywood*, Jackson, Mitchell*, Swain*, Watauga*, Yancey*)	Mitchell's St. John's-wort	W1	-	S2S3	G3
Ilex ambigua CS: sandy woods (Beaufort*, Brunswick, Columbus, Cumberland*, Jones*, Lenoir*, Orange, Richmond, Robeson*, Scotland, Wayne*)	Carolina Holly	W1	-	S3	G5
Ilex cassine C: blackwater swamps and pocosins (Brunswick, New Hanover)	Dahoon	W7	-	S2	G5
Ipomoea macrorhiza TC: low marshy places, dunes (Brunswick*)	Manroot	W4	-	SE?	G3G5
Ipomoea pes-caprae C: ocean beaches (Carteret)	Railroad Morning-glory	W4	-	S1	G5
Ipomopsis rubra SC: sandy soils (Cumberland*, Harnett*, Moore, Richmond, Robeson, Scotland)	Standing Cypress	W4	-	SE?	G4G5
Iresine rhizomatosa TC: low wet places, interdune swales, damp woods, edges of brackish marshes (Brunswick, Carteret, Dare, New Hanover, Onslow, Pender*, Sampson*)	Rootstock Bloodleaf	W7	-	S2?	G5
Isoetes hyemalis SCP: beds of blackwater and other streams (Durham, Harnett, Hoke, Montgomery*?, Richmond, Scotland)	Winter Quillwort	W7	-	S1S2	G2G3
Isolepis koilolepis PC: wet places (Anson*, Chatham*, Durham*, Pender, Union*)	Keeled Beakrush	W7	-	S1	G5
Juglans cinerea MP: cove forests, rich woods (Alleghany, Ashe, Avery, Buncombe*, Burke, Caldwell*, Clay, Durham*,	Butternut	W5A	FSC	S2S3	G3G4

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Graham, Haywood, Henderson, Jackson, Macon, Madison, McDowell, Mitchell*, Orange*, Polk, Rutherford, Sampson*, Stanly*, Stokes*, Swain, Transylvania, Watauga*, Wilkes*, Yancey)					
Juncus articulatus C: open wet ground (Dare*)	Jointleaf Rush	W7	-	S1	G5
Juncus brachycarpus PC: wet sandy soil (Chatham*, Duplin*, Durham*, Granville*, Hertford*, Hyde*, Iredell*, Montgomery*, Nash*, Northampton*, Orange*, Stanly*, Union*, Wake*)	Whiteroot Rush	W7	-	S2?	G4G5
Juncus brevicaudatus M: bogs and seeps at high elevations (Clay*, Haywood*, Jackson*, Swain*, Transylvania*, Watauga*, Yancey*)	Mountain Rush	W7	-	S1?	G5
Juncus georgianus P: shallow depressions in granitic flatrocks and domes (Alexander, Franklin*, Rowan*)	Georgia Rush	W7	-	S1?	G4
Juncus gymnocarpus M: bogs, seeps, streambanks (Alleghany, Ashe, Avery, Burke*, Clay*, Henderson, Jackson, Macon, McDowell*, Transylvania, Watauga, Yancey)	Seep Rush	W1	-	S3	G4
Juncus longii CPM: wet, clayey soil (Cumberland, Dare*, Graham*, Hoke, Montgomery, Union*, Wayne*)	Long's Rush	W7	-	S1	G3G4Q
Juncus secundus PM: rock outcrops (Alexander, Alleghany*, Caswell*, Davie*, Forsyth*, Granville*, Madison*, Mitchell*, Orange*, Person*, Rockingham*, Wake*)	Nodding Rush	W7	-	S1S2	G5?
Juncus torreyi M: bogs (Clay*?)	Torrey's Rush	W3	-	SR	G5
Krigia biflora MP: rich mesic woods (Ashe, Avery*, Buncombe*, Caldwell*, Chatham*, Clay*, Graham*, Haywood*, Transylvania*)	Two-flower Cynthia	W7	-	S2?	G5
Krigia montana M: cliffs, high elevation rocky summits, and grassy balds (Ashe, Avery, Buncombe*, Haywood*, Jackson, Macon, Mitchell*, Rutherford, Transylvania*, Yancey*)	Mountain Cynthia	W1	-	S3	G3
Lachnocaulon minus CS: savannas, seeps (Bladen*, Brunswick, Columbus*, Cumberland*, New Hanover*, Onslow, Pender*, Robeson*, Scotland*)	Brown Bogbutton	W7	-	S2	G3G4
Lathyrus japonicus var maritimus T: beaches, shorelines (Dare*)	Beach Pea	W3	-	SR	G5T4T5

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Lathyrus palustris C: bottomlands, streambanks and marshes (Beaufort*, Chowan*, Currituck, Gates*, Hertford*, Martin*, Washington*)	Marsh Peavine	W7	-	S2?	G5
Lathyrus pusillus PC: wet, disturbed sites (Cabarrus*, Franklin*)	Tiny Peavine	W7	-	S1	G5?
Lathyrus venosus PM: rich bottomlands and rocky slopes, generally over mafic rocks (Buncombe, Burke, Catawba, Durham, Granville*, Haywood*, Macon*, Madison*, Montgomery, Moore, Orange*, Richmond, Wake*, Watauga*, Wilkes*)	Smooth Peavine	W7	-	S2	G5
Leersia lenticularis C: low woods (Edgecombe*, Jones*, Lenoir*, Northampton*)	Catchfly Cutgrass	W7	-	S1?	G5
Lemna gibba C: ponds and sloughs (Craven*, Pasquotank*)	Inflated Duckweed	W7	-	S1	G4G5
Leucospora multifida C: moist to wet, sandy margins of artificial depressional wetland (Carteret)	Leucospora	W4	-	SE?	G5
Liatris scariosa MP: rock outcrops, glades, dry woodlands; mostly over mafic rocks? (mostly over mafic rocks?))	New England Blazing-star	W7	-	S2	G5?
Liatris secunda SC: sandhills (Anson*, Bladen, Brunswick*, Richmond, Hoke, New Hanover, Scotland, Wake)	a blazing-star	W7	-	S1S2	G4G5
Liatris squarrosa var *hirsuta* habitat in North Carolina not known	a blazing-star	W3	-	SR	G5T4?
Lilium sp. *1* C: blackwater swamps and marshes (Chowan, Gates, Nash*)	Blackwater Turk's-cap Lily	W2	-	S1	GU
Lindernia monticola PM: seepages on granitic flatrocks and other rock outcrops (Alexander, Cherokee*, Forsyth*, Franklin, Gaston, Granville, Nash*, Richmond, Rowan*, Stokes*, Wake, Yadkin*)	Flatrock Pimpernel	W1	-	S2	G4
Lindernia saxicola M: riverbank rock outcrops (Swain)	Riverbank Pimpernel	W2	-	SH	G1?Q
Listera australis CM: moist hardwood forest, swamps, wet woods under rhododendron (Avery*, Beaufort, Bladen, Craven*, Dare, Gates*, Halifax, Henderson, Hoke, Hyde, Jones, Pender, Sampson,Transylvania*, Wayne)	Southern Twayblade	W1	-	S3	G4
Listera cordata M: habitat in North Carolina not known (Avery*)	Heart-leaved Twayblade	W3	-	SH	G5
Lobelia sp 1 SC: white cedar swamps, seepages along blackwater streams (Richmond)	Cedar Swamp Lobelia	W1	-	S3	G?

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Ludwigia sphaerocarpa CS: bogs and pools (Columbus, Craven, Dare*, Hoke*, Johnston*, Richmond, Washington*)	Globe-fruit Seedbox	W7	-	S1	G5
Lupinus villosus C: sandhills and other dry sandy woods (Bladen, Brunswick, Columbus*, Cumberland*, Duplin*, Pender)	Lady Lupine	W7	-	S2	G5
Luzula multiflora MP: moist woods (Burke*, Macon*, Madison*, Stokes*)	Heath Woodrush	W7	-	S2?	G5
Lycopodiella prostrata C: wet savannas (Bladen*, Brunswick, Columbus*, Onslow, Pender*, Richmond)	Featherstem Clubmoss	W7	-	S2?	G5
Lycopodium dendroideum M: openings and balds (Ashe))	Tree Ground-pine	W7	-	S1?	G5
Lycopodium hickeyi M: openings, balds, bog margins, and high elevation forests (Alleghany, Burke*, Haywood, Macon*, Mitchell)	Pennsylvania Ground-pine	W7	-	S2?	G5
Lycopus amplectens CSM: clay-based Carolina bays, other wet places (Cumberland*, Henderson*, Hoke, Moore, Pender, Richmond, Robeson*, Scotland)	Clasping Water-horehound	W7	-	S1	G5
Lycopus cokeri SC: streamhead pocosins, sandhill seeps, clay-based Carolina bays, savannas (Cumberland, Harnett, Hoke, Moore, Richmond, Sampson*, Scotland, Wayne)	Coker's Bugleweed	W1	-	S3	G3
Lysimachia loomisii C: pine savannas and pocosins (Beaufort*, Brunswick*, Carteret, Columbus*, Craven, Cumberland*, Duplin*, Johnston*, Jones, Lenoir*, Martin*, Onslow, Pamlico, Pender*, Robeson*, Wayne*)	Loomis' Loosestrife	W1	-	S3	G3
Lysimachia quadriflora P: wet meadows, streambanks	Smooth Loosestrife	W3	-	SR	G5?
Lysimachia tonsa P: upland forests and openings (Caswell*, Durham*, Mecklenburg*, Orange*, Polk, Rockingham*, Surry, Vance, Wake*)	Southern Loosestrife	W7	-	S2?	G4
Magnolia acuminata var *subcordata* P: moist slopes (Anson*, Montgomery*, Moore*)	Piedmont Cucumber-tree	W7	-	S1?	G5T3Q
Magnolia grandiflora C: mainland forests with maritime influence on the southeastern coast of North Carolina; introduced elsewhere (Brunswick, New Hanover*?, introduced elsewhere)	Southern Magnolia	W7	-	S1	G5

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Manfreda virginica PMCS: granite flatrocks, mafic glades, dry outcrops, dry woodlands (Anson, Burke, Cabarrus, Cherokee*, Clay*, Cleveland*, Cumberland*, Granville, Iredell*, Mecklenburg, Montgomery,Orange*, Randolph, Richmond, Rowan*, Stanly, Union*)	Eastern Agave	W7	-	S2	G5
Matelea flavidula P: habitat in North Carolina not known (Person*?)	Yellow Carolina Milkvine	W3	-	SR	G3?
Matelea obliqua M: dry, rocky woodlands over calcareous rocks (Buncombe*, Madison*)	Climbing Milkvine	W7	-	S1	G4?
Mertensia virginica PCM: rich forests on slopes and bottomlands (Alamance, Bertie, Caswell, Person*, Rockingham, Watauga*)	Virginia Bluebells	W7	-	S2	G5
Minuartia alabamensis P: granite flatrocks (Rutherford)	Alabama Sandwort	W2	-	S1	G2Q
Monarda media M: grassy balds (Avery)	Purple Bee-balm	W7	-	S1?	G4?
Muhlenbergia mexicana M: forests and openings (Buncombe*, Macon*, Mitchell*)	Mexican Muhly	W7	-	S1	G5
Muhlenbergia sylvatica PM: rich alluvial forests (Avery*, Durham*, Forsyth*, Franklin*, Gaston*, Granville*, Montgomery*, Orange,* Person*, Swain*)	Woodland Muhly	W7	-	S1S2	G5
Myriophyllum pinnatum CS: pools and ditches (Brunswick, Currituck*, Dare*, Hoke*, New Hanove*r, Scotland*, Tyrrell*))	Cutleaf Water-milfoil	W7	-	S2?	G5
Najas gracillima CPM: pools and lakes (Avery*, Buncombe*, Chowan*, Forsyth*, Iredell*, Jackson*, Madison*, McDowell*, Orange*, Randolph*, Wake*, Washington*)	Slender Waternymph	W7	-	S2	G5?
Nelumbo lutea CS: ponds, slow streams, natural lakes, estuarine rivers (Anson*, Bertie*, Columbus*, Craven, Halifax*, Johnston*, Perquimans*, Pitt, Richmond*, Robeson*, Wake, Wilson*)	American Lotus	W7	-	S2	G4
Nestronia umbellula PSC: upland forests (Alexander*, Burke, Cabarrus, Chatham*, Cumberland, Durham, Forsyth*, Franklin*, Gaston, Granville, Guilford, Harnett*, Hoke, Iredell, Lee, Lincoln, Mecklenburg,Montgomery, Moore, Orange, Polk*, Richmond, Rockingham, Rowan*, Rutherford*, Stanly, Vance, Wake)	Nestronia	W1	-	S3	G4
Nuphar sagittifolia	Narrowleaf Cowlily	W1	-	S2	G5T2

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CS: blackwater streams, rivers, and lakes (Beaufort*, Bladen, Brunswick*, Columbus, Cumberland, Duplin*, Harnett, Hoke, Jones*, Moore, Nash*, New Hanover, Pender, Pitt, Richmond, Robeson, Sampson*, Scotland)					
Nymphoides cordata	Little Floating-heart	W7	-	S1	G5
S: blackwater streams and pools, Carolina bays, vernal pools (Cumberland*, Hoke, Moore*, Richmond, Scotland)					
Oenothera riparia	Riverside Primrose	W1	-	S2S3	G2G3
C: freshwater, tidal riverbanks (Brunswick, New Hanover, Pender)					
Onosmodium virginianum	Virginia Marbleseed	W1	-	S3	G4
CTSP: sandhills, dry mafic sites, shell middens (Brunswick*, Burke, Cleveland*, Cumberland, Durham*, Harnett, Hoke, Jones*, Moore, Polk*, Richmond, Robeson*, Scotland, Wake*)					
Ophioglossum crotalophoroides var *crotalophoroides*	Bulbous Adder's-tongue	W7	-	SR	G5T5
C: moist ditchbanks and grassy roadside flats (Beaufort*, Brunswick*, Carteret*, Craven*, Dare*, Hyde*, Martin*, Pamlico*, Washington*)					
Ophioglossum nudicaule	Slender Adder's-tongue	W7	-	S1?	G5
C: moist sandy flats (Brunswick*)					
Ophioglossum petiolatum	Long-stem Adder's-tongue	W7	-	S2?	G5
CT: maritime wet grasslands, moist ditchbanks, grassy roadside flats (Beaufort*, Brunswick*, Carteret, Craven*, Dare*, Washington*)					
Oplismenus setarius	Shortleaf Basket Grass	W7	-	S1	G5
TC: maritime forests, bottomlands (Brunswick, Carteret, Dare, Onslow, Pender*, Washington*)					
Orbexilum lupinellum	Lupine Scurfpea	W1	-	S3	G3G4
S: sandhills (Bladen*, Craven, Cumberland*, Harnett, Hoke, Moore, Pamlico*, Richmond, Sampson*, Scotland)					
Orbexilum onobrychis	Lanceleaf Scurfpea	W3	-	SH	G5
M: habitat in North Carolina not known (Haywood)					
Orbexilum pedunculatum var *pedunculatum*	Sampson's Snakeroot	W7	-	S1	G5T5?
M: open woodlands (Cherokee, Orange*, Transylvania*)					
Oxypolis ternata	Savanna Cowbane	W1	FSC	S3	G3
CS: pine savannas, sandhill seeps (Brunswick, Carteret, Columbus, Craven, Cumberland, Duplin*, Harnett, Hoke, Jones*, Lee*, Martin*, Moore, Onslow, Pender, Pitt*, Scotland)					

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Panax quinquefolius MPC: cove forests, other rich forests (Ashe, Avery, Buncombe, Burke, Caswell, Cherokee, Clay, Davidson*, Durham, Graham, Haywood, Henderson, Jackson, Lee, Macon, Madison, Martin*, McDowell, Mecklenburg*, Mitchell, Moore, Orange, Polk, Randolph, Rockingham, Rutherford, Stokes, Surry, Swain, Transylvania, Wake, Watauga, Wilkes, Yancey)	Ginseng	W5B-SC	-	S4	G3G4
Panax trifolius MP: cove forests, northern hardwoods, other rich forests (Ashe, Buncombe, Caldwell*, Caswell, Cherokee, Clay, Durham, Graham, Haywood, Jackson, Macon, Orange, Swain*, Wake, Watauga*)	Dwarf Ginseng	W1	-	S3	G5
Parietaria floridana TC: shell middens, disturbed sites, maritime forests (New Hanover*)	Florida Pellitory	W4	-	SE?	G5
Parietaria pensylvanica PMC: slopes and bottomlands, usually over calcareous or mafic rocks (Anson*, Bertie*, Buncombe*, Harnett, Haywood, Madison, Martin*, Mitchell*)	Pennsylvania Pellitory	W7	-	S2	G5
Paronychia montana P: rocky slopes (Alexander, Cherokee*, Henderson*, Transylvania*))	Mountain Nailwort	W7	-	S1?	G4
Parthenium integrifolium var mabryanum SPC: savannas, pocosin edges, upland pine--oak woods (Bladen*, Craven*, Cumberland, Franklin*? Harnett, Hoke, Johnston*, Lee*, Moore, Richmond, Scotland, Union*, Wake*)	Mabry's Wild Quinine	W1	-	S3	G5T3
Paspalum bifidum SC: sandhills and savannas (Brunswick*, Craven, Cumberland, Harnett, Hoke, Jones*, Montgomery*, Moore, Richmond, Scotland)	Pitchfork Crown Grass	W1	-	S3	G5
Paspalum fluitans CP: seepage areas in swamp forests (Bladen*, Forsyth*, Martin*, Wake*)	Horsetail Crown Grass	W7	-	S1	G5
Paspalum praecox C: limesink ponds and savannas (Bertie*, Bladen*, Brunswick, Carteret, Columbus, Craven, Cumberland, Dare*, Duplin*, Hoke, Lee*, Martin*, New Hanover, Onslow, Pamlico*, Pender, Richmond)	Early Crown Grass	W1	-	S2S3	G4
Paspalum pubiflorum MP: open areas (Haywood*, Madison*, Stokes*, Yadkin*)	Hairy-seed Crown Grass	W7	-	S1?	G5
Paspalum vaginatum CPT: brackish marshes, low wet places (Beaufort*, Brunswick*, Carteret, Craven*, Hyde, Iredell*, Pamlico*)	Seashore Crown Grass	W3	-	S1S2	G5Q
Paxistima canbyi	Canby's Mountain-lover	W4	FSC	SE	G2

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M: rock outcrops (counties of alleged native occurrence unknown) (counties of alleged native occurrence unknown)					
Pediomelum canescens	Buckroot	W1	-	S3	G3G4
SC: sandhills (Bladen*, Brunswick, Cumberland, Harnett, Hoke, Moore, Richmond, Scotland)					
Pellaea atropurpurea	Purple-stem Cliffbrake	W1	-	S3	G5
MPC: limestone outcrops (Buncombe, Cherokee, Forsyth*, Haywood*, Jackson, Jones*, Macon*, Madison, McDowell*, Mitchell*, Swain, Transylvania, Wake*, Yadkin*)					
Penstemon smallii	Small's Beardtongue	W7	-	S3	G3
M: rock outcrops and thin forests (Ashe, Avery*, Buncombe*, Burke*, Caldwell*, Graham*, Haywood*, Macon*, Madison*, Mitchell*, Polk*, Rutherford*, Watauga)					
Persea borbonia	Upland Red Bay	W7	-	S2	G5
TC: sandy upland soils in maritime forests (Brunswick, Carteret, New Hanover, Onslow*)					
Phacelia maculata	Spotted Phacelia	W3	-	S1	G3?
P: granite flatrocks and creek bottomlands (Cleveland*)					
Phanopyrum gymnocarpon	Savanna Panic Grass	W7	-	S1?	G5
C: low woods (Bertie*, Columbus*, Lenoir*, Pitt*)					
Phaseolus sinuatus	Sandhills Bean	W1	-	S3	G4T3?
SC: sandhills (Cumberland, Harnett, Hoke, Moore, Richmond, Scotland)					
Philadelphus hirsutus	Streambank Mock Orange	W7	-	S2	G5
MP: bluffs, cliffs, and rocky woods, mainly over mafic or calcareous rocks (Buncombe, Graham*, Madison, Mitchell*, Polk, Rutherford)					
Philadelphus inodorus	Scentless Mock Orange	W1	-	S3	G4G5
MP: bluffs, cliffs, and rocky woods, mainly over mafic or calcareous rocks (Avery*, Bladen*, Buncombe*, Burke*, Cabarrus*, Cherokee*, Cleveland*, Forsyth*, Haywood, Iredell*,Madison*, Orange*, Polk, Randolph, Rutherford, Stanly, Swain*, Wilkes)					
Phlox amplifolia	Largeleaf Phlox	W1	-	S2	G3G5
M: hardwood forests on mafic rock (Buncombe*, Graham, Haywood*, Jackson, Macon, Madison*, Mitchell*, Swain, Watauga*, Yancey*)					
Phlox divaricata ssp divaricata	Wild Blue Phlox	W7	-	S2	G5T3T5
M: rich deciduous forests (Henderson*, Madison*, Rutherford*, Swain, Transylvania*, Watauga*)					
Phlox divaricata ssp laphamii	Wild Blue Phlox	W7	-	S1	G5T3T5
C: rich levee and slope forests (Halifax, Northampton)					

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Physalis lanceolata sensu stricto SC: sandhills (Cumberland*, Harnett*, Hoke, Lee*, Montgomery*, Moore, New Hanover*, Richmond, Robeson*, Sampson*, Scotland, Wayne*)	Sandhill Ground Cherry	W1	-	S2?	G3Q
Phytolacca rigida T: dunes, edges of brackish or salt marshes (Brunswick, Carteret, Dare*, New Hanover, Onslow, Pender)	Maritime Pokeweed	W7	-	S2	G4Q
Pieris floribunda M: high elevation balds (Buncombe*, Burke*, Jackson*, Haywood*, Macon*, Stokes*, Surry*, Transylvania, Watauga*)	Mountain Fetterbush	W1	-	S2S3	S4
Platanthera blephariglottis MPCS: Bogs or depressions in peaty soil (Beaufort*, Bladen*, Brunswick*, Carteret*, Cumberland*, Dare*, Duplin*, Gates*, Henderson*, Johnston*, Jones*, Martin*, Moore*, New Hanover*, Nash*, Onslow*, Pamlico*, Pender*, Richmond*, Robeson*, Scotland*, Tyrell*, Wake*, Wilson*)	White-fringe Orchis	W7	-	S3?	W7
Poa nemoralis M: sandy creek bottoms (Haywood*)	Forest Bluegrass	W7	-	S1?	G5
Polemonium reptans PM: rich woods (Buncombe*, Rockingham, Stokes*, Watauga*)	Jacob's-ladder	W7	-	S1	G5
Polygala senega MP: woodlands and in thin soil around outcrops, usually over mafic or calcareous rocks (Ashe, Buncombe, Burke*, Clay*, Durham*, Forsyth*, Guilford*, Henderson*, Jackson*, McDowell, Orange*, Madison*, Mitchell*, Montgomery, Randolph*, Rutherford, Stanly*, Surry*, Swain*, Wake*, Watauga*)	Seneca Snakeroot	W7	-	S2S3	G4G5
Polygonella americana S: sandhills (Hoke, Richmond, Scotland)	American Jointweed	W4	-	SE?	G5
Polygonella gracilis S: dry sandy areas (Hoke)	Lesser Jointweed	W4	-	SE?	G4G5
Polygonum erectum MP: open places (Alamance*, Avery*, Cherokee*, Clay*, Jackson*, Madison*, Surry*, Watauga*, Yancey*)	Erect Knotweed	W7	-	S1S2	G5
Polygonum ramossisum var *prolificum* T: brackish marsh (Dare)	Bushy Knotweed	W7	-	S1	G5T4T5
Polygonum scandens var *cristatum* PMC: moist forests, especially alluvial forests (Alexander*, Burke, Granville*, Haywood*, Iredell*, Macon*, Onslow,* Orange*, Stokes*, Wake*, Wilkes*)	Climbing Buckwheat	W7	-	S2?	G5T5
Polygonum tenue MP: glades and other thin soil over mafic rock (Alexander, Ashe*, Buncombe*, Burke, Durham*,	Glade Knotweed	W7	-	S2?	G5

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Forsyth*, Granville, Henderson*, Macon*, Mecklenburg*, Mitchell*, Orange*, Rockingham*, Stanly*, Wilkes)					
Polymnia canadensis M: moist, rich forests, especially over calcareous rock (especially over calcareous rocks))	Canada Leaf-cup	W7	-	S2	G5
Populus grandidentata M: dry ridges and rocky woods (Alleghany*, Ashe, Haywood*, Polk, Swain, Wilkes, Yancey*)	Bigtooth Aspen	W7	-	S2	G5
Prosartes maculata M: drier cove forests and northern hardwood forests, ridgesides (Buncombe, Clay, Haywood, Jackson, Macon, Madison, Yancey)	Nodding Mandarin	W1	-	S3	G3G4
Prunus alabamensis C: sandy woodlands (Washington*)	Alabama Black Cherry	W7	-	S1	G4
Prunus alleghaniensis M: rocky forests (Ashe*)	Allegheny Sloe	W7	FSC	SH	G4
Prunus nigra MP: rich forests (Davie*, Mecklenburg*, Montgomery*, Orange*, Polk*, Stanly*)	Canada Plum	W7	-	S1	G4G5
Prunus umbellata PSC: rocky or sandy woodlands (Anson, Brunswick*, Burke, Cabarrus*, Cleveland*, Robeson*, Rutherford, Stanly, Union*)	Hog Plum	W7	-	S2	G4G5
Ptelea trifoliata MPC: rich woods, cliffs and rock exposures mainly over mafic or calcareous rocks (Alexander, Ashe, Brunswick*, Burke, Cabarrus, Cleveland, Cumberland*, Forsyth*, Franklin*, Granville*, Guilford, Jones, Madison*, Montgomery, New Hanover*, Rockingham, Rutherford, Wake, Wilkes)	Wafer-ash	W7	-	S2	G5
Pycnanthemum clinopodioides habitat in North Carolina not known	Basil Mountain-mint	W3	-	SR	G2
Pycnanthemum setosum C: pinelands (Bladen*, Brunswick, Hertford*, Hyde*, Pasquotank*, Perquimans*, Robeson*, Tyrrell*)	Awned Mountain-mint	W7	-	S2	G3?
Pyrola americana MPC: forests (Ashe, Bladen*, Durham*, Forsyth*, Granville*, Guilford*, Iredell*, Mitchell*, Orange, Person*, Rockingham*, Rowan, Wake*, Warren*)	American Shinleaf	W1	-	S2	G5
Quercus bicolor P: upland swamp forests (Davie*, Granville, Guilford*, Mecklenburg, Moore*, Nash*, Person, Rockingham, Rowan, Wake*, Wilson*)	Swamp White Oak	W1	-	S2	G5

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Quercus imbricaria MP: floodplain forests (Anson*, Buncombe, Burke, Haywood, Jackson, Macon*, Mecklenburg*, Rockingham, Swain*, Wilkes*)	Shingle Oak	W1	-	S3	G5
Quercus minima C: Pine flatwoods and coastal fringe sandhills (New Hanover*)	Dwarf Live Oak	W3	-	SR	G5
Quercus muehlenbergii MP: calcareous forsts and bluffs (Burke, Cabarrus*, Caswell, Cherokee, Guilford*, Jackson, Madison, McDowell, Montgomery, Person, Polk, Rockingham, Rutherford*, Swain, Vance,Wake)	Chinquapin Oak	W1	-	S2	G5
Quercus palustris P: swamps (Caswell*, Chatham*, Davidson*, Davie,* Durham, Granville, Lee*, Orange*, Rowan*)	Pin Oak	W7	-	S1	G5
Quercus pumila C: sandy pinelands (Bladen*, Brunswick*, Columbus*, Duplin*, New Hanover*, Pender*, Robeson*, Union*,)	Running Oak	W7	-	S3?	G5
Ranunculus allegheniensis M: rich cove forests (Alleghany*, Ashe, Avery, Haywood*, Mitchell*, Watauga)	Allegheny Mountain Buttercup	W7	-	S2	G4G5
Ranunculus laxicaulis C: swamp forests, oepn wet areas (Bladen, Columbus, Halifax, Northampton)	Swamp Buttercup	W7	-	S2	G5?
Rhynchospora careyana C: limesink ponds (Brunswick, New Hanover, Onslow)	Carey's Beaksedge	W7	-	S?	G4?Q
Rhynchospora cephalantha var *attenuata* S: boggy openings in streamhead pocosins (Cumberland, Harnett, Hoke, Moore, Scotland)	Small Bunched Beaksedge	W1	-	S3	G5T3?
Rhynchospora inundata SC: limesink ponds, clay-based Carolina bays (Brunswick, Carteret, New Hanover, Onslow)	Narrowfruit Beaksedge	W7	-	S3	G3G4
Rhynchospora leptocarpa S: boggy openings in streamhead pocosins, boggy beaverponds (Cumberland, Hoke, Moore, Richmond, Scotland)	Brownish Beaksedge	W1	-	S3	G3
Rhynchospora macrostachya var *colpophila* C: tidal freshwater marshes (Chowan*)	Virginia Horned Beaksedge	W7	-	S1?	G4T3T4Q
Rhynchospora microcarpa CTP: maritime wet grasslands, clay-based Carolina bays, limesink ponds, swamp forests (Bladen*, Brunswick, Carteret, Columbus, Dare*, Hyde*, Mecklenburg*, New Hanover*, Scotland)	Southern Beaksedge	W7	-	S2	G5

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Rhynchospora nitens C: savannas, limesinks, other wet open places (Brunswick, Carteret, Columbus, Craven, Cumberland, Hyde*, Johnston*, Onslow, Pender, Scotland)	Shortbeak Baldsedge	W1	-	S3	G4?
Rhynchospora pallida CS: savannas, sandhill seeps, and pocosins (Beaufort*, Bladen*, Brunswick, Carteret, Columbus, Craven*, Cumberland, Duplin*, Edgecombe*, Harnett, Hoke, Jones*, Nash*, New Hanover, Onslow, Pamlico*, Pender, Richmond, Scotland*, Wilson*)	Pale Beaksedge	W1	-	S3	G3
Rhynchospora stenophylla CS: savannas, seepage bogs (Carteret*, Cumberland, Harnett, Hoke, Moore, Onslow, Pender*, Richmond, Scotland)	Littleleaf Beaksedge	W1	-	S3	G4
Rhynchospora wrightiana C: savannas (Brunswick*, Carteret, Cumberland, Harnett, Hoke, New Hanover, Onslow, Richmond, Sampson, Scotland, Wayne*)	Wright's Beaksedge	W7	-	S2S3	G5
Robinia hispida var *rosea* MP: open woods (Alexander*, Alleghany*, Buncombe*, Burke*?, Catawba*?, Henderson*, Macon*, Stanly*, Wilkes*)	Boynton's Locust	W7	-	S2?	G4T3?
Robinia viscosa MP: open woods (Buncombe*, Burke*, Haywood*, Henderson*, Jackson*, Macon, McDowell*, Moore*, Yancey*)	Clammy Locust	W7	-	S3	G3
Rudbeckia laciniata var *humilis* M: seeps and creekbanks at high elevations	a coneflower	W7	-	S2?	G5T3?
Rudbeckia triloba var *rupestris* M: forests at high elevations	a coneflower	W7	-	S2?	G4G5T3?
Rumex altissimus CPM: low wet places (Dare*, Durham*, Guilford*, Iredell*, Johnston*, Madison*, McDowell*, Wake*, Warren*, Wilson*)	Pale Dock	W7	-	S2?	G5
Sabatia campestris M: forest edges (Haywood*)	Prairie Sabatia	W4	-	SH	G5?
Sabatia capitata M: habitat in North Carolina not known (Cherokee*?)	Rose Gentian	W3	-	SR	G2
Sabatia dodecandra C: tidal, brackish, and freshwater marshes (Beaufort*, Brunswick*, Carteret*, Craven*, Currituck*, Dare*, Hyde*, Jones*, New Hanover*, Pamlico*, Pasquotank*, Tyrell*,)	Large Marsh Pink	W1	-	S3?	G5?
Sabatia quadrangula PCS: sandhills, low woods, pocosin edges (Bertie*, Durham*, Granville, Halifax*, Johnston*, Orange*, Person*, Randolph*, Rowan*, Scotland*, Stanly*, Wake, Wayne*)	Four-angle Sabatia	W7	-	S2	G4G5

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Sagina procumbens M: high elevation disturbed sites (Mitchell)	Northern Pearlwort	W4	-	SE1	G5
Sagittaria calycina var *spongiosa* TC: tidal freshwater to brackish marshes	Tidal Sagittaria	W3	-	SR	G5T4
Sagittaria engelmanniana SCP: mostly blackwater streams and bogs (Carteret, Craven*, Cumberland, Harnett, Hoke, Moore, Onslow, Richmond, Scotland)	Englemann's Arrowhead	W1	-	S2	G5?
Sagittaria platyphylla P: marshes (Union*)	Delta Arrowhead	W7	-	S1	G5
Sanguinaria canadensis MPC: mixed deciduous forests and wooded slopes	Bloodroot	W5B	-	S5	G5
Sanguisorba canadensis M: bogs, seeps, rarely seepy exposed cliffs at high elevations (Alleghany, Ashe, Buncombe, Clay, Haywood, Henderson, Jackson, Macon*, Transylvania, Yancey, Watauga)	Canada Burnet	W1	-	S3	G5
Sarracenia flava CSP: savannas, seepage bogs, and pocosins	Yellow Pitcher-plant	W5B	-	S3S4	G5?
Sarracenia purpurea ssp venosa C: wet savannas, sandhill seepage bogs	Southern Purple Pitcher-plant	W5B	-	S3	G5T3T5
Sarracenia rubra ssp rubra C: sandhill seepage bogs, pocosins, wet savannas	Sweet Pitcherplant	W5B	-	S3	G3T3
Saxifraga careyana M: seepy rockfaces (Ashe*, Avery*, Buncombe, Graham*, Haywood, Henderson*, Macon*, Madison*, Mitchell*, Polk, Rutherford, Swain*, Watauga*, Yancey*)	Carey Saxifrage	W7	-	S3	G3
Schizachyrium littorale T: coastal dunes and maritime dry grasslands (Carteret, Onslow, New Hanover)	Seaside Little Bluestem	W7	-	S3?	G5T?
Schizaea pusilla C: open places (Brunswick)	Curly-grass fern	W4	-	S1S2	G5
Schoenolirion croceum S: wet pinelands (Richmond*)	Sunnybell	W3	-	SR	G4
Schoenoplectus americanus T: tidal marshes (Brunswick, Carteret, Dare*, Hyde*, Onslow)	Olney Threesquare	W7	-	S1?	G5
Schoenoplectus californicus C: tidal marshes (New Hanover*)	California Bulrush	W3	-	SH	G5
Scirpus divaricatus C: swamp forests (Columbus*, Craven*, Edgecombe*, Jones*, Martin*, Nash*, Pamlico*, Pitt*, Sampson*, Wilson*)	Spreading Bulrush	W7	-	S2?	G5

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Sclerolepis uniflora C: clay-based Carolina bays, blackwater river foodplains, limesink ponds (Brunswick*, Columbus, Craven*, Duplin*, Harnett*, Hoke, Johnston*, Jones*, New Hanover*, Northampton*,Pender*, Scotland)	One-flower Hardscale	W7	-	S2?	G4
Scutellaria altamaha M: rock outcrops, woodlands (Haywood*, Henderson*)	a skullcap	W7	-	S1?	G2G3
Scutellaria ovata ssp bracteata CP: rich woods on circumneutral soil (Anson*, Bladen*, Burke*, Caswell, Chatham*, Granville, Halifax, Harnett, Moore, Northampton, Richmond, Wake, Wilkes*)	Heart-leaved Skullcap	W7	-	S2?	G5T3T5
Scutellaria ovata ssp ovata M: rich woods on circumneutral soil (Polk*)	Heart-leaved Skullcap	W7	-	S1	G5T5
Scutellaria ovata ssp rugosa PM: rich woods on circumneutral soil (Haywood*, Mitchell*, Stanly*, Yancey*)	Heart-leaved Skullcap	W7	-	S1	G5T?
Scutellaria pseudoserrata M: rocky woodlands (Macon*)	False-teeth Skullcap	W7	-	SH	G3
Scutellaria serrata PM: deciduous forests (Alamance*, Alexander*, Buncombe*, Burke, Durham*, Guilford*, Lee*, Macon*, McDowell, Orange*, Rockingham*, Rutherford, Surry*, Swain*, Wake)	Showy Skullcap	W7	-	S2	G4G5
Senecio glabellus C: blackwater swamps (Beaufort, Bladen, Brunswick*, Craven, Jones, New Hanover, Onslow, Pamlico, Pender)	Butterweed	W1	-	S3	G5
Senecio obovatus M: wooded slopes, mostly over mafic rocks (Alexander, Ashe*, Burke, Clay*, Cleveland, Graham, Jackson, Madison*, McDowell, Polk*, Rutherford, Swain)	Roundleaf Ragwort	W7	-	S2	G5
Senna hebecarpa PM: forests (Buncombe*, Burke, Cabarrus*, Cherokee*, Davie*, Durham*, Guilford*, Henderson*, Iredell*, Lincoln*, Mecklenburg*, Mitchell*, Montgomery*, Moore*, Orange*, Person*, Polk*,Randolph*, Rowan, Transylvania*, Wake*, Wilkes*)	Wild Senna	W7	-	S2S3	G5
Sibbaldiopsis tridentata M: grassy balds, high elevation rocky summits and glades (Ashe, Avery, Buncombe, Jackson, Haywood, Macon, McDowell, Mitchell, Transylvania, Watauga)	Mountain-cinquefoil	W1	-	S3	G5

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Sideroxylon lycioides TCP: maritime forests, bluffs or forests over calcareous or mafic rocks (Alexander*, Anson*, Beaufort*, Bladen, Brunswick, Cabarrus, Carteret*, Columbus*, Craven*, Currituck*, Dare*,Johnston*, Jones*, Montgomery, New Hanover, Onslow, Pender, Richmond, Rowan, Stanly*, Tyrrell*)	Buckthorn Bumelia	W7	-	S2S3	G5
Silene caroliniana PSC: granite flatrocks and sandy woods (Anson, Cumberland, Dare*, Franklin, Hoke, Lenoir*, Moore, Pitt*, Richmond, Stanly*, Union*, Wake)	Carolina Pink	W7	-	S1S2	G5
Silphium asteriscus var *laevicaule* PM: forests (Alamance*, Anson*, Cabarrus*, Chatham*, Cleveland*, Davidson*, Gaston*, Granville*, Macon*, Mecklenburg*, Polk*, Richmond, Rowan*, Union*, Wake*)	Starry Rosinweed	W7	-	S2	G5T?
Smilax biltmoreana PM: dry to mesic forests, over felsic or mafic rocks (Buncombe, Cabarrus*, Catawba, Cleveland*, Gaston*, Henderson, Jackson, Lincoln*, Polk, Randolph*, Rutherford, Transylvania)	Biltmore Carrion-flower	W1	-	S3	G4?
Solidago arguta var *arguta* MPC: forests	Forest Goldenrod	W7	-	S2?	G5T4T5
Solidago curtisii var. *pubens* MP: cove forests (Alleghany*, Avery*, Burke, Henderson*, Rutherford, Watauga*)	A Goldenrod	W3	-	S1	G5T?
Solidago lancifolia M: moist forests, mostly over 5000 feet	Lance-leaf Goldenrod	W7	-	S?	G3G4Q
Solidago patula var *strictula* SC: pocosins, peaty places (Brunswick*, Cumberland, Harnett*, Hoke, Johnston*, Moore, Richmond, Scotland, Wake)	Round-leaved Golden-rod	W1	-	S2?	G5T5
Solidago puberula var *puberula* MP: bogs and wet meadows (Alleghany*, Avery*, Burke*, Cabarrus*, Haywood*, Henderson*, Macon*, Mitchell*, Surry*, Transylvania*)	Downy Goldenrod	W7	-	S2	G5T4T5
Solidago ulmifolia PM: wooded stream banks (Burke*, Chatham*, McDowell*, Montgomery*, Wake*)	Elm-leaf Goldenrod	W7	-	S1	G5
Spergularia marina T: salt marshes and tidal flats (Brunswick*, Carteret, Currituck*, Dare*, Hyde*, Pamlico*)	Saltmarsh Sandspurrey	W7	-	S1S2	G5
Sphenopholis intermedia MPC: rich woods (Ashe*, Cabarrus*, Caldwell*, Graham*, Guilford*, Haywood*, Madison*, Martin*, Mitchell*, Stokes*)	Prairie Wedgescale	W7	-	S2	G5
Spiraea alba var. *alba*	Narrowleaf Meadowsweet	W7	-	S2?	G5

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M: bogs (Alleghany, Ashe, Avery, Buncombe*, Clay*, Henderson, Jackson*, Macon*, Transylvania*, Wilkes*)					
Spiraea latifolia M: bogs (Alleghany*, Ashe, Avery*, Jackson*, Macon, Surry*, Transylvania*)	Broadleaf Meadowsweet	W7	-	S2?	G5
Spiranthes eatonii CS: pine savannas and pine-oak sandhills (Onslow)	Eaton's Ladies'-tresses	W7	-	S1S2	G2G4
Spirodela polyrrhiza C: pools, stagnant waters	Common Water-flaxseed	W7	-	S2?	G5
Sporobolus pinetorum CS: wet savannas (Bladen, Brunswick, Columbus, Cumberland, Duplin, Greene*, Harnett, Hoke, Jones*, Lenoir*, Onslow, Pender, Richmond, Robeson*, Sampson*, Scotland)	Carolina Dropseed	W1	-	S3	G3
Stachys tenuifolia var *tenuifolia* C: swamp forests, edges of bottomlands (Bertie, Northampton)	Smooth Hedge-nettle	W7	-	S1	G5T4Q
Stellaria corei MP: coves, seeps, northern hardwood forests (Avery, Buncombe, Burke, Caldwell*, Catawba*, Clay, Haywood*, Jackson, Macon, Mitchell, Polk, Swain, Watauga, Yancey*)	Core's Starwort	W1	-	S3	G4
Streptopus roseus var *roseus* M: high elevation forests, mainly northern hardwoods and spruce-fir	Southern Twisted-stalk	W7	-	S1?	G5T3?
Syngonanthus flavidulus C: ditches, pocosin ecotones, savannas (Bladen, Brunswick, Carteret, Craven*, Cumberland, New Hanover*, Onlsow, Pender, Sampson*)	Yellow Hatpins	W1	-	S3	G5
Thalictrum steeleanum M: rich mountain slopes (Watauga)	Steele's Meadowrue	W2	-	S1	G3Q
Thermopsis villosa M: forests and openings (Avery*, Cherokee*, Clay*, Graham, Haywood, Jackson*, Macon, Madison*, Surry*, Swain*, Transylvania)	Aaron's-rod	W7	-	S2?	G3?
Thuja occidentalis M: calcareous rocks? (no known and documented native occurrences in North Carolina) (no known and documented native occurrences))	American Arborvitae	W4	-	SE?	G5
Tilia americana var *americana* MP: rich cove forests (Davidson*, Swain*, Wake*, Watauga*)	American Basswood	W7	-	S1?	G5T5
Tofieldia glabra CS: savannas, sandhill seeps, moist sandhill/pocosin ecotones (Beaufort, Bladen*, Brunswick, Carteret, Columbus, Craven*, Cumberland, Harnett, Hoke, Johnston*, Jones, New Hanover, Onslow, Pender, Richmond, Sampson, Scotland, Wilson*)	Carolina Asphodel	W1	-	S3	G3
Triadenum tubulosum C: wet sites, pools (Dare*?, Forsyth*)	a St. John's-wort	W3	-	SR	G4?

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Trichomanes intricatum M: moist grottoes (Burke, Jackson*, Macon, Transylvania*, others)	Grotto-felt	W7	-	S2	G3G4
Trichostema setaceum SPC: dry woodlands, granite flatrocks (Alexander, Cleveland*, Cumberland*, Durham*, Franklin, Gates*, Granville, Henderson*, Madison*, Mecklenburg*, Moore*, Richmond*,Rowan*, Wake)	Narrowleaf Bluecurls	W7	-	S2	G5
Trifolium reflexum PMSC: open woods and clearings (Buncombe*, Cabarrus*, Caswell*, Chatham*, Cherokee, Durham, Granville, Halifax*, Iredell*, Johnston*, Lee*, Madison*, Mecklenburg*, Mitchell*,Montgomery, Moore*, New Hanover*, Orange, Polk*, Randolph*, Richmond*, Rowan*, Rutherford*, Stokes*, Wake, Yadkin)	Buffalo Clover	W7	-	S1S2	G5
Trillium catesbaei PCM: bottomland forests, mesic slopes, cove forests, and alluvial woods	Catesby's Trillium	W5B	-	S4	G4
Trillium cuneatum PM: cove forests, moist slopes, and bottomlands; usually on circumneutral to basic soil (Anson, Catawba, Davidson, Graham, Guilford, Henderson, Iredell, McDowell, Montgomery, Orange, Polk, Randolph, Richmond, Rowan, Rutherford, Stanley, Swain)	Little Sweet Trillium	W5B	-	S3	G4G5
Trillium erectum M: wooded slopes, usually at middle to high elevations	Ill-scent Trillium	W5B	-	S5	G5
Trillium grandiflorum MP: rich coves and mesic slopes	Large-flower Trillium	W5B	-	S5	G5
Trillium luteum M: moist coves over mafic or calcareous rocks	Yellow Trillium	W5B	-	S2S3	G4
Trillium rugelii PM: rich woods and coves over mafic and calcareous rocks (Buncombe, Burke, Davie*, Guilford*, Haywood, Henderson*, Mecklenburg*, Mitchell*, Polk, Richmond, Yancey)	Southern Nodding Trillium	W7	-	S2?	G3
Trillium undulatum M: acidic soils of ridges, slopes, and bog margins, mostly at high elevations	Painted Trillium	W5B	-	S4	G5
Triosteum angustifolium P: thin woodlands over mafic rocks (Cabarrus*, Durham, Granville, Guilford*, Mecklenburg*, Orange*, Randolph*, Richmond)	Narrowleaf Tinker's-weed	W7	-	S2?	G5
Triosteum aurantiacum M: rich cove forests over mafic rocks (Ashe, Clay*, Graham*, Haywood*, Iredell*, Jackson, Macon, McDowell*, Mecklenburg*, Mitchell*, Swain*, Watauga*)	Coffee Tinker's-weed	W7	-	S2?	G5
Triphora trianthophora	Three Birds Orchid	W7	-	S2?	G3G4

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MC: moist forests (Ashe*, Buncombe, Burke, Carteret, Clay, Dare*, Forsyth*, Graham, Haywood, Henderson*, Jackson*, Macon*, Northampton*, Polk*, Rutherford*, Swain*,Transylvania*, Yancey*)					
Tsuga caroliniana MP:open forests on ridgetops, rocky bluffs, or gorge walls (all mountain counties, Alexander, Mecklenburg*, Stokes, Surry)	Carolina Hemlock	W5A	-	S3	G3
Typha domingensis CT: brackish marshes (Beaufort*, Brunswick, Carteret*, Dare, Hyde*, New Hanover*, Pamlico*, Pender*)	Southern Cattail	W7	-	S2?	G4G5
Utricularia foliosa C: habitat in North Carolina not known	Leafy Bladderwort	W3	-	SR	G5
Vaccinium hirsutum M: ridgetop red oak forests, oak hickory forests, pine oak heath (Cherokee, Graham, Swain)	Hairy Blueberry	W1	-	S3	G3
Valerianella umbilicata PM: rich woods and disturbed sites (Forsyth*, Randolph*, Stokes*, Swain*)	Woodland Cornsalad	W7	-	S1	G3G5
Verbena scabra CT: marsh edges, shell middens (Bladen*, Brunswick*, Carteret*, Chowan*, Currituck*, Hyde*, New Hanover*, Onslow*, Pender, Pitt)	Sandpaper Vervain	W7	-	S2?	G5
Verbena stricta C: disturbed sites (Onslow*)	Hoary Vervain	W7	-	S1	G5
Verbesina helianthoides M: open woods and glades	a crownbeard	W3	-	SR	G5
Veronica anagallis-aquatica M: bogs, streambanks, rivulets (Avery, Madison*, Mitchell*)	Blue Water Speedwell	W7	-	S1	G5
Veronicastrum virginicum MP: bogs, wet meadows, dry soils over mafic rocks (Alleghany*, Ashe, Avery*, Buncombe*, Durham*, Forsyth*, Granville, Jackson, Madison*, Orange*, Person*, Vance, Yancey*, Wake)	Culver's-root	W7	-	S2?	G4
Vigna luteola C: marsh edges, wet open areas (Brunswick, New Hanover*)	Wild Cowpea	W7	-	S1?	G5
Viola brittoniana CSP: moist slopes and low wet places (Brunswick*, Chowan*, Columbus, Cumberland*, Currituck*, Gates*, Harnett*, Hertford*, Jones, Montgomery*, Moore*, Northampton*,Perquimans*, Pitt*, Richmond*, Robeson*, Wake*, Washington*)	Northern Coastal Violet	W7	-	S2?	G4G5

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Viola conspersa MP: rich cove forests, bottomlands and seepage slopes (Alleghany*, Alexander*, Haywood*, Iredell*, Macon*, McDowell*, Mitchell*, Rowan*, Rutherford, Wilkes*)	American Dog Violet	W7	-	S2?	G5
Viola villosa CSP: moist places, especially pocosin edges (Anson*, Bladen*, Cumberland, Hoke, New Hanover*, Onslow*, Richmond, Scotland)	Carolina Violet	W7	-	S1?	G5
Vittaria appalachiana MP: moist grottoes (Burke, Jackson, Macon, Stokes, Transylvania, others)	Appalachian Gametophyte	W7	-	S2S3	G4
Waldsteinia fragarioides ssp fragarioides P: forests and streambanks	Northern Barren-strawberry	W7	-	S1?	G5T5
Xerophyllum asphodeloides MP: dry ridges, heath balds, pine-oak heaths (Avery, Burke, Catawba, Clay, Cleveland, Gaston*, McDowell, Mitchell*, Rutherford, Stokes, Transylvania, Yancey*)	Beargrass	W1	-	S3	G4
Xyris difformis var *curtissii* CSP: savannas, bogs and other wet areas (Brunswick, Carteret*, Chowan*, Columbus*, Cumberland, Hoke, Iredell*, Moore*, Nash*, New Hanover, Onslow, Pender, Richmond,Scotland*, Wake*, Wilson*)	Curtiss's Yellow-eyed-grass	W1	-	S2?	G5T5
Xyris iridifolia CS: limesink ponds, pineland pools, marshes (Beaufort*, Brunswick, Carteret*, Columbus*, Craven, Duplin*, Harnett*, Jones*, Onslow, Pender, Robeson)	Iris-leaf Yellow-eyed-grass	W7	-	S1	G4G5T4T5
Xyris smalliana CS: pineland pools, limesink ponds, shores (Brunswick, Carteret*, Columbus, Craven*, New Hanover*, Onslow, Richmond)	Small's Yellow-eyed-grass	W7	-	S3	G5
Yucca aloifolia T: dunes (Brunswick*, Carteret, Dare, Hyde, Pender)	Aloe Yucca	W7	-	S2?	G5
Yucca flaccida CSPM: open, dry woodlands (Burke, Catawba, Cherokee*, Jackson*, Lee*, Lenoir*, McDowell)	Weakleaf Yucca	W7	-	S1	G5
Zannichellia palustris TC: calcareous or brackish waters of pools and estuaries (Brunswick*, Craven, Currituck*, Dare*, Hyde*, Pamlico*, Tyrrell*)	Horned Pondweed	W7	-	S2?	G5
Zanthoxylum americanum M: rich woodlands, over calcareous or mafic rocks (Buncombe*, Jackson*?, Transylvania*)	American Prickly-ash	W3	-	SR	G5
Zizania aquatica C: freshwater marshes (Beaufort*, Brunswick, Carteret*, Chowan*, Craven, Dare, Gates, Jones, New Hanover, Pender, Washington)	Wild Rice	W7	-	S2	G5

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Zosterella dubia M: sluggish streams (Alleghany*)	Water Stargrass	W3	-	S1?	G5

Mosses

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Brothera leana MP: on logs in forests; on thin soil around rock outcrops (Ashe, Avery, Burke*, Haywood*, Jackson*, McDowell*, Rutherford*, Stokes, Surry, Watauga*)	a moss	W7	-	S2?	G3G4
Cryphaea ravenelii PC: on bark of trees (Anson*, Chatham*, Durham*, Halifax*, Harnett*, Hertford*, Person*)	a moss	W7	-	S2?	G3?
Fissidens appalachensis M: submerged in rapids of moderate to high elevation mountain streams (Buncombe*, Caldwell*, Jackson*, Macon*, McDowell*, Swain*,Watauga*)	Appalachian Pocket Moss	W7	-	S2S3	G2G3
Fissidens exilis P: stream banks (Cleveland, Durham, Gaston*?)	Small Pocket Moss	W7	-	S1S2	G3G4
Neckera complanata M: on calcareous rocks in humid gorges (Jackson*)	a moss	W7	-	S1	G5
Polytrichum appalachianum *[= Polytrichum xanthopilum]* MP: rocky summits, mostly in high elevations (Ashe, Avery, Buncombe*, Burke*, Haywood*, Jackson, Macon*,Mitchell, Stokes, Transylvania*, Watauga, Yancey*)	Appalachian Haircap Moss	W1	-	S3	G3
Sphagnum macrophyllum var. *floridanum* CS: in blackwater streams; ditches (Beaufort*, Bladen, Brunswick*, Carteret*, Craven*, Duplin*, Sampson*)	Florida Peatmoss	W7	-	S3	G3T3
Taxiphyllum cuspidifolium [= Isopterygium c.] M: on limestone in spray zones of waterfalls (Macon*)	a moss	W7	-	S1	G2G4
Tortella flavovirens T: dune swales (Brunswick, Carteret*, Dare, Hyde)	Beach Moss	W7	-	S3	G4G5

Hornwort and Liverworts

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Aspiromitus adscendens *[= Anthoceros adscendens]* CP: old fields (Bladen*, Columbus*, Durham*, Jones*, Wilson*)	a hornwort	W7	-	S2?	G3?
Barbilophozia attenuata *[= Lophozia attenuata]* M: on rocks in spruce-fir forests (Avery*, Buncombe*, Haywood*, Transylvania*, Yancey*)	a liverwort	W7	-	S2	G5
Cephaloziella massalongi M: high elevation rocky summits (Swain*)	a liverwort	W7	-	S1	G3G5
Cephaloziella obtusilobula	a liverwort	W2	FSC	SH	GHQ

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M: high elevation cliffs or other moist rocks (Burke*, Macon*)					
Cololejeunea ornata M: on limestone (Jackson*)	a liverwort	W3	-	S1	G2G4
Cylindrocolea andersonii C: banks of blackwater rivers (Sampson*)	a liverwort	W2	FSC	SH	GHQ
Diplophyllum andrewsii M: on soil or rocks on banks (Avery*, Buncombe*, Burke*, Graham*, Jackson, Macon*, McDowell*, Swain*, Yancey*)	a liverwort	W7	-	S2	G3
Diplophyllum taxifolium var *taxifolium* M: crevices and underledges of rock outcrops, mostly in spruce-fir forests at high elevations (Ashe*, Buncombe*, Burke*, Caldwell*, Clay*, Haywood*, Jackson*, Macon*, Mitchell*, Swain*, Transylvania*, Yancey*)	a liverwort	W7	-	S2?	G5T5
Dumortiera hirsuta ssp nepalensis M: in grottoes behind waterfalls in humid gorges (Graham*, Jackson*, Macon*)	a liverwort	W1	-	S1	G5T5
Frullania oakesiana M: on bark of conifers or deciduous trees at high elevations (Avery*, Buncombe*, Haywood*, Jackson*, Macon*, McDowell*, Mitchell*, Swain*, Watauga*, Yancey*)	a liverwort	W7	-	S1S2	G4
Frullania plana MP: on rock outcrops in gorges or near rivers (Burke*, Durham*, Graham*, Haywood*, Jackson*, Macon*, McDowell*, Polk*, Stokes*)	a liverwort	W7	-	S2	G4
Lobaria scrobiculata M: on bark of hardwoods at high elevations (primarily spruce-fir zone) (Haywood*, Jackson*, Macon*, Mitchell*, Swain*, Yancey*)	Textured Lungwort		W7	-	S2?G3G4
Lophozia capitata CPM: in moist depressions in savannas or on clay-pans in the piedmont, rock outcrops (Durham*, Jones*, Onslow*, Orange*, Watauga)	a liverwort	W7	-	S1	G4
Mannia triandra M: on limestone (McDowell*)	a liverwort	W7	-	S1	G3G4
Metzgeria furcata var *setigera* M: damp shaded rocks at high elevations in spruce-fir forests or in humid gorges (Caldwell*, Swain*)	a liverwort	W7	-	S1	G5T1
Metzgeria pubescens M: on bark of trees (Buncombe*, Swain*)	a liverwort	W7	-	SH	G5
Metzgeria uncigera CTM: on bark in maritime forests or on rhododendron in mountain forests (Brunswick, Carteret*, Gates*, Graham*, Hyde*, New Hanover*, Pamlico*)	a liverwort	W7	-	S1	G3
Notothylas orbicularis var *pseudotemperata* C: damp mineral soil (Columbus*)	a hornwort	W2	-	S1	G5T1Q

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Pellia appalachiana MPC: on moist rock outcrops, usually near waterfalls (Harnett*, Macon*, Wake*)	a liverwort	W2	-	S1?	G1?
Plagiochila columbiana P: on thin soil over boulders on floodplains (Durham*, Orange*)	a liverwort	W2	FSC	SH	GHQ
Plagiochila undata ssp undata CMP: on rocks or bark (Anson*, Chatham*, Columbus*, Durham*, Madison*, McDowell*, Orange*, Polk*, Stanly*)	a liverwort	W7	-	S2	G4
Plagiochila virginica var *euryphylla* M: rockfaces in the sprayzone of waterfalls (Transylvania*)	a liverwort	W2	-	SH	G3THQ
Ptilidium pulcherrimum MP: on bark of trees in moist forests (Ashe, Avery*, Gaston, Haywood*, Mitchell*, Watauga*)	a liverwort	W7	-	S1	G5
Radula tenax M: on moist rocks or bark in humid gorges and cove forests (Ashe*, Buncombe*, Burke*, Caldwell*, Jackson*, Macon*, Mitchell*, Swain*, Transylvania*, Watauga*, Yancey*)	a liverwort	W7	-	S2	G3G4
Reboulia hemisphaerica ssp dioica M: in spray zone of waterfalls in humid gorges (Macon*)	a liverwort	W7	-	S1	G5T2?Q
Ricciocarpus natans C: floating in shaded ponds or pools (Dare*)	a liverwort	W1	-	S1	G5

Lichens

Scientific Name Province: Habitat (Counties of occurrence)	Common Name	Status N.C.	Status U.S.	Rank N.C.	Rank Global
Cladina evansii C: sandhills (primarily near the coast) usually associated with Quercus geminata (Bladen*, Brunswick, Carteret, Craven*, Jones, Onslow, New Hanover, Pender)	Green Reindeer Lichen	W7	-	S2	G4G5
Ochrolechia yasudae M: on bark or rock (Ashe*, Buncombe*, Macon*)	Coral Saucer Lichen	W7	-	S1?	G3G4
Platismatia glauca M: on bark of spruce, fir, or hardwoods in the spruce-fir zone (Avery*, Haywood*, Jackson*, Swain*, Yancey*)	Varied Rag Lichen	W7	-	S2	G5
Porpidia cineroatra M: high elevation rocky summits (Mitchell*)	a crustose lichen	W7	-	S1	G5?
Porpidia macrocarpa M: high elevation rocky summits (Mitchell*)	a crustose lichen	W7	-	S1?	G4
Porpidia tuberculosa M: high elevation rocky summits (Mitchell*)	a crustose lichen	W7	-	S1	G?
Punctelia reddenda M: on bark of hardwoods at high elevations (generally spruce-fir zone) (Buncombe*, Haywood*, Jackson*, Swain*, Yancey*)	a foliose lichen	W7	-	S2	G5

Watch Category 6 (W6 - regionally rare) includes species which are rare in one region of North Carolina, while being uncommon to abundant within another region. These regional rarities, generally within-state disjuncts, are significant for protection of genetic variation and long-term viability of species.

A list of North Carolina's rare plants is, of course, determined by the arbitrary, political boundaries of the state. Biological rarity, however, is determined by the natural boundaries of physiography, geology, soils, and climate. These and other physical, biological, and historic factors have determined the evolutionary history and phytogeography of plants currently occupying what is now called "North Carolina." Rarity in one part of the state Ÿ especially when disjunct from the region of greater abundance Ÿ can have as much biological significance as disjunctions from another state. Disjunct populations nearly always have some level of genetic differentiation from populations in the main part of a species' range. If this genetic differentiation is great enough Ÿ and obvious enough Ÿ the disjunct population may be recognized as a separate species, subspecies, or variety. In many cases, however, the genetic differentiation is not great enough (or is not obvious enough with the relatively crude taxonomic tools which have been applied to most taxa) to have warranted the naming of a distinct taxon. Further study will likely show that many disjunct populations do warrant taxonomic status. Preservation of biodiversity requires not only preventing the extinction of species, but also maintaining genetic diversity within the species. The long-term viability of a species is dependent on the genetic diversity represented within and between different populations of the species. Disjunct and peripheral populations are especially likely to contain genetic material rare or absent in the bulk of the species' populations.

Moreover, within-state disjunctions are likely to serve as indicators of regionally unique or unusual habitats. Attention to such species is especially important in county natural area inventories and regional planning.

The following list of Watch Category 6 plants is not exhaustive, but represents some of the most important and significant within-state disjunctions. An emphasis has been placed on species which are disjunct rather than peripheral Ÿ that is, which have a demonstrable gap in their North Carolina ranges. Examples are *Rhododendron catawbiense*, which is rather common at high to medium elevations in the mountains, but occurs in small, disjunct populations in the lower Piedmont and upper Coastal Plain, and *Pogonia ophioglossoides*, a primarily Coastal Plain species, occurring in rare bogs in the mountains.

MOUNTAINS

Aristida virgata
Bartonia virginica
Brasenia schreberi
Calopogon tuberosus
Cardamine bulbosa
Chamaedaphne calyculata [= Cassandra calyculata]
Clematis crispa
Coreopsis gladiata
Cuscuta corylii
Eriocaulon compressum
Eriocaulon decangulare
Eryngium integrifolium
Gaylussacia dumosa
Justicia americana
Kalmia carolina [= K. angustifolia var *caroliniana]*
Lespedeza angustifolia
Orontium aquaticum
Platanthera cristata [= Habenaria cristata]
Pogonia ophioglossoides
Pycnanthemum flexuosum
Rhynchospora gracilenta
Sabatia brachiata
Sium suave
Smilax laurifolia
Sphagnum cuspidatum
Sphagnum strictum
Sphagnum tenerum
Toxicodendron vernix [= Rhus vernix]
Triadenum virginicum [= Hypericum virginicum]
Utricularia biflora [including U. gibba]
Utricularia subulata

Watch Category 6 *cont.*

PIEDMONT

Aconitum uncinatum [lower Piedmont only]
Actaea pachypoda
Aralia nudicaulis
Aralia racemosa
Asplenium montanum [lower Piedmont only]
Berchemia scandens
Campanulastrum americanum [= Campanula americanum]
Carex torta
Cornus alternifolia
Dicentra cucullaria
Dryopteris intermedia
Eleocharis microcarpa
Eriocaulon compressum
Eryngium integrifolium
Hydrophyllum canadense
Hydrophyllum virginianum
Lachnocaulon anceps
Diphasiastrum tristachyum [= Lycopodium t.]
Magnolia virginiana
Myrica heterophylla
Paronychia argyrocoma
Phalaris arundinacea
Pieris floribunda
Pinus strobus [lower Piedmont only]
Platanthera flava var *flava [= Habenaria flava* var *f.]*
Pogonia ophioglossoides
Rhododendron catawbiense
Rhynchospora chalarocephala
Salix humilis
Sarracenia flava
Sarracenia purpurea
Saxifraga micranthidifolia
Scirpus pungens [= S. americanus in RAB]
Sium suave
Smilax laurifolia
Symplocarpus foetidus
Tsuga canadensis [lower Piedmont only]
Xyris baldwiniana
Xyris curtissii
Xyris jupicai

SANDHILLS

Comptonia peregrina
Drosera rotundifolia
Leiophyllum buxifolium
Pinguicula caerulea
Pleea tenuifolia
Rhododendron catawbiense
Rhododendron minus

COASTAL PLAIN

Anemone quinquefolia
Aster cordifolius
Castilleja coccinea
Clematis ochroleuca
Clematis virginiana
Delphinium tricorne
Leiophyllum buxifolium
Magnolia tripetala
Pellaea atropurpurea
Platanthera lacera [= Habenaria lacera]
Stenanthium gramineum
Viola blanda

PLANT TAXA ENDEMIC TO NORTH CAROLINA

	NC Status	US Rank	NC Rank	Global Rank
Allium sp 1	SR-L	FSC	S1	G1
Carex lutea	E	E	S1	G1
Cladonia psoromica	SR-L	FSC	S1	G1
Hexastylis rhombiformis	SR-L	FSC	S2	G2
Hudsonia montana	E	T	S1	G1
Hypericum sp 1	SR-L	FSC	S2	G2
Isoetes microvela	SR-L	FSC	S1	G1
Liatris helleri	T-SC	T	S2	G2
Orbexilum macrophyllum	E	FSC	SH	GH
Scleria sp 1	SR-L	FSC	S1	G1
Shortia galacifolia var *brevis*	E-SC	FSC	S1	G2T1Q
Solidago plumosa	E	FSC	S1	G1
Solidago villosicarpa	E	FSC	S1	G1
Symphyotrichum sp 1	SR-L	FSC	S1	G1

POTENTIAL NEW TO NORTH CAROLINA PLANTS

The following list is of species not currently known to occur in North Carolina, but which are considered to have some possibility of being found in North Carolina, based on their currently known range and habitat preferences. Most are species which occur in the adjacent states of South Carolina, Georgia, Tennessee, or Virginia, in habitats at least relatively similar to habitats known to exist in North Carolina. The purpose of this list is to foster understanding of the flora of North Carolina by challenging botanists to find new state records; this list should give field investigators an idea of some of the species that may be native components of North Carolina's flora. While some of these species may have relatively remote chances of being found in North Carolina, the likelihood of finding new state records is greatly increased by being aware of the possibilities and by species-directed searching. State records of native vascular plants are being found at the rate of about five per year. Our knowledge of North Carolina's flora is still imperfect, and many natural areas are being destroyed before they can be investigated; certainly a number of native species have been extirpated from North Carolina before they were ever documented as occurring in the state.

Following each species is the North Carolina province in which the species is considered most likely to be found. Where possible, a description of the typical habitat of the species in the vicinity of North Carolina is also given. Sometimes, the nearest known occurrence(s) to North Carolina are also listed, with the distance from North Carolina in number of counties in brackets. For instance [1] indicates that the species has been reported from a county immediately adjacent to North Carolina; [5] indicates that the species has been reported from a county five counties away from the North Carolina border. An average county width in and around North Carolina is about 25 miles, so[5] indicates an approximate distance from North Carolina of 100-125 miles. While distance from the state is an interesting piece of information, it is probably a poor indicator of the probability of occurrence in North Carolina, since long distance disjunctions to the mountains (from the north) and to the coastal plain (from the south) are frequent. In the coming years, some of the species on this list will almost certainly be added to the flora of North Carolina.

Agalinis auriculata (= *Tomanthera auriculata*) - P (mafic glades) - York County, SC [1 county]
Ageratina luciaea-brauniae (= *Eupatorium l.*) - M (bases of overhanging cliffs) - KY, TN
Aletris obovata - C (savannas) - Beaufort County, SC [4]
Alnus incana ssp *rugosa* - M (moist mountain slopes) - Nelson County, VA [4]
Amphianthus pusillus - P (pools on granitic flatrocks) - Lancaster County, SC [1]
Anemone canadensis - M - Rockingham County, VA [5]
Antennaria virginica - MP (rock outcrops) - Carroll & Patrick counties, VA [1]
Aralia hispida - M (dry rocky woods) - Augusta County, VA [4]
Armoracia lacustris - C (shallow water) - Southampton County, VA [1]
Asclepias cinerea - C (savannas) - Hampton & Jasper counties, SC [5]
Asclepias michauxii - C (savannas and pinelands) - Williamsburg & Florence counties, SC [2]
Asclepias obovata - C (sandy pinelands) - Charleston County, SC [3]
Asclepias perennis - C (swamp forests) - Marion County, SC [2]
Asplenium septentrionale - M (rock outcrops) - Monroe County, WV [4]
Asplenium trichomanes ssp *quadrivalens* - MP (calcareous outcrops) - Giles County, VA [3]
Asplenium X *trudellii* - PM (moist cliffs, acidic outcrops and bluffs) - Pittsylvania & Lee counties, VA [1]
Astragalus distortus - P (glades, dry shaly places) - Pittsylvania County, VA [1]
Baptisia perfoliata - SC (sandhills) - Lexington County, SC [4]
Batis maritima - C (salt and brackish marshes) - Charleston County, SC [3]
Berlandiera pumila - S (sandy woods and fields) - Chesterfield & Darlington counties, SC [1]
Bothriochloa saccharoides - M (dry openings) - TN
Botrychium lunarioides - C (old fields, pastures) - Richland & Charleston counties, SC [3]
Bouteloua curtipendula - PM (calcareous or mafic glades) - Pulaski & Montgomery counties, VA [2]
Bromus kalmii - M - Augusta & Bath counties, VA [4]
Carex brevior (C. molesta)- M (dry woods) - Wythe County, VA [2]
Carex conjuncta - MC (mesic woods) - Southampton & Russell counties, VA [1]
Carex pallescens - M (grassy balds) - Unicoi County, TN [1]
Carex polymorpha - M (dry upland woods or wetland margins) - Augusta County, VA [4]
Carex sp 3 - M (rich cove forests) - Oconee & Pickens counties, SC [1]

Carex vesicaria - M (bogs) - Grayson County, VA [1]
Ceratiola ericoides - CS (sandhills) - Horry County, SC [1]
Chamaecrista nictitans var *aspera* - C (savannas) - Charleston County, SC [3]
Cheilanthes castanea - MP (dry, shaly outcrops) - Carroll, Pittsylvania, Pulaski, & Montgomery counties, VA [1]
Cheilanthes feei - M (calcareous outcrops) - Pulaski County, VA [2]
Cimicifuga rubifolia - M (cove forests) - Scott County, VA [2]
Cirsium nuttallii - C (savannas, roadsides) - Marion County, SC; Southampton County & Virginia Beach, VA [1]
Clematis reticulata - C - (dry sandy woods) - Darlington County, SC [2]
Collinsia verna - M - (rich moist woods) - Smyth County, VA [2]
Coreopsis grandiflora var *grandiflora* - P (granite flatrocks) - Lancaster County, SC [1]
Coreopsis integrifolia - C (creekbanks and floodplains) - Berkeley County, SC [3]
Coreopsis rosea - C (drawdown zones of blackwater rivers, limesink ponds, Carolina bays) - Horry County, SC [1]
Cornus canadensis - M (mountain forests) - Bath & Albemarle counties, VA [4]
Cornus rugosa - M - Giles & Craig counties, VA [3]
Cypripedium kentuckiense - M (forests) - TN, KY, VA
Cystopteris fragilis - M (acidic cliffs) - Giles County, VA [3]
Dasistoma macrophylla - P (glades) - York County, SC [1]
Delphinium carolinianum - P (glades) - Lancaster County, SC [1]
Desmodium floridanum - C - (dry sandy areas) - Beaufort & Jasper counties, SC [4]
Dioscorea floridana - C (moist woods) - Williamsburg County, SC [3]
Draba aprica - P (granite outcrops) - Lancaster County, SC [1]
Dyschoriste humistrata - C (moist forests) - Charleston County, SC [3]
Dyschoriste oblongifolia - C (savannas) - Orangeburg County, SC [4]
Elephantopus elatus - C (dry pinelands) - Charleston County, SC [3]
Ellisia nyctelea - P (bottomlands, forest) - Pittsylvania County, VA [1]
Elytraria caroliniensis - C (low marly forests) - Berkeley County, SC [3]
Equisetum fluviatile - M (wet places, shallow water) - Augusta County, VA [4]
Equisetum sylvaticum - M (moist forests) - Shenandoah County, VA [6]
Eriocaulon ravenelii - C (savannas) - Berkeley County, SC [3]
Eryngium aquaticum var *ravenelii* - C (savannas) - Berkeley County, SC [3]
Erythronium americanum ssp *harperi* - M (moist forests) - Polk County, TN [1]
Eupatorium scabridum - C (savannas) - SC
Floerkea proserpinacoides - P (rich moist woods) - Fauquier County, VA [8]
Galactia elliottii - C (low moist areas) - Beaufort & Jasper County, SC [4]
Galium boreale - M (moist forests) - Wythe & Scott counties, VA [2]
Galium concinnum - M (dry forests) - Giles & Smyth Counties, VA [2]
Gaura filipes - CS (sandy areas) - Kershaw & Williamsburg counties, SC [2]
Gaylussacia brachycera - MP (dry acidic woodlands) - Carroll County, VA [1]
Gaylussacia mosieri - CS (seepages, savannas) - Lexington County, SC [3]
Gleditsia aquatica - C (swamp forests) - Williamsburg County, SC [3]
Glyceria acutiflora - M (wet openings) - Wythe County, VA [2]
Glyceria canadensis (sensu stricto, non RAB) - M (high elevation seeps) - VA
Glyceria grandis - MC - Floyd & James City counties, VA [2]
Habenaria quinqueseta - C (wet pinelands and forests) - Charleston & Berkeley counties, SC [3]
Honckenya peploides ssp *robusta* - C (beaches and dunes) - Accomack County, VA [3]
Houstonia canadensis - M (rocky woods and outcrops) - Wythe, Pulaski, & Washington counties, VA [2]
Hudsonia ericoides - S (sandhills) - Chesterfield County, SC [1]
Hydrolea corymbosa - C
Hypericum harperi - C (clay-based Carolina bays) - Barnwell County, SC [5]
Isoetes macrospora - M (shoals in cold streams) - TN
Juncus brachycephalus - M (wet meadows) - GA; Giles County, VA [3]
Juncus dudleyi - MPC (paths) - Carroll & Southampton counties, VA [1]
Juncus gerardii - C (margins of brackish marshes) - Chesapeake city, VA [1]
Kalmia angustifolia (sensu stricto) - CM (pinelands, mountain bogs) - Southampton County, VA [1]
Kalmia hirsuta - C (savannas, pocosin edges) - Colleton & Beaufort counties, SC [4]
Liatris gracilis - CSP (pinelands, dry woodlands) - Laurens & Colleton counties, SC [2]

Liatris tenuifolia - S (sandhills) - Chesterfield, Lancaster, & Marlboro counties, SC [1]
Linnaea borealis - M (high elevation forests) - TN [1]
Lithospermum caroliniense - C (sandhills) - Isle of Wight County, VA; Calhoun & Lexington counties, SC [2]
Ludwigia spathulata - C (clay-based Carolina bays) - Lexington & Aiken counties, SC [4]
Lycopodium annotinum - M (moist, high elevation forests) - Grayson County, VA [1]
Magnolia pyramidata - P (rich woods) - Richland County, SC [3]
Maianthemum stellatum (= *Smilacin a stellata*) - M - Bedford County VA; TN [2]
Micranthemum micranthemoides - C (tidal marshes) - Charles City County, VA [4]
Minuartia cumberlandensis - M (rock outcrops) - TN
Minuartia patula - PM (mafic or calcareous glades and outcrops) - Rockbridge County, VA [3]
Nolina georgiana - S (sandhills) - Kershaw County, SC [2]
Ophioglossum engelmannii - MP (glades over calcareous or mafic rocks) - Montgomery County, VA [3]
Ophioglossum pusillum - M (moist areas) - VA
Opuntia stricta var *dillenii* - C (dunes) - Charleston County, SC [3]
Opuntia stricta var *stricta* - C (dunes) - Charleston County, SC [3]
Oryzopsis racemosa - MP (dry woods) - Patrick County, VA [1]
Osmunda cinnamomea var *glandulosa* - C (marshes, swamps) - VA
Paronychia virginica var *virginica* - M (calcareous rock outcrops) - Wythe County, VA [2]
Paspalum plicatulum - C
Pellaea glabella ssp *glabella* - M (limestone outcrops) - Wythe County, VA [2]
Pieris phillyreifolia - C (blackwater swamps, pocosins) - Charleston County, SC [3]
Pilularia americana - PM (muddy wet places, granite outcrops, pond margins) - TN, GA
Pinus glabra - C (bottomland forests) - Georgetown County, SC [2]
Pityopsis ruthii - M (riverside outcrops) - Polk County, TN [1]
Plantago maritima - C (salt marshes) - Accomack County, VA [3]
Platanthera leucophaea - M (damp calcareous meadows) - Augusta County, VA [4]
Poa wolfii - M (moist forests) - Rockingham County, VA [5]
Polygonella gracilis - SC (sandhills)
Pseudo taenidia montana - MP (dry shaly woods) - Bedford and Roanoke counties, VA [3]
Pyrola chlorantha - M (dry forests) - Page County, VA [6]
Pyrola secunda - MP (moist forests) - New Kent County, VA [5]
Quercus similis - C (wet stream bottoms, flatwoods) - SC [3 or 4]
Quercu s sinuata (durandii) - C (hills and streambanks) - SC
Quercus georgiana - P (granitic outcrops) - Kershaw & Spartanburg counties, SC [1]
Quercus oglethorpensis - CP (low woods) - Greenwood & Saluda counties, SC [4]
Ratibida pinnata - P (diabase glades) - York County, SC [1]
Rhamnus lanceolata - M (moist calcareous woodlands) - Pulaski County, VA [2]
Rhynchospora knieskernii - CS (peaty bogs) - NJ
Rhynchospora saxicola - P (granitic flatrocks) - GA, SC?
Ribes americanum - M (moist forests) - Rockbridge County, VA [3]
Ribes echinellum - P (rich woods) - McCormick County, SC [4]
Ribes lacustre - M (moist forests) - Bath County, VA [4]
Rosa obtusiuscula - M (riverbank)- Cocke County, TN [1]
Sabatia bartramii (= *S. dodecandra* var *coriacea*) - C (pine savannas) - Hampton County, SC [6]
Sabatia brevifolia - C (savannas) - Berkeley County, SC [3]
Sabatia dodecandra var *foliosa* - C (freshwater wetlands, ditches, streambanks) - Marion County, SC [2]
Sagittaria rigida - PM (swamps and ponds) - Nelson County, VA [4]
Schizachne purpurascen s - M (dry rocky woods) - Highland County, VA [5]
Scirpus ancistrochaetus - M (temporary ponds) - VA
Scirpus verecundus - P (mesic banks and bluffs) - Grayson, Halifax, & Pittsylvania counties, VA [1]
Scutellaria incana var *incana* - M (rocky woodlands) - Mercer County, WV [4]
Scutellaria mellichampii - C (sandy riverbanks) - Bamberg & Beaufort counties, SC [5]
Scutellaria montana - M (rocky woodlands) - GA, TN
Scutellaria multiglandulosa - P (woodlands) - Anderson County, SC [2]
Scutellaria parvula (sensu stricto, non RAB) -P (dry rocky openings) - VA
Sedum nevii (sensu stricto) - M (rock outcrops) - Polk County, TN [1]

Silphium dentatum var *gatesii*
Smilax pumila - C (moist, maritime hardwood forests) - Horry County, SC [1]
Solidago hispida - M (calcareous woodlands) - TN; Walker County, GA [4]
Sparganium androcladum - MC (ponds and streams) - TN; Virginia Beach city, VA [1]
Sparganium eurycarpum - MC (ponds and streams) - Pulaski County, VA [2]
Spiranthes lacera var *lacera* - M (open areas) - TN, VA
Sporobolus curtissii - C (savannas) - GA
Sporobolus neglectus - M (mafic glades) - Montgomery & Lee counties, VA [3]
Stillingia aquatica - C (clay-based Carolina bays) - Allendale, Barnwell, & Hampton counties, SC [6]
Suaeda maritima - C (salt marshes) - VA, FL
Sullivantia sullivantii - M (cliffs) - Russell County, VA [2]
Thalictrum mirabile - M (cliff bases) - KY, TN
Toxicodendron radicans ssp *negundo* - M - VA, WV
Toxicodendron rydbergii - M - VA, WV
Triadenum fraseri - M (bogs and swampy forests) - Giles County, VA [3]
Trillium cernuum (sensu stricto, non RAB) - M (wet woods) - Rappahannock & Fauquier counties, VA [7]
Trillium decumbens - M (rich woods) - TN; Pickens & Murray counties, GA [2]
Trillium lancifolium - P (rich forests) - Kershaw County, SC [2]
Trillium maculatum - PC (rich forests) - Berkeley County, SC [3]
Trillium nivale - M (moist calcareous forests) - Highland County, VA [5]
Trillium persistens - MP (acid woods under hemlock) - SC; Rabun County, GA [1]
Trillium reliquum - PC (rich river bluffs) - Aiken County, SC [5]
Urtica gracilis - M (limestone outcrops) - Giles County, VA [3]
Uvularia floridana - C (alluvial forests) - Berkeley & Charleston counties, SC [3]
Vaccinium angustifolium - M (forests and woodlands) - Wythe, Montgomery, & Pulaski counties, VA [2]
Vaccinium myrtilloides - M (forests and bogs) - Pulaski & Roanoke counties, VA [1]
Vaccinium oxycoccos - M (bogs) - Pocahontas County, WV [6]
Vaccinium sempervirens - SC (sphagnous seeps, savannas) - Lexington County, SC [4]
Vernonia angustifolia var *scaberrima* - C (pinelands) - Marion County, SC [2]
Vernonia pulchella - SC (pinelands)
Veronica scutellata - M (swamps and bogs) - Grayson & Carroll counties, VA [1]
Viburnum obovatum - C (moist forests) - Horry County, SC [1]

2004 SIGNIFICANT PLANT LIST REVISIONS

Name Changes/Synonymy Edits to the Rare Plant List

Changed from:	Changed to:
Aster avitus	*Eurybia avita*
Aster carolinianus	*Ampelaster carolinianus*
Aster cordifolius	*Symphyotrichum cordifolium*
Aster firmus	*Symphyotrichum firmum*
Aster georgianus	*Symphyotrichum georgianum*
Aster laevis var. *concinnus*	*Symphyotrichum laeve* var. *concinnum*
Aster laevis var. *laevis*	*Symphyotrichum laeve* var. *laeve*
Aster mirabilis	*Eurybia mirabilis*
Aster oblongifolius	*Symphyotrichum oblongifolium*
Aster parviceps	*Symphyotrichum parviceps*
Aster shortii	*Symphyotrichum shortii*
Aster spectabilis	*Eurybia spectabilis*
Baptisia minor	*Baptisia minor* var. *aberrans*
Calamintha georgiana	*Clinopodium georgianum*
Cypripedium parviflorum	*Cypripedium parviflorum* var. *parviflorum*
Cypripedium pubescens	*Cypripedium parviflorum* var. *pubescens*
Echinodorus parvulus	*Echinodorus tenellus*
Gaylussacia tomentosa	*Gaylussacia nana*
Hypericum buckleyi	*Hypericum buckleii*
Lilium sp 2	*Lilium pyrophilum*
Zephyranthes sp. *1*	*Zephyranthes simpsonii*

NC Endangered and Threatened Changes

Taxon	Former Status	New Status	SRANK	GRANK
Agrostis mertensii	PE	E	S1	G5
Carex radfordii	PE	E	S1	G2
Carya myristiciformis	T	E	S1	G4
Cheilolejeunea evansii	PE	E	S1	G1
Hymenophyllum tayloriae	PE	E	S1S2	G1G2
Kalmia cuneata	E	SR-L	S3	G3
Lilium pyrophilum (=L. sp 2)	SR-L	E-SC	S2	G2
Lindera subcoriacea	E	T	S2	G2
Lobelia boykinii	SR-T	T	S1	G2G3
Quercus ilicifolia	SR-P	T	S1	G5
Plagiochila caduciloba	E	SR-T	S1	G2
Solidago pulchra	E	SR-L	S3	G3
Solidago villosicarpa	SR-L	E	S1	G1
Sphenolobopsis pearsonii	PE	E	S2	G2?
Talinum mengesii	PE	E	S1	G3

Federal Status Changes

Taxon	Former Status	New Federal Status	NC Status	SRANK	GRANK
Carex radfordii	œ	FSC	E	S1	G2
Carex roanensis	FSC	œ	SR-T	S2	G2
Chiloscyphus appalachianus	FSC	œ	SR-T	S1	G1G2Q
Isoetes microvela	œ	FSC	SR-L	S1	G1
Lilium pyrophilum	œ	FSC	E-SE	S2	G2
Ludwigia ravenii	œ	FSC	SR-T	S2?	G2?
Orthotrichum keeverae	FSC	œ	E	S2	G2
Panicum lithophilum	œ	FSC	SR-T	S1	G2G3Q
Parnassia grandifolia	œ	FSC	T	S2	G3
Phacelia covillei	œ	FSC	SR-T	S2	G2
Plagiochila columbiana	FSC	œ	W2	SH	GHQ
Plagiochila sullivantii	œ	FSC	SR-T	S2	G2T2
Ptilimnium sp. 1	œ	FSC	SR-L	S1	G1
Pycnanthemum torrei	œ	FSC	SR-T	SH	G2
Sagittaria graminea var. *weatherbiana*	œ	FSC	SR-T	S2	G5T2
Sida inflexa	FSC	--	--	SRF	G2Q
Solidago simulans	œ	FSC	SR-L	S1	G1
Solidago villosicarpa	œ	FSC	E	S1	G1
Symphyotrichum sp 1	œ	FSC	SR-L	S1	G1
Thaspium pinnatifidum	œ	FSC	SR-T	S1	G1
Tofieldia glabra	FSC	œ	W1	S3	G3
Waldsteinia lobata	--	FSC	SR-T	S1	G2

Taxa No Longer Tracked in NC

Taxon	Former Status	Comments
Arabis laevigata var. *burkii*	W7	Originally misidentified in NC as *A. laevigata* var. *burkii*, but later found to be *A. laevigata*
Asplenium platyneuron var. *bacculum-rubrum*	W7	Taxon no longer recognized
Asplenium x ebenoides (hybrid)	W3	Hybrids are not tracked
Gaylussacia tomentosa	SR-P	Originally misidentified as *G. tomentosa*, but later found to be *G. nana*
Hymenocallis coronaria	W3	Originally misidentified as *H. coronaria*, but later found to be *H. occidentalis*
Ilex buswellii	S2	Taxon no longer recognized
Lilium iridollae	T	Originally misidentified as *Lilium iridollae*, but later found to be *L. pyrophilum*
Oenothera austromontana	W7	Taxon no longer recognized
Schizachyrium stoloniferum	W3	Taxon now considered *S. scoparium* var. *stoloniferum* and needing further study
Sida inflexa	W3	Taxon not yet found in NC

Watch List Additions and Changes

Taxon	Former Status	New Status	SRANK	GRANK
Acmella repens	W7	W1	S1	G5
Ampelopsis cordata	W4	W7	S2	G5
Boykinia aconitifolia		W7	S3	G4
Carex albicans var. *australis*	W7	W1	S2?	G5T5
Cleistes bifaria	W7	W1	S2	G3G4
Cleistes divaricata		W1	S3	G4
Crataegus aestivalis		W1	S2	G5
Cyperus virens		W7	SU	G5
Eupatorium maculatum		W7	S3?	G5
Habenaria repens	W7	W1	S2	G5
Hypericum buckleii	W7	W1	S3	G3
Ilex ambigua	W7	W1	S3	G5
Ipomoea macrorhiza	W7	W4	SE?	G3G5
Ipomoea pes-caprae		W4	S1	G5
Oenothera riparia	W7	W1	S2S3	G2G3
Orbexilum pedunculatum var *pedunculatum*	W3	W7	S1	G5T5?
Parietaria floridana	W3	W4	SE?	G5
Paspalum praecox	W7	W1	S2S3	G4
Pediomelum canescens	W7	W1	S3	G3G4
Platanthera blephariglottis		W7	S3?	G4G5
Quercus minima	W7	W3	SR	G5
Quercus pumila		W7	S3?	G5
Rhynchospora cephalantha var. *attenuata*	W7	W1	S3	G5T3?
Rhynchospora leptocarpa	W7	W1	S3	G3
Rhynchospora nitens	W7	W1	S3	G4?
Sabatia dodecandra		W1	S3?	G5?
Sagittaria engelmanniana	W7	W1	S2	G5?
Sanguisorba canadensis	SR-P	W1	S3	G5
Solidago patula var. *strictula*	W7	W1	S2?	G5T5
Sphagnum cuspidatum		W6	S4	G5
Sphagnum strictum		W6	S4	G5
Sphagnum tenerum		W6	S4	G5

Additions to the Rare List

Taxon	Former Status	New Status	SRANK	GRANK
Arenaria lanuginosa ssp. *lanuginosa*	W7	SR-P	S2	G5T5
Asclepias purpurascens	W7	SR-T	S1?	G4G5
Carex calcifugens		SR-T	S2?	G2G4
Carex oligocarpa	W7	SR-P	S2?	G4
Carex sp 4	W7	SR-L	S2	G2G3
Celastrus scandens	W7	SR-P	S2?	G5
Desmodium fernaldii		SR-P	S1	G4
Dichanthelium sp 9 (= Panicum cryptanthum)		SR-L	S2	G2G3
Eleocharis atropurpurea	W7	SR-D	S1	G4G5
Eleocharis vivipara	W7	SR-O	S1	G5
Gaylussacia brachycera		SR-D	S1	G3
Gaylussacia nana		SR-P	S1	G?
Gratiola aurea	W7	SR-O	S1	G5
Gratiola ramosa	W7	SR-P	S1	G4G5
Helianthemum rosmarinifolium	W4	SR-P	S2	G4
Helianthus floridanus	W7	SR-P	S1	G3G4
Hymenocallis occidentalis	W3	SR-P	SH	G4?
Hymenocallis pygmaea		SR-L	S2?	G2G3
Hypericum sp. *1*	W2	SR-L	S2	G2
Hypericum sp. *2*	W2	SR-L	S2	G2
Hypoxis juncea	W7	SR-P	S1	G4?
Hypoxis rigida	W7	SR-P	S2	G4
Iris prismatica	W7	SR-T	S1S2	G4G5
Lobaria scrobiculata	W7	SR-P	S2?	G3G4
Lycopus angustifolius	W7	SR-P	S1	G4?
Lysimachia hybrida	W7	SR-P	S1	G5
Lythrum lanceolatum	W7	SR-T	S1	G5
Paronychia herniarioides	W3	SR-P	S1	G3G4
Pinguicula lutea	W7	SR-P	S2	G4G5
Plagiochila caduciloba	E	SR-T	S1	G2
Polygala nana	W7	SR-D	S1?	G5
Polygonum amphibium	W7	SR-P	S1	G5
Prenanthes alba	W7	SR-P	S2	G5
Pycnanthemum virginianum	W7	SR-P	S1	G5
Scleria sp. *1*	W2	SR-L	S1	G1
Sebastiania fruticosa	W7	SR-T	S1	G5
Sesuvium maritimum	W7	SR-O	S1	G5
Sesuvium portulacastrum	W7	SR-P	S1	G5
Solanum pseudogracile	W7	SR-T	S1	G?
Sphagnum contortum		SR-D	S1	G5
Sphagnum flavicomans	W7	SR-P	SH	G3
Sphagnum henryense		SR-D	S2	G4?

