EXPLANATION OF STATUS AND RANK CODES

Status Codes

In North Carolina, all state status (Endangered, Threatened, and Special Concern) changes must be approved by the N.C. Wildlife Resources Commission (NCWRC) and published in the State Register for public comment. These taxa are given state protection under the State Endangered Species Act (G.S. 113-331 to 113-337). Significantly Rare and Watch List are NCNHP designations only, not affording official state protection. Former Watch List Status Codes (pre-2024) are shown in parentheses.

United States Status is designated by the U.S. Fish and Wildlife Service (USFWS) and the U.S. National Marine Fisheries Service (USNMFS) in accordance with the U.S. Endangered Species Act of 1973 (USESA), as amended.

N.C. STATUS – ANIMALS

N.C. 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 to be in jeopardy or any species of wild animal determined to be an Endangered species pursuant to the Endangered Species Act. (G.S. 113-25.)
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. (G.S. 113-25.)
SC	Special Concern	Any species of wild animal native or once-native to North Carolina which is determined by the NCWRC to require monitoring, but which may be taken under regulations adopted under the provisions of the Article. (G.S.113-25)
SR	Significantly Rare	Any species which has not been listed as an Endangered, Threatened, or Special Concern species, but which exists in the state (or recently occurred in the state) in small numbers and has been determined by the NCNHP to need monitoring. Significantly Rare species include species of historical occurrence with some likelihood of rediscovery in the state and species substantially reduced in numbers by habitat destruction, direct exploitation, or disease.
SR-G	Significantly Rare-Game	Species is a game animal or a furbearer, and therefore (by law) cannot be listed for state protection as E, T, or SC.

N.C. STATUS CODE	STATUS	DEFINITION
W-PD (W1)	Population Decline in NC	Species that are known to be **declining in North Carolina for reasons beyond habitat loss**. The distribution or population sizes of such species in the state are relatively well-known. Reasons for decline include exotic pests or pathogens, over-collection, poaching, and failure of reproduction. Because many of these taxa were once abundant or even dominant in parts of N.C., 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 N.C.
W-TH (W5)	Threat To Habitat	Species with increasing threats to their habitat but not yet warranting active tracking, whether or not populations are known to be declining. These threats can include loss of habitat from development and other modification (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 vehicles on beaches), among other types of threats. Threats include use of pesticides, acid rain, and fire suppression.
W-PK (W3)	Poorly Known in NC	Species with inadequate information about their distribution and rarity in N.C. These are generally species which appear to be rare based on museum records and field experience of NCNHP staff, consultants, and cooperating scientists. Further information is needed to determine the true status of these species in N.C.
W-RS (W2)	Rare but Relatively Secure	Species whose status in N.C. is relatively well known and 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 Rare List. Many of these species were formerly on the Rare List; they are retained in this category because they require a lower level of monitoring to ensure their long-term security.
W-QD (W4)	Rare but Questionable Documentation	Species that have been reported from N.C. without adequate documentation. These species should be listed at a higher level when their reported occurrence in N.C. 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.

N.C. STATUS CODE	STATUS	DEFINTION
W-QT (NEW)	Rare but Questionable Taxonomy	Species that include 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 List. This category has been used for named and unnamed taxa that appear likely to achieve recognition by accepted taxonomic authorities.
W-NN (W6)	Rare but Believed Not Native	Species known to occur in N.C. that current data suggest are not native to N.C. but whose native occurrence is plausible. Some of these species were previously listed at a higher level, but field and/or genetic investigations suggest that all known N.C. occurrences are introductions.

U.S. STATUS – ANIMALS

U.S. STATUS CODE	STATUS	DEFINITION
E	Endangered	A taxon that is in danger of extinction throughout all or a significant portion of its range (Public Law 93-205 87 Stat. 884).
T	Threatened	A taxon that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range (Public Law 93-205 87 Stat. 884).
C	Candidate	Taxa for which the USFWS 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 USFWS encourages state and other federal agencies as well as other affected parties to give consideration to these taxa in environmental planning (Federal Register, 28 February 1996). Taxa formerly considered "Category 1" are now considered "Candidate."
BGPA	Bald and Golden Eagle Protection Act	The Bald and Golden Eagle Protection Act (16U.S.C. 668-668d) prohibits take of bald and golden eagles and provides a statutory definition of "take" that includes "disturb." The USFWS has developed National Bald Eagle Management Guidelines to provide guidance to land managers, landowners, and others as to how to avoid disturbing bald eagles. For additional information please see: http://www.fws.gov/migratorybirds/baldeagle.htm.
EXP	Experimental Population	A taxon listed as experimental (either essential or nonessential). Experimental, nonessential populations of endangered species (e.g., red wolf) are treated as threatened species on public land, for consultation purposes, and a species proposed for listing on private land.
P_	Proposed	Species proposed in the Federal Register as a status different from its current federal status.

