



Wildlife Resources Commission
Fiscal Note for Proposed Endangered/Threatened/Special Concern Species
Rule Amendments

Rule Amendments: 15A NCAC 10I .0103 ENDANGERED SPECIES LISTED
15A NCAC 10I .0104 THREATENED SPECIES LISTED
15A NCAC 10I .0105 SPECIAL CONCERN SPECIES LISTED

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Fiscal Impact: State Government: Yes
Local Government: Yes
Private Impact: Yes
Substantial Economic Impact: No

Authority: G.S. 113-134; 113-333

BACKGROUND

The wildlife resources of North Carolina belong to the public (G.S. 113-131(a)), and the Wildlife Resources Commission (WRC) is the agency tasked with the conservation of these resources (G.S. 143-239). This responsibility includes managing, as equitably as possible, the various competing interests regarding these resources, including the use and take of such resources (G.S. 113-131.1(a)). The statutes governing wildlife resources are found in Chapter 113, Subchapter IV of the General Statutes, and WRC has been granted rulemaking authority to implement the provisions of these statutes (G.S. 113-134).

As part of its mission, WRC adopts and publishes an endangered species list, a threatened species list, and a list of special concern species, as required by G.S. 113-333. Lists are amended from time to time, in response to public proposals or as the Commission deems necessary. The WRC conducts investigations of its wild animals, as defined in G.S. 113-331, to determine whether the state listings need to be adjusted to accomplish the objectives of managing wildlife resources through sound conservation. The WRC also adopts and implements conservation programs for endangered, threatened, and special concern species to limit, regulate, or prevent the taking, collection, or sale of protected species (G.S. 113-333). The management goal with any state listing is to ensure the stability of a species for long term viability. The permitting process ensures that species are protected, while allowing for reasonable, desirable, and permissible take and possession of these species.

The process for updating the state listing is a multi-year, transparent process defined by science-based decision making. Per G.S. 113-335, the Nongame Wildlife Advisory Committee (NWAC) is the panel of experts from scientific disciplines who review scientific evidence and submit their state-listing recommendations to the Commission. The Commission is required by G.S. 113-334 to consider the recommendations while examining relevant data and factual information. The proposed changes to the state listings are based on actual data and the status of each species population as proposed by the North Carolina Species Assessment Tool and detailed in the Wildlife Action Plan (<https://www.ncwildlife.gov/state-wildlife-action-plan>).

A summary of the proposed rule amendments is below, with the full text and species profiles included.

PURPOSE

The endangered, threatened and special concern species lists (hereinafter, referred to as the protected species list or state list), identify nongame wildlife resources in need of protection and conservation with the goal of increasing their population numbers. An endangered species is one whose continued existence has been determined to be in jeopardy in the state or one that is designated as an endangered species pursuant to the Endangered Species Act. A threatened species is one who is likely to become endangered within the foreseeable future throughout all, or at least a significant portion of its range, or one that is designated as a threatened species pursuant to the Endangered Species Act. And a special concern species has been determined to need monitoring (G.S. 113-331). All species on the protected species list are native or once-native species of North Carolina.

The proposed changes to the list are necessary to ensure the continued viability of North Carolina's nongame wildlife diversity by promoting conservation priorities. After a review of seven species in a report from the Scientific Council approved by NWAC, the WRC recommends adding four species (two threatened and two special concern), changing the status of four species, removing two species, and making common and/or scientific name changes for eight species on the protected species list. The proposed list highlights species that meet the definition of endangered, threatened, or special concern. A complete list of proposed changes and summarized data on each species can be found in appendices.

The proposed changes to the state listing include four species to be listed as threatened, two species to be listed as special concern, and the removal of one species from the list. Overall, there will be 19 changes to the 15A NCAC 10I – Endangered and Threatened Species Rules due to additions, removals, shifting of species between lists, technical corrections, and name changes. The goal of these changes is to provide active and appropriate conservation for these species including research, land conservation, monitoring, and habitat restoration. When a species is experiencing a threat and/or decline in population, the state listing status can provide additional funding opportunities and research priority to assist in the recovery and population viability.

Adding a species to the protected species list establishes protection from direct take, encourages partners to request funding for species-specific projects, assists in identifying quality habitat that the agency would like to conserve, and informs partners of ecologically significant habitats so they can work to minimize impacts and focus their conservation efforts. Additionally, this information plays a large role in identifying and prioritizing multi-state and regional conservation needs as well as long-term monitoring programs and minimizes the likelihood of federal listing for that species.

FISCAL IMPACTS - COSTS

State Impact

The proposed amendments to the 10I Rules are anticipated to have a minimal economic impact on the state. It is unlawful, unless granted specific authorization, for an individual to take, possess, sell, propagate, transport, import, export, transfer, barter, trade, or stock any species listed in 15A NCAC 10I .0103 - .0105. To enforce this law, WRC requires all new wildlife enforcement officers to participate in an agency training that includes a one-day review of regulations and field identification specifically for nongame and state listed species. This training includes eight hours of information on illegal pet trade, collection, and food market, and teaches officers accurate species identification. Additionally, routine refresher training is offered, which includes information on nongame species that may have had an increased number of unlawful activities, and any changes that have been made to the protected species lists. Though new training materials will need to be developed to incorporate the proposed changes to the 10I Rules, the materials are produced in-house, and staff time anticipated for completion of this task is at most, two hours. This expense will be a one-time cost to the agency of \$120 (\$60/hr. x 2 hrs. = \$120¹).

In the field, enforcement officers track their time spent patrolling for unlawful activity involving nongame species, including listed species. Based on officer activity logs from fiscal year FY 2019 and FY 2020, less than one percent of each officer's time is spent on nongame specific activities. These activities include routine patrols for violations, responding to wildlife/human interactions and complaints, assisting biologists with complaints, following leads from citizens, and investigating actual crimes. The proposed changes are anticipated to have little impact on law enforcement operations, and enforcement of the newly listed species will be carried out as part of normal law enforcement operations.