NORTH CAROLINA NATURAL HERITAGE PROGRAM
ENDANGERED AND RARE PLANT FIELD SURVEY FORM

Species: ______________________ Common name: ______________________

Survey date: ______________________ 7.5' Quad Map: ______________________

County: ______________________ Elevation: ______________________

Site location and directions: **(attach copy of map with site marked or use back of form to draw a sketch of the site):** ___

____

____

SPECIES INFORMATION

Number of individuals: ______________ Define individual **(stem, clump, etc.):** ______________

Size of area in which population occurs: ______________________

Phenology: ___ dormant
___ leaf
___ bud
___ flower
___ fruit

Evidence of reproduction: ___ seedlings
___ clonal/vegetative

Other information: ______________________

____

Habitat (**NC NHP natural community name and description; include quality, soils, geology, etc.**): ______________

____

____

Topographic position:	Micro-relief:	Moisture regime:	Light:
___ crest	___ flat	___ inundated	___ open
___ upper slope	___ rippled	___ saturated	___ filtered
___ mid slope	___ concave	___ moist	___ shade
___ lower slope	___ convex	___ dry	
___ upland flat	___ drop-off	___ seasonally wet	
___ alluvial	___ other		

Other information: ____

Associated species: ____

____

____

Protection and management needs and other comments: ______________________

____

____

Landowner(s), if known: ____

Person making this report: ______________________ Search time: ____________

Address: ______________________

______________________ Phone: ____________

Other observers: ____

Specimens collected? ____________ Collection #: ____________ Repository: ____________

(permits are required for federal or state listed species)

Return form to: N.C. Natural Heritage Program; NC DENR, MSC 1601; Raleigh, NC 27699-1601

NORTH CAROLINA NATURAL HERITAGE PROGRAM
WATCH LIST PLANT SURVEY FORM

Species: ____________ ____

Survey date: ______________ 7.5' Quad Map: ______________________________

County: ______________________ Elevation: ______________________________

Site location and directions: **(attach copy of map with site marked or use back of form to draw a sketch of the site):** ___

____

____

POPULATION INFORMATION

Number of individuals: __________ Define individual **(stem, clump, etc.):** ______________

Size of area in which population occurs: ____

Coordinates (if known):

____

Landowner(s), if known:

____

Person making this report: ______________________________

Address: __________________________________ Phone: ______________

Other observers: ____

Specimens collected? __________ Collection #: ________ Repository: __________
(permits are required for federal or state listed species)

Other Notes (Including Evidence Of Reproduction):

Return this form (along with a map) to:
N.C. Natural Heritage Program, 1601 Mail Service Center, Raleigh, NC 27699-1601
Visit www.ncparks.net/nhp for updated Status and contact information.

Abies fraseri 7
Acer nigrum 57
Acmella repens 57, 103
Aconitum reclinatum 7
Acrobolbus ciliatus 50
Actaea racemosa 57
Adiantum capillus-veneris 7
Adlumia fungosa 7
Aeschynomene virginica 7
Agalinis aphylla 7
Agalinis decemloba 57
Agalinis linifolia 57
Agalinis tenella 57
Agalinis virgata 7
Agarista populifolia 57
Agastache nepetoides 7, 57
Agrimonia incisa 57
Agrostis altissima 57
Agrostis mertensii 7, 101
Aletris farinosa 57
Allium allegheniense 57
Allium cuthbertii 7
Allium sp 1 . . . . 7, 95
Allium tricoccum 56, 57
Alnus viridis ssp crispa 7
Amaranthus pumilus 7
Amelanchier sanguinea 8
Amorpha georgiana var confusa . . . 8
Amorpha georgiana var georgiana . 8
Amorpha schwerinii 8
Ampelaster carolinianus 8, 101
Ampelopsis cordata 57, 103
Amphicarpum muehlenbergianum . . 8
Amphicarpum purshii 58
Amsonia ciliata 58
Anaptychia setifera 53
Anastrophyllum saxicola 50
Andropogon arctatus 58
Andropogon brachystachyus 58
Andropogon longiberbis 58
Andropogon mohrii 8
Andropogon perangustatus 58
Andropogon tracyi 58
Andropogon virginicus var decipiens 58
Anemone berlandieri 8
Anemone caroliniana 8
Anemone minima 58
Aneura sharpii 50
Angelica atropurpurea 58
Anomylia cuneifolia 50
Antennaria howellii ssp petaloidea 58
Anthaenantia rufa 58
Anzia americana 53
Anzia ornata 53
Arabis glabra 8
Arabis hirsuta var adpressipilis 8
Arabis missouriensis 8
Arabis patens 8
Arenaria lanuginosa ssp lanuginosa 9
Arethusa bulbosa 8
Arisaema triphyllum ssp stewardsonii 9
Aristida condensata 9, 58
Aristida simpliciflora 9
Aristida spiciformis 58
Aristida tenuispica 58
Aristida virgata 94
Aristolochia serpentaria 58
Arnoglossum ovatum 9
Asclepias longifolia 59
Asclepias pedicellata 9
Asclepias purpurascens 9
Asclepias tomentosa 59
Aspiromitus adscendens 91
Aspiromitus appalachianus 53
Asplenium bradleyi 9
Asplenium heteroresiliens 9
Asplenium monanthes 9
Asplenium pinnatifidum 9
Asplenium resiliens 59
Asplenium ruta-muraria 9
Aster lanceolatus 59
Astilbe crenatiloba 9
Astragalus michauxii 9
Athyrium angustum 59
Baccharis angustifolia 59
Baccharis glomeruliflora 9
Bacopa caroliniana 9
Bacopa innominata 9
Bacopa rotundifolia 59
Balduina atropurpurea 9
Baptisia alba 9
Baptisia albescens 10
Baptisia bracteata var bracteata . . 10
Baptisia minor var aberrans 10
Barbilophozia attenuata 91
Barbilophozia barbata 50
Barbilophozia hatcheri 50
Bartonia paniculata 59
Bartonia verna 59
Bartonia virginica 94
Bartramidula wilsonii 46
Bazzania nudicaulis 50
Berberis canadensis 10
Betula cordifolia 10
Bidens coronata 10
Boltonia asteroides 59
Boltonia diffusa 59
Botrychium jenmanii 10
Botrychium lanceolatum var angustisegmentum 10
Botrychium matricariifolium 10
Botrychium multifidum 10
Botrychium oneidense 10
Botrychium simplex var simplex . . . 10
Boykinia aconitifolia 59, 103
Brachydontium trichodes 46
Brachyelytrum septentrionale 10
Brachymenium andersonii 46
Brachymenium systylium 46
Brachythecium populeum 46
Brachythecium rotaeanum 46
Brasenia schreberi 94
Bromus ciliatus 10
Bromus latiglumis 59
Bromus nottowayanus 59
Brothera leana 90
Bryocrumia vivicolor 46
Bryoerythrophyllum ferruginascens 46
Bryoerythrophyllum inaequalifolium 46
Bryoxiphium norvegicum 46
Bryum riparium 46
Buchnera americana 11
Buckleya distichophylla 11
Bulbostylis warei 11
Burmannia biflora 59
Buxbaumia aphylla 46
Buxbaumia minakatae 46
Calamagrostis cainii 11
Calamagrostis canadensis 11
Calamagrostis porteri 11
Calamovilfa brevipilis 60
Callitriche terrestris 60
Calopogon multiflorus 11
Calopogon tuberosus 94
Caltha palustris 11
Calycanthus floridus var floridus . . 60
Calystegia catesbeiana ssp sericata 11
Calystegia soldanella 60
Camassia scilloides 11
Campanula aparinoides 11
Campanula rotundifolia 11
Campylium stellatum 46
Campylopus atrovirens var cucullatifolius 46
Campylopus carolinae 47
Campylopus oerstedianus 47
Campylopus paradoxus 47
Canoparmelia amabilis 53
Cardamine bulbosa 94
Cardamine clematitis 11
Cardamine dissecta 11
Cardamine douglassii 12
Cardamine longii 12
Cardamine micranthera 12
Cardamine rotundifolia 12
Carex aenea 12
Carex albicans var australis 60
Carex albicans var emmonsii 60
Carex albursina 60
Carex argyrantha 12
Carex baileyi 60
Carex barrattii 12
Carex biltmoreana 12
Carex bromoides ssp montana 60
Carex bushii 12
Carex buxbaumii 12
Carex calcifugens 12
Carex canescens ssp disjuncta 12
Carex careyana 12
Carex chapmanii 60
Carex cherokeensis 12
Carex collinsii 61
Carex communis var amplisquama 12
Carex conoidea 12
Carex corrugata 61
Carex cristatella 12
Carex crus-corvi 12
Carex decomposita 13
Carex deflexa 13
Carex eburnea 13
Carex echinata ssp echinata 61
Carex elliottii 61
Carex exilis 13
Carex festucacea 61
Carex floridana 61
Carex granularis 61
Carex hitchcockiana 13
Carex hormathodes 13

Carex hyalinolepis 61
Carex impressinervia 13
Carex jamesii 13
Carex leavenworthii 61
Carex leptonervia 13
Carex lucorum var austrolucorum . 61
Carex lupuliformis 13
Carex lutea 13, 96
Carex manhartii 61
Carex meadii 13
Carex misera 13
Carex oklahomensis 61
Carex oligocarpa 13
Carex oligosperma 13
Carex pedunculata 13
Carex projecta 14
Carex purpurifera 14
Carex radfordii 14, 101, 102
Carex reniformis 14
Carex roanensis 14, 102
Carex ruthii 61
Carex schweinitzii 14
Carex socialis 14
Carex sp 2 14
Carex sp 4 14
Carex sparganioides 62
Carex tenax 14
Carex tenera 62
Carex tetanica 14
Carex trichocarpa 14
Carex trisperma 14
Carex turgescens 62
Carex verrucosa 14
Carex vestita 14
Carex w. var megarrhyncha 14
Carex woodii 14
Carya laciniosa 15
Carya myristiciformis 15, 101
Caulophyllum giganteum 15
Celastrus scandens 15
Celtis occidentalis 62
Cephalozia connivens var bifida . . 50
Cephalozia m. ssp australis 50
Cephalozia p. var caroliniana 50
Cephalozia pleniceps var pleniceps 50
Cephaloziella hampeana 50
Cephaloziella massalongi 91
Cephaloziella obtusilobula 91
Cephaloziella spinicaulis 50
Ceratophyllum echinatum 62
Ceratophyllum muricatum ssp australe 6
Cetraria arenaria 53
Cetrelia cetrarioides 54
Chamaedaphne calyculata 94
Chamaelirium luteum 62
Chamaesyce bombensis 62
Chamaesyce cordifolia 15
Chamerion platyphyllum 15
Chasmanthium nitidum 15
Chasmanthium sessiliflorum 62
Cheilanthes alabamensis 15
Cheilolejeunea evansii 50, 101
Cheilolejeunea myriantha 51
Cheilolejeunea rigidula 51
Chelone cuthbertii 15
Chelone obliqua 62
Chenopodium simplex 15
Chiloscyphus appalachianus . 51, 102
Chiloscyphus muricatus 51
Chrysoma pauciflosculosa 15
Chrysopogon pauciflorus 62
Chrysopsis scabrella 62
Chrysosplenium americanum 62
Cimicifuga americana 63
Cinna latifolia 63
Cirriphyllum piliferum 47
Cirsium carolinianum 15
Cirsium lecontei 15, 63
Cladina evansii 92
Cladium mariscoides 15
Cladonia psoromica 54, 96
Cladrastis kentukea 63
Cleistes bifaria 63, 103
Cleistes divaricata 63, 103
Clematis catesbyana 63
Clematis crispa 94
Clematis glaucophylla 15
Clematis occidentalis 15
Clinopodium georgianum 15, 101
Coeloglossum viride var virescens . 15
Coelorachis cylindrica 16
Coelorachis rugosa 63
Collinsonia serotina 63
Collinsonia tuberosa 16
Collinsonia verticillata 16
Cololejeunea ornata 91
Conioselinum chinense 16
Coptis trifolia ssp groenlandica . . . 16
Corallorhiza wisteriana 63
Coreopsis delphiniifolia 63
Coreopsis gladiata 94
Coreopsis helianthoides 63
Coreopsis latifolia 16
Coreopsis pubescens var robusta . . 64
Cornus asperifolia 16
Corydalis micrantha ssp micrantha 16
Coscinodon cribrosus 47
Crataegus aestivalis 64, 103
Crataegus spathulata 64
Crinum americanum 16
Croton monanthogynus 16
Cryphaea ravenelii 90
Cuscuta cephalanthi 64
Cuscuta coryli 64
Cylindrocolea andersonii 91
Cylindrocolea rhizantha 51
Cymophyllus fraserianus 64
Cyperus dentatus 16
Cyperus distans 64
Cyperus granitophilus 16
Cyperus houghtonii 16
Cyperus lecontei 16
Cyperus squarrosus 64
Cyperus tetragonus 16
Cyperus virens 64, 103
Cypripedium reginae 64
Cystopteris bulbifera 64
Cystopteris fragilis 16, 98
Cystopteris tennesseensis 17
Cystopteris tenuis 16
Dalea pinnata 65
Dalibarda repens 17
Danthonia epilis 17
Delphinium exaltatum 17
Deschampsia cespitosa ssp glauca . 17
Desmodium fernaldii 17
Desmodium ochroleucum 17
Desmodium pauciflorum 64
Desmodium sessilifolium 17
Diamorpha smallii 65
Diarrhena americana 17
Dicentra eximia 17
Dichanthelium annulum 17
Dichanthelium boreale 65
Dichanthelium caerulescens 17
Dichanthelium dichotomum var 2 . 65
Dichanthelium erectifolium 65
Dichanthelium fusiforme 17
Dichanthelium hirstii 17
Dichanthelium latifolium 65
Dichanthelium linearifolium 65
Dichanthelium oligosanthes var scribnerianum 65
Dichanthelium ovale var ovale 65
Dichanthelium sp 5 17
Dichanthelium sp 9 17
Dichanthelium spretum 65
Dichodontium pellucidum 47
Dicranum undulatum 47
Didiplis diandra 17
Diervilla rivularis 18
Dionaea muscipula 18
Dioscorea villosa var hirticaulis . . 65
Diplazium pycnocarpon 65
Diplophyllum andrewsii 91
Diplophyllum apiculatum var taxifolioides 51
Diplophyllum obtusatum 51
Diplophyllum taxifolium var mucronatum 51
Diplophyllum t. var taxifolium 91
Dirca palustris 66
Ditrichum ambiguum 47
Dodecatheon meadia var meadia . . 18
Draba ramosissima 18
Draba reptans 18
Drepanolejeunea appalachiana . . . 51
Drosera filiformis 18
Dryopteris carthusiana 66
Dryopteris cristata 66
Dryopteris goldiana 66
Dryopteris ludoviciana 66
Dumortiera hirsuta ssp nepalensis . 91
Echinacea laevigata 18
Echinacea pallida 66
Echinacea purpurea 18
Echinocystis lobata 66
Echinodorus tenellus 18, 101
Elatine americana 66
Elatine minima 66
Eleocharis atropurpurea 18
Eleocharis cellulosa 18
Eleocharis elongata 18
Eleocharis engelmannii 67
Eleocharis equisetoides 66
Eleocharis erythropoda 66
Eleocharis halophila 18
Eleocharis melanocarpa 67

Eleocharis montevidensis 19
Eleocharis parvula 67
Eleocharis robbinsii 19
Eleocharis rostellata 19
Eleocharis smallii 67
Eleocharis tricostata 67
Eleocharis vivipara 19
Elodea canadensis 67
Elodea nuttallii 67
Elymus canadensis 67
Elymus riparius 67
Elymus trachycaulus ssp trachycaulus19
Encalypta procera 47
Enemion biternatum 19
Entodon compressus 47
Entodon concinnus 47
Entodon sullivantii 47
Ephebe americana 54
Ephebe lanata 54
Ephebe solida 54
Epidendrum conopseum 19
Epilobium ciliatum 19
Epilobium leptophyllum 67
Equisetum x ferrissii 67
Eragrostis frankii 67
Eragrostis lugens 67
Erigenia bulbosa 67
Eriocaulon aquaticum 19
Eriocaulon compressum 94, 95
Eriocaulon decangulare 94
Eriocaulon parkeri 19
Eriocaulon texense 19
Eriogonum tomentosum 19
Eriophorum virginicum 67
Eryngium aquaticum var ravenelii . 98
Eryngium integrifolium 94, 95
Eryngium y. var synchaetum 68
Erythrina herbacea 19
Erythronium americanum ssp americanum 68
Eucladium verticillatum 47
Euonymus atropurpureus 68
Eupatorium altissimum 68
Eupatorium anomalum 68
Eupatorium godfreyanum 19
Eupatorium incarnatum 19
Eupatorium leptophyllum 20
Eupatorium maculatum 68, 103
Eupatorium recurvans 68
Eupatorium resinosum 20
Eupatorium sessilifolium var brittonianum 68
Eupatorium steelei 68
Euphorbia commutata 20
Euphorbia mercurialina 20
Euphorbia purpurea 20
Eurybia avita 20, 101
Eurybia mirabilis 20, 101
Eurybia spectabilis 101
Eustachys glauca 20
Euthamia graminifolia var nuttallii 68
Filipendula rubra 20
Fimbristylis littoralis 68
Fimbristylis perpusilla 20
Fissidens appalachensis 90
Fissidens exilis 90
Fissidens hallii 47
Fothergilla major 20
Fragaria vesca 68
Frangula caroliniana 68
Frasera caroliniensis 20
Frullania appalachiana 51
Frullania donnellii 51
Frullania oakesiana 91
Frullania plana 91
Fuirena scirpoidea 69
Gaillardia aestivalis 20
Galactia mollis 20
Galax urceolata 56, 69
Galium asprellum 69
Galium lanceolatum 69
Gaultheria hispidula 69
Gaylussacia brachycera 20
Gaylussacia dumosa 69, 94
Gaylussacia dumosa var 1 69
Gaylussacia dumosa var bigeloviana69
Gaylussacia nana 21, 101
Gelsemium rankinii 21
Gentiana austromontana 69
Gentiana flavida 21
Gentianopsis crinita 21
Geum aleppicum 21
Geum geniculatum 21
Geum laciniatum var trichocarpum 21
Geum radiatum 21
Glandularia canadensis 69
Glyceria laxa 21
Glyceria nubigena 21
Gnaphalium helleri var helleri 21
Gnaphalium helleri var micradenium21
Goodyera repens 69
Grammitis nimbata 21
Gratiola aurea 21
Gratiola ramosa 21
Gymnocarpium appalachianum . . . 21
Gymnoderma lineare 54
Habenaria repens 69, 103
Hackelia virginiana 69
Hasteola suaveolens 21
Helenium brevifolium 22
Helenium pinnatifidum 22
Helenium vernale 22
Helianthemum bicknellii 22
Helianthemum carolinianum . . 22, 69
Helianthemum corymbosum 22
Helianthemum georgianum 22
Helianthemum nashii 22
Helianthemum propinquum 22
Helianthemum rosmarinifolium . . . 22
Helianthus floridanus 22
Helianthus glaucophyllus 69
Helianthus laevigatus 22
Helianthus longifolius 70
Helianthus occidentalis 22
Helianthus schweinitzii 22
Heliotropium curassavicum . . . 22, 70
Heliotropium curassavicum var curassavicum 22
Helonias bullata 22
Heteranthera multiflora 23
Heteranthera reniformis 70
Heterodermia appalachensis 54
Heteropogon melanocarpus 70
Heuchera caroliniana 70
Heuchera hispida 70
Heuchera longiflora 70
Heuchera parviflora var parviflora 70
Heuchera pubescens 70
Hexalectris spicata 23
Hexastylis contracta 23
Hexastylis lewisii 23
Hexastylis naniflora 23
Hexastylis rhombiformis 23, 96
Hibiscus aculeatus 23
Hibiscus coccineus 70
Hierochloe odorata 23
Homalia trichomanoides 47
Homaliadelphus sharpii 47
Hottonia inflata 23
Houstonia longifolia var glabra . . . 23
Houstonia montana 23
Houstonia purpurea var calycosa . 70
Hudsonia montana 23, 96
Hudsonia tomentosa 23, 25
Humulus lupulus var lupuloides . . . 70
Humulus lupulus var pubescens . . . 70
Huperzia appalachiana 23
Huperzia porophila 24
Hydrangea cinerea 70
Hydrastis canadensis 24
Hydrocotyle americana 71
Hydrophyllum macrophyllum 24
Hydrothyria venosa 54
Hygrohypnum closteri 47
Hymenocallis occidentalis 24
Hymenocallis pygmaea 24
Hymenophyllum tayloriae . . . 24, 101
Hypericum adpressum 24
Hypericum buckleii 70, 101, 103
Hypericum ellipticum 71
Hypericum fasciculatum 24, 71
Hypericum graveolens 71
Hypericum mitchellianum 71
Hypericum sp 1 . . . . 24, 96
Hypericum sp 2 24
Hypericum suffruticosum 24
Hypotrachyna sinuosa 54
Hypotrachyna virginica 54
Hypoxis juncea 24
Hypoxis rigida 24
Hypoxis sessilis 24
Ilex ambigua 71, 103
Ilex amelanchier 24
Ilex cassine 71
Ilex collina 24
Ilex longipes 25
Ipomoea imperati 25
Ipomoea macrorhiza 71, 103
Ipomoea pes-caprae 71
Ipomopsis rubra 71
Iresine rhizomatosa 71
Iris prismatica 25
Isoetes hyemalis 71
Isoetes microvela 25, 96, 101
Isoetes piedmontana 25
Isoetes riparia 25
Isoetes virginica 25
Isolepis koilolepis 71

Isotria medeoloides . . . 25
Iva microcephala . . . 25
Jeffersonia diphylla . . . 25
Juglans cinerea . . . 71
Juncus articulatus . . . 72
Juncus brachycarpus . . . 72
Juncus brevicaudatus . . . 72
Juncus caesariensis . . . 25
Juncus georgianus . . . 72
Juncus gymnocarpus . . . 72
Juncus longii . . . 72
Juncus secundus . . . 72
Juncus torreyi . . . 72
Juncus trifidus . . . 25
Juniperus communis var depressa . 25
Justicia americana . . . 94
Kalmia carolina . . . 94
Kalmia cuneata . . . 25, 101
Krigia biflora . . . 72
Krigia montana . . . 72
Lachnocaulon minus . . . 25, 72
Lathyrus japonicus var maritimus . 72
Lathyrus palustris . . . 73
Lathyrus pusillus . . . 73
Lathyrus venosus . . . 73
Lechea maritima var virginica . . . 25
Lechea torreyi . . . 25
Leersia lenticularis . . . 73
Lejeunea bermudiana . . . 51
Lejeunea blomquistii . . . 51
Lejeunea cavifolia . . . 51
Lejeunea dimorphophylla . . . 51
Lejeunea glaucescens var acrogyna 51
Lemna gibba . . . 73
Leptochloa fascicularis var maritima 26
Leptodontium excelsum . . . 47
Leptodontium flexifolium . . . 48
Leptohymenium sharpii . . . 48
Lespedeza angustifolia . . . 94
Liatris aspera . . . 26
Liatris helleri . . . 26, 96
Liatris microcephala . . . 26
Liatris scariosa . . . 73
Liatris secunda . . . 73
Liatris squarrosa var hirsuta . . . 73
Liatris squarrulosa . . . 26
Liatris turgida . . . 26
Lilaeopsis carolinensis . . . 26
Lilium canadense ssp canadense . . 26
Lilium canadense ssp editorum . . . 26
Lilium grayi . . . 26
Lilium philadelphicum var philadelphicum . . . 26
Lilium pyrophilum . . . 26, 101, 102
Limosella australis . . . 26
Lindbergia brachyptera . . . 48
Lindera melissifolia . . . 27
Lindera subcoriacea . . . 27, 101
Lindernia monticola . . . 73
Lindernia saxicola . . . 73
Linum floridanum var chrysocarpum 27
Linum sulcatum var sulcatum . . . 27
Liparis loeselii . . . 27
Lipocarpha micrantha . . . 27
Listera australis . . . 73
Listera cordata . . . 73
Lithospermum canescens . . . 27
Litsea aestivalis . . . 27
Lobaria scrobiculata . . . 54, 91
Lobelia boykinii . . . 27, 101
Lobelia sp 1 . . . 73
Lonicera canadensis . . . 27
Lonicera flava . . . 27
Lophiola aurea . . . 27
Lopholejeunea muelleriana . . . 51
Lophozia capitata . . . 91
Lophozia excisa . . . 51
Lophozia heterocolpos . . . 51
Lotus helleri . . . 27
Ludwigia alata . . . 27
Ludwigia brevipes . . . 28
Ludwigia lanceolata . . . 28
Ludwigia linifolia . . . 28
Ludwigia ravenii . . . 28, 102
Ludwigia sphaerocarpa . . . 28, 74
Ludwigia suffruticosa . . . 28
Lupinus villosus . . . 74
Luziola fluitans . . . 28
Luzula multiflora . . . 74
Lycopodiella inundata . . . 28
Lycopodiella prostrata . . . 74
Lycopodium dendroideum . . . 74
Lycopodium hickeyi . . . 74
Lycopus amplectens . . . 74
Lycopus angustifolius . . . 28
Lycopus cokeri . . . 74
Lysimachia asperulifolia . . . 28
Lysimachia fraseri . . . 28
Lysimachia hybrida . . . 28
Lysimachia loomisii . . . 74
Lysimachia quadriflora . . . 74
Lysimachia tonsa . . . 74
Lythrum lanceolatum . . . 28
Macbridea caroliniana . . . 28
Macrocoma sullivantii . . . 48
Magnolia acuminata var subcordata 74
Magnolia grandiflora . . . 74
Magnolia macrophylla . . . 29
Malaxis bayardii . . . 29
Malaxis spicata . . . 29
Manfreda virginica . . . 75
Mannia californica . . . 51
Mannia triandra . . . 91
Marshallia grandiflora . . . 29
Marshallia sp 1 . . . 29
Marshallia trinervia . . . 29
Marsupella emarginata var latiloba 52
Marsupella funckii . . . 52
Matelea decipiens . . . 29
Matelea flavidula . . . 75
Matelea obliqua . . . 75
Meehania cordata . . . 29
Megaceros aenigmaticus . . . 53
Melanelia stygia . . . 54
Melanthium woodii . . . 29
Melica nitens . . . 29
Menyanthes trifoliata . . . 29
Mertensia virginica . . . 75
Metzgeria fruticulosa . . . 52
Metzgeria furcata var setigera . . . 91
Metzgeria pubescens . . . 92
Metzgeria uncigera . . . 92
Milium effusum . . . 29
Minuartia alabamensis . . . 75
Minuartia godfreyi . . . 29
Minuartia groenlandica . . . 29
Minuartia uniflora . . . 29
Monarda media . . . 75
Monotropsis odorata . . . 29
Muhlenbergia glabriflora . . . 29
Muhlenbergia glomerata . . . 29
Muhlenbergia mexicana . . . 75
Muhlenbergia sobolifera . . . 30
Muhlenbergia sylvatica . . . 75
Muhlenbergia torreyana . . . 30
Mylia taylorii . . . 52
Myrica gale . . . 30
Myriophyllum laxum . . . 30
Myriophyllum pinnatum . . . 75
Myriophyllum tenellum . . . 30
Najas gracillima . . . 75
Nardia scalaris ssp scalaris . . . 52
Narthecium americanum . . . 30
Neckera complanata . . . 90
Nelumbo lutea . . . 75
Nestronia umbellula . . . 75
Notothylas orbicularis var pseudotemperata . . . 92
Nuphar sagittifolia . . . 75
Nymphoides cordata . . . 76
Ochrolechia yasudae . . . 92
Oenothera perennis . . . 30
Oenothera riparia . . . 76, 103
Oldenlandia boscii . . . 30
Onosmodium virginianum . . . 76
Ophioglossum nudicaule . . . 76
Ophioglossum petiolatum . . . 76
Oplismenus setarius . . . 76
Orbexilum lupinellum . . . 76
Orbexilum macrophyllum . . . 30, 96
Orbexilum onobrychis . . . 76
Orbexilum pedunculatum var pedunculatum . . . 76, 103
Orthodontium pellucens . . . 48
Orthotrichum keeverae . . . 48, 102
Orthotrichum obtusifolium . . . 48
Oxypolis canbyi . . . 30
Oxypolis ternata . . . 76
Pachysandra procumbens . . . 30
Packera millefolium . . . 30
Packera paupercula . . . 30
Palamocladium leskeoides . . . 48
Panax quinquefolius . . . 77
Panax trifolius . . . 77
Panicum flexile . . . 30
Panicum lithophilum . . . 30, 102
Panicum tenerum . . . 30
Pannaria conoplea . . . 54
Parietaria floridana . . . 77, 103
Parietaria pensylvanica . . . 77
Parietaria praetermissa . . . 31
Parnassia caroliniana . . . 31
Parnassia grandifolia . . . 31, 102
Paronychia herniarioides . . . 31
Paronychia montana . . . 77
Parthenium auriculatum . . . 31
Parthenium integrifolium var mabryanum . . . 77

Paspalum bifidum 77
Paspalum dissectum 31
Paspalum fluitans 77
Paspalum praecox 77, 103
Paspalum pubiflorum 77
Paspalum vaginatum 77
Paxistima canbyi 77
Pedicularis lanceolata 31
Pediomelum canescens 78, 103
Pellaea atropurpurea 78, 95
Pellaea wrightiana 31
Pellia appalachiana 92
Peltandra sagittifolia 31
Penstemon smallii 78
Persea borbonia 78
Phacelia covillei 31, 102
Phacelia maculata 78
Phanopyrum gymnocarpon 78
Phaseolus sinuatus 78
Phegopteris connectilis 31
Philadelphus hirsutus 78
Philadelphus inodorus 78
Phlox amplifolia 78
Phlox divaricata ssp divaricata . . . 78
Phlox divaricata ssp laphamii 78
Phlox subulata 31
Physalis lanceolata sensu stricto . . 79
Physcia pseudospeciosa 55
Phytolacca rigida 79
Pieris floribunda 79, 95
Pinguicula lutea 31
Pinguicula pumila 31
Pityopsis g. var graminifolia 31
Plagiochasma intermedium 52
Plagiochasma wrightii 52
Plagiochila austinii 52
Plagiochila caduciloba 52, 101
Plagiochila columbiana 92, 102
Plagiochila corniculata 52
Plagiochila dubia 52
Plagiochila echinata 52
Plagiochila ludoviciana 52
Plagiochila miradorensis var miradorensis 52
Plagiochila sharpii 52
Plagiochila sullivantii var spinigera 52
Plagiochila sullivantii var sullivantii 53
Plagiochila undata 92
Plagiochila virginica var caroliniana 53
Plagiochila virginica var euryphylla 92
Plagiochila virginica var virginica 53
Plagiomnium carolinianum 48
Plantago cordata 31
Plantago sparsiflora 32
Platanthera blephariglottis . . 79, 103
Platanthera flava var herbiola 32
Platanthera grandiflora 32
Platanthera integra 32
Platanthera integrilabia 32
Platanthera nivea 32
Platanthera peramoena 32
Platismatia glauca 92
Platydictya confervoides 48
Platyhypnidium pringlei 48
Poa nemoralis 79
Poa paludigena 32
Poa palustris 32
Poa saltuensis 32
Polemonium reptans 32, 79
Polygala grandiflora 32
Polygala hookeri 32
Polygala nana 32
Polygala senega 79
Polygonella americana 79
Polygonella articulata 32
Polygonella gracilis 79, 99
Polygonum amphibium 32
Polygonum erectum 79
Polygonum glaucum 33
Polygonum hirsutum 33
Polygonum r. var prolificum 79
Polygonum scandens var cristatum 79
Polygonum tenue 79
Polymnia canadensis 80
Polytrichum appalachianum 90
Ponthieva racemosa 33
Populus grandidentata 80
Porella wataugensis 53
Porpidia diversa 55
Porpidia herteliana 55
Porpidia macrocarpa 93
Porpidia tuberculosa 93
Porteranthus stipulatus 33
Portulaca smallii 33
Potamogeton confervoides 33
Prenanthes alba 33
Prenanthes roanensis 33
Prosartes maculata 80
Prunus alabamensis 80
Prunus alleghaniensis 80
Prunus nigra 80
Prunus pumila var susquehanae . . 33
Prunus umbellata 80
Psilotum nudum 33
Ptelea trifoliata 80
Pteroglossaspis ecristata 33
Ptilidium ciliare 53
Ptilidium pulcherrimum 92
Ptilimnium costatum 33
Ptilimnium nodosum 1, 33
Ptilimnium sp 1 33
Punctelia reddenda 92
Pycnanthemum clinopodioides 80
Pycnanthemum setosum 80
Pycnanthemum torrei 34, 102
Pycnanthemum virginianum 34
Pyrola americana 80
Pyrola elliptica 34
Pyxidanthera b. var brevifolia 34
Quercus austrina 34
Quercus bicolor 80
Quercus ilicifolia 34, 101
Quercus imbricaria 81
Quercus minima 81, 103
Quercus muehlenbergii 81
Quercus palustris 81
Quercus prinoides 34
Quercus pumila 81, 103
Radula sullivantii 53
Radula tenax 92
Radula voluta 53
Ranunculus allegheniensis 81
Ranunculus ambigens 34
Ranunculus fascicularis 34
Ranunculus flabellaris 34
Ranunculus hederaceus 34
Ranunculus laxicaulis 81
Ranunculus micranthus 34
Reboulia hemisphaerica ssp dioica 92
Rhabdoweisia crenulata 48
Rhachithecium perpusillum 48
Rhexia aristosa 34
Rhexia cubensis 34
Rhododendron cumberlandense . . . 34
Rhododendron prinophyllum 34
Rhododendron vaseyi 34
Rhus michauxii 35
Rhynchospora alba 35
Rhynchospora breviseta 35
Rhynchospora careyana 81
Rhynchospora cephalantha var attenuata 81
Rhynchospora crinipes 35
Rhynchospora decurrens 35
Rhynchospora divergens 35
Rhynchospora globularis var pinetorum 35
Rhynchospora harperi 35
Rhynchospora inundata 81
Rhynchospora leptocarpa . . . 81, 103
Rhynchospora macra 35
Rhynchospora macrostachya var colpophila 81
Rhynchospora microcarpa 81
Rhynchospora nitens 82, 103
Rhynchospora odorata 35
Rhynchospora oligantha 35
Rhynchospora pallida 82
Rhynchospora pleiantha 35
Rhynchospora scirpoides 35
Rhynchospora stenophylla 82
Rhynchospora thornei 35
Rhynchospora tracyi 35
Rhynchospora wrightiana 82
Rhytidium rugosum 48
Riccardia jugata 53
Robinia hartwegii 36
Robinia hispida var fertilis 36
Robinia hispida var kelseyi 36
Robinia hispida var rosea 82
Robinia viscosa 82
Rubus idaeus ssp strigosus 36
Rudbeckia heliopsidis 36
Rudbeckia laciniata var humilis . . . 82
Rudbeckia triloba var pinnatiloba . 36
Rudbeckia triloba var rupestris . . . 82
Ruellia ciliosa 36
Ruellia humilis 36
Ruellia purshiana 36
Ruellia strepens 36
Rugelia nudicaulis 36
Rumex altissimus 82
Sabal palmetto 36
Sabatia campestris 82
Sabatia capitata 82
Sabatia dodecandra 82, 99, 103
Sabatia kennedyana 36
Sabatia quadrangula 82

Sageretia minutiflora 36
Sagina procumbens 83
Sagittaria calycina var spongiosa . 83
Sagittaria engelmanniana . . . 83, 103
Sagittaria fasciculata 36
Sagittaria graminea var chapmanii 37
Sagittaria g. var weatherbiana . . . 37
Sagittaria isoetiformis 37
Sagittaria platyphylla 83
Sagittaria stagnorum 37
Salvia azurea 37
Sanguinaria canadensis 83
Sanguisorba canadensis 83, 103
Sarracenia flava 83, 95
Sarracenia jonesii 37
Sarracenia minor 37
Sarracenia oreophila 37
Sarracenia purpurea ssp venosa . . 83
Sarracenia rubra ssp rubra 83
Saxifraga careyana 83
Saxifraga caroliniana 37
Saxifraga pensylvanica 37
Scapania mucronata 53
Schisandra glabra 37
Schizachyrium littorale 83
Schlotheimia lancifolia 48
Schoenolirion croceum 83
Schoenoplectus acutus 37
Schoenoplectus americanus 83
Schoenoplectus californicus 83
Schoenoplectus etuberculatus 37
Schoenoplectus subterminalis 37
Schwalbea americana 37
Scirpus divaricatus 83
Scirpus flaccidifolius 38
Scirpus lineatus 38
Scirpus pendulus 38
Scleria baldwinii 38
Scleria georgiana 38
Scleria reticularis 38
Scleria sp 1 . . . . 38, 96
Scleria verticillata 38
Sclerolepis uniflora 84
Scopelophila cataractae 49
Scopelophila ligulata 49
Scutellaria arguta 38
Scutellaria australis 38
Scutellaria galericulata 38
Scutellaria leonardii 38
Scutellaria nervosa 38
Scutellaria ovata ssp bracteata . . . 84
Scutellaria ovata ssp ovata 84
Scutellaria ovata ssp rugosa 84
Scutellaria pseudoserrata 84
Scutellaria saxatilis 38
Scutellaria serrata 84
Sebastiania fruticosa 38
Sedum glaucophyllum 38
Sedum pusillum 39
Sedum rosea 39
Senecio obovatus 84
Senecio plattensis 39
Senecio schweinitzianus 39
Senna hebecarpa 84
Sesuvium maritimum 39
Sesuvium portulacastrum 39
Seymeria pectinata 39
Shortia galacifolia var brevistyla . . 39
Shortia galacifolia var galacifolia . 39
Sibbaldiopsis tridentata 84
Sida elliottii 39
Sideroxylon lycioides 85
Sideroxylon tenax 39
Silene caroliniana 85
Silene ovata 39
Silphium asteriscus var laevicaule . 85
Silphium connatum 39
Silphium perfoliatum 39
Silphium terebinthinaceum 39
Sisyrinchium dichotomum 39
Smilax biltmoreana 85
Smilax hugeri 39
Smilax lasioneura 39
Solanum pseudogracile 40
Solidago arguta var arguta 85
Solidago lancifolia 85
Solidago leavenworthii 40
Solidago patula var strictula 85
Solidago plumosa 40, 96
Solidago ptarmicoides 40
Solidago puberula var puberula . . 85
Solidago pulchra 40, 101
Solidago radula 40
Solidago rigida ssp glabrata 40
Solidago rigida ssp rigida 40
Solidago simulans 40, 102
Solidago spithamaea 40
Solidago squarrosa 40
Solidago tortifolia 40
Solidago uliginosa 40
Solidago ulmifolia 85
Solidago verna 40
Solidago villosicarpa 40, 96, 101, 102
Sparganium chlorocarpum 41
Spartina pectinata 41
Spergularia marina 85
Sphagnum angustifolium 49
Sphagnum capillifolium 49
Sphagnum contortum 49
Sphagnum cuspidatum 94, 103
Sphagnum fallax 49
Sphagnum fitzgeraldii 49
Sphagnum flavicomans 49
Sphagnum flexuosum 49
Sphagnum fuscum 49
Sphagnum henryense 49
Sphagnum pylaesii 49
Sphagnum russowii 49
Sphagnum squarrosum 49
Sphagnum strictum 94, 103
Sphagnum subsecundum 49
Sphagnum tenellum 49
Sphagnum tenerum 94, 103
Sphagnum torreyanum 49
Sphagnum warnstorfii 49
Sphenolobopsis pearsonii 53, 101
Sphenopholis intermedia 85
Spigelia marilandica 41
Spiraea alba 86
Spiraea betulifolia ssp corymbosa . 41
Spiraea latifolia 86
Spiraea virginiana 41
Spiranthes brevilabris var floridana 41
Spiranthes eatonii 86
Spiranthes lacera var lacera . 41, 100
Spiranthes laciniata 41
Spiranthes longilabris 41
Spiranthes lucida 41
Spiranthes ochroleuca 41
Spirodela polyrrhiza 86
Splachnum pennsylvanicum 49
Sporobolus heterolepis 41
Sporobolus pinetorum 86
Sporobolus teretifolius sensu stricto 41
Sporobolus virginicus 41
Stachys clingmanii 41
Stachys eplingii 41
Stachys nuttallii 41
Stachys sp 1 41
Stachys tenuifolia var tenuifolia . . . 86
Stellaria alsine 41
Stellaria corei 86
Stenanthium robustum 41
Stewartia ovata 41
Sticta limbata 55
Streptopus amplexifolius 42
Streptopus roseus var roseus 86
Stylisma aquatica 42
Stylisma pickeringii var pickeringii 42
Symphotrichum oblongifolius 42
Symphyotrichum firmum 101
Symphyotrichum georgianum . 42, 101
Symphyotrichum l. var concinnum . 42
Symphyotrichum laeve var laeve . . 42
Symphyotrichum parviceps . . . 42, 101
Symphyotrichum shortii 42, 101
Symphyotrichum sp 1 . . . . 42, 96, 101
Synandra hispidula 42
Syngonanthus flavidulus 86
Syrrhopodon incompletus 49
Talinum mengesii 42, 101
Taxiphyllum alternans 49
Taxiphyllum cuspidifolium 90
Taxus canadensis 42
Teloschistes flavicans 55
Thalictrum cooleyi 42
Thalictrum macrostylum 42
Thaspium pinnatifidum 42, 102
Thelypteris simulata 42
Thermopsis fraxinifolia 43
Thermopsis mollis sensu stricto . . . 43
Thermopsis villosa 86
Thuja occidentalis 86
Tilia americana var americana . . . 86
Tofieldia glabra 86, 102
Tofieldia glutinosa 43
Torreyochloa pallida 43
Tortella flavovirens 90
Tortula ammonsiana 49
Tortula fragilis 50
Tortula papillosa 50
Tradescantia virginiana 43
Triadenum tubulosum 87
Trichomanes boschianum 43
Trichomanes intricatum 87
Trichomanes petersii 43
Trichophorum cespitosum 43
Trichostema brachiatum 43

Trichostema setaceum 87
Trichostema sp 1 43
Tridens ambiguus 43
Tridens carolinianus 43
Tridens chapmanii 43
Tridens strictus 44
Trientalis borealis 44
Trifolium carolinianum 44
Trifolium reflexum 87
Trillium catesbaei 87
Trillium cuneatum 87
Trillium discolor 44
Trillium erectum 87
Trillium flexipes 44
Trillium grandiflorum 87
Trillium luteum 87
Trillium pusillum var 1 44
Trillium pusillum var pusillum 44
Trillium pusillum var virginianum . 44
Trillium recurvatum 44
Trillium rugelii 87
Trillium sessile 44
Trillium simile 44
Trillium undulatum 87
Triosteum angustifolium 87
Triosteum aurantiacum 88
Triphora trianthophora 88
Trisetum spicatum 44
Tritomaria e. ssp exsectiformis ... 53
Tsuga caroliniana 88
Typha domingensis 88
Urtica chamaedryoides 44
Usnea angulata 55
Utricularia cornuta 44
Utricularia floridana 44
Utricularia foliosa 88
Utricularia geminiscapa 44
Utricularia macrorhiza 44
Utricularia minor 44
Utricularia olivacea 44
Utricularia resupinata 44
Vaccinium hirsutum 88
Vaccinium macrocarpon 45
Vaccinium virgatum 45
Valerianella umbilicata 88
Verbena riparia 45
Verbena scabra 88
Verbena stricta 88
Verbesina helianthoides 88
Verbesina walteri 45
Veronica americana 45
Veronica anagallis-aquatica 88
Veronicastrum virginicum 88
Vigna luteola 88
Viola appalachiensis 45
Viola brittoniana 89
Viola conspersa 89
Viola villosa 89
Viola walteri 45
Vittaria appalachiana 89
Waldsteinia f. ssp fragarioides 89
Waldsteinia lobata 45, 102
Warea cuneifolia 45
Warnstorfia fluitans 50
Woodsia appalachiana 45
Woodsia ilvensis 45
Xanthoparmelia monticola 55
Xerophyllum asphodeloides 89
Xyris brevifolia 45
Xyris chapmanii 45
Xyris difformis var curtissii 89
Xyris difformis var floridana 45
Xyris iridifolia 89
Xyris scabrifolia 45
Xyris serotina 45
Xyris smalliana 89
Xyris stricta 45
Yucca aloifolia 89
Yucca flaccida 89
Yucca gloriosa 45
Zannichellia palustris 90
Zanthoxylum americanum 90
Zephyranthes simpsonii 45, 101
Zigadenus elegans ssp glaucus ... 46
Zigadenus leimanthoides 46
Zizania aquatica 90
Zosterella dubia 90

(NCNHP 2004a)

NC NHP County Element Search Results

Returned Elements: 182 using:Mammal LISTED
[Mammal 182]

Major Group	Scientific Name	Common Name	State Status	Federal Status	State Rank	Global Rank	County - Status	Map - Habitat
Mammal	*Canis rufus*	Red Wolf	SR	EXN	S1	G1	Beaufort - Obscure	Link
Mammal	*Canis rufus*	Red Wolf	SR	EXN	S1	G1	Dare - Current	Link
Mammal	*Canis rufus*	Red Wolf	SR	EXN	S1	G1	Hyde - Current	Link
Mammal	*Canis rufus*	Red Wolf	SR	EXN	S1	G1	Tyrrell - Current	Link
Mammal	*Canis rufus*	Red Wolf	SR	EXN	S1	G1	Washington - Current	Link
Mammal	*Condylura cristata pop 1*	Star-nosed Mole - Coastal Plain Population	SC	-	S2	G5T2Q	Bladen - Current	Link
Mammal	*Condylura cristata pop 1*	Star-nosed Mole - Coastal Plain Population	SC	-	S2	G5T2Q	Brunswick - Current	Link
Mammal	*Condylura cristata pop 1*	Star-nosed Mole - Coastal Plain Population	SC	-	S2	G5T2Q	Currituck - Historic	Link
Mammal	*Condylura cristata pop 1*	Star-nosed Mole - Coastal Plain Population	SC	-	S2	G5T2Q	Dare - Current	Link
Mammal	*Condylura cristata pop 1*	Star-nosed Mole - Coastal Plain Population	SC	-	S2	G5T2Q	Hoke - Current	Link
Mammal	*Condylura cristata pop 1*	Star-nosed Mole - Coastal Plain Population	SC	-	S2	G5T2Q	Mecklenburg - Historic	Link
Mammal	*Condylura cristata pop 1*	Star-nosed Mole - Coastal Plain Population	SC	-	S2	G5T2Q	Moore - Historic	Link
Mammal	*Condylura cristata pop 1*	Star-nosed Mole - Coastal Plain Population	SC	-	S2	G5T2Q	New Hanover - Historic	Link
Mammal	*Condylura cristata pop 1*	Star-nosed Mole - Coastal Plain Population	SC	-	S2	G5T2Q	Pitt - Current	Link
Mammal	*Condylura cristata pop 1*	Star-nosed Mole - Coastal Plain Population	SC	-	S2	G5T2Q	Randolph - Current	Link
Mammal	*Condylura cristata pop 1*	Star-nosed Mole - Coastal Plain Population	SC	-	S2	G5T2Q	Richmond - Current	Link
Mammal	*Condylura cristata pop 1*	Star-nosed Mole - Coastal Plain Population	SC	-	S2	G5T2Q	Robeson - Historic	Link
Mammal	*Condylura cristata pop 1*	Star-nosed Mole - Coastal Plain Population	SC	-	S2	G5T2Q	Sampson - Current	Link
Mammal	*Condylura cristata pop 1*	Star-nosed Mole - Coastal Plain Population	SC	-	S2	G5T2Q	Scotland - Historic	Link
Mammal	*Condylura cristata pop 1*	Star-nosed Mole - Coastal Plain Population	SC	-	S2	G5T2Q	Wake - Current	Link
Mammal	*Condylura cristata pop 1*	Star-nosed Mole - Coastal Plain Population	SC	-	S2	G5T2Q	Washington - Historic	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Alexander - Historic	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Beaufort - Historic	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Bertie - Current	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Bladen - Current	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Brunswick - Current	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Buncombe - Historic	Link

Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Burke - Current	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Cherokee - Historic	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Chowan - Current	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Columbus - Historic	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Dare - Current	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Gates - Current	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Graham - Current	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Hoke - Obscure	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Macon - Current	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Madison - Historic	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Martin - Current	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Pender - Current	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Perquimans - Current	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Richmond - Current	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Robeson - Current	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Swain - Current	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Transylvania - Historic	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Tyrrell - Current	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Washington - Current	Link
Mammal	*Corynorhinus rafinesquii*	Rafinesque's Big-eared Bat	T	FSC	S3	G3G4	Wayne - Historic	Link
Mammal	*Corynorhinus townsendii virginianus*	Virginia Big-eared Bat	E	E	S1	G4T2	Avery - Current	Link
Mammal	*Corynorhinus townsendii virginianus*	Virginia Big-eared Bat	E	E	S1	G4T2	Watauga - Obscure	Link
Mammal	*Corynorhinus townsendii virginianus*	Virginia Big-eared Bat	E	E	S1	G4T2	Yancey - Current	Link
Mammal	*Glaucomys sabrinus coloratus*	Carolina Northern Flying Squirrel	E	E	S2	G5T1	Avery - Current	Link
Mammal	*Glaucomys sabrinus coloratus*	Carolina Northern Flying Squirrel	E	E	S2	G5T1	Buncombe - Current	Link
Mammal	*Glaucomys sabrinus coloratus*	Carolina Northern Flying Squirrel	E	E	S2	G5T1	Graham - Current	Link
Mammal	*Glaucomys sabrinus coloratus*	Carolina Northern Flying Squirrel	E	E	S2	G5T1	Haywood - Current	Link
Mammal	*Glaucomys sabrinus coloratus*	Carolina Northern Flying Squirrel	E	E	S2	G5T1	Jackson - Current	Link
Mammal	*Glaucomys sabrinus coloratus*	Carolina Northern Flying Squirrel	E	E	S2	G5T1	McDowell - Current	Link
Mammal	*Glaucomys sabrinus coloratus*	Carolina Northern Flying Squirrel	E	E	S2	G5T1	Mitchell - Current	Link
Mammal	*Glaucomys sabrinus coloratus*	Carolina Northern Flying Squirrel	E	E	S2	G5T1	Swain - Current	Link

Mammal	*Glaucomys sabrinus coloratus*	Carolina Northern Flying Squirrel	E	E	S2	G5T1	Transylvania - Current	Link
Mammal	*Glaucomys sabrinus coloratus*	Carolina Northern Flying Squirrel	E	E	S2	G5T1	Watauga - Current	Link
Mammal	*Glaucomys sabrinus coloratus*	Carolina Northern Flying Squirrel	E	E	S2	G5T1	Yancey - Current	Link
Mammal	*Microtus chrotorrhinus carolinensis*	Southern Rock Vole	SC	FSC	S3	G4T3	Avery - Current	Link
Mammal	*Microtus chrotorrhinus carolinensis*	Southern Rock Vole	SC	FSC	S3	G4T3	Haywood - Current	Link
Mammal	*Microtus chrotorrhinus carolinensis*	Southern Rock Vole	SC	FSC	S3	G4T3	Jackson - Historic	Link
Mammal	*Microtus chrotorrhinus carolinensis*	Southern Rock Vole	SC	FSC	S3	G4T3	Macon - Historic	Link
Mammal	*Microtus chrotorrhinus carolinensis*	Southern Rock Vole	SC	FSC	S3	G4T3	Swain - Obscure	Link
Mammal	*Microtus chrotorrhinus carolinensis*	Southern Rock Vole	SC	FSC	S3	G4T3	Yancey - Current	Link
Mammal	*Myotis austroriparius*	Southeastern Myotis	SC	FSC	S2?	G3G4	Bertie - Current	Link
Mammal	*Myotis austroriparius*	Southeastern Myotis	SC	FSC	S2?	G3G4	Bladen - Current	Link
Mammal	*Myotis austroriparius*	Southeastern Myotis	SC	FSC	S2?	G3G4	Chowan - Obscure	Link
Mammal	*Myotis austroriparius*	Southeastern Myotis	SC	FSC	S2?	G3G4	Clay - Current	Link
Mammal	*Myotis austroriparius*	Southeastern Myotis	SC	FSC	S2?	G3G4	Columbus - Current	Link
Mammal	*Myotis austroriparius*	Southeastern Myotis	SC	FSC	S2?	G3G4	Gates - Current	Link
Mammal	*Myotis austroriparius*	Southeastern Myotis	SC	FSC	S2?	G3G4	Halifax - Current	Link
Mammal	*Myotis austroriparius*	Southeastern Myotis	SC	FSC	S2?	G3G4	Martin - Current	Link
Mammal	*Myotis austroriparius*	Southeastern Myotis	SC	FSC	S2?	G3G4	New Hanover - Current	Link
Mammal	*Myotis austroriparius*	Southeastern Myotis	SC	FSC	S2?	G3G4	Pender - Current	Link
Mammal	*Myotis austroriparius*	Southeastern Myotis	SC	FSC	S2?	G3G4	Robeson - Current	Link
Mammal	*Myotis austroriparius*	Southeastern Myotis	SC	FSC	S2?	G3G4	Wake - Historic	Link
Mammal	*Myotis grisescens*	Gray Myotis	E	E	SA	G3	Buncombe - Historic	Link
Mammal	*Myotis leibii*	Eastern Small-footed Myotis	SC	FSC	SUB,S2N	G3	Alleghany - Historic	Link
Mammal	*Myotis leibii*	Eastern Small-footed Myotis	SC	FSC	SUB,S2N	G3	Avery - Current	Link
Mammal	*Myotis leibii*	Eastern Small-footed Myotis	SC	FSC	SUB,S2N	G3	Buncombe - Historic	Link
Mammal	*Myotis leibii*	Eastern Small-footed Myotis	SC	FSC	SUB,S2N	G3	Graham - Current	Link
Mammal	*Myotis leibii*	Eastern Small-footed Myotis	SC	FSC	SUB,S2N	G3	Henderson - Current	Link
Mammal	*Myotis leibii*	Eastern Small-footed Myotis	SC	FSC	SUB,S2N	G3	Macon - Current	Link
Mammal	*Myotis leibii*	Eastern Small-footed Myotis	SC	FSC	SUB,S2N	G3	Rutherford - Current	Link
Mammal	*Myotis leibii*	Eastern Small-footed Myotis	SC	FSC	SUB,S2N	G3	Swain - Current	Link
Mammal	*Myotis leibii*	Eastern Small-footed	SC	FSC	SUB,S2N	G3	Yancey -	Link

		Myotis					Current	
Mammal	*Myotis septentrionalis*	Northern Myotis	SC	-	SUB,S3N	G4	Ashe - Current	Link
Mammal	*Myotis septentrionalis*	Northern Myotis	SC	-	SUB,S3N	G4	Avery - Current	Link
Mammal	*Myotis septentrionalis*	Northern Myotis	SC	-	SUB,S3N	G4	Buncombe - Historic	Link
Mammal	*Myotis septentrionalis*	Northern Myotis	SC	-	SUB,S3N	G4	Burke - Current	Link
Mammal	*Myotis septentrionalis*	Northern Myotis	SC	-	SUB,S3N	G4	Cherokee - Historic	Link
Mammal	*Myotis septentrionalis*	Northern Myotis	SC	-	SUB,S3N	G4	Graham - Current	Link
Mammal	*Myotis septentrionalis*	Northern Myotis	SC	-	SUB,S3N	G4	Henderson - Current	Link
Mammal	*Myotis septentrionalis*	Northern Myotis	SC	-	SUB,S3N	G4	Macon - Current	Link
Mammal	*Myotis septentrionalis*	Northern Myotis	SC	-	SUB,S3N	G4	Polk - Current	Link
Mammal	*Myotis septentrionalis*	Northern Myotis	SC	-	SUB,S3N	G4	Rutherford - Current	Link
Mammal	*Myotis septentrionalis*	Northern Myotis	SC	-	SUB,S3N	G4	Swain - Current	Link
Mammal	*Myotis septentrionalis*	Northern Myotis	SC	-	SUB,S3N	G4	Transylvania - Current	Link
Mammal	*Myotis septentrionalis*	Northern Myotis	SC	-	SUB,S3N	G4	Wake - Historic	Link
Mammal	*Myotis septentrionalis*	Northern Myotis	SC	-	SUB,S3N	G4	Watauga - Current	Link
Mammal	*Myotis sodalis*	Indiana Myotis	E	E	SUB,SZN	G2	Graham - Current	Link
Mammal	*Myotis sodalis*	Indiana Myotis	E	E	SUB,SZN	G2	Jackson - Historic	Link
Mammal	*Myotis sodalis*	Indiana Myotis	E	E	SUB,SZN	G2	Mitchell - Historic	Link
Mammal	*Myotis sodalis*	Indiana Myotis	E	E	SUB,SZN	G2	Rutherford - Current	Link
Mammal	*Myotis sodalis*	Indiana Myotis	E	E	SUB,SZN	G2	Swain - Current	Link
Mammal	*Neotoma floridana floridana*	Eastern Woodrat - Coastal Plain Population	T	-	S1	G5T5	Brunswick - Historic	Link
Mammal	*Neotoma floridana floridana*	Eastern Woodrat - Coastal Plain Population	T	-	S1	G5T5	Carteret - Historic	Link
Mammal	*Neotoma floridana floridana*	Eastern Woodrat - Coastal Plain Population	T	-	S1	G5T5	New Hanover - Current	Link
Mammal	*Neotoma floridana floridana*	Eastern Woodrat - Coastal Plain Population	T	-	S1	G5T5	Onslow - Current	Link
Mammal	*Neotoma floridana floridana*	Eastern Woodrat - Coastal Plain Population	T	-	S1	G5T5	Pender - Current	Link
Mammal	*Neotoma floridana haematoreia*	Eastern Woodrat - Southern Appalachian Population	SC	FSC	S3	G5T4Q	Buncombe - Current	Link
Mammal	*Neotoma floridana haematoreia*	Eastern Woodrat - Southern Appalachian Population	SC	FSC	S3	G5T4Q	Burke - Current	Link
Mammal	*Neotoma floridana haematoreia*	Eastern Woodrat - Southern Appalachian Population	SC	FSC	S3	G5T4Q	Catawba - Current	Link
Mammal	*Neotoma floridana haematoreia*	Eastern Woodrat - Southern Appalachian Population	SC	FSC	S3	G5T4Q	Haywood - Current	Link
		Eastern Woodrat -						

Mammal	*Neotoma floridana haematoreia*	Southern Appalachian Population	SC	FSC	S3	G5T4Q	Henderson - Current	Link
Mammal	*Neotoma floridana haematoreia*	Eastern Woodrat - Southern Appalachian Population	SC	FSC	S3	G5T4Q	Jackson - Current	Link
Mammal	*Neotoma floridana haematoreia*	Eastern Woodrat - Southern Appalachian Population	SC	FSC	S3	G5T4Q	Macon - Current	Link
Mammal	*Neotoma floridana haematoreia*	Eastern Woodrat - Southern Appalachian Population	SC	FSC	S3	G5T4Q	Madison - Current	Link
Mammal	*Neotoma floridana haematoreia*	Eastern Woodrat - Southern Appalachian Population	SC	FSC	S3	G5T4Q	McDowell - Current	Link
Mammal	*Neotoma floridana haematoreia*	Eastern Woodrat - Southern Appalachian Population	SC	FSC	S3	G5T4Q	Polk - Current	Link
Mammal	*Neotoma floridana haematoreia*	Eastern Woodrat - Southern Appalachian Population	SC	FSC	S3	G5T4Q	Rutherford - Current	Link
Mammal	*Neotoma floridana haematoreia*	Eastern Woodrat - Southern Appalachian Population	SC	FSC	S3	G5T4Q	Swain - Current	Link
Mammal	*Neotoma floridana haematoreia*	Eastern Woodrat - Southern Appalachian Population	SC	FSC	S3	G5T4Q	Transylvania - Current	Link
Mammal	*Neotoma magister*	Allegheny Woodrat	SC	FSC	S2	G3G4	Avery - Current	Link
Mammal	*Neotoma magister*	Allegheny Woodrat	SC	FSC	S2	G3G4	Buncombe - Current	Link
Mammal	*Neotoma magister*	Allegheny Woodrat	SC	FSC	S2	G3G4	Burke - Current	Link
Mammal	*Neotoma magister*	Allegheny Woodrat	SC	FSC	S2	G3G4	Caldwell - Obscure	Link
Mammal	*Neotoma magister*	Allegheny Woodrat	SC	FSC	S2	G3G4	Iredell - Current	Link
Mammal	*Neotoma magister*	Allegheny Woodrat	SC	FSC	S2	G3G4	McDowell - Current	Link
Mammal	*Neotoma magister*	Allegheny Woodrat	SC	FSC	S2	G3G4	Mitchell - Obscure	Link
Mammal	*Neotoma magister*	Allegheny Woodrat	SC	FSC	S2	G3G4	Watauga - Current	Link
Mammal	*Neotoma magister*	Allegheny Woodrat	SC	FSC	S2	G3G4	Yancey - Current	Link
Mammal	*Peromyscus leucopus easti*	Pungo White-footed Mouse	SC	-	S2	G5T1	Currituck - Current	Link
Mammal	*Puma concolor couguar*	Eastern Cougar	E	E	SH	G5TH	Brunswick - Historic	Link
Mammal	*Puma concolor couguar*	Eastern Cougar	E	E	SH	G5TH	Buncombe - Historic	Link
Mammal	*Puma concolor couguar*	Eastern Cougar	E	E	SH	G5TH	Carteret - Obscure	Link
Mammal	*Puma concolor couguar*	Eastern Cougar	E	E	SH	G5TH	Haywood - Historic	Link
Mammal	*Puma concolor couguar*	Eastern Cougar	E	E	SH	G5TH	Montgomery - Historic	Link
Mammal	*Puma concolor couguar*	Eastern Cougar	E	E	SH	G5TH	Onslow - Historic	Link
Mammal	*Puma concolor couguar*	Eastern Cougar	E	E	SH	G5TH	Swain - Historic	Link
Mammal	*Puma concolor couguar*	Eastern Cougar	E	E	SH	G5TH	Yancey - Historic	Link
Mammal	*Sorex dispar*	Long-tailed Shrew	SC	-	S2	G4	Avery -	Link

							Current	
Mammal	*Sorex dispar*	Long-tailed Shrew	SC	-	S2	G4	Buncombe - Current	Link
Mammal	*Sorex dispar*	Long-tailed Shrew	SC	-	S2	G4	Haywood - Current	Link
Mammal	*Sorex dispar*	Long-tailed Shrew	SC	-	S2	G4	Macon - Current	Link
Mammal	*Sorex dispar*	Long-tailed Shrew	SC	-	S2	G4	Swain - Historic	Link
Mammal	*Sorex dispar*	Long-tailed Shrew	SC	-	S2	G4	Transylvania - Historic	Link
Mammal	*Sorex dispar*	Long-tailed Shrew	SC	-	S2	G4	Yancey - Current	Link
Mammal	*Sorex palustris punctulatus*	Southern Water Shrew	SC	FSC	S2	G5T3	Avery - Current	Link
Mammal	*Sorex palustris punctulatus*	Southern Water Shrew	SC	FSC	S2	G5T3	Buncombe - Current	Link
Mammal	*Sorex palustris punctulatus*	Southern Water Shrew	SC	FSC	S2	G5T3	Clay - Historic	Link
Mammal	*Sorex palustris punctulatus*	Southern Water Shrew	SC	FSC	S2	G5T3	Haywood - Historic	Link
Mammal	*Sorex palustris punctulatus*	Southern Water Shrew	SC	FSC	S2	G5T3	Macon - Current	Link
Mammal	*Sorex palustris punctulatus*	Southern Water Shrew	SC	FSC	S2	G5T3	Swain - Historic	Link
Mammal	*Sorex palustris punctulatus*	Southern Water Shrew	SC	FSC	S2	G5T3	Watauga - Obscure	Link
Mammal	*Sylvilagus transitionalis*	New England Cottontail	SR	FSC	S3	G4	Alleghany - Current	Link
Mammal	*Sylvilagus transitionalis*	New England Cottontail	SR	FSC	S3	G4	Ashe - Current	Link
Mammal	*Sylvilagus transitionalis*	New England Cottontail	SR	FSC	S3	G4	Avery - Current	Link
Mammal	*Sylvilagus transitionalis*	New England Cottontail	SR	FSC	S3	G4	Clay - Current	Link
Mammal	*Sylvilagus transitionalis*	New England Cottontail	SR	FSC	S3	G4	Graham - Current	Link
Mammal	*Sylvilagus transitionalis*	New England Cottontail	SR	FSC	S3	G4	Haywood - Current	Link
Mammal	*Sylvilagus transitionalis*	New England Cottontail	SR	FSC	S3	G4	Macon - Current	Link
Mammal	*Sylvilagus transitionalis*	New England Cottontail	SR	FSC	S3	G4	Mitchell - Current	Link
Mammal	*Sylvilagus transitionalis*	New England Cottontail	SR	FSC	S3	G4	Swain - Current	Link
Mammal	*Sylvilagus transitionalis*	New England Cottontail	SR	FSC	S3	G4	Transylvania - Historic	Link
Mammal	*Sylvilagus transitionalis*	New England Cottontail	SR	FSC	S3	G4	Watauga - Historic	Link
Mammal	*Sylvilagus transitionalis*	New England Cottontail	SR	FSC	S3	G4	Yancey - Current	Link
Mammal	*Trichechus manatus*	West Indian Manatee	E	E	S1N	G2	Beaufort - Current	Link
Mammal	*Trichechus manatus*	West Indian Manatee	E	E	S1N	G2	Brunswick - Current	Link
Mammal	*Trichechus manatus*	West Indian Manatee	E	E	S1N	G2	Carteret - Current	Link
Mammal	*Trichechus manatus*	West Indian Manatee	E	E	S1N	G2	Craven - Current	Link
Mammal	*Trichechus manatus*	West Indian Manatee	E	E	S1N	G2	Currituck - Current	Link
Mammal	*Trichechus manatus*	West Indian Manatee	E	E	S1N	G2	Dare -	Link

							Current	
Mammal	*Trichechus manatus*	West Indian Manatee	E	E	S1N	G2	Hyde - Current	Link
Mammal	*Trichechus manatus*	West Indian Manatee	E	E	S1N	G2	New Hanover - Current	Link
Mammal	*Trichechus manatus*	West Indian Manatee	E	E	S1N	G2	Onslow - Current	Link
Mammal	*Trichechus manatus*	West Indian Manatee	E	E	S1N	G2	Pamlico - Historic	Link
Mammal	*Trichechus manatus*	West Indian Manatee	E	E	S1N	G2	Pender - Current	Link
Mammal	*Trichechus manatus*	West Indian Manatee	E	E	S1N	G2	Pitt - Current	Link

NC NHP database updated: January, 2004.
Search performed on Monday, 7 November 2005 @ 11:42:06 EST
Explanation of Codes

NC NHP County Element Search Results

Returned Elements: 333 using:Bird LISTED
[Bird 333]

Major Group	Scientific Name	Common Name	State Status	Federal Status	State Rank	Global Rank	County - Status	Map - Habitat
Bird	*Aegolius acadicus pop 1*	Southern Appalachian Northern Saw-whet Owl	T	FSC	S2B,S2N	G5T?	Avery - Current	Link
Bird	*Aegolius acadicus pop 1*	Southern Appalachian Northern Saw-whet Owl	T	FSC	S2B,S2N	G5T?	Buncombe - Current	Link
Bird	*Aegolius acadicus pop 1*	Southern Appalachian Northern Saw-whet Owl	T	FSC	S2B,S2N	G5T?	Graham - Current	Link
Bird	*Aegolius acadicus pop 1*	Southern Appalachian Northern Saw-whet Owl	T	FSC	S2B,S2N	G5T?	Haywood - Current	Link
Bird	*Aegolius acadicus pop 1*	Southern Appalachian Northern Saw-whet Owl	T	FSC	S2B,S2N	G5T?	Jackson - Current	Link
Bird	*Aegolius acadicus pop 1*	Southern Appalachian Northern Saw-whet Owl	T	FSC	S2B,S2N	G5T?	Macon - Current	Link
Bird	*Aegolius acadicus pop 1*	Southern Appalachian Northern Saw-whet Owl	T	FSC	S2B,S2N	G5T?	Mitchell - Current	Link
Bird	*Aegolius acadicus pop 1*	Southern Appalachian Northern Saw-whet Owl	T	FSC	S2B,S2N	G5T?	Swain - Current	Link
Bird	*Aegolius acadicus pop 1*	Southern Appalachian Northern Saw-whet Owl	T	FSC	S2B,S2N	G5T?	Transylvania - Current	Link
Bird	*Aegolius acadicus pop 1*	Southern Appalachian Northern Saw-whet Owl	T	FSC	S2B,S2N	G5T?	Watauga - Current	Link
Bird	*Aegolius acadicus pop 1*	Southern Appalachian Northern Saw-whet Owl	T	FSC	S2B,S2N	G5T?	Yancey - Current	Link
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Bladen - Current	Link
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Brunswick - Current	Link
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Buncombe - Historic	Link
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Carteret - Current	Link
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Chatham - Current	Link
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Columbus - Current	Link
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Craven - Current	Link
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Cumberland - Current	Link
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Halifax - Historic	Link
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Harnett - Current	Link
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Hoke - Current	Link
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Jones - Current	Link
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Macon - Historic	Link
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Moore - Current	Link
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Onslow - Current	Link
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Pender - Current	Link
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Richmond -	Link

							Current	
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Robeson - Current	Link
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Sampson - Current	Link
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Scotland - Current	Link
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Wake - Historic	Link
Bird	*Aimophila aestivalis*	Bachman's Sparrow	SC	FSC	S3B,S2N	G3	Warren - Current	Link
Bird	*Ammodramus henslowii*	Henslow's Sparrow	SR	FSC	S2B,S1N	G4	Beaufort - Current	Link
Bird	*Ammodramus henslowii*	Henslow's Sparrow	SR	FSC	S2B,S1N	G4	Bertie - Current	Link
Bird	*Ammodramus henslowii*	Henslow's Sparrow	SR	FSC	S2B,S1N	G4	Brunswick - Current	Link
Bird	*Ammodramus henslowii*	Henslow's Sparrow	SR	FSC	S2B,S1N	G4	Carteret - Current	Link
Bird	*Ammodramus henslowii*	Henslow's Sparrow	SR	FSC	S2B,S1N	G4	Columbus - Current	Link
Bird	*Ammodramus henslowii*	Henslow's Sparrow	SR	FSC	S2B,S1N	G4	Edgecombe - Current	Link
Bird	*Ammodramus henslowii*	Henslow's Sparrow	SR	FSC	S2B,S1N	G4	Gates - Current	Link
Bird	*Ammodramus henslowii*	Henslow's Sparrow	SR	FSC	S2B,S1N	G4	Martin - Current	Link
Bird	*Ammodramus henslowii*	Henslow's Sparrow	SR	FSC	S2B,S1N	G4	Onslow - Current	Link
Bird	*Ammodramus henslowii*	Henslow's Sparrow	SR	FSC	S2B,S1N	G4	Pender - Current	Link
Bird	*Ammodramus henslowii*	Henslow's Sparrow	SR	FSC	S2B,S1N	G4	Pitt - Current	Link
Bird	*Ammodramus henslowii*	Henslow's Sparrow	SR	FSC	S2B,S1N	G4	Wilson - Current	Link
Bird	*Certhia americana*	Brown Creeper	SC	-	S3B,S5N	G5	Avery - Current	Link
Bird	*Certhia americana*	Brown Creeper	SC	-	S3B,S5N	G5	Buncombe - Current	Link
Bird	*Certhia americana*	Brown Creeper	SC	-	S3B,S5N	G5	Haywood - Current	Link
Bird	*Certhia americana*	Brown Creeper	SC	-	S3B,S5N	G5	Jackson - Current	Link
Bird	*Certhia americana*	Brown Creeper	SC	-	S3B,S5N	G5	Mitchell - Current	Link
Bird	*Certhia americana*	Brown Creeper	SC	-	S3B,S5N	G5	Swain - Current	Link
Bird	*Certhia americana*	Brown Creeper	SC	-	S3B,S5N	G5	Transylvania - Current	Link
Bird	*Certhia americana*	Brown Creeper	SC	-	S3B,S5N	G5	Watauga - Current	Link
Bird	*Certhia americana*	Brown Creeper	SC	-	S3B,S5N	G5	Yancey - Current	Link
Bird	*Charadrius melodus*	Piping Plover	T	T	S2B,S2N	G3	Brunswick - Current	Link
Bird	*Charadrius melodus*	Piping Plover	T	T	S2B,S2N	G3	Carteret - Current	Link
Bird	*Charadrius melodus*	Piping Plover	T	T	S2B,S2N	G3	Currituck - Current	Link
Bird	*Charadrius melodus*	Piping Plover	T	T	S2B,S2N	G3	Dare - Current	Link
Bird	*Charadrius melodus*	Piping Plover	T	T	S2B,S2N	G3	Hyde - Current	Link