U.S. STATUS CODE	STATUS	DEFINITION
T (S/A)	Threatened due to Similarity of Appearance	Section 4(e) of the USESA 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 USESA [Federal Register 4 November 1997, Volume 62(213):59605-59623].
T-4(d)	Threatened with a 4(d) rule	Section 4(d) of the ESA allows special regulations for threatened species that modify normal ESA protections when it is determined that such a modification is necessary and advisable to provide for the conservation of that species. A 4d rule is specific to the particular plant or animal for which it was created. For additional information please see: https://www.fws.gov/midwest/Endangered/mammals/nleb/4drule.html

Ranking System

Natural Heritage Programs and the NatureServe Network have developed a consistent method for evaluating the relative imperilment of both species and ecological communities. These assessments lead to the designation of a conservation rank. These ranks provide an estimate of extinction risk. Conservation rank values have been assigned over the past 30 years by the NCNHP, NatureServe, and a large number of collaborators in government agencies, universities, natural history museums, botanical gardens, and other conservation organizations. This information has been developed primarily to help in guiding conservation and informing environmental planning and management.

Conservation ranks are either state (S) or global (G) and are based on a one-to-five scale, ranging from critically imperiled (S1 or G1) to demonstrably secure (S5 or G5). These assessments are based on the best available information, considering a variety of factors such as abundance, distribution, population trends, and threats. Global ranks apply to the species throughout its range. The system is widely used as the best available scientific and objective assessment of a species' imperilment throughout its range.

A rank involving two numbers indicates uncertainty. For example, an S2S3 or a G2G3 rank indicates that the species may be S2 or S3 (or G2 or G3) but that existing data do not allow that determination to be made.

N.C. RANK – ANIMALS

N.C. RANK	DESIGNATION	DESCRIPTION
S1	Critically Imperiled	At very high risk of extirpation in the state due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors.
S2	Imperiled	At high risk of extirpation in the state due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
S3	Vulnerable	At moderate risk of extirpation in the state due to fairly restricted range (even if abundant at some locations), relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
S4	Apparently Secure	At low risk of extirpation in the state due to an extensive range and/or many populations or occcurrences but with possible cause for some concern as a result of local recent declines, threats, or other factors.
S5	Secure	At very low risk or no risk of extirpation in the state due to a very extensive range, abundant populations or occurrences, with little to no concern from declines or threats.

N.C. RANK	DESIGNATION	DESCRIPTION
SH	Historical	Of historical occurrence, with some expectation that it may be rediscovered. Its presence may not have been verified in the past 20 years. Upon verification of an extant occurrence, SH-ranked elements would typically receive an S1 rank.
SX	Presumed Extirpated	Believed to be extirpated. Has not been located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.
SU	Unrankable	Currently unrankable due to lack of information or substantially conflicting information about status or trends. More information is needed.
SNR	Not Ranked	Statewide rank not yet assessed.
SNA	Not Applicable	A conservation status rank is not applicable because the element is not a suitable target for conservation for one of these reasons: • Hybrid – an interspecific hybrid without conservation value; • Exotic Origin – not native to North Carolina; • Accidental/Nonregular – outside usual range and not regularly found in North Carolina; • Not Confidently Present – never documented as present in NC; • Synonym – the taxon is not recognized by the NCNHP.
S_B	Breeding	Rank of the breeding population in the state. Used for migratory species only. Ex: Bachman's sparrow (*Peucaea aestivalis*) is S3B,S2N).
S_N	Nonbreeding	Rank of the nonbreeding population in the state. Used for migratory species only. Ex: Bachman's sparrow.
S_?	Uncertain	Denotes inexact or uncertain numeric rank.