Once a species is added to the protected species list, a conservation plan must be developed (G.S. 113-333(b)). These plans detail the restoration and management actions that the agency recommends to secure recovery of the species. Many of these species co-exist in the same habitat and as such, will benefit from the conservation efforts of other species. The species added to the state list may be absorbed into current conservation efforts. For those species not cohabitating with currently listed species, new management plans will be developed. Based on the proposed amendments, a net of six species will require new management plans, at an estimated cost to the agency of \$43,200 (\$60/hr x 120 hrs/plan = \$7,200/plan; \$7,200/plan x 6 plans = \$43,200).

Recovery efforts for a species in decline may be implemented by the agency regardless of listing status. However, these management techniques will be included in a conservation plan (required if listed) and could range from monitoring to population augmentation. If a species requires

¹ Based on Conservation Biologist II [NC18] annual total compensation, including benefits [\$120,000]

monitoring and data collection, insignificant costs for staff time and supplies may be incurred at an estimated cost of \$200 to \$1000 per species. Monitoring costs would be low because, depending on the species, sampling efforts are not typically exclusive, and minimal time, effort, and supplies would be needed for collection of any additional data. On the other hand, if a more intensive management effort were required, for example the head-start restoration effort currently being implemented for the gopher frog, estimated costs could be close to \$850,000 over a 10-year period. Specifically for the newly added species, the propagation of mussels and fish for conservation purposes average \$36,000/yr and are accomplished through internal work at the Conservation Aquaculture Center or through an external contract. Monitoring and population augmentation are still needed for some of these species. The WRC is participating in the USFWS post delisting monitoring of the Roanoke Logperch for 5 years, required activities include survey and monitoring and propagation. However, we must note that these conservation actions would likely occur even if the species were not on the Protected Animal Lists. Although the Wildlife Action Plan summarizes recovery techniques for priority species, the conservation plans will provide more specific details by species.

Any individual who wishes to collect a nongame species for research purposes is required to obtain a collection license. Collection of a listed species also requires an endangered species permit. The agency's Regulated Activities and Permits Section currently processes and issues Endangered Species (ES) Permits with assistance from biologists. Approximately 100 ES Permits are issued annually². The proposed amendments have the potential to add a minor administrative burden on the agency in the form of additional permit paperwork and review. Permit application review and long-term tracking of these permit holders will be performed as part of the regular duties of agency staff.

Agency staff currently review development projects from other state and local agencies to determine the effects of those projects on state-listed species. Though four new species will be listed in Rule, no additional costs to the WRC or any other agencies are anticipated, as neither process, review protocol nor staffing will be changed. However, because new species are being added, agency staff will be asked for scientific expertise on proposed projects during the permit review process to assist in understanding any anticipated impact the project could have on these newly listed species. The number of projects impacted cannot be quantified; however, this review requires approximately four hours of staff time per project and would cost an estimated \$240 per project ($\$60\text{hr} \times 4 \text{ hrs/project} = \240/project)

The WRC jointly administers the Wildlife Conservation Lands Program with local County Tax Assessors. This program is a property tax deferral program for private landowners who manage their property to conserve identified priority wildlife habitats and listed species. Landowners

² The WRC issued 110 ES Permits in FY2025 and has issued or received 83 ES Permits/ES Permit Applications for FY2026 as on April 28, 2026.

who identify priority habitats or species on their land may voluntarily enter into a Wildlife Habitat Conservation Agreement with the WRC, if they have a minimum of 20 contiguous acres of qualifying habitat and have owned the property for a minimum of five years. The WRC provides free technical guidance and develops the required management plans free of charge for interested landowners to submit to their county offices. Additionally, the WRC is available to assist the County in site audits for those currently enrolled and answer questions. The number of new landowners who will be eligible and want to participate in the program cannot be quantified; however, the estimated cost to the agency is \$600 per project (\$50/hr x 12 hrs/project = \$600/project³).

Local Impact

The proposed amendments may create opportunities for landowners to participate in the Wildlife Conservation Lands Program for county tax deferral. This opportunity would only be available to individuals who own priority habitat that meets the minimum requirements for participation in the program and implement land management efforts that benefit species of concern. These landowners would receive a deferred tax break from county land taxes to implement land management efforts on their property. We are unable to estimate the number of landowners who may enroll in the program because of the proposed amendments, nor are we able to estimate the impact on local property tax revenues.

Private Impact

The proposed amendments to the 10I Rules are expected to have minimal private impacts. Per G.S. 113-337(a)(1), it is unlawful to take any animal on the protected species list. Because all the proposed species are nongame, the changes are not anticipated to impact hunting, fishing or trapping.

Any qualified private entity who wishes to collect a species on the protected animal list is required to obtain an endangered species permit. There is a \$12 fee for the endangered species permit, but the project scope must be submitted and approved by agency staff and requires that the applicant supply the following information: project description, dates for the project, list of expertise and names of any individuals who will be assisting in collection. Depending on the species, restrictions are often placed on the project to minimize stress to a listed species. Additionally, entities operating under endangered species permits are required to submit their project data annually if they wish to renew their collection permit(s). These data are valuable to the agency and assist in minimizing additional stress on the species.

The agency issued 110 endangered species permits in FY 2025. Though the agency is unable to predict the exact number of permits that will be issued for the newly listed species, private entities who wish to collect or study species on the protected list will incur a minimal cost of

³ Based on Conservation Biologist I [NC14] annual total compensation, including benefits [\$100,000]

\$12 (increasing to \$13 in July 2026) per year to do so. Of the species being added to the protected species list, all may be of scientific research interest, thus requiring an endangered species permit and a collection license for study. However, it is important to note that the agency has not received any wildlife collection permit request for these particular species to date (except for a statewide crayfish permit that would by default include the newly added crayfish). There is no way for the agency to estimate the potential cost without knowing what research will be conducted on these newly listed species. Additionally, the proposed amendments result in a minor increase in administrative burden for individuals holding and/or transferring parts of endangered species; however, this is expected to impact relatively few permit holders.