Bird	*Charadrius melodus*	Piping Plover	T	T	S2B,S2N	G3	New Hanover - Current	Link
Bird	*Charadrius melodus*	Piping Plover	T	T	S2B,S2N	G3	Onslow - Current	Link
Bird	*Charadrius melodus*	Piping Plover	T	T	S2B,S2N	G3	Pender - Current	Link
Bird	*Contopus cooperi*	Olive-sided Flycatcher	SC	-	SUB,SZN	G4	Haywood - Current	Link
Bird	*Contopus cooperi*	Olive-sided Flycatcher	SC	-	SUB,SZN	G4	Macon - Historic	Link
Bird	*Contopus cooperi*	Olive-sided Flycatcher	SC	-	SUB,SZN	G4	McDowell - Historic	Link
Bird	*Contopus cooperi*	Olive-sided Flycatcher	SC	-	SUB,SZN	G4	Mitchell - Historic	Link
Bird	*Contopus cooperi*	Olive-sided Flycatcher	SC	-	SUB,SZN	G4	Swain - Current	Link
Bird	*Contopus cooperi*	Olive-sided Flycatcher	SC	-	SUB,SZN	G4	Yancey - Current	Link
Bird	*Dendroica cerulea*	Cerulean Warbler	SR	FSC	S2B,SZN	G4	Bertie - Current	Link
Bird	*Dendroica cerulea*	Cerulean Warbler	SR	FSC	S2B,SZN	G4	Buncombe - Current	Link
Bird	*Dendroica cerulea*	Cerulean Warbler	SR	FSC	S2B,SZN	G4	Clay - Current	Link
Bird	*Dendroica cerulea*	Cerulean Warbler	SR	FSC	S2B,SZN	G4	Graham - Current	Link
Bird	*Dendroica cerulea*	Cerulean Warbler	SR	FSC	S2B,SZN	G4	Halifax - Current	Link
Bird	*Dendroica cerulea*	Cerulean Warbler	SR	FSC	S2B,SZN	G4	Haywood - Current	Link
Bird	*Dendroica cerulea*	Cerulean Warbler	SR	FSC	S2B,SZN	G4	Johnston - Current	Link
Bird	*Dendroica cerulea*	Cerulean Warbler	SR	FSC	S2B,SZN	G4	Macon - Current	Link
Bird	*Dendroica cerulea*	Cerulean Warbler	SR	FSC	S2B,SZN	G4	McDowell - Current	Link
Bird	*Dendroica cerulea*	Cerulean Warbler	SR	FSC	S2B,SZN	G4	Northampton - Current	Link
Bird	*Dendroica cerulea*	Cerulean Warbler	SR	FSC	S2B,SZN	G4	Polk - Current	Link
Bird	*Dendroica cerulea*	Cerulean Warbler	SR	FSC	S2B,SZN	G4	Rutherford - Current	Link
Bird	*Dendroica cerulea*	Cerulean Warbler	SR	FSC	S2B,SZN	G4	Transylvania - Current	Link
Bird	*Dendroica cerulea*	Cerulean Warbler	SR	FSC	S2B,SZN	G4	Watauga - Current	Link
Bird	*Dendroica cerulea*	Cerulean Warbler	SR	FSC	S2B,SZN	G4	Wilkes - Current	Link
Bird	*Egretta caerulea*	Little Blue Heron	SC	-	S3B,S3N	G5	Brunswick - Current	Link
Bird	*Egretta caerulea*	Little Blue Heron	SC	-	S3B,S3N	G5	Carteret - Current	Link
Bird	*Egretta caerulea*	Little Blue Heron	SC	-	S3B,S3N	G5	Columbus - Historic	Link
Bird	*Egretta caerulea*	Little Blue Heron	SC	-	S3B,S3N	G5	Cumberland - Current	Link
Bird	*Egretta caerulea*	Little Blue Heron	SC	-	S3B,S3N	G5	Currituck - Current	Link
Bird	*Egretta caerulea*	Little Blue Heron	SC	-	S3B,S3N	G5	Dare - Current	Link
Bird	*Egretta caerulea*	Little Blue Heron	SC	-	S3B,S3N	G5	Hyde -	Link

							Current	
Bird	*Egretta caerulea*	Little Blue Heron	SC	-	S3B,S3N	G5	Jones - Current	Link
Bird	*Egretta caerulea*	Little Blue Heron	SC	-	S3B,S3N	G5	New Hanover - Current	Link
Bird	*Egretta caerulea*	Little Blue Heron	SC	-	S3B,S3N	G5	Robeson - Current	Link
Bird	*Egretta thula*	Snowy Egret	SC	-	S3B,S3N	G5	Brunswick - Current	Link
Bird	*Egretta thula*	Snowy Egret	SC	-	S3B,S3N	G5	Carteret - Current	Link
Bird	*Egretta thula*	Snowy Egret	SC	-	S3B,S3N	G5	Columbus - Historic	Link
Bird	*Egretta thula*	Snowy Egret	SC	-	S3B,S3N	G5	Currituck - Current	Link
Bird	*Egretta thula*	Snowy Egret	SC	-	S3B,S3N	G5	Dare - Current	Link
Bird	*Egretta thula*	Snowy Egret	SC	-	S3B,S3N	G5	Hyde - Current	Link
Bird	*Egretta thula*	Snowy Egret	SC	-	S3B,S3N	G5	New Hanover - Current	Link
Bird	*Egretta thula*	Snowy Egret	SC	-	S3B,S3N	G5	Robeson - Current	Link
Bird	*Egretta tricolor*	Tricolored Heron	SC	-	S3B,S3N	G5	Brunswick - Current	Link
Bird	*Egretta tricolor*	Tricolored Heron	SC	-	S3B,S3N	G5	Carteret - Current	Link
Bird	*Egretta tricolor*	Tricolored Heron	SC	-	S3B,S3N	G5	Currituck - Current	Link
Bird	*Egretta tricolor*	Tricolored Heron	SC	-	S3B,S3N	G5	Dare - Current	Link
Bird	*Egretta tricolor*	Tricolored Heron	SC	-	S3B,S3N	G5	Hyde - Current	Link
Bird	*Egretta tricolor*	Tricolored Heron	SC	-	S3B,S3N	G5	New Hanover - Current	Link
Bird	*Falco peregrinus*	Peregrine Falcon	E	-	S1B,S2N	G4	Avery - Current	Link
Bird	*Falco peregrinus*	Peregrine Falcon	E	-	S1B,S2N	G4	Brunswick - Current	Link
Bird	*Falco peregrinus*	Peregrine Falcon	E	-	S1B,S2N	G4	Buncombe - Current	Link
Bird	*Falco peregrinus*	Peregrine Falcon	E	-	S1B,S2N	G4	Burke - Current	Link
Bird	*Falco peregrinus*	Peregrine Falcon	E	-	S1B,S2N	G4	Carteret - Current	Link
Bird	*Falco peregrinus*	Peregrine Falcon	E	-	S1B,S2N	G4	Dare - Current	Link
Bird	*Falco peregrinus*	Peregrine Falcon	E	-	S1B,S2N	G4	Haywood - Current	Link
Bird	*Falco peregrinus*	Peregrine Falcon	E	-	S1B,S2N	G4	Hyde - Historic	Link
Bird	*Falco peregrinus*	Peregrine Falcon	E	-	S1B,S2N	G4	Jackson - Current	Link
Bird	*Falco peregrinus*	Peregrine Falcon	E	-	S1B,S2N	G4	Madison - Current	Link
Bird	*Falco peregrinus*	Peregrine Falcon	E	-	S1B,S2N	G4	Rutherford - Current	Link
Bird	*Falco peregrinus*	Peregrine Falcon	E	-	S1B,S2N	G4	Stokes - Current	Link

Bird	*Falco peregrinus*	Peregrine Falcon	E	-	S1B,S2N	G4	Surry - Current	Link
Bird	*Falco peregrinus*	Peregrine Falcon	E	-	S1B,S2N	G4	Transylvania - Current	Link
Bird	*Falco peregrinus*	Peregrine Falcon	E	-	S1B,S2N	G4	Wilkes - Historic	Link
Bird	*Falco peregrinus*	Peregrine Falcon	E	-	S1B,S2N	G4	Yancey - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Alexander - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Anson - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Beaufort - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Bertie - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Bladen - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Brunswick - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Burke - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Camden - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Catawba - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Chatham - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Chowan - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Columbus - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Craven - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Currituck - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Dare - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Davidson - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Durham - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Gaston - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Granville - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Guilford - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Halifax - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Harnett - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Haywood - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Hyde - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Johnston - Historic	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Lenoir - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Martin - Historic	Link

Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Mecklenburg - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Montgomery - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Nash - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Northampton - Historic	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Onslow - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Orange - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Pamlico - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Pasquotank - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Pitt - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Richmond - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Rowan - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Stanly - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Tyrrell - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Vance - Historic	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Wake - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Warren - Historic	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Washington - Current	Link
Bird	*Haliaeetus leucocephalus*	Bald Eagle	T	T (PD)	S3B,S3N	G4	Wilson - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Alamance - Obscure	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Ashe - Obscure	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Bladen - Obscure	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Brunswick - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Carteret - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Catawba - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Chatham - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Cleveland - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Davie - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Edgecombe - Obscure	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Forsyth - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Franklin - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Gaston - Current	Link
Bird	*Lanius ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Granville -	Link

	ludovicianus						Obscure	
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Greene - Obscure	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Guilford - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Halifax - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Iredell - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Johnston - Obscure	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Lenoir - Obscure	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Lincoln - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Mecklenburg - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Montgomery - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Moore - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	New Hanover - Obscure	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Pitt - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Polk - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Richmond - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Robeson - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Rowan - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Rutherford - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Scotland - Obscure	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Stanly - Current	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Transylvania - Obscure	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Wake - Obscure	Link
Bird	*Lanius ludovicianus ludovicianus*	Loggerhead Shrike	SC	-	S3B,S3N	G4T4	Wayne - Current	Link
Bird	*Laterallus jamaicensis*	Black Rail	SR	FSC	S3B,S2N	G4	Carteret - Current	Link
Bird	*Laterallus jamaicensis*	Black Rail	SR	FSC	S3B,S2N	G4	Craven - Current	Link
Bird	*Laterallus jamaicensis*	Black Rail	SR	FSC	S3B,S2N	G4	Currituck - Current	Link
Bird	*Laterallus jamaicensis*	Black Rail	SR	FSC	S3B,S2N	G4	Dare - Current	Link
Bird	*Laterallus jamaicensis*	Black Rail	SR	FSC	S3B,S2N	G4	Hyde - Current	Link
Bird	*Laterallus jamaicensis*	Black Rail	SR	FSC	S3B,S2N	G4	Onslow - Current	Link
Bird	*Laterallus jamaicensis*	Black Rail	SR	FSC	S3B,S2N	G4	Pamlico - Current	Link
Bird	*Loxia curvirostra pop 1*	Southern Appalachian Red Crossbill	SC	FSC	S3B,S3N	G5T?	Ashe - Historic	Link

Bird	*Loxia curvirostra pop 1*	Southern Appalachian Red Crossbill	SC	FSC	S3B,S3N	G5T?	Avery - Current	Link
Bird	*Loxia curvirostra pop 1*	Southern Appalachian Red Crossbill	SC	FSC	S3B,S3N	G5T?	Buncombe - Current	Link
Bird	*Loxia curvirostra pop 1*	Southern Appalachian Red Crossbill	SC	FSC	S3B,S3N	G5T?	Burke - Current	Link
Bird	*Loxia curvirostra pop 1*	Southern Appalachian Red Crossbill	SC	FSC	S3B,S3N	G5T?	Haywood - Current	Link
Bird	*Loxia curvirostra pop 1*	Southern Appalachian Red Crossbill	SC	FSC	S3B,S3N	G5T?	Jackson - Current	Link
Bird	*Loxia curvirostra pop 1*	Southern Appalachian Red Crossbill	SC	FSC	S3B,S3N	G5T?	McDowell - Current	Link
Bird	*Loxia curvirostra pop 1*	Southern Appalachian Red Crossbill	SC	FSC	S3B,S3N	G5T?	Mitchell - Current	Link
Bird	*Loxia curvirostra pop 1*	Southern Appalachian Red Crossbill	SC	FSC	S3B,S3N	G5T?	Swain - Current	Link
Bird	*Loxia curvirostra pop 1*	Southern Appalachian Red Crossbill	SC	FSC	S3B,S3N	G5T?	Transylvania - Current	Link
Bird	*Loxia curvirostra pop 1*	Southern Appalachian Red Crossbill	SC	FSC	S3B,S3N	G5T?	Yancey - Current	Link
Bird	*Mycteria americana*	Wood Stork	E	E	S1N	G4	Brunswick - Current	Link
Bird	*Passerina ciris ciris*	Eastern Painted Bunting	SR	FSC	S3B,SZN	G5T3T4	Brunswick - Current	Link
Bird	*Passerina ciris ciris*	Eastern Painted Bunting	SR	FSC	S3B,SZN	G5T3T4	Carteret - Current	Link
Bird	*Passerina ciris ciris*	Eastern Painted Bunting	SR	FSC	S3B,SZN	G5T3T4	New Hanover - Current	Link
Bird	*Passerina ciris ciris*	Eastern Painted Bunting	SR	FSC	S3B,SZN	G5T3T4	Onslow - Current	Link
Bird	*Passerina ciris ciris*	Eastern Painted Bunting	SR	FSC	S3B,SZN	G5T3T4	Pender - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Anson - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Beaufort - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Bertie - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Bladen - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Brunswick - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Camden - Historic	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Carteret - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Chatham - Historic	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Columbus - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Craven - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Cumberland - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Currituck - Historic	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Dare - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Duplin - Current	Link
Bird	*Picoides borealis*	Red-cockaded	E	E	S2	G3	Edgecombe	Link

		Woodpecker					- Historic	
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Forsyth - Historic	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Gates - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Halifax - Historic	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Harnett - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Hertford - Historic	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Hoke - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Hyde - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Johnston - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Jones - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Lee - Historic	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Lenoir - Historic	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Montgomery - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Moore - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Nash - Historic	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	New Hanover - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Northampton - Historic	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Onslow - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Orange - Historic	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Pamlico - Historic	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Pender - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Pitt - Historic	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Richmond - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Robeson - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Sampson - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Scotland - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Tyrrell - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Wake - Historic	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Wayne - Current	Link
Bird	*Picoides borealis*	Red-cockaded Woodpecker	E	E	S2	G3	Wilson - Historic	Link
Bird	*Plegadis falcinellus*	Glossy Ibis	SC	-	S2B,SZN	G5	Brunswick - Current	Link

Bird	*Plegadis falcinellus*	Glossy Ibis	SC	-	S2B,SZN	G5	Carteret - Current	Link
Bird	*Plegadis falcinellus*	Glossy Ibis	SC	-	S2B,SZN	G5	Currituck - Current	Link
Bird	*Plegadis falcinellus*	Glossy Ibis	SC	-	S2B,SZN	G5	Dare - Current	Link
Bird	*Plegadis falcinellus*	Glossy Ibis	SC	-	S2B,SZN	G5	Hyde - Current	Link
Bird	*Plegadis falcinellus*	Glossy Ibis	SC	-	S2B,SZN	G5	New Hanover - Current	Link
Bird	*Poecile atricapilla practica*	Southern Appalachian Black-capped Chickadee	SC	FSC	S3	G5T?	Avery - Current	Link
Bird	*Poecile atricapilla practica*	Southern Appalachian Black-capped Chickadee	SC	FSC	S3	G5T?	Buncombe - Historic	Link
Bird	*Poecile atricapilla practica*	Southern Appalachian Black-capped Chickadee	SC	FSC	S3	G5T?	Haywood - Current	Link
Bird	*Poecile atricapilla practica*	Southern Appalachian Black-capped Chickadee	SC	FSC	S3	G5T?	Jackson - Current	Link
Bird	*Poecile atricapilla practica*	Southern Appalachian Black-capped Chickadee	SC	FSC	S3	G5T?	Swain - Current	Link
Bird	*Poecile atricapilla practica*	Southern Appalachian Black-capped Chickadee	SC	FSC	S3	G5T?	Transylvania - Current	Link
Bird	*Poecile atricapilla practica*	Southern Appalachian Black-capped Chickadee	SC	FSC	S3	G5T?	Yancey - Historic	Link
Bird	*Rynchops niger*	Black Skimmer	SC	-	S3B,S3N	G5	Brunswick - Current	Link
Bird	*Rynchops niger*	Black Skimmer	SC	-	S3B,S3N	G5	Carteret - Current	Link
Bird	*Rynchops niger*	Black Skimmer	SC	-	S3B,S3N	G5	Dare - Current	Link
Bird	*Rynchops niger*	Black Skimmer	SC	-	S3B,S3N	G5	Hyde - Current	Link
Bird	*Rynchops niger*	Black Skimmer	SC	-	S3B,S3N	G5	New Hanover - Current	Link
Bird	*Rynchops niger*	Black Skimmer	SC	-	S3B,S3N	G5	Onslow - Current	Link
Bird	*Rynchops niger*	Black Skimmer	SC	-	S3B,S3N	G5	Pender - Current	Link
Bird	*Sphyrapicus varius appalachiensis*	Appalachian Yellow-bellied Sapsucker	SC	FSC	S2B,S5N	G5T?	Avery - Historic	Link
Bird	*Sphyrapicus varius appalachiensis*	Appalachian Yellow-bellied Sapsucker	SC	FSC	S2B,S5N	G5T?	Buncombe - Current	Link
Bird	*Sphyrapicus varius appalachiensis*	Appalachian Yellow-bellied Sapsucker	SC	FSC	S2B,S5N	G5T?	Clay - Historic	Link
Bird	*Sphyrapicus varius appalachiensis*	Appalachian Yellow-bellied Sapsucker	SC	FSC	S2B,S5N	G5T?	Graham - Current	Link
Bird	*Sphyrapicus varius appalachiensis*	Appalachian Yellow-bellied Sapsucker	SC	FSC	S2B,S5N	G5T?	Haywood - Current	Link
Bird	*Sphyrapicus varius appalachiensis*	Appalachian Yellow-bellied Sapsucker	SC	FSC	S2B,S5N	G5T?	Henderson - Current	Link
Bird	*Sphyrapicus varius appalachiensis*	Appalachian Yellow-bellied Sapsucker	SC	FSC	S2B,S5N	G5T?	Jackson - Current	Link
Bird	*Sphyrapicus varius appalachiensis*	Appalachian Yellow-bellied Sapsucker	SC	FSC	S2B,S5N	G5T?	Macon - Current	Link
Bird	*Sphyrapicus varius appalachiensis*	Appalachian Yellow-bellied Sapsucker	SC	FSC	S2B,S5N	G5T?	Mitchell - Historic	Link
Bird	*Sphyrapicus varius appalachiensis*	Appalachian Yellow-bellied Sapsucker	SC	FSC	S2B,S5N	G5T?	Swain - Current	Link
Bird	*Sphyrapicus varius appalachiensis*	Appalachian Yellow-bellied Sapsucker	SC	FSC	S2B,S5N	G5T?	Transylvania - Current	Link

Bird	*Sphyrapicus varius appalachiensis*	Appalachian Yellow-bellied Sapsucker	SC	FSC	S2B,S5N	G5T?	Watauga - Current	Link
Bird	*Sphyrapicus varius appalachiensis*	Appalachian Yellow-bellied Sapsucker	SC	FSC	S2B,S5N	G5T?	Yancey - Current	Link
Bird	*Sterna antillarum*	Least Tern	SC	-	S3B,SZN	G4	Brunswick - Current	Link
Bird	*Sterna antillarum*	Least Tern	SC	-	S3B,SZN	G4	Carteret - Current	Link
Bird	*Sterna antillarum*	Least Tern	SC	-	S3B,SZN	G4	Craven - Current	Link
Bird	*Sterna antillarum*	Least Tern	SC	-	S3B,SZN	G4	Dare - Current	Link
Bird	*Sterna antillarum*	Least Tern	SC	-	S3B,SZN	G4	Hyde - Current	Link
Bird	*Sterna antillarum*	Least Tern	SC	-	S3B,SZN	G4	New Hanover - Current	Link
Bird	*Sterna antillarum*	Least Tern	SC	-	S3B,SZN	G4	Onslow - Current	Link
Bird	*Sterna antillarum*	Least Tern	SC	-	S3B,SZN	G4	Pender - Current	Link
Bird	*Sterna dougallii*	Roseate Tern	E	E	SAB,SZN	G4	Carteret - Historic	Link
Bird	*Sterna dougallii*	Roseate Tern	E	E	SAB,SZN	G4	Dare - Current	Link
Bird	*Sterna hirundo*	Common Tern	SC	-	S3B,SZN	G5	Carteret - Current	Link
Bird	*Sterna hirundo*	Common Tern	SC	-	S3B,SZN	G5	Dare - Current	Link
Bird	*Sterna hirundo*	Common Tern	SC	-	S3B,SZN	G5	Hyde - Current	Link
Bird	*Sterna hirundo*	Common Tern	SC	-	S3B,SZN	G5	New Hanover - Current	Link
Bird	*Sterna hirundo*	Common Tern	SC	-	S3B,SZN	G5	Onslow - Current	Link
Bird	*Sterna hirundo*	Common Tern	SC	-	S3B,SZN	G5	Pender - Current	Link
Bird	*Sterna nilotica*	Gull-billed Tern	T	-	S3B,SZN	G5	Brunswick - Current	Link
Bird	*Sterna nilotica*	Gull-billed Tern	T	-	S3B,SZN	G5	Carteret - Current	Link
Bird	*Sterna nilotica*	Gull-billed Tern	T	-	S3B,SZN	G5	Dare - Current	Link
Bird	*Sterna nilotica*	Gull-billed Tern	T	-	S3B,SZN	G5	Hyde - Current	Link
Bird	*Sterna nilotica*	Gull-billed Tern	T	-	S3B,SZN	G5	Onslow - Historic	Link
Bird	*Thryomanes bewickii altus*	Appalachian Bewick's Wren	E	FSC	SHB,SZN	G5T2Q	Ashe - Historic	Link
Bird	*Thryomanes bewickii altus*	Appalachian Bewick's Wren	E	FSC	SHB,SZN	G5T2Q	Avery - Historic	Link
Bird	*Thryomanes bewickii altus*	Appalachian Bewick's Wren	E	FSC	SHB,SZN	G5T2Q	Buncombe - Historic	Link
Bird	*Thryomanes bewickii altus*	Appalachian Bewick's Wren	E	FSC	SHB,SZN	G5T2Q	Haywood - Historic	Link
Bird	*Thryomanes bewickii altus*	Appalachian Bewick's Wren	E	FSC	SHB,SZN	G5T2Q	Jackson - Historic	Link
Bird	*Thryomanes bewickii altus*	Appalachian Bewick's Wren	E	FSC	SHB,SZN	G5T2Q	Macon - Historic	Link
Bird	*Thryomanes bewickii altus*	Appalachian Bewick's Wren	E	FSC	SHB,SZN	G5T2Q	Transylvania - Historic	Link

NC NHP database updated: January, 2004.
Search performed on Monday, 7 November 2005 @ 11:42:25 EST
Explanation of Codes

NC NHP County Element Search Results

Returned Elements: 249 using:Reptile LISTED

[Reptile 249]

Major Group	Scientific Name	Common Name	State Status	Federal Status	State Rank	Global Rank	County - Status	Map - Habitat
Reptile	*Alligator mississippiensis*	American Alligator	T	T(S/A)	S3	G5	Bladen - Current	Link
Reptile	*Alligator mississippiensis*	American Alligator	T	T(S/A)	S3	G5	Brunswick - Current	Link
Reptile	*Alligator mississippiensis*	American Alligator	T	T(S/A)	S3	G5	Camden - Historic	Link
Reptile	*Alligator mississippiensis*	American Alligator	T	T(S/A)	S3	G5	Carteret - Current	Link
Reptile	*Alligator mississippiensis*	American Alligator	T	T(S/A)	S3	G5	Columbus - Current	Link
Reptile	*Alligator mississippiensis*	American Alligator	T	T(S/A)	S3	G5	Craven - Current	Link
Reptile	*Alligator mississippiensis*	American Alligator	T	T(S/A)	S3	G5	Cumberland - Current	Link
Reptile	*Alligator mississippiensis*	American Alligator	T	T(S/A)	S3	G5	Dare - Current	Link
Reptile	*Alligator mississippiensis*	American Alligator	T	T(S/A)	S3	G5	Duplin - Historic	Link
Reptile	*Alligator mississippiensis*	American Alligator	T	T(S/A)	S3	G5	Gates - Historic	Link
Reptile	*Alligator mississippiensis*	American Alligator	T	T(S/A)	S3	G5	Hyde - Current	Link
Reptile	*Alligator mississippiensis*	American Alligator	T	T(S/A)	S3	G5	Jones - Historic	Link
Reptile	*Alligator mississippiensis*	American Alligator	T	T(S/A)	S3	G5	New Hanover - Current	Link
Reptile	*Alligator mississippiensis*	American Alligator	T	T(S/A)	S3	G5	Onslow - Current	Link
Reptile	*Alligator mississippiensis*	American Alligator	T	T(S/A)	S3	G5	Pamlico - Historic	Link
Reptile	*Alligator mississippiensis*	American Alligator	T	T(S/A)	S3	G5	Pender - Current	Link
Reptile	*Alligator mississippiensis*	American Alligator	T	T(S/A)	S3	G5	Robeson - Current	Link
Reptile	*Alligator mississippiensis*	American Alligator	T	T(S/A)	S3	G5	Sampson - Historic	Link
Reptile	*Alligator mississippiensis*	American Alligator	T	T(S/A)	S3	G5	Scotland - Historic	Link
Reptile	*Alligator mississippiensis*	American Alligator	T	T(S/A)	S3	G5	Tyrrell - Historic	Link
Reptile	*Alligator mississippiensis*	American Alligator	T	T(S/A)	S3	G5	Washington - Current	Link
Reptile	*Apalone spinifera spinifera*	Eastern Spiny Softshell	SC	-	S1	G5T5	Buncombe - Current	Link
Reptile	*Apalone spinifera spinifera*	Eastern Spiny Softshell	SC	-	S1	G5T5	Madison - Current	Link
Reptile	*Caretta caretta*	Loggerhead	T	T	S3B,S3N	G3	Brunswick - Current	Link
Reptile	*Caretta caretta*	Loggerhead	T	T	S3B,S3N	G3	Carteret - Current	Link
Reptile	*Caretta caretta*	Loggerhead	T	T	S3B,S3N	G3	Currituck - Current	Link
Reptile	*Caretta caretta*	Loggerhead	T	T	S3B,S3N	G3	Dare - Current	Link

Reptile	*Caretta caretta*	Loggerhead	T	T	S3B,S3N	G3	Hyde - Current	Link
Reptile	*Caretta caretta*	Loggerhead	T	T	S3B,S3N	G3	New Hanover - Current	Link
Reptile	*Caretta caretta*	Loggerhead	T	T	S3B,S3N	G3	Onslow - Current	Link
Reptile	*Caretta caretta*	Loggerhead	T	T	S3B,S3N	G3	Pender - Current	Link
Reptile	*Chelonia mydas*	Green Turtle	T	T	S1B,SZN	G3	Brunswick - Current	Link
Reptile	*Chelonia mydas*	Green Turtle	T	T	S1B,SZN	G3	Carteret - Current	Link
Reptile	*Chelonia mydas*	Green Turtle	T	T	S1B,SZN	G3	Dare - Current	Link
Reptile	*Chelonia mydas*	Green Turtle	T	T	S1B,SZN	G3	Hyde - Obscure	Link
Reptile	*Chelonia mydas*	Green Turtle	T	T	S1B,SZN	G3	New Hanover - Current	Link
Reptile	*Chelonia mydas*	Green Turtle	T	T	S1B,SZN	G3	Onslow - Current	Link
Reptile	*Chelonia mydas*	Green Turtle	T	T	S1B,SZN	G3	Pender - Current	Link
Reptile	*Crotalus adamanteus*	Eastern Diamondback Rattlesnake	E	-	S1	G4	Bladen - Current	Link
Reptile	*Crotalus adamanteus*	Eastern Diamondback Rattlesnake	E	-	S1	G4	Brunswick - Obscure	Link
Reptile	*Crotalus adamanteus*	Eastern Diamondback Rattlesnake	E	-	S1	G4	Carteret - Current	Link
Reptile	*Crotalus adamanteus*	Eastern Diamondback Rattlesnake	E	-	S1	G4	Columbus - Obscure	Link
Reptile	*Crotalus adamanteus*	Eastern Diamondback Rattlesnake	E	-	S1	G4	Craven - Obscure	Link
Reptile	*Crotalus adamanteus*	Eastern Diamondback Rattlesnake	E	-	S1	G4	Cumberland - Historic	Link
Reptile	*Crotalus adamanteus*	Eastern Diamondback Rattlesnake	E	-	S1	G4	Duplin - Obscure	Link
Reptile	*Crotalus adamanteus*	Eastern Diamondback Rattlesnake	E	-	S1	G4	Jones - Historic	Link
Reptile	*Crotalus adamanteus*	Eastern Diamondback Rattlesnake	E	-	S1	G4	New Hanover - Historic	Link
Reptile	*Crotalus adamanteus*	Eastern Diamondback Rattlesnake	E	-	S1	G4	Onslow - Current	Link
Reptile	*Crotalus adamanteus*	Eastern Diamondback Rattlesnake	E	-	S1	G4	Pender - Historic	Link
Reptile	*Crotalus adamanteus*	Eastern Diamondback Rattlesnake	E	-	S1	G4	Robeson - Historic	Link
Reptile	*Crotalus adamanteus*	Eastern Diamondback Rattlesnake	E	-	S1	G4	Sampson - Historic	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Alexander - Current	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Alleghany - Current	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Anson - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Ashe - Current	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Avery - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Beaufort - Obscure	Link

Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Bertie - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Bladen - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Brunswick - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Buncombe - Historic	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Burke - Current	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Camden - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Carteret - Current	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Catawba - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Cherokee - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Chowan - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Clay - Historic	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Cleveland - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Columbus - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Craven - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Cumberland - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Currituck - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Dare - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Davidson - Current	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Duplin - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Durham - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Gaston - Current	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Graham - Historic	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Granville - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Haywood - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Henderson - Current	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Hoke - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Hyde - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Jackson - Current	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Jones - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Lenoir - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Lincoln - Obscure	Link

Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Macon - Historic	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Madison - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	McDowell - Current	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Mitchell - Historic	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Montgomery - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Moore - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	New Hanover - Current	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Onslow - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Pamlico - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Pasquotank - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Pender - Current	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Perquimans - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Pitt - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Polk - Historic	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Randolph - Current	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Richmond - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Robeson - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Rutherford - Current	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Sampson - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Scotland - Current	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Stanly - Current	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Stokes - Current	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Surry - Historic	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Swain - Historic	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Transylvania - Historic	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Tyrrell - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Union - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Washington - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Watauga - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Wayne - Obscure	Link
Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Wilkes -	Link

Reptile	*Crotalus horridus*	Timber Rattlesnake	SC	-	S3	G4	Current Yancey - Obscure	Link
Reptile	*Dermochelys coriacea*	Leatherback	E	E	SAB,SZN	G2	Brunswick - Historic	Link
Reptile	*Dermochelys coriacea*	Leatherback	E	E	SAB,SZN	G2	Carteret - Current	Link
Reptile	*Dermochelys coriacea*	Leatherback	E	E	SAB,SZN	G2	Craven - Historic	Link
Reptile	*Dermochelys coriacea*	Leatherback	E	E	SAB,SZN	G2	Currituck - Historic	Link
Reptile	*Dermochelys coriacea*	Leatherback	E	E	SAB,SZN	G2	Dare - Current	Link
Reptile	*Dermochelys coriacea*	Leatherback	E	E	SAB,SZN	G2	Hyde - Current	Link
Reptile	*Dermochelys coriacea*	Leatherback	E	E	SAB,SZN	G2	Onslow - Current	Link
Reptile	*Eretmochelys imbricata*	Hawksbill	E	E	SZN	G3	Carteret - Historic	Link
Reptile	*Eretmochelys imbricata*	Hawksbill	E	E	SZN	G3	Dare - Current	Link
Reptile	*Glyptemys muhlenbergii*	Bog Turtle	T	T(S/A)	S2	G3	Alexander - Current	Link
Reptile	*Glyptemys muhlenbergii*	Bog Turtle	T	T(S/A)	S2	G3	Alleghany - Current	Link
Reptile	*Glyptemys muhlenbergii*	Bog Turtle	T	T(S/A)	S2	G3	Ashe - Current	Link
Reptile	*Glyptemys muhlenbergii*	Bog Turtle	T	T(S/A)	S2	G3	Avery - Current	Link
Reptile	*Glyptemys muhlenbergii*	Bog Turtle	T	T(S/A)	S2	G3	Buncombe - Current	Link
Reptile	*Glyptemys muhlenbergii*	Bog Turtle	T	T(S/A)	S2	G3	Burke - Current	Link
Reptile	*Glyptemys muhlenbergii*	Bog Turtle	T	T(S/A)	S2	G3	Cherokee - Current	Link
Reptile	*Glyptemys muhlenbergii*	Bog Turtle	T	T(S/A)	S2	G3	Clay - Current	Link
Reptile	*Glyptemys muhlenbergii*	Bog Turtle	T	T(S/A)	S2	G3	Forsyth - Current	Link
Reptile	*Glyptemys muhlenbergii*	Bog Turtle	T	T(S/A)	S2	G3	Gaston - Current	Link
Reptile	*Glyptemys muhlenbergii*	Bog Turtle	T	T(S/A)	S2	G3	Graham - Current	Link
Reptile	*Glyptemys muhlenbergii*	Bog Turtle	T	T(S/A)	S2	G3	Henderson - Current	Link
Reptile	*Glyptemys muhlenbergii*	Bog Turtle	T	T(S/A)	S2	G3	Iredell - Historic	Link
Reptile	*Glyptemys muhlenbergii*	Bog Turtle	T	T(S/A)	S2	G3	Macon - Current	Link
Reptile	*Glyptemys muhlenbergii*	Bog Turtle	T	T(S/A)	S2	G3	McDowell - Current	Link
Reptile	*Glyptemys muhlenbergii*	Bog Turtle	T	T(S/A)	S2	G3	Mitchell - Current	Link
Reptile	*Glyptemys muhlenbergii*	Bog Turtle	T	T(S/A)	S2	G3	Surry - Current	Link
Reptile	*Glyptemys muhlenbergii*	Bog Turtle	T	T(S/A)	S2	G3	Transylvania - Current	Link
Reptile	*Glyptemys muhlenbergii*	Bog Turtle	T	T(S/A)	S2	G3	Watauga - Current	Link
Reptile	*Glyptemys muhlenbergii*	Bog Turtle	T	T(S/A)	S2	G3	Wilkes - Current	Link
Reptile	*Glyptemys muhlenbergii*	Bog Turtle	T	T(S/A)	S2	G3	Yancey -	Link

							Current	
Reptile	*Heterodon simus*	Southern Hognose Snake	SC	FSC	S2	G2	Bladen - Current	Link
Reptile	*Heterodon simus*	Southern Hognose Snake	SC	FSC	S2	G2	Brunswick - Historic	Link
Reptile	*Heterodon simus*	Southern Hognose Snake	SC	FSC	S2	G2	Carteret - Obscure	Link
Reptile	*Heterodon simus*	Southern Hognose Snake	SC	FSC	S2	G2	Craven - Obscure	Link
Reptile	*Heterodon simus*	Southern Hognose Snake	SC	FSC	S2	G2	Cumberland - Obscure	Link
Reptile	*Heterodon simus*	Southern Hognose Snake	SC	FSC	S2	G2	Duplin - Obscure	Link
Reptile	*Heterodon simus*	Southern Hognose Snake	SC	FSC	S2	G2	Edgecombe - Obscure	Link
Reptile	*Heterodon simus*	Southern Hognose Snake	SC	FSC	S2	G2	Hoke - Current	Link
Reptile	*Heterodon simus*	Southern Hognose Snake	SC	FSC	S2	G2	Jones - Obscure	Link
Reptile	*Heterodon simus*	Southern Hognose Snake	SC	FSC	S2	G2	Moore - Current	Link
Reptile	*Heterodon simus*	Southern Hognose Snake	SC	FSC	S2	G2	New Hanover - Current	Link
Reptile	*Heterodon simus*	Southern Hognose Snake	SC	FSC	S2	G2	Onslow - Current	Link
Reptile	*Heterodon simus*	Southern Hognose Snake	SC	FSC	S2	G2	Pender - Current	Link
Reptile	*Heterodon simus*	Southern Hognose Snake	SC	FSC	S2	G2	Pitt - Obscure	Link
Reptile	*Heterodon simus*	Southern Hognose Snake	SC	FSC	S2	G2	Richmond - Obscure	Link
Reptile	*Heterodon simus*	Southern Hognose Snake	SC	FSC	S2	G2	Robeson - Current	Link
Reptile	*Heterodon simus*	Southern Hognose Snake	SC	FSC	S2	G2	Sampson - Current	Link
Reptile	*Heterodon simus*	Southern Hognose Snake	SC	FSC	S2	G2	Scotland - Current	Link
Reptile	*Heterodon simus*	Southern Hognose Snake	SC	FSC	S2	G2	Wake - Obscure	Link
Reptile	*Heterodon simus*	Southern Hognose Snake	SC	FSC	S2	G2	Wayne - Obscure	Link
Reptile	*Lampropeltis getula sticticeps*	Outer Banks Kingsnake	SC	-	S2	G5T2Q	Carteret - Historic	Link
Reptile	*Lampropeltis getula sticticeps*	Outer Banks Kingsnake	SC	-	S2	G5T2Q	Currituck - Historic	Link
Reptile	*Lampropeltis getula sticticeps*	Outer Banks Kingsnake	SC	-	S2	G5T2Q	Dare - Historic	Link
Reptile	*Lampropeltis getula sticticeps*	Outer Banks Kingsnake	SC	-	S2	G5T2Q	Hyde - Historic	Link
Reptile	*Lepidochelys kempii*	Atlantic Ridley	E	E	SAB,SZN	G1	Beaufort - Current	Link
Reptile	*Lepidochelys kempii*	Atlantic Ridley	E	E	SAB,SZN	G1	Brunswick - Current	Link
Reptile	*Lepidochelys kempii*	Atlantic Ridley	E	E	SAB,SZN	G1	Carteret - Historic	Link
Reptile	*Lepidochelys kempii*	Atlantic Ridley	E	E	SAB,SZN	G1	Dare - Current	Link
Reptile	*Lepidochelys kempii*	Atlantic Ridley	E	E	SAB,SZN	G1	Hyde - Current	Link
Reptile	*Lepidochelys kempii*	Atlantic Ridley	E	E	SAB,SZN	G1	Pamlico - Current	Link

Reptile	*Liochlorophis vernalis*	Smooth Green Snake	SC	-	SH	G5	Rutherford - Historic	Link
Reptile	*Malaclemys terrapin centrata*	Carolina Diamondback Terrapin	SC	-	S3	G4T4	Beaufort - Obscure	Link
Reptile	*Malaclemys terrapin centrata*	Carolina Diamondback Terrapin	SC	-	S3	G4T4	Brunswick - Obscure	Link
Reptile	*Malaclemys terrapin centrata*	Carolina Diamondback Terrapin	SC	-	S3	G4T4	Carteret - Current	Link
Reptile	*Malaclemys terrapin centrata*	Carolina Diamondback Terrapin	SC	-	S3	G4T4	Hyde - Obscure	Link
Reptile	*Malaclemys terrapin centrata*	Carolina Diamondback Terrapin	SC	-	S3	G4T4	New Hanover - Current	Link
Reptile	*Malaclemys terrapin centrata*	Carolina Diamondback Terrapin	SC	-	S3	G4T4	Onslow - Current	Link
Reptile	*Malaclemys terrapin centrata*	Carolina Diamondback Terrapin	SC	-	S3	G4T4	Pamlico - Current	Link
Reptile	*Malaclemys terrapin centrata*	Carolina Diamondback Terrapin	SC	-	S3	G4T4	Pender - Current	Link
Reptile	*Malaclemys terrapin terrapin*	Northern Diamondback Terrapin	SC	FSC	S3	G4T4	Dare - Obscure	Link
Reptile	*Micrurus fulvius*	Eastern Coral Snake	E	-	S1	G5	Bladen - Current	Link
Reptile	*Micrurus fulvius*	Eastern Coral Snake	E	-	S1	G5	Brunswick - Historic	Link
Reptile	*Micrurus fulvius*	Eastern Coral Snake	E	-	S1	G5	Cumberland - Historic	Link
Reptile	*Micrurus fulvius*	Eastern Coral Snake	E	-	S1	G5	Harnett - Obscure	Link
Reptile	*Micrurus fulvius*	Eastern Coral Snake	E	-	S1	G5	Hoke - Historic	Link
Reptile	*Micrurus fulvius*	Eastern Coral Snake	E	-	S1	G5	Moore - Obscure	Link
Reptile	*Micrurus fulvius*	Eastern Coral Snake	E	-	S1	G5	New Hanover - Current	Link
Reptile	*Micrurus fulvius*	Eastern Coral Snake	E	-	S1	G5	Onslow - Current	Link
Reptile	*Micrurus fulvius*	Eastern Coral Snake	E	-	S1	G5	Pender - Current	Link
Reptile	*Micrurus fulvius*	Eastern Coral Snake	E	-	S1	G5	Scotland - Obscure	Link
Reptile	*Nerodia sipedon williamengelsi*	Carolina Water Snake	SC	-	S3	G5T3	Beaufort - Current	Link
Reptile	*Nerodia sipedon williamengelsi*	Carolina Water Snake	SC	-	S3	G5T3	Carteret - Current	Link
Reptile	*Nerodia sipedon williamengelsi*	Carolina Water Snake	SC	-	S3	G5T3	Currituck - Current	Link
Reptile	*Nerodia sipedon williamengelsi*	Carolina Water Snake	SC	-	S3	G5T3	Dare - Current	Link
Reptile	*Nerodia sipedon williamengelsi*	Carolina Water Snake	SC	-	S3	G5T3	Hyde - Current	Link
Reptile	*Nerodia sipedon williamengelsi*	Carolina Water Snake	SC	-	S3	G5T3	Pamlico - Current	Link
Reptile	*Ophisaurus mimicus*	Mimic Glass Lizard	SC	FSC	S2	G3	Bladen - Historic	Link
Reptile	*Ophisaurus mimicus*	Mimic Glass Lizard	SC	FSC	S2	G3	Brunswick - Current	Link
Reptile	*Ophisaurus mimicus*	Mimic Glass Lizard	SC	FSC	S2	G3	Carteret - Current	Link
Reptile	*Ophisaurus mimicus*	Mimic Glass Lizard	SC	FSC	S2	G3	Columbus - Historic	Link

Reptile	*Ophisaurus mimicus*	Mimic Glass Lizard	SC	FSC	S2	G3	New Hanover - Historic	Link
Reptile	*Ophisaurus mimicus*	Mimic Glass Lizard	SC	FSC	S2	G3	Onslow - Current	Link
Reptile	*Ophisaurus mimicus*	Mimic Glass Lizard	SC	FSC	S2	G3	Sampson - Historic	Link
Reptile	*Pituophis melanoleucus melanoleucus*	Northern Pinesnake	SC	FSC	S3	G4T4	Brunswick - Current	Link
Reptile	*Pituophis melanoleucus melanoleucus*	Northern Pinesnake	SC	FSC	S3	G4T4	Cherokee - Historic	Link
Reptile	*Pituophis melanoleucus melanoleucus*	Northern Pinesnake	SC	FSC	S3	G4T4	Clay - Obscure	Link
Reptile	*Pituophis melanoleucus melanoleucus*	Northern Pinesnake	SC	FSC	S3	G4T4	Cumberland - Obscure	Link
Reptile	*Pituophis melanoleucus melanoleucus*	Northern Pinesnake	SC	FSC	S3	G4T4	Graham - Historic	Link
Reptile	*Pituophis melanoleucus melanoleucus*	Northern Pinesnake	SC	FSC	S3	G4T4	Harnett - Obscure	Link
Reptile	*Pituophis melanoleucus melanoleucus*	Northern Pinesnake	SC	FSC	S3	G4T4	Hoke - Current	Link
Reptile	*Pituophis melanoleucus melanoleucus*	Northern Pinesnake	SC	FSC	S3	G4T4	Montgomery - Current	Link
Reptile	*Pituophis melanoleucus melanoleucus*	Northern Pinesnake	SC	FSC	S3	G4T4	Moore - Current	Link
Reptile	*Pituophis melanoleucus melanoleucus*	Northern Pinesnake	SC	FSC	S3	G4T4	New Hanover - Historic	Link
Reptile	*Pituophis melanoleucus melanoleucus*	Northern Pinesnake	SC	FSC	S3	G4T4	Richmond - Current	Link
Reptile	*Pituophis melanoleucus melanoleucus*	Northern Pinesnake	SC	FSC	S3	G4T4	Rutherford - Obscure	Link
Reptile	*Pituophis melanoleucus melanoleucus*	Northern Pinesnake	SC	FSC	S3	G4T4	Scotland - Current	Link
Reptile	*Pituophis melanoleucus melanoleucus*	Northern Pinesnake	SC	FSC	S3	G4T4	Swain - Historic	Link
Reptile	*Sistrurus miliarius*	Pigmy Rattlesnake	SC	-	S3	G5	Beaufort - Current	Link
Reptile	*Sistrurus miliarius*	Pigmy Rattlesnake	SC	-	S3	G5	Bladen - Current	Link
Reptile	*Sistrurus miliarius*	Pigmy Rattlesnake	SC	-	S3	G5	Brunswick - Historic	Link
Reptile	*Sistrurus miliarius*	Pigmy Rattlesnake	SC	-	S3	G5	Carteret - Current	Link
Reptile	*Sistrurus miliarius*	Pigmy Rattlesnake	SC	-	S3	G5	Cleveland - Historic	Link
Reptile	*Sistrurus miliarius*	Pigmy Rattlesnake	SC	-	S3	G5	Craven - Current	Link
Reptile	*Sistrurus miliarius*	Pigmy Rattlesnake	SC	-	S3	G5	Cumberland - Obscure	Link
Reptile	*Sistrurus miliarius*	Pigmy Rattlesnake	SC	-	S3	G5	Gaston - Current	Link
Reptile	*Sistrurus miliarius*	Pigmy Rattlesnake	SC	-	S3	G5	Harnett - Obscure	Link
Reptile	*Sistrurus miliarius*	Pigmy Rattlesnake	SC	-	S3	G5	Hoke - Obscure	Link
Reptile	*Sistrurus miliarius*	Pigmy Rattlesnake	SC	-	S3	G5	Hyde - Current	Link
Reptile	*Sistrurus miliarius*	Pigmy Rattlesnake	SC	-	S3	G5	Montgomery - Obscure	Link
Reptile	*Sistrurus miliarius*	Pigmy Rattlesnake	SC	-	S3	G5	Moore - Current	Link

Reptile	*Sistrurus miliarius*	Pigmy Rattlesnake	SC	-	S3	G5	New Hanover - Current	Link
Reptile	*Sistrurus miliarius*	Pigmy Rattlesnake	SC	-	S3	G5	Onslow - Current	Link
Reptile	*Sistrurus miliarius*	Pigmy Rattlesnake	SC	-	S3	G5	Pender - Current	Link
Reptile	*Sistrurus miliarius*	Pigmy Rattlesnake	SC	-	S3	G5	Pitt - Current	Link
Reptile	*Sistrurus miliarius*	Pigmy Rattlesnake	SC	-	S3	G5	Richmond - Obscure	Link
Reptile	*Sistrurus miliarius*	Pigmy Rattlesnake	SC	-	S3	G5	Sampson - Current	Link
Reptile	*Sistrurus miliarius*	Pigmy Rattlesnake	SC	-	S3	G5	Scotland - Current	Link
Reptile	*Sternotherus minor*	Loggerhead Musk Turtle	SC	-	S1	G5	Cherokee - Current	Link
Reptile	*Sternotherus minor*	Loggerhead Musk Turtle	SC	-	S1	G5	Madison - Current	Link

NC NHP database updated: January, 2004.
Search performed on Monday, 7 November 2005 @ 11:42:40 EST
Explanation of Codes

NC NHP County Element Search Results

Returned Elements: 142 using:Amphibian LISTED
[Amphibian 142]

Major Group	Scientific Name	Common Name	State Status	Federal Status	State Rank	Global Rank	County - Status	Map - Habitat
Amphibian	*Ambystoma talpoideum*	Mole Salamander	SC	-	S2	G5	Alleghany - Historic	Link
Amphibian	*Ambystoma talpoideum*	Mole Salamander	SC	-	S2	G5	Buncombe - Current	Link
Amphibian	*Ambystoma talpoideum*	Mole Salamander	SC	-	S2	G5	Cherokee - Current	Link
Amphibian	*Ambystoma talpoideum*	Mole Salamander	SC	-	S2	G5	Guilford - Current	Link
Amphibian	*Ambystoma talpoideum*	Mole Salamander	SC	-	S2	G5	Henderson - Historic	Link
Amphibian	*Ambystoma talpoideum*	Mole Salamander	SC	-	S2	G5	Macon - Historic	Link
Amphibian	*Ambystoma talpoideum*	Mole Salamander	SC	-	S2	G5	Montgomery - Current	Link
Amphibian	*Ambystoma talpoideum*	Mole Salamander	SC	-	S2	G5	Person - Current	Link
Amphibian	*Ambystoma talpoideum*	Mole Salamander	SC	-	S2	G5	Polk - Current	Link
Amphibian	*Ambystoma talpoideum*	Mole Salamander	SC	-	S2	G5	Richmond - Current	Link
Amphibian	*Ambystoma talpoideum*	Mole Salamander	SC	-	S2	G5	Rockingham - Current	Link
Amphibian	*Ambystoma talpoideum*	Mole Salamander	SC	-	S2	G5	Rowan - Current	Link
Amphibian	*Ambystoma talpoideum*	Mole Salamander	SC	-	S2	G5	Surry - Current	Link
Amphibian	*Ambystoma talpoideum*	Mole Salamander	SC	-	S2	G5	Transylvania - Historic	Link
Amphibian	*Ambystoma talpoideum*	Mole Salamander	SC	-	S2	G5	Union - Current	Link
Amphibian	*Ambystoma tigrinum*	Eastern Tiger Salamander	T	-	S2	G5	Cumberland - Current	Link
Amphibian	*Ambystoma tigrinum*	Eastern Tiger Salamander	T	-	S2	G5	Hoke - Current	Link
Amphibian	*Ambystoma tigrinum*	Eastern Tiger Salamander	T	-	S2	G5	Richmond - Current	Link
Amphibian	*Ambystoma tigrinum*	Eastern Tiger Salamander	T	-	S2	G5	Robeson - Current	Link
Amphibian	*Ambystoma tigrinum*	Eastern Tiger Salamander	T	-	S2	G5	Scotland - Current	Link
Amphibian	*Ambystoma tigrinum*	Eastern Tiger Salamander	T	-	S2	G5	Wake - Current	Link
Amphibian	*Aneides aeneus*	Green Salamander	E	FSC	S2	G3G4	Henderson - Current	Link
Amphibian	*Aneides aeneus*	Green Salamander	E	FSC	S2	G3G4	Jackson - Current	Link
Amphibian	*Aneides aeneus*	Green Salamander	E	FSC	S2	G3G4	Macon - Current	Link
Amphibian	*Aneides aeneus*	Green Salamander	E	FSC	S2	G3G4	Rutherford - Current	Link
Amphibian	*Aneides aeneus*	Green Salamander	E	FSC	S2	G3G4	Transylvania - Current	Link
Amphibian	*Cryptobranchus alleganiensis*	Hellbender	SC	FSC	S3	G3G4	Alleghany - Current	Link
Amphibian	*Cryptobranchus alleganiensis*	Hellbender	SC	FSC	S3	G3G4	Ashe -	Link

							Current	
Amphibian	*Cryptobranchus alleganiensis*	Hellbender	SC	FSC	S3	G3G4	Avery - Historic	Link
Amphibian	*Cryptobranchus alleganiensis*	Hellbender	SC	FSC	S3	G3G4	Buncombe - Current	Link
Amphibian	*Cryptobranchus alleganiensis*	Hellbender	SC	FSC	S3	G3G4	Cherokee - Current	Link
Amphibian	*Cryptobranchus alleganiensis*	Hellbender	SC	FSC	S3	G3G4	Clay - Current	Link
Amphibian	*Cryptobranchus alleganiensis*	Hellbender	SC	FSC	S3	G3G4	Graham - Current	Link
Amphibian	*Cryptobranchus alleganiensis*	Hellbender	SC	FSC	S3	G3G4	Haywood - Current	Link
Amphibian	*Cryptobranchus alleganiensis*	Hellbender	SC	FSC	S3	G3G4	Henderson - Current	Link
Amphibian	*Cryptobranchus alleganiensis*	Hellbender	SC	FSC	S3	G3G4	Jackson - Current	Link
Amphibian	*Cryptobranchus alleganiensis*	Hellbender	SC	FSC	S3	G3G4	Macon - Current	Link
Amphibian	*Cryptobranchus alleganiensis*	Hellbender	SC	FSC	S3	G3G4	Madison - Current	Link
Amphibian	*Cryptobranchus alleganiensis*	Hellbender	SC	FSC	S3	G3G4	Mitchell - Current	Link
Amphibian	*Cryptobranchus alleganiensis*	Hellbender	SC	FSC	S3	G3G4	Swain - Obscure	Link
Amphibian	*Cryptobranchus alleganiensis*	Hellbender	SC	FSC	S3	G3G4	Transylvania - Current	Link
Amphibian	*Cryptobranchus alleganiensis*	Hellbender	SC	FSC	S3	G3G4	Watauga - Current	Link
Amphibian	*Cryptobranchus alleganiensis*	Hellbender	SC	FSC	S3	G3G4	Yancey - Current	Link
Amphibian	*Desmognathus aeneus*	Seepage Salamander	SR	FSC	S3	G3G4	Cherokee - Current	Link
Amphibian	*Desmognathus aeneus*	Seepage Salamander	SR	FSC	S3	G3G4	Clay - Historic	Link
Amphibian	*Desmognathus aeneus*	Seepage Salamander	SR	FSC	S3	G3G4	Graham - Current	Link
Amphibian	*Desmognathus aeneus*	Seepage Salamander	SR	FSC	S3	G3G4	Macon - Current	Link
Amphibian	*Eurycea junaluska*	Junaluska Salamander	T	FSC	S2	G3	Cherokee - Current	Link
Amphibian	*Eurycea junaluska*	Junaluska Salamander	T	FSC	S2	G3	Clay - Current	Link
Amphibian	*Eurycea junaluska*	Junaluska Salamander	T	FSC	S2	G3	Graham - Current	Link
Amphibian	*Eurycea longicauda*	Longtail Salamander	SC	-	S2	G5	Alleghany - Historic	Link
Amphibian	*Eurycea longicauda*	Longtail Salamander	SC	-	S2	G5	Clay - Historic	Link
Amphibian	*Eurycea longicauda*	Longtail Salamander	SC	-	S2	G5	Graham - Current	Link
Amphibian	*Eurycea longicauda*	Longtail Salamander	SC	-	S2	G5	Haywood - Historic	Link
Amphibian	*Eurycea longicauda*	Longtail Salamander	SC	-	S2	G5	Macon - Historic	Link
Amphibian	*Eurycea longicauda*	Longtail Salamander	SC	-	S2	G5	Watauga - Obscure	Link
Amphibian	*Eurycea quadridigitata pop 1*	Dwarf Salamander - Silver Morph	SC	-	S2	G5T2Q	Hoke - Current	Link
Amphibian	*Eurycea quadridigitata pop 1*	Dwarf Salamander - Silver Morph	SC	-	S2	G5T2Q	Robeson - Current	Link
Amphibian	*Eurycea quadridigitata pop 1*	Dwarf Salamander - Silver	SC	-	S2	G5T2Q	Scotland -	Link

		Morph					Current	
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Alamance - Obscure	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Avery - Current	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Bladen - Historic	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Buncombe - Historic	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Chatham - Current	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Cherokee - Obscure	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Cumberland - Historic	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Duplin - Historic	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Durham - Current	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Gates - Current	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Graham - Obscure	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Granville - Current	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Henderson - Historic	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Macon - Historic	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Mitchell - Historic	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Montgomery - Current	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Moore - Current	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Nash - Current	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Orange - Current	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Person - Current	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Polk - Obscure	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Randolph - Current	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Rockingham - Historic	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Surry - Current	Link
Amphibian	*Hemidactylium scutatum*	Four-toed Salamander	SC	-	S3	G5	Wake - Current	Link
Amphibian	*Necturus lewisi*	Neuse River Waterdog	SC	-	S3	G3	Beaufort - Historic	Link
Amphibian	*Necturus lewisi*	Neuse River Waterdog	SC	-	S3	G3	Craven - Historic	Link
Amphibian	*Necturus lewisi*	Neuse River Waterdog	SC	-	S3	G3	Durham - Current	Link
Amphibian	*Necturus lewisi*	Neuse River Waterdog	SC	-	S3	G3	Edgecombe - Current	Link
Amphibian	*Necturus lewisi*	Neuse River Waterdog	SC	-	S3	G3	Franklin - Current	Link
Amphibian	*Necturus lewisi*	Neuse River Waterdog	SC	-	S3	G3	Granville -	Link

							Historic	
Amphibian	*Necturus lewisi*	Neuse River Waterdog	SC	-	S3	G3	Greene - Historic	Link
Amphibian	*Necturus lewisi*	Neuse River Waterdog	SC	-	S3	G3	Halifax - Current	Link
Amphibian	*Necturus lewisi*	Neuse River Waterdog	SC	-	S3	G3	Johnston - Current	Link
Amphibian	*Necturus lewisi*	Neuse River Waterdog	SC	-	S3	G3	Jones - Current	Link
Amphibian	*Necturus lewisi*	Neuse River Waterdog	SC	-	S3	G3	Lenoir - Current	Link
Amphibian	*Necturus lewisi*	Neuse River Waterdog	SC	-	S3	G3	Nash - Current	Link
Amphibian	*Necturus lewisi*	Neuse River Waterdog	SC	-	S3	G3	Orange - Current	Link
Amphibian	*Necturus lewisi*	Neuse River Waterdog	SC	-	S3	G3	Person - Historic	Link
Amphibian	*Necturus lewisi*	Neuse River Waterdog	SC	-	S3	G3	Pitt - Historic	Link
Amphibian	*Necturus lewisi*	Neuse River Waterdog	SC	-	S3	G3	Vance - Historic	Link
Amphibian	*Necturus lewisi*	Neuse River Waterdog	SC	-	S3	G3	Wake - Current	Link
Amphibian	*Necturus lewisi*	Neuse River Waterdog	SC	-	S3	G3	Warren - Current	Link
Amphibian	*Necturus lewisi*	Neuse River Waterdog	SC	-	S3	G3	Wayne - Historic	Link
Amphibian	*Necturus lewisi*	Neuse River Waterdog	SC	-	S3	G3	Wilson - Historic	Link
Amphibian	*Necturus maculosus*	Common Mudpuppy	SC	-	SH	G5	Buncombe - Historic	Link
Amphibian	*Necturus maculosus*	Common Mudpuppy	SC	-	SH	G5	Henderson - Historic	Link
Amphibian	*Necturus maculosus*	Common Mudpuppy	SC	-	SH	G5	Transylvania - Historic	Link
Amphibian	*Plethodon ventralis*	Southern Zigzag Salamander	SC	-	S1	G4	Buncombe - Historic	Link
Amphibian	*Plethodon ventralis*	Southern Zigzag Salamander	SC	-	S1	G4	Haywood - Current	Link
Amphibian	*Plethodon ventralis*	Southern Zigzag Salamander	SC	-	S1	G4	Henderson - Historic	Link
Amphibian	*Plethodon ventralis*	Southern Zigzag Salamander	SC	-	S1	G4	Madison - Historic	Link
Amphibian	*Plethodon ventralis*	Southern Zigzag Salamander	SC	-	S1	G4	Yancey - Current	Link
Amphibian	*Plethodon wehrlei*	Wehrle's Salamander	T	-	S1	G5	Alleghany - Current	Link
Amphibian	*Plethodon wehrlei*	Wehrle's Salamander	T	-	S1	G5	Stokes - Current	Link
Amphibian	*Plethodon wehrlei*	Wehrle's Salamander	T	-	S1	G5	Surry - Current	Link
Amphibian	*Plethodon wehrlei*	Wehrle's Salamander	T	-	S1	G5	Wilkes - Current	Link
Amphibian	*Plethodon welleri*	Weller's Salamander	SC	-	S2	G3	Avery - Current	Link
Amphibian	*Plethodon welleri*	Weller's Salamander	SC	-	S2	G3	Mitchell - Current	Link
Amphibian	*Plethodon welleri*	Weller's Salamander	SC	-	S2	G3	Watauga - Current	Link
Amphibian	*Plethodon welleri*	Weller's Salamander	SC	-	S2	G3	Yancey - Current	Link
Amphibian	*Plethodon yonahlossee pop 1*	Crevice Salamander	SC	-	S1	G4T1Q	Buncombe - Historic	Link

Amphibian	*Plethodon yonahlossee pop 1*	Crevice Salamander	SC	-	S1	G4T1Q	Henderson - Obscure	Link
Amphibian	*Plethodon yonahlossee pop 1*	Crevice Salamander	SC	-	S1	G4T1Q	Rutherford - Current	Link
Amphibian	*Pseudacris brachyphona*	Mountain Chorus Frog	SC	-	S1	G5	Cherokee - Current	Link
Amphibian	*Pseudacris brachyphona*	Mountain Chorus Frog	SC	-	S1	G5	Haywood - Historic	Link
Amphibian	*Rana capito*	Carolina Gopher Frog	T	FSC	S2	G3	Beaufort - Historic	Link
Amphibian	*Rana capito*	Carolina Gopher Frog	T	FSC	S2	G3	Bladen - Historic	Link
Amphibian	*Rana capito*	Carolina Gopher Frog	T	FSC	S2	G3	Brunswick - Current	Link
Amphibian	*Rana capito*	Carolina Gopher Frog	T	FSC	S2	G3	Carteret - Current	Link
Amphibian	*Rana capito*	Carolina Gopher Frog	T	FSC	S2	G3	Hoke - Current	Link
Amphibian	*Rana capito*	Carolina Gopher Frog	T	FSC	S2	G3	Jones - Historic	Link
Amphibian	*Rana capito*	Carolina Gopher Frog	T	FSC	S2	G3	New Hanover - Historic	Link
Amphibian	*Rana capito*	Carolina Gopher Frog	T	FSC	S2	G3	Onslow - Current	Link
Amphibian	*Rana capito*	Carolina Gopher Frog	T	FSC	S2	G3	Pender - Current	Link
Amphibian	*Rana capito*	Carolina Gopher Frog	T	FSC	S2	G3	Robeson - Current	Link
Amphibian	*Rana capito*	Carolina Gopher Frog	T	FSC	S2	G3	Sampson - Current	Link
Amphibian	*Rana capito*	Carolina Gopher Frog	T	FSC	S2	G3	Scotland - Current	Link
Amphibian	*Rana heckscheri*	River Frog	SC	-	SH	G5	Cumberland - Historic	Link
Amphibian	*Rana heckscheri*	River Frog	SC	-	SH	G5	Moore - Historic	Link
Amphibian	*Rana heckscheri*	River Frog	SC	-	SH	G5	Robeson - Historic	Link
Amphibian	*Rana heckscheri*	River Frog	SC	-	SH	G5	Sampson - Historic	Link
Amphibian	*Rana heckscheri*	River Frog	SC	-	SH	G5	Scotland - Historic	Link

NC NHP database updated: January, 2004.
Search performed on Monday, 7 November 2005 @ 11:42:56 EST
Explanation of Codes

NC NHP County Element Search Results

Returned Elements: 7 using:Arachnid LISTED
[Arachnid 7]

Major Group	Scientific Name	Common Name	State Status	Federal Status	State Rank	Global Rank	County - Status	Map - Habitat
Arachnid	*Microhexura montivaga*	Spruce-fir Moss Spider	SR	E	S1	G1	Avery - Current	Link
Arachnid	*Microhexura montivaga*	Spruce-fir Moss Spider	SR	E	S1	G1	Caldwell - Current	Link
Arachnid	*Microhexura montivaga*	Spruce-fir Moss Spider	SR	E	S1	G1	Mitchell - Current	Link
Arachnid	*Microhexura montivaga*	Spruce-fir Moss Spider	SR	E	S1	G1	Swain - Historic	Link
Arachnid	*Microhexura montivaga*	Spruce-fir Moss Spider	SR	E	S1	G1	Yancey - Historic	Link
Arachnid	*Nesticus cooperi*	Lost Nantahala Cave Spider	SR	FSC	S1	G1G2	Macon - Current	Link
Arachnid	*Nesticus cooperi*	Lost Nantahala Cave Spider	SR	FSC	S1	G1G2	Swain - Obscure	Link

NC NHP database updated: January, 2004.
Search performed on Monday, 7 November 2005 @ 11:43:09 EST
Explanation of Codes

NC NHP County Element Search Results

Returned Elements: 84 using:Insect LISTED

[Insect 84]

Major Group	Scientific Name	Common Name	State Status	Federal Status	State Rank	Global Rank	County - Status	Map - Habitat
Insect	*Agrotis sp 1 nr buchholzi*	a dart moth	SR	FSC	S2S3	G2G3	Bladen - Obscure	Link
Insect	*Agrotis sp 1 nr buchholzi*	a dart moth	SR	FSC	S2S3	G2G3	Brunswick - Current	Link
Insect	*Agrotis sp 1 nr buchholzi*	a dart moth	SR	FSC	S2S3	G2G3	Craven - Obscure	Link
Insect	*Agrotis sp 1 nr buchholzi*	a dart moth	SR	FSC	S2S3	G2G3	Onslow - Obscure	Link
Insect	*Agrotis sp 1 nr buchholzi*	a dart moth	SR	FSC	S2S3	G2G3	Pender - Current	Link
Insect	*Atrytone arogos arogos*	Arogos Skipper	SR	FSC	S1	G3G4T1T2	Brunswick - Obscure	Link
Insect	*Atrytone arogos arogos*	Arogos Skipper	SR	FSC	S1	G3G4T1T2	Carteret - Current	Link
Insect	*Atrytone arogos arogos*	Arogos Skipper	SR	FSC	S1	G3G4T1T2	Moore - Historic	Link
Insect	*Atrytone arogos arogos*	Arogos Skipper	SR	FSC	S1	G3G4T1T2	New Hanover - Obscure	Link
Insect	*Atrytone arogos arogos*	Arogos Skipper	SR	FSC	S1	G3G4T1T2	Richmond - Obscure	Link
Insect	*Atrytonopsis sp 1*	an undescribed skipper	SR	FSC	S1?	G1?	Carteret - Current	Link
Insect	*Atrytonopsis sp 1*	an undescribed skipper	SR	FSC	S1?	G1?	Onslow - Current	Link
Insect	*Dolania americana*	American Sand Burrowing Mayfly	SR	FSC	S1	G4	Sampson - Historic	Link
Insect	*Gomphus consanguis*	Cherokee Clubtail	SR	FSC	S1S2	G2G3	Burke - Historic	Link
Insect	*Gomphus consanguis*	Cherokee Clubtail	SR	FSC	S1S2	G2G3	Davie - Historic	Link
Insect	*Gomphus septima*	Septima's Clubtail	SR	FSC	S1S3	G2	Chatham - Current	Link
Insect	*Gomphus septima*	Septima's Clubtail	SR	FSC	S1S3	G2	Durham - Historic	Link
Insect	*Gomphus septima*	Septima's Clubtail	SR	FSC	S1S3	G2	Lee - Current	Link
Insect	*Hemipachnobia subporphyrea*	Venus Flytrap Cutworm Moth	SR	FSC	S1?	G1	Bladen - Obscure	Link
Insect	*Hemipachnobia subporphyrea*	Venus Flytrap Cutworm Moth	SR	FSC	S1?	G1	Brunswick - Obscure	Link
Insect	*Hemipachnobia subporphyrea*	Venus Flytrap Cutworm Moth	SR	FSC	S1?	G1	Carteret - Obscure	Link
Insect	*Hemipachnobia subporphyrea*	Venus Flytrap Cutworm Moth	SR	FSC	S1?	G1	Pender - Current	Link
Insect	*Macromia margarita*	Mountain River Cruiser	SR	FSC	S2S3	G3	Burke - Current	Link
Insect	*Macromia margarita*	Mountain River Cruiser	SR	FSC	S2S3	G3	Caldwell - Obscure	Link
Insect	*Macromia margarita*	Mountain River Cruiser	SR	FSC	S2S3	G3	Macon - Obscure	Link
Insect	*Macromia margarita*	Mountain River Cruiser	SR	FSC	S2S3	G3	Transylvania - Historic	Link
Insect	*Neonympha mitchellii francisci*	Saint Francis' Satyr	SR	E	S1	G1G2T1	Cumberland - Current	Link

Insect	*Neonympha mitchellii francisci*	Saint Francis' Satyr	SR	E	S1	G1G2T1	Hoke - Current	Link
Insect	*Ophiogomphus edmundo*	Edmund's Snaketail	SR	FSC	S1?	G1G2	Burke - Current	Link
Insect	*Ophiogomphus edmundo*	Edmund's Snaketail	SR	FSC	S1?	G1G2	Caldwell - Current	Link
Insect	*Ophiogomphus howei*	Pygmy Snaketail	SR	FSC	S1S2	G3	Alleghany - Current	Link
Insect	*Ophiogomphus howei*	Pygmy Snaketail	SR	FSC	S1S2	G3	Ashe - Current	Link
Insect	*Ophiogomphus howei*	Pygmy Snaketail	SR	FSC	S1S2	G3	Burke - Current	Link
Insect	*Phyciodes batesii maconensis*	Tawny Crescent	SR	FSC	S1S2	G4T1T3	Buncombe - Historic	Link
Insect	*Phyciodes batesii maconensis*	Tawny Crescent	SR	FSC	S1S2	G4T1T3	Clay - Current	Link
Insect	*Phyciodes batesii maconensis*	Tawny Crescent	SR	FSC	S1S2	G4T1T3	Graham - Current	Link
Insect	*Phyciodes batesii maconensis*	Tawny Crescent	SR	FSC	S1S2	G4T1T3	Haywood - Current	Link
Insect	*Phyciodes batesii maconensis*	Tawny Crescent	SR	FSC	S1S2	G4T1T3	Jackson - Current	Link
Insect	*Phyciodes batesii maconensis*	Tawny Crescent	SR	FSC	S1S2	G4T1T3	Macon - Current	Link
Insect	*Phyciodes batesii maconensis*	Tawny Crescent	SR	FSC	S1S2	G4T1T3	Swain - Current	Link
Insect	*Problema bulenta*	Rare Skipper	SR	FSC	S1	G2G3	Brunswick - Current	Link
Insect	*Problema bulenta*	Rare Skipper	SR	FSC	S1	G2G3	New Hanover - Current	Link
Insect	*Progomphus bellei*	Belle's Sanddragon	SR	FSC	S1	G3	Bladen - Current	Link
Insect	*Pyreferra ceromatica*	Annointed Sallow Moth	SR	FSC	S1S3	GU	Craven - Obscure	Link
Insect	*Pyrgus wyandot*	Appalachian Checkered-skipper	SR	FSC	SH	G2	Polk - Historic	Link
Insect	*Pyrgus wyandot*	Appalachian Checkered-skipper	SR	FSC	SH	G2	Transylvania - Historic	Link
Insect	*Spartiniphaga carterae*	Carter's Noctuid Moth	SR	FSC	S2S3	G2G3	Bladen - Obscure	Link
Insect	*Spartiniphaga carterae*	Carter's Noctuid Moth	SR	FSC	S2S3	G2G3	Brunswick - Obscure	Link
Insect	*Spartiniphaga carterae*	Carter's Noctuid Moth	SR	FSC	S2S3	G2G3	Carteret - Historic	Link
Insect	*Spartiniphaga carterae*	Carter's Noctuid Moth	SR	FSC	S2S3	G2G3	Pender - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Alleghany - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Ashe - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Avery - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Buncombe - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Burke - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Caldwell - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Cherokee - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Clay -	Link

							Current	
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Cleveland - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Gaston - Obscure	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Graham - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Haywood - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Henderson - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Jackson - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Macon - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	McDowell - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Mitchell - Obscure	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Nash - Obscure	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Polk - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Rutherford - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Stokes - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Surry - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Swain - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Transylvania - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Wake - Obscure	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Watauga - Current	Link
Insect	*Speyeria diana*	Diana Fritillary	SR	FSC	S3	G3	Wilkes - Current	Link
Insect	*Speyeria idalia*	Regal Fritillary	SR	FSC	SH	G3	Alleghany - Historic	Link
Insect	*Speyeria idalia*	Regal Fritillary	SR	FSC	SH	G3	Ashe - Historic	Link
Insect	*Speyeria idalia*	Regal Fritillary	SR	FSC	SH	G3	Avery - Current	Link
Insect	*Speyeria idalia*	Regal Fritillary	SR	FSC	SH	G3	Wilkes - Historic	Link
Insect	*Stenelmis gammoni*	Gammon's Stenelmis Riffle Beetle	SR	FSC	S1?	G1G3	Ashe - Historic	Link
Insect	*Stylurus townesi*	Townes' Clubtail	SR	FSC	S1?	G3	Columbus - Historic	Link
Insect	*Stylurus townesi*	Townes' Clubtail	SR	FSC	S1?	G3	Robeson - Historic	Link

NC NHP database updated: January, 2004.
Search performed on Monday, 7 November 2005 @ 11:43:22 EST
Explanation of Codes

NC NHP County Element Search Results

Returned Elements: 809 using:Vascular Plant LISTED
[Vascular Plant 809]

Major Group	Scientific Name	Common Name	State Status	Federal Status	State Rank	Global Rank	County - Status	Map - Habitat
Vascular Plant	*Adiantum capillus-veneris*	Venus Hair Fern	E	-	S1	G5	Columbus - Current	Link
Vascular Plant	*Aeschynomene virginica*	Sensitive Jointvetch	E	T	S1	G2	Beaufort - Current	Link
Vascular Plant	*Aeschynomene virginica*	Sensitive Jointvetch	E	T	S1	G2	Craven - Historic	Link
Vascular Plant	*Aeschynomene virginica*	Sensitive Jointvetch	E	T	S1	G2	Hyde - Current	Link
Vascular Plant	*Aeschynomene virginica*	Sensitive Jointvetch	E	T	S1	G2	Lenoir - Historic	Link
Vascular Plant	*Agrostis mertensii*	Arctic Bentgrass	E	-	S1	G5	Avery - Current	Link
Vascular Plant	*Agrostis mertensii*	Arctic Bentgrass	E	-	S1	G5	Mitchell - Historic	Link
Vascular Plant	*Agrostis mertensii*	Arctic Bentgrass	E	-	S1	G5	Yancey - Historic	Link
Vascular Plant	*Allium sp 1*	Savanna Onion	SR-L	FSC	S1	G1	Brunswick - Current	Link
Vascular Plant	*Allium sp 1*	Savanna Onion	SR-L	FSC	S1	G1	Onslow - Current	Link
Vascular Plant	*Allium sp 1*	Savanna Onion	SR-L	FSC	S1	G1	Pender - Current	Link
Vascular Plant	*Amaranthus pumilus*	Seabeach Amaranth	T	T	S2	G2	Brunswick - Current	Link
Vascular Plant	*Amaranthus pumilus*	Seabeach Amaranth	T	T	S2	G2	Carteret - Current	Link
Vascular Plant	*Amaranthus pumilus*	Seabeach Amaranth	T	T	S2	G2	Currituck - Current	Link
Vascular Plant	*Amaranthus pumilus*	Seabeach Amaranth	T	T	S2	G2	Dare - Current	Link
Vascular Plant	*Amaranthus pumilus*	Seabeach Amaranth	T	T	S2	G2	Hyde - Current	Link
Vascular Plant	*Amaranthus pumilus*	Seabeach Amaranth	T	T	S2	G2	New Hanover - Current	Link
Vascular Plant	*Amaranthus pumilus*	Seabeach Amaranth	T	T	S2	G2	Onslow - Current	Link
Vascular Plant	*Amaranthus pumilus*	Seabeach Amaranth	T	T	S2	G2	Pender - Current	Link
Vascular Plant	*Amorpha georgiana var confusa*	Savanna Indigo-bush	T	FSC	S2	G3T2	Bladen - Historic	Link
Vascular Plant	*Amorpha georgiana var confusa*	Savanna Indigo-bush	T	FSC	S2	G3T2	Brunswick - Current	Link
Vascular Plant	*Amorpha georgiana var confusa*	Savanna Indigo-bush	T	FSC	S2	G3T2	Columbus - Current	Link
Vascular Plant	*Amorpha georgiana var confusa*	Savanna Indigo-bush	T	FSC	S2	G3T2	New Hanover - Historic	Link
Vascular Plant	*Amorpha georgiana var georgiana*	Georgia Indigo-bush	E	FSC	S2	G3T2	Cumberland - Current	Link
Vascular Plant	*Amorpha georgiana var georgiana*	Georgia Indigo-bush	E	FSC	S2	G3T2	Harnett - Current	Link
Vascular Plant	*Amorpha georgiana var georgiana*	Georgia Indigo-bush	E	FSC	S2	G3T2	Hoke - Current	Link
Vascular Plant	*Amorpha georgiana var georgiana*	Georgia Indigo-bush	E	FSC	S2	G3T2	Lee - Current	Link

Vascular Plant	*Amorpha georgiana var georgiana*	Georgia Indigo-bush	E	FSC	S2	G3T2	Lenoir - Historic	Link
Vascular Plant	*Amorpha georgiana var georgiana*	Georgia Indigo-bush	E	FSC	S2	G3T2	Moore - Current	Link
Vascular Plant	*Amorpha georgiana var georgiana*	Georgia Indigo-bush	E	FSC	S2	G3T2	Pender - Current	Link
Vascular Plant	*Amorpha georgiana var georgiana*	Georgia Indigo-bush	E	FSC	S2	G3T2	Richmond - Historic	Link
Vascular Plant	*Amorpha georgiana var georgiana*	Georgia Indigo-bush	E	FSC	S2	G3T2	Robeson - Historic	Link
Vascular Plant	*Amorpha georgiana var georgiana*	Georgia Indigo-bush	E	FSC	S2	G3T2	Scotland - Current	Link
Vascular Plant	*Arethusa bulbosa*	Bog Rose	E	-	S1	G4	Alleghany - Current	Link
Vascular Plant	*Arethusa bulbosa*	Bog Rose	E	-	S1	G4	Ashe - Historic	Link
Vascular Plant	*Arethusa bulbosa*	Bog Rose	E	-	S1	G4	Avery - Current	Link
Vascular Plant	*Arethusa bulbosa*	Bog Rose	E	-	S1	G4	Forsyth - Obscure	Link
Vascular Plant	*Arethusa bulbosa*	Bog Rose	E	-	S1	G4	Henderson - Historic	Link
Vascular Plant	*Arethusa bulbosa*	Bog Rose	E	-	S1	G4	Transylvania - Current	Link
Vascular Plant	*Asplenium heteroresiliens*	Carolina Spleenwort	E	FSC	S1	G2Q	Bladen - Historic	Link
Vascular Plant	*Asplenium heteroresiliens*	Carolina Spleenwort	E	FSC	S1	G2Q	Craven - Current	Link
Vascular Plant	*Asplenium heteroresiliens*	Carolina Spleenwort	E	FSC	S1	G2Q	Jones - Current	Link
Vascular Plant	*Asplenium heteroresiliens*	Carolina Spleenwort	E	FSC	S1	G2Q	Onslow - Historic	Link
Vascular Plant	*Asplenium monanthes*	Single-sorus Spleenwort	E	-	S1	G4	Transylvania - Current	Link
Vascular Plant	*Astilbe crenatiloba*	Roan False Goat's-beard	SR-T	FSC	SH	GHQ	Avery - Historic	Link
Vascular Plant	*Astilbe crenatiloba*	Roan False Goat's-beard	SR-T	FSC	SH	GHQ	Mitchell - Historic	Link
Vascular Plant	*Astragalus michauxii*	Sandhills Milk-vetch	T	FSC	S3	G3	Bladen - Historic	Link
Vascular Plant	*Astragalus michauxii*	Sandhills Milk-vetch	T	FSC	S3	G3	Cumberland - Current	Link
Vascular Plant	*Astragalus michauxii*	Sandhills Milk-vetch	T	FSC	S3	G3	Harnett - Current	Link
Vascular Plant	*Astragalus michauxii*	Sandhills Milk-vetch	T	FSC	S3	G3	Hoke - Current	Link
Vascular Plant	*Astragalus michauxii*	Sandhills Milk-vetch	T	FSC	S3	G3	Moore - Current	Link
Vascular Plant	*Astragalus michauxii*	Sandhills Milk-vetch	T	FSC	S3	G3	New Hanover - Historic	Link
Vascular Plant	*Astragalus michauxii*	Sandhills Milk-vetch	T	FSC	S3	G3	Pender - Current	Link
Vascular Plant	*Astragalus michauxii*	Sandhills Milk-vetch	T	FSC	S3	G3	Richmond - Current	Link
Vascular Plant	*Astragalus michauxii*	Sandhills Milk-vetch	T	FSC	S3	G3	Robeson - Historic	Link
Vascular Plant	*Astragalus michauxii*	Sandhills Milk-vetch	T	FSC	S3	G3	Sampson - Current	Link
Vascular Plant	*Astragalus michauxii*	Sandhills Milk-vetch	T	FSC	S3	G3	Scotland - Current	Link
Vascular	*Balduina atropurpurea*	Purple-disk Honeycomb-	SR-T	FSC	SH	G2G3	Brunswick -	Link