GLOBAL RANK – ANIMALS

GLOBAL RANK	DESIGNATION	DESCRIPTION
G1	Critically Imperiled	At very high risk of extinction due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors.
G2	Imperiled	At high risk of extinction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
G3	Vulnerable	At moderate risk of extinction due to fairly restricted range (even if abundant at some locations), relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
G4	Apparently Secure	At low risk of extinction due to an extensive range and/or many populations or occurrences but with possible cause for some concern as a result of local recent declines, threats or other factors. Uncommon but not rare (although it may be rare in parts of its range, particularly on the periphery) and usually widespread.
G5	Secure	At very low risk or no risk of extinction due to a very extensive range, abundant populations or occurrences, with little to no concern from declines or threats. Common, widespread, and abundant (although it may be rare in parts of its range, particularly on the periphery). Not vulnerable in most of its range.
GH	Historical	Known only from historical occurrences, but with some expectation that it may be rediscovered. May still be extant; further searching is needed.
GX	Presumed Extinct	Believed to be extinct throughout its range (e.g., passenger pigeon) with virtually no likelihood that it will be rediscovered. Not located despite intensive searches of historical sites and other appropriate habitat and virtually no likelihood of rediscovery.
GU	Unrankable	Currently unrankable due to lack of information or due to substantially conflicting information about status or trends; need more information.
GNR	Not Ranked	Global rank not yet assessed.
G_T_	Subspecies or Variety Rank	The status of infraspecific taxa (subspecies or varieties) are indicated by "T-rank" following the species' global rank. T-ranks follow the same principles outlined above. 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.

GLOBAL RANK	DESIGNATION	DESCRIPTION
G_?	Uncertain	Denotes inexact or uncertain numeric rank.
G_Q	Questionable Taxonomy	Taxonomic classification that may reduce conservation priority. Distinctiveness of this entity as a taxon at the current level is questionable. Resolution of this uncertainty may result in change from a species to a subspecies or inclusion of this taxon in another taxon, with the resulting element having a lower-priority conservation status rank.

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

ABBREVIATION	PROVINCE/REGION	DESCRIPTION
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, Sauratown, and South mountains. This province is shallowly underlain by crystalline metamorphic, igneous, or (rarely) consolidated sedimentary rocks.
C	Coastal Plain	All parts of North Carolina east of the Fall Line, but excluding the Sandhills region and those portions associated with Tidewater. Generally consisting of unconsolidated sands, silts, clays, and peats, though rarely shallowly underlain by consolidated coquina limestone ("marl").
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.
T	Tidewater	Areas 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 in the NCNHP database. We request information about any new occurrences in the state. County names are followed by symbols (defined below) if the species has not been recently verified within the county.

*	All recorded occurrences in the county are either extirpated, have not been found in recent surveys, or have not been surveyed recently enough to be confident they are still present. Unsurveyed occurrences are regarded as historical after 20-40 years, the number of years depending on the species and the amount of habitat alteration in the area. An asterisk should not be regarded as a definitive statement that the species is gone from the county but indicates that its continued existence is uncertain.

The zoological 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. Visit the Natural Heritage Program website for the most up-to-date county occurrence information: www.ncnhp.org.

NUMBER OF ANIMAL TAXA BY STATUS

Numbers in the table indicate number of taxa – generally species as well as valid unique varieties and subspecies – 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. The total number of species in North Carolina is an estimate of the species that do occur or have occurred at one time in the state (table updated 2026-11-13).

GROUP	COUNT *	N.C. STATUS				U.S. STATUS		
		E	T	SC	SR	E	T	Other
Mammals	142	8	5	9	8	5	1	1 E, XN, 1 PE
Birds	498	8	12	20	27	1	4	2 BGPA
Reptiles	94	8	9	21	3	2	2 T, 2 T(S/A)	1 PT
Amphibians	130	7	15	16	15	-	1	1 PE
Freshwater Fishes	271	12	20	28	18	4	3	2 C
Freshwater Bivalves	87	18	13	6	5	6	3	2 PE, 1 PT
Gastropods	327+	4	8	27	52	1	1	-
Arachnids	?	-	-	-	13	1	-	-
Crustaceans	?	2	5	11	10	-	-	-
Mayflies	?	-	-	-	21	-	-	-
Stoneflies	?	-	-	-	41	-	-	-
Caddisflies	?	-	-	-	19	-	-	-
Dragonflies and Damselflies	195	-	-	-	38	-	-	-
Butterflies	190	-	-	-	39	1	-	1 PE
Moths	3000	-	-	-	113	-	-	-
Grasshoppers and Katydids	250+	-	-	-	21	-	-	-
Beetles	308+	-	-	-	17	1	-	-
True Bugs	?	-	-	-	1	-	-	-
Flies	?	-	-	-	1	-	-	-
Bees	?	-	-	-	22	1	-	-
Totals	---	67	87	138	484	23	17	12

* Approximate number known from North Carolina, numbers based on NCNHP data and NC Biodiversity Project estimates (https://nc-biodiversity.com/)