Though four new species will be added to the protected species list, these additions cannot affect the use or development of any private property per G.S. 113-333(c). However, developers will be required to assess projects for any potential impacts to listed species as part of the permit application process for development. All currently available species data are available from the North Carolina Natural Heritage Program website for a fee of \$100 per project or \$600 for unlimited use. Data are currently available for all four of these newly listed species, so the cost of obtaining the data would be up to the developer.

In cases where there are intended (illegal take) and/or unintended (environmental) impacts to wildlife, individuals may be cited for the disturbance and charged a replacement cost for the species lost. The replacement cost for an endangered, threatened, or special concern mammal, bird or reptile species is \$4,960, \$4,313, and \$3,000 respectively (15A NCAC 10A .1502). The replacement cost for an endangered, threatened, or special concern mussel is \$50.54/each, crayfish is \$50.00/each, and finfish is \$157.54 each. The penalty issued by the court could also include the cost of investigations and court fees. The agency has no way to estimate these costs because they vary by case and are uncommon.

FISCAL IMPACTS - BENEFITS

State Impact

With a mission of wildlife conservation, WRC biologists often work to predict decline of a species, as it is much easier to proactively put restoration and recovery management in place than it is when the species is close to extinction. Additionally, wildlife species have diverse life histories which can heavily influence recovery efforts. As such, efforts made in year one may not be apparent until several years later. Due to these factors, early recognition of a species in decline and tiered state listing can provide for proactive, biologically sound management that ensures the conservation and wise use of nongame resources, minimizes risk of federal listing, which can put restrictions on private land, and fosters partnerships with local, state, and federal entities to manage wildlife resources.

The protected animal list is the list for nongame species that need the highest level of conservation attention and is used to guide research priorities and prioritize grant awards. Individuals must obtain an endangered species permit for listed species. While the purchase of these licenses does minimally benefit the state, the greater benefit is that individuals with an endangered species permit for scientific collection are required to submit their data to the agency before they can apply for any additional permits. This requirement that all NC projects benefit from data collected for species that need the highest level of conservation can guide conservation and decision-making. As such, all logged data are to be accessible by the public for planning purposes, unless specifically restricted by law.

The U.S. Fish and Wildlife Service (USFWS) routinely receives petitions from the public to initiate a 90-day finding to consider a species for federal listing. If there is a positive finding, then a 12-month process is initiated by USFWS, which can solicit state agency input. USFWS relies on state agencies to provide state-specific information on these species. Oftentimes, these species have already been considered or are on the protected species list. Because North Carolina's state listing process involves the collection of data, surveys, and monitoring, the information is readily available to USFWS for their federal species status review, saving the state time and money when requested by the USFWS.

There can be significant economic benefits to avoiding federal listing of a species. The conservation value of North Carolina's state listing status may preclude the need for the species to become federally listed, which saves the state, local and private sectors both time and money. Based on FY24 endangered species state expenditure data for conservation projects specific to federally listed species, this could be a savings of anywhere from \$300 per year (piping plover) to \$70,500.00 per year (Appalachian Elktoe mussel) in state funds. Additionally, avoided federal listing may preclude the delay or cancellation of major construction projects. Any project with the potential to jeopardize the existence of a federally listed species must undergo a Section 7 consultation with the USFWS that could take anywhere from one to 10 years and cost a significant amount of money. For example, the research study required for a NCDOT highway maintenance project with potential impacts to the northern long-eared bat in the eastern USFWS region (60 NC counties) cost the state a total of \$4 million over five years. Data were collected to help understand the species and its use of habitat to guide future conservation decisions.

Local Impact

Research shows that wildlife watching benefits the economy. According to a 2023 NCWRC study, over 2.9 million NC residents spent over 63 million days watching wildlife in the State in 2022. This activity resulted in an estimated combined \$4.92 billion in trip expenditures and equipment-related expenditures, resulting in a total economic impact of \$7.52 billion. Thus, the

conservation and preservation of species can be assumed to yield substantial annual benefits to the state and local economies.

Private Impact

North Carolina residents value the opportunity to view and interact with nongame state-listed species. Individuals also value protecting these species for present and future generations, even if they will never interact with them. Together, the value of wildlife viewing and related recreation and the value of maintaining biodiversity are the “non-consumptive” benefits of species protection.

The non-consumptive values of wildlife species can be estimated by measuring residents’ willingness to pay for wildlife protection. Although economists and biologists have conducted many studies over the past 30 years to estimate the value of protecting threatened and endangered species, it is difficult to estimate the impact of the agency’s proposed listings because benefits are species-specific and location specific. The agency is unaware of any value studies involving the particular species that are the subject of this rulemaking.

Given the species specific nature of the value individuals place on wildlife protection, the agency is not able to quantify the total social benefit of the proposed listing. However, some benefits are discussed below:

Science and Land Conservation

- A variety of funding opportunities exist for conserving state listed species, and include but are not limited to, the Land and Water Conservation Fund and Natural Resources Conservation Service grants. If an animal is added to the protected species list, projects that incorporate and/or provide benefit to those species receive preferential consideration for funding. Projects can be submitted by state and local governments, private organizations, and nonprofits, but overall, the implementation of these projects are a conservation benefit to North Carolina residents.
- Due to priorities set by funding sources, many projects must propose benefits to listed species, state or federal, to qualify the project for funding. Because federally listed species often cohabitate with state listed species, the entire ecosystem benefits from these types of projects and the conservation actions that listing may provoke.
- Federally listed species are protected from “taking”, which includes habitat alteration resulting in harm to the species. It is estimated that approximately half of all federally listed species have at least 80 percent of their habitat on private land. Restrictions and special management considerations that may be costly to landowners are required if it is believed that a proposed development project could impact a listed species. Avoided federal listing may preclude the necessity of costly management.