Plant		head					Historic	
Vascular Plant	*Baptisia minor var aberrans*	Prairie Blue Wild Indigo	T	-	S2	G5T4	Cabarrus - Historic	Link
Vascular Plant	*Baptisia minor var aberrans*	Prairie Blue Wild Indigo	T	-	S2	G5T4	Caswell - Historic	Link
Vascular Plant	*Baptisia minor var aberrans*	Prairie Blue Wild Indigo	T	-	S2	G5T4	Durham - Current	Link
Vascular Plant	*Baptisia minor var aberrans*	Prairie Blue Wild Indigo	T	-	S2	G5T4	Granville - Current	Link
Vascular Plant	*Baptisia minor var aberrans*	Prairie Blue Wild Indigo	T	-	S2	G5T4	Orange - Obscure	Link
Vascular Plant	*Baptisia minor var aberrans*	Prairie Blue Wild Indigo	T	-	S2	G5T4	Person - Historic	Link
Vascular Plant	*Baptisia minor var aberrans*	Prairie Blue Wild Indigo	T	-	S2	G5T4	Stanly - Current	Link
Vascular Plant	*Buckleya distichophylla*	Piratebush	E	FSC	S2	G2	Buncombe - Current	Link
Vascular Plant	*Buckleya distichophylla*	Piratebush	E	FSC	S2	G2	Haywood - Current	Link
Vascular Plant	*Buckleya distichophylla*	Piratebush	E	FSC	S2	G2	Macon - Current	Link
Vascular Plant	*Buckleya distichophylla*	Piratebush	E	FSC	S2	G2	Madison - Current	Link
Vascular Plant	*Buckleya distichophylla*	Piratebush	E	FSC	S2	G2	Mitchell - Current	Link
Vascular Plant	*Buckleya distichophylla*	Piratebush	E	FSC	S2	G2	Swain - Obscure	Link
Vascular Plant	*Calamagrostis cainii*	Cain's Reed Grass	E	FSC	S1	G1	Buncombe - Current	Link
Vascular Plant	*Calamagrostis cainii*	Cain's Reed Grass	E	FSC	S1	G1	Yancey - Current	Link
Vascular Plant	*Calopogon multiflorus*	Many-flower Grass-pink	E	FSC	S1	G2G3	Onslow - Current	Link
Vascular Plant	*Camassia scilloides*	Wild Hyacinth	T	-	S1	G4G5	Northampton - Historic	Link
Vascular Plant	*Camassia scilloides*	Wild Hyacinth	T	-	S1	G4G5	Vance - Current	Link
Vascular Plant	*Cardamine clematitis*	Mountain Bittercress	SR-T	FSC	S2	G2G3	Avery - Current	Link
Vascular Plant	*Cardamine clematitis*	Mountain Bittercress	SR-T	FSC	S2	G2G3	Caldwell - Current	Link
Vascular Plant	*Cardamine clematitis*	Mountain Bittercress	SR-T	FSC	S2	G2G3	Graham - Current	Link
Vascular Plant	*Cardamine clematitis*	Mountain Bittercress	SR-T	FSC	S2	G2G3	Haywood - Current	Link
Vascular Plant	*Cardamine clematitis*	Mountain Bittercress	SR-T	FSC	S2	G2G3	Jackson - Current	Link
Vascular Plant	*Cardamine clematitis*	Mountain Bittercress	SR-T	FSC	S2	G2G3	Mitchell - Current	Link
Vascular Plant	*Cardamine clematitis*	Mountain Bittercress	SR-T	FSC	S2	G2G3	Swain - Historic	Link
Vascular Plant	*Cardamine clematitis*	Mountain Bittercress	SR-T	FSC	S2	G2G3	Watauga - Current	Link
Vascular Plant	*Cardamine clematitis*	Mountain Bittercress	SR-T	FSC	S2	G2G3	Yancey - Historic	Link
Vascular Plant	*Cardamine micranthera*	Small-anthered Bittercress	E	E	S1	G1	Forsyth - Historic	Link
Vascular Plant	*Cardamine micranthera*	Small-anthered Bittercress	E	E	S1	G1	Stokes - Current	Link
Vascular Plant	*Carex aenea*	Bronze Sedge	E	-	S1	G5	Avery - Current	Link
Vascular	*Carex aenea*	Bronze Sedge	E	-	S1	G5	Mitchell -	Link

Plant							Current	
Vascular Plant	*Carex barrattii*	Barratt's Sedge	E	-	SH	G4	Harnett - Historic	Link
Vascular Plant	*Carex barrattii*	Barratt's Sedge	E	-	SH	G4	Henderson - Historic	Link
Vascular Plant	*Carex communis var amplisquama*	Fort Mountain Sedge	SR-T	FSC	S1	G3	Henderson - Current	Link
Vascular Plant	*Carex conoidea*	Cone-shaped Sedge	T	-	S1	G5	Ashe - Historic	Link
Vascular Plant	*Carex conoidea*	Cone-shaped Sedge	T	-	S1	G5	Iredell - Obscure	Link
Vascular Plant	*Carex exilis*	Coastal Sedge	T	-	S1	G5	Cumberland - Current	Link
Vascular Plant	*Carex exilis*	Coastal Sedge	T	-	S1	G5	Harnett - Current	Link
Vascular Plant	*Carex exilis*	Coastal Sedge	T	-	S1	G5	Hoke - Current	Link
Vascular Plant	*Carex exilis*	Coastal Sedge	T	-	S1	G5	Moore - Historic	Link
Vascular Plant	*Carex impressinervia*	Ravine Sedge	SR-T	FSC	S1	G1G2	Montgomery - Current	Link
Vascular Plant	*Carex lutea*	Golden Sedge	E	E	S1	G1	Onslow - Current	Link
Vascular Plant	*Carex lutea*	Golden Sedge	E	E	S1	G1	Pender - Current	Link
Vascular Plant	*Carex oligosperma*	Few-seeded Sedge	E	-	S1	G4	Avery - Current	Link
Vascular Plant	*Carex oligosperma*	Few-seeded Sedge	E	-	S1	G4	Mitchell - Current	Link
Vascular Plant	*Carex oligosperma*	Few-seeded Sedge	E	-	S1	G4	Watauga - Current	Link
Vascular Plant	*Carex radfordii*	Radford's Sedge	E	-	S1	G2	Jackson - Current	Link
Vascular Plant	*Carex roanensis*	Roan Sedge	SR-T	FSC	S1	G2	McDowell - Current	Link
Vascular Plant	*Carex roanensis*	Roan Sedge	SR-T	FSC	S1	G2	Mitchell - Current	Link
Vascular Plant	*Carex schweinitzii*	Schweinitz's Sedge	E	FSC	S1	G3	Henderson - Current	Link
Vascular Plant	*Carya myristiciformis*	Nutmeg Hickory	E	-	S1	G4	Pender - Current	Link
Vascular Plant	*Chelone cuthbertii*	Cuthbert's Turtlehead	SR-L	FSC	S3?	G3	Alleghany - Current	Link
Vascular Plant	*Chelone cuthbertii*	Cuthbert's Turtlehead	SR-L	FSC	S3?	G3	Ashe - Current	Link
Vascular Plant	*Chelone cuthbertii*	Cuthbert's Turtlehead	SR-L	FSC	S3?	G3	Avery - Historic	Link
Vascular Plant	*Chelone cuthbertii*	Cuthbert's Turtlehead	SR-L	FSC	S3?	G3	Burke - Current	Link
Vascular Plant	*Chelone cuthbertii*	Cuthbert's Turtlehead	SR-L	FSC	S3?	G3	Jackson - Current	Link
Vascular Plant	*Chelone cuthbertii*	Cuthbert's Turtlehead	SR-L	FSC	S3?	G3	Macon - Historic	Link
Vascular Plant	*Chelone cuthbertii*	Cuthbert's Turtlehead	SR-L	FSC	S3?	G3	McDowell - Current	Link
Vascular Plant	*Chelone cuthbertii*	Cuthbert's Turtlehead	SR-L	FSC	S3?	G3	Transylvania - Current	Link
Vascular Plant	*Chelone cuthbertii*	Cuthbert's Turtlehead	SR-L	FSC	S3?	G3	Yancey - Current	Link
Vascular Plant	*Chrysoma pauciflosculosa*	Woody Goldenrod	E	-	S1	G4G5	Columbus - Current	Link
Vascular	*Chrysoma pauciflosculosa*	Woody Goldenrod	E	-	S1	G4G5	Cumberland	Link

Plant							- Current	
Vascular Plant	*Chrysoma pauciflosculosa*	Woody Goldenrod	E	-	S1	G4G5	Robeson - Current	Link
Vascular Plant	*Conioselinum chinense*	Hemlock-parsley	E	-	S1	G5	Avery - Current	Link
Vascular Plant	*Cystopteris tennesseensis*	Tennessee Bladder-fern	E-SC	-	S1	G5	Craven - Historic	Link
Vascular Plant	*Cystopteris tennesseensis*	Tennessee Bladder-fern	E-SC	-	S1	G5	Graham - Historic	Link
Vascular Plant	*Cystopteris tennesseensis*	Tennessee Bladder-fern	E-SC	-	S1	G5	Jones - Current	Link
Vascular Plant	*Cystopteris tennesseensis*	Tennessee Bladder-fern	E-SC	-	S1	G5	Onslow - Historic	Link
Vascular Plant	*Dalibarda repens*	Robin Runaway	E	-	S1	G5	Alleghany - Current	Link
Vascular Plant	*Dalibarda repens*	Robin Runaway	E	-	S1	G5	Ashe - Current	Link
Vascular Plant	*Dalibarda repens*	Robin Runaway	E	-	S1	G5	Transylvania - Current	Link
Vascular Plant	*Danthonia epilis*	Bog Oatgrass	SR-T	FSC	S2?	G3?	Cumberland - Current	Link
Vascular Plant	*Danthonia epilis*	Bog Oatgrass	SR-T	FSC	S2?	G3?	Harnett - Current	Link
Vascular Plant	*Danthonia epilis*	Bog Oatgrass	SR-T	FSC	S2?	G3?	Moore - Current	Link
Vascular Plant	*Danthonia epilis*	Bog Oatgrass	SR-T	FSC	S2?	G3?	Richmond - Current	Link
Vascular Plant	*Danthonia epilis*	Bog Oatgrass	SR-T	FSC	S2?	G3?	Scotland - Current	Link
Vascular Plant	*Delphinium exaltatum*	Tall Larkspur	E-SC	FSC	S1	G3	Alleghany - Historic	Link
Vascular Plant	*Delphinium exaltatum*	Tall Larkspur	E-SC	FSC	S1	G3	Ashe - Current	Link
Vascular Plant	*Delphinium exaltatum*	Tall Larkspur	E-SC	FSC	S1	G3	Avery - Historic	Link
Vascular Plant	*Delphinium exaltatum*	Tall Larkspur	E-SC	FSC	S1	G3	Durham - Current	Link
Vascular Plant	*Delphinium exaltatum*	Tall Larkspur	E-SC	FSC	S1	G3	Granville - Current	Link
Vascular Plant	*Delphinium exaltatum*	Tall Larkspur	E-SC	FSC	S1	G3	Haywood - Current	Link
Vascular Plant	*Delphinium exaltatum*	Tall Larkspur	E-SC	FSC	S1	G3	Jackson - Current	Link
Vascular Plant	*Delphinium exaltatum*	Tall Larkspur	E-SC	FSC	S1	G3	McDowell - Obscure	Link
Vascular Plant	*Delphinium exaltatum*	Tall Larkspur	E-SC	FSC	S1	G3	Mecklenburg - Historic	Link
Vascular Plant	*Delphinium exaltatum*	Tall Larkspur	E-SC	FSC	S1	G3	Mitchell - Historic	Link
Vascular Plant	*Delphinium exaltatum*	Tall Larkspur	E-SC	FSC	S1	G3	Watauga - Current	Link
Vascular Plant	*Desmodium ochroleucum*	Creamy Tick-trefoil	SR-T	FSC	S1?	G2?	Davie - Historic	Link
Vascular Plant	*Desmodium ochroleucum*	Creamy Tick-trefoil	SR-T	FSC	S1?	G2?	Orange - Historic	Link
Vascular Plant	*Desmodium ochroleucum*	Creamy Tick-trefoil	SR-T	FSC	S1?	G2?	Swain - Historic	Link
Vascular Plant	*Dichanthelium hirstii*	Hirsts' Panic Grass	E	C	S1	G1	Onslow - Current	Link
Vascular Plant	*Dionaea muscipula*	Venus Flytrap	SR-L, SC	FSC	S3	G3	Beaufort - Current	Link
Vascular	*Dionaea muscipula*	Venus Flytrap	SR-L,	FSC	S3	G3	Bladen -	Link

Plant			SC				Current	
Vascular Plant	*Dionaea muscipula*	Venus Flytrap	SR-L, SC	FSC	S3	G3	Brunswick - Current	Link
Vascular Plant	*Dionaea muscipula*	Venus Flytrap	SR-L, SC	FSC	S3	G3	Carteret - Current	Link
Vascular Plant	*Dionaea muscipula*	Venus Flytrap	SR-L, SC	FSC	S3	G3	Columbus - Current	Link
Vascular Plant	*Dionaea muscipula*	Venus Flytrap	SR-L, SC	FSC	S3	G3	Craven - Current	Link
Vascular Plant	*Dionaea muscipula*	Venus Flytrap	SR-L, SC	FSC	S3	G3	Cumberland - Current	Link
Vascular Plant	*Dionaea muscipula*	Venus Flytrap	SR-L, SC	FSC	S3	G3	Duplin - Current	Link
Vascular Plant	*Dionaea muscipula*	Venus Flytrap	SR-L, SC	FSC	S3	G3	Hoke - Current	Link
Vascular Plant	*Dionaea muscipula*	Venus Flytrap	SR-L, SC	FSC	S3	G3	Jones - Historic	Link
Vascular Plant	*Dionaea muscipula*	Venus Flytrap	SR-L, SC	FSC	S3	G3	Lenoir - Historic	Link
Vascular Plant	*Dionaea muscipula*	Venus Flytrap	SR-L, SC	FSC	S3	G3	Moore - Historic	Link
Vascular Plant	*Dionaea muscipula*	Venus Flytrap	SR-L, SC	FSC	S3	G3	New Hanover - Current	Link
Vascular Plant	*Dionaea muscipula*	Venus Flytrap	SR-L, SC	FSC	S3	G3	Onslow - Current	Link
Vascular Plant	*Dionaea muscipula*	Venus Flytrap	SR-L, SC	FSC	S3	G3	Pamlico - Historic	Link
Vascular Plant	*Dionaea muscipula*	Venus Flytrap	SR-L, SC	FSC	S3	G3	Pender - Current	Link
Vascular Plant	*Dionaea muscipula*	Venus Flytrap	SR-L, SC	FSC	S3	G3	Robeson - Historic	Link
Vascular Plant	*Dionaea muscipula*	Venus Flytrap	SR-L, SC	FSC	S3	G3	Sampson - Current	Link
Vascular Plant	*Echinacea laevigata*	Smooth Coneflower	E-SC	E	S1	G2	Durham - Current	Link
Vascular Plant	*Echinacea laevigata*	Smooth Coneflower	E-SC	E	S1	G2	Granville - Current	Link
Vascular Plant	*Echinacea laevigata*	Smooth Coneflower	E-SC	E	S1	G2	Mecklenburg - Current	Link
Vascular Plant	*Echinacea laevigata*	Smooth Coneflower	E-SC	E	S1	G2	Montgomery - Historic	Link
Vascular Plant	*Echinacea laevigata*	Smooth Coneflower	E-SC	E	S1	G2	Orange - Historic	Link
Vascular Plant	*Echinacea laevigata*	Smooth Coneflower	E-SC	E	S1	G2	Rockingham - Current	Link
Vascular Plant	*Eleocharis halophila*	Saltmarsh Spikerush	T	-	S1	G4	Dare - Current	Link
Vascular Plant	*Eleocharis halophila*	Saltmarsh Spikerush	T	-	S1	G4	Hyde - Historic	Link
Vascular Plant	*Eupatorium resinosum*	Resinous Boneset (=Pine Barrens Boneset)	T-SC	-	S2S3	G3	Bladen - Historic	Link
Vascular Plant	*Eupatorium resinosum*	Resinous Boneset (=Pine Barrens Boneset)	T-SC	-	S2S3	G3	Cumberland - Current	Link
Vascular Plant	*Eupatorium resinosum*	Resinous Boneset (=Pine Barrens Boneset)	T-SC	-	S2S3	G3	Harnett - Current	Link
Vascular Plant	*Eupatorium resinosum*	Resinous Boneset (=Pine Barrens Boneset)	T-SC	-	S2S3	G3	Hoke - Current	Link
Vascular Plant	*Eupatorium resinosum*	Resinous Boneset (=Pine Barrens Boneset)	T-SC	-	S2S3	G3	Moore - Current	Link
Vascular Plant	*Eupatorium resinosum*	Resinous Boneset (=Pine Barrens Boneset)	T-SC	-	S2S3	G3	Sampson - Current	Link

Vascular Plant	*Eupatorium resinosum*	Resinous Boneset (=Pine Barrens Boneset)	T-SC	-	S2S3	G3	Scotland - Current	Link
Vascular Plant	*Euphorbia purpurea*	Glade Spurge	SR-T	FSC	S2	G3	Ashe - Historic	Link
Vascular Plant	*Euphorbia purpurea*	Glade Spurge	SR-T	FSC	S2	G3	Buncombe - Current	Link
Vascular Plant	*Euphorbia purpurea*	Glade Spurge	SR-T	FSC	S2	G3	Clay - Current	Link
Vascular Plant	*Euphorbia purpurea*	Glade Spurge	SR-T	FSC	S2	G3	Graham - Current	Link
Vascular Plant	*Euphorbia purpurea*	Glade Spurge	SR-T	FSC	S2	G3	Haywood - Current	Link
Vascular Plant	*Euphorbia purpurea*	Glade Spurge	SR-T	FSC	S2	G3	Jackson - Current	Link
Vascular Plant	*Euphorbia purpurea*	Glade Spurge	SR-T	FSC	S2	G3	Macon - Current	Link
Vascular Plant	*Euphorbia purpurea*	Glade Spurge	SR-T	FSC	S2	G3	Madison - Current	Link
Vascular Plant	*Euphorbia purpurea*	Glade Spurge	SR-T	FSC	S2	G3	Mitchell - Current	Link
Vascular Plant	*Euphorbia purpurea*	Glade Spurge	SR-T	FSC	S2	G3	Swain - Historic	Link
Vascular Plant	*Euphorbia purpurea*	Glade Spurge	SR-T	FSC	S2	G3	Watauga - Obscure	Link
Vascular Plant	*Euphorbia purpurea*	Glade Spurge	SR-T	FSC	S2	G3	Yancey - Current	Link
Vascular Plant	*Eurybia avita*	Alexander's Rock Aster	SR-T	FSC	SX	G3	Transylvania - Historic	Link
Vascular Plant	*Eurybia mirabilis*	Piedmont Aster	SR-T	FSC	S2	G2G3	Anson - Current	Link
Vascular Plant	*Eurybia mirabilis*	Piedmont Aster	SR-T	FSC	S2	G2G3	Macon - Historic	Link
Vascular Plant	*Eurybia mirabilis*	Piedmont Aster	SR-T	FSC	S2	G2G3	Mecklenburg - Current	Link
Vascular Plant	*Eurybia mirabilis*	Piedmont Aster	SR-T	FSC	S2	G2G3	Richmond - Current	Link
Vascular Plant	*Eurybia mirabilis*	Piedmont Aster	SR-T	FSC	S2	G2G3	Stanly - Current	Link
Vascular Plant	*Eurybia mirabilis*	Piedmont Aster	SR-T	FSC	S2	G2G3	Union - Current	Link
Vascular Plant	*Filipendula rubra*	Queen-of-the-prairie	E	-	S1	G4G5	Buncombe - Historic	Link
Vascular Plant	*Filipendula rubra*	Queen-of-the-prairie	E	-	S1	G4G5	Haywood - Historic	Link
Vascular Plant	*Filipendula rubra*	Queen-of-the-prairie	E	-	S1	G4G5	Macon - Current	Link
Vascular Plant	*Filipendula rubra*	Queen-of-the-prairie	E	-	S1	G4G5	Watauga - Historic	Link
Vascular Plant	*Filipendula rubra*	Queen-of-the-prairie	E	-	S1	G4G5	Yancey - Current	Link
Vascular Plant	*Fimbristylis perpusilla*	Harper's Fimbry	T	FSC	S1	G2	Brunswick - Current	Link
Vascular Plant	*Fimbristylis perpusilla*	Harper's Fimbry	T	FSC	S1	G2	Columbus - Current	Link
Vascular Plant	*Gentianopsis crinita*	Fringed Gentian	E-SC	-	S1	G5	Ashe - Current	Link
Vascular Plant	*Gentianopsis crinita*	Fringed Gentian	E-SC	-	S1	G5	Clay - Current	Link
Vascular Plant	*Gentianopsis crinita*	Fringed Gentian	E-SC	-	S1	G5	Macon - Obscure	Link
Vascular Plant	*Gentianopsis crinita*	Fringed Gentian	E-SC	-	S1	G5	Watauga - Current	Link

Vascular Plant	*Geum geniculatum*	Bent Avens	T	FSC	S2	G2	Avery - Current	Link
Vascular Plant	*Geum geniculatum*	Bent Avens	T	FSC	S2	G2	Caldwell - Current	Link
Vascular Plant	*Geum geniculatum*	Bent Avens	T	FSC	S2	G2	Mitchell - Current	Link
Vascular Plant	*Geum geniculatum*	Bent Avens	T	FSC	S2	G2	Watauga - Current	Link
Vascular Plant	*Geum radiatum*	Spreading Avens	E-SC	E	S1	G1	Ashe - Current	Link
Vascular Plant	*Geum radiatum*	Spreading Avens	E-SC	E	S1	G1	Avery - Current	Link
Vascular Plant	*Geum radiatum*	Spreading Avens	E-SC	E	S1	G1	Buncombe - Current	Link
Vascular Plant	*Geum radiatum*	Spreading Avens	E-SC	E	S1	G1	Burke - Historic	Link
Vascular Plant	*Geum radiatum*	Spreading Avens	E-SC	E	S1	G1	Mitchell - Current	Link
Vascular Plant	*Geum radiatum*	Spreading Avens	E-SC	E	S1	G1	Transylvania - Current	Link
Vascular Plant	*Geum radiatum*	Spreading Avens	E-SC	E	S1	G1	Watauga - Current	Link
Vascular Plant	*Geum radiatum*	Spreading Avens	E-SC	E	S1	G1	Yancey - Current	Link
Vascular Plant	*Glyceria nubigena*	Smoky Mountain Mannagrass	T	FSC	S2	G2	Graham - Current	Link
Vascular Plant	*Glyceria nubigena*	Smoky Mountain Mannagrass	T	FSC	S2	G2	Haywood - Current	Link
Vascular Plant	*Glyceria nubigena*	Smoky Mountain Mannagrass	T	FSC	S2	G2	Swain - Historic	Link
Vascular Plant	*Glyceria nubigena*	Smoky Mountain Mannagrass	T	FSC	S2	G2	Transylvania - Current	Link
Vascular Plant	*Grammitis nimbata*	West Indian Dwarf Polypody	E	FSC	S1	G4?	Macon - Current	Link
Vascular Plant	*Gymnocarpium appalachianum*	Appalachian Oak Fern	E	FSC	S1	G3	Ashe - Current	Link
Vascular Plant	*Helenium brevifolium*	Littleleaf Sneezeweed	E	-	S1	G3G4	Brunswick - Historic	Link
Vascular Plant	*Helenium brevifolium*	Littleleaf Sneezeweed	E	-	S1	G3G4	Clay - Historic	Link
Vascular Plant	*Helenium brevifolium*	Littleleaf Sneezeweed	E	-	S1	G3G4	Henderson - Historic	Link
Vascular Plant	*Helenium brevifolium*	Littleleaf Sneezeweed	E	-	S1	G3G4	Iredell - Current	Link
Vascular Plant	*Helenium brevifolium*	Littleleaf Sneezeweed	E	-	S1	G3G4	Lenoir - Historic	Link
Vascular Plant	*Helenium brevifolium*	Littleleaf Sneezeweed	E	-	S1	G3G4	Montgomery - Current	Link
Vascular Plant	*Helenium brevifolium*	Littleleaf Sneezeweed	E	-	S1	G3G4	Rowan - Historic	Link
Vascular Plant	*Helenium brevifolium*	Littleleaf Sneezeweed	E	-	S1	G3G4	Wake - Historic	Link
Vascular Plant	*Helenium vernale*	Spring Sneezeweed	E	-	S1	G4?	Brunswick - Current	Link
Vascular Plant	*Helenium vernale*	Spring Sneezeweed	E	-	S1	G4?	Columbus - Current	Link
Vascular Plant	*Helianthus schweinitzii*	Schweinitz's Sunflower	E	E	S2	G2	Anson - Current	Link
Vascular Plant	*Helianthus schweinitzii*	Schweinitz's Sunflower	E	E	S2	G2	Cabarrus - Current	Link
Vascular Plant	*Helianthus schweinitzii*	Schweinitz's Sunflower	E	E	S2	G2	Davidson - Current	Link

Vascular Plant	*Helianthus schweinitzii*	Schweinitz's Sunflower	E	E	S2	G2	Gaston - Current	Link
Vascular Plant	*Helianthus schweinitzii*	Schweinitz's Sunflower	E	E	S2	G2	Mecklenburg - Current	Link
Vascular Plant	*Helianthus schweinitzii*	Schweinitz's Sunflower	E	E	S2	G2	Montgomery - Current	Link
Vascular Plant	*Helianthus schweinitzii*	Schweinitz's Sunflower	E	E	S2	G2	Randolph - Current	Link
Vascular Plant	*Helianthus schweinitzii*	Schweinitz's Sunflower	E	E	S2	G2	Rowan - Current	Link
Vascular Plant	*Helianthus schweinitzii*	Schweinitz's Sunflower	E	E	S2	G2	Stanly - Current	Link
Vascular Plant	*Helianthus schweinitzii*	Schweinitz's Sunflower	E	E	S2	G2	Stokes - Historic	Link
Vascular Plant	*Helianthus schweinitzii*	Schweinitz's Sunflower	E	E	S2	G2	Surry - Current	Link
Vascular Plant	*Helianthus schweinitzii*	Schweinitz's Sunflower	E	E	S2	G2	Union - Current	Link
Vascular Plant	*Helonias bullata*	Swamp Pink	T-SC	T	S2	G3	Ashe - Current	Link
Vascular Plant	*Helonias bullata*	Swamp Pink	T-SC	T	S2	G3	Henderson - Current	Link
Vascular Plant	*Helonias bullata*	Swamp Pink	T-SC	T	S2	G3	Jackson - Current	Link
Vascular Plant	*Helonias bullata*	Swamp Pink	T-SC	T	S2	G3	Transylvania - Current	Link
Vascular Plant	*Hexastylis contracta*	Mountain Heartleaf	E	FSC	S1	G3	Buncombe - Current	Link
Vascular Plant	*Hexastylis contracta*	Mountain Heartleaf	E	FSC	S1	G3	Henderson - Current	Link
Vascular Plant	*Hexastylis naniflora*	Dwarf-flowered Heartleaf	T	T	S2	G2	Alexander - Current	Link
Vascular Plant	*Hexastylis naniflora*	Dwarf-flowered Heartleaf	T	T	S2	G2	Burke - Current	Link
Vascular Plant	*Hexastylis naniflora*	Dwarf-flowered Heartleaf	T	T	S2	G2	Caldwell - Current	Link
Vascular Plant	*Hexastylis naniflora*	Dwarf-flowered Heartleaf	T	T	S2	G2	Catawba - Current	Link
Vascular Plant	*Hexastylis naniflora*	Dwarf-flowered Heartleaf	T	T	S2	G2	Cleveland - Current	Link
Vascular Plant	*Hexastylis naniflora*	Dwarf-flowered Heartleaf	T	T	S2	G2	Lincoln - Current	Link
Vascular Plant	*Hexastylis naniflora*	Dwarf-flowered Heartleaf	T	T	S2	G2	Polk - Current	Link
Vascular Plant	*Hexastylis naniflora*	Dwarf-flowered Heartleaf	T	T	S2	G2	Rutherford - Current	Link
Vascular Plant	*Hexastylis rhombiformis*	French Broad Heartleaf	SR-L	FSC	S2	G2	Buncombe - Current	Link
Vascular Plant	*Hexastylis rhombiformis*	French Broad Heartleaf	SR-L	FSC	S2	G2	Henderson - Current	Link
Vascular Plant	*Hexastylis rhombiformis*	French Broad Heartleaf	SR-L	FSC	S2	G2	Polk - Current	Link
Vascular Plant	*Hexastylis rhombiformis*	French Broad Heartleaf	SR-L	FSC	S2	G2	Transylvania - Current	Link
Vascular Plant	*Hierochloe odorata*	Holy Grass	E	-	S1	G4G5	Ashe - Current	Link
Vascular Plant	*Hierochloe odorata*	Holy Grass	E	-	S1	G4G5	Macon - Current	Link
Vascular Plant	*Houstonia montana*	Roan Mountain Bluet	E	E	S2	G2Q	Ashe - Current	Link
Vascular Plant	*Houstonia montana*	Roan Mountain Bluet	E	E	S2	G2Q	Avery - Current	Link

Vascular Plant	*Houstonia montana*	Roan Mountain Bluet	E	E	S2	G2Q	Mitchell - Current	Link
Vascular Plant	*Houstonia montana*	Roan Mountain Bluet	E	E	S2	G2Q	Watauga - Current	Link
Vascular Plant	*Houstonia montana*	Roan Mountain Bluet	E	E	S2	G2Q	Yancey - Current	Link
Vascular Plant	*Hudsonia montana*	Mountain Golden-heather	E	T	S1	G1	Burke - Current	Link
Vascular Plant	*Hudsonia montana*	Mountain Golden-heather	E	T	S1	G1	McDowell - Current	Link
Vascular Plant	*Hydrastis canadensis*	Goldenseal	E-SC	-	S2	G4	Alleghany - Current	Link
Vascular Plant	*Hydrastis canadensis*	Goldenseal	E-SC	-	S2	G4	Buncombe - Current	Link
Vascular Plant	*Hydrastis canadensis*	Goldenseal	E-SC	-	S2	G4	Jackson - Current	Link
Vascular Plant	*Hydrastis canadensis*	Goldenseal	E-SC	-	S2	G4	Macon - Current	Link
Vascular Plant	*Hydrastis canadensis*	Goldenseal	E-SC	-	S2	G4	Madison - Historic	Link
Vascular Plant	*Hydrastis canadensis*	Goldenseal	E-SC	-	S2	G4	Polk - Current	Link
Vascular Plant	*Hydrastis canadensis*	Goldenseal	E-SC	-	S2	G4	Rockingham - Current	Link
Vascular Plant	*Hydrastis canadensis*	Goldenseal	E-SC	-	S2	G4	Stokes - Current	Link
Vascular Plant	*Hydrastis canadensis*	Goldenseal	E-SC	-	S2	G4	Swain - Current	Link
Vascular Plant	*Hydrastis canadensis*	Goldenseal	E-SC	-	S2	G4	Watauga - Historic	Link
Vascular Plant	*Hymenophyllum tayloriae*	Gorge Filmy Fern	E	-	S1S2	G1G2	Jackson - Current	Link
Vascular Plant	*Hymenophyllum tayloriae*	Gorge Filmy Fern	E	-	S1S2	G1G2	Macon - Current	Link
Vascular Plant	*Hypericum adpressum*	Bog St. John's-wort	SR-T	FSC	SH	G2G3	Halifax - Historic	Link
Vascular Plant	*Hypericum adpressum*	Bog St. John's-wort	SR-T	FSC	SH	G2G3	New Hanover - Historic	Link
Vascular Plant	*Hypericum adpressum*	Bog St. John's-wort	SR-T	FSC	SH	G2G3	Northampton - Historic	Link
Vascular Plant	*Ilex collina*	Long-stalked Holly	T	-	S1	G3	Swain - Current	Link
Vascular Plant	*Ilex collina*	Long-stalked Holly	T	-	S1	G3	Watauga - Current	Link
Vascular Plant	*Isoetes piedmontana*	Piedmont Quillwort	T	-	S1	G3	Anson - Current	Link
Vascular Plant	*Isoetes piedmontana*	Piedmont Quillwort	T	-	S1	G3	Franklin - Current	Link
Vascular Plant	*Isoetes piedmontana*	Piedmont Quillwort	T	-	S1	G3	Granville - Current	Link
Vascular Plant	*Isoetes piedmontana*	Piedmont Quillwort	T	-	S1	G3	Rowan - Historic	Link
Vascular Plant	*Isoetes piedmontana*	Piedmont Quillwort	T	-	S1	G3	Rutherford - Current	Link
Vascular Plant	*Isoetes piedmontana*	Piedmont Quillwort	T	-	S1	G3	Wake - Historic	Link
Vascular Plant	*Isoetes virginica*	Virginia Quillwort	SR-L	FSC	S1	G1	Caswell - Historic	Link
Vascular Plant	*Isoetes virginica*	Virginia Quillwort	SR-L	FSC	S1	G1	Chatham - Historic	Link
Vascular	*Isoetes virginica*	Virginia Quillwort	SR-L	FSC	S1	G1	Mecklenburg	Link

Plant							- Historic	
Vascular Plant	*Isoetes virginica*	Virginia Quillwort	SR-L	FSC	S1	G1	Person - Current	Link
Vascular Plant	*Isoetes virginica*	Virginia Quillwort	SR-L	FSC	S1	G1	Rowan - Historic	Link
Vascular Plant	*Isoetes virginica*	Virginia Quillwort	SR-L	FSC	S1	G1	Union - Historic	Link
Vascular Plant	*Isotria medeoloides*	Small Whorled Pogonia	E	T	S1	G2	Burke - Current	Link
Vascular Plant	*Isotria medeoloides*	Small Whorled Pogonia	E	T	S1	G2	Cherokee - Current	Link
Vascular Plant	*Isotria medeoloides*	Small Whorled Pogonia	E	T	S1	G2	Cumberland - Obscure	Link
Vascular Plant	*Isotria medeoloides*	Small Whorled Pogonia	E	T	S1	G2	Harnett - Obscure	Link
Vascular Plant	*Isotria medeoloides*	Small Whorled Pogonia	E	T	S1	G2	Haywood - Current	Link
Vascular Plant	*Isotria medeoloides*	Small Whorled Pogonia	E	T	S1	G2	Henderson - Current	Link
Vascular Plant	*Isotria medeoloides*	Small Whorled Pogonia	E	T	S1	G2	Jackson - Current	Link
Vascular Plant	*Isotria medeoloides*	Small Whorled Pogonia	E	T	S1	G2	Macon - Current	Link
Vascular Plant	*Isotria medeoloides*	Small Whorled Pogonia	E	T	S1	G2	McDowell - Current	Link
Vascular Plant	*Isotria medeoloides*	Small Whorled Pogonia	E	T	S1	G2	Orange - Historic	Link
Vascular Plant	*Isotria medeoloides*	Small Whorled Pogonia	E	T	S1	G2	Rutherford - Current	Link
Vascular Plant	*Isotria medeoloides*	Small Whorled Pogonia	E	T	S1	G2	Surry - Historic	Link
Vascular Plant	*Isotria medeoloides*	Small Whorled Pogonia	E	T	S1	G2	Transylvania - Current	Link
Vascular Plant	*Juncus caesariensis*	Rough Rush (=New Jersey Rush)	E	FSC	S1	G2	Clay - Current	Link
Vascular Plant	*Juncus caesariensis*	Rough Rush (=New Jersey Rush)	E	FSC	S1	G2	Henderson - Current	Link
Vascular Plant	*Juncus trifidus*	Highland Rush	E	-	S1	G5	Ashe - Current	Link
Vascular Plant	*Juncus trifidus*	Highland Rush	E	-	S1	G5	Buncombe - Current	Link
Vascular Plant	*Juncus trifidus*	Highland Rush	E	-	S1	G5	Mitchell - Current	Link
Vascular Plant	*Liatris helleri*	Heller's Blazing Star	T-SC	T	S2	G2	Ashe - Current	Link
Vascular Plant	*Liatris helleri*	Heller's Blazing Star	T-SC	T	S2	G2	Avery - Current	Link
Vascular Plant	*Liatris helleri*	Heller's Blazing Star	T-SC	T	S2	G2	Burke - Current	Link
Vascular Plant	*Liatris helleri*	Heller's Blazing Star	T-SC	T	S2	G2	Caldwell - Current	Link
Vascular Plant	*Liatris helleri*	Heller's Blazing Star	T-SC	T	S2	G2	Mitchell - Historic	Link
Vascular Plant	*Liatris helleri*	Heller's Blazing Star	T-SC	T	S2	G2	Watauga - Current	Link
Vascular Plant	*Lilaeopsis carolinensis*	Carolina Grasswort	T	-	S3	G3G5	Brunswick - Current	Link
Vascular Plant	*Lilaeopsis carolinensis*	Carolina Grasswort	T	-	S3	G3G5	Camden - Current	Link
Vascular Plant	*Lilaeopsis carolinensis*	Carolina Grasswort	T	-	S3	G3G5	Currituck - Current	Link
Vascular	*Lilaeopsis carolinensis*	Carolina Grasswort	T	-	S3	G3G5	Dare -	Link

Plant							Current	
Vascular Plant	*Lilaeopsis carolinensis*	Carolina Grasswort	T	-	S3	G3G5	Hyde - Current	Link
Vascular Plant	*Lilaeopsis carolinensis*	Carolina Grasswort	T	-	S3	G3G5	New Hanover - Current	Link
Vascular Plant	*Lilaeopsis carolinensis*	Carolina Grasswort	T	-	S3	G3G5	Pasquotank - Current	Link
Vascular Plant	*Lilaeopsis carolinensis*	Carolina Grasswort	T	-	S3	G3G5	Perquimans - Current	Link
Vascular Plant	*Lilaeopsis carolinensis*	Carolina Grasswort	T	-	S3	G3G5	Washington - Current	Link
Vascular Plant	*Lilium grayi*	Gray's Lily	T-SC	FSC	S3	G3	Alleghany - Current	Link
Vascular Plant	*Lilium grayi*	Gray's Lily	T-SC	FSC	S3	G3	Ashe - Current	Link
Vascular Plant	*Lilium grayi*	Gray's Lily	T-SC	FSC	S3	G3	Avery - Current	Link
Vascular Plant	*Lilium grayi*	Gray's Lily	T-SC	FSC	S3	G3	Buncombe - Current	Link
Vascular Plant	*Lilium grayi*	Gray's Lily	T-SC	FSC	S3	G3	Caldwell - Current	Link
Vascular Plant	*Lilium grayi*	Gray's Lily	T-SC	FSC	S3	G3	Henderson - Historic	Link
Vascular Plant	*Lilium grayi*	Gray's Lily	T-SC	FSC	S3	G3	McDowell - Current	Link
Vascular Plant	*Lilium grayi*	Gray's Lily	T-SC	FSC	S3	G3	Mitchell - Current	Link
Vascular Plant	*Lilium grayi*	Gray's Lily	T-SC	FSC	S3	G3	Watauga - Current	Link
Vascular Plant	*Lilium grayi*	Gray's Lily	T-SC	FSC	S3	G3	Yancey - Current	Link
Vascular Plant	*Lilium pyrophilum*	Sandhills Lily	E-SC	-	S1	G2?Q	Cumberland - Current	Link
Vascular Plant	*Lilium pyrophilum*	Sandhills Lily	E-SC	-	S1	G2?Q	Harnett - Current	Link
Vascular Plant	*Lilium pyrophilum*	Sandhills Lily	E-SC	-	S1	G2?Q	Hoke - Current	Link
Vascular Plant	*Lilium pyrophilum*	Sandhills Lily	E-SC	-	S1	G2?Q	Lee - Current	Link
Vascular Plant	*Lilium pyrophilum*	Sandhills Lily	E-SC	-	S1	G2?Q	Moore - Current	Link
Vascular Plant	*Lilium pyrophilum*	Sandhills Lily	E-SC	-	S1	G2?Q	Nash - Historic	Link
Vascular Plant	*Lilium pyrophilum*	Sandhills Lily	E-SC	-	S1	G2?Q	Northampton - Historic	Link
Vascular Plant	*Lilium pyrophilum*	Sandhills Lily	E-SC	-	S1	G2?Q	Richmond - Current	Link
Vascular Plant	*Lilium pyrophilum*	Sandhills Lily	E-SC	-	S1	G2?Q	Scotland - Current	Link
Vascular Plant	*Lindera melissifolia*	Southern Spicebush	E	E	S1	G2	Bladen - Historic	Link
Vascular Plant	*Lindera melissifolia*	Southern Spicebush	E	E	S1	G2	Cumberland - Current	Link
Vascular Plant	*Lindera melissifolia*	Southern Spicebush	E	E	S1	G2	Sampson - Current	Link
Vascular Plant	*Lindera subcoriacea*	Bog Spicebush	T	FSC	S2	G2	Anson - Historic	Link
Vascular Plant	*Lindera subcoriacea*	Bog Spicebush	T	FSC	S2	G2	Cumberland - Current	Link
Vascular Plant	*Lindera subcoriacea*	Bog Spicebush	T	FSC	S2	G2	Hoke - Current	Link

Vascular Plant	*Lindera subcoriacea*	Bog Spicebush	T	FSC	S2	G2	Johnston - Current	Link
Vascular Plant	*Lindera subcoriacea*	Bog Spicebush	T	FSC	S2	G2	Lee - Current	Link
Vascular Plant	*Lindera subcoriacea*	Bog Spicebush	T	FSC	S2	G2	Montgomery - Current	Link
Vascular Plant	*Lindera subcoriacea*	Bog Spicebush	T	FSC	S2	G2	Moore - Current	Link
Vascular Plant	*Lindera subcoriacea*	Bog Spicebush	T	FSC	S2	G2	Richmond - Current	Link
Vascular Plant	*Lindera subcoriacea*	Bog Spicebush	T	FSC	S2	G2	Robeson - Current	Link
Vascular Plant	*Lindera subcoriacea*	Bog Spicebush	T	FSC	S2	G2	Scotland - Current	Link
Vascular Plant	*Lindera subcoriacea*	Bog Spicebush	T	FSC	S2	G2	Wake - Current	Link
Vascular Plant	*Litsea aestivalis*	Pondspice	SR-T	FSC	S2	G3	Bladen - Current	Link
Vascular Plant	*Litsea aestivalis*	Pondspice	SR-T	FSC	S2	G3	Brunswick - Current	Link
Vascular Plant	*Litsea aestivalis*	Pondspice	SR-T	FSC	S2	G3	Carteret - Current	Link
Vascular Plant	*Litsea aestivalis*	Pondspice	SR-T	FSC	S2	G3	Craven - Current	Link
Vascular Plant	*Litsea aestivalis*	Pondspice	SR-T	FSC	S2	G3	Cumberland - Current	Link
Vascular Plant	*Litsea aestivalis*	Pondspice	SR-T	FSC	S2	G3	Gates - Current	Link
Vascular Plant	*Litsea aestivalis*	Pondspice	SR-T	FSC	S2	G3	Hoke - Historic	Link
Vascular Plant	*Litsea aestivalis*	Pondspice	SR-T	FSC	S2	G3	New Hanover - Current	Link
Vascular Plant	*Litsea aestivalis*	Pondspice	SR-T	FSC	S2	G3	Onslow - Current	Link
Vascular Plant	*Litsea aestivalis*	Pondspice	SR-T	FSC	S2	G3	Sampson - Current	Link
Vascular Plant	*Litsea aestivalis*	Pondspice	SR-T	FSC	S2	G3	Wayne - Current	Link
Vascular Plant	*Lobelia boykinii*	Boykin's Lobelia	T	FSC	S1	G2G3	Bladen - Historic	Link
Vascular Plant	*Lobelia boykinii*	Boykin's Lobelia	T	FSC	S1	G2G3	Cumberland - Current	Link
Vascular Plant	*Lobelia boykinii*	Boykin's Lobelia	T	FSC	S1	G2G3	Hoke - Current	Link
Vascular Plant	*Lobelia boykinii*	Boykin's Lobelia	T	FSC	S1	G2G3	Onslow - Current	Link
Vascular Plant	*Lobelia boykinii*	Boykin's Lobelia	T	FSC	S1	G2G3	Scotland - Current	Link
Vascular Plant	*Lophiola aurea*	Golden Crest	E	-	S1	G4	Brunswick - Current	Link
Vascular Plant	*Lophiola aurea*	Golden Crest	E	-	S1	G4	Columbus - Current	Link
Vascular Plant	*Lophiola aurea*	Golden Crest	E	-	S1	G4	New Hanover - Current	Link
Vascular Plant	*Lophiola aurea*	Golden Crest	E	-	S1	G4	Onslow - Current	Link
Vascular Plant	*Lotus helleri*	Carolina Birdfoot-trefoil	SR-T	FSC	S3	G5T3	Cabarrus - Current	Link
Vascular Plant	*Lotus helleri*	Carolina Birdfoot-trefoil	SR-T	FSC	S3	G5T3	Caswell - Historic	Link

Vascular Plant	*Lotus helleri*	Carolina Birdfoot-trefoil	SR-T	FSC	S3	G5T3	Davidson - Current	Link
Vascular Plant	*Lotus helleri*	Carolina Birdfoot-trefoil	SR-T	FSC	S3	G5T3	Davie - Historic	Link
Vascular Plant	*Lotus helleri*	Carolina Birdfoot-trefoil	SR-T	FSC	S3	G5T3	Granville - Current	Link
Vascular Plant	*Lotus helleri*	Carolina Birdfoot-trefoil	SR-T	FSC	S3	G5T3	Iredell - Historic	Link
Vascular Plant	*Lotus helleri*	Carolina Birdfoot-trefoil	SR-T	FSC	S3	G5T3	Mecklenburg - Current	Link
Vascular Plant	*Lotus helleri*	Carolina Birdfoot-trefoil	SR-T	FSC	S3	G5T3	Moore - Current	Link
Vascular Plant	*Lotus helleri*	Carolina Birdfoot-trefoil	SR-T	FSC	S3	G5T3	Person - Historic	Link
Vascular Plant	*Lotus helleri*	Carolina Birdfoot-trefoil	SR-T	FSC	S3	G5T3	Rockingham - Current	Link
Vascular Plant	*Lotus helleri*	Carolina Birdfoot-trefoil	SR-T	FSC	S3	G5T3	Rowan - Current	Link
Vascular Plant	*Lotus helleri*	Carolina Birdfoot-trefoil	SR-T	FSC	S3	G5T3	Stanly - Current	Link
Vascular Plant	*Lotus helleri*	Carolina Birdfoot-trefoil	SR-T	FSC	S3	G5T3	Union - Current	Link
Vascular Plant	*Lotus helleri*	Carolina Birdfoot-trefoil	SR-T	FSC	S3	G5T3	Warren - Historic	Link
Vascular Plant	*Lysimachia asperulifolia*	Rough-leaf Loosestrife	E	E	S3	G3	Beaufort - Current	Link
Vascular Plant	*Lysimachia asperulifolia*	Rough-leaf Loosestrife	E	E	S3	G3	Bladen - Current	Link
Vascular Plant	*Lysimachia asperulifolia*	Rough-leaf Loosestrife	E	E	S3	G3	Brunswick - Current	Link
Vascular Plant	*Lysimachia asperulifolia*	Rough-leaf Loosestrife	E	E	S3	G3	Carteret - Current	Link
Vascular Plant	*Lysimachia asperulifolia*	Rough-leaf Loosestrife	E	E	S3	G3	Columbus - Historic	Link
Vascular Plant	*Lysimachia asperulifolia*	Rough-leaf Loosestrife	E	E	S3	G3	Cumberland - Current	Link
Vascular Plant	*Lysimachia asperulifolia*	Rough-leaf Loosestrife	E	E	S3	G3	Harnett - Current	Link
Vascular Plant	*Lysimachia asperulifolia*	Rough-leaf Loosestrife	E	E	S3	G3	Hoke - Current	Link
Vascular Plant	*Lysimachia asperulifolia*	Rough-leaf Loosestrife	E	E	S3	G3	New Hanover - Current	Link
Vascular Plant	*Lysimachia asperulifolia*	Rough-leaf Loosestrife	E	E	S3	G3	Onslow - Current	Link
Vascular Plant	*Lysimachia asperulifolia*	Rough-leaf Loosestrife	E	E	S3	G3	Pamlico - Current	Link
Vascular Plant	*Lysimachia asperulifolia*	Rough-leaf Loosestrife	E	E	S3	G3	Pender - Current	Link
Vascular Plant	*Lysimachia asperulifolia*	Rough-leaf Loosestrife	E	E	S3	G3	Richmond - Current	Link
Vascular Plant	*Lysimachia asperulifolia*	Rough-leaf Loosestrife	E	E	S3	G3	Scotland - Current	Link
Vascular Plant	*Lysimachia fraseri*	Fraser's Loosestrife	E	FSC	S2	G2	Buncombe - Historic	Link
Vascular Plant	*Lysimachia fraseri*	Fraser's Loosestrife	E	FSC	S2	G2	Haywood - Obscure	Link
Vascular Plant	*Lysimachia fraseri*	Fraser's Loosestrife	E	FSC	S2	G2	Henderson - Obscure	Link
Vascular Plant	*Lysimachia fraseri*	Fraser's Loosestrife	E	FSC	S2	G2	Jackson - Current	Link
Vascular	*Lysimachia fraseri*	Fraser's Loosestrife	E	FSC	S2	G2	Macon -	Link

Plant							Current	
Vascular Plant	*Lysimachia fraseri*	Fraser's Loosestrife	E	FSC	S2	G2	Transylvania - Current	Link
Vascular Plant	*Macbridea caroliniana*	Carolina Bogmint	T	FSC	S2	G2G3	Bladen - Current	Link
Vascular Plant	*Macbridea caroliniana*	Carolina Bogmint	T	FSC	S2	G2G3	Brunswick - Current	Link
Vascular Plant	*Macbridea caroliniana*	Carolina Bogmint	T	FSC	S2	G2G3	Columbus - Current	Link
Vascular Plant	*Macbridea caroliniana*	Carolina Bogmint	T	FSC	S2	G2G3	Harnett - Current	Link
Vascular Plant	*Macbridea caroliniana*	Carolina Bogmint	T	FSC	S2	G2G3	Johnston - Current	Link
Vascular Plant	*Macbridea caroliniana*	Carolina Bogmint	T	FSC	S2	G2G3	Jones - Obscure	Link
Vascular Plant	*Macbridea caroliniana*	Carolina Bogmint	T	FSC	S2	G2G3	Pender - Current	Link
Vascular Plant	*Macbridea caroliniana*	Carolina Bogmint	T	FSC	S2	G2G3	Robeson - Current	Link
Vascular Plant	*Macbridea caroliniana*	Carolina Bogmint	T	FSC	S2	G2G3	Sampson - Current	Link
Vascular Plant	*Marshallia grandiflora*	Large-flowered Barbara's Buttons	SR-T	FSC	SH	G2	Henderson - Historic	Link
Vascular Plant	*Marshallia grandiflora*	Large-flowered Barbara's Buttons	SR-T	FSC	SH	G2	Polk - Historic	Link
Vascular Plant	*Marshallia sp 1*	Butner Barbara's Buttons	SR-L	FSC	S1	G1	Granville - Current	Link
Vascular Plant	*Menyanthes trifoliata*	Buckbean	T	-	S1	G5	Watauga - Current	Link
Vascular Plant	*Minuartia godfreyi*	Godfrey's Sandwort	E	FSC	S1	G1	Craven - Current	Link
Vascular Plant	*Minuartia godfreyi*	Godfrey's Sandwort	E	FSC	S1	G1	Jones - Historic	Link
Vascular Plant	*Minuartia uniflora*	Single-flowered Sandwort	E	-	S1	G4	Anson - Current	Link
Vascular Plant	*Minuartia uniflora*	Single-flowered Sandwort	E	-	S1	G4	Rowan - Historic	Link
Vascular Plant	*Minuartia uniflora*	Single-flowered Sandwort	E	-	S1	G4	Rutherford - Current	Link
Vascular Plant	*Monotropsis odorata*	Sweet Pinesap	SR-T	FSC	S3	G3	Alamance - Obscure	Link
Vascular Plant	*Monotropsis odorata*	Sweet Pinesap	SR-T	FSC	S3	G3	Alleghany - Obscure	Link
Vascular Plant	*Monotropsis odorata*	Sweet Pinesap	SR-T	FSC	S3	G3	Buncombe - Current	Link
Vascular Plant	*Monotropsis odorata*	Sweet Pinesap	SR-T	FSC	S3	G3	Burke - Current	Link
Vascular Plant	*Monotropsis odorata*	Sweet Pinesap	SR-T	FSC	S3	G3	Caldwell - Historic	Link
Vascular Plant	*Monotropsis odorata*	Sweet Pinesap	SR-T	FSC	S3	G3	Catawba - Current	Link
Vascular Plant	*Monotropsis odorata*	Sweet Pinesap	SR-T	FSC	S3	G3	Chatham - Current	Link
Vascular Plant	*Monotropsis odorata*	Sweet Pinesap	SR-T	FSC	S3	G3	Cleveland - Current	Link
Vascular Plant	*Monotropsis odorata*	Sweet Pinesap	SR-T	FSC	S3	G3	Durham - Current	Link
Vascular Plant	*Monotropsis odorata*	Sweet Pinesap	SR-T	FSC	S3	G3	Henderson - Obscure	Link
Vascular Plant	*Monotropsis odorata*	Sweet Pinesap	SR-T	FSC	S3	G3	Jackson - Current	Link
Vascular	*Monotropsis odorata*	Sweet Pinesap	SR-T	FSC	S3	G3	Macon -	Link

Plant							Obscure	
Vascular Plant	*Monotropsis odorata*	Sweet Pinesap	SR-T	FSC	S3	G3	McDowell - Current	Link
Vascular Plant	*Monotropsis odorata*	Sweet Pinesap	SR-T	FSC	S3	G3	Orange - Current	Link
Vascular Plant	*Monotropsis odorata*	Sweet Pinesap	SR-T	FSC	S3	G3	Person - Historic	Link
Vascular Plant	*Monotropsis odorata*	Sweet Pinesap	SR-T	FSC	S3	G3	Polk - Historic	Link
Vascular Plant	*Monotropsis odorata*	Sweet Pinesap	SR-T	FSC	S3	G3	Rutherford - Current	Link
Vascular Plant	*Monotropsis odorata*	Sweet Pinesap	SR-T	FSC	S3	G3	Stokes - Current	Link
Vascular Plant	*Monotropsis odorata*	Sweet Pinesap	SR-T	FSC	S3	G3	Swain - Historic	Link
Vascular Plant	*Monotropsis odorata*	Sweet Pinesap	SR-T	FSC	S3	G3	Transylvania - Current	Link
Vascular Plant	*Monotropsis odorata*	Sweet Pinesap	SR-T	FSC	S3	G3	Wake - Historic	Link
Vascular Plant	*Muhlenbergia torreyana*	Pinebarren Smokegrass	E	-	S1	G3	Brunswick - Current	Link
Vascular Plant	*Muhlenbergia torreyana*	Pinebarren Smokegrass	E	-	S1	G3	Cumberland - Current	Link
Vascular Plant	*Muhlenbergia torreyana*	Pinebarren Smokegrass	E	-	S1	G3	Hoke - Current	Link
Vascular Plant	*Muhlenbergia torreyana*	Pinebarren Smokegrass	E	-	S1	G3	Onslow - Current	Link
Vascular Plant	*Muhlenbergia torreyana*	Pinebarren Smokegrass	E	-	S1	G3	Pender - Current	Link
Vascular Plant	*Muhlenbergia torreyana*	Pinebarren Smokegrass	E	-	S1	G3	Richmond - Current	Link
Vascular Plant	*Muhlenbergia torreyana*	Pinebarren Smokegrass	E	-	S1	G3	Robeson - Current	Link
Vascular Plant	*Myrica gale*	Sweet Gale	E	-	S1	G5	Henderson - Current	Link
Vascular Plant	*Myriophyllum laxum*	Loose Watermilfoil	T	FSC	S1	G3	Brunswick - Current	Link
Vascular Plant	*Myriophyllum laxum*	Loose Watermilfoil	T	FSC	S1	G3	Carteret - Current	Link
Vascular Plant	*Myriophyllum laxum*	Loose Watermilfoil	T	FSC	S1	G3	Craven - Historic	Link
Vascular Plant	*Myriophyllum laxum*	Loose Watermilfoil	T	FSC	S1	G3	Cumberland - Current	Link
Vascular Plant	*Myriophyllum laxum*	Loose Watermilfoil	T	FSC	S1	G3	Hoke - Current	Link
Vascular Plant	*Myriophyllum laxum*	Loose Watermilfoil	T	FSC	S1	G3	Onslow - Current	Link
Vascular Plant	*Narthecium americanum*	Bog Asphodel	E	C	SX	G2	Henderson - Historic	Link
Vascular Plant	*Orbexilum macrophyllum*	Bigleaf Scurfpea	E	FSC	SH	GH	Polk - Historic	Link
Vascular Plant	*Oxypolis canbyi*	Canby's Dropwort	E	E	S1	G2	Scotland - Current	Link
Vascular Plant	*Packera millefolium*	Divided-leaf Ragwort	T	FSC	S2	G2	Buncombe - Current	Link
Vascular Plant	*Packera millefolium*	Divided-leaf Ragwort	T	FSC	S2	G2	Henderson - Historic	Link
Vascular Plant	*Packera millefolium*	Divided-leaf Ragwort	T	FSC	S2	G2	Jackson - Current	Link
Vascular Plant	*Packera millefolium*	Divided-leaf Ragwort	T	FSC	S2	G2	Macon - Current	Link
Vascular	*Packera millefolium*	Divided-leaf Ragwort	T	FSC	S2	G2	McDowell -	Link

Plant							Current	
Vascular Plant	*Packera millefolium*	Divided-leaf Ragwort	T	FSC	S2	G2	Polk - Current	Link
Vascular Plant	*Packera millefolium*	Divided-leaf Ragwort	T	FSC	S2	G2	Rutherford - Current	Link
Vascular Plant	*Parnassia caroliniana*	Carolina Grass-of-parnassus	E	-	S2	G3	Bladen - Current	Link
Vascular Plant	*Parnassia caroliniana*	Carolina Grass-of-parnassus	E	-	S2	G3	Brunswick - Current	Link
Vascular Plant	*Parnassia caroliniana*	Carolina Grass-of-parnassus	E	-	S2	G3	Columbus - Current	Link
Vascular Plant	*Parnassia caroliniana*	Carolina Grass-of-parnassus	E	-	S2	G3	Cumberland - Current	Link
Vascular Plant	*Parnassia caroliniana*	Carolina Grass-of-parnassus	E	-	S2	G3	Harnett - Current	Link
Vascular Plant	*Parnassia caroliniana*	Carolina Grass-of-parnassus	E	-	S2	G3	Hoke - Current	Link
Vascular Plant	*Parnassia caroliniana*	Carolina Grass-of-parnassus	E	-	S2	G3	Lee - Historic	Link
Vascular Plant	*Parnassia caroliniana*	Carolina Grass-of-parnassus	E	-	S2	G3	Onslow - Current	Link
Vascular Plant	*Parnassia caroliniana*	Carolina Grass-of-parnassus	E	-	S2	G3	Pender - Current	Link
Vascular Plant	*Parnassia caroliniana*	Carolina Grass-of-parnassus	E	-	S2	G3	Scotland - Current	Link
Vascular Plant	*Parnassia grandifolia*	Large-leaved Grass-of-parnassus	T	FSC	S2	G3	Alleghany - Current	Link
Vascular Plant	*Parnassia grandifolia*	Large-leaved Grass-of-parnassus	T	FSC	S2	G3	Ashe - Current	Link
Vascular Plant	*Parnassia grandifolia*	Large-leaved Grass-of-parnassus	T	FSC	S2	G3	Avery - Historic	Link
Vascular Plant	*Parnassia grandifolia*	Large-leaved Grass-of-parnassus	T	FSC	S2	G3	Brunswick - Current	Link
Vascular Plant	*Parnassia grandifolia*	Large-leaved Grass-of-parnassus	T	FSC	S2	G3	Buncombe - Historic	Link
Vascular Plant	*Parnassia grandifolia*	Large-leaved Grass-of-parnassus	T	FSC	S2	G3	Clay - Current	Link
Vascular Plant	*Parnassia grandifolia*	Large-leaved Grass-of-parnassus	T	FSC	S2	G3	Columbus - Current	Link
Vascular Plant	*Parnassia grandifolia*	Large-leaved Grass-of-parnassus	T	FSC	S2	G3	Haywood - Current	Link
Vascular Plant	*Parnassia grandifolia*	Large-leaved Grass-of-parnassus	T	FSC	S2	G3	McDowell - Current	Link
Vascular Plant	*Parnassia grandifolia*	Large-leaved Grass-of-parnassus	T	FSC	S2	G3	Transylvania - Current	Link
Vascular Plant	*Parnassia grandifolia*	Large-leaved Grass-of-parnassus	T	FSC	S2	G3	Watauga - Historic	Link
Vascular Plant	*Pellaea wrightiana*	Wright's Cliff-brake	E-SC	-	S1	G5	Alexander - Current	Link
Vascular Plant	*Pellaea wrightiana*	Wright's Cliff-brake	E-SC	-	S1	G5	Stanly - Current	Link
Vascular Plant	*Phacelia covillei*	Buttercup Phacelia	SR-T	FSC	S2	G2	Alamance - Current	Link
Vascular Plant	*Phacelia covillei*	Buttercup Phacelia	SR-T	FSC	S2	G2	Chatham - Current	Link
Vascular Plant	*Phacelia covillei*	Buttercup Phacelia	SR-T	FSC	S2	G2	Harnett - Current	Link
Vascular Plant	*Phacelia covillei*	Buttercup Phacelia	SR-T	FSC	S2	G2	Lee - Current	Link
Vascular Plant	*Phacelia covillei*	Buttercup Phacelia	SR-T	FSC	S2	G2	Moore - Current	Link
Vascular	*Phacelia covillei*	Buttercup Phacelia	SR-T	FSC	S2	G2	Vance -	Link

Plant							Current	
Vascular Plant	*Plantago cordata*	Heart-leaf Plantain	E	-	S1	G4	Davidson - Current	Link
Vascular Plant	*Plantago sparsiflora*	Pineland Plantain	E	FSC	S1	G3	Bladen - Historic	Link
Vascular Plant	*Plantago sparsiflora*	Pineland Plantain	E	FSC	S1	G3	Brunswick - Current	Link
Vascular Plant	*Plantago sparsiflora*	Pineland Plantain	E	FSC	S1	G3	Columbus - Current	Link
Vascular Plant	*Plantago sparsiflora*	Pineland Plantain	E	FSC	S1	G3	Onslow - Current	Link
Vascular Plant	*Plantago sparsiflora*	Pineland Plantain	E	FSC	S1	G3	Pender - Current	Link
Vascular Plant	*Platanthera integra*	Yellow Fringeless Orchid	T	-	S1	G3G4	Brunswick - Current	Link
Vascular Plant	*Platanthera integra*	Yellow Fringeless Orchid	T	-	S1	G3G4	Carteret - Current	Link
Vascular Plant	*Platanthera integra*	Yellow Fringeless Orchid	T	-	S1	G3G4	Cherokee - Historic	Link
Vascular Plant	*Platanthera integra*	Yellow Fringeless Orchid	T	-	S1	G3G4	Columbus - Current	Link
Vascular Plant	*Platanthera integra*	Yellow Fringeless Orchid	T	-	S1	G3G4	Craven - Current	Link
Vascular Plant	*Platanthera integra*	Yellow Fringeless Orchid	T	-	S1	G3G4	Forsyth - Obscure	Link
Vascular Plant	*Platanthera integra*	Yellow Fringeless Orchid	T	-	S1	G3G4	Henderson - Obscure	Link
Vascular Plant	*Platanthera integra*	Yellow Fringeless Orchid	T	-	S1	G3G4	Onslow - Historic	Link
Vascular Plant	*Platanthera integra*	Yellow Fringeless Orchid	T	-	S1	G3G4	Pamlico - Obscure	Link
Vascular Plant	*Platanthera integra*	Yellow Fringeless Orchid	T	-	S1	G3G4	Pender - Current	Link
Vascular Plant	*Platanthera integra*	Yellow Fringeless Orchid	T	-	S1	G3G4	Robeson - Obscure	Link
Vascular Plant	*Platanthera integra*	Yellow Fringeless Orchid	T	-	S1	G3G4	Rowan - Historic	Link
Vascular Plant	*Platanthera integrilabia*	White Fringeless Orchid	E	C	SX	G2G3	Cherokee - Historic	Link
Vascular Plant	*Platanthera integrilabia*	White Fringeless Orchid	E	C	SX	G2G3	Henderson - Historic	Link
Vascular Plant	*Platanthera nivea*	Snowy Orchid	T	-	S1	G5	Beaufort - Historic	Link
Vascular Plant	*Platanthera nivea*	Snowy Orchid	T	-	S1	G5	Bladen - Historic	Link
Vascular Plant	*Platanthera nivea*	Snowy Orchid	T	-	S1	G5	Brunswick - Current	Link
Vascular Plant	*Platanthera nivea*	Snowy Orchid	T	-	S1	G5	Columbus - Historic	Link
Vascular Plant	*Platanthera nivea*	Snowy Orchid	T	-	S1	G5	Craven - Current	Link
Vascular Plant	*Platanthera nivea*	Snowy Orchid	T	-	S1	G5	Dare - Historic	Link
Vascular Plant	*Platanthera nivea*	Snowy Orchid	T	-	S1	G5	Hoke - Historic	Link
Vascular Plant	*Platanthera nivea*	Snowy Orchid	T	-	S1	G5	New Hanover - Historic	Link
Vascular Plant	*Platanthera nivea*	Snowy Orchid	T	-	S1	G5	Pender - Current	Link
Vascular Plant	*Platanthera nivea*	Snowy Orchid	T	-	S1	G5	Robeson - Historic	Link

Vascular Plant	*Poa paludigena*	Bog Bluegrass	E	FSC	S1	G3	Ashe - Current	Link
Vascular Plant	*Poa paludigena*	Bog Bluegrass	E	FSC	S1	G3	Avery - Current	Link
Vascular Plant	*Poa paludigena*	Bog Bluegrass	E	FSC	S1	G3	Watauga - Historic	Link
Vascular Plant	*Portulaca smallii*	Small's Portulaca	T	-	S2	G3	Cabarrus - Current	Link
Vascular Plant	*Portulaca smallii*	Small's Portulaca	T	-	S2	G3	Forsyth - Historic	Link
Vascular Plant	*Portulaca smallii*	Small's Portulaca	T	-	S2	G3	Franklin - Current	Link
Vascular Plant	*Portulaca smallii*	Small's Portulaca	T	-	S2	G3	Granville - Current	Link
Vascular Plant	*Portulaca smallii*	Small's Portulaca	T	-	S2	G3	Rowan - Current	Link
Vascular Plant	*Portulaca smallii*	Small's Portulaca	T	-	S2	G3	Wake - Current	Link
Vascular Plant	*Potamogeton confervoides*	Conferva Pondweed	SR-D	FSC	S2	G4	Cumberland - Current	Link
Vascular Plant	*Potamogeton confervoides*	Conferva Pondweed	SR-D	FSC	S2	G4	Gates - Historic	Link
Vascular Plant	*Potamogeton confervoides*	Conferva Pondweed	SR-D	FSC	S2	G4	Harnett - Current	Link
Vascular Plant	*Potamogeton confervoides*	Conferva Pondweed	SR-D	FSC	S2	G4	Hoke - Current	Link
Vascular Plant	*Potamogeton confervoides*	Conferva Pondweed	SR-D	FSC	S2	G4	Moore - Current	Link
Vascular Plant	*Potamogeton confervoides*	Conferva Pondweed	SR-D	FSC	S2	G4	Richmond - Current	Link
Vascular Plant	*Potamogeton confervoides*	Conferva Pondweed	SR-D	FSC	S2	G4	Scotland - Current	Link
Vascular Plant	*Pteroglossaspis ecristata*	Spiked Medusa (=Eulophia)	E	FSC	S1	G2	Bladen - Obscure	Link
Vascular Plant	*Pteroglossaspis ecristata*	Spiked Medusa (=Eulophia)	E	FSC	S1	G2	Cumberland - Historic	Link
Vascular Plant	*Pteroglossaspis ecristata*	Spiked Medusa (=Eulophia)	E	FSC	S1	G2	Hoke - Current	Link
Vascular Plant	*Pteroglossaspis ecristata*	Spiked Medusa (=Eulophia)	E	FSC	S1	G2	New Hanover - Historic	Link
Vascular Plant	*Ptilimnium nodosum*	Harperella	E	E	S1	G2	Chatham - Current	Link
Vascular Plant	*Ptilimnium nodosum*	Harperella	E	E	S1	G2	Granville - Current	Link
Vascular Plant	*Ptilimnium nodosum*	Harperella	E	E	S1	G2	Lee - Historic	Link
Vascular Plant	*Pycnanthemum torrei*	Torrey's Mountain-mint	SR-T	FSC	SH	G2	Alexander - Historic	Link
Vascular Plant	*Pycnanthemum torrei*	Torrey's Mountain-mint	SR-T	FSC	SH	G2	Ashe - Historic	Link
Vascular Plant	*Pycnanthemum torrei*	Torrey's Mountain-mint	SR-T	FSC	SH	G2	Cleveland - Historic	Link
Vascular Plant	*Pycnanthemum torrei*	Torrey's Mountain-mint	SR-T	FSC	SH	G2	Granville - Historic	Link
Vascular Plant	*Pycnanthemum torrei*	Torrey's Mountain-mint	SR-T	FSC	SH	G2	Haywood - Historic	Link
Vascular Plant	*Pycnanthemum torrei*	Torrey's Mountain-mint	SR-T	FSC	SH	G2	Jackson - Historic	Link
Vascular Plant	*Pycnanthemum torrei*	Torrey's Mountain-mint	SR-T	FSC	SH	G2	Macon - Historic	Link
Vascular	*Pycnanthemum torrei*	Torrey's Mountain-mint	SR-T	FSC	SH	G2	Orange -	Link

Plant							Current	
Vascular Plant	*Pycnanthemum torrei*	Torrey's Mountain-mint	SR-T	FSC	SH	G2	Wilkes - Historic	Link
Vascular Plant	*Pyxidanthera barbulata var brevifolia*	Sandhills Pyxie-moss	E	FSC	S2	G2Q	Cumberland - Current	Link
Vascular Plant	*Pyxidanthera barbulata var brevifolia*	Sandhills Pyxie-moss	E	FSC	S2	G2Q	Harnett - Current	Link
Vascular Plant	*Pyxidanthera barbulata var brevifolia*	Sandhills Pyxie-moss	E	FSC	S2	G2Q	Hoke - Current	Link
Vascular Plant	*Pyxidanthera barbulata var brevifolia*	Sandhills Pyxie-moss	E	FSC	S2	G2Q	Moore - Current	Link
Vascular Plant	*Quercus ilicifolia*	Bear Oak	T	-	S1	G5	Burke - Current	Link
Vascular Plant	*Quercus ilicifolia*	Bear Oak	T	-	S1	G5	Gaston - Current	Link
Vascular Plant	*Quercus ilicifolia*	Bear Oak	T	-	S1	G5	Stokes - Current	Link
Vascular Plant	*Quercus ilicifolia*	Bear Oak	T	-	S1	G5	Surry - Current	Link
Vascular Plant	*Rhexia aristosa*	Awned Meadow-beauty	T	FSC	S3	G3	Bladen - Current	Link
Vascular Plant	*Rhexia aristosa*	Awned Meadow-beauty	T	FSC	S3	G3	Brunswick - Historic	Link
Vascular Plant	*Rhexia aristosa*	Awned Meadow-beauty	T	FSC	S3	G3	Cumberland - Historic	Link
Vascular Plant	*Rhexia aristosa*	Awned Meadow-beauty	T	FSC	S3	G3	Hoke - Current	Link
Vascular Plant	*Rhexia aristosa*	Awned Meadow-beauty	T	FSC	S3	G3	Onslow - Current	Link
Vascular Plant	*Rhexia aristosa*	Awned Meadow-beauty	T	FSC	S3	G3	Robeson - Current	Link
Vascular Plant	*Rhexia aristosa*	Awned Meadow-beauty	T	FSC	S3	G3	Sampson - Current	Link
Vascular Plant	*Rhexia aristosa*	Awned Meadow-beauty	T	FSC	S3	G3	Scotland - Current	Link
Vascular Plant	*Rhus michauxii*	Michaux's Sumac	E-SC	E	S2	G2	Cumberland - Current	Link
Vascular Plant	*Rhus michauxii*	Michaux's Sumac	E-SC	E	S2	G2	Davie - Current	Link
Vascular Plant	*Rhus michauxii*	Michaux's Sumac	E-SC	E	S2	G2	Durham - Historic	Link
Vascular Plant	*Rhus michauxii*	Michaux's Sumac	E-SC	E	S2	G2	Franklin - Current	Link
Vascular Plant	*Rhus michauxii*	Michaux's Sumac	E-SC	E	S2	G2	Hoke - Current	Link
Vascular Plant	*Rhus michauxii*	Michaux's Sumac	E-SC	E	S2	G2	Johnston - Historic	Link
Vascular Plant	*Rhus michauxii*	Michaux's Sumac	E-SC	E	S2	G2	Lincoln - Historic	Link
Vascular Plant	*Rhus michauxii*	Michaux's Sumac	E-SC	E	S2	G2	Mecklenburg - Historic	Link
Vascular Plant	*Rhus michauxii*	Michaux's Sumac	E-SC	E	S2	G2	Moore - Current	Link
Vascular Plant	*Rhus michauxii*	Michaux's Sumac	E-SC	E	S2	G2	Orange - Historic	Link
Vascular Plant	*Rhus michauxii*	Michaux's Sumac	E-SC	E	S2	G2	Richmond - Current	Link
Vascular Plant	*Rhus michauxii*	Michaux's Sumac	E-SC	E	S2	G2	Robeson - Current	Link
Vascular Plant	*Rhus michauxii*	Michaux's Sumac	E-SC	E	S2	G2	Scotland - Current	Link
Vascular	*Rhus michauxii*	Michaux's Sumac	E-SC	E	S2	G2	Wake -	Link

Plant							Current	
Vascular Plant	*Rhus michauxii*	Michaux's Sumac	E-SC	E	S2	G2	Wilson - Historic	Link
Vascular Plant	*Rhynchospora crinipes*	Alabama Beaksedge	E	FSC	S1	G1	Hoke - Current	Link
Vascular Plant	*Rhynchospora crinipes*	Alabama Beaksedge	E	FSC	S1	G1	Moore - Current	Link
Vascular Plant	*Rhynchospora decurrens*	Swamp Forest Beaksedge	SR-P	FSC	S1	G3G4	Brunswick - Current	Link
Vascular Plant	*Rhynchospora decurrens*	Swamp Forest Beaksedge	SR-P	FSC	S1	G3G4	Columbus - Current	Link
Vascular Plant	*Rhynchospora decurrens*	Swamp Forest Beaksedge	SR-P	FSC	S1	G3G4	Onslow - Current	Link
Vascular Plant	*Rhynchospora macra*	Southern White Beaksedge	E	-	S1	G3	Carteret - Current	Link
Vascular Plant	*Rhynchospora macra*	Southern White Beaksedge	E	-	S1	G3	Cumberland - Current	Link
Vascular Plant	*Rhynchospora macra*	Southern White Beaksedge	E	-	S1	G3	Harnett - Current	Link
Vascular Plant	*Rhynchospora macra*	Southern White Beaksedge	E	-	S1	G3	Hoke - Current	Link
Vascular Plant	*Rhynchospora macra*	Southern White Beaksedge	E	-	S1	G3	Moore - Current	Link
Vascular Plant	*Rhynchospora macra*	Southern White Beaksedge	E	-	S1	G3	Richmond - Current	Link
Vascular Plant	*Rhynchospora macra*	Southern White Beaksedge	E	-	S1	G3	Scotland - Current	Link
Vascular Plant	*Rhynchospora thornei*	Thorne's Beaksedge	E	FSC	S1	G1G2	Brunswick - Current	Link
Vascular Plant	*Rhynchospora thornei*	Thorne's Beaksedge	E	FSC	S1	G1G2	Onslow - Current	Link
Vascular Plant	*Rhynchospora thornei*	Thorne's Beaksedge	E	FSC	S1	G1G2	Pender - Current	Link
Vascular Plant	*Rudbeckia heliopsidis*	Sun-facing Coneflower	E	FSC	SH	G2	Harnett - Historic	Link
Vascular Plant	*Rudbeckia heliopsidis*	Sun-facing Coneflower	E	FSC	SH	G2	Moore - Historic	Link
Vascular Plant	*Rudbeckia triloba var pinnatiloba*	Pinnate-lobed Black-eyed Susan	SR-T	FSC	S1	G4G5T2?	Buncombe - Current	Link
Vascular Plant	*Ruellia humilis*	Low Wild-petunia	T	-	S1	G5	Durham - Current	Link
Vascular Plant	*Ruellia humilis*	Low Wild-petunia	T	-	S1	G5	Granville - Current	Link
Vascular Plant	*Ruellia humilis*	Low Wild-petunia	T	-	S1	G5	Wake - Current	Link
Vascular Plant	*Rugelia nudicaulis*	Rugel's Ragwort	T	FSC	S3	G3	Haywood - Current	Link
Vascular Plant	*Rugelia nudicaulis*	Rugel's Ragwort	T	FSC	S3	G3	Swain - Current	Link
Vascular Plant	*Sabatia kennedyana*	Plymouth Gentian	T-SC	-	S1	G3	Brunswick - Current	Link
Vascular Plant	*Sabatia kennedyana*	Plymouth Gentian	T-SC	-	S1	G3	Columbus - Current	Link
Vascular Plant	*Sagittaria fasciculata*	Bunched Arrowhead	E	E	S1	G1	Buncombe - Historic	Link
Vascular Plant	*Sagittaria fasciculata*	Bunched Arrowhead	E	E	S1	G1	Henderson - Current	Link
Vascular Plant	*Sarracenia jonesii*	Mountain Sweet Pitcher Plant	E-SC	E	S1	G3T1	Buncombe - Historic	Link
Vascular Plant	*Sarracenia jonesii*	Mountain Sweet Pitcher Plant	E-SC	E	S1	G3T1	Henderson - Current	Link
Vascular	*Sarracenia jonesii*	Mountain Sweet Pitcher	E-SC	E	S1	G3T1	Transylvania	Link

Plant		Plant					- Current	
Vascular Plant	*Sarracenia oreophila*	Green Pitcher Plant	E-SC	E	S1	G2	Clay - Current	Link
Vascular Plant	*Saxifraga caroliniana*	Carolina Saxifrage	SR-T	FSC	S2	G2	Alleghany - Historic	Link
Vascular Plant	*Saxifraga caroliniana*	Carolina Saxifrage	SR-T	FSC	S2	G2	Ashe - Current	Link
Vascular Plant	*Saxifraga caroliniana*	Carolina Saxifrage	SR-T	FSC	S2	G2	Avery - Current	Link
Vascular Plant	*Saxifraga caroliniana*	Carolina Saxifrage	SR-T	FSC	S2	G2	Buncombe - Current	Link
Vascular Plant	*Saxifraga caroliniana*	Carolina Saxifrage	SR-T	FSC	S2	G2	Burke - Current	Link
Vascular Plant	*Saxifraga caroliniana*	Carolina Saxifrage	SR-T	FSC	S2	G2	Cleveland - Current	Link
Vascular Plant	*Saxifraga caroliniana*	Carolina Saxifrage	SR-T	FSC	S2	G2	Graham - Current	Link
Vascular Plant	*Saxifraga caroliniana*	Carolina Saxifrage	SR-T	FSC	S2	G2	Haywood - Current	Link
Vascular Plant	*Saxifraga caroliniana*	Carolina Saxifrage	SR-T	FSC	S2	G2	Jackson - Historic	Link
Vascular Plant	*Saxifraga caroliniana*	Carolina Saxifrage	SR-T	FSC	S2	G2	Macon - Current	Link
Vascular Plant	*Saxifraga caroliniana*	Carolina Saxifrage	SR-T	FSC	S2	G2	Madison - Current	Link
Vascular Plant	*Saxifraga caroliniana*	Carolina Saxifrage	SR-T	FSC	S2	G2	Mitchell - Current	Link
Vascular Plant	*Saxifraga caroliniana*	Carolina Saxifrage	SR-T	FSC	S2	G2	Rutherford - Current	Link
Vascular Plant	*Saxifraga caroliniana*	Carolina Saxifrage	SR-T	FSC	S2	G2	Watauga - Current	Link
Vascular Plant	*Saxifraga caroliniana*	Carolina Saxifrage	SR-T	FSC	S2	G2	Yancey - Historic	Link
Vascular Plant	*Schisandra glabra*	Magnolia Vine	T-SC	-	S1	G3	Gaston - Current	Link
Vascular Plant	*Schisandra glabra*	Magnolia Vine	T-SC	-	S1	G3	Martin - Current	Link
Vascular Plant	*Schwalbea americana*	Chaffseed	E	E	S1	G2	Bladen - Historic	Link
Vascular Plant	*Schwalbea americana*	Chaffseed	E	E	S1	G2	Cumberland - Current	Link
Vascular Plant	*Schwalbea americana*	Chaffseed	E	E	S1	G2	Hoke - Current	Link
Vascular Plant	*Schwalbea americana*	Chaffseed	E	E	S1	G2	Moore - Current	Link
Vascular Plant	*Schwalbea americana*	Chaffseed	E	E	S1	G2	Pender - Historic	Link
Vascular Plant	*Schwalbea americana*	Chaffseed	E	E	S1	G2	Scotland - Current	Link
Vascular Plant	*Scirpus flaccidifolius*	Reclining Bulrush	SR-L	FSC	S1	G2	Northampton - Current	Link
Vascular Plant	*Sedum pusillum*	Puck's Orpine	E	-	S1	G3	Anson - Current	Link
Vascular Plant	*Sedum rosea*	Roseroot	E	-	S1	G5	Ashe - Historic	Link
Vascular Plant	*Sedum rosea*	Roseroot	E	-	S1	G5	Avery - Historic	Link
Vascular Plant	*Sedum rosea*	Roseroot	E	-	S1	G5	Mitchell - Current	Link
Vascular Plant	*Senecio schweinitzianus*	Schweinitz's Ragwort	E	-	S2	G5?	Avery - Current	Link
Vascular	*Senecio schweinitzianus*	Schweinitz's Ragwort	E	-	S2	G5?	Buncombe -	Link

Plant							Current	
Vascular Plant	*Senecio schweinitzianus*	Schweinitz's Ragwort	E	-	S2	G5?	Mitchell - Current	Link
Vascular Plant	*Senecio schweinitzianus*	Schweinitz's Ragwort	E	-	S2	G5?	Watauga - Current	Link
Vascular Plant	*Senecio schweinitzianus*	Schweinitz's Ragwort	E	-	S2	G5?	Yancey - Current	Link
Vascular Plant	*Shortia galacifolia var brevistyla*	Northern Oconee Bells	E-SC	FSC	S1	G2T1Q	McDowell - Current	Link
Vascular Plant	*Shortia galacifolia var galacifolia*	Southern Oconee Bells	E-SC	FSC	S2	G2T2	Jackson - Historic	Link
Vascular Plant	*Shortia galacifolia var galacifolia*	Southern Oconee Bells	E-SC	FSC	S2	G2T2	Swain - Historic	Link
Vascular Plant	*Shortia galacifolia var galacifolia*	Southern Oconee Bells	E-SC	FSC	S2	G2T2	Transylvania - Current	Link
Vascular Plant	*Silene ovata*	Mountain Catchfly	SR-T	FSC	S3	G2G3	Buncombe - Current	Link
Vascular Plant	*Silene ovata*	Mountain Catchfly	SR-T	FSC	S3	G2G3	Cherokee - Current	Link
Vascular Plant	*Silene ovata*	Mountain Catchfly	SR-T	FSC	S3	G2G3	Graham - Current	Link
Vascular Plant	*Silene ovata*	Mountain Catchfly	SR-T	FSC	S3	G2G3	Haywood - Current	Link
Vascular Plant	*Silene ovata*	Mountain Catchfly	SR-T	FSC	S3	G2G3	Henderson - Current	Link
Vascular Plant	*Silene ovata*	Mountain Catchfly	SR-T	FSC	S3	G2G3	Jackson - Current	Link
Vascular Plant	*Silene ovata*	Mountain Catchfly	SR-T	FSC	S3	G2G3	Macon - Historic	Link
Vascular Plant	*Silene ovata*	Mountain Catchfly	SR-T	FSC	S3	G2G3	Madison - Current	Link
Vascular Plant	*Silene ovata*	Mountain Catchfly	SR-T	FSC	S3	G2G3	Rutherford - Historic	Link
Vascular Plant	*Silene ovata*	Mountain Catchfly	SR-T	FSC	S3	G2G3	Swain - Historic	Link
Vascular Plant	*Silene ovata*	Mountain Catchfly	SR-T	FSC	S3	G2G3	Yancey - Current	Link
Vascular Plant	*Sisyrinchium dichotomum*	White Irisette	E	E	S2	G2	Henderson - Current	Link
Vascular Plant	*Sisyrinchium dichotomum*	White Irisette	E	E	S2	G2	Polk - Current	Link
Vascular Plant	*Sisyrinchium dichotomum*	White Irisette	E	E	S2	G2	Rutherford - Current	Link
Vascular Plant	*Solidago plumosa*	Yadkin River Goldenrod	E	FSC	S1	G1	Montgomery - Current	Link
Vascular Plant	*Solidago plumosa*	Yadkin River Goldenrod	E	FSC	S1	G1	Stanly - Current	Link
Vascular Plant	*Solidago ptarmicoides*	Prairie Goldenrod	E	-	S1	G5	Granville - Current	Link
Vascular Plant	*Solidago ptarmicoides*	Prairie Goldenrod	E	-	S1	G5	Rowan - Historic	Link
Vascular Plant	*Solidago pulchra*	Carolina Goldenrod	E	-	S3	G3	Brunswick - Current	Link
Vascular Plant	*Solidago pulchra*	Carolina Goldenrod	E	-	S3	G3	Carteret - Current	Link
Vascular Plant	*Solidago pulchra*	Carolina Goldenrod	E	-	S3	G3	Craven - Current	Link
Vascular Plant	*Solidago pulchra*	Carolina Goldenrod	E	-	S3	G3	Cumberland - Current	Link
Vascular Plant	*Solidago pulchra*	Carolina Goldenrod	E	-	S3	G3	Jones - Current	Link
Vascular	*Solidago pulchra*	Carolina Goldenrod	E	-	S3	G3	Onslow -	Link

Plant							Current	
Vascular Plant	*Solidago pulchra*	Carolina Goldenrod	E	-	S3	G3	Pender - Current	Link
Vascular Plant	*Solidago spithamaea*	Blue Ridge Goldenrod	SR-P	T	S1	G1	Avery - Current	Link
Vascular Plant	*Solidago spithamaea*	Blue Ridge Goldenrod	SR-P	T	S1	G1	Mitchell - Current	Link
Vascular Plant	*Solidago verna*	Spring-flowering Goldenrod	SR-L	FSC	S3	G3	Bladen - Current	Link
Vascular Plant	*Solidago verna*	Spring-flowering Goldenrod	SR-L	FSC	S3	G3	Brunswick - Current	Link
Vascular Plant	*Solidago verna*	Spring-flowering Goldenrod	SR-L	FSC	S3	G3	Carteret - Current	Link
Vascular Plant	*Solidago verna*	Spring-flowering Goldenrod	SR-L	FSC	S3	G3	Columbus - Current	Link
Vascular Plant	*Solidago verna*	Spring-flowering Goldenrod	SR-L	FSC	S3	G3	Craven - Current	Link
Vascular Plant	*Solidago verna*	Spring-flowering Goldenrod	SR-L	FSC	S3	G3	Cumberland - Current	Link
Vascular Plant	*Solidago verna*	Spring-flowering Goldenrod	SR-L	FSC	S3	G3	Harnett - Current	Link
Vascular Plant	*Solidago verna*	Spring-flowering Goldenrod	SR-L	FSC	S3	G3	Hoke - Current	Link
Vascular Plant	*Solidago verna*	Spring-flowering Goldenrod	SR-L	FSC	S3	G3	Johnston - Current	Link
Vascular Plant	*Solidago verna*	Spring-flowering Goldenrod	SR-L	FSC	S3	G3	Jones - Current	Link
Vascular Plant	*Solidago verna*	Spring-flowering Goldenrod	SR-L	FSC	S3	G3	Moore - Current	Link
Vascular Plant	*Solidago verna*	Spring-flowering Goldenrod	SR-L	FSC	S3	G3	New Hanover - Historic	Link
Vascular Plant	*Solidago verna*	Spring-flowering Goldenrod	SR-L	FSC	S3	G3	Onslow - Current	Link
Vascular Plant	*Solidago verna*	Spring-flowering Goldenrod	SR-L	FSC	S3	G3	Pamlico - Current	Link
Vascular Plant	*Solidago verna*	Spring-flowering Goldenrod	SR-L	FSC	S3	G3	Pender - Current	Link
Vascular Plant	*Solidago verna*	Spring-flowering Goldenrod	SR-L	FSC	S3	G3	Richmond - Current	Link
Vascular Plant	*Solidago verna*	Spring-flowering Goldenrod	SR-L	FSC	S3	G3	Sampson - Current	Link
Vascular Plant	*Solidago verna*	Spring-flowering Goldenrod	SR-L	FSC	S3	G3	Scotland - Current	Link
Vascular Plant	*Solidago villosicarpa*	Coastal Goldenrod	E	-	S1	G1	Brunswick - Historic	Link
Vascular Plant	*Solidago villosicarpa*	Coastal Goldenrod	E	-	S1	G1	New Hanover - Historic	Link
Vascular Plant	*Solidago villosicarpa*	Coastal Goldenrod	E	-	S1	G1	Onslow - Current	Link
Vascular Plant	*Solidago villosicarpa*	Coastal Goldenrod	E	-	S1	G1	Pender - Current	Link
Vascular Plant	*Spiraea virginiana*	Virginia Spiraea	E	T	S1	G2	Ashe - Current	Link
Vascular Plant	*Spiraea virginiana*	Virginia Spiraea	E	T	S1	G2	Buncombe - Historic	Link
Vascular Plant	*Spiraea virginiana*	Virginia Spiraea	E	T	S1	G2	Graham - Current	Link
Vascular Plant	*Spiraea virginiana*	Virginia Spiraea	E	T	S1	G2	Macon - Current	Link
Vascular	*Spiraea virginiana*	Virginia Spiraea	E	T	S1	G2	Mitchell -	Link

Plant							Current	
Vascular Plant	*Spiraea virginiana*	Virginia Spiraea	E	T	S1	G2	Swain - Current	Link
Vascular Plant	*Spiraea virginiana*	Virginia Spiraea	E	T	S1	G2	Yancey - Current	Link
Vascular Plant	*Sporobolus heterolepis*	Prairie Dropseed	E	-	S1	G5	Clay - Current	Link
Vascular Plant	*Sporobolus heterolepis*	Prairie Dropseed	E	-	S1	G5	Jackson - Current	Link
Vascular Plant	*Sporobolus teretifolius sensu stricto*	Wireleaf Dropseed	T	FSC	S1	G2?	Brunswick - Current	Link
Vascular Plant	*Sporobolus teretifolius sensu stricto*	Wireleaf Dropseed	T	FSC	S1	G2?	Columbus - Current	Link
Vascular Plant	*Stylisma pickeringii var pickeringii*	Pickering's Dawnflower	E	FSC	S2	G4T2T3	Bladen - Current	Link
Vascular Plant	*Stylisma pickeringii var pickeringii*	Pickering's Dawnflower	E	FSC	S2	G4T2T3	Cumberland - Current	Link
Vascular Plant	*Stylisma pickeringii var pickeringii*	Pickering's Dawnflower	E	FSC	S2	G4T2T3	Harnett - Current	Link
Vascular Plant	*Stylisma pickeringii var pickeringii*	Pickering's Dawnflower	E	FSC	S2	G4T2T3	Hoke - Current	Link
Vascular Plant	*Stylisma pickeringii var pickeringii*	Pickering's Dawnflower	E	FSC	S2	G4T2T3	Moore - Current	Link
Vascular Plant	*Stylisma pickeringii var pickeringii*	Pickering's Dawnflower	E	FSC	S2	G4T2T3	New Hanover - Current	Link
Vascular Plant	*Stylisma pickeringii var pickeringii*	Pickering's Dawnflower	E	FSC	S2	G4T2T3	Richmond - Current	Link
Vascular Plant	*Stylisma pickeringii var pickeringii*	Pickering's Dawnflower	E	FSC	S2	G4T2T3	Scotland - Current	Link
Vascular Plant	*Symphyotrichum georgianum*	Georgia Aster	T	C	S2	G2G3	Davidson - Current	Link
Vascular Plant	*Symphyotrichum georgianum*	Georgia Aster	T	C	S2	G2G3	Gaston - Current	Link
Vascular Plant	*Symphyotrichum georgianum*	Georgia Aster	T	C	S2	G2G3	Lincoln - Current	Link
Vascular Plant	*Symphyotrichum georgianum*	Georgia Aster	T	C	S2	G2G3	Mecklenburg - Current	Link
Vascular Plant	*Symphyotrichum georgianum*	Georgia Aster	T	C	S2	G2G3	Montgomery - Current	Link
Vascular Plant	*Symphyotrichum georgianum*	Georgia Aster	T	C	S2	G2G3	Randolph - Current	Link
Vascular Plant	*Symphyotrichum georgianum*	Georgia Aster	T	C	S2	G2G3	Rowan - Current	Link
Vascular Plant	*Symphyotrichum georgianum*	Georgia Aster	T	C	S2	G2G3	Stanly - Historic	Link
Vascular Plant	*Symphyotrichum georgianum*	Georgia Aster	T	C	S2	G2G3	Union - Current	Link
Vascular Plant	*Symphyotrichum parviceps*	Glade Aster	E	-	S1	G4?	Granville - Current	Link
Vascular Plant	*Talinum mengesii*	Large-flowered Fameflower	E	-	S1	G3	Granville - Current	Link
Vascular Plant	*Thalictrum cooleyi*	Cooley's Meadowrue	E	E	S1	G1	Brunswick - Current	Link
Vascular Plant	*Thalictrum cooleyi*	Cooley's Meadowrue	E	E	S1	G1	Columbus - Current	Link
Vascular Plant	*Thalictrum cooleyi*	Cooley's Meadowrue	E	E	S1	G1	New Hanover - Obscure	Link
Vascular Plant	*Thalictrum cooleyi*	Cooley's Meadowrue	E	E	S1	G1	Onslow - Current	Link
Vascular	*Thalictrum cooleyi*	Cooley's Meadowrue	E	E	S1	G1	Pender -	Link

Plant							Current	
Vascular Plant	*Thelypteris simulata*	Bog Fern	T	-	S1	G4G5	Alleghany - Current	Link
Vascular Plant	*Thelypteris simulata*	Bog Fern	T	-	S1	G4G5	Avery - Current	Link
Vascular Plant	*Trichomanes boschianum*	Appalachian Filmy-fern	T	-	S1	G4	Jackson - Current	Link
Vascular Plant	*Trichomanes boschianum*	Appalachian Filmy-fern	T	-	S1	G4	Macon - Current	Link
Vascular Plant	*Trichomanes boschianum*	Appalachian Filmy-fern	T	-	S1	G4	Polk - Historic	Link
Vascular Plant	*Trichomanes petersii*	Dwarf Filmy-fern	T	-	S1	G4G5	Graham - Historic	Link
Vascular Plant	*Trichomanes petersii*	Dwarf Filmy-fern	T	-	S1	G4G5	Jackson - Current	Link
Vascular Plant	*Trichomanes petersii*	Dwarf Filmy-fern	T	-	S1	G4G5	Macon - Current	Link
Vascular Plant	*Trichomanes petersii*	Dwarf Filmy-fern	T	-	S1	G4G5	Transylvania - Current	Link
Vascular Plant	*Trichostema sp 1*	Dune Bluecurls	SR-L	FSC	S2	G2	Brunswick - Current	Link
Vascular Plant	*Trichostema sp 1*	Dune Bluecurls	SR-L	FSC	S2	G2	Carteret - Current	Link
Vascular Plant	*Trichostema sp 1*	Dune Bluecurls	SR-L	FSC	S2	G2	Dare - Current	Link
Vascular Plant	*Trichostema sp 1*	Dune Bluecurls	SR-L	FSC	S2	G2	Hyde - Current	Link
Vascular Plant	*Trichostema sp 1*	Dune Bluecurls	SR-L	FSC	S2	G2	New Hanover - Current	Link
Vascular Plant	*Trillium discolor*	Mottled Trillium	T	-	S1	G3	Jackson - Current	Link
Vascular Plant	*Trillium discolor*	Mottled Trillium	T	-	S1	G3	Transylvania - Current	Link
Vascular Plant	*Trillium pusillum var 1*	Alabama Least Trillium	E	FSC	S1	G3T2Q	Clay - Current	Link
Vascular Plant	*Trillium pusillum var 1*	Alabama Least Trillium	E	FSC	S1	G3T2Q	Haywood - Historic	Link
Vascular Plant	*Trillium pusillum var pusillum*	Carolina Least Trillium	E	FSC	S1	G3T2	Halifax - Current	Link
Vascular Plant	*Trillium pusillum var pusillum*	Carolina Least Trillium	E	FSC	S1	G3T2	Johnston - Current	Link
Vascular Plant	*Trillium pusillum var pusillum*	Carolina Least Trillium	E	FSC	S1	G3T2	Nash - Current	Link
Vascular Plant	*Trillium pusillum var pusillum*	Carolina Least Trillium	E	FSC	S1	G3T2	Pender - Current	Link
Vascular Plant	*Trillium pusillum var pusillum*	Carolina Least Trillium	E	FSC	S1	G3T2	Wake - Current	Link
Vascular Plant	*Trillium pusillum var virginianum*	Virginia Least Trillium	E	FSC	S1	G3T2	Camden - Current	Link
Vascular Plant	*Trillium pusillum var virginianum*	Virginia Least Trillium	E	FSC	S1	G3T2	Currituck - Current	Link
Vascular Plant	*Trillium pusillum var virginianum*	Virginia Least Trillium	E	FSC	S1	G3T2	Gates - Current	Link
Vascular Plant	*Trisetum spicatum*	Soft Trisetum	E	-	SX	G5	Mitchell - Historic	Link
Vascular Plant	*Utricularia olivacea*	Dwarf Bladderwort	T	-	S2	G4	Brunswick - Historic	Link
Vascular Plant	*Utricularia olivacea*	Dwarf Bladderwort	T	-	S2	G4	Carteret - Current	Link
Vascular Plant	*Utricularia olivacea*	Dwarf Bladderwort	T	-	S2	G4	Craven - Historic	Link

Vascular Plant	*Utricularia olivacea*	Dwarf Bladderwort	T	-	S2	G4	Cumberland - Current	Link
Vascular Plant	*Utricularia olivacea*	Dwarf Bladderwort	T	-	S2	G4	Hoke - Current	Link
Vascular Plant	*Utricularia olivacea*	Dwarf Bladderwort	T	-	S2	G4	New Hanover - Current	Link
Vascular Plant	*Utricularia olivacea*	Dwarf Bladderwort	T	-	S2	G4	Onslow - Current	Link
Vascular Plant	*Utricularia olivacea*	Dwarf Bladderwort	T	-	S2	G4	Pender - Current	Link
Vascular Plant	*Verbena riparia*	Riverbank Vervain	SR-T	FSC	SU	GUGHQ	Caldwell - Historic	Link
Vascular Plant	*Verbena riparia*	Riverbank Vervain	SR-T	FSC	SU	GUGHQ	Stanly - Obscure	Link
Vascular Plant	*Xyris scabrifolia*	Roughleaf Yellow-eyed-grass	SR-T	FSC	S2	G3	Cumberland - Current	Link
Vascular Plant	*Xyris scabrifolia*	Roughleaf Yellow-eyed-grass	SR-T	FSC	S2	G3	Harnett - Current	Link
Vascular Plant	*Xyris scabrifolia*	Roughleaf Yellow-eyed-grass	SR-T	FSC	S2	G3	Hoke - Current	Link
Vascular Plant	*Xyris scabrifolia*	Roughleaf Yellow-eyed-grass	SR-T	FSC	S2	G3	Moore - Current	Link
Vascular Plant	*Xyris scabrifolia*	Roughleaf Yellow-eyed-grass	SR-T	FSC	S2	G3	Richmond - Current	Link
Vascular Plant	*Xyris scabrifolia*	Roughleaf Yellow-eyed-grass	SR-T	FSC	S2	G3	Scotland - Current	Link
Vascular Plant	*Zephyranthes sp 1*	Carolina Atamasco Lily	SR-L	FSC	S1	G1G2Q	Brunswick - Current	Link

NC NHP database updated: January, 2004.
Search performed on Monday, 7 November 2005 @ 11:44:05 EST
Explanation of Codes

(NC NHP 2005)

North Carolina Department of Environment & Natural Resources

North Carolina
Natural Heritage Program

Office of Conservation & Community Affairs

Home Contact Us ncgov.con

Heritage Data

The North Carolina Natural Heritage Program provides natural area and rare species information to landowners, consulting firms, local, state, and federal agencies, as well as conservation organizations and private citizens. This information is used for conservation planning and to facilitate the design and implementation of ecologically sound development projects. New pipeline corridors, roads, communication towers, municipal utility projects, and general conservation planning are excellent examples of projects where Natural Heritage Program information is useful.

We provide several methods to obtain information about North Carolina's natural heritage:

DATABASE SEARCH

GIS COVERAGE

SITE SPECIFIC REQUESTS

NATURAL HERITAGE WORKROOM

RARE PLANT FIELD SURVEY FORM

SPECIAL ANIMAL SURVEY FORM

COUNTY INVENTORY SUMMARIES - in development

NCSDC 2001

Population Overview: 1970-1995

(to open/download as Excel Spreadsheet, click here)

...go to state	Population					
County	April 1970	July 1975	April 1980	July 1985	April 1990	July 1995
ALAMANCE	96,502	98,300	99,319	102,512	108,213	117,891
ALEXANDER	19,466	22,900	24,999	26,348	27,544	30,454
ALLEGHANY	8,134	9,000	9,587	9,549	9,590	9,906
ANSON	23,488	24,700	25,649	24,853	23,474	24,511
ASHE	19,571	20,700	22,325	22,723	22,209	23,116
AVERY	12,655	14,200	14,409	14,726	14,867	15,431
BEAUFORT	35,980	38,100	40,355	42,211	42,283	43,645
BERTIE	20,528	20,900	21,024	21,001	20,388	20,522
BLADEN	26,477	29,200	30,491	29,633	28,663	30,393
BRUNSWICK	24,223	33,900	35,777	44,840	50,985	61,532
BUNCOMBE	145,022	153,400	160,897	167,083	174,357	193,242
BURKE	60,364	68,400	72,504	74,440	75,740	83,249
CABARRUS	74,629	80,000	85,895	92,204	98,935	112,059
CALDWELL	56,699	63,000	67,746	69,940	70,709	74,082
CAMDEN	5,453	5,800	5,829	5,598	5,904	6,328
CARTERET	31,603	37,400	41,092	48,335	52,407	57,114
CASWELL	19,055	20,400	20,705	21,607	20,662	21,801
CATAWBA	90,873	99,100	105,208	112,069	118,412	129,042
CHATHAM	29,554	31,100	33,415	35,826	38,979	43,860
CHEROKEE	16,330	17,700	18,933	19,671	20,170	22,288
CHOWAN	10,764	11,400	12,558	13,059	13,506	14,226
CLAY	5,180	5,800	6,619	7,007	7,155	7,897
CLEVELAND	72,556	80,300	83,435	84,171	84,958	90,763
COLUMBUS	46,937	49,900	51,037	50,677	49,587	52,264
CRAVEN	62,554	69,500	71,043	79,428	81,812	86,333
CUMBERLAND	212,042	233,800	247,160	261,631	274,713	298,474
CURRITUCK	6,976	10,000	11,089	12,544	13,736	16,051
DARE	6,995	9,800	13,377	17,021	22,746	26,027
DAVIDSON	95,627	103,900	113,162	120,060	126,688	137,760
DAVIE	18,855	21,800	24,599	26,356	27,859	30,443
DUPLIN	38,015	40,100	40,952	40,541	39,995	44,831

DURHAM	132,681	142,800	152,235	163,961	181,844	201,370
EDGECOMBE	52,341	54,000	55,988	57,706	56,692	57,444
FORSYTH	215,118	229,400	243,704	256,980	265,855	285,690
FRANKLIN	26,820	28,700	30,055	32,710	36,414	42,119
GASTON	148,415	156,900	162,568	171,734	174,769	182,077
GATES	8,524	8,700	8,875	9,115	9,305	9,944
GRAHAM	6,562	6,700	7,217	7,271	7,196	7,652
GRANVILLE	32,762	33,600	34,043	35,970	38,341	42,244
GREENE	14,967	14,900	16,117	15,953	15,384	16,972
GUILFORD	288,645	302,000	317,154	329,572	347,431	383,782
HALIFAX	54,354	55,100	55,076	55,095	55,516	58,700
HARNETT	49,667	55,700	59,570	63,545	67,833	78,642
HAYWOOD	41,710	44,500	46,495	47,344	46,948	50,646
HENDERSON	42,838	50,500	58,617	65,085	69,747	79,382
HERTFORD	24,439	23,100	23,368	23,362	22,317	22,977
HOKE	16,436	19,100	20,383	21,614	22,856	28,241
HYDE	5,571	5,700	5,873	5,834	5,411	5,302
IREDELL	72,197	78,400	82,538	87,100	93,205	104,967
JACKSON	21,593	24,300	25,811	26,702	26,835	30,238
...go to state	..............................Population..............................					
County	**April 1970**	**July 1975**	**April 1980**	**July 1985**	**April 1990**	**July 1995**
JOHNSTON	61,737	66,800	70,599	75,862	81,306	98,465
JONES	9,779	9,800	9,705	9,383	9,361	9,896
LEE	30,467	33,600	36,718	39,711	41,370	45,606
LENOIR	55,204	58,500	59,819	58,849	57,274	59,691
LINCOLN	32,682	37,900	42,372	45,606	50,319	56,753
MCDOWELL	30,648	33,200	35,135	35,820	35,681	37,889
MACON	15,788	18,100	20,178	22,758	23,504	26,554
MADISON	16,003	16,500	16,827	17,037	16,953	18,026
MARTIN	24,730	25,300	25,948	25,858	25,078	25,705
MECKLENBURG	354,656	377,400	404,270	448,830	511,211	596,190
MITCHELL	13,447	14,100	14,428	14,399	14,433	15,255
MONTGOMERY	19,267	20,600	22,469	23,175	23,359	24,824
MOORE	39,048	44,700	50,505	53,963	59,000	67,461
NASH	59,122	64,200	67,153	71,094	76,677	83,094
NEW HANOVER	82,996	98,600	103,471	111,994	120,284	143,983
NORTHAMPTON	23,099	22,700	22,195	21,922	21,004	21,503

ONSLOW	103,126	112,700	112,784	133,152	149,838	148,508
ORANGE	57,567	69,300	77,055	83,581	93,662	107,352
PAMLICO	9,467	9,500	10,398	11,040	11,368	11,971
PASQUOTANK	26,824	27,500	28,462	29,491	31,298	33,353
PENDER	18,149	20,200	22,262	24,394	28,855	35,288
PERQUIMANS	8,351	9,100	9,486	9,946	10,447	10,836
PERSON	25,914	27,400	29,164	29,469	30,180	32,873
PITT	73,900	82,000	90,146	97,986	108,480	119,426
POLK	11,735	12,600	12,984	14,021	14,458	16,397
RANDOLPH	76,358	84,400	91,300	97,579	106,546	116,728
RICHMOND	39,889	41,800	45,161	45,112	44,511	45,881
ROBESON	84,842	95,500	101,610	104,457	105,170	114,171
ROCKINGHAM	72,402	79,800	83,426	85,001	86,064	89,299
ROWAN	90,035	93,800	99,186	104,406	110,605	120,384
RUTHERFORD	47,337	51,000	53,787	56,149	56,956	60,269
SAMPSON	44,954	48,000	49,687	48,452	47,297	53,056
SCOTLAND	26,929	30,100	32,273	33,016	33,763	35,128
STANLY	42,822	45,700	48,517	50,182	51,765	54,232
STOKES	23,782	29,300	33,086	35,378	37,224	41,452
SURRY	51,415	56,100	59,449	60,520	61,704	66,103
SWAIN	8,835	9,900	10,283	10,846	11,268	11,816
TRANSYLVANIA	19,713	21,700	23,417	24,948	25,520	27,484
TYRRELL	3,806	3,900	3,975	4,020	3,856	3,827
UNION	54,714	63,000	70,436	76,712	84,210	100,520
VANCE	32,691	34,000	36,748	38,001	38,892	40,204
WAKE	229,006	267,600	301,429	360,387	426,311	527,819
WARREN	15,340	16,400	16,232	16,758	17,265	18,542
WASHINGTON	14,038	15,100	14,801	14,285	13,997	14,273
WATAUGA	23,404	29,800	31,666	35,071	36,952	40,890
WAYNE	85,408	92,500	97,054	101,139	104,666	110,664
WILKES	49,524	55,500	58,657	59,852	59,393	62,686
WILSON	57,486	60,100	63,132	64,373	66,061	69,712
YADKIN	24,599	27,200	28,439	29,350	30,488	33,741
YANCEY	12,629	14,100	14,934	15,346	15,419	16,524

	..........Population..........					
NORTH	**April 1970**	**July 1975**	**April 1980**	**July 1985**	**April 1990**	**July 1995**
CAROLINA	5,084,411	5,538,200	5,880,095	6,254,998	6,632,448	7,336,228

...go to top or 1970-95 densities or (County/State Estimates)

Last Update: May 9, 2001

NCSDC 2004a REVISED since DETS

2003 Revised County Population Estimates

(...open/download as Excel Spreadsheet).............(...go to 2000-2003 Growth Map)

..go to state	July_03	April_00	Growth		A00-J03	A00-J03	A00-J03	Net Migration	
Counties	Estimate	EstBase	Number	%	Births	Deaths	Nat. Gr.	Estimate	%
ALAMANCE	136,359	130,794	5,565	4.3	6,058	4,264	1,794	3,771	2.9
ALEXANDER	34,569	33,603	966	2.9	1,372	920	452	514	1.5
ALLEGHANY	10,790	10,680	110	1.0	338	455	-117	227	2.1
ANSON	25,238	25,275	-37	-0.1	1,089	957	132	-169	-0.7
ASHE	25,064	24,384	680	2.8	823	944	-121	801	3.3
AVERY	18,076	17,167	909	5.3	572	605	-33	942	5.5
BEAUFORT	45,628	44,958	670	1.5	2,041	1,773	268	402	0.9
BERTIE	19,804	19,757	47	0.2	842	868	-26	73	0.4
BLADEN	32,730	32,278	452	1.4	1,503	1,280	223	229	0.7
BRUNSWICK	81,782	73,141	8,641	11.8	2,797	2,389	408	8,233	11.3
BUNCOMBE	212,500	206,289	6,211	3.0	8,254	7,191	1,063	5,148	2.5
BURKE	88,804	89,145	-341	-0.4	3,463	2,690	773	-1,114	-1.2
CABARRUS	143,520	131,063	12,457	9.5	7,108	3,706	3,402	9,055	6.9
CALDWELL	78,188	77,708	480	0.6	3,145	2,525	620	-140	-0.2
CAMDEN	7,841	6,885	956	13.9	257	208	49	907	13.2
CARTERET	60,673	59,383	1,290	2.2	1,926	2,228	-302	1,592	2.7
CASWELL	23,768	23,501	267	1.1	832	800	32	235	1.0
CATAWBA	146,702	141,686	5,016	3.5	6,751	4,230	2,521	2,495	1.8
CHATHAM	53,716	49,329	4,387	8.9	2,186	1,583	603	3,784	7.7
CHEROKEE	25,290	24,298	992	4.1	868	1,024	-156	1,148	4.7
CHOWAN	14,358	14,150	208	1.5	602	594	8	200	1.4
CLAY	9,384	8,775	609	6.9	264	364	-100	709	8.1
CLEVELAND	97,550	96,290	1,260	1.3	4,106	3,270	836	424	0.4
COLUMBUS	54,550	54,749	-199	-0.4	2,560	2,075	485	-684	-1.2
CRAVEN	92,346	91,523	823	0.9	5,102	2,726	2,376	-1,553	-1.7
CUMBERLAND	308,814	302,963	5,851	1.9	17,634	6,548	11,086	-5,235	-1.7
CURRITUCK	20,603	18,190	2,413	13.3	715	530	185	2,228	12.2
DARE	33,328	29,967	3,361	11.2	1,185	848	337	3,024	10.1
DAVIDSON	151,942	147,246	4,696	3.2	6,280	4,538	1,742	2,954	2.0
DAVIE	37,240	34,835	2,405	6.9	1,450	1,110	340	2,065	5.9

DUPLIN	50,808	49,063	1,745	3.6	2,577	1,626	951	794	1.6
DURHAM	235,706	223,318	12,388	5.5	12,492	5,456	7,036	5,352	2.4
EDGECOMBE	54,042	55,606	-1,564	-2.8	2,552	2,008	544	-2,108	-3.8
FORSYTH	317,623	306,067	11,556	3.8	14,919	8,948	5,971	5,585	1.8
FRANKLIN	51,752	47,260	4,492	9.5	2,138	1,428	710	3,782	8.0
GASTON	191,454	190,304	1,150	0.6	8,436	6,386	2,050	-900	-0.5
GATES	10,824	10,516	308	2.9	361	413	-52	360	3.4
GRAHAM	8,070	7,993	77	1.0	322	335	-13	90	1.1
GRANVILLE	52,399	48,498	3,901	8.0	1,950	1,443	507	3,394	7.0
GREENE	19,873	18,974	899	4.7	790	560	230	669	3.5
GUILFORD	431,247	421,048	10,199	2.4	19,263	11,308	7,955	2,244	0.5
HALIFAX	56,822	57,370	-548	-1.0	2,485	2,183	302	-850	-1.5
HARNETT	97,710	91,025	6,685	7.3	4,707	2,408	2,299	4,386	4.8
HAYWOOD	55,885	54,033	1,852	3.4	1,834	2,097	-263	2,115	3.9
HENDERSON	94,547	89,214	5,333	6.0	3,530	3,630	-100	5,433	6.1
HERTFORD	23,796	22,977	819	3.6	910	971	-61	880	3.8
HOKE	37,052	33,646	3,406	10.1	2,195	796	1,399	2,007	6.0
HYDE	5,721	5,826	-105	-1.8	192	220	-28	-77	-1.3
IREDELL	133,312	122,660	10,652	8.7	5,988	3,618	2,370	8,282	6.8
JACKSON	35,002	33,121	1,881	5.7	1,181	1,001	180	1,701	5.1
..go to state	**July_03**	**April_00**	**Growth**		**A00-J03**	**A00-J03**	**A00-J03**	**Net Migration**	
Counties	**Estimate**	**EstBase**	**Number**	**%**	**Births**	**Deaths**	**Nat. Gr.**	**Estimate**	**%**
JOHNSTON	136,394	121,900	14,494	11.9	6,836	3,164	3,672	10,822	8.9
JONES	10,201	10,419	-218	-2.1	297	402	-105	-113	-1.1
LEE	49,824	49,208	616	1.3	2,689	1,544	1,145	-529	-1.1
LENOIR	58,904	59,598	-694	-1.2	2,634	2,331	303	-997	-1.7
LINCOLN	67,374	63,780	3,594	5.6	2,854	1,872	982	2,612	4.1
MCDOWELL	43,078	42,151	927	2.2	1,703	1,437	266	661	1.6
MACON	31,378	29,811	1,567	5.3	1,011	1,236	-225	1,792	6.0
MADISON	19,998	19,635	363	1.8	709	710	-1	364	1.9
MARTIN	24,927	25,546	-619	-2.4	1,026	1,034	-8	-611	-2.4
MECKLENBURG	750,570	695,370	55,200	7.9	39,772	14,968	24,804	30,396	4.4
MITCHELL	15,936	15,687	249	1.6	538	673	-135	384	2.4
MONTGOMERY	27,340	26,822	518	1.9	1,304	878	426	92	0.3
MOORE	78,204	74,762	3,442	4.6	2,924	2,876	48	3,394	4.5
NASH	89,614	87,385	2,229	2.6	4,001	2,868	1,133	1,096	1.3

NEW HANOVER	169,171	160,327	8,844	5.5	6,630	4,604	2,026	6,818	4.3
NORTHAMPTON	21,762	22,086	-324	-1.5	787	926	-139	-185	-0.8
ONSLOW	156,550	150,355	6,195	4.1	10,322	2,491	7,831	-1,636	-1.1
ORANGE	120,278	115,533	4,745	4.1	4,252	2,241	2,011	2,734	2.4
PAMLICO	12,993	12,934	59	0.5	334	477	-143	202	1.6
PASQUOTANK	36,428	34,897	1,531	4.4	1,523	1,179	344	1,187	3.4
PENDER	43,712	41,082	2,630	6.4	1,573	1,220	353	2,277	5.5
PERQUIMANS	11,724	11,368	356	3.1	390	496	-106	462	4.1
PERSON	37,030	35,623	1,407	3.9	1,500	1,248	252	1,155	3.2
PITT	138,958	133,719	5,239	3.9	6,496	3,415	3,081	2,158	1.6
POLK	18,876	18,324	552	3.0	568	902	-334	886	4.8
RANDOLPH	134,914	130,471	4,443	3.4	5,995	3,687	2,308	2,135	1.6
RICHMOND	46,481	46,564	-83	-0.2	2,096	1,732	364	-447	-1.0
ROBESON	125,549	123,245	2,304	1.9	6,744	3,860	2,884	-580	-0.5
ROCKINGHAM	92,480	91,928	552	0.6	3,746	3,359	387	165	0.2
ROWAN	133,226	130,340	2,886	2.2	5,471	4,350	1,121	1,765	1.4
RUTHERFORD	63,420	62,901	519	0.8	2,617	2,448	169	350	0.6
SAMPSON	62,206	60,161	2,045	3.4	2,974	2,047	927	1,118	1.9
SCOTLAND	35,626	35,998	-372	-1.0	1,593	1,156	437	-809	-2.2
STANLY	59,004	58,100	904	1.6	2,422	1,936	486	418	0.7
STOKES	45,640	44,711	929	2.1	1,632	1,356	276	653	1.5
SURRY	71,965	71,216	749	1.1	3,060	2,508	552	197	0.3
SWAIN	13,344	12,968	376	2.9	565	538	27	349	2.7
TRANSYLVANIA	29,504	29,334	170	0.6	890	1,172	-282	452	1.5
TYRRELL	4,234	4,149	85	2.0	143	161	-18	103	2.5
UNION	144,736	123,772	20,964	16.9	7,494	2,837	4,657	16,307	13.2
VANCE	43,856	42,954	902	2.1	2,329	1,561	768	134	0.3
WAKE	701,052	627,866	73,186	11.7	34,954	10,926	24,028	49,158	7.8
WARREN	20,066	19,972	94	0.5	650	758	-108	202	1.0
WASHINGTON	13,496	13,723	-227	-1.7	557	549	8	-235	-1.7
WATAUGA	42,764	42,693	71	0.2	1,126	940	186	-115	-0.3
WAYNE	114,108	113,329	779	0.7	5,574	3,407	2,167	-1,388	-1.2
WILKES	66,936	65,632	1,304	2.0	2,847	2,171	676	628	1.0
WILSON	75,682	73,811	1,871	2.5	3,497	2,369	1,128	743	1.0
YADKIN	36,827	36,348	479	1.3	1,552	1,229	323	156	0.4
YANCEY	17,908	17,774	134	0.8	606	604	2	132	0.7

	July_03	April_00	Growth		A00-J03	A00-J03	A00-J03	Migration	
NORTH	Estimate	EstBase	Number	%	Births	Deaths	Nat. Gr.	Estimate	%
CAROLINA	8,421,050	8,046,813	374,237	4.65	384,752	232,931	151,821	222,416	2.8

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(..go to County/State Estimates)

Last Update: May 10, 2005

NCSDC 2004b

Population Overview: 2000-2030

(to open/download as Excel Spreadsheet, click here)

...go to state	...Population...						
County	**April 2000**	**July 2005**	**April 2010**	**July 2015**	**April 2020**	**July 2025**	**April 20**
ALAMANCE	130,794	138,788	148,871	159,467	171,023	182,502	194,
ALEXANDER	33,603	35,545	37,949	40,271	42,681	44,930	47,
ALLEGHANY	10,680	10,913	11,268	11,581	11,890	12,120	12,
ANSON	25,275	25,848	26,483	27,089	27,651	28,143	28,
ASHE	24,384	25,279	26,167	26,859	27,561	28,087	28,
AVERY	17,167	18,195	19,050	19,848	20,503	21,085	21,
BEAUFORT	44,958	46,077	47,249	48,123	49,046	49,597	50,
BERTIE	19,757	19,700	19,447	19,134	18,777	18,351	17,
BLADEN	32,278	33,204	34,527	35,718	36,917	37,939	39,
BRUNSWICK	73,141	87,715	99,171	110,747	121,483	132,307	142,
BUNCOMBE	206,289	217,423	230,803	244,603	258,650	272,005	285,
BURKE	89,145	89,077	92,316	95,289	99,043	101,908	105,
CABARRUS	131,063	150,249	168,682	188,344	209,070	230,661	253,
CALDWELL	77,708	78,816	80,705	82,309	84,040	85,370	86,
CAMDEN	6,885	8,881	10,029	11,151	12,313	13,448	14,
CARTERET	59,383	62,436	64,928	67,128	69,000	70,406	71,
CASWELL	23,501	23,857	24,782	25,667	26,652	27,422	28,
CATAWBA	141,686	149,416	159,247	169,241	179,749	190,063	200,
CHATHAM	49,329	56,274	61,987	68,002	73,924	80,120	86,
CHEROKEE	24,298	26,063	27,727	29,266	30,660	31,891	33,
CHOWAN	14,150	14,515	14,794	15,012	15,237	15,329	15,
CLAY	8,775	9,811	10,596	11,280	11,916	12,450	12,
CLEVELAND	96,290	97,810	101,069	104,272	107,880	111,057	114,
COLUMBUS	54,749	54,643	55,885	56,932	58,168	58,984	60,
CRAVEN	91,523	92,151	93,679	95,418	96,449	97,323	97,
CUMBERLAND	302,963	313,000	324,385	337,724	349,192	361,304	371,
CURRITUCK	18,190	22,617	25,693	28,916	32,016	35,181	38,
DARE	29,967	35,145	39,195	43,235	47,117	50,798	54,
DAVIDSON	147,246	154,796	163,277	171,800	180,636	189,224	197,
DAVIE	34,835	38,644	42,197	45,724	49,452	53,101	56,
DUPLIN	49,063	52,141	56,145	60,404	64,918	69,539	74,

DURHAM	223,318	242,527	260,010	279,415	297,461	317,570	336,
EDGECOMBE	55,606	53,554	52,189	50,756	49,375	47,750	46,
FORSYTH	306,067	324,361	343,703	363,630	384,684	405,545	427,
FRANKLIN	47,260	54,181	60,166	66,662	73,037	79,769	86,
GASTON	190,304	192,641	196,946	201,125	205,054	208,490	211,
GATES	10,516	11,071	11,603	12,095	12,664	13,113	13,
GRAHAM	7,993	8,105	8,336	8,523	8,723	8,846	8,
GRANVILLE	48,498	53,977	58,905	63,966	69,054	74,063	78,
GREENE	18,974	20,267	21,783	23,293	24,892	26,390	27,
GUILFORD	421,048	438,775	466,941	496,290	527,134	557,370	588,
HALIFAX	57,370	56,344	56,069	55,861	55,603	55,090	54,
HARNETT	91,025	101,737	112,964	125,224	137,638	150,488	163,
HAYWOOD	54,033	57,097	60,066	62,906	65,779	68,380	70,
HENDERSON	89,214	97,810	106,595	115,539	124,517	133,563	142,
HERTFORD	22,977	23,844	24,324	24,619	24,939	25,034	25,
HOKE	33,646	39,808	45,826	52,363	59,154	66,392	73,
HYDE	5,826	5,607	5,604	5,618	5,651	5,605	5,
IREDELL	122,660	139,135	154,808	171,182	188,417	205,892	223,
JACKSON	33,121	36,245	38,920	41,373	43,630	45,778	47,
...go to state	...Population...						
County	**April 2000**	**July 2005**	**April 2010**	**July 2015**	**April 2020**	**July 2025**	**April 20**
JOHNSTON	121,900	145,968	168,481	192,811	217,764	244,330	271,
JONES	10,419	10,216	10,283	10,398	10,499	10,569	10,
LEE	49,208	50,493	53,433	56,306	59,648	62,627	66,
LENOIR	59,598	58,378	58,174	57,725	57,437	56,829	56,
LINCOLN	63,780	69,145	75,312	81,243	87,813	93,755	100,
MCDOWELL	42,151	43,576	45,914	48,182	50,553	52,717	54,
MACON	29,811	32,257	34,945	37,555	40,288	42,768	45,
MADISON	19,635	20,361	21,318	22,204	23,152	23,951	24,
MARTIN	25,546	24,543	24,144	23,700	23,364	22,857	22,
MECKLENBURG	695,370	786,651	880,879	981,358	1,082,890	1,189,291	1,296,
MITCHELL	15,687	16,101	16,536	16,910	17,288	17,546	17,
MONTGOMERY	26,822	27,278	28,408	29,477	30,749	31,858	33,
MOORE	74,762	80,497	86,801	92,948	99,470	105,521	111,
NASH	87,385	91,530	95,920	100,310	104,871	109,068	113,
NEW HANOVER	160,327	177,692	194,509	211,567	227,827	243,892	259,
NORTHAMPTON	22,086	21,507	21,456	21,424	21,467	21,368	21,

ONSLOW	150,355	161,958	167,875	175,099	178,563	184,714	187,
ORANGE	115,533	122,474	131,515	140,201	149,080	157,033	165,
PAMLICO	12,934	13,125	13,490	13,838	14,136	14,343	14,
PASQUOTANK	34,897	38,118	40,226	42,441	44,321	46,230	47,
PENDER	41,082	46,142	51,386	56,911	62,275	67,612	72,
PERQUIMANS	11,368	11,939	12,398	12,833	13,258	13,600	13,
PERSON	35,623	37,344	39,500	41,669	43,901	45,947	48,
PITT	133,719	143,376	152,956	162,672	172,440	181,944	191,
POLK	18,324	19,170	20,486	21,876	23,344	24,738	26,
RANDOLPH	130,471	137,306	146,916	156,478	166,956	176,851	187,
RICHMOND	46,564	46,447	46,662	46,720	46,928	46,894	46,
ROBESON	123,245	127,506	133,659	139,659	145,832	151,514	157,
ROCKINGHAM	91,928	92,236	93,754	94,942	96,450	97,451	98,
ROWAN	130,340	134,094	141,316	149,020	157,380	165,350	173,
RUTHERFORD	62,901	63,397	65,046	66,504	68,248	69,535	71,
SAMPSON	60,161	63,375	68,561	74,009	79,813	85,628	91,
SCOTLAND	35,998	37,060	37,874	38,519	39,162	39,606	39,
STANLY	58,100	59,386	61,682	63,864	66,403	68,410	70,
STOKES	44,711	46,247	48,753	51,071	53,582	55,760	58,
SURRY	71,216	72,641	75,757	78,539	81,974	84,933	88,
SWAIN	12,968	13,600	14,290	15,014	15,728	16,399	17,
TRANSYLVANIA	29,334	29,850	30,803	31,667	32,442	33,005	33,
TYRRELL	4,149	4,180	4,285	4,364	4,462	4,505	4,
UNION	123,772	158,002	184,590	213,229	242,652	274,436	306,
VANCE	42,954	44,068	45,724	47,237	49,061	50,563	52,
WAKE	627,866	746,336	859,649	981,999	1,106,218	1,236,514	1,367,
WARREN	19,972	20,147	20,890	21,676	22,481	23,137	23,
WASHINGTON	13,723	13,428	13,130	12,835	12,493	12,140	11,
WATAUGA	42,693	42,955	44,122	45,066	46,060	46,640	47,
WAYNE	113,329	115,596	118,883	122,100	125,614	128,478	131,
WILKES	65,632	67,351	69,690	71,719	73,940	75,806	77,
WILSON	73,811	77,042	80,435	83,469	86,916	89,871	93,
YADKIN	36,348	37,303	39,425	41,415	43,865	45,949	48,
YANCEY	17,774	18,167	18,839	19,503	20,139	20,677	21,

	..........Population..........						
NORTH	**April 2000**	**July 2005**	**April 2010**	**July 2015**	**April 2020**	**July 2025**	**April 2030**

CAROLINA	8,046,813	8,663,674	9,315,141	9,993,270	10,682,217	11,372,933	12,067,013

...go to top or 2000-2030 densities or (County/State Projections)

Last Update: May 25, 2005

(Progress Energy 2004)

Progress Energy

Herbicide Usage - Progress Energy Carolinas, Inc.

Environmental Policy
Environmental Annual Report
Air Quality
Solar Programs
Line Vegetation Management
Herbicide Usage - Progress Energy Carolinas, Inc.
Programs

The goal of Progress Energy Carolinas Inc. is to provide safe, reliable and economical electrical service to all of our customers. An important part of keeping electricity reliable is maintaining transmission and distribution power line rights of way to prevent service interruptions from trees and other tall vegetation. A loss of service can be inconvenient, costly to our customers, and may disrupt vital services, such as electricity to hospitals, fire departments and individuals on life-support systems.

For this reason, Progress Energy uses a variety of methods to manage unwanted vegetation on rights of way. We evaluate methods for safety, environmental impact and costs. Because of the variety of terrain, differences in soils and land use and vegetation type, Progress Energy uses an Integrated Vegetation Management (IVM) approach, which includes both mechanical and chemical control methods.

Progress Energy right-of-way maintenance is performed by contractors using a variety of methods. Mechanical methods include pruning, felling, mowing and hand clearing. Chemical controls involve the use of herbicides, which are used to control woody vegetation that reseeds or resprouts after mowing. Without herbicide applications, these sprouts grow quickly and require repetitive mowing. Over time, the use of herbicides results in the growth of favorable low-growing, nonwoody plants, such as grasses and other native plants. These new plant communities do not interfere with power lines and the reliable flow of electricity to our customers. In addition, they provide a natural habitat that benefits many kinds of wildlife. As a result, there is a reduced need for future mowing and herbicide applications.

Progress Energy's IVM approach balances concerns for human safety, animals and pets, agricultural crops and overall environmental issues. The herbicides used at Progress Energy have been approved for use on power line rights of way by the U.S. Environmental Protection Agency (EPA). The EPA requires rigorous toxicological, environmental and chemical testing before the herbicides are registered for use. Also, the herbicides Progress Energy uses have the same chemical ingredients as those our customers can purchase in stores (such as Roundup™) for controlling weeds in gardens, yards and for agricultural practices. Most importantly, our applications are performed under the supervision of a licensed applicator.

Progress Energy evaluates its right-of-way management program throughout our service area to be certain that all segments of power lines are accessible for maintenance of facilities and restoration of power during emergencies. When herbicides are used, the program consists of low-volume foliar application from

Related Res

EPA Environ
Stewardshi
An informativ

May through October, dormant-stem application from October through April and cut-stump/vine application throughout the year.

Progress Energy uses small amounts of eight herbicides for vegetation control on power line rights of way: Accord, EPA Registration # 62719-324; Arsenal, EPA Registration # 241-299; Garlon 3A, EPA Registration # 62719-37; Garlon 4, EPA Registration # 62719-40; Stalker/Chopper EPA Registration # 241-398; Krenite, EPA Registration #352-395; Sprakil S-5, EPA Registration # 34913-10; Topsite 2.5G, EPA Registration # 34913-22.

Progress Energy manages its power lines with concern for the environment. Natural vegetation serves as a source of food and shelter for many animals, such as song birds, quail, wild turkey, deer and rabbits. For these reasons, the herbicides selected are designed specifically to control vegetation and to minimize the risk to wildlife.

Mindful of our need to be good environmental stewards, Progress Energy works with federal, state and local governmental agencies and environmental organizations to identify and protect natural ecosystems and rare plants located within our rights of way, which we protect by selectively managing these sites. Progress Energy makes every effort to conserve compatible native plants within our rights of way that are valuable to wildlife and to control invasive exotic plants that threaten sensitive ecosystems.

We have found that many of our customers are pleased with this herbicide program. However, for organic farmers and others with concerns, we can provide other options. To discuss these options, contact Progress Energy Carolinas at 1-888-201-2229. If you desire a Material Safety Data Sheet or the manufacturer's label, please contact us at 1-888-201-2229, or access the manufacturer's Web site by selecting one of the links below:

- **Accord**
  EPA Reg No. 62719-00324
- **Arsenal**
  EPA Reg No. 00241-00299
- **Garlon 3A**
  EPA Reg No. 62719-00037
- **Garlon 4**
  EPA Reg No. 62719-00040
- **Stalker**
  EPA Reg No. 00241-00398
- **Krenite**
  EPA Reg No. 00352-00395
- **Sprakil S-5**
  EPA Reg. No. 34913-10
- **Topsite 2.5G**
  EPA Reg. No. 34913-22

RReDC
Renewable Resource Data Center

General Information

- News
- Links

Special Features

GLOSSARY

PV Walls

Kidz Links

ENERGY TIDBITS

Unit Conversions

Introduction

Welcome to the Renewable Resource Data Center (RReDC). The RReDC is supported by the National Center for Photovoltaics (NCPV) and managed by the Department of Energy's Office of Energy Efficiency and Renewable Energy. The RReDC is maintained by the Electric and Hydrogen Systems Center at the National Renewable Energy Laboratory.

The RReDC provides information on several types of renewable energy resources in the United States, in the form of publications, data, and maps. An extensive dictionary of renewable energy related terms is also provided. The News section announces new products on the RReDC.

Information by Resource

Biomass Resource Information | Geothermal Resource Information | Solar Resource Information | Wind Resource Information | Dynamic Maps and GIS Data

Webmaster | Security & Privacy | Disclaimer

(RReDC 2005)

Innovation for Our Energy Futur

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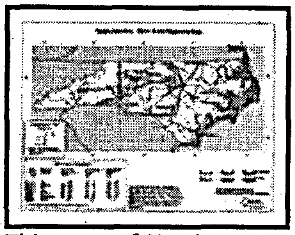
U.S. Department of Energy - Energy Efficiency and Renewable Energy
Wind and Hydropower Technologies Program - Wind Powering America

North Carolina Wind Resource Map



This map of North Carolina shows the wind resource at 50 meters.

Viewing Options
Larger Jpeg: Click Map
Printable:(PDF 2.9 MB)Download Acrobat Reader

The Department of Energy's Wind Program and the National Renewable Energy Laboratory (NREL) recently published a new wind resource map for the state of North Carolina. This resource map shows wind speed estimates at 50 meters above the ground and depicts the resource that could be used for utility-scale wind development. Future plans are to provide wind speed estimates at 30 meters, which are useful for identifying small wind turbine opportunities.

As a renewable resource, wind is classified according to wind power classes, which are based on typical wind speeds. These classes range from class 1 (the lowest) to class 7 (the highest). In general, wind power class 4 or higher can be useful for generating wind power with large turbines. Class 4 and above are considered good resources.

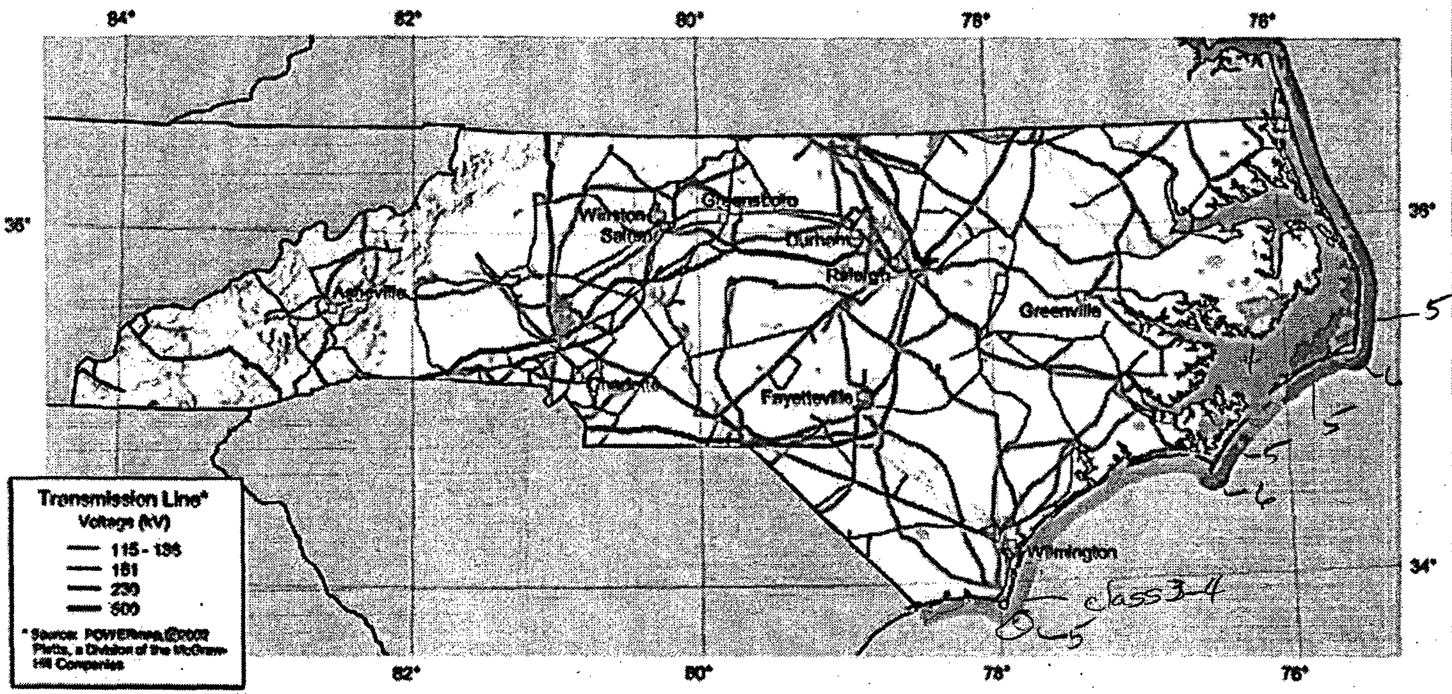
This map indicates that North Carolina has wind resources consistent with utility-scale production. The good-to-excellent wind resource areas are concentrated in two regions. The first is along the Atlantic coast and barrier islands. The second area is the higher ridge crests in western North Carolina.

Note: Wind resource at a micro level can vary significantly; therefore, you should get a professional evaluation of your specific area of interest.

If you have difficulty accessing NREL wind maps on this site because of a disability, please contact us in writing or via telephone and we will work with you to make the information available. Contact: Julie Cardinal, National Renewable Energy Laboratory, 1617 Cole Blvd., Golden, CO 80401, Phone: 303-384-7019.

Last Updated: 11/22/2004

North Carolina - 50 m Wind Resource Map



40 0 40 80 120 160 Kilometers
25 0 25 50 75 100 Miles

Wind Power Classification

Wind Power Class	Resource Potential	Wind Power Density at 50 m W/m²	Wind Speed* at 50 m m/s	Wind Speed* at 50 m mph
1	Poor	0 - 200	0.0 - 5.6	0.0 - 12.5
2	Marginal	200 - 300	5.6 - 6.4	12.5 - 14.3
3	Fair	300 - 400	6.4 - 7.0	14.3 - 15.7
4	Good	400 - 500	7.0 - 7.5	15.7 - 16.8
5	Excellent	500 - 600	7.5 - 8.0	16.8 - 17.9
6	Outstanding	600 - 800	8.0 - 8.8	17.9 - 19.7
7	Superb	> 800	> 8.8	> 19.7

*Wind speeds are based on a Weibull k value of 2.0

The annual wind power estimates for this map were produced by TrueWind Solutions using their Mesomap system and historical weather data. It has been validated with available surface data by NREL and wind energy meteorological consultants.

U.S. Department of Energy
National Renewable Energy Laboratory

NREL

09-JAN-2003 1.1.2

U.S. Solar Radiation Resource Maps:

Atlas for the *Solar Radiation Data Manual for Flat-Plate and Concentrating Collectors*

These maps show the general trends in the amount of solar radiation received in the United States and its territories. They are spatial interpolations of solar radiation values derived from the 1961-1990 National Solar Radiation Data Base (NSRDB) and published in the Solar Radiation Data Manual for Flat-Plate and Concentrating Collectors. Also available online is the Atlas for the Solar Radiation Data Manual for Buildings.

---

1. Select data type

Maps of minimum, maximum, and average solar radiation data are available. Maps of average values are produced by averaging all 30 years of data for each site. Maps of minimum and maximum values are composites of specific months and years for which each site achieved its minimum or maximum amounts of solar radiation. Click on the button next to the type of solar radiation map you want to see.

◉ Average	○ Minimum	○ Maximum

---

2. Select a month

To see the 30-year averages for a particular month, click on the button next to that month. To see the overall 30-year average solar radiation atlas for all months, click on the button next to "Annual".

◉ January	○ February	○ March	○ April
○ May	○ June	○ July	○ August

September	October	November	December
Annual			

3. Select an instrument orientation

Data from fourteen different collector orientations were used to make the solar atlas. Choose the orientation from the following list:

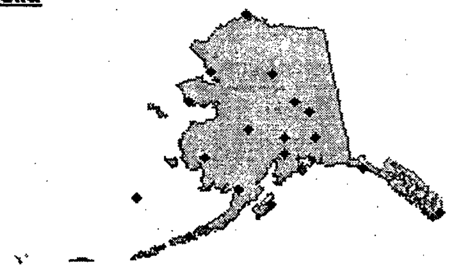
For descriptions from the *Manual* click here.

Single Axis Tracking Concentrator, East-West Axis
North-South Axis Tracking Concentrator Tilted at Latitude
North-South Axis Tracking Concentrator
Two Axis Tracking Concentrator
Two Axis Tracking Flat Plate
Flat Plate Tilted South at Latitude
Flat Plate Tilted South at Latitude - 15 Degrees
Flat Plate Tilted South at Latitude + 15 Degrees
Horizontal Flat Plate
South Facing Vertical Flat Plate
North-South Axis Tracking Flat Plate
North-South Axis Tracking Flat Plate Tilted at Latitude
North-South Axis Tracking Flat Plate Tilted at Latitude - 15 Degrees
North-South Axis Tracking Flat Plate Tilted at Latitude + 15 Degrees

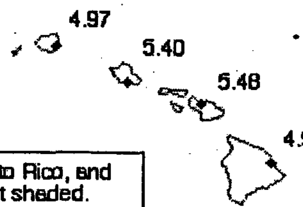
4. View the map (by pushing this button): View The Map

Return to RReDC home page (*http://rredc.nrel.gov*)

Alaska

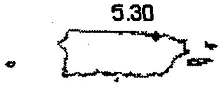


Hawaii

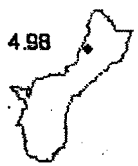


Hawaii, Puerto Rico, and Guam are not shaded.

San Juan, PR

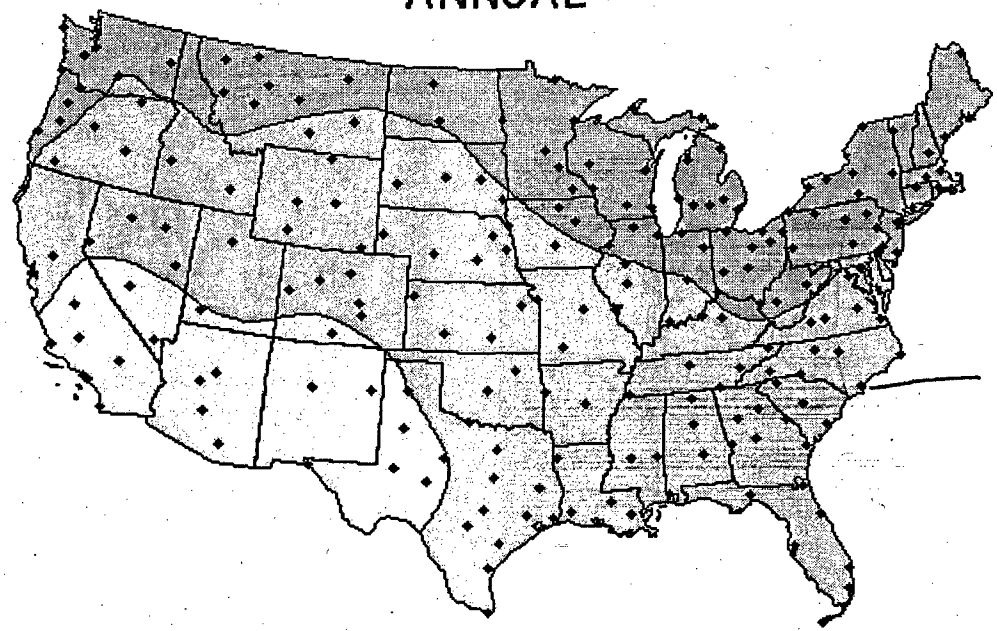


Guam, PI



Average Daily Solar Radiation Per Month

ANNUAL



4 to 5 kWh/m²/d

Horizontal Flat Plate

Collector Orientation

Flat-plate collector facing south on a horizontal surface: This map shows how much solar radiation is received by a horizontal surface such as a solar pond.

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Though useful for identifying general trends, this map should be used with caution for site-specific resource evaluations because variations in solar radiation not reflected in the maps can exist, introducing uncertainty into resource estimates.

Maps are not drawn to scale.

National Renewable Energy Laboratory
Resource Assessment Program

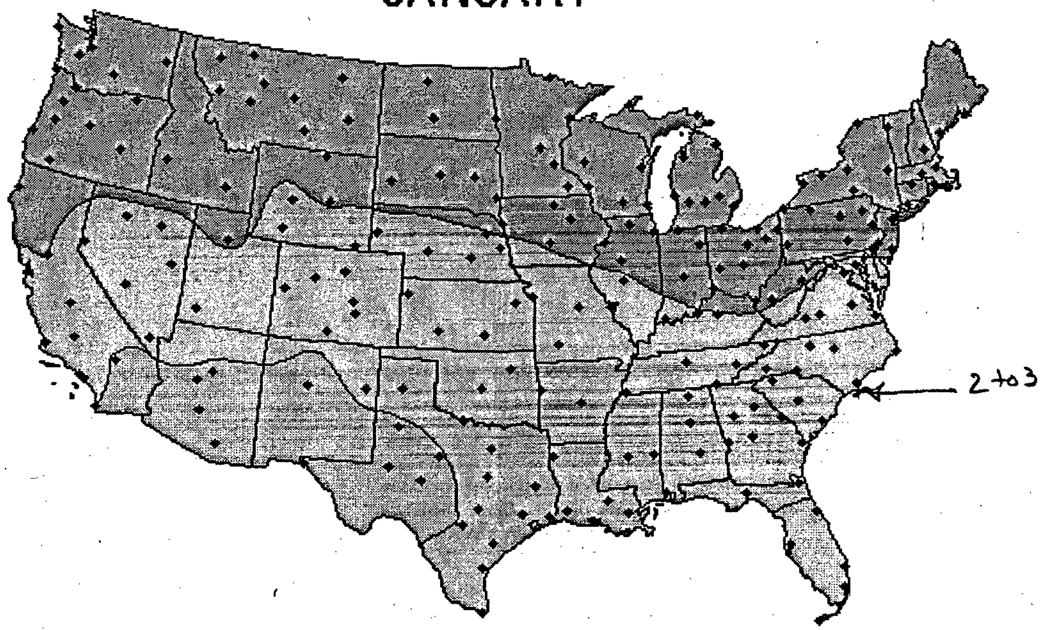
kWh/m^2/day

- 10 to 14
- 8 to 10
- 7 to 8
- 6 to 7
- 5 to 6
- 4 to 5
- 3 to 4
- 2 to 3
- 0 to 2
- none

FT00A13-32

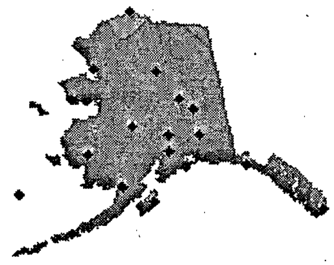
Average Daily Solar Radiation Per Month

JANUARY

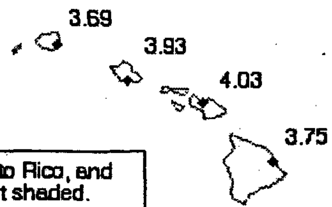


Horizontal Flat Plate

Alaska

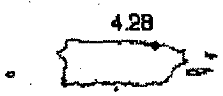


Hawaii



Hawaii, Puerto Rico, and Guam are not shaded.

San Juan, PR



Guam, PI

Collector Orientation

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NREL

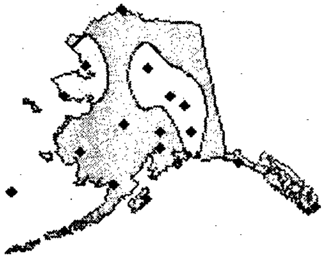
National Renewable Energy Laboratory
Resource Assessment Program

kWh/m²/day

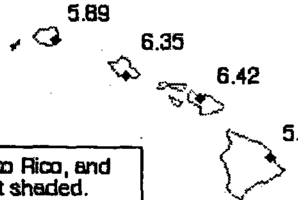
- 10 to 14
- 8 to 10
- 7 to 8
- 6 to 7
- 5 to 6
- 4 to 5
- 3 to 4
- 2 to 3
- 0 to 2
- none

FT00A01-31

Alaska



Hawaii



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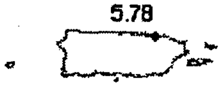
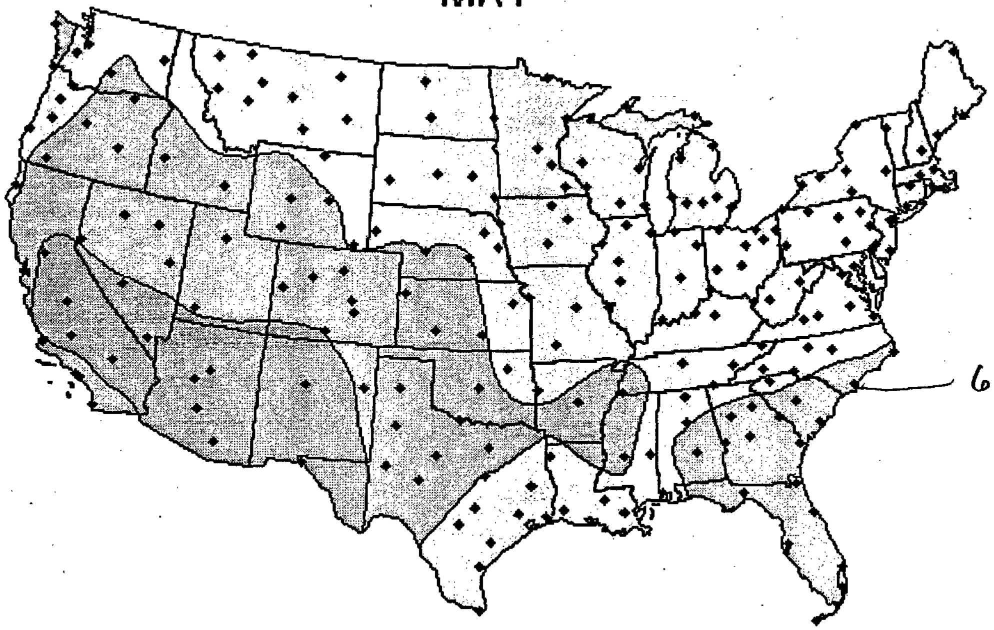
San Juan, PR



Guam, PI

Average Daily Solar Radiation Per Month

MAY



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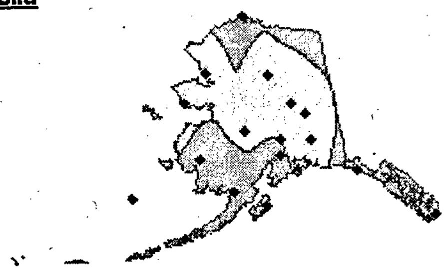
National Renewable Energy Laboratory
Resource Assessment Program

kWh/m²/day

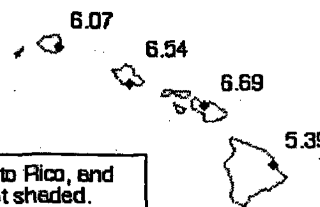
- 10 to 14
- 8 to 10
- 7 to 8
- 6 to 7
- 5 to 6
- 4 to 5
- 3 to 4
- 2 to 3
- 0 to 2
- none

FT00A05-31

Alaska



Hawaii



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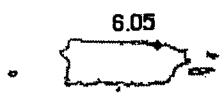
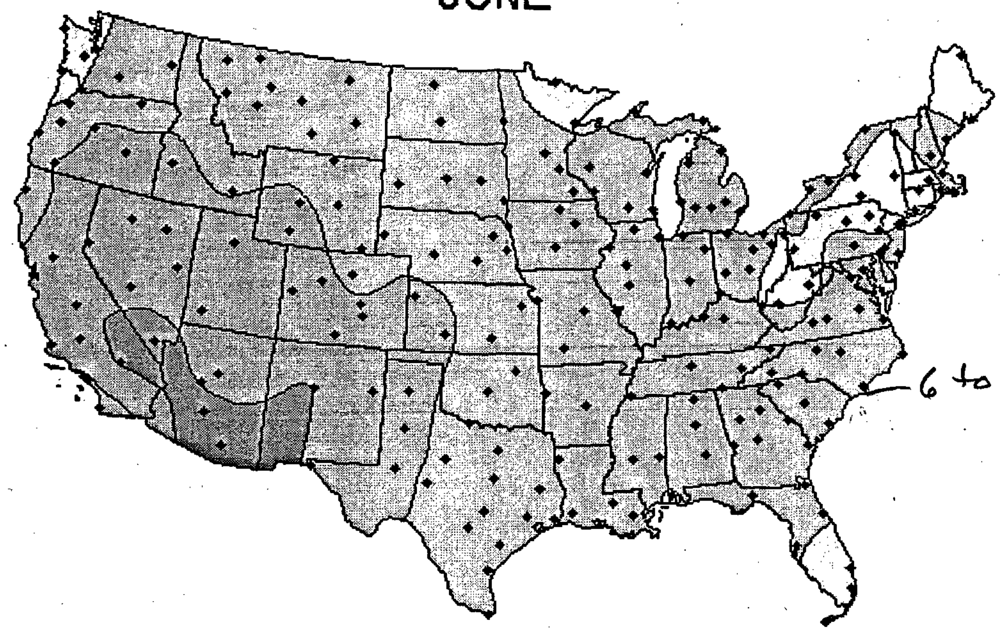
San Juan, PR



Guam, PI

Average Daily Solar Radiation Per Month

JUNE



6 to 7

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NREL

National Renewable Energy Laboratory
Resource Assessment Program

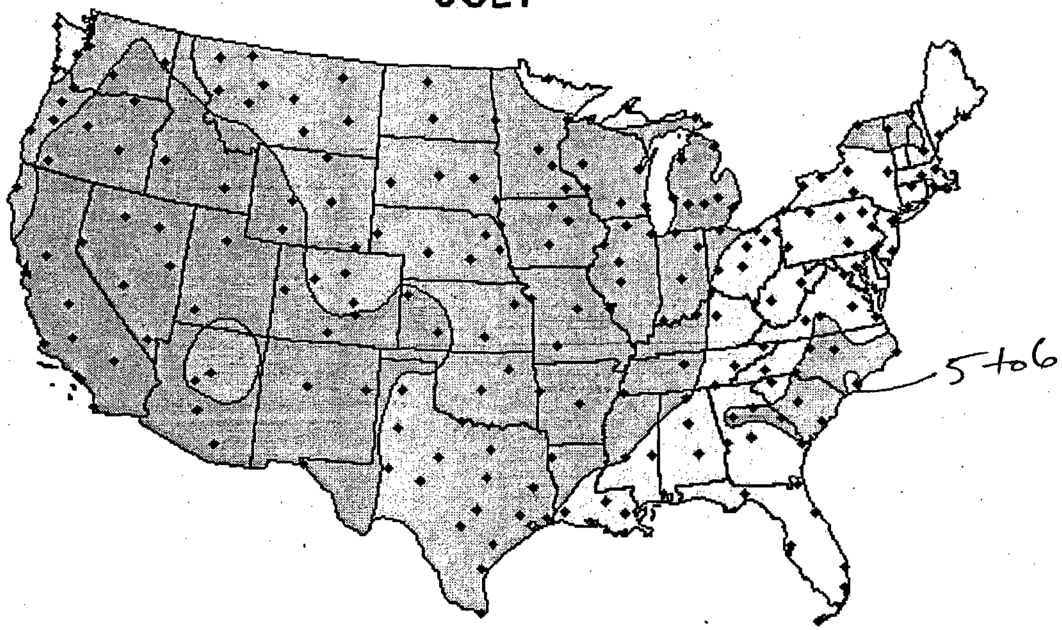
kWh/m^2/day

10 to 14
8 to 10
7 to 8
6 to 7
5 to 6
4 to 5
3 to 4
2 to 3
0 to 2
none

FTOOA06-31

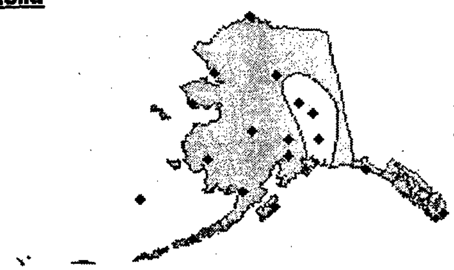
Average Daily Solar Radiation Per Month

JULY

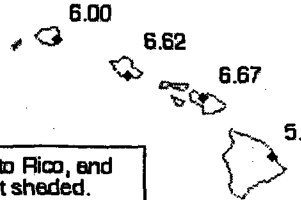


Horizontal Flat Plate

Alaska



Hawaii



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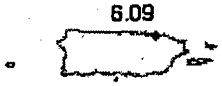
San Juan, PR



Guam, PI

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National Renewable Energy Laboratory
Resource Assessment Program

kWh/m²/day

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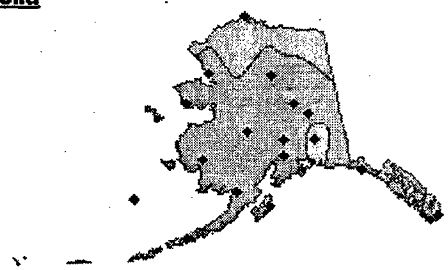
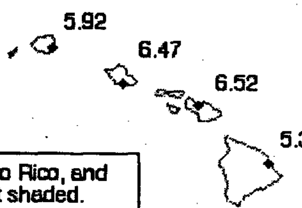
- 3 to 4
- 2 to 3
- 0 to 2
- none

FT00A07-31

Alaska



Hawaii



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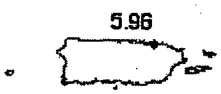
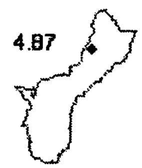
San Juan, PR

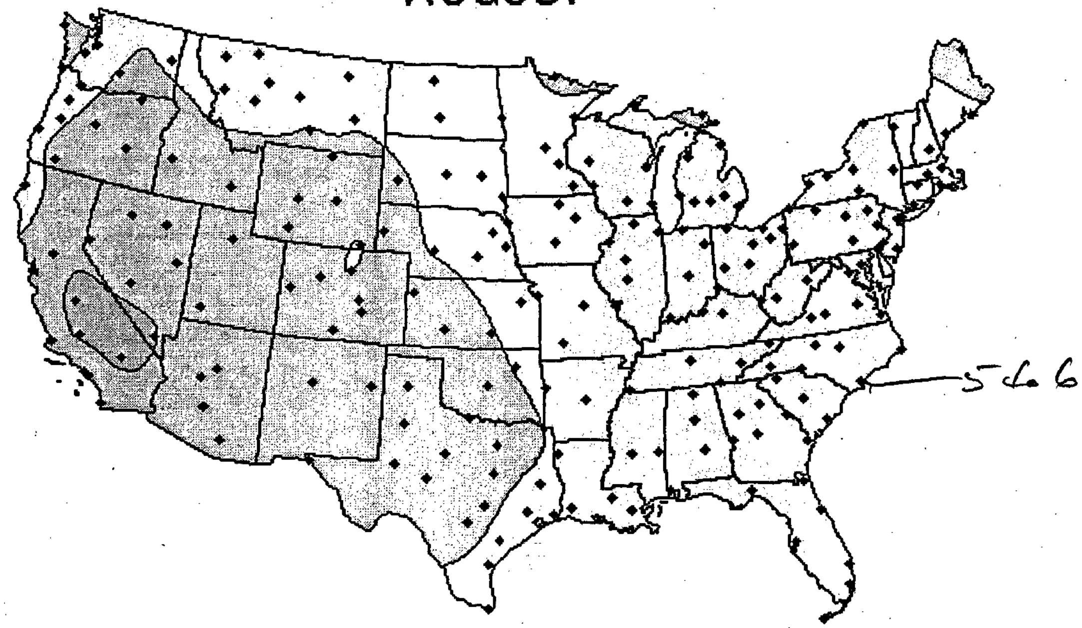


Guam, PI



Average Daily Solar Radiation Per Month

AUGUST



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Maps of average values are produced by averaging all 30 years of data for each site. Maps of maximum and minimum values are composites of specific months and years for which each site achieved its maximum or minimum amounts of solar radiation.

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Maps are not drawn to scale.

National Renewable Energy Laboratory
Resource Assessment Program

$kWh/m^2/day$

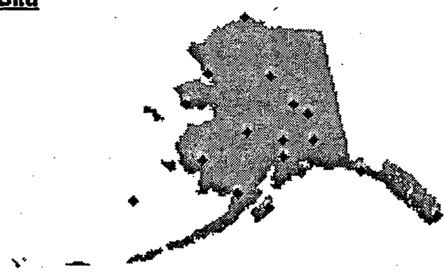
- 10 to 14
- 8 to 10
- 7 to 8
- 6 to 7
- 5 to 6
- 4 to 5
- 3 to 4
- 2 to 3
- 0 to 2
- none

FT00A08-3

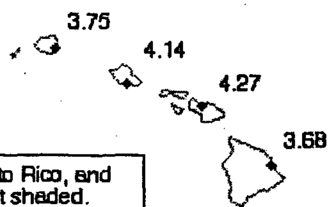
Average Daily Solar Radiation Per Month

NOVEMBER

Alaska

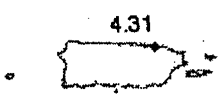


Hawaii

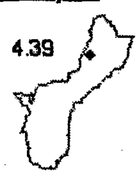


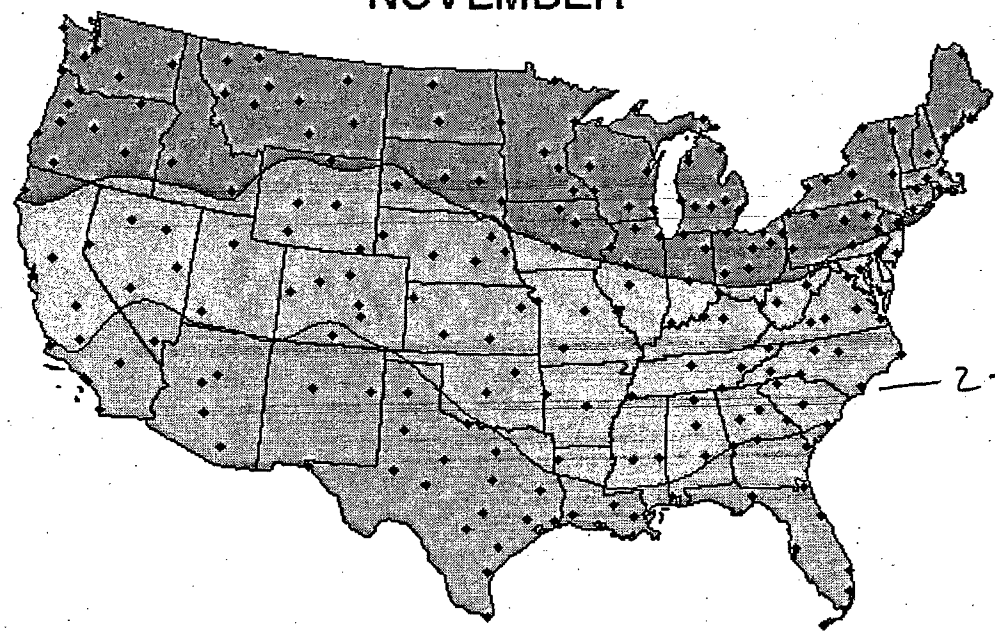
Hawaii, Puerto Rico, and Guam are not shaded.