Ecotourism

- Research shows that society enjoys biodiversity and there are many physical and mental benefits associated with spending time outdoors. Although the WRC does not actively collect data specific to ecotourism, the agency does partner and participate in surveys on willingness to pay. These surveys request participants to answer questions regarding their willingness to travel to see wildlife. Also, the NCWRC 2023 report indicated that North Carolina had 2,928,309 resident wildlife viewers ages 18 years and older in 2022.
- To the average recreationist, a more diverse and abundant wildlife population may increase the quantity and quality of recreation experiences in an area. Additionally, some recreationists may seek out opportunities to view rare species, such as those participating in the Blue Ridge Snorkel Trail which allows municipal landowners to enroll properties for viewing diverse aquatic species. There is no simple mechanism to estimate this benefit.
- Typically, when a species has been state listed it indicates rarity and difficulty for wildlife viewers to spot it. To wildlife enthusiasts like birders, this situation may excite challenge and increase interest in any opportunity to seek the species. The result may in turn be enhanced ecotourism to an area that has known habitat for the species.

Tax Benefit

- The proposed addition of four species to the protected species list may create opportunities for landowners to participate in the Wildlife Conservation Lands Program for county tax deferral. This opportunity would only be available to individuals who own priority habitat that meets the minimum requirements for participation in the program and implement land management efforts that benefit species of concern. These landowners would receive a deferred tax break from county land taxes to implement land management efforts on their property.

This program is driven by property owners' financial situations, which vary from county to county and from landowner to landowner. Typically, participation in the Program is requested when a property's tax value is reassessed. The Program largely serves as a back-up plan for property owners looking for a tax break on property taxes. Additionally, only 1,700 (approximately 6.8%) of the 25,000 acres registered in the program are species-specific. Participation is usually based on the management of a priority habitat or qualification as Wildlife Reserve Land.

Ecological Benefit

- Although unquantifiable, the overall value added by maintaining a functional food chain cannot be overstated. Many of these species also provide natural resource benefits such as improved water quality or invasive species curtailment. When the cycle of life gets interrupted, there are ecological concerns which result in management expenses. All living things need food to survive. If their food source is limited or no longer present, they may become unhealthy or may not survive. Unhealthy wildlife can be more susceptible to disease, illness, erratic behavior, and unsafe human and wildlife interactions. All these results weigh on agency resources and time. By listing species of concern, the agency is proactively managing wildlife needs and potentially mitigating more serious negative impacts.

UNCERTAINTIES

State Impact

If staff are asked to review a project with the potential to impact a listed species that has limited historical and habitat range data, staff may recommend a survey before commenting on that project. The cost of data collection is different for each species, and without knowing potential projects that will be proposed in the coming years, the agency has no way to estimate the costs to other agencies or individuals for data collection. However, the agency is able to mitigate those costs by sharing all data collected both in-house and through state endangered species permits via the Natural Heritage natural resource database (www.ncnhp.org/data).

Local Impact

The proposed changes to the protected species list have the potential to increase the number of landowners who are eligible to participate in the Wildlife Conservation Lands Program. Because this is a county property tax deferral program, landowners submit applications to the County for enrollment. The County determines the applicant's eligibility and acceptance into the program and participation is renewed annually. The proposed changes to the protected species list have the potential to increase the number of landowners who are eligible to participate in the program, thus increasing a participating county's deferred taxes if they decide to accept a new landowner's management efforts. Counties may also incur a slight increase to the cost of program auditing to ensure the landowner is in compliance with their management plan. Unfortunately, there is no way for the agency to quantify costs, as property taxes vary by county.

The agency also assumes that there could be an increase in the number of court cases dealing with illegal take of the four species being added to the protected species list. This would minimally impact the county court systems.

Private Impact

Lack of species-specific studies on North Carolina residents' willingness to pay for protection of listed species prevents WRC from estimating the total benefits of the proposed rules. However, a 2008 meta-analysis of studies valuing endangered, threatened, and rare species found that individuals value fish, marine mammals, and birds more highly than mammals and reptiles, as a group, and wildlife with consumption benefits are more highly valued than those with non-consumptive benefits alone. The total benefits are dependent upon the consumptive uses (i.e., hunting or fishing) or non-consumptive uses (i.e., viewing) of the wildlife, the relative "charisma" of each species, the level of species endangerment, and participation in the Wildlife Conservation Lands Program.

In their meta-analysis, Richardson and Loomis (2008) found that individuals are generally more willing to pay to prevent a species' extinction than they are to increase the population above the minimum viable level. This finding suggests protecting the most-threatened species could provide greater benefits than equivalent protections for less-threatened species, all else being equal. Downlisting or delisting species could indicate to North Carolina residents that the species is less threatened, therefore reducing the value of protection measures and their associated benefits. However, downlisting or delisting a species may also reduce development restrictions and state staff time costs.

The recreational and consumptive value of a listed species reflects only the economic, not the ecological, benefits of the species. The value that North Carolina residents place on species protection is limited by our incomplete understanding of the species' ecological role.

SUMMARY

Each species is different, as are the reasons attributing to their decline. However, WRC expects the public awareness, research, and conservation efforts associated with placing a species on the protected species list to bring about awareness and management efforts that will spur the public and private cooperation necessary to reverse the decline.

Private individuals will benefit from the proposed listings and associated conservation efforts because of the non-consumptive value of wildlife recreation opportunities and preserving biodiversity. Conservation efforts at a state level also reduce the probability of a species being federally listed, which could place restrictions on private land use and development. Private landowners may be eligible for the Wildlife Conservation Lands Program due to the newly listed species, which would make them eligible for county tax deferment. And researchers may be eligible for additional funding opportunities for these species.

Wildlife recreation benefits our state's economy. In addition, listing or uplisting a species draws additional research funding, which benefits the state in both fees collected for collection licenses necessary to study the species and scientific data from those individuals with collection licenses and endangered species permits. Data collected by the state on listed species also saves time and money associated with the required data collection for federally listed species and the potential avoidance of federal listing of state listed species. These benefits are also realized by local governments. Although these benefits are not quantifiable with available data, the agency expects the benefits of the proposed species listings to outweigh the costs.

1 15A NCAC 10I .0103 is proposed for amendment as follows:

3 **15A NCAC 10I .0103 ENDANGERED SPECIES LISTED**

4 (a) The following species of resident wildlife shall be designated as federally listed endangered species:

5 (1) Amphibians: None listed.