San Juan, PR



Guam, PI





2 to 3

Horizontal Flat Plate

Collector Orientation

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Maps are not drawn to scale.

kWh/m^2/day

- 10 to 14
- 8 to 10
- 7 to 8
- 6 to 7
- 5 to 6
- 4 to 5
- 3 to 4
- 2 to 3
- 0 to 2
- none

NREL

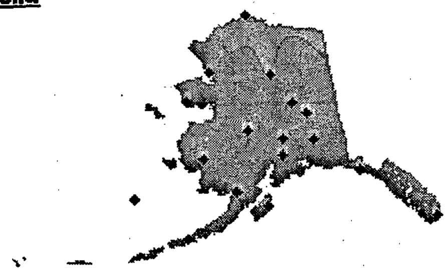
National Renewable Energy Laboratory
Resource Assessment Program

FT00A11-32

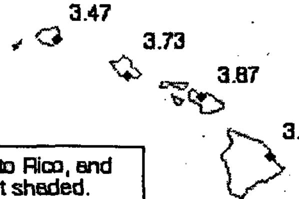
Average Daily Solar Radiation Per Month

DECEMBER

Alaska

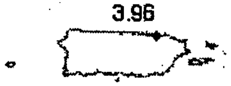


Hawaii

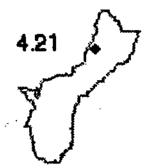


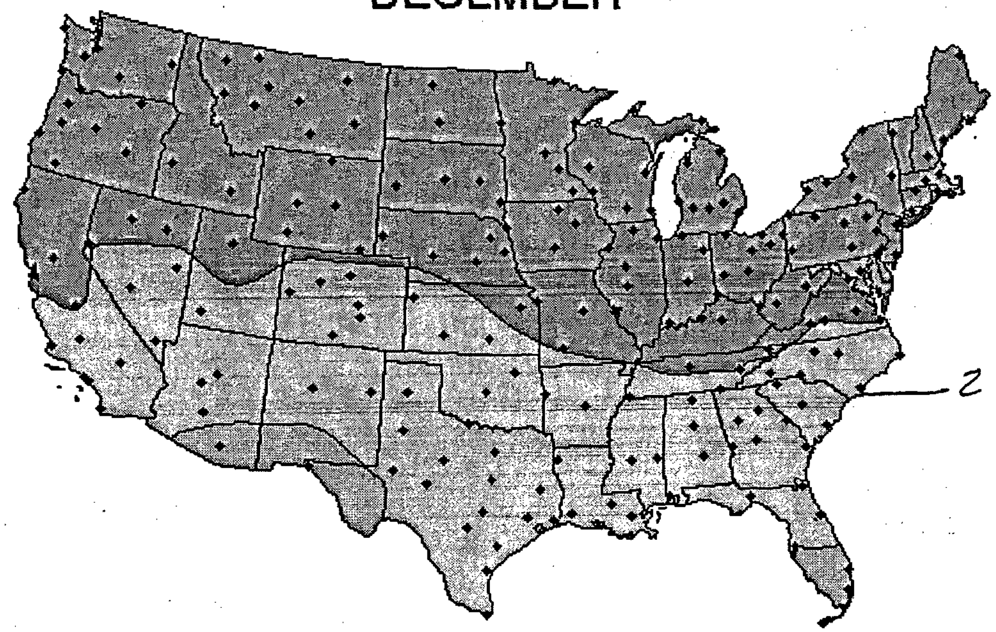
Hawaii, Puerto Rico, and Guam are not shaded.

San Juan, PR



Guam, PI





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National Renewable Energy Laboratory
Resource Assessment Program

kWh/m²/day

- 10 to 14
- 8 to 10
- 7 to 8
- 6 to 7
- 5 to 6
- 4 to 5
- 3 to 4
- 2 to 3
- 0 to 2
- none

FTD0A12-32

USCB 1990a, b

U.S. Census Bureau
American FactFinder

DP-5. Housing Characteristics: 1990

Data Set: 1990 Summary Tape File 3 (STF 3) - Sample data
Geographic Area: **Brunswick County, North Carolina**

NOTE: For information on confidentiality, sampling error, nonsampling error, and definitions, see http://factfinder.census.gov/home/en/datanotes/expstf390.htm.

Subject	Number
Total housing units	**37,114**
YEAR STRUCTURE BUILT	
1989 to March 1990	1,633
1985 to 1988	7,867
1980 to 1984	8,102
1970 to 1979	10,680
1960 to 1969	4,477
1950 to 1959	2,264
1940 to 1949	1,154
1939 or earlier	937
BEDROOMS	
No bedroom	186
1 bedroom	1,512
2 bedrooms	14,553
3 bedrooms	17,323
4 bedrooms	3,039
5 or more bedrooms	501
SELECTED CHARACTERISTICS	
Lacking complete plumbing facilities	298
Lacking complete kitchen facilities	229
Condominium housing units	1,360
SOURCE OF WATER	
Public system or private company	19,354
Individual drilled well	15,195
Individual dug well	2,439
Some other source	126
SEWAGE DISPOSAL	
Public sewer	6,177
Septic tank or cesspool	30,434
Other means	503
Occupied housing units	**20,069**
HOUSE HEATING FUEL	
Utility gas	94
Bottled, tank, or LP gas	2,411
Electricity	12,160
Fuel oil, kerosene, etc.	3,792
Coal or coke	12
Wood	1,509
Solar energy	14
Other fuel	24

Subject	Number
Median (dollars)	378
GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME IN 1989	
Specified renter-occupied housing units	**3,584**
Less than 20 percent	945
20 to 24 percent	407
25 to 29 percent	291
30 to 34 percent	191
35 percent or more	1,058
Not computed	692

(X) Not applicable
Source: U.S. Bureau of the Census, 1990 Census of Population and Housing, Summary Tape File 3 (Sample Data)
Matrices H1, H4, H6, H7, H23, H24, H25, H28, H30, H31, H35, H37, H42, H43, H43A, H51, H52, H52A, H58, H64.

DP-5. Housing Characteristics: 1990

Data Set: 1990 Summary Tape File 3 (STF 3) - Sample data
Geographic Area: **New Hanover County, North Carolina**

NOTE: For information on confidentiality, sampling error, nonsampling error, and definitions, see http://factfinder.census.gov/home/en/datanotes/expstf390.htm.

Subject	Number
Total housing units	**57,076**
YEAR STRUCTURE BUILT	
1989 to March 1990	2,121
1985 to 1988	8,230
1980 to 1984	7,656
1970 to 1979	13,819
1960 to 1969	8,250
1950 to 1959	6,061
1940 to 1949	5,561
1939 or earlier	5,378
BEDROOMS	
No bedroom	523
1 bedroom	5,236
2 bedrooms	18,951
3 bedrooms	25,582
4 bedrooms	5,676
5 or more bedrooms	1,108
SELECTED CHARACTERISTICS	
Lacking complete plumbing facilities	160
Lacking complete kitchen facilities	232
Condominium housing units	4,708
SOURCE OF WATER	
Public system or private company	45,105
Individual drilled well	10,995
Individual dug well	888
Some other source	88

Subject	Number
Less than 20 percent	13,660
20 to 24 percent	3,561
25 to 29 percent	2,327
30 to 34 percent	1,358
35 percent or more	3,233
Not computed	92
GROSS RENT	
Specified renter-occupied housing units	**17,830**
Less than $200	2,016
$200 to $299	1,540
$300 to $499	8,590
$500 to $749	4,121
$750 to $999	565
$1,000 or more	208
No cash rent	790
Median (dollars)	417
GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME IN 1989	
Specified renter-occupied housing units	**17,830**
Less than 20 percent	4,832
20 to 24 percent	2,541
25 to 29 percent	2,199
30 to 34 percent	1,493
35 percent or more	5,761
Not computed	1,004

(X) Not applicable
Source: U.S. Bureau of the Census, 1990 Census of Population and Housing, Summary Tape File 3 (Sample Data)
Matrices H1, H4, H6, H7, H23, H24, H25, H28, H30, H31, H35, H37, H42, H43, H43A, H51, H52, H52A, H58, H64.

USCB ~~1998~~ 2000a

U.S. Census Bureau
American FactFinder

QT-H1. **General Housing Characteristics: 2000**
Data Set: Census 2000 Summary File 1 (SF 1) 100-Percent Data
Geographic Area: **New Hanover County, North Carolina**

NOTE: For information on confidentiality protection, nonsampling error, definitions, and count corrections see http://factfinder.census.gov/home/en/datanotes/expsf1u.htm.

Subject	Number	Percent
OCCUPANCY STATUS		
Total housing units	**79,616**	**100.0**
Occupied housing units	68,183	85.6
Vacant housing units	11,433	14.4
TENURE		
Occupied housing units	**68,183**	**100.0**
Owner-occupied housing units	44,109	64.7
Renter-occupied housing units	24,074	35.3
VACANCY STATUS		
Vacant housing units	**11,433**	**100.0**
For rent	3,946	34.5
For sale only	1,470	12.9
Rented or sold, not occupied	541	4.7
For seasonal, recreational, or occasional use	4,387	38.4
For migratory workers	2	0.0
Other vacant	1,087	9.5
RACE OF HOUSEHOLDER		
Occupied housing units	**68,183**	**100.0**
One race	67,696	99.3
White	56,187	82.4
Black or African American	10,444	15.3
American Indian and Alaska Native	249	0.4
Asian	470	0.7
Native Hawaiian and Other Pacific Islander	28	0.0
Some other race	318	0.5
Two or more races	487	0.7
HISPANIC OR LATINO HOUSEHOLDER AND RACE OF HOUSEHOLDER		
Occupied housing units	**68,183**	**100.0**
Hispanic or Latino (of any race)	957	1.4
Not Hispanic or Latino	67,226	98.6
White alone	55,664	81.6
AGE OF HOUSEHOLDER		
Occupied housing units	**68,183**	**100.0**
15 to 24 years	6,242	9.2
25 to 34 years	12,474	18.3
35 to 44 years	13,623	20.0
45 to 54 years	13,152	19.3
55 to 64 years	9,254	13.6
65 years and over	13,438	19.7
65 to 74 years	7,419	10.9
75 to 84 years	4,780	7.0
85 years and over	1,239	1.8

(X) Not applicable.

~~USCB~~
USCB 2000b

QT-H1. General Housing Characteristics: 2000
Data Set: Census 2000 Summary File 1 (SF 1) 100-Percent Data
Geographic Area: **Brunswick County, North Carolina**

NOTE: For information on confidentiality protection, nonsampling error, and definitions, see http://factfinder.census.gov/home/en/datanotes/expsf1u.htm.

Subject	Number	Percent
OCCUPANCY STATUS		
Total housing units	**51,431**	**100.0**
Occupied housing units	30,438	59.2
Vacant housing units	20,993	40.8
TENURE		
Occupied housing units	**30,438**	**100.0**
Owner-occupied housing units	25,013	82.2
Renter-occupied housing units	5,425	17.8
VACANCY STATUS		
Vacant housing units	**20,993**	**100.0**
For rent	2,134	10.2
For sale only	981	4.7
Rented or sold, not occupied	389	1.9
For seasonal, recreational, or occasional use	15,540	74.0
For migratory workers	23	0.1
Other vacant	1,926	9.2
RACE OF HOUSEHOLDER		
Occupied housing units	**30,438**	**100.0**
One race	30,239	99.3
White	26,005	85.4
Black or African American	3,782	12.4
American Indian and Alaska Native	178	0.6
Asian	61	0.2
Native Hawaiian and Other Pacific Islander	5	0.0
Some other race	208	0.7
Two or more races	199	0.7
HISPANIC OR LATINO HOUSEHOLDER AND RACE OF HOUSEHOLDER		
Occupied housing units	**30,438**	**100.0**
Hispanic or Latino (of any race)	470	1.5
Not Hispanic or Latino	29,968	98.5
White alone	25,783	84.7
AGE OF HOUSEHOLDER		
Occupied housing units	**30,438**	**100.0**
15 to 24 years	1,068	3.5
25 to 34 years	3,967	13.0
35 to 44 years	5,493	18.0
45 to 54 years	5,851	19.2
55 to 64 years	6,163	20.2
65 years and over	7,896	25.9
65 to 74 years	5,172	17.0
75 to 84 years	2,332	7.7
85 years and over	392	1.3

(X) Not applicable.
Source: U.S. Census Bureau, Census 2000 Summary File 1, Matrices H3, H4, H5, H6, H7, and H16.

USCB 2001

Program: Decennial Programs
Census: Census 2000
Census Instance: Census 2000 United States
Census 2000 Puerto Rico
Data Set: Census 2000 Summary File 1 (SF 1) 100-Percent Data

Description: Summary File 1 presents counts and basic cross tabulations of information collected from all people and housing units. It includes counts for many detailed race and Hispanic or Latino categories. Various Quick Tables and Geographic Comparison Tables are derived from SF 1.

Date: April 1, 2000 (Census Day) is the reference date for Census 2000.

Geographic coverage: Summary File 1 presents data for the United States, the 50 states, and the District of Columbia in a hierarchical sequence down to the block level for many tabulations, but only to the census tract level for others. Summaries are included for other geographic areas such as ZIP Code Tabulation Areas (ZCTAs™) and Congressional districts.

Geographic coverage for Puerto Rico is comparable to the 50 states. Data are presented in a hierarchical sequence down the block level for many tabulations, but only to the census tract level for others. Geographic areas include barrios, barrios-pueblo, subbarrios, places, census tracts, block groups, and blocks. Summaries also are included for other geographic areas such as ZIP Code Tabulation Areas (ZCTAs™).

Data content: The information in this file includes age, sex, race, Hispanic or Latino origin, household type, relationship, group quarters, whether the residence is owned or rented (tenure), and vacancy status.

Documentation: Accuracy of the Data: Census 2000 Summary File 1 (SF 1) 100-Percent Data (PDF 44KB)
Census 2000 Summary File 1 (SF 1) 100-Percent Data Technical Documentation (PDF 9.1MB)
United States Census 2000 Questionnaire (Short Form) (PDF 263KB)

Tables:

P1	TOTAL POPULATION [1] Universe: Total population
P2	URBAN AND RURAL [6] Universe: Total population
P3	RACE [71] Universe: Total population
P4	HISPANIC OR LATINO, AND NOT HISPANIC OR LATINO BY RACE [73] Universe: Total population
P5	RACE FOR THE POPULATION 18 YEARS AND OVER [71] Universe: Total population 18 years and over
P6	HISPANIC OR LATINO, AND NOT HISPANIC OR LATINO BY RACE FOR THE POPULATION 18 YEARS AND OVER [73] Universe: Total population 18 years and over
P7	RACE [8] Universe: Total population
P8	HISPANIC OR LATINO BY RACE [17] Universe: Total population
P9	RACE (TOTAL RACES TALLIED) [7] Universe: Total races tallied
P10	HISPANIC OR LATINO BY RACE (TOTAL RACES TALLIED) [15] Universe: Total races tallied
P11	HISPANIC OR LATINO [1] Universe: People who are Hispanic or Latino
P12	SEX BY AGE [49] Universe: Total population
P12A	SEX BY AGE (WHITE ALONE) [49] Universe: People who are White alone
P12B	SEX BY AGE (BLACK OR AFRICAN AMERICAN ALONE) [49] Universe: People who are Black or African American alone
P12C	SEX BY AGE (AMERICAN INDIAN AND ALASKA NATIVE ALONE) [49] Universe: People who are American Indian and Alaska Native alone

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Part 33

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2002
CENSUS OF AGRICULTURE

Issued June 2004

U.S. Department of Agriculture
Ann M. Veneman, Secretary
Dr. Joseph J. Jen, Under Secretary for
Research, Education, and Economics
NATIONAL AGRICULTURAL STATISTICS SERVICE
R. Ronald Bosecker, Administrator

U.S. Department of Energy
Energy Efficiency and Renewable Energy

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Wind & Hydropower Technologies Program

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U.S. Wind Resource Map

If your State does not have a wind resource map, the national map below can give you a macro view of wind resources in the United States. From this map, you can determine if your area of interest should be further explored. Wind resource at a micro level can vary significantly; therefore, you should get a professional evaluation of your specific area of interest. Your regional Department of Energy Support Office will have contact information of local wind resource analysts.

(DOE 2004)

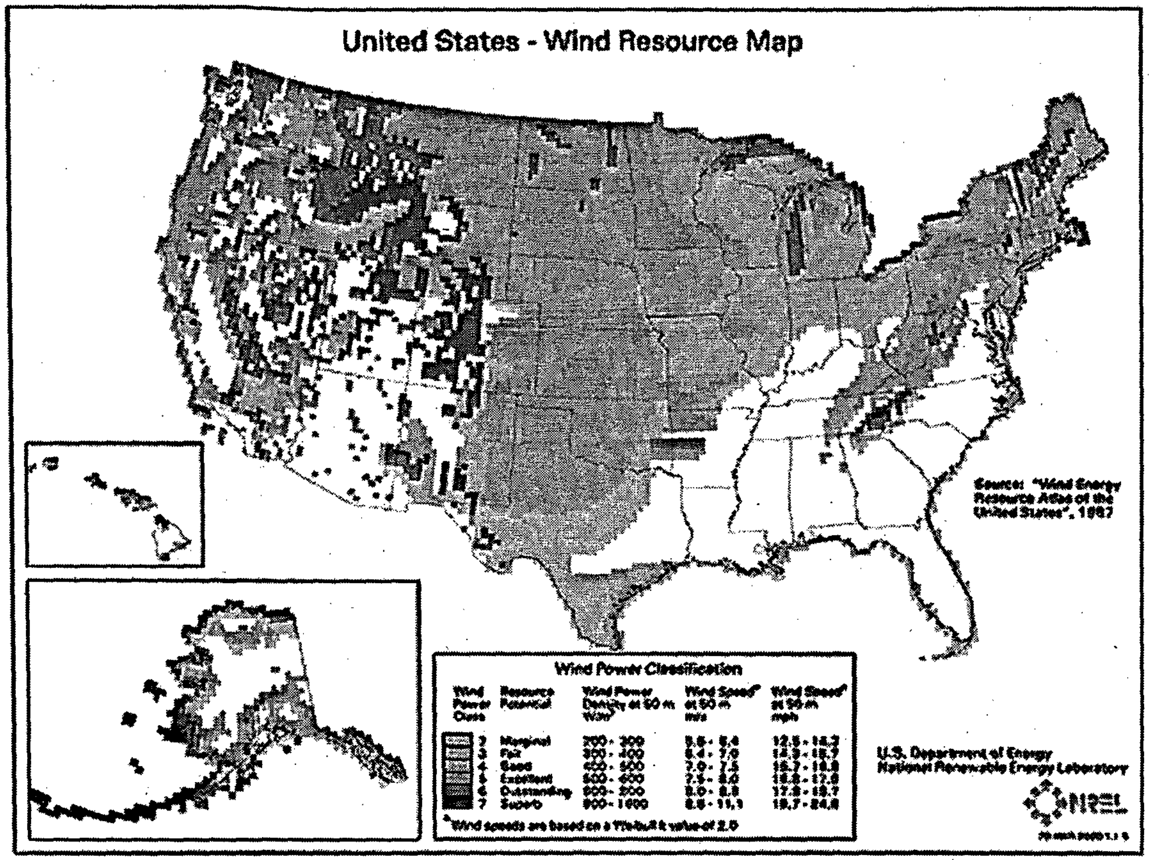
Wind Powering America Home

About Wind Powering America

Program Areas
- State
- Regional
- Native Americans
- Agricultural Sector
- Small Wind
- Public Lands
- Public Power
- Economic Development
- Policy

Perspectives

Resources & Tools
- Wind Maps
- Software
- Publications
- News
- Events
- Past Events



View an enlarged map.

If you are interested in how the NREL maps are created, validated, etc., please read, "Geographic Information Systems in Support of Wind Energy Activities at NREL (PDF 817 KB) Download Acrobat Reader," or many of the other GIS publications in the NREL Publications database (search using author Dennis Elliott). High resolution wind data files are also available.

If you have difficulty accessing NREL wind maps on this site because of a disability, please contact us in writing or via telephone and we will work with you to make the information available.

Contact: Julie Cardinal, National Renewable Energy Laboratory, 1617 Cole Blvd., Golden, CO 80401, Phone: 303-384-7019.

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U.S. Department of Energy

Last Updated: 11/17/2004

Air Trends Home
Where You Live
Metropolitan Areas
Nonattainment Areas
Statistics
Six Principal Air Pollutants
Carbon Monoxide
Ground-Level Ozone
Lead
Nitrogen Dioxide
Particulate Matter
Sulfur Dioxide
Acid Rain
Stratospheric Ozone
Toxic Air Pollutants
Visibility
International Issues & U.S. Air Quality
Special Studies
Conclusions
Past Annual Reports
Air Quality Data
Design Values
Acronyms

Criteria Pollutants — Metropolitan Area Trends

This chapter presents status and trends in criteria pollutants for metropolitan statistical areas (MSAs) in the United States. The MSA status and trends give a local picture of air pollution and can reveal regional patterns of trends. Such information can allow individuals to gauge the air pollution situation where they live. Not all areas in the country are in MSAs, and not all MSAs are included here.

Worth Noting:

- Out of 296 metropolitan statistical areas, 36 have significant upward trends.
- Of these, only trends involving ozone had values over the level of air quality standards.

A complete list of MSAs and their boundaries can be found in the Statistical Abstract of the United States.[1] The status and trends of MSAs are based on four tables found in Appendix A (A-15 through A-18). Table A-15 gives the 2000 peak statistics for all MSAs, providing the status of that year. It also shows 10-year trends for the 263 MSAs having data that meet the trends requirements explained in Appendix B. Table A-16 lists these MSAs and reports criteria pollutant trends as "upward," "downward," or "not significant." These categories are based on a statistical test, known as the Theil test, described later in this chapter.

Another way to assess trends in MSAs is to examine Air Quality Index (AQI) values.[2, 3, 4] The AQI is used to present daily information to the public on one or more criteria pollutants in an easily understood format and in a timely manner. EPA periodically lists the number of days with AQI values greater than 100 for the nation's 94 largest metropolitan areas (population greater than 500,000). Recent lists of AQI values based on ozone alone can be found on the Air Trends website's Factbook page. The tables listing Pollutant Standards Index (PSI) data from previous reports may not agree with the tables in this report because of the new way to calculate the AQI. These changes are presented in more detail later in this chapter.

A new technique for displaying air quality information is also described. This technique presents visual clues as to the status of different MSAs.

Not every MSA appears in these tables. Some do not appear because the population is so small or the air quality is so good that AQI reporting is not currently required. Ambient monitoring for a particular pollutant may not be conducted if there is no problem, thus some MSAs have no ongoing air quality monitoring for one or more of the criteria pollutants. In addition, there are also MSAs with too little monitoring data for trends analysis purposes (see Appendix B).

Status: 2001

The air quality status for MSAs is provided in Table A-15, which lists peak statistics for all criteria pollutants measured in an MSA. As discussed above, not all criteria pollutants are measured in all MSAs, hence the "ND" (no data) listings in Table A-15. Examining Table A-15 shows that 140 areas had peak concentrations exceeding

Metropolitan Statistical Area Air Quality Trends, 1993-2002

Metropolitan Statistical Area	Trend	#Trend Sites	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
PM2.5*												
98th percentile	NA	3	ND	ND	ND	ND	ND	ND	35.35	39.1	41.133	36.633
Weighted annual mean	NA	3	ND	ND	ND	ND	ND	ND	15.135	15.783	16.29	14.297
Wilmington, NC												
SO2												
2nd daily max	ns	1	0.063	0.063	0.063	0.036	0.028	0.026	0.027	0.03	0.039	0.04
Annual mean	down	1	0.009	0.009	0.009	0.007	0.007	0.007	0.007	0.006	0.006	0.007
Ozone												
2nd highest daily max	down	1	0.104	0.104	0.097	0.09	0.102	0.102	0.081	0.097	0.089	0.091
4th highest daily max 8-h average	ns	1	0.081	0.081	0.079	0.076	0.083	0.086	0.067	0.08	0.078	0.08
PM2.5*												
98th percentile	NA	1	ND	ND	ND	ND	ND	ND	37.4	28	25.4	22.9
Weighted annual mean	NA	1	ND	ND	ND	ND	ND	ND	12.81	12.48	11.49	10.36
Worcester, MA-CT												
CO												
2nd max (daily-non-overlapping 8-h)	down	1	6.1	5.9	4.2	5.3	3.4	3.5	3.3	2.6	2.6	2.9
SO2												
2nd daily max	down	1	0.025	0.024	0.023	0.021	0.021	0.017	0.013	0.019	0.022	0.018
Annual mean	ns	1	0.007	0.008	0.006	0.005	0.004	0.005	0.004	0.006	0.005	0.005
NO2												
Annual mean	down	1	0.028	0.025	0.021	0.019	0.019	0.019	0.02	0.018	0.02	0.017
Ozone												
2nd highest daily max	ns	1	0.155	0.125	0.118	0.091	0.106	0.124	0.113	0.098	0.118	0.127
4th highest daily max 8-h average	ns	1	0.092	0.097	0.096	0.074	0.092	0.097	0.093	0.076	0.088	0.091
PM10*												
90th percentile	down	1	37	35	32	29	34	27	34	31	30	30
Weighted annual mean	down	1	20.3	20.3	20.1	19.1	20.3	18.2	20.8	19	17.7	15.3
PM2.5*												
98th percentile	NA	2	ND	ND	ND	ND	ND	ND	35.5	29.55	34.75	37.5
Weighted annual mean	NA	2	ND	ND	ND	ND	ND	ND	13.34	11.955	13.01	11.23
Yolo, CA												
Ozone												
2nd highest daily max	ns	1	0.09	0.097	0.108	0.113	0.092	0.109	0.115	0.101	0.099	0.104
4th highest daily max 8-h average	ns	1	0.076	0.076	0.083	0.087	0.068	0.087	0.088	0.08	0.075	0.076
PM2.5*												
98th percentile	NA	1	ND	ND	ND	ND	ND	ND	56	38	35	31
Weighted annual mean	NA	1	ND	ND	ND	ND	ND	ND	16.29	10.25	10.39	10.72
York, PA												
CO												
2nd max (daily-non-overlapping 8-h)	down	1	3.3	3.9	2.7	2.8	3.4	2.4	2.4	1.8	2.2	2.2
SO2												
2nd daily max	down	1	0.032	0.041	0.02	0.022	0.026	0.023	0.019	0.02	0.019	0.014
Annual mean	ns	1	0.008	0.009	0.006	0.007	0.009	0.008	0.007	0.006	0.006	0.005
NO2												
Annual mean	down	1	0.022	0.024	0.021	0.021	0.019	0.019	0.019	0.018	0.02	0.017
Ozone												
2nd highest daily max	ns	1	0.112	0.115	0.097	0.098	0.109	0.112	0.121	0.112	0.104	0.124
4th highest daily max 8-h average	ns	1	0.09	0.082	0.086	0.081	0.094	0.095	0.094	0.09	0.087	0.101
PM2.5*												
98th percentile	NA	1	ND	ND	ND	ND	ND	ND	34.9	41.1	41.3	47.3
Weighted annual mean	NA	1	ND	ND	ND	ND	ND	ND	15.4	16.55	16.62	17.09
Youngstown-Warren, OH												
PM10*												
90th percentile	down	1	48	46	53	37	41	45	40	40	33	39
Weighted annual mean	down	1	25.9	29.3	32.5	26.2	24.8	26.5	24.7	25.5	22.7	22.1
PM2.5*												
98th percentile	NA	1	ND	ND	ND	ND	ND	ND	38.6	34.6	44.8	38.3
Weighted annual mean	NA	1	ND	ND	ND	ND	ND	ND	16.94	15.97	16.36	14.75
Yuba City, CA												
CO												
2nd max (daily-non-overlapping 8-h)	down	1	5	5.6	4.1	4.1	3.9	3.9	4.2	3.6	3.4	3.2
NO2												
Annual mean	ns	1	0.018	0.016	0.014	0.013	0.014	0.013	0.014	0.013	0.014	0.015

(EPA 2005a)

U.S. Environmental Protection Agency

AirData

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Air Quality Index Report

More info about AQI

Geographic Area: North Carolina
Summary: by MSA
Year: 2001

11 Rows
See Disclaimer

			Number of Days when Air Quality was...				AQI Statistics			Number of Days when AQI pollutant was...						
Row #	AQI Daily Values	# Days with AQI	Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy	Maximum	90th percentile	Median	CO	NO2	O3	SO2	PM2.5	PM10	MSA
SORT																
1	See Chart	365	162	193	10	0	137	85	53	1	0	122	0	242	0	Raleigh-Durham-Cha Hill,NC
2	See Chart	365	167	170	26	2	195	90	52	4	0	124	0	235	2	Charlotte-Gastonia-R Hill,NC-SC
3	See Chart	365	180	164	21	0	150	84	51	3	0	111	0	251	0	Greensboro-Winston Salem-High Point,NC
4	See Chart	365	182	178	5	0	116	79	51	31	0	73	0	261	0	Fayetteville,NC
5	See Chart	266	167	94	5	0	122	76	45	0	0	180	0	85	1	Hickory-Morganton-L
6	See Chart	123	74	49	0	0	85	69	43	0	0	0	0	122	1	Goldsboro,NC
7	See Chart	234	180	50	4	0	119	69	41	0	0	207	0	26	1	Rocky Mount,NC
8	See Chart	254	192	59	2	1	167	64	40	0	0	169	0	84	1	Asheville,NC

			Number of Days when Air Quality was...				AQI Statistics			Number of Days when AQI pollutant was...						
Row #	AQI Daily Values	# Days with AQI	Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy	Maximum	90th percentile	Median	CO	NO2	O3	SO2	PM2.5	PM10	MSA
SORT																
9	See Chart	261	201	60	0	0	85	64	38	0	0	187	0	74	0	Greenville,NC
10	See Chart	365	316	49	0	0	90	54	33	79	0	180	42	64	0	Wilmington,NC
11	See Chart	118	94	24	0	0	96	59	31	0	0	0	0	112	6	Jacksonville,NC

Page 1 of 1

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Generated on Wednesday, January 19, 2005
Air Quality Index Report

ENC+%7North+Carolina~2C~+&year=2002&sumtype=msa&fld=gname& fld=gcode&fld=st&rpp=25

U.S. Environmental Protection Agency

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Air Quality Index Report

http://www.epa.gov/air/data/monaqi.html?st~NC~North%20Carolina

More info about AQI

Geographic Area: North Carolina
Summary: by MSA
Year: 2002

11 Rows
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			Number of Days when Air Quality was...				AQI Statistics			Number of Days when AQI pollutant was...						
Row #	AQI Daily Values	# Days with AQI	Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy	Maximum	90th percentile	Median	CO	NO2	O3	SO2	PM2.5	PM10	MSA
SORT																
1	See Chart	364	189	135	30	10	187	106	50	2	0	139	0	223	0	Charlotte-Gastonia-R Hill,NC-SC
2	See Chart	365	199	134	28	4	177	95	48	5	0	115	1	244	0	Greensboro-Winston Salem-High Point,NC
3	See Chart	365	204	131	23	7	169	95	47	3	0	151	0	211	0	Raleigh-Durham-Cha Hill,NC
4	See Chart	365	219	127	18	1	159	85	46	3	0	100	0	262	0	Fayetteville,NC
5	See Chart	264	164	81	19	0	147	92	45	0	0	179	0	85	0	Hickory-Morganton-L
6	See Chart	266	181	68	16	1	161	87	42	0	0	189	0	75	2	Rocky Mount,NC
7	See Chart	262	195	60	7	0	132	76	40	0	0	168	0	94	0	Asheville,NC
8	See Chart	264	197	54	13	0	129	77	40	0	0	184	0	80	0	Greenville,NC

			Number of Days when Air Quality was...				AQI Statistics			Number of Days when AQI pollutant was...						
Row #	AQI Daily Values	# Days with AQI	Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy	Maximum	90th percentile	Median	CO	NO2	O3	SO2	PM2.5	PM10	MSA
SORT																
9	See Chart	122	89	32	1	0	111	61	39	0	0	0	0	120	2	Goldsboro,NC
10	See Chart	365	302	61	2	0	122	56	34	40	0	132	35	157	1	Wilmington,NC
11	See Chart	120	97	23	0	0	78	56	32	0	0	0	0	116	4	Jacksonville,NC

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Air Quality Index Report

More info about AQI

Geographic Area: North Carolina
Summary: by MSA
Year: 2003

11 Rows
See Disclaimer

			Number of Days when Air Quality was...				AQI Statistics			Number of Days when AQI pollutant was...						
Row #	AQI Daily Values	# Days with AQI	Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy	Maximum	90th percentile	Median	CO	NO2	O3	SO2	PM2.5	PM10	MSA
SORT																
1	See Chart	365	186	169	8	2	179	77	50	0	0	101	0	262	2	Charlotte-Gastonia-R Hill,NC-SC
2	See Chart	365	189	169	6	1	166	74	49	3	0	66	0	296	0	Greensboro-Winston Salem-High Point,NC
3	See Chart	364	201	155	7	1	177	74	48	0	0	87	0	277	0	Raleigh-Durham-Cha Hill,NC
4	See Chart	365	234	127	4	0	120	66	43	4	0	71	0	289	1	Fayetteville,NC
5	See Chart	365	263	99	3	0	106	66	41	0	0	142	61	162	0	Hickory-Morganton-L
6	See Chart	262	212	46	4	0	132	61	38	0	0	180	0	82	0	Rocky Mount,NC
7	See Chart	304	214	87	3	0	120	64	38	0	0	88	0	216	0	Asheville,NC
8	See Chart	117	79	38	0	0	97	60	38	0	0	0	0	112	5	Goldsboro,NC

			Number of Days when Air Quality was...				AQI Statistics			Number of Days when AQI pollutant was...						
Row #	AQI Daily Values	# Days with AQI	Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy	Maximum	90th percentile	Median	CO	NO2	O3	SO2	PM2.5	PM10	MSA
SORT																
9	See Chart	258	208	47	3	0	127	57	35	0	0	159	0	99	0	Greenville,NC
10	See Chart	364	307	57	0	0	95	55	35	18	0	85	11	250	0	Wilmington,NC
11	See Chart	119	101	18	0	0	89	55	33	0	0	0	0	118	1	Jacksonville,NC

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Air Quality Index Report

More info about AQI

Geographic Area: North Carolina
Summary: by MSA
Year: 2004

11 Rows
See Disclaimer

			Number of Days when Air Quality was...				AQI Statistics			Number of Days when AQI pollutant was...						
Row #	AQI Daily Values	# Days with AQI	Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy	Maximum	90th percentile	Median	CO	NO2	O3	SO2	PM2.5	PM10	MSA
SORT																
1	See Chart	336	132	198	6	0	118	79	55	1	0	37	0	298	0	Greensboro-Winston Salem-High Point,NC
2	See Chart	336	155	175	5	1	156	79	52	1	0	76	0	258	1	Charlotte-Gastonia-R Hill,NC-SC
3	See Chart	333	170	160	3	0	105	71	50	0	0	51	0	282	0	Hickory-Morganton-L
4	See Chart	336	173	161	2	0	117	74	49	1	0	60	0	275	0	Raleigh-Durham-Cha Hill,NC
5	See Chart	308	173	133	2	0	108	69	46	2	0	45	0	259	2	Fayetteville,NC
6	See Chart	270	177	93	0	0	91	66	43	0	0	53	0	217	0	Asheville,NC
7	See Chart	335	255	78	2	0	117	62	39	3	0	64	6	262	0	Wilmington,NC
8	See Chart	97	66	31	0	0	98	62	38	0	0	0	0	91	6	Goldsboro,NC

			Number of Days when Air Quality was...				AQI Statistics			Number of Days when AQI pollutant was...						
Row #	AQI Daily Values	# Days with AQI	Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy	Maximum	90th percentile	Median	CO	NO2	O3	SO2	PM2.5	PM10	MSA
SORT																
9	See Chart	243	207	36	0	0	87	56	35	0	0	172	0	71	0	Greenville,NC
10	See Chart	95	74	21	0	0	74	57	34	0	0	0	0	83	12	Jacksonville,NC
11	See Chart	295	265	30	0	0	82	51	32	0	0	200	48	47	0	Rocky Mount,NC

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(EPA 2005b) (5)

U.S. Environmental Protection Agency

National Estuary Program

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Coastal Habitat
Exploring Estuaries: Students and Teachers

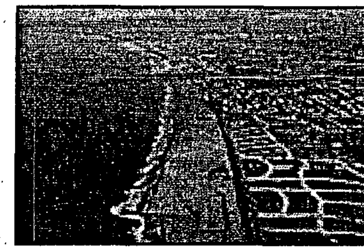
About Estuaries

What is an Estuary?

An estuary is a partially enclosed body of water formed where freshwater from rivers and streams flows into the ocean, mixing with the salty sea water. Estuaries and the lands surrounding them are places of transition from land to sea, and from fresh to salt water. Although influenced by the tides, estuaries are protected from the full force of ocean waves, winds, and storms by the reefs, barrier islands, or fingers of land, mud, or sand that define an estuary's seaward boundary.

Estuaries come in all shapes and sizes and go by many different names, often known as bays, lagoons, harbors, inlets, or sounds. (Note not all water bodies by those names are necessarily estuaries. The defining feature of an estuary is the mixing of fresh and salt water, not the name.) Some familiar examples of estuaries include San Francisco Bay, Puget Sound, Chesapeake Bay, Boston Harbor, and Tampa Bay.

The tidal, sheltered waters of estuaries support unique communities of plants and animals, specially adapted for life at the margin of the sea. Estuarine environments are among the most productive on earth, creating more organic matter each year than comparably-sized areas of forest, grassland, or agricultural land (1). Many different habitat types are found in and around estuaries, including shallow open waters, freshwater and salt marshes, sandy beaches, mud and sand



- Volunteer Estuary Monitoring
- Programa Nacional de Estuarios (NEP): Trayendo Vida a Nuestros Estuarios
- Comprehensive Conservation and Management Plans

flats, rocky shores, oyster reefs, mangrove forests, river deltas, tidal pools, sea grass and kelp beds, and wooded swamps.

The productivity and variety of estuarine habitats foster a wonderful abundance and diversity of wildlife. Shore birds, fish, crabs and lobsters, marine mammals, clams and other shellfish, marine worms, sea birds, and reptiles are just some of the animals that make their homes in and around estuaries. These animals are linked to one another and to an assortment of specialized plants and microscopic organisms through complex food webs and other interactions.

Estuaries are places where rivers meet the sea. They are fascinating and beautiful ecosystems distinct from all other places on earth.

Why are Estuaries Important?

Estuaries are critical for the survival of many species. Tens of thousands of birds, mammals, fish, and other wildlife depend on estuarine habitats as places to live, feed, and reproduce. Estuaries provide ideal spots for migratory birds to rest and refuel during their journeys. And many species of fish and shellfish rely on the sheltered waters of estuaries as protected places to spawn, giving them the nickname "nurseries of the sea." Hundreds of marine organisms, including most commercially valuable fish species, depend on estuaries at some point during their development (1).

Besides serving as important habitat for wildlife, the wetlands that fringe many estuaries also perform other valuable services. Water draining from the uplands carries sediments, nutrients, and other pollutants. As the water flows through fresh and salt marshes, much of the sediments and pollutants are filtered out. This filtration process creates cleaner and clearer water, which benefits both people and marine life (1). Wetland plants and soils also act as a natural buffer between the land and ocean, absorbing flood waters and dissipating storm surges. This protects upland organisms as well as valuable real estate from storm and flood damage (1). Salt marsh grasses and other estuarine plants also help prevent erosion and stabilize the shoreline.

Among the cultural benefits of estuaries are recreation, scientific knowledge, education, and aesthetic values. Boating, fishing, swimming, surfing, and bird watching are just a few of the numerous recreational activities people enjoy in estuaries. Estuaries are often the cultural centers of coastal communities, serving as the focal points for local commerce, recreation, celebrations, customs, and traditions (2). As transition zones between land and water, estuaries are invaluable laboratories for scientists and students, providing countless lessons in biology, geology, chemistry, physics, history, and social issues (1). Estuaries also provide a great deal of aesthetic enjoyment for the people who live, work, or recreate in and around them.

Finally, the tangible and direct economic benefits of estuaries should not be overlooked. Tourism, fisheries, and other commercial activities thrive on the wealth of natural resources estuaries supply. The protected coastal waters of estuaries also support important public infrastructure, serving as harbors and ports vital for shipping, transportation, and industry. Some attempts have been made to measure certain aspects of the economic activity that depends on America's estuaries and other coastal waters:

- Estuaries provide habitat for more than 75% of America's commercial fish catch, and for 80-90% of the recreational fish catch (5). Estuarine-dependent fisheries are among the most valuable within regions and across the nation, worth more than $1.9 billion in 1990, excluding Alaska (4).
- Nationwide, commercial and recreational fishing, boating, tourism, and other coastal industries provide *more than 28 million jobs* (2). Commercial shipping alone employed more than 50,000 people as of

January, 1997 (5).

- There are 25,500 recreational facilities along the U.S. coasts (5)- almost 44,000 square miles of outdoor public receation areas (4). The average American spends 10 recreational days on the coast each year. In 1993 more than 180 million Americans visited ocean and bay beaches- nearly 70% of the U.S. population. Coastal recreation and tourism generate $8 to $12 billion annually (5).
- In just one estuarine system- Massachusetts and Cape Cod Bays- commercial and recreational fishing generate about $240 million per year. In that same estuary, tourism and beach-going generate $1.5 billion per year, and shipping and marinas generate $1.86 billion per year (3).

In short, estuaries provide us with a whole suite of resources, benefits, and services. Some of these can be measured in dollars and cents, others can not. Estuaries are an irreplaceable natural resource that must be managed carefully for the mutual benefit of all who enjoy and depend on them.

Why Protect Estuaries?

The economy of many coastal areas is based primarily on the natural beauty and bounty of estuaries. When those natural resources are imperiled, so too are the livelihoods of the many people who live and work there. 110 million Americans- around half the U.S. population- now live in coastal areas, including the shores of estuaries. Coastal counties are growing three times faster than counties elsewhere in the nation.

Unfortunately, this increasing concentration of people is upsetting the natural balance of estuarine ecosystems and threatening their integrity. Channels have been dredged, marshes and tidal flats filled, waters polluted, and shorelines reconstructed to accommodate human housing, transportation, and agriculture needs (1). Stresses caused by overuse of resources and unchecked land use practices have resulted in unsafe drinking water, beach and shellfish bed closings, harmful algal blooms, unproductive fisheries, loss of habitat, fish kills, and wildlife, and a host of other human health and natural resource problems.

As our population grows, the demands imposed on our natural resources increase. So too does the importance of protecting these resources for all their natural, economic, and aesthetic values. It is the mission of the National Estuary Program (NEP) to restore and protect America's nationally significant estuaries. Through its approach of inclusive, community-based planning and action on the watershed level, the NEP is an important initiative in conserving our estuarine resources, and an effective model for the protection and management of other coastal areas.

(FWS 2002)

CANDIDATE ASSESSMENT AND LISTING PRIORITY ASSIGNMENT FORM

SCIENTIFIC NAME: *Panicum hirstii*

COMMON NAME: Hirsts= panic grass

LEAD REGION: Region 5

INFORMATION CURRENT AS OF: February 2002

STATUS/ACTION (Check all that apply):

___ New candidate
X Continuing candidate
  _ Non-petitioned
  _ Petitioned - Date petition received:_
    _ 90-day positive - FR date:_
    _ 12-month warranted but precluded - FR date:_
    _ Is the petition requesting a reclassification of a listed species?
  _ Listing priority change
    Former LP:_
    New LP:_
Latest date species first became a Candidate: ______
_ Candidate removal: Formal LP:_ (Check only one reason)
  _ A - Taxon more abundant or widespread than previously believed or not subject to a degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status.
  _ F - Range is no longer a U.S. territory.
  _ M - Taxon mistakenly included in past notice of review.
  _ N - Taxon may not meet the Act's definition of Aspecies@
  _ X - Taxon believed to be extinct.

ANIMAL/PLANT GROUP AND FAMILY: Plant, Poaceae

HISTORICAL STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: NJ, DE, NC, GA

CURRENT STATES/COUNTIES/TERRITORIES/COUNTRIES OF OCCURRENCE: NJ, DE, NC

LEAD REGION CONTACT: Diane Lynch, (413) 253-8628

LEAD FIELD OFFICE CONTACT: New Jersey Field Office, Annette Scherer, 609-646-9310

SUPPORT FIELD OFFICE(S): Asheville Field Office, 828-258-3939

BIOLOGICAL INFORMATION:

C. Disease or predation:

Not a known threat.

D. The inadequacy of existing regulatory mechanisms:

The State of Delaware does not have a state endangered species act. The State maintains a list of rare plants and a rare plant conservation program. However, no legal protection is given to plants; any protection is strictly voluntary. *Panicum hirstii* is included on Delaware=s rare plant list.

The State of New Jersey maintains a list of rare and endangered plant species; however, the State provides no regulatory protection for species in the list. It is against State law to collect plant species occurring on state land, but private landowners with endangered plants on their property have no restrictions. *Panicum hirstii* is listed as endangered by the State of New Jersey.

The State of North Carolina=s Plant Conservation Program maintains a list of threatened and endangered plant species. Any person wishing to collect a listed plant species must have written permission from the property owner as well as a permit from the North Carolina Department of Agriculture=s Plant Conservation Program. If species are illegally collected, the penalty is a fine of up to $2,000 per plant collected. *Panicum hirstii* is proposed as endangered by the State of North Carolina.

E. Other natural or manmade factors affecting its continued existence:

Competition from rhizomatous perennials that dominate the turf covering the pond bottoms, particularly *Eleocharis robbinsii*, is a threat in Hirst Ponds, New Jersey. Dense growth of *Utricularia fibrosa* and algae may be retarding growth of *Panicum hirstii* plants at Barkwoods Pond when water is present (Schuyler, pers. comm., 1998). At Assawoman, *Panicum hirstii* does not occur in areas dominated by *Sclerolepis uniflora*, a rhizomatous perennial, although both species are in proximity there. Similar observations were made at the Camp Lejeune sites in North Carolina. At one site in North Carolina, where *Utricularia inflata* and algae in the water were present, plants of *Panicum hirstii* were much smaller than at the other site in North Carolina
which had deeper and clearer water (Schuyler, 1998).

FOR RECYCLED PETITIONS: N/A

a. Is listing still warranted? ___
b. To date, has publication of a proposal to list been precluded by other higher priority listing actions? ___
c. Is a proposal to list the species as threatened or endangered in preparation? ___
d. If the answer to c. above is no, provide an explanation of why the action is still precluded.

LAND OWNERSHIP (Percentage Federal/state/private, identify nonprivate owners):
North Carolina populations both occur on Federal lands. The Delaware population occurs on a

Eisenhauer, S. 1998. The Nature Conservancy, Eldora, New Jersey.

LeBlond, R. 1998. North Carolina Natural Heritage Program, Richlands, North Carolina.

McAvoy, W. 1998. Delaware Natural Heritage Program, Smyrna, Delaware.

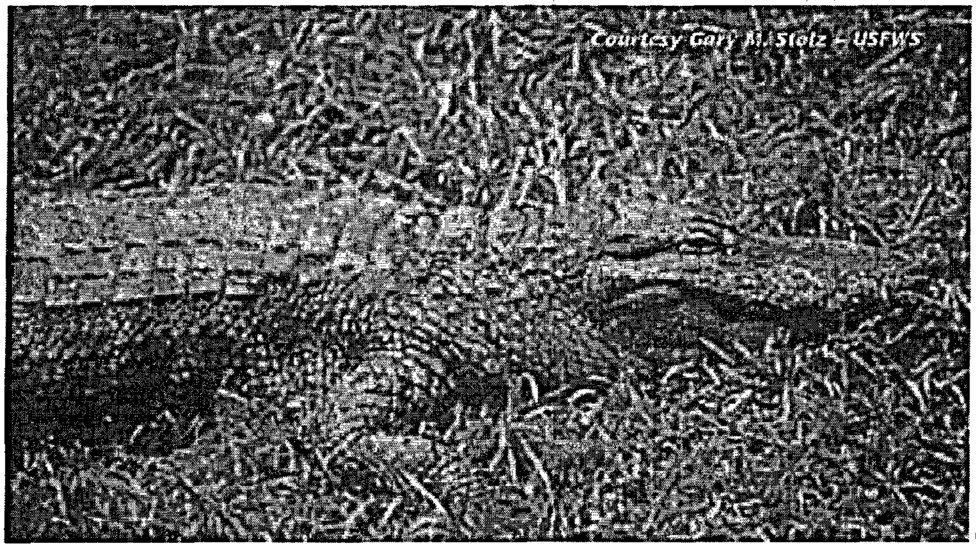
Patt, J. 2000. The Nature Conservancy, Delmont, New Jersey.

Schuyler, A. E. 1998. Academy of Natural Sciences, Philadelphia, Pennsylvania.

Schuyler, A. E. 2001. Academy of Natural Sciences, Philadelphia, Pennsylvania.

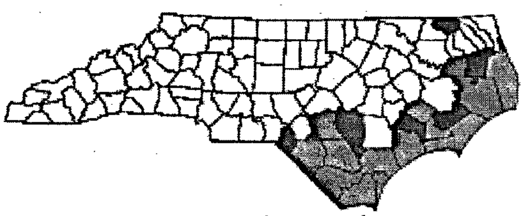
(FWS 2003b)

U.S. Fish & Wildlife Service



American Alligators in North Carolina

Species Distribution from known occurrences. Species may occur in similar habitats in other counties. Green counties indicate observed within 20 years. Yellow counties indicate an obscure data reference to the species in the county. Red counties indicate observed more than 20 years. Yellow counties indicate an obscure data reference to the species in the county.ago.



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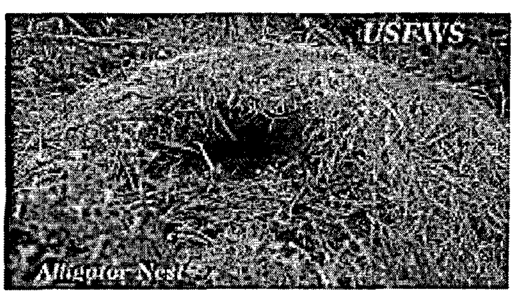

Species Location Map based on information provided by the North Carolina Natural Heritage Program.

For additional information regarding this Web page, contact John Hammond, in Raleigh, NC, at john_hammond@fws.gov

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Keywords={same keywords listed above - used for search tools}

LFWS 20058

U.S. Fish & Wildlife Service

Bald Eagles in North Carolina

Bald Eagle

Haliaeetus leucocephalus

STATUS: Threatened

DESCRIPTION: The bald eagle is a large raptor. The characteristic adult plumage consists of a white head and tail with a dark brown body. Juvenile eagles are completely dark brown and do not fully develop the majestic white head and tail until the fifth or sixth year. Fish are the primary food source but bald eagles will also take a variety of birds, mammals, and turtles (both live and as carrion) when fish are not readily available. Adults average about three feet from head to tail, weigh approximately 10 to 12 pounds and have a wingspread that can reach seven feet. Generally, female bald eagles are somewhat larger than the males.

Breeding pairs of bald eagles unite for life or until the death of their mate. The breeding season varies throughout the U.S., but typically begins in the winter for the southern populations and progressively shifts toward spring the further north the populations occur. The typical nest is constructed of large sticks and lined with soft materials such as pine needles and grasses. The nests are very large, measuring *up to six feet* across and weighing hundreds of pounds. Many nests are believed to be used by the same pair of eagles year after year. Female eagles lay an average of two eggs; however, the clutch size may vary from one to three eggs. The eggs are incubated about 35 days. The young fledge 9 to 14 weeks after hatching and at approximately 4 months the young eaglets are on their own.

Bald Eagles in North Carolina:

How many bald eagle nests are there in North Carolina? In 1982, there were zero bald eagle nests in North Carolina. In 1998, there were 17 nests; in 2000, there were 34 nests! Several new nests have located so far during the 2002 nesting season. The Bald Eagle's recovery has lead to a proposal(.pdf format 170k)(text) for delisting the Bald Eagle from the Endangered/Threatened Species List.

There is also information available on Bald Eagles nesting at Lake James.

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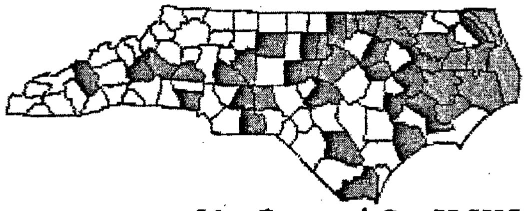

Map Generated Oct. 22 2003

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Keywords={same keywords listed above - used for search tools}

(FWS 2005 b)

Cooley's Meadowrue in North Carolina

COOLEY'S MEADOWRUE

Thalictrum cooleyi

STATUS: Endangered

DESCRIPTION: Cooley's meadowrue is a perennial herb which grows from an underground rhizome. Its stems are usually 1 meter in height, but sometimes grow as high as 2 meters on recently burned sites. Under ideal conditions, in full sun, these stems are erect; in shade they are lax and may trail along the ground or lean on other plants. The species' green leaflets are lance-shaped, and less than 2 centimeters long. Both basal and stem leaves are present on the plant, and the leaves are usually in groups of threes. Each plant is unisexual, and the male to female ratio is 3 to 1 (Leonard 1987). The flowers have no petals. The sepals on the male plants are pale yellow to white; there are numerous stamens, and the filaments are pale lavender. Female plants have green sepals, and their short-stalked, ribbed carpels develop into narrowly ellipsoidal achemes. Cooley's meadowrue flowers in mid- to late June; its fruits mature in August or September, and remain on the plant into October. (Rayner 198O). If the plants grow in partial shade instead of full sun, their flowering may be delayed by as much as 2 weeks (Leonard 1987).

RANGE AND POPULATION LEVEL: Eleven populations of this plant remain in Pender, Onslow, Brunswick, and Columbus Counties in North Carolina. All of the plant sites are on privately-owned land. The precise number of plants in each population is unknown; two North Carolina populations recently lost plants as a result of timber cutting and road grading (Nora Murdock, U.S. Fish and Wildlife Service, Personal Communication, 199O). Probably, the total number of remaining plants is less than 8OO plants (Leonard 1987). The remaining North Carolina populations are probably fragments of three larger populations. The six sites in Onslow and Pender Counties are all within a 6.5-kilometer radius, the 3 sites in Columbus County are within a 4-kilometer radius, and the 2 sites in Brunswick County are within a 1.5-kilometer radius.

HABITAT: Cooley's meadowrue occurs in moist to wet bogs and savannahs. It grows along fireplow lines, roadside ditches, woodland clearings, and powerline rights-of-way, and needs some type of disturbance to maintain its open habitat. Plants often found growing with the meadowrue include tulip poplar growing with cypress and/or Atlantic white cedar (Leonard 1987).

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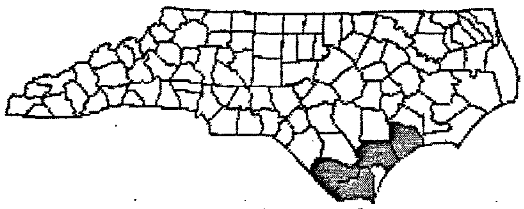

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(FWS 2005c)

U.S. Fish & Wildlife Service

Eastern Cougar in North Carolina

EASTERN COUGAR

Felis concolor couguar

STATUS: Endangered

DESCRIPTION: The eastern cougar is described as a large, unspotted, long-tailed cat. Its body and legs are a uniform fulvous or tawny hue. Its belly is pale reddish or reddish white. The inside of this cat's ears are light-colored, with blackish color behind the ears. Cougars feed primarily on deer, but their diet may also include small mammals, wild turkeys, and occasionally domestic livestock, when available.

REPRODUCTION AND DEVELOPMENT: Observations of the western subspecies suggest that cougars begin breeding when 2 or 3 years old and breed thereafter once every 2 to 3 years. Whether or not there is a definite breeding season is a matter of contention. Courtship is initiated by the female and generally includes mating with a number of males. Spotted kittens weighing 8 to 16 ounces are born after a gestation period of about 3 months. Litter size is usually three. The kittens attain a weight of approximately 10 pounds in 8 weeks, and may weigh 30 to 45 pounds at 6 months. By the time they are yearlings they may weigh 60 to 90 pounds.

RANGE AND POPULATION LEVEL: Sightings of large cats have been reported in many areas of North Carolina. However, most of these reports are unconfirmed as cougars, and none have been the eastern subspecies. The eastern cougar is considered by many to be extirpated from North Carolina.

HABITAT: No preference for specific habitat types has been noted. The primary need is apparently for a large wilderness area with an adequate food supply. Male cougars of other subspecies have been observed to occupy a range of 25 or more square miles, and females from 5 to 20 square miles.

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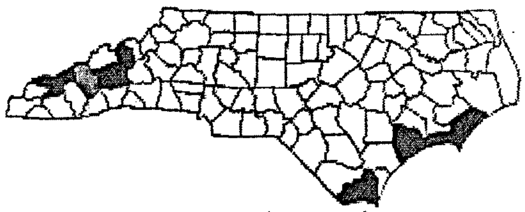

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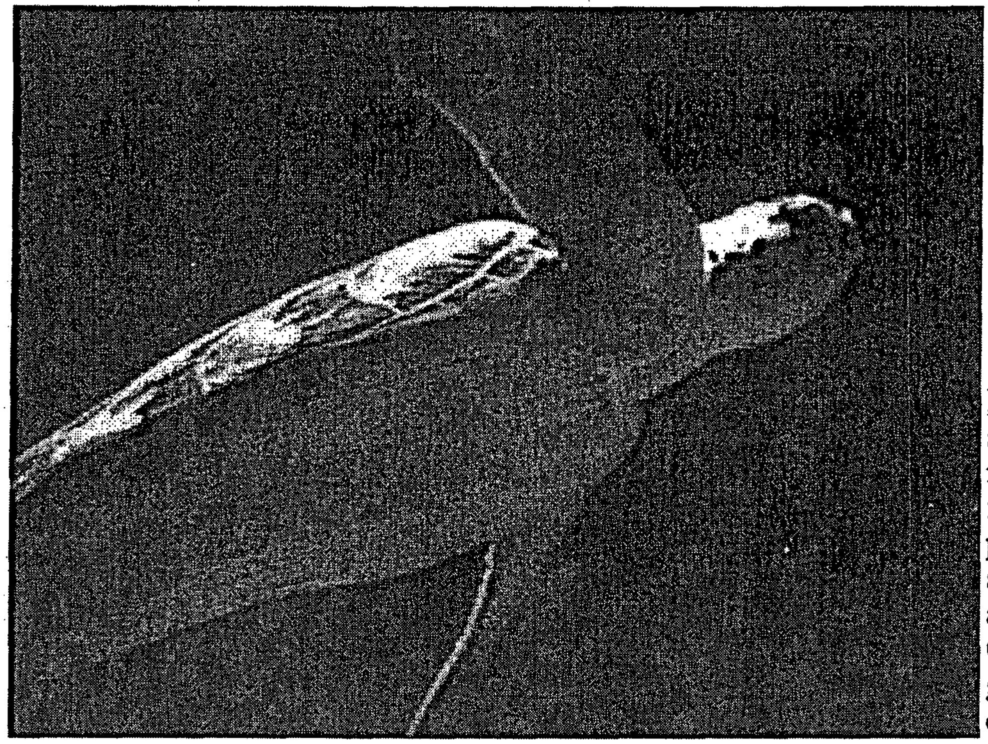

Green Sea Turtles in North Carolina

GREEN SEA TURTLE

Chelonia mydas

STATUS: Threatened

DESCRIPTION: The green sea turtle grows to a maximum size of about 4 feet and a weight of 440 pounds. It has a heart-shaped shell, small head, and single-clawed flippers. Color is variable. Hatchlings generally have a black carapace, white plastron, and white margins on the shell and limbs. The adult carapace is smooth, keelless, and light to dark brown with dark mottling; the plastron is whitish to light yellow. Adult heads are light brown with yellow markings. Identifying characteristics include four costal plates, none of which borders the nuchal shield, no jagged marginals and only one pair of prefontals between the eyes. Adult green turtles feed largely on marine algae and grasses in shallow water areas. They may also consume small mollusks, sponges, crustaceans, and jellyfish.

RANGE AND POPULATION LEVEL: With an estimated population of no more than 600,000 adults worldwide, the green turtle is found in tropical and temperate seas and oceans. The North American distribution is from Massachusetts to Mexico, and from British Columbia to Baja California. In the Southeast Region, green turtles also occur in Puerto Rico and the Virgin Islands. Continental United States nesting is limited to 300 to 1,000 nests annually on Florida's east coast from Volusia County to Dade County. Occasional nesting also occurs in Puerto Rico and in the U.S. Virgin Islands.

REPRODUCTION AND DEVELOPMENT: The nesting season varies with the locality. For Florida it is roughly June through September. Nesting occurs nocturnally at 2-, 3-, or 4-year intervals. A female may lay as a many as seven clutches in a season at 9- to 13-day intervals. Clutch size varies from 75 to 200 eggs with incubation requiring 48 to 70 days, depending on incubation temperatures. Hatchlings generally emerge at night. Survival to maturity is very low. Age at maturity is thought to be 20 to 50 years.

HABITAT: Green turtles are generally found in fairly shallow waters (except when migrating) inside reefs, bays, and inlets. The turtles are attracted to lagoons and shoals with an abundance of marine grass and algae. Open beaches with a sloping platform and minimal disturbance are required for nesting.

Green turtles apparently have a strong nesting site fidelity and often make long distance migrations between feeding grounds and nesting beaches. Hatchlings have been observed to seek refuge and food in sargassum clumps.

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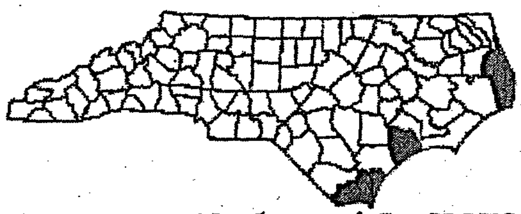

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FWS 2005e

U.S. Fish & Wildlife Service

Kemp's Ridley Sea Turtles in North Carolina

KEMPS RIDLEY TURTLE
Lepidochelys kempi

STATUS: Endangered.

DESCRIPTION: The Kemp's ridley is a small to medium-sized sea turtle with a very broad, heart-shaped shell. The upper shell, ridged in the center, is dark gray or gray-brown to olive green. The lower shell is white or yellow. The triangular head has a hooked beak with large crushing surfaces. Adults weigh between 77 and 93 pounds and are from 22 to 30 inches in length.

DISTRIBUTION: Adults are found mainly in the Gulf of Mexico. Immature turtles can be found along the Atlantic coast as far north as Massachusetts and Canada. Nesting occurs in Tamaulipas, Mexico, and sometimes in Texas.

HABITAT AND CHARACTERISTICS: Kemp's ridley prefers shallow coastal waters, often with shorelines of red mangrove. It feeds on crabs, shrimp, snails, sea urchins, sea stars, fish and some saltwater plants. The average nest holds 110 eggs. Incubation takes about 50 to 70 days.

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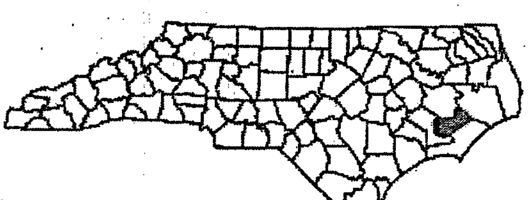

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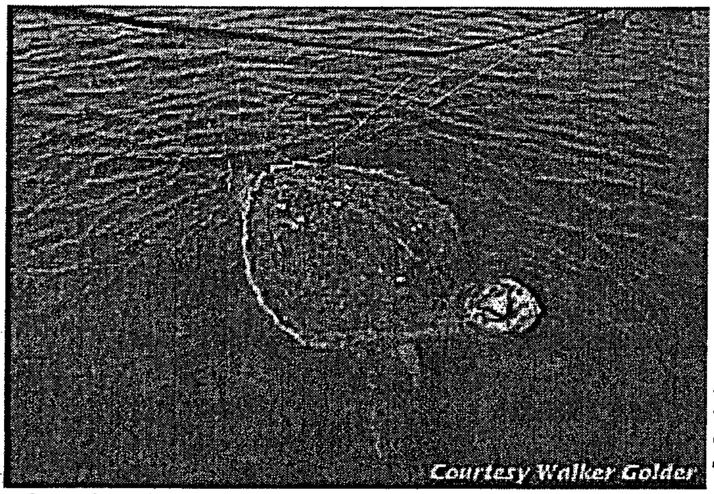
Courtesy Walker Golder

Loggerhead Sea Turtles in North Carolina

LOGGERHEAD SEA TURTLE

Caretta caretta

STATUS: Threatened

DESCRIPTION: The loggerhead is characterized by a large head with blunt jaws. The carapace and flippers are a reddish-brown color; the plastron is yellow. The carapace has five or more costals with the first touching the nuchal. There are three large inframarginal scutes on the bridges between the plastron and carapace. Adults grow to an average weight of about 200 pounds, although some specimens may occasionally reach 1,000 pounds. The species feeds on mollusks, crustaceans, fish, and other marine animals.

REPRODUCTION AND DEVELOPMENT: From laying to hatching, the United States nesting season runs from about May to November. Nesting takes place nocturnally and at 2- to 3-year intervals. Three or four clutches may be laid in a season at intervals of approximately 12 days. Clutch size averages around 115 eggs with incubation requiring 49 to 68 days, about 55 days being average. The hatchlings generally emerge at night. Limited information indicates that turtles reach sexual maturity in 12 to 30 years.

RANGE AND POPULATION LEVEL: United States nesting occurs on suitable beaches from North Carolina through Florida and to a lesser extent on islands off the Gulf states. The major United States nesting beaches are on the east coast of Florida between Cape Canaveral and Palm Beach.

HABITAT: The loggerhead is widely distributed within its range. It may be found hundreds of miles out to sea, as well as in inshore areas such as bays, lagoons, salt marshes, creeks, ship channels, and the mouths of large rivers. Coral reefs, rocky places, and ship wrecks are often used as feeding areas. Hatchlings have been found floating at sea in association with Sargassum rafts. Nesting occurs mainly on open beaches or along narrow bays having suitable soil, and it is often in association with other species of sea turtles. Loggerheads apparently migrate over long distances. Tagged specimens have been recaptured 1,200 to 1,500 miles from the point of release.

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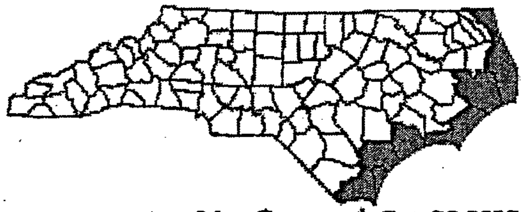

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Sea Turtle Protection flyer(980k)

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Keywords={same keywords listed above - used for search tools}

(FWS 2005g)

Michaux's Sumac in North Carolina

MICHAUX'S SUMAC

Rhus michauxii

STATUS: Endangered

DESCRIPTION: Michaux's sumac is a rhizomatous, densely hairy shrub, with erect stems from 1 to 3 feet in height. The compound leaves contain evenly serrated, oblong to lanceolate, acuminate leaflets. Most plants are unisexual; however, more recent observations have revealed plants with both male and female flowers on one plant. The flowers are small, borne in a terminal, erect, dense cluster, and colored greenish yellow to white. Flowering usually occurs from June to July; while the fruit, a red drupe, is produced through the months of August to October.

RANGE AND POPULATION LEVEL: Michaux's sumac is historically thought to be endemic to the coastal plain and piedmont of the Carolinas, Georgia, and Florida.. The U.S. Fish and Wildlife Service listed the species as endangered on September 28, 1989, due to its rarity and vulnerability to threats. Only 36 extant populations are known, with 31 in North Carolina, three in Virginia, and two populations in Georgia. Currently, the plant is documented in the following North Carolina counties: Richmond, Hoke, Moore, Scotland, Franklin, Davie, Robeson, and Wake.

HABITAT: Michaux's sumac grows in sandy or rocky open woods in association with basic soils. Apparently, this plant survives best in areas where some form of disturbance has provided an open area. At least twelve of the plant's populations in North Carolina are on highway rights-of way, roadsides, or on the edges of artificially maintained clearings. Two other populations are in areas with periodic fires, and two populations exist on sites undergoing natural succession. One population is situated in a natural opening on the rim of a Carolina bay.

REASONS FOR CURRENT STATUS: Perhaps the most crucial factor endangering this species is its low reproductive capacity. A low percentage of the plant's remaining populations have both male and female plants. The North Carolina Natural Heritage Program wrote: . "... because of the clonal nature of this species and the scarcity of populations containing both male and female plants, the remaining populations may actually consist of only about two dozen genetic individuals". The plant is also threatened by fire suppression and habitat destruction due to residential and industrial development. Two of the plant's historic populations were destroyed by development, one by the construction of a water tower, and one by the conversion of the site to pine plantation.

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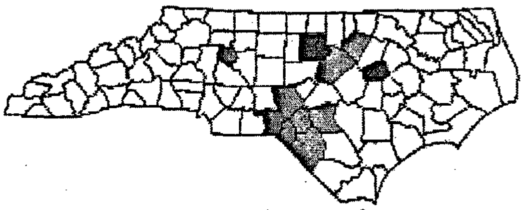

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http://nc-es.fws.gov/es/cntylist (FWS 2005h)

ENDANGERED, THREATENED, AND CANDIDATE SPECIES AND FEDERAL SPECIES OF CONCERN, BY COUNTY, IN NORTH CAROLINA

This list was adapted from the North Carolina Natural Heritage Program's County Species List. It is a listing of North Carolina's federally listed and proposed endangered, threatened, and candidate species and Federal species of concern (for a complete list of rare species in the state, please contact the North Carolina Natural Heritage Program). The information in this list is compiled from a variety of sources, including field surveys, museums and herbaria, literature, and personal communications. The North Carolina Natural Heritage Program's database is dynamic, with new records being added and old records being revised as new information is received. Please note that this list cannot be considered a definitive record of listed species and Federal species of concern, and it should not be considered a substitute for field surveys.

Critical habitat: Critical habitat is noted, with a description, for the counties where it is designated or proposed.

Aquatic species: Fishes and aquatic invertebrates are noted for counties where they are known to occur. However, projects may have effects on downstream aquatic systems in adjacent counties.

Sea turtles: Sea turtles occur in coastal waters and nest along beaches. This list includes sea turtles in the counties where they are known to nest. The U.S. Fish and Wildlife Service has jurisdiction over sea turtle issues on terrestrial systems; the National Marine Fisheries Service has authority over sea turtles in coastal waters.

Manatees: Manatees occur throughout North Carolina's coastal waters; this list includes manatees in counties where there are known concentrations. The U.S. Fish and Wildlife Service has consultation and recovery responsibility for manatees.

COMMON NAME	SCIENTIFIC NAME	STATUS
ALAMANCE COUNTY		
Vertebrates		
Carolina darter	*Etheostoma collis lepidinion*	FSC
"Carolina" redhorse	*Moxostoma* sp. 2	FSC
Invertebrates		
Yellow lampmussel	*Lampsilis cariosa*	FSC
Carolina creekshell	*Villosa vaughaniana*	FSC
Vascular Plants		
Sweet pinesap	*Monotropsis odorata*	FSC*
Buttercup phacelia	*Phacelia covillei*	FSC
ALEXANDER COUNTY		
Vertebrates		
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC*
Vascular Plants		
Torrey's mountain-mint	*Pycnanthemum torrei*	FSC*

COMMON NAME	SCIENTIFIC NAME	STATUS
Nonvascular Plants		
Keever's bristle-moss	*Orthotrichum keeverae*	FSC

ALLEGHANY COUNTY

Vertebrates		
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Hellbender	*Cryptobranchus alleganiensis*	FSC
Eastern small-footed myotis	*Myotis (=subulatus) leibii*	FSC
Kanawha minnow	*Phenacobius teretulus*	FSC
Invertebrates		
Grayson crayfish ostracod	*Ascetocythere cosmeta*	FSC
Pygmy snaketail	*Ophiogomphus howei*	FSC
Diana fritillary butterfly	*Speyeria diana*	FSC
Regal fritillary butterfly	*Speyeria idalia*	FSC
Vascular Plants		
"Fen" sedge	*Carex* sp. 2	FSC
Cuthbert's turtlehead	*Chelone cuthbertii*	FSC
Tall larkspur	*Delphinium exaltatum*	FSC*
Gray's lily	*Lilium grayi*	FSC
Sweet pinesap	*Monotropsis odorata*	FSC*
Carolina saxifrage	*Saxifraga caroliniana*	FSC
Nonvascular Plants		
Keever's bristle-moss	*Orthotrichum keeverae*	FSC

ANSON COUNTY

Vertebrates		
Shortnose sturgeon	*Acipenser brevirostrum*	Endangered
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
"Carolina" redhorse	*Moxostoma* sp. 2	FSC
Robust redhorse	*Moxostoma robustum*	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Invertebrates		
Carolina heelsplitter	*Lasmigona decorata*	Endangered
Vascular Plants		
Schweinitz's sunflower	*Helianthus schweinitzii*	Endangered
Bog spicebush	*Lindera subcoriacea*	FSC

ASHE COUNTY

Vertebrates		
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Kanawha minnow	*Phenacobius teretulus*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Appalachian cottontail	*Sylvilagus obscurus*	FSC
Appalachian Bewick's wren	*Thryomanes bewickii altus*	FSC
Invertebrates		
Green floater	*Lasmigona subviridis*	FSC
Pygmy snaketail	*Ophiogomphus howei*	FSC
Diana fritillary butterfly	*Speyeria diana*	FSC*
Regal fritillary butterfly	*Speyeria idala*	FSC*
Gammon's stenelmis riffle beetle	*Stenelmis gammoni*	FSC
Vascular Plants		
Cuthbert's turtlehead	*Chelone cuthbertii*	FSC
Tall larkspur	*Delphinium exaltatum*	FSC
Glade spurge	*Euphorbia purpurea*	FSC
Spreading avens	*Geum radiatum*	Endangered
Appalachian oak fern	*Gymnocarpium appalachianum*	FSC
Swamp pink	*Helonias bullata*	Threatened
Roan Mountain bluet	*Houstonia montana*	Endangered
Butternut	*Juglans cinerea*	FSC
Heller's blazing star	*Liatris helleri*	Threatened
Gray's lily	*Lilium grayi*	FSC
Bog bluegrass	*Poa paludigena*	FSC
Torrey's mountain-mint	*Pycnanthemum torrei*	FSC*
Carolina saxifrage	*Saxifraga caroliniana*	FSC
Virginia spiraea	*Spiraea virginiana*	Threatened
Nonvascular Plants		
Bluff Mountain reindeer lichen	*Cladonia psoromica*	FSC
Rock gnome lichen	*Gymnoderma lineare*	Endangered

AVERY COUNTY

Critical Habitat Designation: Spruce-fir moss spider, *Microhexura montivaga* - Critical habitat designated (see the July 6, 2001, *Federal Register*, 66:35547-35566).

Vertebrates		
Southern Appalachian saw-whet owl	*Aegolius acadicus*	FSC
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Virginia big-eared bat	*Corynorhinus townsendii virginianus*	Endangered
Hellbender	*Cryptobranchus alleganiensis*	FSC
Blotched chub	*Erimystax insignis*	FSC
Carolina northern flying squirrel	*Glaucomys sabrinus coloratus*	Endangered
Southern Appalachian red crossbill	*Loxia curvirostra*	FSC
Southern rock vole	*Microtus chrotorrhinus carolinensis*	FSC
Eastern small-footed bat	*Myotis leibii*	FSC
Alleghany woodrat	*Neotoma magister*	FSC
Southern Appalachian black-capped chickadee	*Poecile atricapillus practicus*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Southern water shrew	*Sorex palustris punctulatus*	FSC
Southern Appalachian yellow-bellied sapsucker	*Sphyrapicus varius appalaciensis*	FSC
Appalachian cottontail	*Sylvilagus obscurus*	FSC
Appalachian Bewick's wren	*Thryomanes bewickii altus*	FSC
Invertebrates		
Grayson crayfish ostracod	*Ascetocythere cosmeta*	FSC
Spruce-fir moss spider	*Microhexura montivaga*	Endangered
Diana fritillary butterfly	*Speyeria diana*	FSC
Regal fritillary butterfly	*Speyeria idalia*	FSC
Vascular Plants		
Fraser fir	*Abies fraseri*	FSC
Mountain bittercress	*Cardamine clematitis*	FSC
Cuthbert's turtlehead	*Chelone cuthbertii*	FSC
Tall larkspur	*Delphinium exaltatum*	FSC*
Bent avens	*Geum geniculatum*	FSC
Spreading avens	*Geum radiatum*	Endangered
Roan Mountain bluet	*Houstonia montana*	Endangered
Butternut	*Juglans cinerea*	FSC
Heller's blazing star	*Liatris helleri*	Threatened
Gray's lily	*Lilium grayi*	FSC
Bog bluegrass	*Poa paludigena*	FSC
Carolina saxifrage	*Saxifraga caroliniana*	FSC
Blue Ridge goldenrod	*Solidago spithamaea*	Threatened
Nonvascular Plants		
Rock gnome lichen	*Gymnoderma lineare*	Endangered
A liverwort	*Plagiochila sullivantii* var. *sullivantii*	FSC
A liverwort	*Plagiochila virginica* var. *caroliniana*	FSC
A liverwort	*Sphenolobopsis pearsonii*	FSC
BEAUFORT COUNTY		
Vertebrates		
Eastern Henslow's sparrow	*Ammodramus henslowii susurrans*	FSC
Red wolf	*Canis rufus*	EXP
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Kemp's ridley sea turtle	*Lepidochelys kempii*	Endangered
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Carolina gopher frog	*Rana capito capito*	FSC*
Manatee	*Trichechus manatus*	Endangered
Vascular Plants		
Sensitive jointvetch	*Aeschynomene virginica*	Threatened
Venus flytrap	*Dionaea muscipula*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered
Carolina asphodel	*Tofieldia glabra*	FSC*

BERTIE COUNTY

Vertebrates

Eastern Henslow's sparrow	*Ammodramus henslowii susurrans*	FSC
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC*
Cerulean warbler	*Dendroica cerulea*	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered

Invertebrates

Chowanoke crayfish	*Orconectes virginianus*	FSC

BLADEN COUNTY

Vertebrates

Shortnose sturgeon	*Acipenser brevirostrum*	Endangered
Bachman's sparrow	*Aimophila aestivalis*	FSC
American alligator	*Alligator mississippiensis*	T(S/A)
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC
Southern hognose snake	*Heterodon simus*	FSC*
"Broadtail" madtom	*Noturus* sp. 1	FSC
Mimic glass lizard	*Ophisaurus mimicus*	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Carolina gopher frog	*Rana capito capito*	FSC

Invertebrates

Atlantic pigtoe	*Fusconaia masoni*	FSC
Venus flytrap cutworm moth	*Hemipachnobia subporphyrea subporphyrea*	FSC
Yellow lampmussel	*Lampsilis cariosa*	FSC
Belle's sanddragon (=variegated clubtail dragonfly)	*Progomphus bellei*	FSC

Vascular Plants

Savanna indigo-bush	*Amorpha georgiana* var. *confusa*	FSC
Carolina spleenwort	*Asplenium heteroresiliens*	FSC
Sandhills milkvetch	*Astragalus michauxii*	FSC
Venus flytrap	*Dionaea muscipula*	FSC
Southern spicebush	*Lindera melissifolia*	Endangered
Pondspice	*Litsea aestivalis*	FSC
Boykin's lobelia	*Lobelia boykinii*	FSC
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered
Carolina bogmint	*Macbridea caroliniana*	FSC
Pineland plantain	*Plantago sparsiflora*	FSC
Spiked medusa (=Eulophia)	*Pteroglossaspis ecristata*	FSC**
Awned meadowbeauty	*Rhexia aristosa*	FSC
American chaffseed	*Schwalbea americana*	Endangered
Spring-flowering goldenrod	*Solidago verna*	FSC
Carolina asphodel	*Tofieldia glabra*	FSC*

BRUNSWICK COUNTY

Critical Habitat Designation: Piping plover, *Charadrius melodus* - See the July 10, 2001, *Federal Register*, 66:36038-36136, for a description of the primary constituent elements essential for the conservation of wintering piping plovers within the designated units. This document also contains a map and a description of each designated unit.

Vertebrates		
Shortnose sturgeon	*Acipenser brevirostrum*	Endangered
Bachman's sparrow	*Aimophila aestivalis*	FSC
American alligator	*Alligator mississippiensis*	T(S/A)
Eastern Henslow's sparrow	*Ammodramus henslowii susurrans*	FSC
Loggerhead sea turtle	*Caretta caretta*	Threatened
Piping plover	*Charadrius melodus*	Threatened
Green sea turtle	*Chelonia mydas*	Threatened
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC
Leatherback sea turtle	*Dermochelys coriacea*	Endangered
Carolina pygmy sunfish	*Elassoma boehlkei*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Southern hognose snake	*Heterodon simus*	FSC*
Kemp's ridley sea turtle	*Lepidochelys kempii*	Endangered
Wood stork	*Mycteria americana*	Endangered
"Broadtail" madtom	*Noturus* sp. 1	FSC
Mimic glass lizard	*Ophisaurus mimicus*	FSC
Eastern painted bunting	*Passerina ciris ciris*	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Northern pine snake	*Pituophis melanoleucus melanoleucus*	FSC*
Eastern cougar	*Puma concolor couguar*	Endangered*
Carolina gopher frog	*Rana capito capito*	FSC
Manatee	*Trichechus manatus*	Endangered
Invertebrates		
Buchholz's dart moth	*Agrotis buchholzi*	FSC
Arogos skipper	*Atrytone arogos arogos*	FSC***
Waccamaw spike	*Elliptio waccamawensis*	FSC
Greenfield ramshorn	*Helisoma eucosmium*	FSC
Venus flytrap cutworm moth	*Hemipachnobia subporphyrea subporphyrea*	FSC
Magnificent ramshorn	*Planorbella magnifica*	FSC
Rare skipper	*Problema bulenta*	FSC
Carter's noctuid moth	*Spartiniphaga carterae*	FSC
Cape Fear threetooth	*Triodopsis soelneri*	FSC
Vascular Plants		
"Savanna" onion	*Allium* sp. 1	FSC
Seabeach amaranth	*Amaranthus pumilus*	Threatened
Savanna indigo-bush	*Amorpha georgiana* var. *confusa*	FSC
Chapman's three-awn	*Aristida simpliciflora*	FSC
Honeycomb head	*Balduina atropurpurea*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Venus flytrap	*Dionaea muscipula*	FSC
Dwarf burhead	*Echinodorus parvulus*	FSC
Harper's fimbry	*Fimbristylis perpusilla*	FSC
A quillwort	*Isoetes microvela*	FSC
Pondspice	*Litsea aestivalis*	FSC
Long beach seedbox	*Ludwigia brevipes*	FSC
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered
Carolina bogmint	*Macbridea caroliniana*	FSC
Loose watermilfoil	*Myriophyllum laxum*	FSC
Pineland plantain	*Plantago sparsiflora*	FSC
"Carolina" bishopweed	*Ptilimnium* sp. 1	FSC
Awned meadow-beauty	*Rhexia aristosa*	FSC
Swamp forest beaksedge	*Rhynchospora decurrens*	FSC*
Coastal beaksedge	*Rhynchospora pleiantha*	FSC
Thorne's beaksedge	*Rhynchospora thornei*	FSC
Tough bumelia	*Sideroxylon tenax*	FSC
Carolina goldenrod	*Solidago pulchra*	FSC
Spring-flowering goldenrod	*Solidago verna*	FSC
Coastal goldenrod	*Solidago villosicarpa*	FSC*
Wireleaf dropseed	*Sporobolus teretifolius sensu stricto*	FSC
Cooley's meadowrue	*Thalictrum cooleyi*	Endangered
Carolina asphodel	*Tofieldia glabra*	FSC
"Dune bluecurls"	*Trichostema* sp. 1	FSC
"Carolina" atamasco lily	*Zephyranthes* sp. 1	FSC
Nonvascular Plants		
Savanna campylopus	*Campylopus carolinae*	FSC*
BUNCOMBE COUNTY		
Vertebrates		
Southern Appalachian saw-whet owl	*Aegolius acadicus*	FSC
Bachman's sparrow	*Aimophila aestivalis*	FSC*
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC*
Hellbender	*Cryptobranchus alleganiensis*	FSC
Cerulean warbler	*Dendroica cerulea*	FSC
Blotched chub	*Erimystax insignis*	FSC
Carolina northern flying squirrel	*Glaucomys sabrinus coloratus*	Endangered
Spotfin chub	*Erimonax monachus*	Threatened*
Southern Appalachian red crossbill	*Loxia curvirostra*	FSC
Gray bat	*Myotis grisescens*	Endangered***
Eastern small-footed myotis	*Myotis leibii*	FSC
Southern Appalachian woodrat	*Neotoma floridana haematoreia*	FSC
Alleghany woodrat	*Neotoma magister*	FSC
Southern Appalachian black-capped chickadee	*Poecile atricapillus practicus*	FSC
Longhead darter	*Percina macrocephala*	FSC*
Paddlefish	*Polyodon spathula*	FSC*

COMMON NAME	SCIENTIFIC NAME	STATUS
Eastern cougar	*Puma concolor couguar*	Endangered*
Southern water shrew	*Sorex palustris punctulatus*	FSC
Southern Appalachian yellow-bellied sapsucker	*Sphyrapicus varius appalaciensis*	FSC
Appalachian Bewick's wren	*Thryomanes bewickii altus*	FSC*
Invertebrates		
Appalachian elktoe	*Alasmidonta raveneliana*	Endangered
French Broad crayfish	*Cambarus reburrus*	FSC
Oyster mussel	*Epioblasma capsaeformis*	Endangered
Tawny crescent butterfly	*Phycoides batesii*	FSC*
Diana fritillary butterfly	*Speyeria diana*	FSC*
Vascular Plants		
Fraser fir	*Abies fraseri*	FSC
Piratebush	*Buckleya distichophylla*	FSC
Cain's reedgrass	*Calamagrostis cainii*	FSC
Glade spurge	*Euphorbia purpurea*	FSC
Spreading avens	*Geum radiatum*	Endangered
Mountain heartleaf	*Hexastylis contracta*	FSC
French Broad heartleaf	*Hexastylis rhombiformis*	FSC
Butternut	*Juglans cinerea*	FSC
Gray's lily	*Lilium grayi*	FSC
Fraser's loosestrife	*Lysimachia fraseri*	FSC*
Sweet pinesap	*Monotropsis odorata*	FSC
Pinnate-lobed black-eyed susan	*Rudbeckia triloba* var. *pinnatoloba*	FSC
Bunched arrowhead	*Sagittaria fasciculata*	Endangered*
Mountain sweet pitcher plant	*Sarracenia jonesii*	Endangered*
Carolina saxifrage	*Saxifraga caroliniana*	FSC
Divided-leaf ragwort	*Senecio millefolium*	FSC
Mountain catchfly	*Silene ovata*	FSC
Virginia spiraea	*Spiraea virginiana*	Threatened
Nonvascular Plants		
Rock gnome lichen	*Gymnoderma lineare*	Endangered

BURKE COUNTY

Critical Habitat Designation: Mountain golden heather, *Hudsonia montana* - The area bounded by the following: on the west by the 2200' contour; on the east by the Linville Gorge Wilderness Boundary north from the intersection of the 2200' contour and the Shortoff Mountain Trail to where it intersects the 3400' contour at "The Chimneys"--then follow the 3400' contour north until it reintersects the Wilderness Boundary--then follow the Wilderness Boundary again northward until it intersects the 3200' contour extending west from its intersection with the Wilderness Boundary until it begins to turn south--at this point the Boundary extends due east until it intersects the 2200' contour.

Vertebrates		
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Southern Appalachian woodrat	*Neotoma floridana haematoreia*	FSC
Alleghany woodrat	*Neotoma magister*	FSC
Invertebrates		
Brook floater	*Alasmidonta varicosa*	FSC
Edmund's snaketail dragonfly	*Ophiogomphus edmundo*	FSC*
Pygmy snaketail dragonfly	*Ophiogomphus howei*	FSC
Diana fritillary butterfly	*Speyeria diana*	FSC
Vascular Plants		
Cuthbert's turtlehead	*Chelone cuthbertii*	FSC
Spreading avens	*Geum radiatum*	Endangered
Dwarf-flowered heartleaf	*Hexastylis naniflora*	Threatened
Mountain golden heather	*Hudsonia montana*	Threatened
Small whorled pogonia	*Isotria medeoloides*	Threatened
Butternut	*Juglans cinerea*	FSC
Heller's blazing star	*Liatris helleri*	Threatened
Sweet pinesap	*Monotropsis odorata*	FSC
Carolina saxifrage	*Saxifraga caroliniana*	FSC
Nonvascular Plants		
A liverwort	*Cephaloziella obtusilobula*	FSC*
A liverwort	*Plagiochila sullivantii* var. *spinigera*	FSC
A liverwort	*Plagiochila sullivantii* var. *sullivantii*	FSC
A liverwort	*Porella wataugensis*	FSC*

CABARRUS COUNTY

Vertebrates		
Carolina darter	*Etheostoma collis collis*	FSC
Invertebrates		
Pee Dee crayfish ostracod	*Dactylocythere peedeensis*	FSC*
Carolina heelsplitter	*Lasmigona decorata*	Endangered**
Vascular Plants		
Schweinitz's sunflower	*Helianthus schweinitzii*	Endangered
Heller's trefoil	*Lotus helleri*	FSC

CALDWELL COUNTY

Critical Habitat Designation: Spruce-fir moss spider, *Microhexura montivaga* - Critical habitat designated (see the July 6, 2001, *Federal Register*, 66:35547-35566).

Vertebrates		
Southern Appalachian saw-whet owl	*Aegolius acadicus*	FSC
Alleghany woodrat	*Neotoma magister*	FSC*
Southern Appalachian red crossbill	*Loxia curvirostra*	FSC
Southern Appalachian black-capped chickadee	*Poecile atricapillus practicus*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Southern Appalachian yellow-bellied sapsucker	*Sphyrapicus varius appalaciensis*	FSC
Invertebrates		
Brook floater	*Alasmidonta varicosa*	FSC
Margarita River skimmer	*Macromia margarita*	FSC*
Spruce-fir moss spider	*Microhexura montivaga*	Endangered
Edmund's snaketail dragonfly	*Ophiogomphus edmundo*	FSC
Diana fritillary butterfly	*Speyeria diana*	FSC
Vascular Plants		
Fraser fir	*Abies fraseri*	FSC
Mountain bittercress	*Cardamine clematitis*	FSC
Bent avens	*Geum geniculatum*	FSC
Dwarf-flowered heartleaf	*Hexastylis naniflora*	Threatened
Butternut	*Juglans cinerea*	FSC
Heller's blazing star	*Liatris helleri*	Threatened
Gray's lily	*Lilium grayi*	FSC
Sweet pinesap	*Monotropsis odorata*	FSC*
Riparian vervain	*Verbena riparia*	FSC*
Nonvascular Plants		
A liverwort	*Plagiochila sullivantii* var. *sullivantii*	FSC

CAMDEN COUNTY

Vertebrates		
American alligator	*Alligator mississippiensis*	T(S/A)
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Vascular Plants		
Virginia least trillium	*Trillium pusillum* var. *virginianum*	FSC

CARTERET COUNTY

Critical Habitat Designation: Piping plover, *Charadrius melodus* - See the July 10, 2001, *Federal Register*, 66:36038-36136, for a description of the primary constituent elements essential for the conservation of wintering piping plovers within the designated units. This document also contains a map and a description of each designated unit.

Vertebrates		
Shortnose sturgeon	*Acipenser brevirostrum*	Endangered
Bachman's sparrow	*Aimophila aestivalis*	FSC
American alligator	*Alligator mississippiensis*	T(S/A)
Eastern Henslow's sparrow	*Ammodramus henslowii susurrans*	FSC
Loggerhead sea turtle	*Caretta caretta*	Threatened
Piping plover	*Charadrius melodus*	Threatened
Green sea turtle	*Chelonia mydas*	Threatened
Leatherback sea turtle	*Dermochelys coriacea*	Endangered
Hawksbill turtle	*Eretmochelys imbricata*	Endangered
Southern hognose snake	*Heterodon simus*	FSC*
Black rail	*Laterallus jamaicensis*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Kemp's ridley sea turtle	*Lepidochelys kempii*	Endangered
Northern diamondback terrapin	*Malaclemys terrapin terrapin*	FSC
Mimic glass lizard	*Ophisaurus mimicus*	FSC
Eastern painted bunting	*Passerina ciris ciris*	FSC*
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Eastern cougar	*Puma concolor couguar*	Endangered*
Carolina gopher frog	*Rana capito capito*	FSC
Roseate tern	*Sterna dougallii*	Endangered
Manatee	*Trichechus manatus*	Endangered
Invertebrates		
Arogos skipper	*Atrytone arogos arogos*	FSC
A skipper	*Atrytonopsis* sp. 1	FSC
Venus flytrap cutworm moth	*Hemipachnobia subporphyrea subporphyrea*	FSC
Croatan crayfish	*Procambarus plumimanus*	FSC
Carter's noctuid moth	*Spartiniphaga carterae*	FSC
Vascular Plants		
Seabeach amaranth	*Amaranthus pumilus*	Threatened
Venus flytrap	*Dionea muscipula*	FSC
Pondspice	*Litsea aestivalis*	FSC
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered
Loose watermilfoil	*Myriophyllum laxum*	FSC
Coastal beaksedge	*Rhynchospora pleiantha*	FSC
Carolina goldenrod	*Solidago pulchra*	FSC
Carolina asphodel	*Tofieldia glabra*	FSC
"Dune bluecurls"	*Trichostema* sp. 1	FSC
Nonvascular Plants		
Savanna campylopus	*Campylopus carolinae*	FSC
CASWELL COUNTY		
Invertebrates		
Atlantic pigtoe	*Fusconaia masoni*	FSC
James spinymussel	*Pleurobema collina*	Endangered
Vascular Plants		
Virginia quillwort	*Isoetes virginica*	FSC
Heller's trefoil	*Lotus helleri*	FSC
CATAWBA COUNTY		
Invertebrates		
Catawba crayfish ostracod	*Dactyloctythere isabelae*	FSC
Vascular Plants		
Dwarf-flowered heartleaf	*Hexastylis naniflora*	Threatened
Sweet pinesap	*Monotropsis odorata*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS

CHATHAM COUNTY

Critical Habitat Designation: Cape Fear shiner, *Notropis mekistocholas* - Approximately 4.1 miles of the Rocky River from North Carolina State Highway 902 Bridge downstream to Chatham County Road 1010 Bridge; and approximately 0.5 river mile of Bear Creek, from Chatham County Road 2156 Bridge downstream to the Rocky River, then downstream in the Rocky River (approximately 4.2 river miles) to the Deep River, then downstream in the Deep River (approximately 2.6 river miles) to a point 0.3 river mile below the Moncure, North Carolina, U.S. Geological Survey Gaging Station. Constituent elements include clean streams with gravel, cobble, and boulder substrates with pools, riffles, shallow runs and slackwater areas with large rock outcrops and side channels and pools with water of good quality with relatively low silt loads.

Vertebrates		
Bachman's sparrow	*Aimophila aestivalis*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
"Carolina" redhorse	*Moxostoma* sp. 2	FSC
Cape Fear shiner	*Notropis mekistocholas*	Endangered
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Invertebrates		
Brook floater	*Alasmidonta varicosa*	FSC
Atlantic pigtoe	*Fusconaia masoni*	FSC
Septima's clubtail dragonfly	*Gomphus septima*	FSC
Yellow lampmussel	*Lampsilis cariosa*	FSC
Vascular Plants		
Virginia quillwort	*Isoetes virginica*	FSC
Buttercup phacelia	*Phacelia covillei*	FSC
Harperella	*Ptilimnium nodosum*	Endangered

CHEROKEE COUNTY

Vertebrates		
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC
Hellbender	*Cryptobranchus alleganiensis*	FSC
Blotched chub	*Erimystax insignis*	FSC
Junaluska salamander	*Eurycea junaluska*	FSC
"Sicklefin" redhorse	*Moxostoma* sp. 1	FSC
Indiana bat	*Myotis sodalis*	Endangered (summer habitat)
Olive darter	*Percina squamata*	FSC
Northern pine snake	*Pituophis melanoleucus melanoleucus*	FSC*
Invertebrates		
Hiwassee crayfish	*Cambarus hiwasseensis*	FSC
Parrish crayfish	*Cambarus parrishi*	FSC
Tan riffleshell	*Epioblasma florentina walkeri*	FSC**
Tennessee heelsplitter	*Lasmigona holstonia*	FSC*
Knotty rocksnail	*Lithasia christyi*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Littlewing pearlymussel	*Pegias fabula*	Endangered**
Tennessee clubshell	*Pleurobema oviforme*	FSC
Diana fritillary butterfly	*Speyeria diana*	FSC
Cumberland bean	*Villosa trabalis*	Endangered
Vascular Plants		
Small whorled pogonia	*Isotria medeoloides*	Threatened
White fringeless orchid	*Platanthera integrilabia*	C1*
Mountain catchfly	*Silene ovata*	FSC
Hairy blueberry	*Vaccinium hirsutum*	FSC
CHOWAN COUNTY		
Vertebrates		
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
CLAY COUNTY		
Vertebrates		
Southern Appalachian saw-whet owl	*Aegolius acadicus*	FSC
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Hellbender	*Cryptobranchus alleganiensis*	FSC
Cerulean warbler	*Dendroica cerulea*	FSC
Blotched chub	*Erimystax insignis*	FSC
Junaluska salamander	*Eurycea junaluska*	FSC
Southern Appalachian red crossbill	*Loxia curvirostra*	FSC
"Sicklefin" redhorse	*Moxostoma* sp. 1	FSC
Southern Appalachian black-capped chickadee	*Poecile atricapillus practicus*	FSC
Northern pine snake	*Pituophis melanoleucus melanoleucus*	FSC*
Southern water shrew	*Sorex palustris punctulatus*	FSC
Southern Appalachian yellow-bellied sapsucker	*Sphyrapicus varius appalaciensis*	FSC
Appalachian cottontail	*Sylvilagus obscurus*	FSC
Invertebrates		
Parrish crayfish	*Cambarus parrishi*	FSC
Tawny crescent butterfly	*Phycoides batesii maconensis*	FSC
Diana fritillary butterfly	*Speyeria diana*	FSC
Vascular Plants		
Fraser fir	*Abies fraseri*	FSC
Glade spurge	*Euphorbia purpurea*	FSC
Butternut	*Juglans cinerea*	FSC
Rough rush (=New Jersey rush)	*Juncus caesariensis*	FSC
Green pitcher plant	*Sarracenia oreophila*	Endangered
Alabama least trillium	*Trillium pusillum* var. *1*	FSC
Nonvascular Plants		
A liverwort	*Plagiochila sullivantii* var. *sullivantii*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS

CLEVELAND COUNTY

Vascular Plants

Dwarf-flowered heartleaf	*Hexastylis naniflora*	Threatened
Sweet pinesap	*Monotropsis odorata*	FSC
Torrey's mountain-mint	*Pycnanthemum torrei*	FSC*
Carolina saxifrage	*Saxifraga caroliniana*	FSC

COLUMBUS COUNTY

Critical Habitat Designation: Waccamaw silverside, *Menidia extensa* - Lake Waccamaw in its entirety to mean high water level, and Big Creek from its mouth at Lake Waccamaw upstream approximately 0.6 kilometer (0.4 mile) to where the creek is crossed by County Road 1947. Constituent elements include high quality clear open water, with a neutral pH and clean substrate.

Vertebrates

Shortnose sturgeon	*Acipenser brevirostrum*	Endangered
Bachman's sparrow	*Aimophila aestivalis*	FSC
American alligator	*Alligator mississippiensis*	T(S/A)
Eastern Henslow's sparrow	*Ammodramus henslowii susurrans*	FSC
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC
Carolina pygmy sunfish	*Elassoma boehlkei*	FSC
Waccamaw darter	*Etheostoma perlongum*	FSC
Waccamaw killifish	*Fundulus waccamensis*	FSC
Waccamaw silverside	*Menidia extensa*	Threatened
"Broadtail" madtom	*Noturus* sp. 1	FSC
Mimic glass lizard	*Ophisaurus mimicus*	FSC*
Red-cockaded woodpecker	*Picoides borealis*	Endangered

Invertebrates

"Waccamaw lance pearlymussel"	*Elliptio* sp. 5	FSC
Waccamaw spike	*Elliptio waccamawensis*	FSC
Waccamaw fatmucket	*Lampsilis fullerkati*	FSC
Pee Dee lotic crayfish	*Procambarus lepidodactylus*	FSC
Savannah lilliput	*Toxolasma pullus*	FSC
Cape Fear threetooth	*Triodopsis soelneri*	FSC

Vascular Plants

Savanna indigo-bush	*Amorpha georgiana* var. *confusa*	FSC
Chapman's three-awn	*Aristida simpliciflora*	FSC
Venus flytrap	*Dionaea muscipula*	FSC
Harper's fimbry	*Fimbristylis perpusilla*	FSC
Long beach seedbox	*Ludwigia brevipes*	FSC
Raven's seedbox	*Ludwigia ravenii*	FSC
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered*
Carolina bogmint	*Macbridea caroliniana*	FSC
Pineland plantain	*Plantago sparsiflora*	FSC
Swamp forest beaksedge	*Rhynchospora decurrens*	FSC*
Spring-flowering goldenrod	*Solidago verna*	FSC
Wireleaf dropseed	*Sporobolus teretifolius sensu stricto*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Cooley's meadowrue	*Thalictrum cooleyi*	Endangered
Carolina asphodel	*Tofieldia glabra*	FSC

CRAVEN COUNTY

Vertebrates

Bachman's sparrow	*Aimophila aestivalis*	FSC
American alligator	*Alligator mississippiensis*	T(S/A)
Leatherback sea turtle	*Dermochelys coriacea*	Endangered
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Southern hognose snake	*Heterodon simus*	FSC
Black rail	*Laterallus jamaicensis*	FSC
Bridle shiner	*Notropis bifrenatus*	FSC
"Neuse" madtom	*Noturus furiosus* population 1	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Manatee	*Trichechus manatus*	Endangered

Invertebrates

Croatan crayfish	*Procambarus plumimanus*	FSC
Annointed sallow moth	*Pyreferra ceromatica*	FSC*

Vascular Plants

Sensitive jointvetch	*Aeschynomene virginica*	Threatened
Carolina spleenwort	*Asplenium heteroresiliens*	FSC
Venus flytrap	*Dionea muscipula*	FSC
Pondspice	*Litsea aestivalis*	FSC
Long beach seedbox	*Ludwigia brevipes*	FSC*
Godfrey's sandwort	*Minuartia godfreyi*	FSC
Loose watermilfoil	*Myriophyllum laxum*	FSC
Spring-flowering goldenrod	*Solidago verna*	FSC
Carolina asphodel	*Tofieldia glabra*	FSC*

CUMBERLAND COUNTY

Vertebrates

Bachman's sparrow	*Aimophila aestivalis*	FSC
American alligator	*Alligator mississippiensis*	T(S/A)
Southern hognose snake	*Heterodon simus*	FSC
"Broadtail" madtom	*Noturus* sp. 1	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Northern pine snake	*Pituophis melanoleucus melanoleucus*	FSC
Carolina gopher frog	*Rana capito capito*	FSC
Sandhills chub	*Semotilus lumbee*	FSC

Invertebrates

Atlantic pigtoe	*Fusconaia masoni*	FSC
Yellow lampmussel	*Lampsilis cariosa*	FSC
Saint Francis' satyr	*Neonympha mitchellii francisci*	Endangered

COMMON NAME	SCIENTIFIC NAME	STATUS
Vascular Plants		
Georgia indigo-bush	*Amorpha georgiana* var. *georgiana*	FSC
Sandhills milkvetch	*Astragalus michauxii*	FSC
Bog oatgrass	*Danthonia epilis*	FSC
Venus flytrap	*Dionea muscipula*	FSC
Small whorled pogonia	*Isotria medeoloides*	Threatened*
Sandhills bog lily	*Lilium pyrophilum*	FSC
Pondberry (=Southern spicebush)	*Lindera melissifolia*	Endangered
Bog spicebush	*Lindera subcoriacea*	FSC
Pondspice	*Litsea aestivalis*	FSC
Boykin's lobelia	*Lobelia boykinii*	FSC
Long beach seedbox	*Ludwigia brevipes*	FSC
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered
Loose watermilfoil	*Myriophyllum laxum*	FSC
Conferva pondweed	*Potamogeton confervoides*	FSC
Spiked medusa	*Pteroglossaspis ecristata*	FSC
Sandhills pyxie-moss	*Pyxidanthera barbulata* var. *brevifolia*	FSC
Awned meadowbeauty	*Rhexia aristosa*	FSC
Michaux's sumac	*Rhus michauxii*	Endangered
American chaffseed	*Schwalbea americana*	Endangered
Carolina goldenrod	*Solidago pulchra*	FSC
Spring-flowering goldenrod	*Solidago verna*	FSC
Pickering's dawnflower	*Stylisma pickeringii* var. *pickeringii*	FSC
Carolina asphodel	*Tofieldia glabra*	FSC
Roughleaf yellow-eyed grass	*Xyris scabrifolia*	FSC

CURRITUCK COUNTY

Vertebrates		
Loggerhead sea turtle	*Caretta caretta*	Threatened
Piping plover	*Charadrius melodus*	Threatened
Leatherback sea turtle	*Dermochelys coriacea*	Endangered
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Black rail	*Laterallus jamaicensis*	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Manatee	*Trichechus manatus*	Endangered***
Vascular Plants		
Seabeach amaranth	*Amaranthus pumilus*	Threatened
Long beach seedbox	*Ludwigia brevipes*	FSC*
Virginia least trillium	*Trillium pusillum* var. *virginianum*	FSC

DARE COUNTY

Critical Habitat Designation: Piping plover, *Charadrius melodus* - See the July 10, 2001, *Federal Register*, 66:36038-36136, for a description of the primary constituent elements essential for the conservation of wintering piping plovers within the designated units. This document also contains a map and a description of each designated unit.

COMMON NAME	SCIENTIFIC NAME	STATUS
Vertebrates		
American alligator	*Alligator mississippiensis*	T(S/A)
Red wolf	*Canis rufus*	EXP
Loggerhead sea turtle	*Caretta caretta*	Threatened
Piping plover	*Charadrius melodus*	Threatened
Green sea turtle	*Chelonia mydas*	Threatened
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC**
Leatherback sea turtle	*Dermochelys coriacea*	Endangered*
Hawksbill sea turtle	*Eretomochelys imbricata*	Endangered
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Black rail	*Laterallus jamaicensis*	FSC
Kemp's ridley sea turtle	*Lepidochelys kempii*	Endangered
"Buxton Woods" white-footed mouse	*Peromyscus leucopus* ssp. 1	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Roseate tern	*Sterna dougallii*	Endangered
Manatee	*Trichechus manatus*	Endangered
Vascular Plants		
Seabeach amaranth	*Amaranthus pumilus*	Threatened
Long beach seedbox	*Ludwigia brevipes*	FSC
"Dune bluecurls"	*Trichostema* sp. 1	FSC

DAVIDSON COUNTY

COMMON NAME	SCIENTIFIC NAME	STATUS
Vertebrates		
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Carolina darter	*Etheostoma collis collis*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Vascular Plants		
Georgia aster	*Aster georgianus*	C1
Schweinitz's sunflower	*Helianthus schweinitzii*	Endangered
Heller's trefoil	*Lotus helleri*	FSC

DAVIE COUNTY

COMMON NAME	SCIENTIFIC NAME	STATUS
Vertebrates		
Robust redhorse	*Moxostoma robustum*	FSC
Vascular Plants		
Creamy tick-trefoil	*Desmodium ochroleucum*	FSC*
Heller's trefoil	*Lotus helleri*	FSC*
Michaux's sumac	*Rhus michauxii*	Endangered

DUPLIN COUNTY

COMMON NAME	SCIENTIFIC NAME	STATUS
Vertebrates		
American alligator	*Alligator mississippiensis*	T(S/A)*
Southern hognose snake	*Heterodon simus*	FSC*
"Broadtail" madtom	*Noturus* sp. 1	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered

COMMON NAME	SCIENTIFIC NAME	STATUS
Invertebrates		
Croatan crayfish	*Procambarus plumimanus*	FSC
Vascular Plants		
Venus flytrap	*Dionaea muscipula*	FSC
DURHAM COUNTY		
Vertebrates		
Carolina darter	*Etheostoma collis lepidinion*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Pinewoods shiner	*Lythrurus matutinus*	FSC
"Neuse" madtom	*Noturus furiosus* population 1	FSC
Invertebrates		
Atlantic pigtoe	*Fusconaia masoni*	FSC
Septima's clubtail dragonfly	*Gomphus septima*	FSC
Yellow lampmussel	*Lampsilis cariosa*	FSC
Green floater	*Lasmigona subviridis*	FSC
Panhandle pebblesnail	*Somotogyrus virginicus*	FSC
Vascular Plants		
Tall larkspur	*Delphinium exaltatum*	FSC
Smooth coneflower	*Echinacea laevigata*	Endangered
Butternut	*Juglans cinerea*	FSC
Sweet pinesap	*Monotropsis odorata*	FSC
Michaux's sumac	*Rhus michauxii*	Endangered
Nonvascular Plants		
A liverwort	*Plagiochila columbiana*	FSC
EDGECOMBE COUNTY		
Vertebrates		
Eastern Henslow's sparrow	*Ammodramus henslowii susurrans*	FSC
Southern hognose snake	*Heterodon simus*	FSC*
Pinewoods shiner	*Lythrurus matutinus*	FSC
"Carolina" madtom	*Noturus furiosus* population 2	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Invertebrates		
Yellow lance	*Elliptio lanceolata*	FSC
Tar spinymussel	*Elliptio steinstansana*	Endangered
Atlantic pigtoe	*Fusconaia masoni*	FSC
Yellow lampmussel	*Lampsilis cariosa*	FSC
FORSYTH COUNTY		
Vertebrates		
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Red-cockaded woodpecker	*Picoides borealis*	Endangered****

COMMON NAME	SCIENTIFIC NAME	STATUS
Invertebrates		
Brook floater	*Alasmidonta varicosa*	FSC
Vascular Plants		
Small-anthered bittercress	*Cardamine micranthera*	Endangered
FRANKLIN COUNTY		
Vertebrates		
Pinewoods shiner	*Lythrurus matutinus*	FSC
"Carolina" madtom	*Noturus furiosus* population 2	FSC
Invertebrates		
Dwarf wedgemussel	*Alasmidonta heterodon*	Endangered
Yellow lance	*Elliptio lanceolata*	FSC
Tar spinymussel	*Elliptio steinstansana*	Endangered
Atlantic pigtoe	*Fusconaia masoni*	FSC
Yellow lampmussel	*Lampsilis cariosa*	FSC
Vascular Plants		
Flatrock panic grass	*Panicum lithophilum*	FSC
Michaux's sumac	*Rhus michauxii*	Endangered
GASTON COUNTY		
Vertebrates		
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Vascular Plants		
Georgia aster	*Aster georgianus*	C1
Schweinitz's sunflower	*Helianthus schweinitzii*	Endangered
GATES COUNTY		
Vertebrates		
American alligator	*Alligator mississippiensis*	T(S/A)
Eastern Henslow's sparrow	*Ammodramus henslowii susurrans*	FSC
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Invertebrates		
Tidewater interstitial amphipod	*Stygobromus araeus*	FSC
Vascular Plants		
Pondspice	*Litsea aestivalis*	FSC
Long beach seedbox	*Ludwigia brevipes*	FSC*
Conferva pondweed	*Potamogeton confervoides*	FSC
Virginia least trillium	*Trillium pusillum* var. *virginianum*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS

GRAHAM COUNTY

Critical Habitat Designation: Appalachian elktoe, ***Alasmidonta raveneliana*** - The main stem of the Cheoah River (Little Tennessee River system), from the Santeetlah Dam, downstream to its confluence with the Little Tennessee River.

Within these areas, the primary constituent elements include: (i) Permanent, flowing, cool, clean water; (ii) Geomorphically stable stream channels and banks; (iii) Pool, riffle, and run sequences within the channel; (iv) Stable sand, gravel, cobble, boulder, and bedrock substrates with no more than low amounts of fine sediment; (v) Moderate to high stream gradient; (vi) Periodic natural flooding; and (vii) Fish hosts, with adequate living, foraging, and spawning areas for them.

COMMON NAME	SCIENTIFIC NAME	STATUS
Vertebrates		
Southern Appalachian saw-whet owl	*Aegolius acadicus*	FSC
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC
Hellbender	*Cryptobranchus alleganiensis*	FSC
Cerulean warbler	*Dendroica cerulea*	FSC
Junaluska salamander	*Eurycea junaluska*	FSC
Carolina northern flying squirrel	*Glaucomys sabrinus coloratus*	Endangered
Southern Appalachian red crossbill	*Loxia curvirostra*	FSC
Indiana bat	*Myotis sodalis*	Endangered (summer habitat)
Southern Appalachian black-capped chickadee	*Poecile atricapillus practicus*	FSC
Northern pine snake	*Pituophis melanoleucus melanoleucus*	FSC*
Southern Appalachian yellow-bellied sapsucker	*Sphyrapicus varius appalaciensis*	FSC
Appalachian cottontail	*Sylvilagus obscurus*	FSC
Invertebrates		
Appalachian elktoe	*Alasmidonta raveneliana*	Endangered
Tawny crescent butterfly	*Phycoides batesii maconensis*	FSC
Diana fritillary butterfly	*Speyeria diana*	FSC
Vascular Plants		
Mountain bittercress	*Cardamine clematitis*	FSC
Glade spurge	*Euphorbia purpurea*	FSC
Smoky Mountain mannagrass	*Glyceria nubigena*	FSC
Butternut	*Juglans cinerea*	FSC
Carolina saxifrage	*Saxifraga caroliniana*	FSC
Virginia spiraea	*Spiraea virginiana*	Threatened
Hairy blueberry	*Vaccinium hirsutum*	FSC
Nonvascular Plants		
Rock gnome lichen	*Gymnoderma lineare*	Endangered
A liverwort	*Porella wataugensis*	FSC*

COMMON NAME	SCIENTIFIC NAME	STATUS
GRANVILLE COUNTY		
Vertebrates		
Carolina darter	*Etheostoma collis lepidinion*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Pinewoods shiner	*Lythrurus matutinus*	FSC
Invertebrates		
Dwarf wedgemussel	*Alasmidonta heterodon*	Endangered
Brook floater	*Alasmidonta varicosa*	FSC
Yellow lance	*Elliptio lanceolata*	FSC
Atlantic pigtoe	*Fusconaia masoni*	FSC*
Yellow lampmussel	*Lampsilis cariosa*	FSC
Green floater	*Lasmigona subviridis*	FSC
Vascular Plants		
Tall larkspur	*Delphinium exaltatum*	FSC
Smooth coneflower	*Echinacea laevigata*	Endangered
Heller's trefoil	*Lotus helleri*	FSC
Harperella	*Ptilimnium nodosum*	Endangered
Torrey's mountain-mint	*Pycnanthemum torrei*	FSC*
GREENE COUNTY		
Vertebrates		
Pinewoods shiner	*Lythrurus matutinus*	FSC
"Neuse" madtom	*Noturus furiosus* population 1	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
GUILFORD COUNTY		
Vertebrates		
Carolina darter	*Etheostoma collis lepidinion*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
HALIFAX COUNTY		
Vertebrates		
Bachman's sparrow	*Aimophila aestivalis*	FSC
Cerulean warbler	*Dendroica cerulea*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
"Carolina" madtom	*Noturus furiosus* population 2	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Invertebrates		
Dwarf wedgemussel	*Alasmidonta heterodon*	Endangered
Yellow lance	*Elliptio lanceolata*	FSC
Tar spinymussel	*Elliptio steinstansana*	Endangered
Atlantic pigtoe	*Fusconaia masoni*	FSC
Yellow lampmussel	*Lampsilis cariosa*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Chowanoke crayfish	*Orconectes virginiensis*	FSC
Tar River crayfish (=Albermarle crayfish)	*Procambarus medialis*	FSC
Vascular Plants		
Bog St. John's-wort	*Hypericum adpressum*	FSC
Carolina least trillium	*Trillium pusillum* var. *pusillum*	FSC

HARNETT COUNTY

Vertebrates		
Bachman's sparrow	*Aimophila aestivalis*	FSC
"Carolina" redhorse	*Moxostoma* sp. 2	FSC
Cape Fear shiner	*Notropis mekistocholas*	Endangered
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Northern pine snake	*Pituophis melanoleucus melanoleucus*	FSC
Sandhills chub	*Semotilus lumbee*	FSC
Invertebrates		
Atlantic pigtoe	*Fusconaia masoni*	FSC
Yellow lampmussel	*Lampsilis cariosa*	FSC
Vascular Plants		
Georgia indigo-bush	*Amorpha georgiana* var. *georgiana*	FSC
Sandhills milkvetch	*Astragalus michauxii*	FSC
Bog oatgrass	*Danthonia epilis*	FSC
Small whorled pogonia	*Isotria medeoloides*	Threatened*
Sandhills bog lily	*Lilium pyrophilum*	FSC
Long beach seedbox	*Ludwigia brevipes*	FSC*
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered
Buttercup phacelia	*Phacelia covillei*	FSC
Sandhills pyxie-moss	*Pyxidanthera barbulata* var. *brevifolia*	FSC
Sun-facing coneflower	*Rudbeckia heliopsidis*	FSC
Spring-flowering goldenrod	*Solidago verna*	FSC
Pickering's dawnflower	*Stylisma pickeringii* var. *pickeringii*	FSC
Carolina asphodel	*Tofieldia glabra*	FSC
Roughleaf yellow-eyed grass	*Xyris scabrifolia*	FSC

HAYWOOD COUNTY

Critical Habitat Designation: Spruce-fir moss spider, *Microhexura montivaga* - Critical habitat designated (see the July 6, 2001, *Federal Register*, 66:35547-35566).

Critical Habitat Designation: Appalachian elktoe, *Alasmidonta raveneliana* - The main stem of the West Fork Pigeon River (French Broad River system), from the confluence of the Little East Fork Pigeon River, downstream to the confluence of the East Fork Pigeon River, and the main stem of the Pigeon River, from the confluence of the West Fork Pigeon River and the East Fork Pigeon River, downstream to the N.C. Highway 215 Bridge crossing, south of Canton, North Carolina.

Within these areas, the primary constituent elements include: (i) Permanent, flowing, cool, clean water; (ii) Geomorphically stable stream channels and banks; (iii) Pool, riffle, and run sequences within the channel; (iv) Stable sand, gravel, cobble, boulder, and bedrock substrates with no more than low amounts of fine sediment; (v) Moderate to high stream gradient; (vi) Periodic natural flooding; and (vii) Fish hosts, with adequate living, foraging, and spawning areas for them.

Vertebrates		
Southern Appalachian saw-whet owl	*Aegolius acadicus*	FSC
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Olive-sided flycatcher	*Contopus borealis*	FSC
Hellbender	*Cryptobranchus alleganiensis*	FSC
Cerulean warbler	*Dendroica cerulea*	FSC
Carolina northern flying squirrel	*Glaucomys sabrinus coloratus*	Endangered
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Southern Appalachian red crossbill	*Loxia curvirostra*	FSC
Southern rock vole	*Microtus chrotorrhinus carolinensis*	FSC
Gray bat	*Myotis grisescens*	Endangered
Southern Appalachian woodrat	*Neotoma floridana haematoreia*	FSC
Alleghany woodrat	*Neotoma magister*	FSC
Southern Appalachian black-capped chickadee	*Poecile atricapillus practicus*	FSC
Eastern cougar	*Puma concolor couguar*	Endangered*
Southern water shrew	*Sorex palustris punctulatus*	FSC
Southern Appalachian yellow-bellied sapsucker	*Sphyrapicus varius appalaciensis*	FSC
Appalachian cottontail	*Sylvilagus obscurus*	FSC
Appalachian Bewick's wren	*Thryomanes bewickii altus*	FSC
Invertebrates		
Appalachian elktoe	*Alasmidonta raveneliana*	Endangered
Spruce-fir moss spider	*Microhexura montivaga*	Endangered
Tawny crescent butterfly	*Phyciodes batesii maconensis*	FSC*
Diana fritillary butterfly	*Speyeria diana*	FSC
Vascular Plants		
Fraser fir	*Abies fraseri*	FSC
Piratebush	*Buckleya disticophylla*	FSC
Mountain bittercress	*Cardamine clematitis*	FSC
Tall larkspur	*Delphinium exaltatum*	FSC*
Glade spurge	*Euphorbia purpurea*	FSC
Smoky Mountain mannagrass	*Glyceria nubigena*	FSC
Small whorled pogonia	*Isotria medeoloides*	Threatened
Butternut	*Juglans cinerea*	FSC
Fraser's loosestrife	*Lysimachia fraseri*	FSC
Torrey's mountain-mint	*Pycnanthemum torrei*	FSC*
Rugel's ragwort	*Rugelia nudicaulis*	FSC
Carolina saxifrage	*Saxifraga caroliniana*	FSC
Mountain catchfly	*Silene ovata*	FSC
Alabama least trillium	*Trillium pusillum* var. *1*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Nonvascular Plants		
Rock gnome lichen	*Gymnoderma lineare*	Endangered
A liverwort	*Plagiochila sharpii*	FSC
A liverwort	*Plagiochila sullivantii* var. *sullivantii*	FSC
A liverwort	*Sphenolobopsis pearsonii*	FSC

HENDERSON COUNTY

Vertebrates		
Green salamander	*Aneides aeneus*	FSC
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Hellbender	*Cryptobranchus alleganiensis*	FSC
Eastern small-footed myotis	*Myotis leibii*	FSC
Southern Appalachian woodrat	*Neotoma floridana haematoreia*	FSC
Invertebrates		
Appalachian elktoe	*Alasmidonta raveneliana*	Endangered
French Broad crayfish	*Cambarus reburrus*	FSC*
Oyster mussel	*Epioblasma capsaeformis*	Endangered
Tennessee heelsplitter	*Lasmigona holstonia*	FSC
Diana fritillary butterfly	*Speyeria diana*	FSC*
Vascular Plants		
Schweinitz's sedge	*Carex schweinitzii*	FSC
Swamp pink	*Helonias bullata*	Threatened
Mountain heartleaf	*Hexastylis contracta*	FSC
French Broad heartleaf	*Hexastylis rhombiformis*	FSC
Small whorled pogonia	*Isotria medeoloides*	Threatened
Butternut	*Juglans cinerea*	FSC
Rough rush	*Juncus caesariensis*	FSC
Gray's lily	*Lilium grayi*	FSC
Fraser's loosestrife	*Lysimachia fraseri*	FSC**
Large-flowered Barbara's buttons	*Marshallia grandiflora*	FSC*
Sweet pinesap	*Monotropsis odorata*	FSC*
Bog asphodel	*Narthecium americanum*	C1*
White fringeless orchid	*Platanthera integrilabia*	C1
Bunched arrowhead	*Sagittaria fasciculata*	Endangered
Mountain sweet pitcher plant	*Sarracenia jonesii*	Endangered
Divided-leaf ragwort	*Senecio millefolium*	FSC*
Mountain catchfly	*Silene ovata*	FSC
White irisette	*Sisyrinchium dichotomum*	Endangered

HERTFORD COUNTY

Vertebrates		
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Invertebrates		
Chowanoke crayfish	*Orconectes virginiensis*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
HOKE COUNTY		
Vertebrates		
Bachman's sparrow	*Aimophila aestivalis*	FSC
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC
Pinewoods darter	*Etheostoma mariae*	FSC
Southern hognose snake	*Heterodon simus*	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Northern pine snake	*Pituophis melanoleucus melanoleucus*	FSC
Carolina gopher frog	*Rana capito capito*	FSC
Sandhills chub	*Semotilus lumbee*	FSC
Invertebrates		
Saint Francis' satyr	*Neonympha mitchellii francisci*	Endangered
Vascular Plants		
Georgia indigo-bush	*Amorpha georgiana* var. *georgiana*	FSC
Sandhills milkvetch	*Astragalus michauxii*	FSC
Venus flytrap	*Dionaea muscipula*	FSC
Sandhills bog lily	*Lilium pyrophilum*	FSC
Bog spicebush	*Lindera subcoriacea*	FSC
Pondspice	*Litsea aestivalis*	FSC
Boykin's lobelia	*Lobelia boykinii*	FSC
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered
Loose watermilfoil	*Myriophyllum laxum*	FSC
Conferva pondweed	*Potamogeton confervoides*	FSC
Spiked medusa	*Pteroglossaspis ecristata*	FSC
Sandhills pyxie-moss	*Pyxidanthera barbulata* var. *brevifolia*	FSC
Awned meadowbeauty	*Rhexia aristosa*	FSC
Michaux's sumac	*Rhus michauxii*	Endangered
Alabama beaksedge	*Rhynchospora crinipes*	FSC
American chaffseed	*Schwalbea americana*	Endangered
Spring-flowering goldenrod	*Solidago verna*	FSC
Pickering's dawnflower	*Stylisma pickeringii* var. *pickeringii*	FSC
Carolina asphodel	*Tofieldia glabra*	FSC
Roughleaf yellow-eyed grass	*Xyris scabrifolia*	FSC

HYDE COUNTY

Critical Habitat Designation: Piping plover, *Charadrius melodus* - See the July 10, 2001, *Federal Register*, 66:36038-36136, for a description of the primary constituent elements essential for the conservation of wintering piping plovers within the designated units. This document also contains a map and a description of each designated unit.

Vertebrates		
American alligator	*Alligator mississippiensis*	T(S/A)
Red wolf	*Canis rufus*	EXP
Loggerhead sea turtle	*Caretta caretta*	Threatened
Piping plover	*Charadrius melodus*	Threatened
Green sea turtle	*Chelonia mydas*	Threatened*
Leatherback sea turtle	*Dermochelys coriacea*	Endangered
Hawksbill sea turtle	*Eretomochelys imbricata*	Endangered

COMMON NAME	SCIENTIFIC NAME	STATUS
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Black rail	*Laterallus jamaicensis*	FSC
Kemp's ridley sea turtle	*Lepidochelys kempii*	Endangered
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Manatee	*Trichechus manatus*	Endangered
Vascular Plants		
Sensitive jointvetch	*Aeschynomene virginica*	Threatened
Seabeach amaranth	*Amaranthus pumilus*	Threatened
Long beach seedbox	*Ludwigia brevipes*	FSC*
"Dune bluecurls"	*Trichostema* sp. 1	FSC*

IREDELL COUNTY

Vertebrates		
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Alleghany woodrat	*Neotoma magister*	FSC
Vascular Plants		
Tall larkspur	*Delphinium exaltatum*	FSC*
Heller's trefoil	*Lotus helleri*	FSC

JACKSON COUNTY

Critical Habitat Designation: Appalachian elktoe, *Alasmidonta raveneliana* - The main stem of the Tuckasegee River (Little Tennessee River system), from the N.C. State Route 1002 Bridge in Cullowhee, Jackson County, North Carolina, downstream to the N.C. Highway 19 Bridge, north of Bryson City, Swain County, North Carolina.

Within these areas, the primary constituent elements include: (i) Permanent, flowing, cool, clean water; (ii) Geomorphically stable stream channels and banks; (iii) Pool, riffle, and run sequences within the channel; (iv) Stable sand, gravel, cobble, boulder, and bedrock substrates with no more than low amounts of fine sediment; (v) Moderate to high stream gradient; (vi) Periodic natural flooding; and (vii) Fish hosts, with adequate living, foraging, and spawning areas for them.

Vertebrates		
Southern Appalachian saw-whet owl	*Aegolius acadicus*	FSC
Green salamander	*Aneides aeneus*	FSC
Rosyside dace	*Clinostomus funduloides* ssp. 1	FSC
Hellbender	*Cryptobranchus alleganiensis*	FSC
Wounded darter	*Etheostoma vulneratum*	FSC
Carolina northern flying squirrel	*Glaucomys sabrinus coloratus*	Endangered
Southern Appalachian red crossbill	*Loxia curvirostra*	FSC
"Sicklefin" redhorse	*Moxostoma* sp. 1	FSC
Indiana bat	*Myotis sodalis*	Endangered (winter records)
Southern Appalachian woodrat	*Neotoma floridana haematoreia*	FSC
Southern Appalachian black-capped chickadee	*Poecile atricapillus practicus*	FSC
Olive darter	*Percina squamata*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Northern pine snake	*Pituophis melanoleucus melanoleucus*	FSC
Southern Appalachian yellow-bellied sapsucker	*Sphyrapicus varius appalaciensis*	FSC
Appalachian Bewick's wren	*Thryomanes bewickii altus*	FSC
Invertebrates		
Appalachian elktoe	*Alasmidonta raveneliana*	Endangered
French Broad crayfish	*Cambarus reburrus*	FSC
Whitewater crayfish ostracod	*Dactyloctythere prinsi*	FSC
Tawny crescent butterfly	*Phycoides batesii maconensis*	FSC
Diana fritillary butterfly	*Speyeria diana*	FSC
Vascular Plants		
Fraser fir	*Abies fraseri*	FSC
Mountain bittercress	*Cardamine clematitis*	FSC
Radford's sedge	*Carex radfordii*	FSC
Cuthbert's turtlehead	*Chelone cuthbertii*	FSC
Tall larkspur	*Delphinium exaltatum*	FSC
Glade spurge	*Euphorbia purpurea*	FSC
Swamp pink	*Helonias bullata*	Threatened
Gorge filmy fern	*Hymenophyllum tayloriae*	FSC
Small whorled pogonia	*Isotria medeoloides*	Threatened
Butternut	*Juglans cinerea*	FSC
Fraser's loosestrife	*Lysimachia fraseri*	FSC
Sweet pinesap	*Monotropsis odorata*	FSC
Torrey's mountain-mint	*Pycnanthemum torrei*	FSC*
Carolina saxifrage	*Saxifraga caroliniana*	FSC
Divided-leaf ragwort	*Senecio millefolium*	FSC
Mountain catchfly	*Silene ovata*	FSC
Granite dome goldenrod	*Solidago simulans*	FSC
Mountain thaspium	*Thaspium pinnatifidum*	FSC*
Lobed barren-strawberry	*Waldsteinia lobata*	FSC*
Nonvascular Plants		
Gorge moss	*Bryocrumia vivicolor*	FSC
Rock gnome lichen	*Gymnoderma lineare*	Endangered
A liverwort	*Plagiochila sullivantii* var. *spinigera*	FSC
A liverwort	*Plagiochila sullivantii* var. *sullivantii*	FSC
A liverwort	*Plagiochila virginica* var. *caroliniana*	FSC
A liverwort	*Sphenolobopsis pearsonii*	FSC

JOHNSTON COUNTY

Vertebrates		
Pinewoods shiner	*Lythrurus matutinus*	FSC
"Neuse" madtom	*Noturus furiosus* population 1	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Invertebrates		
Dwarf wedgemussel	*Alasmidonta heterodon*	Endangered
Yellow lance	*Elliptio lanceolata*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Tar spinymussel	*Elliptio steinstansana*	Endangered
Atlantic pigtoe	*Fusconaia masoni*	FSC
Yellow lampmussel	*Lampsilis cariosa*	FSC
Green floater	*Lasmigona subviridis*	FSC
Tar River crayfish	*Procambarus medialis*	FSC
Vascular Plants		
Sandhills bog lily	*Lilium pyrophilum*	FSC
Long beach seedbox	*Ludwigia brevipes*	FSC*
Carolina bogmint	*Macbridea caroliniana*	FSC
Michaux's sumac	*Rhus michauxii*	Endangered*
Spring-flowering goldenrod	*Solidago verna*	FSC
Carolina asphodel	*Tofieldia glabra*	FSC*
Carolina least trillium	*Trillium pusillum* var. *pusillum*	FSC

JONES COUNTY

Vertebrates		
American alligator	*Alligator mississippiensis*	T(S/A)
Southern hognose snake	*Heterodon simus*	FSC*
"Neuse" madtom	*Noturus furiosus* population 1	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Carolina gopher frog	*Rana capito capito*	FSC
Invertebrates		
Croatan crayfish	*Procambarus plumimanus*	FSC
Vascular Plants		
Carolina spleenwort	*Asplenium heteroresiliens*	FSC
Venus flytrap	*Dionea muscipula*	FSC
A quillwort	*Isoetes microvela*	FSC
Carolina bogmint	*Macbridea caroliniana*	FSC**
Godfrey's sandwort	*Minuartia godfreyi*	FSC
Carolina goldenrod	*Solidago pulchra*	FSC
Spring-flowering goldenrod	*Solidago verna*	FSC

LEE COUNTY

Critical Habitat Designation: Cape Fear shiner, *Notropis mekistocholas* - Approximately 0.5 river mile of Bear Creek, from Chatham County Road 2156 Bridge downstream to the Rocky River, then downstream in the Rocky River (approximately 4.2 river miles) to the Deep River, then downstream in the Deep River (approximately 2.6 river miles) to a point 0.3 river mile below the Moncure, North Carolina, U.S. Geological Survey Gaging Station. Constituent elements include clean streams with gravel, cobble, and boulder substrates with pools, riffles, shallow runs and slackwater areas with large rock outcrops and side channels and pools with water of good quality with relatively low silt loads.

Vertebrates		
"Carolina" redhorse	*Moxostoma* sp. 2	FSC
Robust redhorse	*Moxostoma robustum*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Cape Fear shiner	*Notropis mekistocholas*	Endangered
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Vascular Plants		
Georgia indigo-bush	*Amorpha georgiana* var. *georgiana*	FSC
Sandhills bog lily	*Lilium pyrophilum*	FSC
Bog spicebush	*Lindera subcoriacea*	FSC
Buttercup phacelia	*Phacelia covillei*	FSC
Harperella	*Ptilimnium nodosum*	Endangered

LENOIR COUNTY

Vertebrates		
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
"Neuse" madtom	*Noturus furiosus* population 1	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Invertebrates		
Tar River crayfish	*Procambarus medialis*	FSC
Vascular Plants		
Sensitive jointvetch	*Aeschynomene virginica*	Threatened*
Georgia indigo-bush	*Amorpha georgiana* var. *georgiana*	FSC*
Venus flytrap	*Dionaea muscipula*	FSC*

LINCOLN COUNTY

Vascular Plants		
Dwarf-flowered heartleaf	*Hexastylis naniflora*	Threatened
Michaux's sumac	*Rhus michauxii*	Endangered*

MACON COUNTY

Critical Habitat Designation: Spotfin chub, *Erimonax monachus* - Little Tennessee River, main channel from the backwaters of Fontana Lake upstream to the North Carolina-Georgia state line.

Critical Habitat Designation: Appalachian elktoe, *Alasmidonta raveneliana* - The main stem of the Little Tennessee River (Tennessee River system), from the Lake Emory Dam at Franklin, Macon County, North Carolina, downstream to the backwaters of Fontana Reservoir in Swain County, North Carolina.

Within these areas, the primary constituent elements include: (i) Permanent, flowing, cool, clean water; (ii) Geomorphically stable stream channels and banks; (iii) Pool, riffle, and run sequences within the channel; (iv) Stable sand, gravel, cobble, boulder, and bedrock substrates with no more than low amounts of fine sediment; (v) Moderate to high stream gradient; (vi) Periodic natural flooding; and (vii) Fish hosts, with adequate living, foraging, and spawning areas for them.

Vertebrates		
Southern Appalachian saw-whet owl	*Aegolius acadicus*	FSC
Bachman's sparrow	*Aimophila aestivalis*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Green salamander	*Aneides aeneus*	FSC
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Rosyside dace	*Clinostomus funduloides* ssp. 1	FSC
Olive-sided flycatcher	*Contopus borealis*	FSC
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC
Hellbender	*Cryptobranchus alleganiensis*	FSC
Spotfin chub	*Erimonax monachus*	Threatened
Cerulean warbler	*Dendroica cerulea*	FSC
Wounded darter	*Etheostoma vulneratum*	FSC
"Sicklefin" redhorse	*Moxostoma* sp. 1	FSC
Indiana bat	*Myotis sodalis*	Endangered (summer habitat/winter records)
Southern Appalachian woodrat	*Neotoma floridana haematoreia*	FSC
Olive darter	*Percina squamata*	FSC
Appalachian cottontail	*Sylvilagus obscurus*	FSC
Appalachian Bewick's wren	*Thryomanes bewickii altus*	FSC
Invertebrates		
Appalachian elktoe	*Alasmidonta raveneliana*	Endangered
Margarita River skimmer	*Macromia margarita*	FSC**
Lost Nantahala Cave spider	*Nesticus cooperi*	FSC
Littlewing pearlymussel	*Pegias fabula*	Endangered
Tawny crescent butterfly	*Phyciodes batesii maconensis*	FSC
Carolina skistodiaptomus	*Skistodiaptomus carolinensis*	FSC
Diana fritillary butterfly	*Speyeria diana*	FSC
Vascular Plants		
Piratebush	*Buckleya distichophylla*	FSC
Cuthbert's turtlehead	*Chelone cuthbertii*	FSC*
Glade spurge	*Euphorbia purpurea*	FSC
West Indian dwarf polypody	*Grammitis nimbata*	FSC
Gorge filmy fern	*Hymenophyllum tayloriae*	FSC
Small whorled pogonia	*Isotria medeoloides*	Threatened
Butternut	*Juglans cinerea*	FSC
Fraser's loosestrife	*Lysimachia fraseri*	FSC
Sweet pinesap	*Monotropsis odorata*	FSC*
Torrey's mountain-mint	*Pycnanthemum torrei*	FSC*
Carolina saxifrage	*Saxifraga caroliniana*	FSC
Divided-leaf ragwort	*Senecio millefolium*	FSC
Mountain catchfly	*Silene ovata*	FSC
Granite dome goldenrod	*Solidago simulans*	FSC
Virginia spiraea	*Spiraea virginiana*	Threatened
Nonvascular Plants		
A liverwort	*Cephaloziella obtusilobula*	FSC*
A liverwort	*Plagiochila sharpii*	FSC
A liverwort	*Plagiochila sullivantii* var. *sullivantii*	FSC
A liverwort	*Plagiochila virginica* var. *caroliniana*	FSC
A liverwort	*Porella wataugensis*	FSC*

COMMON NAME	SCIENTIFIC NAME	STATUS
MADISON COUNTY		
Vertebrates		
Lake sturgeon	*Acipenser fulvescens*	FSC*
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC*
Hellbender	*Cryptobranchus alleganiensis*	FSC
Blotched chub	*Erimystax insignis*	FSC
Wounded darter	*Etheostoma vulneratum*	FSC
Spotfin chub	*Erimonax monachus*	Threatened*
Gray bat	*Myotis grisescens*	Endangered
Southern Appalachian woodrat	*Neotoma floridana haematoreia*	FSC
Olive darter	*Percina squamata*	FSC
Paddlefish	*Polyodon spathula*	FSC
Invertebrates		
Oyster mussel	*Epioblasma capsaeformis*	Endangered*
Sculpted supercoil	*Paravitrea ternaria*	FSC
Vascular Plants		
Piratebush	*Buckleya distichophylla*	FSC
Glade spurge	*Euphorbia purpurea*	FSC
Butternut	*Juglans cinerea*	FSC
Carolina saxifrage	*Saxifraga caroliniana*	FSC
Mountain catchfly	*Silene ovata*	FSC
Mountain thaspium	*Thaspium pinnatifidum*	FSC
MARTIN COUNTY		
Vertebrates		
Eastern Henslow's sparrow	*Ammodramus henslowii susurrans*	FSC
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Invertebrates		
Chowanoke crayfish	*Orconectes virginiensis*	FSC
McDOWELL COUNTY		
Vertebrates		
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Olive-sided flycatcher	*Contopus borealis*	FSC
Cerulean warbler	*Dendroica cerulea*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Southern Appalachian woodrat	*Neotoma floridana haematoreia*	FSC*
Alleghany woodrat	*Neotoma magister*	FSC
Invertebrates		
Bennett's Mill Cave water slater	*Caecidotea carolinensis*	FSC
Diana fritillary butterfly	*Speyeria diana*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Vascular Plants		
Roan sedge	*Carex roanenis*	FSC
Cuthbert's turtlehead	*Chelone cuthbertii*	FSC
Tall larkspur	*Delphinium exaltatum*	FSC**
Mountain golden heather	*Hudsonia montana*	Threatened
Rocky shoal spider lily	*Hymenocallis coronaria*	FSC
Small whorled pogonia	*Isotria medeoloides*	Threatened
Butternut	*Juglans cinerea*	FSC
Gray's lily	*Lilium grayi*	FSC
Sweet pinesap	*Monotropsis odorata*	FSC
Northern oconee-bells	*Shortia galacifolia* var. *brevistyla*	FSC

MECKLENBURG COUNTY

Vertebrates		
Carolina darter	*Etheostoma collis collis*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Invertebrates		
Carolina heelsplitter	*Lasmigona decorata*	Endangered
Carolina creekshell	*Villosa vaughaniana*	FSC
Vascular Plants		
Georgia aster	*Aster georgianus*	C1
Tall larkspur	*Delphinium exaltatum*	FSC*
Smooth coneflower	*Echinacea laevigata*	Endangered*
Schweinitz's sunflower	*Helianthus schweinitzii*	Endangered
Virginia quillwort	*Isoetes virginica*	FSC
Heller's trefoil	*Lotus helleri*	FSC
Michaux's sumac	*Rhus michauxii*	Endangered*

MITCHELL COUNTY

Critical Habitat Designation: Spruce-fir moss spider, *Microhexura montivaga* - Critical habitat designated (see the July 6, 2001, *Federal Register*, 66:35547-35566).

Critical Habitat Designation: Appalachian elktoe, *Alasmidonta raveneliana* - The main stem of the North Toe River, Yancey and Mitchell Counties, North Carolina, from the confluence of Big Crabtree Creek, downstream to the confluence of the South Toe River; the main stem of the South Toe River, Yancey County, North Carolina, from the N.C. State Route 1152 Bridge, downstream to its confluence with the North Toe River; the main stem of the Toe River, Yancey and Mitchell Counties, North Carolina, from the confluence of the North Toe River and the South Toe River, downstream to the confluence of the Cane River; the main stem of the Cane River, Yancey County, North Carolina, from the N.C. State Route 1381 Bridge, downstream to its confluence with the Toe River; and the main stem of the Nolichucky River, from the confluence of the Toe River and the Cane River in Yancey and Mitchell Counties, North Carolina, downstream to the U.S. Highway 23/19W Bridge southwest of Erwin, Unicoi County, Tennessee.

Within these areas, the primary constituent elements include: (i) Permanent, flowing, cool, clean water; (ii) Geomorphically stable stream channels and banks; (iii) Pool, riffle, and run sequences within the channel; (iv) Stable sand, gravel, cobble, boulder, and bedrock substrates with no more than low amounts of fine sediment; (v) Moderate to high stream gradient; (vi) Periodic natural flooding; and (vii) Fish hosts, with adequate living, foraging, and spawning areas for them.

Vertebrates		
Southern Appalachian saw-whet owl	*Aegolius acadicus*	FSC
Olive-sided flycatcher	*Contopus borealis*	FSC
Blotched chub	*Erimystax insignis*	FSC
Sharphead darter	*Etheostoma acuticeps*	FSC
Carolina northern flying squirrel	*Glaucomys sabrinus coloratus*	Endangered
Southern Appalachian red crossbill	*Loxia curvirostra*	FSC
Indiana bat	*Myotis sodalis*	Endangered (winter records)
Alleghany woodrat	*Neotoma magister*	FSC*
Southern Appalachian black-capped chickadee	*Poecile atricapillus practicus*	FSC
Olive darter	*Percina squamata*	FSC
Southern Appalachian yellow-bellied sapsucker	*Sphyrapicus varius appalaciensis*	FSC
Appalachian cottontail	*Sylvilagus obscurus*	FSC
Invertebrates		
Appalachian elktoe	*Alasmidonta raveneliana*	Endangered
Spruce-fir moss spider	*Microhexura montivaga*	Endangered
Roan supercoil	*Paravitrea varidens*	FSC
Diana fritillary butterfly	*Speyeria diana*	FSC*
Vascular Plants		
Fraser fir	*Abies fraseri*	FSC
Piratebush	*Buckleya distichophylla*	FSC
Mountain bittercress	*Cardamine clematitis*	FSC
Roan sedge	*Carex roanensis*	FSC
Tall larkspur	*Delphinium exaltatum*	FSC*
Glade spurge	*Euphorbia purpurea*	FSC
Bent avens	*Geum geniculatum*	FSC
Spreading avens	*Geum radiatum*	Endangered
Butternut	*Juglans cinerea*	FSC
Heller's blazing star	*Liatris helleri*	Threatened
Gray's lily	*Lilium grayi*	FSC
Canby's mountain lover (=cliff green)	*Paxistima canbyi*	FSC*
Blue Ridge goldenrod	*Solidago spithamaea*	Threatened
Virginia spiraea	*Spiraea virginiana*	Threatened
Nonvascular Plants		
Rock gnome lichen	*Gymnoderma lineare*	Endangered
A liverwort	*Plagiochila sullivantii* var. *sullivantii*	FSC
A liverwort	*Sphenolobopsis pearsonii*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
MONTGOMERY COUNTY		
Vertebrates		
Carolina darter	*Etheostoma collis collis*	FSC
Pinewoods darter	*Etheostoma mariae*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Northern pine snake	*Pituophis melanoleucus melanoleucus*	FSC**
Eastern cougar	*Puma concolor couguar*	Endangered*
Sandhills chub	*Semotilus lumbee*	FSC
Invertebrates		
Brook floater	*Alasmidonta varicosa*	FSC
Atlantic pigtoe	*Fusconaia masoni*	FSC
Sandhills clubtail dragonfly	*Gomphus parvidens carolinus*	FSC
Savannah lilliput	*Toxolasma pullus*	FSC
Carolina creekshell	*Villosa vaughaniana*	FSC
Vascular Plants		
Georgia aster	*Aster georgianus*	C1
Ravine sedge	*Carex impresinervia*	FSC
Smooth coneflower	*Echinacea laevigata*	Endangered**
Schweinitz's sunflower	*Helianthus schweinitzii*	Endangered
Bog spicebush	*Lindera subcoriacea*	FSC
Yadkin River goldenrod	*Solidago plumosa*	FSC

MOORE COUNTY

Critical Habitat Designation: Cape Fear shiner, *Notropis mekistocholas* - Approximately 1.5 miles of Fork Creek, from a point 0.1 river mile upstream of Randolph County Road 2873 Bridge downstream to the Deep River then downstream approximately 4.1 river miles of the Deep River in Randolph and Moore Counties, North Carolina, to a point 2.5 river miles below Moore County Road 1456 Bridge. Constituent elements include clean streams with gravel, cobble, and boulder substrates with pools, riffles, shallow runs and slackwater areas with large rock outcrops and side channels and pools with water of good quality with relatively low silt loads.

COMMON NAME	SCIENTIFIC NAME	STATUS
Vertebrates		
Bachman's sparrow	*Aimophila aestivalis*	FSC
Carolina darter	*Etheostoma collis collis*	FSC
Pinewoods darter	*Etheostoma mariae*	FSC
Southern hognose snake	*Heterodon simus*	FSC
"Carolina" redhorse	*Moxostoma* sp. 2	FSC
Robust redhorse	*Moxostoma robustum*	FSC
Cape Fear shiner	*Notropis mekistocholas*	Endangered
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Northern pine snake	*Pituophis melanoleucus melanoleucus*	FSC
Sandhills chub	*Semotilus lumbee*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Invertebrates		
Brook floater	*Alasmidonta varicosa*	FSC
Arogos skipper	*Atrytone arogos arogos*	FSC
Atlantic pigtoe	*Fusconaia masoni*	FSC
Sandhills clubtail dragonfly	*Gomphus parvidens carolinus*	FSC
Yellow lampmussel	*Lampsilis cariosa*	FSC
Carolina creekshell	*Villosa vaughaniana*	FSC
Vascular Plants		
Georgia indigo-bush	*Amorpha georgiana* var. *georgiana*	FSC
Sandhills milkvetch	*Astragalus michauxii*	FSC
Bog oatgrass	*Danthonia epilis*	FSC
Venus flytrap	*Dionea muscipula*	FSC
Sandhills bog lily	*Lilium pyrophilum*	FSC
Bog spicebush	*Lindera subcoriacea*	FSC
Heller's trefoil	*Lotus helleri*	FSC
Buttercup phacelia	*Phacelia covillei*	FSC
Conferva pondweed	*Potamogeton confervoides*	FSC*
Sandhills pyxie-moss	*Pyxidanthera barbulata* var. *brevifolia*	FSC
Michaux's sumac	*Rhus michauxii*	Endangered
Alabama beaksedge	*Rhynchospora crinipes*	FSC
Sun-facing coneflower	*Rudbeckia heliopsidis*	FSC
American chaffseed	*Schwalbea americana*	Endangered
Spring-flowering goldenrod	*Solidago verna*	FSC
Pickering's dawnflower	*Stylisma pickeringii* var. *pickeringii*	FSC
Roughleaf yellow-eyed grass	*Xyris scabrifolia*	FSC

NASH COUNTY

COMMON NAME	SCIENTIFIC NAME	STATUS
Vertebrates		
Pinewoods shiner	*Lythrurus matutinus*	FSC
"Carolina" madtom	*Noturus furiosus* population 2	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Invertebrates		
Dwarf wedgemussel	*Alasmidonta heterodon*	Endangered
Yellow lance	*Elliptio lanceolata*	FSC
Tar spinymussel	*Elliptio steinstansana*	Endangered
Atlantic pigtoe	*Fusconaia masoni*	FSC
Yellow lampmussel	*Lampsilis cariosa*	FSC
Green floater	*Lasmigona subviridis*	FSC
Diana fritillary butterfly	*Speyeria diana*	FSC*
Vascular Plants		
Sandhills bog lily	*Lilium pyrophilum*	FSC
Carolina least trillium	*Trillium pusillum* var. *pusillum*	FSC

NEW HANOVER COUNTY

Critical Habitat Designation: Piping plover, *Charadrius melodus* - See the July 10, 2001, *Federal Register*, 66:36038-36136, for a description of the primary constituent elements essential for the conservation of wintering piping plovers within the designated units. This document also contains a map and a description of each designated unit.

Vertebrates		
Shortnose sturgeon	*Acipenser brevirostrum*	Endangered
American alligator	*Alligator mississippiensis*	T(S/A)
Loggerhead sea turtle	*Caretta caretta*	Threatened
Piping plover	*Charadrius melodus*	Threatened
Green sea turtle	*Chelonia mydas*	Threatened
Southern hognose snake	*Heterodon simus*	FSC*
Southeastern myotis	*Myotis austroriparius*	FSC
Mimic glass lizard	*Ophisaurus mimicus*	FSC
Eastern painted bunting	*Passerina ciris ciris*	FSC*
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Northern pine snake	*Pituophis melanoleucus melanoleucus*	FSC*
Carolina gopher frog	*Rana capito capito*	FSC
Manatee	*Trichechus manatus*	Endangered
Invertebrates		
Buchholz's dart moth	*Agrotis buchholzi*	FSC
Arogos skipper	*Atrytone arogos arogos*	FSC*
Magnificent rams-horn	*Planorbella magnifica*	FSC
Rare skipper	*Problema bulenta*	FSC
Croatan crayfish	*Procambarus plumimanus*	FSC
Cape Fear threetooth	*Triodopsis soelneri*	FSC
Vascular Plants		
Seabeach amaranth	*Amaranthus pumilus*	Threatened
Savanna indigo-bush	*Amorpha georgiana* var. *confusa*	FSC*
Sandhills milkvetch	*Astragalus michauxii*	FSC
Venus flytrap	*Dionea muscipula*	FSC
Bog St. John's-wort	*Hypericum adpressum*	FSC**
Pondspice	*Litsea aestivalis*	FSC
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered
Spiked medusa	*Pteroglossaspis ecristata*	FSC**
"Carolina" bishopweed	*Ptilimnium* sp. 1	FSC*
Coastal beaksedge	*Rhynchospora pleiantha*	FSC
Tough bumelia	*Sideroxylon tenax*	FSC*
Spring-flowering goldenrod	*Solidago verna*	FSC*
Coastal goldenrod	*Solidago villosicarpa*	FSC*
Pickering's dawnflower	*Stylisma pickeringii* var. *pickeringii*	FSC
Cooley's meadowrue	*Thalictrum cooleyi*	Endangered**
Carolina asphodel	*Tofieldia glabra*	FSC
"Dune bluecurls"	*Trichostema* sp. 1	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS

NORTHAMPTON COUNTY

Vertebrates

Cerulean warbler	*Dendroica cerulea*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Red-cockaded woodpecker	*Picoides borealis*	Endangered

Vascular Plants

Bog St. John's-wort	*Hypericum adpressum*	FSC
Sandhills bog lily	*Lilium pyrophilum*	FSC
Reclining bulrush	*Scirpus flaccidifolius*	FSC

ONSLOW COUNTY

Critical Habitat Designation: Piping plover, *Charadrius melodus* - See the July 10, 2001, *Federal Register*, 66:36038-36136, for a description of the primary constituent elements essential for the conservation of wintering piping plovers within the designated units. This document also contains a map and a description of each designated unit.

Vertebrates

Bachman's sparrow	*Aimophila aestivalis*	FSC
American alligator	*Alligator mississippiensis*	T(S/A)
Eastern Henslow's sparrow	*Ammodramus henslowii susurrans*	FSC
Loggerhead sea turtle	*Caretta caretta*	Threatened
Piping plover	*Charadrius melodus*	Threatened
Green sea turtle	*Chelonia mydas*	Threatened
Leatherback sea turtle	*Dermochelys coriacea*	Endangered
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Southern hognose snake	*Heterodon simus*	FSC
Black rail	*Laterallus jamaicensis*	FSC
Mimic glass lizard	*Ophisaurus mimicus*	FSC
Eastern painted bunting	*Passerina ciris ciris*	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Eastern cougar	*Puma concolor couguar*	Endangered*
Carolina gopher frog	*Rana capito capito*	FSC

Invertebrates

Croatan crayfish	*Procambarus plumimanus*	FSC

Vascular Plants

Seabeach amaranth	*Amaranthus pumilus*	Threatened
Carolina spleenwort	*Asplenium heteroresiliens*	FSC
Many-flower grass-pink	*Calopogon multiflorus*	FSC
Golden sedge	*Carex lutea*	Endangered
Venus flytrap	*Dionea muscipula*	FSC
A quillwort	*Isoetes microvela*	FSC
Pondspice	*Litsea aestivalis*	FSC
Boykin's lobelia	*Lobelia boykinii*	FSC
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered
Loose watermilfoil	*Myriophyllum laxum*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Hirsts panic grass	*Panicum hirstii*	C1
Awned meadowbeauty	*Rhexia aristosa*	FSC
Coastal beaksedge	*Rhynchospora pleiantha*	FSC
Thorne's beaksedge	*Rhynchospora thornei*	FSC
Carolina goldenrod	*Solidago pulchra*	FSC
Spring-flowering goldenrod	*Solidago verna*	FSC
Coastal goldenrod	*Solidago villosicarpa*	FSC
Cooley's meadowrue	*Thalictrum cooleyi*	Endangered
Carolina asphodel	*Tofieldia glabra*	FSC

ORANGE COUNTY

Vertebrates

Carolina darter	*Etheostoma collis lepidinion*	FSC
"Carolina" redhorse	*Moxostoma* sp. 2	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered**

Invertebrates

Dwarf wedgemussel	*Alasmidonta heterodon*	Endangered
Brook floater	*Alasmidonta varicosa*	FSC
Carolina well diacyclops	*Diacyclops jeanneli putei*	FSC*
Atlantic pigtoe	*Fusconaia masoni*	FSC
Yellow lampmussel	*Lampsilis cariosa*	FSC
Green floater	*Lasmigona subviridis*	FSC
Savanna lilliput	*Toxolasma pullus*	FSC

Vascular Plants

Creamy tick-trefoil	*Desmodium ochroleucum*	FSC*
Smooth coneflower	*Echinacea laevigata*	Endangered*
Small whorled pogonia	*Isotria medeoloides*	Threatened
Butternut	*Juglans cinerea*	FSC
Sweet pinesap	*Monotropsis odorata*	FSC
Torrey's mountain-mint	*Pycnanthemum torrei*	FSC
Michaux's sumac	*Rhus michauxii*	Endangered

Nonvascular Plants

A liverwort	*Plagiochila columbiana*	FSC

PAMLICO COUNTY

Vertebrates

Shortnose sturgeon	*Acipenser brevirostrum*	Endangered
American alligator	*Alligator mississippiensis*	T(S/A)
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Black rail	*Laterallus jamaicensis*	FSC
Kemp's ridley sea turtle	*Lepidochelys kempii*	Endangered
Northern diamondback terrapin	*Malaclemys terrapin terrapin*	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Manatee	*Trichechus manatus*	Endangered

COMMON NAME	SCIENTIFIC NAME	STATUS
Vascular Plants		
Venus flytrap	*Dionaea muscipula*	FSC
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered
Spring-flowering goldenrod	*Solidago verna*	FSC

PASQUOTANK COUNTY

Vertebrates		
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)

PENDER COUNTY

Critical Habitat Designation: Piping plover, *Charadrius melodus* - See the July 10, 2001, *Federal Register*, 66:36038-36136, for a description of the primary constituent elements essential for the conservation of wintering piping plovers within the designated units. This document also contains a map and a description of each designated unit.

Vertebrates		
Shortnose sturgeon	*Acipenser brevirostrum*	Endangered
Bachman's sparrow	*Aimophila aestivalis*	FSC
American alligator	*Alligator mississippiensis*	T(S/A)
Eastern Henslow's sparrow	*Ammodramus henslowii susurrans*	FSC
Loggerhead sea turtle	*Caretta caretta*	Threatened
Piping plover	*Charadrius melodus*	Threatened
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC**
Southern hognose snake	*Heterodon simus*	FSC*
Southeastern myotis	*Myotis austroriparius*	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Carolina gopher frog	*Rana capito capito*	FSC
Manatee	*Trichechus manatus*	Endangered
Invertebrates		
Buchholz's dart moth	*Agrotis buchholzi*	FSC
Atlantic pigtoe	*Fusconaia masoni*	FSC
Venus flytrap cutworm moth	*Hemipachnobia subporphyrea subporphyrea*	FSC
Yellow lampmussel	*Lampsilis cariosa*	FSC
Croatan crayfish	*Procambarus plumimanus*	FSC
Carter's spartiniphaga	*Spartiniphaga carterae*	FSC
Vascular Plants		
Seabeach amaranth	*Amaranthus pumilus*	Threatened
Georgia indigo-bush	*Amorpha georgiana* var. *georgiana*	FSC
Chapman's three-awn	*Aristida simpliciflora*	FSC
Sandhills milkvetch	*Astragalus michauxii*	FSC
Golden sedge	*Carex lutea*	Endangered
Venus flytrap	*Dionea muscipula*	FSC
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered
Carolina bogmint	*Macbridea caroliniana*	FSC
Pineland plantain	*Plantago sparsiflora*	FSC
Thorne's beaksedge	*Rhynchospora thornei*	FSC
Grassleaf arrowhead	*Sagittaria graminea* var. *weatherbiana*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
American chaffseed	*Schwalbea americana*	Endangered
Carolina goldenrod	*Solidago pulchra*	FSC
Spring-flowering goldenrod	*Solidago verna*	FSC
Coastal goldenrod	*Solidago villosicarpa*	FSC
Cooley's meadowrue	*Thalictrum cooleyi*	Endangered
Carolina asphodel	*Tofieldia glabra*	FSC
Carolina least trillium	*Trillium pusillum* var. *pusillum*	FSC
PERQUIMANS COUNTY		
Vertebrates		
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC
PERSON COUNTY		
Vertebrates		
Dwarf wedgemussel	*Alasmidonta heterodon*	Endangered
Carolina darter	*Etheostoma collis lepidinion*	FSC
Pinewoods shiner	*Lythrurus matutinus*	FSC
Invertebrates		
Atlantic pigtoe	*Fusconaia masoni*	FSC
Yellow lampmussel	*Lampsilis cariosa*	FSC
Green floater	*Lasmigona subviridis*	FSC
Vascular Plants		
Heller's trefoil	*Lotus helleri*	FSC
Sweet pinesap	*Monotropsis odorata*	FSC
PITT COUNTY		
Vertebrates		
Eastern Henslow's sparrow	*Ammodramus henslowii susurrans*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Southern hognose snake	*Heterodon simus*	FSC*
Pinewoods shiner	*Lythrurus matutinus*	FSC
"Neuse" madtom	*Noturus furiosus* population 1	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Manatee	*Trichechus manatus*	Endangered
Invertebrates		
Tar spinymussel	*Elliptio steinstansana*	Endangered
Atlantic pigtoe	*Fusconaia masoni*	FSC
Yellow lampmussel	*Lampsilis cariosa*	FSC
Green floater	*Lasmigona subviridis*	FSC
Tar River crayfish	*Procambarus medialis*	FSC*
Vascular Plants		
Carolina asphodel	*Tofieldia glabra*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS

POLK COUNTY

Vertebrates

Cerulean warbler	*Dendroica cerulea*	FSC
Southern Appalachian woodrat	*Neotoma floridana haematoreia*	FSC

Invertebrates

Wyandot (=grizzled) skipper	*Pyrgus wyandot*	FSC*
Diana fritillary butterfly	*Speyeria diana*	FSC

Vascular Plants

Cuthbert's turtlehead	*Chelone cuthbertii*	FSC*
Dwarf-flowered heartleaf	*Hexastylis naniflora*	Threatened
French Broad heartleaf	*Hexastylis rhombiformis*	FSC
Small whorled pogonia	*Isotria medeoloides*	Threatened
Butternut	*Juglans cinerea*	FSC
Large-flowered Barbara's buttons	*Marshallia grandiflora*	FSC*
Sweet pinesap	*Monotropsis odorata*	FSC*
Bigleaf scurfpea	*Orbexilum macrophyllum*	FSC*
Divided-leaf ragwort	*Senecio millefolium*	FSC
White irisette	*Sisyrinchium dichotomum*	Endangered

RANDOLPH COUNTY

Critical Habitat Designation: Cape Fear shiner, *Notropis mekistocholas* - Approximately 1.5 miles of Fork Creek, from a point 0.1 river mile upstream of Randolph County Road 2873 Bridge downstream to the Deep River then downstream approximately 4.1 river miles of the Deep River in Randolph and Moore Counties, North Carolina, to a point 2.5 river miles below Moore County Road 1456 Bridge. Constituent elements include clean streams with gravel, cobble, and boulder substrates with pools, riffles, shallow runs and slackwater areas with large rock outcrops and side channels and pools with water of good quality with relatively low silt loads.