6 (2) Birds:

7 ~~(A) — Bachman's warbler (*Vermivora bachmanii*);~~

8 ~~(B)(A)~~ Ivory-billed woodpecker (*Campephilus principalis*);

9 ~~(C)(B)~~ Piping plover (*Charadrius melodus circumcinctus*); and

10 ~~(D) — Red-cockaded woodpecker (*Dryobates borealis*); and~~

11 ~~(E)(C)~~ Roseate tern (*Sterna dougallii dougallii*).

12 (3) Crustacea: None listed.

13 (4) Fish:

14 (A) Cape Fear shiner (*Miniellus mekistocholas*);

15 (B) Carolina madtom (*Noturus furiosus*);

16 ~~(C) — Roanoke logperch (*Percina rex*);~~

17 ~~(D)(C)~~ Shortnose sturgeon (*Acipenser brevirostrum*), when found in inland fishing waters as
18 defined in G.S. 113-129(9); and

19 ~~(E)(D)~~ Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), when found in inland fishing waters
20 as defined in G.S. 113-129(9).

21 (5) Mammals:

22 (A) Carolina northern flying squirrel (*Glaucomys sabrinus coloratus*);

23 (B) Eastern cougar (*Puma concolor*);

24 (C) Gray bat (*Myotis grisescens*);

25 (D) Indiana bat (*Myotis sodalis*);

26 (E) Northern long-eared bat (*Myotis septentrionalis*); and

27 (F) Virginia big-eared bat (*Corynorhinus townsendii virginianus*).

28 (6) Mollusks:

29 (A) Appalachian elktoe (*Alasmidonta raveneliana*);

30 (B) Carolina heelsplitter (~~*Lasmigona*~~ (*Platynaias decorata*);

31 (C) Dwarf wedgemussel (~~*Alasmidonta*~~ (*Prolasmidonta heterodon*);

32 (D) James spinymussel (*Parvaspina collina*);

33 (E) Littlewing pearlymussel (*Pegias fabula*);

34 ~~(F)~~ Magnificent ramshorn (*Planorbella magnifica*);

35 ~~(F)(G)~~ Tan riffleshell (*Epioblasma florentina walkeri*); and

36 ~~(G)(H)~~ Tar River spinymussel (*Parvaspina steinstansana*).

37 (7) Reptiles:

- (A) Kemp's ridley sea turtle (*Lepidochelys kempii*);
 - (B) Hawksbill sea turtle (*Eretmochelys imbricata*); and
 - (C) Leatherback sea turtle (*Dermochelys coriacea*).
- (b) The following species of resident wildlife shall be designated as State-listed endangered species:
- (1) Amphibians:
 - (A) Gopher frog (*Rana* [=*Lithobates*] *capito*);
 - (B) Hickory Nut Gorge green salamander (*Aneides caryaensis*);
 - (C) Ornate chorus frog (*Pseudacris ornata*); and
 - (D) River frog (*Rana* [=*Lithobates*] *heckscheri*).
 - (2) Birds:
 - (A) American peregrine falcon (*Falco peregrinus anatum*);
 - (B) Common tern (*Sterna hirundo*);
 - (C) Henslow's sparrow (*Centronyx henslowii*); and
 - (D) Wayne's black-throated green warbler (*Setophaga virens waynei*).
 - (3) Crustacea:
 - (A) Bennett's Mill cave water slater (*Caecidotea carolinensis*); and
 - (B) ~~Waccamaw~~ Cedar Creek crayfish (*Procambarus* ~~*braswelli*~~ *chacei*).
 - (4) Fish:
 - (A) Blotchside logperch (*Percina burtoni*);
 - (B) Bridle shiner (*Notropis bifrenatus*);
 - (C) Orange-fin madtom (*Noturus gilberti*);
 - (D) Paddlefish (*Polyodon spathula*);
 - (E) Robust redhorse (*Moxostoma robustum*);
 - (F) Rustyside sucker (*Thoburnia hamiltoni*);
 - (G) Sharpnose darter (*Percina oxyrhynchus*); and
 - (H) Stonecat (*Noturus flavus*).
 - (5) Mammals:
 - (A) Little brown bat (*Myotis lucifugus*); and
 - (B) Tricolored bat (*Perimyotis subflavus*).
 - (6) Mollusks:
 - (A) Barrel floater (*Utterbackiana couperiana*);
 - (B) Brook floater (*Alasmodonta varicosa*);
 - (C) Carolina creekshell (*Sagittunio vauhanianus*);
 - (D) Fragile glyph (*Pilsbryna clingmani*);
 - (E) Green floater (~~*Lasmigona*~~ *Platynaias* *subviridis*);
 - (F) Greenfield ramshorn (*Helisoma eucosmium*);
 - (G) Knotty elimia (*Elimia christyi*);

~~(H)~~ Longsolid (~~Fusconaia subrotunda~~);
~~(I)~~ Magnificent ramshorn (~~Planorbella magnifica~~);
~~(J)~~(H) Purple wartyback (~~Cyclonaias tuberculata~~);
~~(K)~~(I) Savannah lilliput (~~Toxolasma pullus~~);
~~(L)~~(J) Slippershell mussel (~~Alasmidonta~~ (Pressodonata viridis);
~~(M)~~(K) Tennessee clubshell (~~Pleurobema oviforme~~);
~~(N)~~(L) Tennessee heelsplitter (~~Lasmigona~~ (Alasminota holstonia);
~~(O)~~(M) Tennessee pigtoe (~~Pleuronaia barnesiana~~); and
~~(P)~~(N) Yellow lampmussel (~~Lampsilis cariosa~~).

(7) Reptiles:

- (A) Eastern coral snake (*Micrurus fulvius fulvius*);
- (B) Eastern diamondback rattlesnake (*Crotalus adamanteus*); and
- (C) Mimic glass lizard (*Ophisaurus mimicus*).

History Note: Authority G.S. 113-134; 113-333;
Eff. June 11, 1977;
Amended Eff. October 1, 2017; August 1, 2016; May 1, 2008; April 1, 2001; February 1, 1994;
November 1, 1991; April 1, 1991; June 1, 1990;
Readopted Eff. October 1, 2021;
Amended Eff. October 1, 2024; February 1, 2023.

1 15A NCAC 10I .0104 is proposed for amendment as follows:

2
3 **15A NCAC 10I .0104 THREATENED SPECIES LISTED**

4 (a) The following species of resident wildlife shall be designated as federally listed threatened species:

- 5 (1) Amphibians: Neuse River waterdog (*Necturus lewisi*).
- 6 (2) Birds:
- 7 (A) Eastern black rail (*Laterallus jamaicensis jamaicensis*);
- 8 (B) Piping plover (*Charadrius melodus melodus*);
- 9 (C) Red-cockaded woodpecker (*Dryobates borealis*); and
- 10 ~~(C)(D) Red knot (*Calidris canutus rufa*). (*Calidris canutus rufa*); and~~
- 11 ~~(D) Wood stork (*Mycteria americana*).~~
- 12 (3) Crustacea: None listed.
- 13 (4) Fish:
- 14 (A) Spotfin chub (*Erimonax monachus*); and
- 15 (B) Waccamaw silverside (*Menidia extensa*).
- 16 (5) Mammals: West Indian Manatee (*Trichechus manatus*), when found in inland fishing waters as
- 17 defined in G.S. 113-129(9).
- 18 (6) Mollusks:
- 19 (A) Atlantic pigtoe (*Fusconaia masoni*);
- 20 (B) Longsolid (*Fusconaia subrotunda*);
- 21 (C) Noonday globe (*Patera nantahala*); and
- 22 (D) Yellow lance (*Elliptio lanceolata*).
- 23 (7) Reptiles:
- 24 (A) Bog turtle (*Glyptemys muhlenbergii*);
- 25 (B) American alligator (*Alligator mississippiensis*);
- 26 (C) Green sea turtle (*Chelonia mydas*); and
- 27 (D) Loggerhead sea turtle (*Caretta caretta*).

28 (b) The following species of resident wildlife are designated as State-listed ~~State-listed~~ threatened species:

- 29 (1) Amphibians:
- 30 (A) Eastern tiger salamander (*Ambystoma tigrinum tigrinum*);
- 31 (B) Green salamander (*Aneides aeneus*);
- 32 (C) Junaluska salamander (*Eurycea junaluska*);
- 33 (D) Eastern long-tailed salamander (*Eurycea longicauda longicauda*);
- 34 (E) Mabee's salamander (*Ambystoma mabeei*);
- 35 (F) Pine Barrens tree frog (*Hyla andersonii*); and
- 36 (G) Wehrle's salamander (*Plethodon wehrlei*).
- 37 (2) Birds:

- (A) Bald eagle (*Haliaeetus leucocephalus*);
 - (B) Black skimmer (*Rynchops niger*);
 - (C) Caspian tern (*Hydroprogne caspia*);
 - (D) Gull-billed tern (*Gelochelidon nilotica aranea*);
 - (E) Northern saw-whet owl (*Aegolius acadicus*); and
 - (F) Rusty blackbird (*Euphagus carolinus*).
- (3) Crustacea:
- (A) Broad River spiny crayfish (*Cambarus spicatus*);
 - (B) French Broad crayfish (*Cambarus reburus*);
 - (C) Pamlico crayfish (*Procambarus medialis*);
 - (D) Sandhills crayfish (*Procambarus pearsei*); and
 - (E) South Mountains crayfish (*Cambarus franklini*).
- (4) Fish:
- (A) Bigeye jumprock (*Moxostoma ariommum*);
 - (B) Blotched chub (*Erimystax insignis*);
 - (C) Carolina pygmy sunfish (*Elassoma boehlkei*);
 - (D) Carolina redhorse (*Moxostoma sp.*; carolina);
 - (E) Ironcolor shiner (*Alburnops chalybaeus*);
 - (F) Least brook lamprey (*Lampetra aepyptera*);
 - (G) Logperch (*Percina caprodes*);
 - (H) Mimic shiner (*Paranotropis volucellus*);
 - (I) River redhorse (*Moxostoma carinatum*);
 - (J) Roanoke logperch (*Percina rex*);
 - ~~(H)(K)~~ Rosyface chub (*Hybopsis rubrifrons*);
 - ~~(J)~~ ~~Sharphead darter (*Nothonotus acuticeps*)~~;
 - ~~(K)(L)~~ Santee chub (*Cyprinella zanema*);
 - (M) Sharphead darter (*Nothonotus acuticeps*);
 - ~~(L)(N)~~ Sicklefins redhorse or Ugidatli (*Moxostoma sp.*; *Moxostoma ugidatli*);
 - (O) Siouan thinlip chub (*Cyprinella zanema*);
 - ~~(M)(P)~~ Thicklip chub (*Cyprinella labrosa*);
 - ~~(N)(Q)~~ Turquoise darter (*Etheostoma inscriptum*); and
 - ~~(O)(R)~~ Waccamaw darter (*Etheostoma perlongum*).
- (5) Mammals:
- (A) Eastern woodrat (*Neotoma floridana floridana*);
 - (B) Rafinesque's big-eared bat (*Corynorhinus rafinesquii rafinesquii*); and
 - (C) Red wolf (*Canis rufus*).
- (6) Mollusks:

- 1 (A) Alewife floater (*Utterbackiana implicata*);
- 2 (B) Big-tooth covert (*Fumonelix jonesiana*);
- 3 (C) Cape Fear threetooth (*Triodopsis soelneri*);
- 4 (D) Eastern lampmussel (*Lampsilis radiata*);
- 5 (E) Eastern pondmussel (*Sagittunio nasutus*);
- 6 (F) Engraved covert (*Fumonelix orestes*);
- 7 (G) Mountain creekshell (*Leaunio vanuxemensis*);
- 8 (H) Notched rainbow (*Venustaconcha constricta*);
- 9 (I) Rainbow (*Cambarunio iris*);
- 10 (J) Roan supercoil (*Paravitrea varidens*);
- 11 (K) Sculpted supercoil (*Paravitrea ternaria*);
- 12 (L) Smoky Mountain covert (*Inflectarius ferrissi*);
- 13 (M) Creeper (*Strophitus undulatus*);
- 14 (N) Tidewater mucket (*Atlanticoncha ochracea*);
- 15 (O) Triangle floater (*Alasmidonta undulata*); ~~and~~
- 16 (P) Uwharrie elktoe (*Alasmidonta uwharriensis*); and
- 17 ~~(P)(Q)~~ Waccamaw ambersnail (*Catinella waccamawensis*).
- 18 (7) Reptiles:
- 19 (A) Northern pine snake (*Pituophis melanoleucus melanoleucus*); and
- 20 (B) Southern hognose snake (*Heterodon simus*).
- 21 *History Note: Authority G.S. 113-134; 113-333;*
- 22 *Eff. March 17, 1978;*
- 23 *Amended Eff. June 1, 2008; April 1, 2001; November 1, 1991; April 1, 1991; June 1, 1990;*
- 24 *September 1, 1989;*
- 25 *Temporary Amendment Eff. February 27, 2015;*
- 26 *Amended Eff. October 1, 2017; July 1, 2016; August 1, 2016;*
- 27 *Readopted Eff. October 1, 2021;*
- 28 *Amended Eff. October 1, 2024; February 1, 2023.*
- 29

1 15A NCAC 10I .0105 is proposed for amendment as follows:

2
3 **15A NCAC 10I .0105 SPECIAL CONCERN SPECIES LISTED**

4 The following species of resident wildlife shall be designated as State-listed ~~State-listed~~ special concern species:

5 (1) Amphibians:

- 6 (a) Collinses' mountain chorus frog (*Pseudacris collinsorum*);
- 7 (b) Crevice salamander (*Plethodon longicrus*);
- 8 (c) Dwarf salamander (*Eurycea quadridigitata*);
- 9 (d) Dwarf black-bellied salamander (*Desmognathus folkertsi*);
- 10 (e) Eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*);
- 11 (f) Four-toed salamander (*Hemidactylium scutatum*);
- 12 (g) Gray treefrog (*Hyla versicolor*);
- 13 (h) Mole salamander (*Ambystoma talpoideum*);
- 14 (i) Mudpuppy (*Necturus maculosus*);
- 15 (j) Southern chorus frog (*Pseudacris nigrita*);
- 16 (k) Southern zigzag salamander (*Plethodon ventralis*); and
- 17 (l) Weller's salamander (*Plethodon welleri*).

18 (2) Birds:

- 19 (a) American oystercatcher (*Haematopus palliatus*);
- 20 (b) Bachman's sparrow (*Peucaea aestivalis*);
- 21 (c) Barn owl (*Tyto alba*);
- 22 (d) Black-capped chickadee (*Poecile atricapillus*);
- 23 (e) Brown creeper (*Certhia americana nigrescens*);
- 24 (f) Cerulean warbler (*Setophaga cerulea*);
- 25 (g) Glossy ibis (*Plegadis falcinellus*);
- 26 (h) Golden-winged warbler (*Vermivora chrysoptera*);
- 27 (i) Least bittern (*Ixobrychus exilis*);
- 28 (j) Least tern (*Sternula antillarum*);
- 29 (k) Little blue heron (*Egretta caerulea*);
- 30 (l) Loggerhead shrike (*Lanius ludovicianus*);
- 31 (m) Painted bunting (*Passerina ciris*);
- 32 (n) Red crossbill (*Loxia curvirostra*);
- 33 (o) Snowy egret (*Egretta thula*);
- 34 (p) Swallow-tailed kite (*Elanoides forficatus*);
- 35 (q) Tricolored heron (*Egretta tricolor*);
- 36 (r) Vesper sparrow (*Pooecetes gramineus*); and
- 37 (s) Wilson's plover (*Charadrius wilsonia*).

- 1 (3) Crustacea:
 - 2 (a) Carolina skistodiaptomus (*Skistodiaptomus carolinensis*);
 - 3 (b) Carolina well diacyclops (*Diacyclops jeannelli putei*);
 - 4 (c) Chowanoke crayfish (*Faxonius virginiensis*);
 - 5 (d) Falls crayfish (*Cambarus burchfieldae*);
 - 6 ~~(d)(e)~~ Graceful clam shrimp (*Lynceus gracilicornis*);
 - 7 ~~(e)(f)~~ Greensboro burrowing crayfish (*Cambarus catagius*);
 - 8 ~~(f)(g)~~ Hiwassee headwaters crayfish (*Cambarus parrishi*);
 - 9 ~~(g)(h)~~ Little Tennessee River crayfish (*Cambarus georgiae*);
 - 10 ~~(h)(i)~~ North Carolina spiny crayfish (*Faxonius carolinensis*); ~~and~~
 - 11 ~~(i)(j)~~ Oconee stream crayfish (*Cambarus chaugaensis*); ~~and (*Cambarus chaugaensis*)~~.
 - 12 (k) Stony Fork crayfish (*Cambarus lapidosus*).
- 13 (4) Fish:
 - 14 (a) American brook lamprey (*Lethenteron appendix*);
 - 15 (b) "Atlantic" Highfin carpsucker (*Carpionodes sp. cf. velifer*);
 - 16 (c) Banded sculpin (*Cottus carolinae*);
 - 17 (d) Blue Ridge sculpin (*Cottus caeruleomentum*);
 - 18 (e) Blueside darter (*Etheostoma jessiae*);
 - 19 (f) Broadtail madtom (*Noturus sp.*);
 - 20 (g) Carolina darter (*Etheostoma collis*);
 - 21 (h) Cutlip minnow (*Exoglossum maxillingua*);
 - 22 (i) Freshwater drum (*Aplodinotus grunniens*);
 - 23 (j) Kanawha minnow (*Phenacobius teretulus*);
 - 24 (k) Lake sturgeon (*Acipenser fulvescens*);
 - 25 (l) Least killifish (*Heterandria formosa*);
 - 26 (m) Mooneye (*Hiodon tergisus*);
 - 27 (n) Mountain madtom (*Noturus eleutherus*);
 - 28 (o) Ohio lamprey (*Ichthyomyzon bdellium*);
 - 29 (p) Olive darter (*Percina squamata*);
 - 30 (q) Pinewoods darter (*Etheostoma mariae*);
 - 31 (r) River carpsucker (*Carpionodes carpio*);
 - 32 (s) Sandhills chub (*Semotilus lumbee*);
 - 33 (t) Seagreen darter (*Etheostoma thalassinum*);
 - 34 (u) Sickle darter (*Percina williamsi*);
 - 35 (v) Smoky dace (*Clinostomus sp.*);
 - 36 (w) Sooty-banded darter (*Percina westfalli*);
 - 37 (x) Striped shiner (*Luxilus chrysocephalus*);