Vertebrates

Carolina darter	*Etheostoma collis collis*	FSC
"Carolina" redhorse	*Moxostoma* sp. 2	FSC
Cape Fear shiner	*Notropis mekistocholas*	Endangered

Invertebrates

Brook floater	*Alasmidonta varicosa*	FSC
Pee Dee crayfish ostracod	*Dactylocythere peedeensis*	FSC*
Atlantic pigtoe	*Fusconaia masoni*	FSC
Carolina creekshell	*Villosa vaughaniana*	FSC

Vascular Plants

Schweinitz's sunflower	*Helianthus schweinitzii*	Endangered

RICHMOND COUNTY

Vertebrates

Shortnose sturgeon	*Acipenser brevirostrum*	Endangered
Bachman's sparrow	*Aimophila aestivalis*	FSC
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC**

COMMON NAME	SCIENTIFIC NAME	STATUS
Carolina darter	*Etheostoma collis collis*	FSC
Pinewoods darter	*Etheostoma mariae*	FSC
Southern hognose snake	*Heterodon simus*	FSC
"Carolina" redhorse	*Moxostoma* sp. 2	FSC
Robust redhorse	*Moxostoma robustum*	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Northern pine snake	*Pituophis melanoleucus melanoleucus*	FSC
Sandhills chub	*Semotilus lumbee*	FSC
Invertebrates		
Arogos skipper	*Atrytone arogos arogos*	FSC**
Carolina heelsplitter	*Lasmigona decorata*	Endangered
Vascular Plants		
Georgia indigo-bush	*Amorpha georgiana* var. *georgiana*	FSC*
Sandhills milkvetch	*Astragalus michauxii*	FSC
Bog oatgrass	*Danthonia epilis*	FSC
Sandhills bog lily	*Lilium pyrophilum*	FSC*
Bog spicebush	*Lindera subcoriacea*	FSC
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered
Conferva pondweed	*Potamogeton confervoides*	FSC
Michaux's sumac	*Rhus michauxii*	Endangered
Pickering's dawnflower	*Stylisma pickeringii* var. *pickeringii*	FSC
Carolina asphodel	*Tofieldia glabra*	FSC
Roughleaf yellow-eyed grass	*Xyris scabrifolia*	FSC
ROBESON COUNTY		
Vertebrates		
Bachman's sparrow	*Aimophila aestivalis*	FSC
American alligator	*Alligator mississippiensis*	T(S/A)
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC
Pinewoods darter	*Etheostoma mariae*	FSC
Southern hognose snake	*Heterodon simus*	FSC
"Broadtail" madtom	*Noturus* sp. 1	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Carolina gopher frog	*Rana capito capito*	FSC
Vascular Plants		
Georgia indigo-bush	*Amorpha georgiana* var. *georgiana*	FSC*
Sandhills milkvetch	*Astragalus michauxii*	FSC*
Venus flytrap	*Dionaea muscipula*	FSC
Dwarf burhead	*Echinodorus parvulus*	FSC
Bog spicebush	*Lindera subcoriacea*	FSC
Long beach seedbox	*Ludwigia brevipes*	FSC*
Carolina bogmint	*Macbridea caroliniana*	FSC
Awned meadowbeauty	*Rhexia aristosa*	FSC
Michaux's sumac	*Rhus michauxii*	Endangered

COMMON NAME	SCIENTIFIC NAME	STATUS
ROCKINGHAM COUNTY		
Invertebrates		
Green floater	*Lasmigona subviridis*	FSC
James spinymussel	*Pleurobema collina*	Endangered
Vascular Plants		
Smooth coneflower	*Echinacea laevigata*	Endangered
Heller's trefoil	*Lotus helleri*	FSC
ROWAN COUNTY		
Vertebrates		
Carolina darter	*Etheostoma collis collis*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Robust redhorse	*Moxostoma robustum*	FSC
Vascular Plants		
Georgia aster	*Aster georgianus*	C1
Schweinitz's sunflower	*Helianthus schweinitzii*	Endangered
Virginia quillwort	*Isoetes virginica*	FSC
Heller's trefoil	*Lotus helleri*	FSC
RUTHERFORD COUNTY		
Vertebrates		
Green salamander	*Aneides aeneus*	FSC
Cerulean warbler	*Dendroica cerulea*	FSC
Eastern small-footed myotis	*Myotis leibii*	FSC
Indiana bat	*Myotis sodalis*	Endangered (winter records)
Southern Appalachian woodrat	*Neotoma floridana haematoreia*	FSC
Northern pine snake	*Pituophis melanoleucus melanoleucus*	FSC
Vascular Plants		
Dwarf-flowered heartleaf	*Hexastylis naniflora*	Threatened
Small whorled pogonia	*Isotria medeoloides*	Threatened
Butternut	*Juglans cinerea*	FSC
Sweet pinesap	*Monotropsis odorata*	FSC
Carolina saxifrage	*Saxifraga caroliniana*	FSC
Divided-leaf ragwort	*Senecio millefolium*	FSC
Mountain catchfly	*Silene ovata*	FSC**
White irisette	*Sisyrinchium dichotomum*	Endangered
Granite dome goldenrod	*Solidago simulans*	FSC
Nonvascular Plants		
Rock gnome lichen	*Gymnoderma lineare*	Endangered

COMMON NAME	SCIENTIFIC NAME	STATUS
SAMPSON COUNTY		
Vertebrates		
Bachman's sparrow	*Aimophila aestivalis*	FSC
American alligator	*Alligator mississippiensis*	T(S/A)
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC**
Southern hognose snake	*Heterodon simus*	FSC*
"Broadtail" madtom	*Noturus* sp. 1	FSC
Mimic glass lizard	*Ophisaurus mimicus*	FSC*
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Carolina gopher frog	*Rana capito capito*	FSC
Invertebrates		
American sand burrowing mayfly	*Dolania americana*	FSC
Vascular Plants		
Venus flytrap	*Dionea muscipula*	FSC
Butternut	*Juglans cinerea*	FSC
Pondberry	*Lindera melissifolia*	Endangered
Pondspice	*Litsea aestivalis*	FSC
Long beach seedbox	*Ludwigia brevipes*	FSC*
Carolina bogmint	*Macbridea caroliniana*	FSC
Spring-flowering goldenrod	*Solidago verna*	FSC
Nonvascular Plants		
A liverwort	*Cylindrocolea andersonii*	FSC*
SCOTLAND COUNTY		
Vertebrates		
Bachman's sparrow	*Aimophila aestivalis*	FSC
American alligator	*Alligator mississippiensis*	T(S/A)
Pinewoods darter	*Etheostoma mariae*	FSC
Southern hognose snake	*Heterodon simus*	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Northern pine snake	*Pituophis melanoleucus melanoleucus*	FSC
Carolina gopher frog	*Rana capito capito*	FSC
Sandhills chub	*Semotilus lumbee*	FSC
Vascular Plants		
Sandhills milkvetch	*Astragalus michauxii*	FSC
Bog oatgrass	*Danthonia epilis*	FSC
Sandhills bog lily	*Lilium pyrophilum*	FSC*
Bog spicebush	*Lindera subcoriacea*	FSC
Boykin's lobelia	*Lobelia boykinii*	FSC
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered
Canby's dropwort	*Oxypolis canbyi*	Endangered
Conferva pondweed	*Potamogeton confervoides*	FSC
Awned meadowbeauty	*Rhexia aristosa*	FSC
Michaux's sumac	*Rhus michauxii*	Endangered
American chaffseed	*Schwalbea americana*	Endangered
Spring-flowering goldenrod	*Solidago verna*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Pickering's dawnflower	*Stylisma pickeringii* var. *pickeringii*	FSC
Carolina asphodel	*Tofieldia glabra*	FSC
Roughleaf yellow-eyed grass	*Xyris scabrifolia*	FSC
Nonvascular Plants		
Savanna campylopus	*Campylopus carolinae*	FSC
STANLY COUNTY		
Vertebrates		
Carolina darter	*Etheostoma collis collis*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Invertebrates		
Brook floater	*Alasmidonta varicosa*	FSC
Carolina creekshell	*Villosa vaughaniana*	FSC
Vascular Plants		
Georgia aster	*Aster georgianus*	C1
Schweinitz's sunflower	*Helianthus schweinitzii*	Endangered
Butternut	*Juglans cinerea*	FSC
Heller's trefoil	*Lotus helleri*	FSC
Yadkin River goldenrod	*Solidago plumosa*	FSC
Riverbank vervain	*Verbena riparia*	FSC*
STOKES COUNTY		
Vertebrates		
Orangefin madtom	*Noturus gilberti*	FSC
Rustyside sucker	*Thoburnia hamiltoni*	FSC
Invertebrates		
Green floater	*Lasmigona subviridis*	FSC
James spinymussel	*Pleurobema collina*	Endangered
Diana fritillary butterfly	*Speyeria diana*	FSC*
Vascular Plants		
Small-anthered bittercress	*Cardamine micranthera*	Endangered
Schweinitz's sunflower	*Helianthus schweinitzii*	Endangered
Butternut	*Juglans cinerea*	FSC
Sweet pinesap	*Monotropsis odorata*	FSC
SURRY COUNTY		
Vertebrates		
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Robust redhorse	*Moxostoma robustum*	FSC
Invertebrates		
Brook floater	*Alasmidonta varicosa*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Vascular Plants		
Schweinitz's sunflower	*Helianthus schweinitzii*	Endangered
Small whorled pogonia	*Isotria medeoloides*	Threatened

SWAIN COUNTY

Critical Habitat Designation: Spotfin chub, *Erimonax monachus* - Little Tennessee River, main channel from the backwaters of Fontana Lake upstream to the North Carolina-Georgia state line.

Critical Habitat Designation: Spruce-fir moss spider, *Microhexura montivaga* - Critical habitat designated (see the July 6, 2001, *Federal Register*, 66:35547-35566).

Critical Habitat Designation: Appalachian elktoe, *Alasmidonta raveneliana* - The main stem of the Little Tennessee River (Tennessee River system), from the Lake Emory Dam at Franklin, Macon County, North Carolina, downstream to the backwaters of Fontana Reservoir in Swain County, North Carolina, and the main stem of the Tuckasegee River (Little Tennessee River system), from the N.C. State Route 1002 Bridge in Cullowhee, Jackson County, North Carolina, downstream to the N.C. Highway 19 Bridge, north of Bryson City, Swain County, North Carolina.

Within these areas, the primary constituent elements include: (i) Permanent, flowing, cool, clean water; (ii) Geomorphically stable stream channels and banks; (iii) Pool, riffle, and run sequences within the channel; (iv) Stable sand, gravel, cobble, boulder, and bedrock substrates with no more than low amounts of fine sediment; (v) Moderate to high stream gradient; (vi) Periodic natural flooding; and (vii) Fish hosts, with adequate living, foraging, and spawning areas for them.

Vertebrates		
Southern Appalachian saw-whet owl	*Aegolius acadicus*	FSC
Rosyside dace	*Clinostomus funduloides* ssp. 1	FSC
Olive-sided flycatcher	*Contopus borealis*	FSC
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC
Hellbender	*Cryptobranchus alleganiensis*	FSC
Spotfin chub	*Erimonax monachus*	Threatened
Wounded darter	*Etheostoma vulneratum*	FSC
Carolina northern flying squirrel	*Glaucomys sabrinus coloratus*	Endangered
Southern Appalachian red crossbill	*Loxia curvirostra*	FSC
Southern rock vole	*Microtus chrotorrhinus carolinensis*	FSC
"Sicklefin" redhorse	*Moxostoma* sp. 1	FSC
Eastern small-footed myotis	*Myotis leibii*	FSC
Indiana bat	*Myotis sodalis*	Endangered (summer habitat)
Southern Appalachian woodrat	*Neotoma floridana haematoreia*	FSC*
Southern Appalachian black-capped chickadee	*Poecile atricapillus practicus*	FSC
Olive darter	*Percina squamata*	FSC
Northern pine snake	*Pituophis melanoleucus melanoleucus*	FSC
Eastern cougar	*Puma concolor couguar*	Endangered*
Southern water shrew	*Sorex palustris punctulatus*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Southern Appalachian yellow-bellied sapsucker	*Sphyrapicus varius appalaciensis*	FSC
Appalachian cottontail	*Sylvilagus obscurus*	FSC
Invertebrates		
Appalachian elktoe	*Alasmidonta raveneliana*	Endangered
Margarita River skimmer	*Macromia margarita*	FSC**
Clingman covert	*Mesodon wheatleyi clingmanicus*	FSC
Spruce-fir moss spider	*Microhexura montivaga*	Endangered
Lost Nantahala Cave spider	*Nesticus cooperi*	FSC
Noonday globe (=snail)	*Patera clarki nantahala*	Threatened
Littlewing pearlymussel	*Pegias fabula*	Endangered
Tawny crescent butterfly	*Phycoides batesii*	FSC
Diana fritillary butterfly	*Speyeria diana*	FSC*
Vascular Plants		
Fraser fir	*Abies fraseri*	FSC
Piratebush	*Buckleya distichophylla*	FSC**
Mountain bittercress	*Cardamine clematitis*	FSC
Creamy tick-trefoil	*Desmodium ochroleucum*	FSC*
Glade spurge	*Euphorbia purpurea*	FSC
Smoky Mountain mannagrass	*Glyceria nubigena*	FSC
Butternut	*Juglans cinerea*	FSC
Sweet pinesap	*Monotropsis odorata*	FSC
Rugel's ragwort	*Rugelia nudicaulis*	FSC
Southern oconee-bells	*Shortia galacifolia* var. *galacifolia*	FSC
Mountain catchfly	*Silene ovata*	FSC
Virginia spiraea	*Spiraea virginiana*	Threatened
Mountain thaspium	*Thaspium pinnatifidum*	FSC*
Hairy blueberry	*Vaccinium hirsutum*	FSC
Nonvascular Plants		
Rock gnome lichen	*Gymnoderma lineare*	Endangered
A liverwort	*Plagiochila sullivantii* var. *sullivantii*	FSC
A liverwort	*Sphenolobopsis pearsonii*	FSC

TRANSYLVANIA COUNTY

Critical Habitat Designation: Appalachian elktoe, *Alasmidonta raveneliana* - The main stem of the Little River (French Broad River system), from the Cascade Lake Power Plant, downstream to its confluence with the French Broad River.

Within these areas, the primary constituent elements include: (i) Permanent, flowing, cool, clean water; (ii) Geomorphically stable stream channels and banks; (iii) Pool, riffle, and run sequences within the channel; (iv) Stable sand, gravel, cobble, boulder, and bedrock substrates with no more than low amounts of fine sediment; (v) Moderate to high stream gradient; (vi) Periodic natural flooding; and (vii) Fish hosts, with adequate living, foraging, and spawning areas for them.

COMMON NAME	SCIENTIFIC NAME	STATUS
Vertebrates		
Southern Appalachian saw-whet owl	*Aegolius acadicus*	FSC
Green salamander	*Aneides aeneus*	FSC
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC*
Hellbender	*Cryptobranchus alleganiensis*	FSC
Carolina northern flying squirrel	*Glaucomys sabrinus coloratus*	Endangered
Southern Appalachian red crossbill	*Loxia curvirostra*	FSC
Southern Appalachian woodrat	*Neotoma floridana haematoreia*	FSC*
Southern Appalachian black-capped chickadee	*Poecile atricapillus practicus*	FSC
Southern Appalachian yellow-bellied sapsucker	*Sphyrapicus varius appalaciensis*	FSC
Appalachian cottontail	*Sylvilagus obscurus*	FSC
Appalachian Bewick's wren	*Thryomanes bewickii altus*	FSC*
Invertebrates		
Appalachian elktoe	*Alasmidonta raveneliana*	Endangered
French Broad crayfish	*Cambarus reburrus*	FSC
Oconee crayfish ostracod	*Cymocythere clavata*	FSC
Oyster mussel	*Epioblasma capsaeformis*	Endangered
Margarita River skimmer	*Macromia margarita*	FSC
Diana fritillary butterfly	*Speyeria diana*	FSC*
Transylvania crayfish ostracod	*Waltoncythere acuta*	FSC
Vascular Plants		
Fraser fir	*Abies fraseri*	FSC
Alexander's rock aster	*Aster avitus*	FSC
Cuthbert's turtlehead	*Chelone cuthbertii*	FSC
Spreading avens	*Geum radiatum*	Endangered
Smoky Mountain mannagrass	*Glyceria nubigena*	FSC
Swamp pink	*Helonias bullata*	Threatened
French Broad heartleaf	*Hexastylis rhombiformis*	FSC
Small whorled pogonia	*Isotria medeoloides*	Threatened
Butternut	*Juglans cinerea*	FSC
Fraser's loosestrife	*Lysimachia fraseri*	FSC
Sweet pinesap	*Monotropsis odorata*	FSC
Flatrock panic grass	*Panicum lithophilum*	FSC*
Mountain sweet pitcher plant	*Sarracenia jonesii*	Endangered
Southern oconee-bells	*Shortia galacifolia* var. *galacifolia*	FSC
Lobed barren-strawberry	*Waldsteinia lobata*	FSC
Nonvascular Plants		
Gorge moss	*Bryocrumia vivicolor*	FSC
Rock gnome lichen	*Gymnoderma lineare*	Endangered
A liverwort	*Plagiochila sharpii*	FSC
A liverwort	*Plagiochila sullivantii* var. *sullivantii*	FSC
A liverwort	*Plagiochila virginica* var. *caroliniana*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS

TYRRELL COUNTY

Vertebrates		
American alligator	*Alligator mississippiensis*	T(S/A)
Red wolf	*Canis rufus*	EXP
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Red-cockaded woodpecker	*Picoides borealis*	Endangered

UNION COUNTY

Critical Habitat Designation: Carolina heelsplitter (*Lasmigona decorata*) - The main stem of Goose Creek (Pee Dee River system), from the N.C. Highway 218 Bridge, downstream to its confluence with the Rocky River, and the main stem of Duck Creek, from the Mecklenburg/Union County line, downstream to its confluence with Goose Creek; the main stem of Waxhaw Creek (Catawba River system), from the N.C. Highway 200 Bridge, downstream to the North Carolina/South Carolina State line; and the main stem of Flat Creek (Pee Dee River system), Lancaster County, South Carolina, from the S.C. Route 204 Bridge, downstream to its confluence with the Lynches River, and the main stem of the Lynches River, Lancaster and Chesterfield Counties, South Carolina, from the confluence of Belk Branch, Lancaster County, northeast (upstream) of the U.S. Highway 601 Bridge, downstream to the S.C. Highway 903 Bridge in Kershaw County, South Carolina.

Within these areas, the primary constituent elements include: (i) Permanent, flowing, cool, clean water; (ii) Geomorphically stable stream and river channels and banks; (iii) Pool, riffle, and run sequences within the channel; (iv) Stable substrates with no more than low amounts of fine sediment; (v) Moderate stream gradient; (vi) Periodic natural flooding; and (vii) Fish hosts, with adequate living, foraging, and spawning areas for them.

Vertebrates		
Carolina darter	*Etheostoma collis collis*	FSC
Invertebrates		
Pee Dee crayfish ostracod	*Dactylocythere peedeensis*	FSC*
Atlantic pigtoe	*Fusconaia masoni*	FSC
Carolina heelsplitter	*Lasmigona decorata*	Endangered
Savanna lilliput	*Toxolasma pullus*	FSC
Carolina creekshell	*Villosa vaughaniana*	FSC
Vascular Plants		
Georgia aster	*Aster georgianus*	C1
Schweinitz's sunflower	*Helianthus schweinitzii*	Endangered
Virginia quillwort	*Isoetes virginica*	FSC
Heller's trefoil	*Lotus helleri*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
VANCE COUNTY		
Vertebrates		
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Pinewoods shiner	*Lythrurus matutinus*	FSC
"Carolina" madtom	*Noturus furiosus* population 2	FSC
Invertebrates		
Dwarf wedgemussel	*Alasmidonta heterodon*	Endangered
Yellow lance	*Elliptio lanceolata*	FSC
Yellow lampmussel	*Lampsilis cariosa*	FSC
Vascular Plants		
Buttercup phacelia	*Phacelia covillei*	FSC
WAKE COUNTY		
Vertebrates		
Bachman's sparrow	*Aimophila aestivalis*	FSC
Carolina darter	*Etheostoma collis lepidinion*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)
Southern hognose snake	*Heterodon simus*	FSC*
Pinewoods shiner	*Lythrurus matutinus*	FSC
Southeastern myotis	*Myotis austroriparius*	FSC
"Neuse" madtom	*Noturus furiosus* population 1	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Invertebrates		
Dwarf wedgemussel	*Alasmidonta heterodon*	Endangered
Yellow lance	*Elliptio lanceolata*	FSC
Atlantic pigtoe	*Fusconaia masoni*	FSC
Green floater	*Lasmigona subviridis*	FSC
Diana fritillary butterfly	*Speyeria diana*	FSC*
Vascular Plants		
Bog spicebush	*Lindera subcoriacea*	FSC
Sweet pinesap	*Monotropsis odorata*	FSC
Flatrock panic grass	*Panicum lithophilum*	FSC
Michaux's sumac	*Rhus michauxii*	Endangered
Carolina least trillium	*Trillium pusillum* var. *pusillum*	FSC
WARREN COUNTY		
Vertebrates		
Bachman's sparrow	*Aimophila aestivalis*	FSC
Pinewoods shiner	*Lythrurus matutinus*	FSC
Invertebrates		
Dwarf wedgemussel	*Alasmidonta heterodon*	Endangered
Yellow lance	*Elliptio lanceolata*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Tar spinymussel	*Elliptio steinstansana*	Endangered
Atlantic pigtoe	*Fusconaia masoni*	FSC
Vascular Plants		
Heller's trefoil	*Lotus helleri*	FSC

WASHINGTON COUNTY

Vertebrates		
Red wolf	*Canis rufus*	EXP
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC
Waccamaw killifish	*Fundulus waccamawensis*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened (proposed for delisting)

WATAUGA COUNTY

Critical Habitat Designation: Spruce-fir moss spider, *Microhexura montivaga* - Critical habitat designated (see the July 6, 2001, *Federal Register*, 66:35547-35566).

Vertebrates		
Southern Appalachian saw-whet owl	*Aegolius acadicus*	FSC
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Hellbender	*Cryptobranchus alleganiensis*	FSC
Cerulean warbler	*Dendroica cerulea*	FSC
Carolina northern flying squirrel	*Glaucomys sabrinus coloratus*	Endangered
Southern Appalachian red crossbill	*Loxia curvirostra*	FSC
Alleghany woodrat	*Neotoma magister*	FSC*
Southern Appalachian black-capped chickadee	*Poecile atricapillus practicus*	FSC
Kanawha minnow	*Phenacobius teretulus*	FSC
Southern water shrew	*Sorex palustris punctulatus*	FSC*
Southern Appalachian yellow-bellied sapsucker	*Sphyrapicus varius appalaciensis*	FSC
Appalachian cottontail	*Sylvilagus obscurus*	FSC*
Invertebrates		
Green floater	*Lasmigona subviridis*	FSC
Spruce-fir moss spider	*Microhexura montivaga*	Endangered
Diana fritillary butterfly	*Speyeria diana*	FSC
Vascular Plants		
Fraser fir	*Abies fraseri*	FSC
Mountain bittercress	*Cardamine clematitis*	FSC
Tall larkspur	*Delphinium exaltatum*	FSC
Glade spurge	*Euphorbia purpurea*	FSC**
Bent avens	*Geum geniculatum*	FSC
Spreading avens	*Geum radiatum*	Endangered
Roan Mountain bluet	*Houstonia montana*	Endangered
Butternut	*Juglans cinerea*	FSC
Heller's blazing star	*Liatris helleri*	Threatened
Gray's lily	*Lilium grayi*	FSC
Bog bluegrass	*Poa paludigena*	FSC*

COMMON NAME	SCIENTIFIC NAME	STATUS
Nonvascular Plants		
A liverwort	*Porella wataugensis*	FSC*
WAYNE COUNTY		
Vertebrates		
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	FSC*
Southern hognose snake	*Heterodon simus*	FSC*
Pinewoods shiner	*Lythrurus matutinus*	FSC
"Neuse" madtom	*Noturus furiosus* population 1	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Invertebrates		
Atlantic pigtoe	*Fusconaia masoni*	FSC
Vascular Plants		
Pondspice	*Litsea aestivalis*	FSC
WILKES COUNTY		
Vertebrates		
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Cerulean warbler	*Dendroica cerulea*	FSC
Invertebrates		
Diana fritillary butterfly	*Speyeria diana*	FSC
Regal fritillary butterfly	*Speyeria idalia*	FSC
Vascular Plants		
Butternut	*Juglans cinerea*	FSC
Torrey's mountain-mint	*Pycnanthemum torrei*	FSC*
Nonvascular Plants		
Keever's bristle-moss	*Orthotrichum keeverae*	FSC
WILSON COUNTY		
Vertebrates		
Eastern Henslow's sparrow	*Ammodramus henslowii susurrans*	FSC
Pinewoods shiner	*Lythrurus matutinus*	FSC
"Neuse" madtom	*Noturus furiosus* population 1	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Invertebrates		
Dwarf wedgemussel	*Alasmidonta heterodon*	Endangered
Atlantic pigtoe	*Fusconaia masoni*	FSC
Vascular Plants		
Michaux's sumac	*Rhus michauxii*	Endangered
Carolina asphodel	*Tofieldia glabra*	FSC*

COMMON NAME	SCIENTIFIC NAME	STATUS

YADKIN COUNTY

Invertebrates

Brook floater	*Alasmidonta varicosa*	FSC
Robust redhorse	*Moxostoma robustum*	FSC

YANCEY COUNTY

Critical Habitat Designation: Appalachian elktoe, *Alasmidonta raveneliana* - The main stem of the North Toe River, Yancey and Mitchell Counties, North Carolina, from the confluence of Big Crabtree Creek, downstream to the confluence of the South Toe River; the main stem of the South Toe River, Yancey County, North Carolina, from the N.C. State Route 1152 Bridge, downstream to its confluence with the North Toe River; the main stem of the Toe River, Yancey and Mitchell Counties, North Carolina, from the confluence of the North Toe River and the South Toe River, downstream to the confluence of the Cane River; the main stem of the Cane River, Yancey County, North Carolina, from the N.C. State Route 1381 Bridge, downstream to its confluence with the Toe River; and the main stem of the Nolichucky River, from the confluence of the Toe River and the Cane River in Yancey and Mitchell Counties, North Carolina, downstream to the U.S. Highway 23/19W Bridge southwest of Erwin, Unicoi County, Tennessee.

Within these areas, the primary constituent elements include: (i) Permanent, flowing, cool, clean water; (ii) Geomorphically stable stream channels and banks; (iii) Pool, riffle, and run sequences within the channel; (iv) Stable sand, gravel, cobble, boulder, and bedrock substrates with no more than low amounts of fine sediment; (v) Moderate to high stream gradient; (vi) Periodic natural flooding; and (vii) Fish hosts, with adequate living, foraging, and spawning areas for them.

Vertebrates

Southern Appalachian saw-whet owl	*Aegolius acadicus*	FSC
Bog turtle	*Clemmys muhlenbergii*	T(S/A)[1]
Olive-sided flycatcher	*Contopus borealis*	FSC
Virginia big-eared bat	*Corynorhinus townsendii virginianus*	Endangered
Hellbender	*Cryptobranchus alleganiensis*	FSC
Blotched chub	*Erimystax insignis*	FSC
Sharphead darter	*Etheostoma acuticeps*	FSC
Carolina northern flying squirrel	*Glaucomys sabrinus coloratus*	Endangered
Southern Appalachian red crossbill	*Loxia curvirostra*	FSC
Southern rock vole	*Microtus chrotorrhinus carolinensis*	FSC
Eastern small-footed myotis	*Myotis leibii*	FSC
Alleghany woodrat	*Neotoma magister*	FSC
Southern Appalachian black-capped chickadee	*Poecile atricapillus practicus*	FSC
Olive darter	*Percina squamata*	FSC
Eastern cougar	*Puma concolor couguar*	Endangered*
Southern Appalachian yellow-bellied sapsucker	*Sphyrapicus varius appalaciensis*	FSC
Appalachian cottontail	*Sylvilagus obscurus*	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Invertebrates		
Appalachian elktoe	*Alasmidonta raveneliana*	Endangered
Fragile glyph	*Glyphyalinia clingmani*	FSC
Spruce-fir moss spider	*Microhexura montivaga*	Endangered
Roan supercoil	*Paravitrea varidens*	FSC*
Yancey sideswimmer	*Stygobromus carolinensis*	FSC*
Vascular Plants		
Fraser fir	*Abies fraseri*	FSC
Cain's reedgrass	*Calamagrostis cainii*	FSC
Mountain bittercress	*Cardamine clematitis*	FSC
Glade spurge	*Euphorbia purpurea*	FSC
Spreading avens	*Geum radiatum*	Endangered
Roan Mountain bluet	*Houstonia montana*	Endangered
Butternut	*Juglans cinerea*	FSC
Gray's lily	*Lilium grayi*	FSC
Carolina saxifrage	*Saxifraga caroliniana*	FSC
Mountain catchfly	*Silene ovata*	FSC
Virginia spiraea	*Spiraea virginiana*	Threatened
Nonvascular Plants		
Rock gnome lichen	*Gymnoderma lineare*	Endangered
A liverwort	*Plagiochila sharpii*	FSC
A liverwort	*Plagiochila sullivantii* var. *sullivantii*	FSC
A liverwort	*Sphenolobopsis pearsonii*	FSC

KEY:

Status	Definition
Endangered	A taxon "in danger of extinction throughout all or a significant portion of its range."
Threatened	A taxon "likely to become endangered within the foreseeable future throughout all or a significant portion of its range."
Proposed	A taxon proposed for official listing as endangered or threatened.
C1	A taxon under consideration for official listing for which there is sufficient information to support listing.
FSC	A Federal species of concern--a species that may or may not be listed in the future (formerly C2 candidate species or species under consideration for listing for which there is insufficient information to support listing).
T(S/A)	Threatened due to similarity of appearance (e.g., American alligator)--a species that is threatened due to similarity of appearance with other rare species and is listed for its protection. These species are not biologically endangered or threatened and are not subject to Section 7 consultation.
EXP	A taxon that is listed as experimental (either essential or nonessential). Experimental, nonessential endangered species (e.g., red wolf) are treated as threatened on public land, for consultation purposes, and as species proposed for listing on private land.

Species with 1, 2, 3, or 4 asterisks behind them indicate historic, obscure, or incidental records.

*Historic record - the species was last observed in the county more than 50 years ago.

**Obscure record - the date and/or location of observation is uncertain.

***Incidental/migrant record - the species was observed outside of its normal range or habitat.
****Historic record - obscure and incidental record.

[1]In the November 4, 1997, *Federal Register* (55822-55825), the northern population of the bog turtle (from New York south to Maryland) was listed as T (threatened), and the southern population (from Virginia south to Georgia) was listed as T(S/A) (threatened due to similarity of appearance). The T(S/A) designation bans the collection and interstate and international commercial trade of bog turtles from the southern population. The T(S/A) designation has no effect on land-management activities by private landowners in North Carolina, part of the southern population of the species. In addition to its official status as T(S/A), the U.S. Fish and Wildlife Service considers the southern population of the bog turtle as a Federal species of concern due to habitat loss.

Index of /es/cntylist

Name	Last modified	Size	Description
Parent Directory		-	
alamance.htm.pro	02-Mar-2005 06:53	3.5K	
alamance.html	02-Mar-2005 06:53	4.8K	
alamance.pro	02-Mar-2005 06:53	3.8K	
alexander.html	02-Mar-2005 06:53	5.4K	
alleghany.html	02-Mar-2005 06:53	6.2K	
anson.htm.test	02-Mar-2005 06:53	4.2K	
anson.htm.testold	02-Mar-2005 06:53	4.0K	
anson.html	02-Mar-2005 06:53	4.9K	
ashe.html	02-Mar-2005 06:53	7.5K	
avery.html	02-Mar-2005 06:53	9.5K	
beaufort.html	02-Mar-2005 06:53	5.7K	
bertie.html	02-Mar-2005 06:53	4.6K	
bladen.html	02-Mar-2005 06:53	8.0K	
brunswick.html	02-Mar-2005 06:53	12K	
buncombe.html	02-Mar-2005 06:53	9.9K	
burke.html	02-Mar-2005 06:53	7.4K	
cabarrus.html	02-Mar-2005 06:53	4.4K	
caldwell.html	02-Mar-2005 06:53	6.9K	
camden.html	02-Mar-2005 06:53	4.4K	
carteret.html	02-Mar-2005 06:53	9.4K	
caswell.html	02-Mar-2005 06:53	4.4K	
catawba.html	02-Mar-2005 06:53	4.1K	
chatham.html	02-Mar-2005 06:53	6.5K	
cherokee.html	02-Mar-2005 06:53	7.0K	
chowan.html	02-Mar-2005 06:53	4.1K	
clay.gif	02-Mar-2005 06:53	1.8K	
clay.html	02-Mar-2005 06:53	7.3K	
cleveland.html	02-Mar-2005 06:53	4.0K	
cntyfilesral	02-Mar-2005 06:53	781	
colombus.html	02-Mar-2005 06:53	8.5K	

columbus.html	02-Mar-2005	06:53	8.7K
craven.html	02-Mar-2005	06:53	6.8K
cumberland.html	02-Mar-2005	06:53	8.3K
currituck.html	02-Mar-2005	06:53	5.5K
dare.html	01-Sep-2005	10:27	6.9K
davidson.html	02-Mar-2005	06:53	5.1K
davie.html	02-Mar-2005	06:53	4.1K
duplin.html	02-Mar-2005	06:53	4.8K
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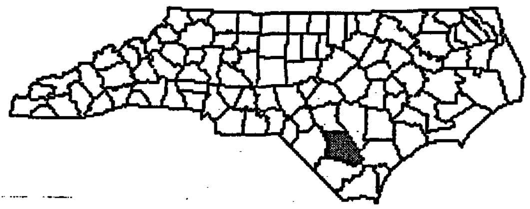
FWS 2005 d (the county lists)

Updated: 02/05/2003

U.S. Fish & Wildlife Service

BLADEN COUNTY



Common Name	Scientific Name	Status
Vertebrates		
American alligator	*Alligator mississippiensis*	T(S/A)
Bachman's sparrow	*Aimophila aestivalis*	FSC
"Broadtail" madtom	*Noturus sp. 1*	FSC
Carolina gopher frog	*Rana capito capito*	FSC
Mimic glass lizard	*Ophisaurus mimicus*	FSC
Rafinesque's big-eared bat	*Corynorhinus (=Plecotus) rafinesquii*	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Shortnose sturgeon	*Acipenser brevirostrum*	Endangered
Southern hognose snake	*Heterodon simus*	FSC*
Invertebrates		
Atlantic pigtoe	*Fusconaia masoni*	FSC
Belle's sand dragon (=variegated clubtail dragonfly)	*Progomphus bellei*	FSC
Venus flytrap cutworm moth	*Hemipachnobia subporphyrea subporphyrea*	FSC
Yellow lampmussel	*Lampsilis cariosa*	FSC
Vascular Plants		
American chaffseed	*Schwalbea americana*	Endangered
Awned meadowbeauty	*Rhexia aristosa*	FSC
Boykin's lobelia	*Lobelia boykinii*	FSC
Carolina asphodel	*Tofieldia glabra*	FSC*
Carolina bogmint	*Macbridea caroliniana*	FSC
Carolina grass-of-parnassus	*Parnassia caroliniana*	FSC
Carolina spleenwort	*Asplenium heteroresiliens*	FSC
Chapman's sedge	*Carex chapmanii*	FSC
Pineland plantain	*Plantago sparsiflora*	FSC
Pondspice	*Litsea aestivalis*	FSC

Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered
Sandhills milkvetch	*Astragalus michauxii*	FSC
Savanna indigo-bush (=Carolina lead-plant)	*Amorpha georgiana var. confusa*	FSC
Pondberry	*Lindera melissifolia*	Endangered
Spiked medusa (=Eulophia)	*Pteroglossaspis ecristata*	FSC**
Spring-flowering goldenrod	*Solidago verna*	FSC
Venus flytrap	*Dionaea muscipula*	FSC

KEY:

Status	Definition
Endangered -	A taxon "in danger of extinction throughout all or a significant portion of its range."
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EXP -	A taxon that is listed as experimental (either essential or nonessential). Experimental, nonessential endangered species (e.g., red wolf) are treated as threatened on public land, for consultation purposes, and as species proposed for listing on private land.

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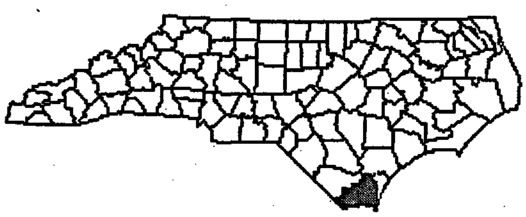
Keywords={same keywords listed above - used for search tools}

Updated: 02/05/2003

U.S. Fish & Wildlife Service

BRUNSWICK COUNTY



Critical Habitat Designation:

Piping Plover, *Charadrius melodus* - Critical Habitat designation in Federal Register 66:36038-36136, for a description of the primary constituent elements essential for the conservation of wintering piping plovers within the designated units. This document also contains a map and a description of each designated unit.

Common Name	Scientific name	Status
Vertebrates		
American alligator	*Alligator mississippiensis*	T(S/A)
Bachman's sparrow	*Aimophila aestivalis*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened (Proposed for delisting)
Carolina gopher frog	*Rana capito capito*	FSC
Carolina pygmy sunfish	*Elassoma boehlkei*	FSC
Eastern cougar	*Puma concolor couguar*	Endangered
Eastern Henslow's sparrow	*Ammodramus henslowii*	FSC
Eastern painted bunting	*Passerina ciris ciris*	FSC*
Green sea turtle	*Chelonia mydas*	Threatened
Kemp's ridley sea turtle	*Lepidochelys kempii*	Endangered
Leatherback sea turtle	*Dermochelys coriacea*	Endangered
Loggerhead sea turtle	*Caretta caretta*	Threatened
West Indian Manatee	*Trichechus manatus*	Endangered
Mimic glass lizard	*Ophisaurus mimicus*	FSC
Northern pine snake	*Pituophis melanoleucus melanoleucus*	FSC*
Piping Plover	*Charadrius melodus*	Threatened

Rafinesque's big-eared bat	*Corynorhinus (=Plecotus) rafinesquii*	FSC*
Red-cockaded woodpecker	*Picoides borealis*	Endangered
• Shortnose sturgeon	*Acipenser brevirostrum*	Endangered
Southern hognose snake	*Heterodon simus*	FSC*
Wood stork	*Mycteria americana*	Endangered
Invertebrates		
Arogos skipper	*Atrytone arogos arogos*	FSC***
Buchholz's dart moth	*Agrotis buchholzi*	FSC
Cape Fear threetooth	*Triodopsis soelneri*	FSC
Carter's noctuid moth	*Spartiniphaga carterae*	FSC
• Greenfield ramshorn	*Helisoma eucosmium*	FSC
• Magnificent ramshorn	*Planorbella magnifica*	FSC
Rare skipper	*Problema bulenta*	FSC
Venus flytrap cutworm moth	*Hemipachnobia subporphyrea subporphyrea*	FSC
• Waccamaw spike	*Elliptio waccamawensis*	FSC
Vascular Plants		
A quillwort	*Isoetes microvela*	FSC
Awned meadow-beauty	*Rhexia aristosa*	FSC
Carolina asphodel	*Tofieldia glabra*	FSC
"Carolina" atamasco lily	*Zephyranthes sp 1*	FSC
"Carolina" bishopweed	*Ptilimnium sp. 1*	FSC
Carolina bogmint	*Macbridea caroliniana*	FSC
Carolina goldenrod	*Solidago pulchra*	FSC
Carolina grass-of-parnassus	*Parnassia caroliniana*	FSC
Chapman's sedge	*Carex chapmanii*	FSC
Chapman's three-awn	*Aristida simpliciflora*	FSC
Coastal beaksedge	*Rhynchospora pleiantha*	FSC
Coastal goldenrod	*Solidago villosicarpa*	FSC*
Cooley's meadowrue	*Thalictrum cooleyi*	Endangered
"Dune bluecurls"	*Trichostema sp. 1*	FSC
Dwarf burhead	*Echinodorus parvulus*	FSC
Harper's fimbry	*Fimbristylis perpusilla*	FSC
Honeycomb head	*Balduina atropurpurea*	FSC
Long beach seedbox	*Ludwigia brevipes*	FSC
Loose watermilfoil	*Myriophyllum laxum*	FSC
Pineland plantain	*Plantago sparsiflora*	FSC
Pondspice	*Litsea aestivalis*	FSC
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered
Savanna cowbane	*Oxypolis ternata*	FSC
Savanna indigo-bush	*Amorpha georgiana var. confusa*	FSC
"Savanna" onion	*Allium sp 1*	FSC

Seabeach amaranth	*Amaranthus pumilus*	Threatened
Spring-flowering goldenrod	*Solidago verna*	FSC
Swamp Forest beaksedge	*Rhynchospora decurrens*	FSC*
Thorne's beaksedge	*Rhynchospora thornei*	FSC
Tough bumelia	*Sideroxylon tenax*	FSC
Venus flytrap	*Dionaea muscipula*	FSC
Wireleaf dropseed	*Sporobolus teretifolius sensus stricto*	FSC
Nonvascular Plants		
Savanna campylopus	*Campylopus carolinae*	FSC*

KEY:

Status	Definition
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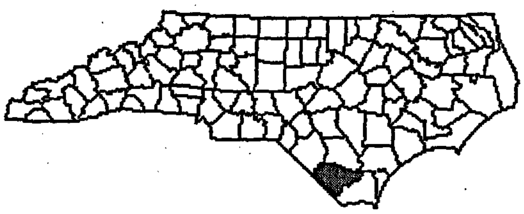
Keywords={same keywords listed above - used for search tools}

Updated: 02/05/2003

U.S. Fish & Wildlife Service

COLUMBUS COUNTY



Critical Habitat Designation:

Waccamaw silverside, *Menidia extensa* - Lake Waccamaw in its entirety to mean high water level, and Big Creek from its mouth at Lake Waccamaw upstream approximately 0.6 kilometer (0.4 mile) to where the creek is crossed by County Road 1947. Constituent elements include high quality clear open water, with a neutral pH and clean substrate.

Common Name	Scientific Name	Status
Vertebrates		
American alligator	*Alligator mississippiensis*	T(S/A)
Bachman's sparrow	*Aimophila aestivalis*	FSC
"Broadtail" madtom	*Noturus sp. 1*	FSC
Carolina pygmy sunfish	*Elassoma boehlkei*	FSC
Eastern Henslow's sparrow	*Ammodramus henslowii*	FSC
Mimic glass lizard	*Ophisaurus mimicus*	FSC*
Rafinesque's big-eared bat	*Corynorhinus (=Plecotus) rafinesquii*	FSC
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Shortnose sturgeon	*Acipenser brevirostrum*	Endangered
Waccamaw darter ok	*Etheostoma perlongum*	FSC
chk Waccamaw killifish ok	*Fundulus waccamensis*	FSC
chk Waccamaw silverside ok	*Menidia extensa*	Threatened
Invertebrates		
Cape Fear threetooth	*Triodopsis soelneri*	FSC
Pee Dee lotic crayfish	*Procambarus lepidodactylus*	FSC
Savannah lilliput	*Toxolasma pullus*	FSC
chk Waccamaw fatmucket	*Lampsilis fullerkati*	FSC
chk "Waccamaw lance pearlymussel"	*Elliptio sp. 5*	FSC
Waccamaw spike	*Elliptio waccamawensis*	FSC

Vascular Plants

Carolina asphodel	*Tofieldia glabra*	FSC
Carolina bogmint	*Macbridea caroliniana*	FSC
Carolina grass-of-parnassus	*Parnassia caroliniana*	FSC
Chapman's sedge	*Carex chapmanii*	FSC
Chapman's three-awn	*Aristida simpliciflora*	FSC
Cooley's meadowrue	*Thalictrum cooleyi*	Endangered
Harper's fimbry	*Fimbristylis perpusilla*	FSC
Long beach seedbox	*Ludwigia brevipes*	FSC
Pineland plantain	*Plantago sparsiflora*	FSC
Raven's seedbox	*Ludwigia ravenii*	FSC
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered*
Savannah cowbane	*Oxypolis ternata*	FSC
Savanna indigo-bush	*Amorpha georgiana var. confusa*	FSC
Spring-flowering goldenrod	*Solidago verna*	FSC
Swamp Forest beaksedge	*Rhynchospora decurrens*	FSC*
Venus flytrap	*Dionaea muscipula*	FSC
Wireleaf dropseed	*Sporobolus teretifolius sensu stricto*	FSC

KEY:

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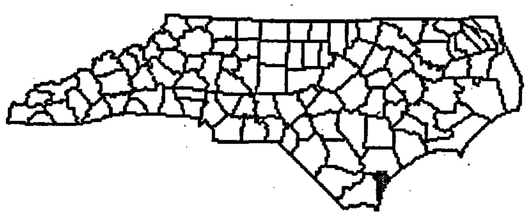
Updated: 02/25/2003

U.S. Fish & Wildlife Service

NEW HANOVER COUNTY



Critical Habitat Designation:

Piping Plover, *Charadrius melodus* - Critical Habitat designation in Federal Register 66:36038-36136, for a description of the primary constituent elements essential for the conservation of wintering piping plovers within the designated units. This document also contains a map and a description of each designated unit.

Common Name	Scientific Name	Status
Vertebrates		
American alligator	*Alligator mississippiensis*	T(S/A)
Carolina gopher frog	*Rana capito capito*	FSC
Eastern painted bunting	*Passerina ciris ciris*	FSC*
Green sea turtle	*Chelonia mydas*	Threatened
Loggerhead sea turtle	*Caretta caretta*	Threatened
West Indian Manatee	*Trichechus manatus*	Endangered
Mimic glass lizard	*Ophisaurus mimicus*	FSC
Northern pine snake	*Pituophis melanoleucus melanoleucus*	FSC*
Piping Plover	*Charadrius melodus*	Threatened
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Shortnose sturgeon	*Acipenser brevirostrum*	Endangered
Southeastern myotis	*Myotis austroriparius*	FSC
Southern hognose snake	*Heterodon simus*	FSC*
Invertebrates		
Arogos skipper	*Atrytone arogos arogos*	FSC*
Buchholz's dart moth	*Agrotis buchholzi*	FSC
Cape Fear threetooth	*Triodopsis soelneri*	FSC

Croatan crayfish	*Procambarus plumimanus*	FSC
Magnificent rams-horn	*Planorbella magnifica*	FSC
Rare skipper	*Problema bulenta*	FSC
Vascular Plants		
Bog St. John's-wort	*Hypericum adpressum*	FSC**
Carolina asphodel	*Tofieldia glabra*	FSC
Carolina bishopweed	*Ptilimnium*sp. 1	FSC*
Carolina beaksedge	*Rhynchospora pleiantha*	FSC
Chapman's sedge	*Carex chapmanii*	FSC
Coastal goldenrod	*Solidago villosicarpa*	FSC*
Cooley's meadowrue	*Thalictrum cooleyi*	Endangered**
"Dune bluecurls"	*Trichostema sp. 1*	FSC
Pickering's dawnflower	*Stylisma pickeringii var. pickeringii*	FSC
Pondspice	*Litsea aestivalis*	FSC
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered
Sandhills milkvetch	*Astragalus michauxii*	FSC
Savanna indigo-bush	*Amorpha georgiana var. confusa*	FSC*
Seabeach amaranth	*Amaranthus pumilus*	Threatened
Spiked medusa	*Pteroglossaspis ecristata*	FSC**
Spring-flowering goldenrod	*Solidago verna*	FSC*
Tough bumelia	*Sideroxylon tenax*	FSC
Venus flytrap	*Dionea muscipula*	FSC

KEY:

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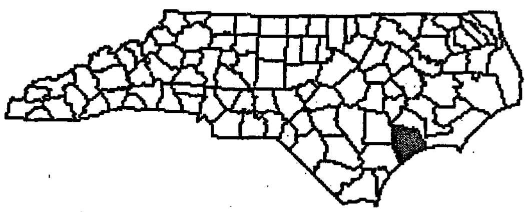
ONSLOW COUNTY



Critical Habitat Designation:

Piping Plover, *Charadrius melodus* - Critical Habitat designation in Federal Register 66:36038-36136, for a description of the primary constituent elements essential for the conservation of wintering piping plovers within the designated units. This document also contains a map and a description of each designated unit.

Common Name	Scientific Name	Status
Vertebrates		
American alligator	*Alligator mississippiensis*	T(S/A)
Bachman's sparrow	*Aimophila aestivalis*	FSC
Bald eagle	*Haliaeetus leucocephalus*	Threatened(Proposed for delisting)
Black rail	*Laterallus jamaicensis*	FSC
Carolina gopher frog	*Rana capito capito*	FSC
Eastern cougar	*Puma concolor couguar*	Endangered
Eastern painted bunting	*Passerina ciris ciris*	FSC*
Green sea turtle	*Chelonia mydas*	Threatened
Eastern Henslow's sparrow	*Ammodramus henslowii*	FSC
Leatherback sea turtle	*Dermochelys coriacea*	Endangered
Loggerhead sea turtle	*Caretta caretta*	Threatened
West Indian Manatee	*Trichechus manatus*	Endangered
Mimic glass lizard	*Ophisaurus mimicus*	FSC
Piping Plover	*Charadrius melodus*	Threatened
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Southern hognose snake	*Heterodon simus*	FSC
Invertebrates		

Croatan crayfish	*Procambarus plumimanus*	FSC
Vascular Plants		
A quillwort	*Isoetes microvela*	FSC
Awned meadowbeauty	*Rhexia aristosa*	FSC
Boykin's lobelia	*Lobelia boykinii*	FSC
Carolina asphodel	*Tofieldia glabra*	FSC
Carolina goldenrod	*Solidago pulchra*	FSC
Carolina grass-of-parnassus	*Parnassia caroliniana*	FSC
Carolina spleenwort	*Asplenium heteroresiliens*	FSC
Chapman's sedge	*Carex chapmanii*	FSC
Coastal beaksedge	*Rhynchospora pleiantha*	FSC
Coastal Goldenrod	*Solidago villosicarpa*	FSC
Cooley's meadowrue	*Thalictrum cooleyi*	Endangered
Golden sedge	*Carex lutea*	Endangered
Hirst's panic grass	*Dichanthelium sp. 1*	FSC
Loose watermilfoil	*Myriophyllum laxum*	FSC
Many-flower grass-pink	*Calopogon multiflorus*	FSC
Pondspice	*Litsea aestivalis*	FSC
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered
Seabeach amaranth	*Amaranthus pumilus*	Threatened
Spring-flowering goldenrod	*Solidago verna*	FSC
Thorne's beaksedge	*Rhynchospora thornei*	FSC
Venus flytrap	*Dionea muscipula*	FSC

KEY:

Status	Definition
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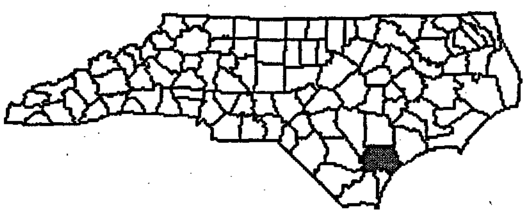
Updated: 02/25/2003

U.S. Fish & Wildlife Service

PENDER COUNTY



Critical Habitat Designation:

Piping Plover, *Charadrius melodus* - Critical Habitat designation in Federal Register 66:36038-36136, for a description of the primary constituent elements essential for the conservation of wintering piping plovers within the designated units. This document also contains a map and a description of each designated unit.

KEY:

Common Name	Scientific Name	Status
Vertebrates		
American alligator	*Alligator mississippiensis*	T(S/A)
Bachman's sparrow	*Aimophila aestivalis*	FSC
Carolina gopher frog	*Rana capito capito*	FSC
Eastern Henslow's sparrow	*Ammodramus henslowii*	FSC
Loggerhead sea turtle	*Caretta caretta*	Threatened
West Indian Manatee	*Trichechus manatus*	Endangered
Piping Plover	*Charadrius melodus*	Threatened
Rafinesque's big-eared bat	*Corynorhinus (=Plecotus) rafinesquii*	FSC**
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Shortnose sturgeon	*Acipenser brevirostrum*	Endangered
Southeastern myotis	*Myotis austroriparius*	FSC
Southern hognose snake	*Heterodon simus*	FSC*
Invertebrates		
chk Atlantic pigtoe	*Fusconaia masoni*	FSC
Buchholz's dart moth	*Acrotis buchholzi*	FSC
? Carter's spartiniphaga	*Spartiniphaga carterae*	FSC
Croatan crayfish	*Procambarus plumimanus*	FSC

chk

Venus flytrap cutworm moth	*Hemipachnobia s. subporphyrea*	FSC
Yellow lampmussel	*Lampsilis cariosa*	FSC
Vascular Plants		
American chaffseed	*Schwalbea americana*	Endangered
Carolina asphodel	*Tofieldia glabra*	FSC
Carolina bogmint	*Macbridea carolinana*	FSC
Carolina goldenrod	*Solidago pulchra*	FSC
Carolina grass-of-parnassus	*Parnassia caroliniana*	FSC
Carolina least trillium	*Trillium pusillum var. pusillum*	FSC
Chapman's sedge	*Carex chapmanii*	FSC
Chapman's three-awn	*Aristida simpliciflora*	FSC
Coastal goldenrod	*Solidago villosicarpa*	FSC
Cooley's meadowrue	*Thalictrum cooleyi*	Endangered
Georgia indigo-bush	*Amorpha georgiana var. georgiana*	FSC
Golden sedge	*Carex lutea*	Endangered
Grassleaf Arrowhead	*Sagittaria graminea* var *weatherbiana*	FSC
Pineland plantain	*Plantago sparsiflora*	FSC
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered
Sandhills milkvetch	*Astragalus michauxii*	FSC
Seabeach amaranth	*Amaranthus pumilus*	Threatened
Spring-flowering goldenrod	*Solidago verna*	FSC
Thorne's beaksedge	*Rhynchospora thornei*	FSC
Venus flytrap	*Dionea muscipula*	FSC

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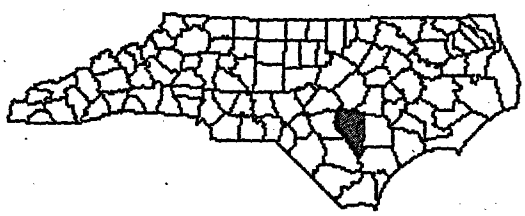
Updated: 02/25/2003

U.S. Fish & Wildlife Service

SAMPSON COUNTY



Common Name	Scientific Name	Status
Vertebrates		
American alligator	*Alligator mississippiensis*	T(S/A)
Bachman's sparrow	*Aimophila aestivalis*	FSC
"Broadtail" madtom	*Noturus* sp. 1	FSC
Carolina gopher frog	*Rana capito capito*	FSC
Mimic glass lizard	*Ophisaurus mimicus*	FSC*
Rafinesque's big-eared bat	*Corynorhinus (=Plecotus) rafinesquii*	FSC**
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Southern hognose snake	*Heterodon simus*	FSC*
Invertebrates		
American sand burrowing mayfly	*Dolania americana*	FSC
Vascular Plants		
Butternut	*Juglans cinerea*	FSC
Carolina bogmint	*Macbridea caroliniana*	FSC
Long beach seedbox	*Ludwigia brevipes*	FSC
Pondberry	*Lindera melissifolia*	Endangered
Pondspice	*Litsea aestivalis*	FSC
Spring-flowering goldenrod	*Solidago verna*	FSC
Venus flytrap	*Dionea muscipula*	FSC
Nonvascular Plants		
A liverwort	*Cylindrocolea andersonii*	FSC*

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(FWS 2005i)

U.S. Fish & Wildlife Service

Piping Plovers in North Carolina

PIPING PLOVER

Charadrius melodus

STATUS: Threatened in North Carolina

DESCRIPTION AND LIFE HISTORY: The piping plover is a small, stocky shorebird resembling a sandpiper. The adults weigh 1.5 to 2 ounces, have a length of 7 inches, and a wingspread of 15 inches. Both sexes are similar in size and color; upper parts are pale brownish, underparts are white. A black band across the forehead over the eye, and a black ring around the base of the neck are distinguishing marks in adults during the summer, but are obscure during the winter.

The bird's call is a plaintive "peep-lo" whistle. Like other plovers, it runs in short starts and stops. The piping plover eats worms, fly larvae, beetles, crustaceans, molluscs, and other invertebrates (Bent 1928), which are plucked from the sand. Chicks begin feeding on smaller sizes of these same foods shortly after they hatch.

Piping plovers arrive on their breeding grounds in late March or early April. Following establishment of nesting territories and courtship rituals, the pair form a depression in the sand generally on the upper beach close to the dunes (or in other shoreline habitats depending on the portion of the range). This is where the female will lay her eggs. The nest is often lined with stones or small fragments of shell. Occupied nests are generally 150 to 300 feet apart. Average clutch size is four eggs. Both eggs and young are well camouflaged. The young hatch about 27 to 31 days after egg laying. When predators or other intruders come close, the young squat motionless on the sand while the parents attempt to attract the attention of intruders to themselves, often by feigning a broken wing. The young fledge at about 4 weeks of age. If the eggs are destroyed early in the nesting season, the birds usually lay a second clutch. By early September both adults and young will have departed for their wintering areas.

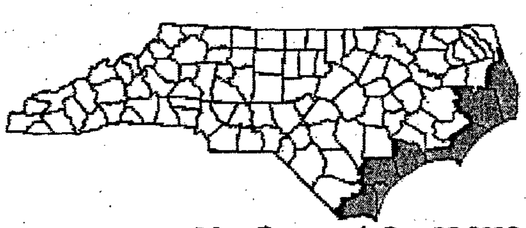
RANGE AND POPULATION LEVEL: The piping plover breeds on the northern Great Plains, in the Great Lakes, and along the Atlantic coast (Newfoundland to North Carolina); and winters on the Atlantic and Gulf of Mexico coasts from North Carolina to Mexico, and in the Bahamas West Indies. Breeding birds on the North Carolina coast are mostly found from the vicinity of Cape Lookout northward.

HABITAT: Piping plovers nest along the sandy beaches of the Atlantic Coast, the gravelly shorelines of the Great Lakes, and on river sandbars and alkali wetlands throughout the Great Plains region. They prefer to nest in sparsely vegetated areas that are slightly raised in elevation (like a beach berm). Piping plover breeding territories generally include a feeding area; such as a dune pond or slough, or near the lakeshore or ocean edge. These birds are primarily coastal during the winter, preferring areas with expansive sand or mudflats (feeding) in close proximity to a sandy beach (roosting).

REASONS FOR CURRENT STATUS: The primary threats to the piping plover are habitat modification and destruction, and human disturbance to nesting adults and flightless chicks. Recreational and commercial development and dune stabilization have contributed greatly to the loss of piping plover breeding habitat along the Atlantic Coast and Great Lakes. In the Great Plains region, damming and channelization of rivers also have eliminated sandbar nesting habitat. Wintering habitat has probably also been lost to coastal development, and inlet and shoreline stabilization features.

Recreational pressure, and pedestrian and vehicular traffic can seriously affect breeding success. Over the past 40 years, the number of vehicles and people on beaches has increased significantly. Human presence can indirectly lower productivity by disrupting territorial establishment, courtship, egg laying, and incubation activities. Foot traffic, dune buggies, and other vehicles (including raking of beaches for trash) can directly crush eggs or chicks and the ruts left by off-road vehicles can trap flightless chicks.

Species Distribution from known occurrences. Species may occur in similar habitats in other counties. Green counties indicate observed within 20 years. Yellow counties indicate an obscure data reference to the species in the county. Red counties indicate observed more than 20 years ago.



Map Generated Oct. 22 2003

Species Location Map based on information provided by the North Carolina Natural Heritage Program. For additional information regarding this Web page, contact David Rabon, in Raleigh, NC, at david_rabon@fws.gov

More information on Piping Plovers can be found at http://pipingplover.fws.gov

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(FWS 2005j)

U.S. Fish & Wildlife Service

Pondberry (Southern Spicebush) in North Carolina

PONDBERRY

Lindera melissifolia

STATUS: Endangered

DESCRIPTION AND REPRODUCTION: This deciduous shrub grows to approximately 2 meters (6 feet) tall, and spreads vegetatively by stolons. Pale yellow flowers appear in the spring before the leaves. The bright red, 12-millimeter (one-half-inch) long, oval-shaped fruits mature in the fall. Pondberry is distinguished from the two other North American members of the genus (*Lindera benzoin* and *Lindera subcoriacea*) by its drooping, thin, membranaceous, and ovately to elliptically shaped leaves that have a strong, sassafras-like odor when crushed.

Reproduction seems to be primarily vegetative by means of stolons. The plants grow in clones of numerous stems which flower when little more than 2 to 3 years of age, but appear to live for only a few years. The dead stems are replaced by new ones that emerge from the rootstock. The plants bloom around March and are dioecious (male and female flowers are produced on separate plants). Mature fruits can be found on the plants in October, but they seem to have no reproductive value as no seedings have been observed at any of the known sites.

RANGE AND POPULATION LEVEL: In North Carolina, one population exists in Bladen County. Other populations are known in South Carolina, Arkansas, Missouri, Mississippi, Alabama, and Georgia.

HABITAT: Pondberry, for the most part, is associated with wetland habitats such as bottomland and hardwoods in the interior areas, and the margins of sinks, ponds and other depressions in the more coastal sites. The plants generally grow in shaded areas but may also be found in full sun.

REASONS FOR CURRENT STATUS: The most significant threats are drainage ditching and subsequent conversion of its habitat to other uses. Even ditching without later conversion of land use can alter the water regime in a manner that reduces the plant's vigor or eliminates it from the site. Domestic hogs, cattle grazing, and timber harvesting have also impacted the plants at some sites. Eight of the sites currently in private ownership have been affected by these various factors, and the remaining sites are potentially threatened. Pondberry receives some legal protection under State law in North Carolina and Missouri, but none in the States of South Carolina, Georgia, Mississippi, and Arkansas. The apparent lack of seedling production is also a factor which in the long term could have significant adverse effects for the species.

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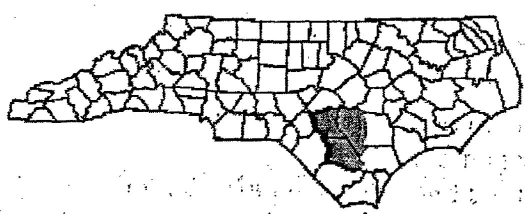

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Courtesy Vanda Frantz - NC Plant Conservation

Rough-leaved Loosestrife in North Carolina

ROUGH-LEAVED LOOSESTRIFE

Lysimachia asperulaefolia

STATUS: Endangered

DESCRIPTION: The slender stems of this perennial herb grow from a rhizome and reach heights of 3 to 6 decimeters (1 to 2 feet). Whorls of 3 to 4 leaves encircle the stem at intervals beneath the showy yellow flowers. Flowering occurs from mid-May through June, with fruits present from July through October (Kral 1983, Radford et al. 1968). This species is easily distinguished from the one other similar southeastern species of Lysimachia, Lysimachia loomisii Torrey, by its broader, glandular leaves and much larger flowers (Kral 1983).

RANGE AND POPULATION LEVEL: Rough-leaved loosestrife is a species endemic to the coastal plain and sandhills of North Carolina and South Carolina. It is currently known from 35 populations in North Carolina and one in South Carolina. The single extant site in South Carolina is in Richland County. North Carolina's extant populations are in the following counties: Brunswick (8 populations); Pender (1 population); Bladen (1 population); Carteret (8 populations); Scotland (3 populations); Cumberland (5 populations); Onslow (3 populations); Hoke (5 populations); and Pamlico (1 population). Historically, Rough-leaved loosestrife was known from 15 other sites in Brunswick, Pender, Cumberland, Onslow, Beaufort, Columbus, Pamlico, and Richmond Counties, North Carolina, and Darlington County, South Carolina. Most of the populations are small, both in area covered and in number of stems.

HABITAT: This species generally occurs in the ecotones or edges between longleaf pine uplands and pond pine pocosins (areas of dense shrub and vine growth usually on a wet, peaty, poorly drained soil) (Barry 1980), on moist to seasonally saturated sands and on shallow organic soils overlaying sand. Rough-leaved loosestrife has also been found on deep peat in the low shrub community of large Carolina bays (shallow, elliptical, poorly drained depressions of unknown origin) (Matthews et al., 1980). The grass-shrub ecotone, where rough-leaved loosestrife is found, is fire-maintained, as are the adjacent plant communities (longleaf pine - scrub oak, savanna, flatwoods, and pocosin). Suppression of naturally-occurring fire in these ecotones results in shrubs increasing in density and height and expanding to eliminate the open edges required by this plant.

REASONS FOR CURRENT STATUS: Fire suppression, drainage, and, to a lesser extent, residential and industrial development have altered and eliminated habitat for this species and continue to be the most significant threats to the species' continued existence (Carter 1985; Kral 1983).

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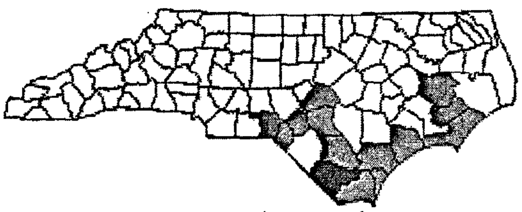

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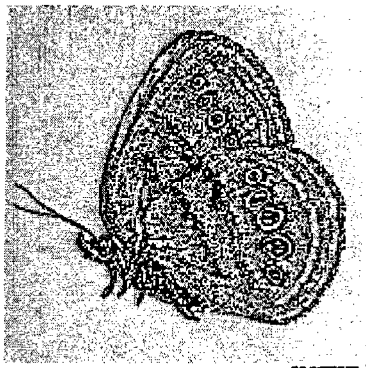

USFWS

Saint Francis Satyr in North Carolina

SAINT FRANCIS' SATYR

Neonympha mitchellii

STATUS: Endangered

DESCRIPTION: Saint Francis' satyr is a small, dark brown butterfly. The wingspan for the species ranges from 34 to 44 millimeters (Opler and Malikul 1992). Saint Francis' satyr has conspicuous "eye spots" on the lower surfaces of the wings. These eye spots have a dark maroon-brown center, and within the eye spots are lighter opalescent patches that reflect a silver cast. The border of these dark eye spots is straw-yellow in color, with an outermost border of dark brown. The eye spots are usually round to slightly oval and are well-developed on the fore wing as well as on the hind wing. The spots are accented by two bright orange bands along the posterior wing edges and two somewhat darker orange-brown bands across the central portion of each wing.

DISTRIBUTION: Only a single metapopulation of Saint Francis' satyr is known to exist in the sandhills of North Carolina, in Cumberland and Hoke Counties.

HABITAT: The habitat occupied by this satyr consists primarily of wide, wet meadows dominated by a high diversity of sedges and other wetland graminoids. In the North Carolina sandhills, such meadows are often relicts of beaver activity. Saint Francis' satyr has also been observed in pitcher plant (*Sarracenia flava*) swales, with cane (*Arundinaria tecta*), and with rare plants rough-leaved loosestrife (*Lysimachia asperulaefolia*) and pocosin lily (*Lilium iridollai*). It is, however, unknown whether the satyr uses such habitat for reproduction or simply as a dispersal corridor.

* Because their populations are highly vulnerable to the threat of collection, locations of this species are kept confidential. Documentation of this species is limited to the sandhills of North Carolina. Please contact the USFWS if concerns for this species arise.

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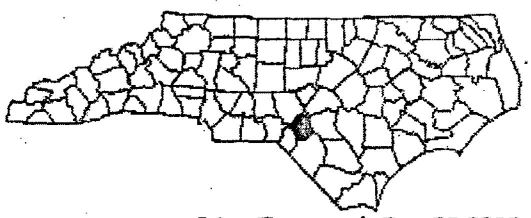
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(FWS 2005m)

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North Carolina Ecological Services

Seabeach Amaranth (*Amaranthus pumilus*)

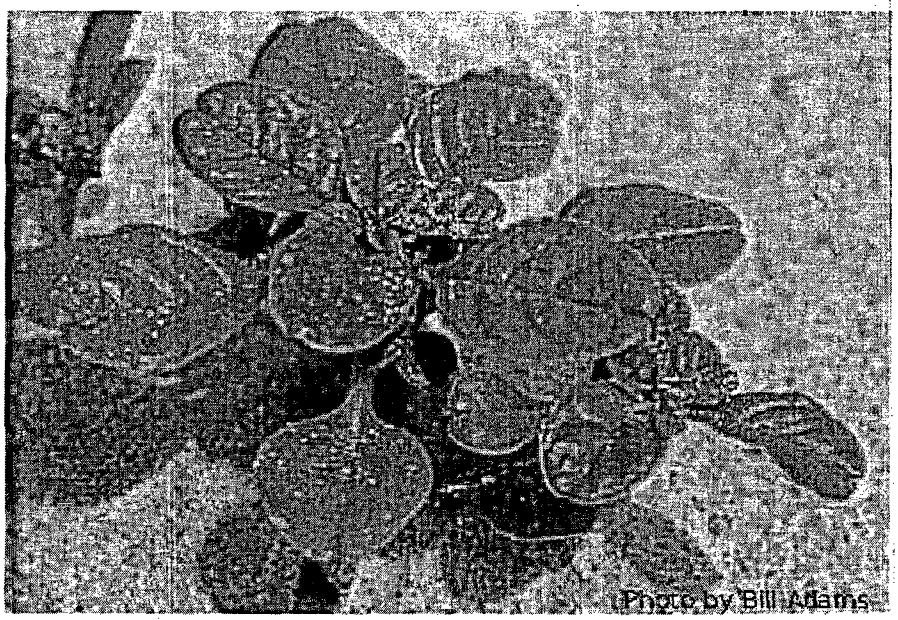
Photo by Bill Adams

Status: Threatened

Description: Seabeach amaranth is plant found on the dunes of Atlantic beaches. The stems are fleshy and reddish, with small rounded leaves t to 2.5 centimeters in diameter. The indented veins, are clustered toward the stem and have a small notch at t tip. Flowers and fruits are relatively inconspicuous, borne in clusters alor stems. Germination occurs over a re period of time, generally from April tc germination, the species forms a sm unbranched sprig, but soon begins tc profusely into a clump. This clump o reaches 30 cm in diameter and cons to 20 branches. Occasionally, a clur as large as a meter or more across, more branches.

Flowering begins as soon as plants have reached sufficient size, sometimes as early as June, but more typically c in July and continuing until the death of the plant in late fall. Seed production begins in July or August and peaks September during most years, but continues until the death of the plant. Weather events, including rainfall, hurric temperature extremes, and predation by webworms have strong effects on the length of seabeach amaranth's rep season. As a result of one or more of these influences, the flowering and fruiting period can be terminated as ear or July. Under favorable circumstances, however, the reproductive season may extend until January or sometime species is an effective sand binder, building dunes where it grows.

Habitat: Seabeach amaranth occurs on barrier island beaches, where its primary habitat consists of overwash fla accreting ends of islands and lower foredunes and upper strands of noneroding beaches. It occasionally establisl temporary populations in other habitats, including sound-side beaches, blowouts in foredunes, and sand and shel placed as beach replenishment or dredge spoil. Seabeach amaranth appears to be intolerant of competition and occur on well-vegetated sites. The species appears to need extensive areas of barrier island beaches and inlets, in a relatively natural and dynamic manner. These characteristics allow it to move around in the landscape as a fu species, occupying suitable habitat as it becomes available.

Distribution and Range: Historically, seabeach amaranth occurred in 31 counties in nine states from Massachu South Carolina. The species is currently found in New York, New Jersey, Delaware, Maryland, Virginia, North Ca South Carolina.

Listing: Seabeach amaranth was listed as Threatened on April 7, 1993 under the provisions of the Endangered Species Act of 1973 (as amended). Before its listing, seabeach amaranth had undergone a reduction in range, population sizes and populations. At the time of listing only 55 populations where known.

Threats: The most serious threats to the continued existence of Seabeach amaranth include the construction of l stabilization structures, beach erosion and tidal inundation, beach grooming, herbivory by insects and feral animal certian circumstances, by off-road vehicles.

Why Protect Seabeach amamranth: Extinction is a natural process. Normally, new species develop through a known as speciation at about the same rate they go extinct. However, because of air and water pollution, over-hu extensive deforestation, the loss of wetlands, and other human-impacts, extinctions are now occurring at a rate th exceeds speciation. These actions are reducing the biodiversity on Earth.

The reduction of biodiversity reduces the ecological integrity of our environment. All living organisms perform a fu our environment and are dependent on the functions of other organisms. In turn, there is interconnectedness am including us in the environment.

For More Information on Seabeach amaranth...

Center for Plant Conservation species profile

Do you need additional help?

For additional information about Seabeach amaranth or the information presented on this webpage, contact Dale Raleigh Field Office at dale_suiter@fws.gov

Questions related to the Service's endangered species program or other program activities can be addressed to tl appropriate staff from our Asheville or Raleigh Field Offices.

Other Sites of Interest

- North Carolina Natural Heritage Program
- North Carolina Wildlife Resources Commission

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North Carolina Ecological Services Home Page

U.S. Fish & Wildlife Service Southeast Region Home Page

U.S. Fish & Wildlife Service Home Page

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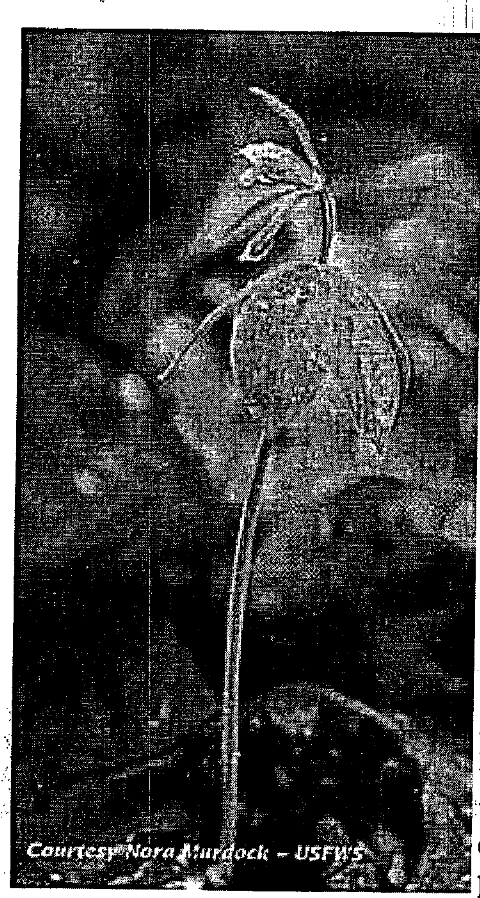


Small Whorled Pogonia in North Carolina

SMALL WHORLED POGONIA

Isotria medeoloides

STATUS: Threatened

DESCRIPTION AND REPRODUCTION: Small whorled pogonia is a perennial with long, pubescent roots and a smooth, hollow stem 9.5 to 25 centimeters (cm) tall terminating in a whorl of 5 or 6 light green, elliptical leaves that are somewhat pointed and measure up to 8 by 4 cm. A flower, or occasionally two flowers, is produced at the top of the stem. Small whorled pogonia's nearest relative is *I. verticillata*, which is similar looking but can be distinguished by its purplish stem and by differences in the flower structure. *I. verticillata* is much more common and widespread than the small-whorled pogonia. When not in flower, young plants of Indian cucumber-root (*Medeola virginiana*) also resemble small whorled pogonia. However, the hollow stout stem of *Isotria* will separate it from the genus *Medeola*, which has a solid, more slender stem.

Flowering occurs from about mid-May to mid-June, with the flowers apparently lasting only a few days to a week or so. Also, this plant doesn't necessarily flower annually. Usually only one flower is produced per plant. If pollination occurs, a capsule may be formed which can contain several thousand minute seeds. No evidence of insect pollination has been observed. This plant is believed to be self-pollinating by mechanical processes. The flower lacks both nectar guides and fragrance. There is no evidence for asexual reproduction. Individual plants may not flower every year; and extended dormancy, although not scientifically documented, is purported to occur under certain conditions.

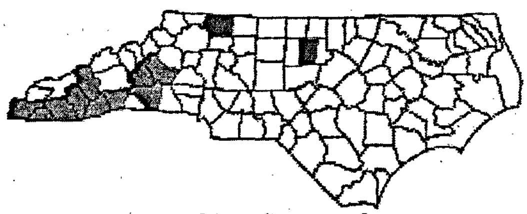
RANGE AND POPULATION The 23 populations in the Southeast Region occur in North Carolina (5 populations); South Carolina (4 populations); Georgia (13 populations); and Tennessee (1 population). Most Southeastern populations number less than 25 plants. South Carolina has one population of over 25 plants, and Georgia has two populations numbering about 100 plants.

In the Southeast, North Carolina has two protected sites, both of which are viable; South Carolina has four protected sites, two of which are viable; and Georgia has seven protected sites, four of which are viable.

HABITAT: This species is generally known from open, dry, deciduous woods with acid soil. It occurs in habitat where there is relatively high shrub coverage or high sapling density, flowering appears to be inhibited.

REASONS FOR CURRENT STATUS: The current status of small whorled pogonia is attributed to loss of habitat and overutilization for scientific and private collections. However, some populations observed for a number of years have also declined for unknown reasons.

*Species Distribution from known occurrences. Species may occur in similar habitats in other counties.*Green counties indicate observed within 20 years. Yellow counties indicate an obscure data reference to the species in the county. Red counties indicate observed more than 20 years ago.



Map Generated Oct. 22 2003

Species Location Map based on information provided by the North Carolina Natural Heritage Program. For additional information regarding this Web page, contact Carolyn Wells, in Asheville, NC, at carolyn_wells@fws.gov

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(10)

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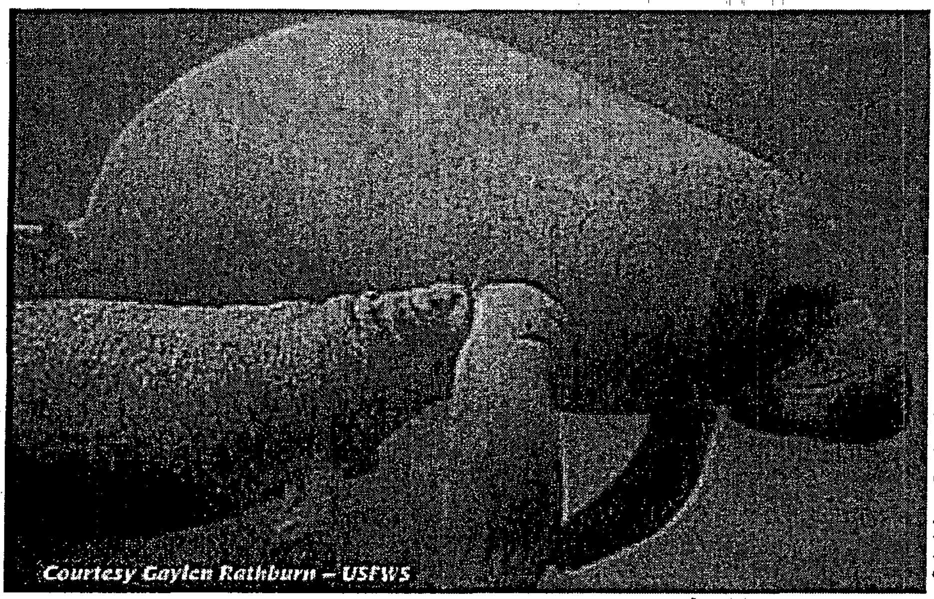

Courtesy Gaylen Rathburn – USFWS

West Indian Manatees in North Carolina

WEST INDIAN MANATEE

Trichechus manatus

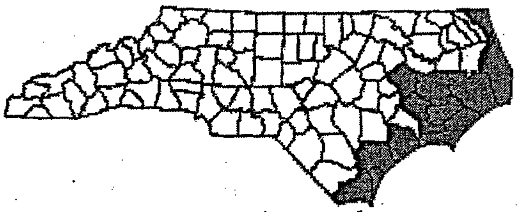
STATUS: Endangered

DESCRIPTION: The West Indian Manatee is a large gray or brown aquatic mammal. Adults average about 10 feet long and weigh 1,000 pounds. They have no hindlimbs, and their forelimbs are modified as flippers. Manatee tails are flattened horizontally and rounded. Their body is covered with sparse hairs and their muzzles with stiff whiskers. Sexes are distinguished by the position of the genital openings and presence or absence of mammary glands. Manatees will consume any aquatic vegetation available to them and sometimes even shoreline vegetation. Although primarily herbivorous, they will occasionally feed on fish. Manatees may spend about 5 hours a day feeding, and may consume 4 to 9 percent of their body weight a day.

RANGE AND POPULATION LEVEL: During summer months, they may migrate as far north as coastal Virginia on the east coast and the Louisiana coast on the Gulf of Mexico.

HABITAT: Manatees inhabit both salt and fresh water of sufficient depth (1.5 meters to usually less than 6 meters) throughout their range. They may be encountered in canals, rivers, estuarine habitats, saltwater bays, and on occasion have been observed as much as 3.7 miles off the Florida Gulf coast. Between October and April, Florida manatees concentrate in areas of warmer water. When water temperatures drop below about 21 to 22 degrees Centigrade, they migrate to south Florida or form large aggregations in natural springs and industrial outfalls. Severe cold fronts have been known to kill manatees when the animals did not have access to warm water refuges. During warmer months they appear to choose areas based on an adequate food supply, water depth, and proximity to fresh water. Manatees may not need fresh water but they are frequently observed drinking fresh water from hoses, sewage outfalls, and culverts. There is no evidence of any periodicity in manatee habitat use in Puerto Rico.

Species Distribution from known occurrences. Species may occur in similar habitats in other counties. Green counties indicate observed within 20 years. Yellow counties indicate an obscure data reference to the species in the county. Red counties indicate observed more than 20 years ago.



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Species Location Map based on information provided by the North Carolina Natural Heritage Program.

Precautionary Measures Guidelines can be found in manatee_guidelines.pdf

For additional information regarding this Web page, contact David Rabon, in Raleigh, NC, at david_rabon@fws.gov

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Courtesy James F. Parnell

Wood Storks in North Carolina

WOOD STORK

Mycteria americana

STATUS: Endangered

DESCRIPTION: Wood storks are large, long-legged wading birds, about 50 inches tall, with a wingspan of 60 to 65 inches. The plumage is white except for black primaries and secondaries and a short black tail. The head and neck are largely unfeathered and dark gray in color. The bill is black, thick at the base, and slightly decurved. Immature birds are dingy gray and have a yellowish bill.

FEEDING HABITS: Small fish from 1 to 6 inches long, especially topminnows and sunfish, provide this bird's primary diet. Wood storks capture their prey by a specialized technique known as grope-feeding or tacto-location. Feeding often occurs in water 6 to 10 inches deep, where a stork probes with the bill partly open. When a fish touches the bill it quickly snaps shut. The average response time of this reflex is 25 milliseconds, making it one of the fastest reflexes known in vertebrates. Wood storks use thermals to soar as far as 80 miles from nesting to feeding areas. Since thermals do not form in early morning, wood storks may arrive at feeding areas later than other wading bird species such as herons. Energy requirements for a pair of nesting wood storks and their young is estimated at 443 pounds of fish for the breeding season (based on an average production of 2.25 fledglings per nest).

HABITAT: Storks are birds of freshwater and brackish wetlands, primarily nesting in cypress or mangrove swamps. They feed in freshwater marshes, narrow tidal creeks, or flooded tidal pools. Particularly attractive feeding sites are depressions in marshes or swamps where fish become concentrated during periods of falling water levels.

REASONS FOR CURRENT STATUS:

Wood storks have a unique feeding technique and require higher prey concentrations than other wading birds. Optimal water regimes for the wood stork involve periods of flooding, during which prey (fish) populations increase, alternating with dryer periods, during which receding water levels concentrate fish at higher densities coinciding with the stork's nesting season. Loss of nesting habitat (primarily cypress swamps) may be affecting wood storks in central Florida, where nesting in non-native trees and in man-made impoundments has been occurring recently. Less significant factors known to affect nesting success include prolonged drought and flooding, raccoon predation on nests, and human disturbance of rookeries.

DISTRIBUTION IN NORTH CAROLINA:

Post breeding storks from Florida disperse as far north as North Carolina. For more than 20 years. Yellow counties indicate an obscure data reference to the species in the county.a colony of wood storks ranging from 15-100 individuals frequent Sunset Beach during early June through mid September. This colony represents the northernmost extent of this Federally-endangered species' range, and is the only known colony of wood storks in North Carolina.

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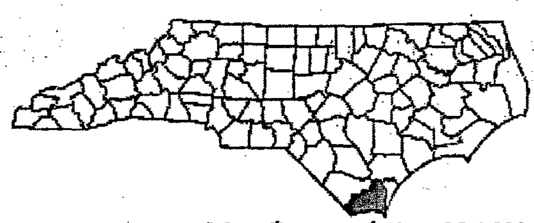

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Species Location Map based on information provided by the North Carolina Natural Heritage Program. For additional information regarding this Web page, contact John Hammond, in Raleigh, NC, at john_hammond@fws.gov

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