- (y) Snubnose darter (*Etheostoma simoterum*);
 - ~~(z) "Thinlip" chub (*Cyprinella sp. cf. zanema*);~~
 - ~~(aa)~~(z) Waccamaw killifish (*Fundulus waccamensis*);
 - ~~(bb)~~(aa) Wounded darter (*Nothonotus vulneratus*); and
 - ~~(cc)~~(bb) Yellowfin shiner (*Hydrophlox lutipinnis*).
- (5) Mammals:
- (a) Allegheny woodrat (*Neotoma magister*);
 - (b) Buxton Woods white-footed mouse (*Peromyscus leucopus buxtoni*);
 - (c) Coleman's oldfield mouse (*Peromyscus polionotus colemani*);
 - (d) Eastern big-eared bat (*Corynorhinus rafinesquii macrotis*);
 - (e) Eastern small-footed bat (*Myotis leibii leibii*);
 - (f) Florida yellow bat (*Lasiurus intermedius floridanus*);
 - (g) Southeastern bat (*Myotis austroriparius*);
 - (h) Southern rock vole (*Microtus chrotorrhinus carolinensis*); and
 - (i) Star-nosed mole (*Condylura cristata parva*).
- (6) Mollusks:
- (a) Appalachian gloss (*Zonitoides patuloides*);
 - (b) Bidentate dome (*Ventridens coelaxis*);
 - (c) Black mantleslug (*Pallifera hemphilli*);
 - (d) Blackwater ancylid (*Ferrissia hendersoni*);
 - (e) Blue-foot lancetooth (*Haplotrema kendeighi*);
 - (f) Cape Fear spike (*Elliptio marsupiobesa*);
 - (g) Clingman covert (*Fumonelix wheatleyi clingmanicus*);
 - (h) Dark glyph (*Glyphyalinia junaluskana*);
 - (i) Dwarf proud globe (*Patera clarki clarki*);
 - (j) Dwarf threetooth (*Triodopsis fulciden*);
 - (k) Fringed coil (*Helicodiscus fimbriatus*);
 - (l) Glossy supercoil (*Paravitrea placentula*);
 - (m) Great Smoky slitmouth (*Stenotrema depilatum*);
 - (n) High mountain supercoil (*Paravitrea andrewsae*);
 - (o) Honey glyph (*Glyphyalinia vanattai*);
 - (p) Lamellate supercoil (*Paravitrea lamellidens*);
 - (q) Mirey Ridge supercoil (*Paravitrea clappi*);
 - (r) Open supercoil (*Paravitrea umbilicaris*);
 - (s) Pink glyph (*Glyphyalinia pentadelphia*);
 - (t) Pink heelsplitter (*Potamilus alatus*);
 - (u) Pod lance (*Elliptio folliculata*);

- (v) Queen crater (*Appalachina chilhoweensis*);
 - (w) Ramp Cove supercoil (*Paravitrea lacteodens*);
 - (x) Ridged lioplax (*Lioplax subcarinata*);
 - (y) Roanoke slabshell (*Elliptio roanokensis*);
 - (z) Saw-tooth disc (*Discus bryanti*);
 - (aa) Seep mudalia (*Leptoxis dilatata*);
 - (bb) Spike (*Eurynia dilatata*);
 - (cc) Spiral coil (*Helicodiscus bonamicus*);
 - (dd) Velvet covert (*Inflectarius subpalliatu*s);
 - (ee) Waccamaw amnicola (*Amnicola* sp.);
 - (ff) Waccamaw siltsnail (*Cincinnatia* sp.); and
 - (gg) Wavy-rayed lampmussel (*Lampsilis fasciola*).
- (7) Reptiles:
- (a) Carolina pigmy rattlesnake (*Sistrurus miliarius miliarius*);
 - (b) Carolina swamp snake (*Liodytes pygaea paludis*);
 - (c) Carolina watersnake (*Nerodia sipedon williamengelsi*);
 - (d) Cumberland slider (*Trachemys scripta troostii*);
 - (e) Diamondback terrapin (*Malaclemys terrapin*);
 - (f) Eastern chicken turtle (*Deirochelys reticularia reticularia*);
 - (g) Eastern coachwhip (*Coluber [=Masticophis] flagellum flagellum*);
 - (h) Eastern slender glass lizard (*Ophisaurus attenuatus longicaudus*);
 - (i) Eastern spiny softshell (*Apalone spinifera spinifera*);
 - (j) Northern map turtle (*Graptemys geographica*);
 - (k) Outer Banks kingsnake (*Lampropeltis getula sticticeps*);
 - (l) Stripeneck musk turtle (*Sternotherus peltifer*); and
 - (m) Timber rattlesnake (*Crotalus horridus*).

History Note: Authority G.S. 113-134; 113-333;
Eff. September 1, 1989;
Amended Eff. October 1, 2017; August 1, 2016; May 1, 2008; July 18, 2002; April 1, 2001;
November 1, 1991; April 1, 1991; June 1, 1990;
Readopted Eff. October 1, 2021;
Amended Eff. October 1, 2024; February 1, 2023.